Promoting choice and value
for all gas and electricity customers

RIIO-GD1: Initial Proposals - Overview

Consultation

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Overview:

This document sets out our Initial Proposals for the next gas distribution price control (RIIO-GD1). The price control will be set for an eight-year period from 1 April 2013 to 31 March 2021.

This is the first gas distribution price control under the new RIIO (Revenue = Incentives + Innovation + Outputs) model. Under RIIO we are adopting a different process for setting price controls. Companies are required to develop and submit well-justified business plans, supported by the views of stakeholders, setting out what they will deliver. Those plans inform the setting of the price control components.

This document sets out: the outputs that we will require gas distribution network companies (GDNs) to deliver over the next price control period; the incentive framework to reward or penalise GDNs according to their output performance; our proposed cost and revenue allowances; and, how we intend to deal with uncertainty.

We are seeking respondents' views on our Initial Proposals. We will take respondents' views into account when publishing our Final Proposals in December 2012.

Associated documents

Links to supporting documents

- RIIO-GD1: Initial Proposals – Supporting document – Outputs, incentives and innovation
- RIIO-GD1: Initial Proposals – Supporting document – Cost efficiency
- RIIO-GD1: Initial Proposals – Supporting document – Finance and uncertainty

Links to other associated documents

- RIIO-T1/GD1: Initial Proposals – Real price effects and ongoing efficiency appendix
- RIIO-GD1: Initial Proposals –Impact assessment
- RIIO–T1/GD1: Financial model
- Cost of capital study for RIIO–T1 and RIIO-GD1

Licence consultation documents

- RIIO-T1 and RIIO-GD1: Draft licence conditions – First informal licence drafting consultation
- Supporting Document 3: Draft RIIO-GD1 Gas Distribution licence changes
- Supporting Document 4: Response template for RIIO-T1 & GD1-First licence drafting consultation
- RIIO GD1 Price Control Financial Handbook

Other associated documents

- RIIO-GD1: Initial Proposals for Gas distribution networks (GDNs) - Headlines
- Initial Assessment of RIIO-GD1 business plans and proportionate treatment
- Decision on strategy for the next gas distribution price control – RIIO-GD1
- Handbook for implementing the RIIO model - Ofgem, October 2010
- Glossary for all the RIIO-T1 and RIIO-GD1 documents

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Executive Summary

Britain's gas and electricity network companies face unprecedented challenges. They will need to invest over £30 billion over the next decade to develop smarter networks, to meet environmental challenges and to secure energy supplies. Against this backdrop, it is more important than ever that network companies can show consumers they are getting value for money.

Along with the transmission price control (RIIO-T1), the gas distribution price control (RIIO-GD1) is the first price control to be conducted under our new RIIO (Revenue = Incentives + Innovation + Outputs) model. The objective of RIIO is to encourage network companies to play a full role in the delivery of a sustainable energy sector, and to do so in a way that delivers value for money for consumers.

In this document we set out our Initial Proposals for the eight gas distribution networks (GDNs) that transport gas from the national transmission system (NTS) to homes and businesses throughout Great Britain. The price control will apply for an eight-year period from 1 April 2013 to 31 March 2021.

Overview of our proposals

We set out a comprehensive set of outputs that we will require GDNs to deliver, and associated output incentive mechanisms to reward or penalise their performance.

The RIIO framework identifies six output categories: safety; reliability; environmental; social; connections; and, customer services. In relation to network safety outputs, consistent with the new Health and Safety Executive (HSE) iron mains policy which provides greater flexibility for GDNs in managing the risk associated with iron mains, we expect GDNs to reduce the safety risk by between 30-60 per cent during RIIO-GD1.

The new HSE policy also allows GDNs to realise greater improvements in environmental performance. We expect GDNs to reduce gas transport losses, which comprise 95 per cent of GDNs' carbon footprint, by up to 20 per cent by the end of the period.

We will also require GDNs for the first time to deliver an improvement in the public awareness of the risks of carbon monoxide (CO) poisoning, a key gas safety issue, and we will publish an assessment of GDNs' comparative performance. In terms of other social outputs, we propose to fund GDNs to connect around 80,000 fuel poor customers to the gas network over the price control period.

The GDNs will also be required to deliver improvements in customer services, and we have set out a financial incentive mechanism to reward (or penalise) their performance. Overall, GDNs will need to improve customer satisfaction from current levels to the upper quartile GDN performance to avoid a penalty and earn a reward. We are also confirming standards for connecting new customers to their network, as well as our intention to develop voluntary standards for biomethane connections.

Finally, our reliability output measures will require GDNs to maintain the integrity of network assets, as well as meet the current network capacity and security of supply standards.

Cost allowances reflect our view of efficient costs of delivering the required outputs and services

We have assessed GDNs' cost forecasts using a range of benchmarking techniques. Our analysis has identified material differences between GDNs' proposed costs and our assessment of the efficient level of costs. We propose to require GDNs to close three-quarters of the efficiency gap over the RIIO-GD1 period. Our cost allowances also require GDNs to more than offset any increases in real prices, e.g. labour costs, through continued productivity improvements.

We propose overall cost allowances which are around 15 per cent lower than under the current price control, which reflects our view of the scope for improvement in cost efficiency, as well as reductions in costs in relation to the iron mains programme (consistent with the new HSE iron mains policy), and a reduction in investment due to the uncertainty around future flows on the networks.

A financial package which ensures efficient GDNs can finance their activities.

We propose an allowed cost of equity of 6.7 per cent (post-tax real), and a gearing level of 65 per cent reflecting our view of the relatively low cash-flow risk associated with GDNs' businesses. We will allow GDNs to recover efficient debt costs based on an index of comparable companies' debt costs.

Impact on customer bills

Overall, our proposals result in an increase in allowed revenues of around 4 per cent on average over the RIIO-GD1 period relative to the last year of the current control (2012-13). Allowed revenues increase slightly even though we propose reductions to controllable costs of 15 per cent. This is because cost reductions feed through into lower revenues over a longer time horizon (as we allow GDNs to recover only a proportion of costs in year, and the rest over the life of assets), and offsetting this effect, there is an increase in allowed revenues to reflect increases in a number of specific uncontrollable costs, such as pension deficit recovery costs, business rates, and taxes.

In terms of customer bills, the increase in revenues translates into approximately a £5 increase in the average gas customer's bill, on average over RIIO-GD1, or £7 taking into account the proposed allowed revenues for National Grid Gas (NGGT), the owner of the gas transmission network, under the parallel RIIO-T1 price control. The resulting changes in network charges would increase the average household gas bill from £704 per annum (May 2012) to £711 on average over the price control period.

Next steps

These are our Initial Proposals for consultation. We welcome respondents' views on these proposals. We will consider respondents' views and will publish our Final Proposals in December 2012.

1. Introduction

Chapter Summary

This chapter explains the structure and purpose of this document and sets out the context of the Initial Proposals.

Purpose of this document

1.1. This document sets out our Initial Proposals for the gas distribution price control (RIIO-GD1) that will apply to the eight gas distribution networks (GDNs). The eight GDNs are: East of England, London, North West, West Midlands (all owned by National Grid Gas), Northern (owned by Northern Gas Networks), Scotland, Southern (both owned by Scotia Gas) and Wales and West (Wales and West Utilities).

1.2. The GDNs maintain and operate the local gas networks that transport gas from the national transmission system (NTS) to homes and businesses throughout Great Britain. The price control will apply for an eight-year period from 1 April 2013 to 31 March 2021.

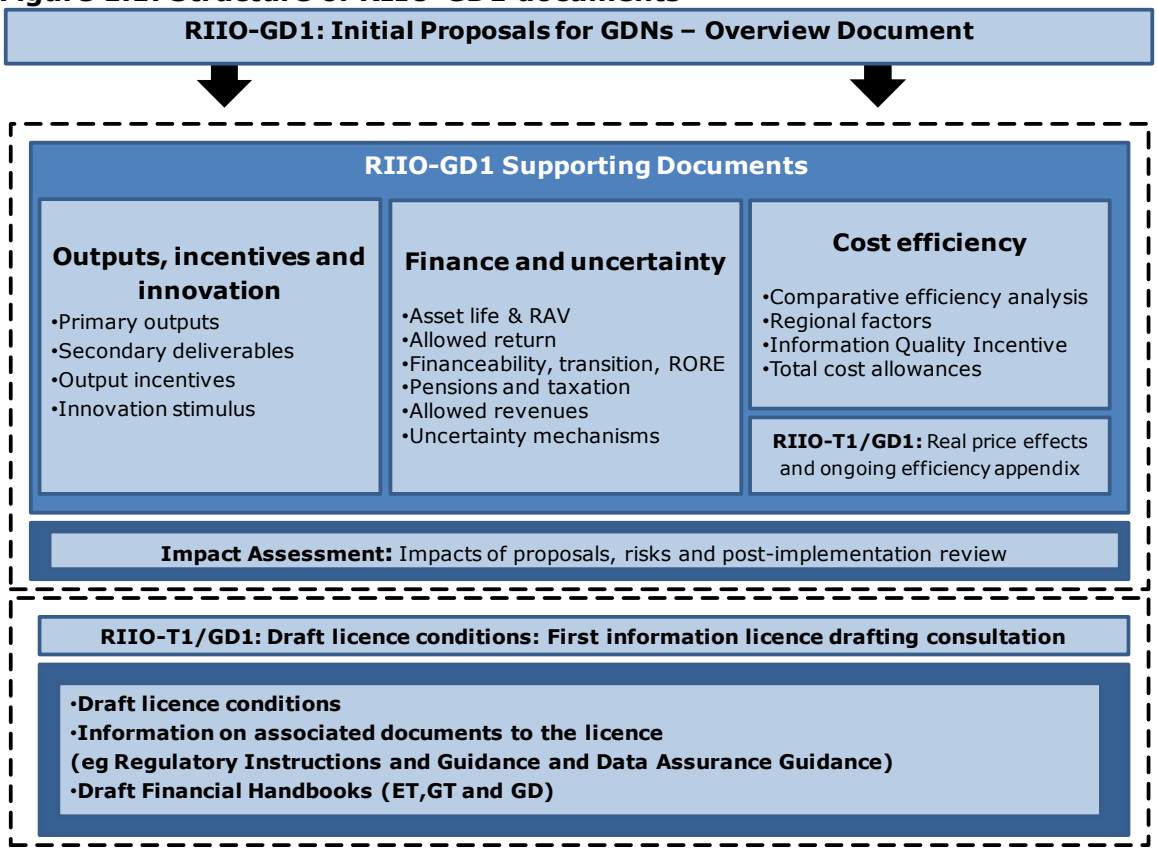
1.3. This document aims to provide an accessible overview of the Initial Proposals for GDNs. Alongside this document we have published three Supporting Documents covering: (i) outputs, incentives and innovation; (ii) cost efficiency; and (iii) finance and uncertainty, and a real price effects and ongoing efficiency appendix. The Supporting Documents are aimed primarily at network companies, and those who require a more in-depth understanding of the proposals.

1.4. We are also publishing: the financial model that underpins our Initial Proposals; an impact assessment (IA) based on the IA we published for RIIO-GD1 in December 2010;[1] and a set of draft licence conditions for consultation.

1.5. Figure 1.1 below sets out the structure of these documents.

[1] Consultation on strategy - RIIO-T1 and GD1 Impact assessment – December 2010 http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIOT1/ConRes/Documents1/T1%20and%20GD1%20IA.pdf

Figure 1.1: Structure of RIIO-GD1 documents



Regulatory process to date

1.6. In October 2010, we announced a change in the way we will regulate the GB onshore network companies.[2] We introduced the RIIO (Revenue = Incentives + Innovation + Outputs) model. The overriding objective of the RIIO model is to drive benefits for consumers by providing energy network companies with strong incentives to meet the challenges of delivering a low carbon economy and a sustainable energy sector at a lower cost than would have been the case under the previous approach.

1.7. In March 2011 we published our strategy (Strategy Document) on the key elements of the regulatory framework for RIIO-GD1, including the proposed outputs that we would require companies to deliver, the proposed incentive framework, and financial parameters. We also provided business plan guidance and set out the tools we would use for assessing network companies' plans.[3] We stated that we would take a proportionate approach to our scrutiny of companies' plans, i.e. that the level of our regulatory scrutiny will vary

[2] Regulating energy networks for the future: RPI-X@20 decision document: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=116&refer=Networks/rpix20/ConsultDocs

[3] See Ofgem (31 March 2011) Decision on strategy for the next gas distribution price control – RIIO-GD1 http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=312&refer=Networks/GasDistr/RIIO-GD1/ConRes

according to the quality of GDNs' plans. Under the new framework, companies that submit very high quality plans may be offered the option of agreeing price controls early – "fast-tracking".

1.8. In November 2011, the GDNs submitted their first business plans, and in mid-February 2012 we published our initial assessment of their plans.[4] In our initial assessment, we noted that the GDNs' plans were of a much higher quality relative to previous price control submissions, and the plans were informed by a much greater degree of stakeholder engagement. In general, the GDNs demonstrated strong commitment to the implementation of the new RIIO framework, and we identified a number of key areas in each individual plan that we could broadly agree to (i.e. where we expected to apply lighter-touch scrutiny).

1.9. However, we also identified a number of material issues with all plans which we considered could not be resolved in the customer interest within the fast-track process.[5] We therefore decided not to fast-track any GDN, and required all GDNs to submit a second business plan addressing the issues we raised in our initial assessment.

1.10. The GDNs submitted their second RIIO-GD1 business plans to us in April 2012.[6] We have now completed our assessment of their plans, and this document set out our proposals for consultation.

Stakeholder engagement

1.11. The RIIO framework places greater emphasis on stakeholder engagement both by the network companies and by Ofgem. We expect network companies to draw on stakeholder engagement in forming their plans, and we noted in our initial assessment of GDNs' plans that the plans were based on much more extensive engagement relative to previous price controls.

1.12. Our assessment of GDNs' plans has also been informed by our own stakeholder engagement. We discussed the GDNs' plans with the Consumer Challenge Group (CCG), our internal advisory panel on consumer and environmental issues. We also discussed the plans with the Price Control Review Forum (PCRF), which provides a forum for network companies and

[4] Ofgem (3 February 2012) RIIO-GD1: Decision letter on fast-track process http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/120217_fast_track_decision_letter.pdf

[5] Under the fast-track process, we would have published initial proposals for fast-tracked companies on 23 April 2012, and final proposals at the end of July 2012. See: Ofgem (9 December 2011) RIIO-GD1: Gas Distribution Networks' (GDNs) business plans - publication and next steps, Annex 1.

[6] These are available at the following links: National Grid Gas plc:http://www.talkingnetworksngd.com/; Scotia Gas Networks: http://www.sgn.co.uk/index.aspx?id=6553&rightColHeader=87&rightColContent=15&rightColFooter=237&TierSlicer1_TSMenuTargetID=565&TierSlicer1_TSMenuTargetType=4&TierSlicer1_TSMenuID=6; Wales and West Utilities: http://www.wwutilities.co.uk/stakeholders.aspx; Northern Gas Networks: http://www.northerngasnetworks.co.uk/cms/54.html#riio

stakeholder groups to feed directly into the price review process. We have also consulted on GDNs' plans and we have taken into account the responses in the development of our proposals. We have published the consultation responses on our website.[7] We have also undertaken a large number of bilateral meetings with network companies and other interested parties.

1.13. We are publishing these Initial Proposals for consultation and will continue to engage with stakeholders through the remainder of the price control process.

Overview of proposals

Addressing strategic challenges

1.14. In our Strategy Document, we identified a number of strategic challenges for the RIIO-GD1 control. The challenges we identified comprised: the uncertain role of gas networks in a low carbon energy sector; the requirement to improve asset management to ensure least-cost service provision; ensuring the GDNs play a full role in facilitating the move to a low carbon economy; and addressing social issues, notably the need to address fuel poverty and the number of CO poisoning incidents.

1.15. We consider our Initial Proposals enable GDNs to meet these strategic challenges. For example, in our appraisal of GDNs' investment plans, we have taken account of the uncertainty over the future role of gas networks, and the requirement to improve asset management. Our proposed approach is to defer capital investment decisions where this is in the consumer interest, i.e. where there is uncertainty over the future payoff and there is no detrimental effect on consumers in the meantime. With respect to asset management, the GDNs have generally not provided sufficient improvements in the data we required to support their proposed investment levels. We therefore propose to introduce an uncertainty mechanism so that GDNs may request higher levels of capital expenditure where they can provide improved asset data at the mid-period review.

1.16. Our cost allowances will allow GDNs to deliver substantive environmental and social benefits, the other main strategic challenges facing the sector. We will require GDNs to realise reductions in gas transport losses, which comprise 95 per cent of GDNs' carbon footprint, of up to 20 per cent by the end of the period. The required output level will be supported by an enhanced incentive mechanism which will reward or penalise GDNs for their performance. We are also providing detailed proposals in relation to facilitating biomethane connections, a renewable source of gas. This is also the first price review where we will fund GDNs to improve the awareness of the risk associated with

[7] See: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=365&refer=Networks/GasDistr/RIIO-GD1/ConRes

carbon monoxide (CO), and we will publish an assessment of GDNs' comparative performance.

Overall cost allowances

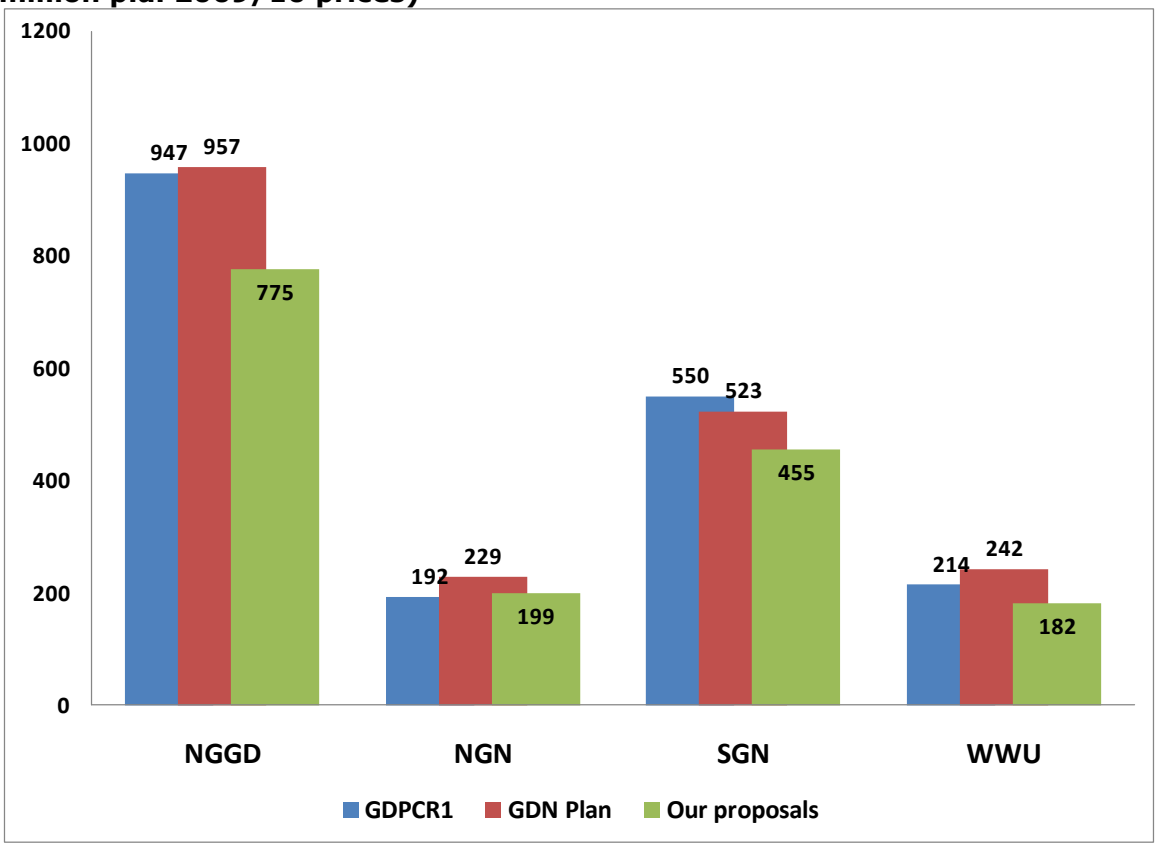
1.17. Overall, we are consulting on cost allowances which are around 15 per cent lower than the costs in the current price control for gas distribution, GDPCR1. (See figure 1.1) The reduction in allowed costs reflects a reduced level of funding for iron mains replacement following the change to the HSE policy, and lower capacity related expenditure. These reductions outweigh increases in costs in relation to street work costs, and from the loss of meter work.

1.18. There is a wide variation in our proposed changes to cost allowances relative to GDPCR1 by GDN. The variation reflects GDNs' different starting points in terms of relative efficiency, as well as GDN specific outputs that we intend to fund over the price control. For example, NGN is currently one of the least cost GDNs based on our comparative efficiency analysis, has low levels of integrity expenditure, and has made a well-justified case for increasing such levels. For NGN, our proposed cost allowances increase by around 3 per cent compared to GDPCR1.

1.19. Figure 1.1 also shows our cost allowances relative to GDNs' plans. Our cost allowances are around 17 per cent lower than the GDNs' plans. Again there is significant variation by GDN. Our lower allowances are explained approximately equally by disallowances to outputs (e.g. in relation to iron mains, and integrity related expenditure), as well as reductions for cost efficiency.

1.20. Our cost allowances represent our best view to date. However, we will update our cost efficiency assessment for a new set of regulatory cost data submitted by GDNs in July 2012. This will affect our cost efficiency analysis, and we will reflect the revised assessment in final proposals. We will also take into account stakeholders' views on our analysis and any new information that could not reasonably have been provided earlier in the process.

Figure 1.1: Proposed cost allowances relative to GDPCR1 and GDNs' plans (£ million p.a. 2009/10 prices)[8]



1.21. Overall, our proposals result in an increase in allowed revenues of around 4 per cent on average over the RIIO-GD1 period relative to the last year of GDPCR1. Allowed revenues increase slightly even though we are proposing reductions to controllable costs of 15 per cent. This is because these reductions feed through into lower revenues over a long time horizon (as we allow GDNs to recover only a proportion of costs in year, and the rest over the life of assets), and offsetting this effect, the allowed revenues reflect increases in a number of specific uncontrollable costs, such as pension deficit recovery costs, business rates, and taxes.

1.22. In terms of customer bills, our allowed revenues translate to an increase of around £5 in the gas distribution network element of the household bill over RIIO-GD1. Taking into account the expected increase in customer bills in relation to gas transmission charges (arising from the parallel price control review of National Grid Gas (NGGT), the owner of the gas transmission network) of £2 per year on average over RIIO-GD1, we would expect the

[8] GDPCR1 costs relate to average historic costs over the period 2008/09 to 2010/11. The GDNs' plans and Ofgem allowances are for controllable costs excluding shrinkage costs, licence fees, rates, NTS pension deficit charges, street works costs associated with the implementation of permitting by additional highways authorities, lane rentals and smart metering. Both GDNs plans and our allowances are gross of real price effects (RPEs).

average household bill to increase by £7. Gas distribution and gas transmission comprise around 19 per cent and 2 per cent of the average household bill respectively.[9]

Interaction with other policy areas

Charging volatility

1.23. In our Strategy Document we noted concerns raised by stakeholders that volatility in the price control settlement has an adverse impact on consumers. This issue cuts across all the network companies. We published a consultation on this issue in April 2012 which has now closed.[10] Our consultation identified a number of options aimed at mitigating network charging volatility created by the price control settlement, or its effects.

1.24. We intend to publish our decision on how to mitigate the effects of charging volatility in the autumn, and we will reflect any implications of our decision on charging volatility in RIIO-GD1 Final Proposals.

RIIO-T1

1.25. Alongside our RIIO-GD1 Initial Proposals, we are publishing Initial Proposals for National Grid Electricity Transmission (NGET) and for National Grid Gas (NGGT) for the next transmission price control, RIIO-T1. NGET owns and maintains the electricity transmission network assets across England and Wales. NGGT owns and maintains the gas transmission network assets across Great Britain (GB). This price control will cover the eight-year period from 1 April 2013 to 31 March 2021.

1.26. In developing our proposals for RIIO-GD1, we have taken into account the interactions with RIIO-T1, including ensuring that GDNs and NGGT (which operates the national gas transmission system) consider jointly how to minimise capacity expenditure.

Structure of this document

1.27. The remainder of this document is structured as follows:

- Chapter 2 sets out our proposed approach to outputs and associated incentives.

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[9] http://www.ofgem.gov.uk/Media/FactSheets/Documents1/household-bills.pdf

[10] Mitigating network charging volatility arising from the price control settlement: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=368&refer=Networks/Policy

- Chapter 3 sets out our approach to encouraging innovation.
- Chapter 4 sets out our view of efficient costs.
- Chapter 5 discussed our proposed approach to dealing with uncertainty.
- Chapter 6 sets out our approach to financial issues.

2. Outputs and associated incentives

Chapter Summary
This chapter summarises the set of outputs that we will require GDNs to deliver over RIIO-GD1. We provide more detail in the outputs supplementary annex. We also discuss how we will monitor, incentivise and hold GDNs to account for output delivery.

Question: We would welcome your views on our overall approach. (For more detailed questions, please see the Outputs Supporting Document.)

Outputs framework

2.1. The adoption of an outputs based framework is a key element of the new RIIO framework. By defining the outputs companies need to deliver (e.g. risk-removed), instead of prescribing a set of inputs (e.g. length of mains abandoned), the framework provides incentives for companies to innovate and deliver the services that customers require at least cost. An outputs based framework also provides greater transparency for customers (as well as companies) in relation to the services companies need to deliver.

2.2. In our Strategy Document, we defined the primary outputs and secondary deliverables that we would require GDNs to deliver over RIIO-GD1. We required companies to set out in their business plans the optimal level of outputs to deliver based on investment appraisal, and customer research (or, where there are statutory obligations), to achieve these.

2.3. As part of our assessment of GDNs' plans, we have assessed their proposed output levels, including the cost benefit analysis (CBA) supporting non-mandatory investment. We set out our proposals in relation to output levels in this chapter. We are also consulting on the associated output related incentive mechanisms, which reward or penalise GDNs for their output performance.

2.4. In assessing GDNs' plans, we have focussed on GDNs' proposed output levels for network safety and reliability, as well as environmental (primarily gas transport losses, or shrinkage) and social outputs. In the other two outputs areas, i.e. customer services and connections outputs, our Strategy Document prescribed both the output and the output level (e.g. as set out in the guaranteed standards of performance), and we identified within period incentive mechanisms to reward or penalise performance relative to these prescribed levels. For customer services, we are consulting on the details of the proposed incentive mechanism.

2.5. In the following sections, we summarise the proposed output definitions and levels for all output areas.

Proposed outputs

Iron mains related outputs (primarily safety and environmental outputs)

2.6. In our Strategy Document we identified improving the safety risk associated with iron mains as a principal safety output. Iron mains constitute the dominant asset class, and comprise 40 per cent of total expenditure proposed by GDNs in their plans.

2.7. In 2011, the HSE announced a change to its iron mains replacement policy (for repex), and in June 2011 it set out its new policy which was implemented in May 2012 when the HSE released a new enforcement policy on iron mains risk reduction. Under the old policy, the HSE required GDNs to replace all iron mains within 30 metres of buildings within 30 years ("30/30" programme). The new policy is referred to as the "three-tier approach"[11] and requires GDNs to consider customer benefits in prioritising mains:

- For tier 1 mains, which comprise c.80 per cent of the iron mains population, under the new policy GDNs have to replace an agreed length of mains each year as under the old policy but can prioritise replacement based on a wide range of benefits, including reductions in gas losses, operating costs, as well as improvements in safety risk.

- For tier 2, all mains exceeding a defined risk action threshold must be abandoned, remediated or assessed for continued safe use. Pipes in tier 2 scoring below the risk-action threshold may be decommissioned where this is justified in cost benefit terms as agreed by us.

- For tier 3, in general, the new policy only requires GDNs to replace mains if the replacement is justified in cost benefit terms as agreed by us.

2.8. We have considered GDNs' proposals in relation to iron mains, and the associated environmental and safety outputs. Our focus has been in relation to GDNs' proposed investment in non-mandatory tiers 2 and 3, where the new policy requires GDNs to justify replacement on the basis of CBA.

2.9. We have a number of concerns with the GDNs' approach to CBA. Principally, with the exception of NGN, we do not consider that GDNs have adequately taken into account uncertainty in relation to the future role of gas in providing heat, e.g. as characterised by DECC's recent heat strategy, as well as other

[11] The tiers are defined as follows: tier 1: pipes with a diameter of 8 inches or less; tier 2: pipes of 8 to 18 inches in diameter; tier 3: pipes greater than 18 inches.

sources of uncertainty, e.g. in relation to the current condition of the asset and the expected deterioration rates.[12]

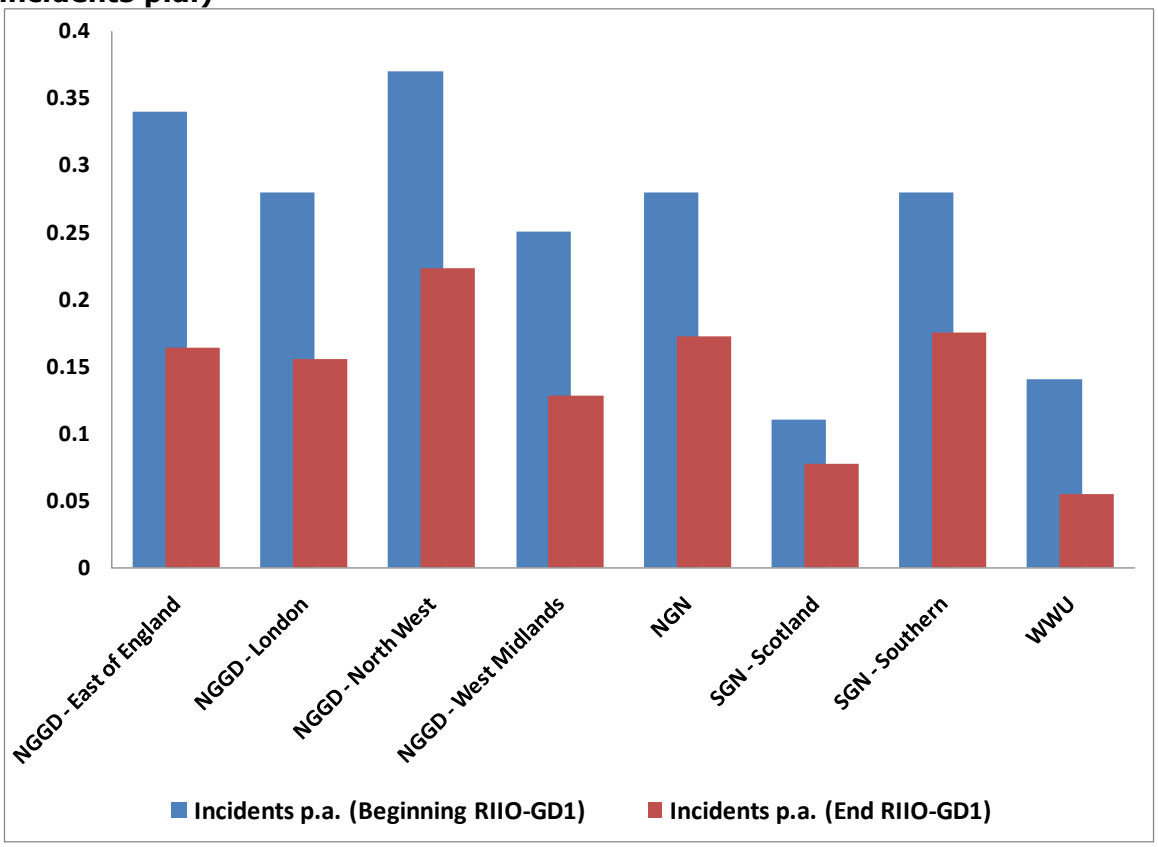
2.10. In order to take into account such uncertainties, we propose to allow investment in iron mains only where the GDN's have demonstrated that the investment pays back within 24 years to capture the option value of deferring investment decisions. Using a shorter payback period results in more opex solutions relative to capex solutions, and allows less certain investment decisions to be deferred until the current uncertainty over future network use is fully or at least partially resolved. Our proposal is consistent with our investment appraisal guidance where we required GDNs to incorporate uncertainty in their investment appraisal. We have allowed additional opex costs where we have disallowed replacement work.

2.11. Thus, we propose lower levels of replacement volumes for tier 2 and 3 mains (which comprise around 15-20 per cent of GDNs mains populations). We have also revised GDNs' proposed improvements in safety risk for consistency with our proposed changes to their repex programmes. Overall, we will require GDNs to improve safety risk (as measured by the expected number of incidents per year) by between 30 and 60 per cent over the RIIO-GD1 period for which GDNs will be held to account. (See figure 2.1) The proposed output levels are consistent with the GDNs meeting their statutory requirements under the new HSE policy for mandated iron mains replacement, and ensuring non-mandated mains replacement is undertaken only where the customer benefits outweigh the cost.

2.12. We will hold GDNs to account for the output performance in relation to safety risk through a review of their output performance at the end of RIIO-GD1. Where a GDN has failed to deliver the required output we will require them to deliver (or catch-up) the output at the next review period.

[12] See: DECC (March 2012) The Future of Heating: A strategic framework for low carbon heat in the UK. http://www.decc.gov.uk/assets/decc/11/meeting-energy-demand/heat/4805-future-heating-strategic-framework.pdf

Figure 2.1: Expected improvements in safety risk over RIIO-GD1 (expected incidents p.a.)



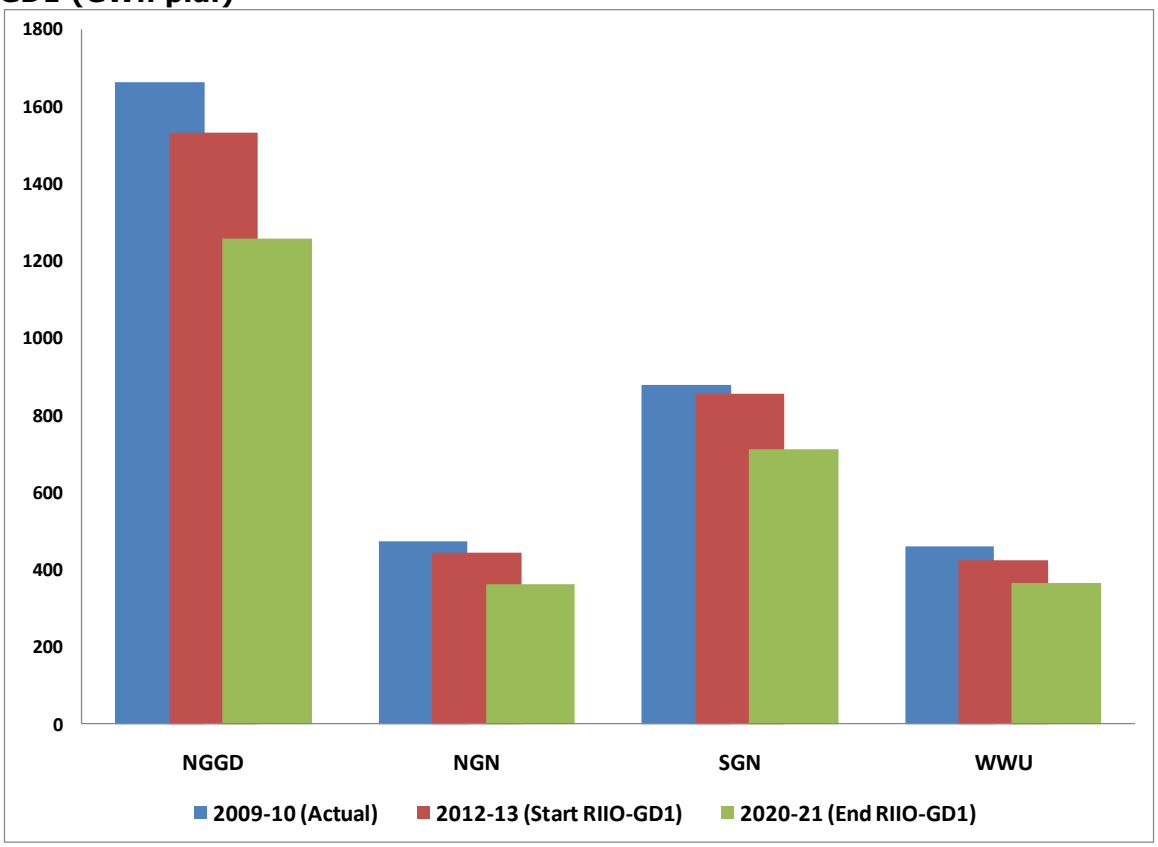
2.13. The greater flexibility offered by the new HSE policy in terms of prioritising tier 1 mains replacement allows the GDNs to realise greater reductions in gas transport losses (or shrinkage). Gas transport losses comprise around 95 per cent of GDNs' business carbon footprint, and constitutes almost 1 per cent of GB greenhouse gas emissions.[13] At an industry level, we propose to require GDNs to reduce gas transport losses in the region of 15 to 20 per cent relative to forecast levels for the start of RIIO-GD1, representing a reduction relative to the latest reported levels of more than 20 per cent. (See figure 2.2)

2.14. As part of Initial Proposals, we are also consulting on an enhanced environmental emissions incentive (EEI) and shrinkage allowance incentive which will provide greater incentives for GDNs to reduce gas transport losses beyond those values agreed at the price review (or penalise GDNs where they fail to deliver the baseline output). The incentive rewards/penalises GDNs for

[13] This is calculated using the volume of shrinkage which the GDNs reported in 2008/09 and the Government's reported statistics on total greenhouse gas emissions: http://www.decc.gov.uk/assets/decc/statistics/climate_change/1_20100325084241_e_@@_ghgnationalstatsrelease.pdf

out- or underperformance based on DECC's carbon value and the gas commodity price.[14]

Figure 2.2: Proposed target reductions in gas transport losses over RIIO-GD1 (GWh p.a.)



Network reliability outputs

2.15. In our Strategy Document, we identified a number of reliability outputs primarily in relation to loss of supply (measured by the number of interruptions) and network capacity (defined as providing capacity to meet a 1 in 20 peak day winter demand scenario). We also identified corresponding secondary deliverables in relation to asset health and risk, and asset/capacity utilisation indices.

2.16. In general, the GDNs proposed significant increases in expenditure to maintain network reliability. The GDNs justified these increased levels of expenditure on the basis of expected deterioration in asset reliability (e.g. in terms of asset health) in the absence of such expenditure.

[14] See DECC (June 2010): http://www.decc.gov.uk/assets/decc/what%20we%20do/a%20low%20carbon%20uk/carbon%20valuation/1_20100610131858_e_@@_carbonvalues.pdf

2.17. In general, we are concerned about the quality of the asset health data supporting the proposed increase in expenditure, e.g. the assumptions in relation to current asset condition and deterioration rates, and whether these justify increased expenditure over RIIO-GD1.

2.18. We propose only to allow increases in expenditure where the GDN has provided robust asset health data to support such an increase, and where the investment is justified in cost benefit terms. Our proposed approach means that we propose to disallow most of GDNs' expenditure in relation to network reliability above historical levels.

2.19. However, we have made exceptions to specific asset classes where the benefits are clear. For example, we do propose to fund GDNs for the decommissioning of gasholders. We consider that the GDNs' CBA (as modified by us) supports the decommissioning of gas holders, and we propose to fund the decommissioning of the entire population of GDNs' holder over the next two price control periods. The proposed programme will address concerns over the integrity of these assets, realise reductions in GDNs operating and maintenance costs, as well as provide wider societal benefits, e.g. in terms of visual amenity and address development constraints in proximate land.

2.20. We recognise that there may be a case for greater spending on asset health. However, in the absence of robust asset data it would not be in the consumer interest to fund the proposed investment now. Instead, for all asset classes, we propose to allow GDNs to request a reopener at the mid-period review if they can provide more robust data (e.g. around deterioration rates) in support of higher asset integrity investment, and where the associated change in expenditure is material.

Social outputs: fuel poor networks

2.21. In our strategy document, we set out our intention to continue with the fuel poor networks extension scheme, which supports the extension of the network to eligible households. However, we also set out our intention to undertake a review of the scheme during RIIO-GD1 in the light of government policies to decarbonise domestic heating.[15]

2.22. In our assessment of the GDNs' first business plans, we challenged the GDNs to provide more robust evidence to support the proposed number of fuel poor network connections. In their second plans, the industry as a whole has provided greater evidence to support their proposed number of connections and associated costs.

[15] DECC (March 2012) The Future of Heating: A strategic framework for low carbon heat in the UK: http://www.decc.gov.uk/en/content/cms/meeting_energy/heat_strategy/heat_strategy.aspxn

2.23. We propose to fund the GDNs' proposals to connect around 80,000 households in total over RIIO-GD1. We also need to ensure that GDNs work with other stakeholders to identify the least cost solution for fuel poor households, even where this is a non natural gas solution. As set out in our Strategy Document, we consider that the stakeholder engagement element of the broad measure and the discretionary reward scheme will provide incentives for the GDNs to engage with other parties (e.g. suppliers, electricity networks) to develop an integrated approach.

Social outputs: carbon monoxide

2.24. In our Strategy Document, we stated that GDNs should set out proposed activities and associated output measures to address incidents of carbon monoxide (CO) poisoning. We expected the proposals to be based on the CO related trials funded during the current control period. We stated that we would consider the results of the trials, and set out proposed outputs in relation to CO following their completion.

2.25. The GDNs have set out in their business plans a range of activities in relation to addressing CO incidents. In general, the activities share the common objective of improving public awareness of the risks associated with CO, and providing information on how to reduce the risks.

2.26. Drawing on the GDNs' plans, we propose to require GDNs to measure improvements in CO awareness, and we will use this measure to assess the effectiveness of GDNs' approaches. We do not propose to provide a direct financial incentive on this output given the absence of a robust output measure, and a clear basis for setting the reward/penalty. However, we will publish the GDNs' comparative performance in relation to increasing CO awareness in order to provide a reputational incentive in this area.

Environmental outputs (excluding gas transport losses)

2.27. The RIIO framework identifies two environmental objectives: to ensure that companies contribute to the wider environmental objectives, e.g. by maximising the volume of low carbon flows on the network and promoting energy efficiency ('broad measure'), as well as minimise the environmental impact of their own activities ('narrow environmental measure').

2.28. We set out our proposals for GDNs to reduce gas transport losses, the principal element of GDNs' carbon emissions, above. In their plans, GDNs set out proposals to realise further reductions in their business carbon footprint (BCF), and to reduce other non-carbon emissions, and resource use. We will work with the industry to develop reporting arrangements in relation to their environmental impact, and we propose to publish a comparative assessment of GDNs performance over RIIO-GD1.

2.29. In relation to the broad measure, in our Strategy Document we noted that we needed to create an enabling environment for the connection of biomethane into the grid, a renewable gas. We are consulting on measures to require GDNs to improve information provision to prospective connectees. In their plans, GDNs also set out proposals to introduce voluntary connection standards for biomethane connections. We also reaffirm our proposal that the discretionary reward scheme (DRS) can be used to reward companies that can demonstrate that they have delivered outputs that contribute to wider environmental objectives beyond those funded at the price control review.

Customer satisfaction

2.30. In our Strategy Document, we set out our intention to introduce a financially incentivised broad measure of customer satisfaction, comprising a customer satisfaction survey, a complaints handling metric, and, a stakeholder engagement measure. We proposed an overall reward or penalty equal to +/- 1 per cent a GDN's allowed revenue.

2.31. Since then, the GDNs have undertaken surveys to collect the requisite data to design the incentive mechanism, and in our Outputs Supporting Document we set out the proposed mechanism for consultation. We propose to set the point at which GDNs earn a reward for the customer satisfaction survey equal to the current performance of the upper quartile company. For the complaints metric, we propose to penalise GDNs which do not improve performance. Overall, our proposals mean that that at an aggregate industry level the industry will need to improve its performance materially to gain a reward.

Connection standards output

2.32. In our Strategy Document we set out that we did not propose to change existing connection margin arrangements or the existing gas connections standards of performance for RIIO-GD1. However, we set out our expectation that GDNs would commit, in their business plan submissions, to introduce new voluntary standards of service for distributed gas connections. In their business plans, GDNs have set out a commitment to maintain or improve existing standards, and introduce voluntary standards. We expect GDNs to work together, in consultation with distributed gas customers, to introduce voluntary standards during RIIO-GD1.

2.33. Table 2.1 summarises the principal outputs and associated incentive mechanisms.

Table 2.1: Summary of principal outputs, and associated incentive mechanisms

Policy area	Principal outputs / secondary deliverable	Incentive mechanism
Environment (broad measure)	- report on percentage of biomethane capacity connected - new connection standards and provision of information for biomethane connections - separate process to consider connection boundary and charging arrangements for biomethane	- reputational incentive in relation to biomethane connections - discretionary reward scheme (DRS) for companies that deliver environmental outputs not funded at price control review
Environment (narrow measure)	- 15-20% reduction in gas transport losses - reductions in business carbon footprint (BCF), and other emissions and resource use	- strengthened shrinkage allowance incentive and environmental emissions incentive (EEI) by: (i) aligning carbon value with DECC's non-traded carbon value, and (ii) introducing rolling incentive mechanism
Customer service	- broad measure of customer service, comprising customer satisfaction survey, complaints metric, and discretionary reward for stakeholder engagement	- financial incentive of +/-1% of allowed revenue
Social obligations	- connection of up to 80,000 fuel poor households - increased CO public awareness	- fuel poor connections reviewed at the end of period; penalty for under delivery - comparative assessment of CO awareness - DRS for companies delivering outputs in relation to social objectives not funded at review
Customer connections	- maintain current guaranteed standards - new connection standards of service for distributed gas entry customers during RIIO-GD1	- penalty payments through guaranteed standards of performance.
Safety	- 30-60% reduction in safety risk - compliance with statutory health and safety requirements	-safety risk: review of output performance at end of RIIO-GD1, and requirement to carry-over under-delivery - statutory enforcement
Reliability	- expected number and duration of interruptions - asset health/risk scores - achieving 1 in 20 capacity obligation - asset load/ capacity utilisation - maintaining operational performance	- asset health/ risk/load: review of output performance at end of RIIO-GD1, and requirement to carry-over under-delivery

3. Encouraging innovation

Chapter Summary
This chapter set out our proposals in relation to the network innovation allowance (NIA), and network innovation competition (NIC).

Question: We would welcome your views on our overall approach. (For more detailed questions, please see the Outputs Supporting Document.)

Introduction

3.1. The RIIO framework recognises the significant challenges faced by Britain's gas and electricity industries. Network companies need to facilitate the move to a low carbon economy while maintain safe, secure and reliable networks at least cost. In order to achieve these objectives, the companies will need to adopt new technologies and innovate to a greater extent.

3.2. Incentives for innovation are embedded in the RIIO framework. Companies are incentivised to innovate to meet outputs in the most efficient way and the longer price control strengthens these incentives. In addition, we set out the three elements of an innovation stimulus package in our Strategy Document:

- **Network Innovation Allowance (NIA)** - is a set allowance that each of the GDNs will receive to fund small-scale innovative projects as part of their price control settlement.

- **Network Innovation Competition (NIC)** - is an annual competition for funding larger more complex networks projects. The NIC will comprise of two competitions - one for gas and one for electricity.

- **Innovation Roll-out Mechanism (IRM)** – is a revenue adjustment mechanism that enables companies to apply for additional funding within the price control period for the roll out of new, proven solutions with demonstrable and cost effective low carbon or environmental benefits. The mechanism will apply to projects which would not otherwise be commercially viable within the RIIO-GD1 price control period.

3.3. These are designed to 'kick start' innovation in order to deliver a low carbon energy sector. We describe our proposals in relation to NIA and NIC below. We set out our proposals in relation to the IRM in the Finance and Uncertainty Supporting Document.

Network innovation allowance (NIA)

3.4. Our Strategy Document required each network operator to include an innovation strategy as part of their business plan, explaining the company's

approach to innovation, its motivation and objectives.[16] We set out that the level of funding available through the NIA would be linked to the innovation strategy. We set out that the NIA would be capped at 0.5-1 per cent of allowed revenue. We also set out that companies wishing to spend more than 0.5 per cent of allowed revenue should request that higher amount in their innovation strategy (up to a maximum of 1 per cent of allowed revenue). In making such a request the companies were required to provide justification for the additional funds. We set out that such requests would be judged by the quality and content of the innovation strategy as well as the company's justification.

3.5. In their second business plans, all GDNs requested the maximum allowance of 1 per cent. However, we do not consider that WWU's or SGN's strategy merits funding beyond 0.5 per cent. For NGGD and NGN, we consider their strategies are better justified and we propose funding levels of 0.6 per cent. We provide the reasons for our proposals in the Outputs Supporting Document.

Network innovation competition (NIC)

3.6. In our Strategy Document, we set out our decision to introduce the NIC to provide funding for projects that would contribute to a low carbon energy sector or provide environmental benefits. We set the maximum available funding for gas distribution and gas transmission at £20m per annum.

3.7. We set out in our Strategy Document that in implementing the NIC, we intended to replicate the Low Carbon Network Fund (LCNF) funding model introduced for the last electricity distribution price control, DPCR5. This would involve the transfer of funds from all gas licensees to those licensees who win funding through the NIC. However, we set out in March 2012[17] that the restriction on gas transporter (GT) to GT transfers constituted a potential barrier to delivering this proposed funding approach in the gas sector.[18]

3.8. We do not expect to be able to introduce NIC (using the intended funding model) until 2014/15 at the earliest due to the statutory restrictions. We are consulting on the alternative funding options for 2013/14 and potentially beyond:

[16] The innovation strategy would not give regulatory approval for any specific project. Rather projects will need to meet the requirements of the NIC and NIA governance arrangements – which are being developed through the course of 2012.
[17] Decisions on the Network Innovation Competition: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=346&refer=Networks/nic

[18] As set out set out in our March 2012 publication, the Gas Act 1986 may contain a prohibition on the transfer of funds between gas licensees. We have been working with the government to amend the Gas Act 1986 but the required amendment will not be in place in time for us to fund NIC as intended

- *Option 1*: Run the NIC and raise the required funds from the winning licensees' customers (i.e. this could be from either NGGT's or a GDN's customers).

- *Option 2*: No NIC in 2013/14, and no replacement funding in that year. The lost funds would be rolled-over into subsequent years such that the overall level of funding in RIIO-GD1 is unchanged.

3.9. The disadvantage of option 1 is that the costs of a winning project would be borne fully by the winning GDNs' own customers, i.e. there is no socialisation of costs, whereas the benefits will accrue to all customers. For this reason, in the event that NIC is delayed for one year, we propose option 2. However, in the event that the required legislative change is not made for 2014/15, we propose option 1 as we consider that it is more important to run NIC (and accept no socialisation of costs) than to incur further delay.

4. Efficient costs

Chapter Summary

This chapter sets out our approach to estimating GDNs' efficient costs, as well as our approach to the information quality incentive (IQI).

Question: We would welcome your views on our overall approach. (For more detailed questions, please see the Cost Efficiency Supporting Document.)

4.1. Under the RIIO framework, we stated that we would draw on a variety of evidence, including the companies' forecasts and our own benchmarking analysis, as a means of informing our assessment of companies' efficient costs. We also stated that we would use the information quality incentive (IQI) to incentivise GDNs to reveal their efficient costs, and to reward GDNs that submit cost forecasts that align with our assessment of efficient costs.

Comparative efficiency analysis

Overall approach

4.2. To determine GDNs' cost efficiency, we have undertaken a wide set of benchmarking techniques. We have developed total expenditure (totex) models, as well as more disaggregated models, e.g. at the activity level (repairs, emergency service etc). We have developed econometric models estimated using three years' historical data, as well as models estimated using GDNs' forecast data for the first two years of RIIO-GD1. Within our totex and activity level regression analysis, we have also considered alternative model specifications proposed by GDNs.

4.3. We consider that each modelling approach provides useful information in assessing GDNs' comparative efficiency. Totex models ensure that we consider GDNs' opex-capex trade-offs in our comparative efficiency assessment, i.e. that we can identify those GDNs that have minimised total costs. While, activity level analysis enables a richer specification, i.e. we can take into a greater number of potential factors that explain costs. Econometric models estimated using historical data have the benefit of being anchored on actual (as opposed to forecast) data. By contrast, estimating models using forecast data allows us to take into account GDNs' views on how costs will change over RIIO-GD1.

4.4. For all models, we have made pre-modelling adjustments to GDNs' costs to reflect factors not incorporated within the econometric model cost functions. Our main adjustments are for regional cost factors, where we have taken into account regional differences in labour costs, and company specific factors. Notably, we apply regional labour adjustments of more than 20 per cent for NGGD's London and SGN's Southern GDN, for labour costs related to work

within the M25. Furthermore, for the two London based GDNs, we have also applied a further adjustment of 15 per cent to reflect lower labour productivity associated with working in the capital due to factors such as congestion in the public highway. We have also made adjustments for the relative sparsity of networks, which potentially increase the costs of providing emergency services in rural areas, notably for WWU.

4.5. Not all costs are included within the econometric modelling. We exclude non-controllable costs, e.g. business rates and pension deficit repairs. These costs are recovered on a pass-through basis (where they are entirely outside of management control) or assessed separately; for example, the allowances we make for pension deficit are subject to rules set out in our Finance and Uncertainty Supporting Document.

4.6. We also exclude a number of company specific costs which are controllable from our econometric analysis, such as street works' costs (which disproportionately affects NGGD's London GDN and SGN's Southern GDN). For such costs, we have considered the efficient level of costs based on a technical or engineering assessment.

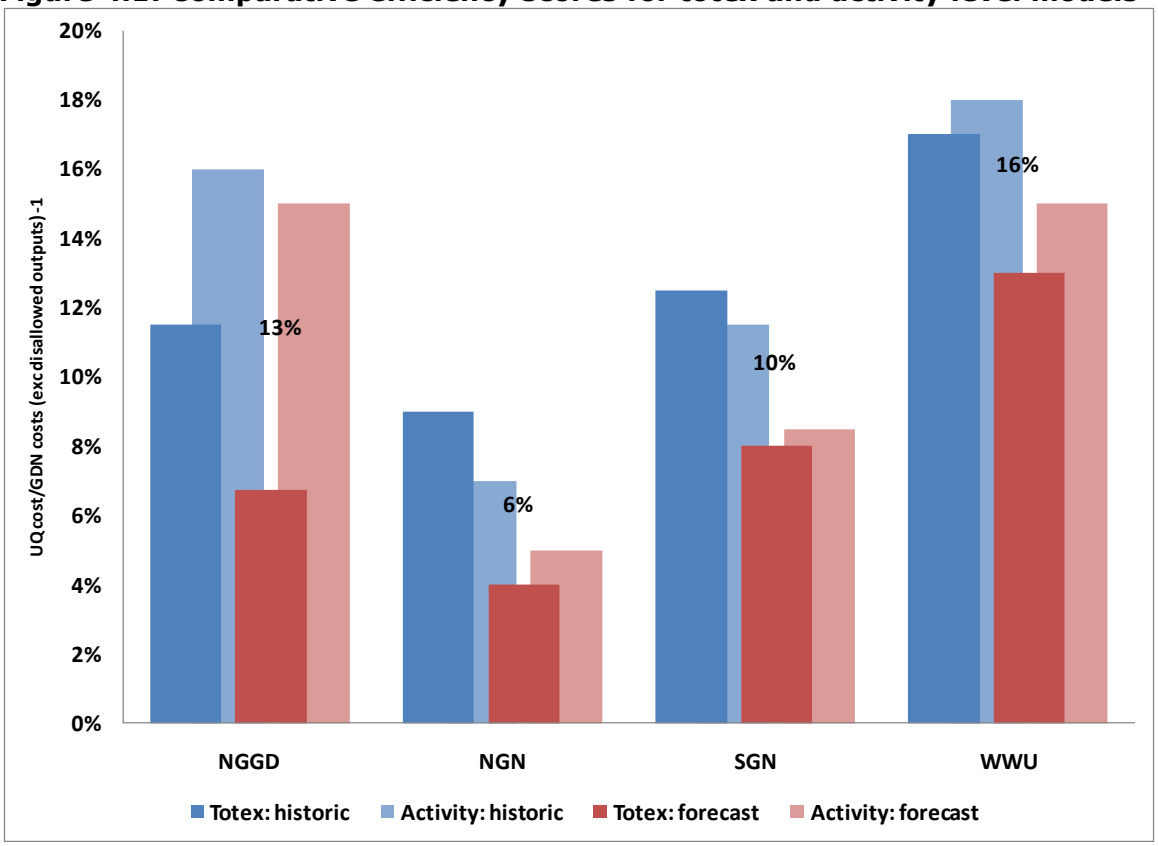
Modelling results

4.7. Figure 4.1 sets out GDNs' comparative efficiency scores[19] by ownership group for the set of four preferred models: totex and activity level models estimated using three years of historical data (in blue); and both totex and activity level models estimated using two-year forecast data (in red). The scores also reflect our assessment of non-regressed costs associated with each of the models. We calculate the comparative efficiency score based on the GDNs' forecast cost relative to the upper quartile level of costs over the period.

4.8. Figure 4.1 shows that the GDNs' efficiency scores are better for the econometric models using forecast data relative to the historical models (on average by 1-2 percentage points). The reason for this is that all GDNs' plans incorporate a forecast increase in costs over the earlier part of RIIO-GD1, and the models estimated using forecast data incorporate the forecast cost increase. Figure 4.1 also shows that GDNs' comparative efficiency scores for both the totex and activity level models are very close, with the potential exception of NGGD which performs better on totex relative to the activity level models. It also shows the average efficiency score for each group. Taking an average of all four models, NGN is the most efficient GDN (with costs 6 per cent higher than our notional upper quartile GDN), and WWU is the least efficient GDN (with costs 16 per cent higher). However, at the licensee level, NGN is the most efficient, and NGGD's London GDN is the least efficient. (See appendix 2.)

[19] Defined as: [Upper quartile costs]/[GDNs submitted controllable costs, and adjusted for disallowed outputs] -1.

Figure 4.1: Comparative efficiency scores for totex and activity level models



Interpreting the comparative efficiency results

4.9. In terms of interpreting the models' results, we propose to base our proposed efficiency reduction to companies' forecast cost allowances on the average comparative efficiency score as set out in figure 4.1. As set out above, each modelling approach has its merits, and we consider that drawing on a wide set of models ensures that we do not over emphasise any one modelling approach. However, we also note that the set of preferred models provide relatively consistent results in terms of GDNs' rankings and absolute efficiency scores.

4.10. As set out above, we define efficient costs equal to the upper quartile (UQ) of GDNs' costs. We propose to set allowances based on the expectation that GDNs could close 75 per cent of the assessed gap between their forecasts and the UQ. The use of the UQ is identical to previous price reviews (e.g. GDPCR1, and more recently the electricity distribution price review, DPCR5). Our proposed approach to closing the gap and the use of the UQ rather than the frontier acknowledges that a part of the difference in costs across the GDNs relates to factors other than GDNs' relative efficiency (e.g. statistical error).

4.11. The comparative efficiency scores determine the income reward/penalty that GDNs receive under the information quality incentive (IQI), as well as the efficiency incentive rate (or sharing factor), i.e. the proportion of costs that

GDNs retain from outperformance (or incur as a cost to them where they underperform). We have calibrated the IQI matrix such that the GDNs face incentive rates broadly in the range of 60-65 per cent, for consistency with the incentive rate for GDPCR1. Table 4.1 sets out the group level incentive rates and associated rewards/penalties. The income reward/penalty provides incentives for GDNs to submit efficient cost estimates, with the most efficient (NGN) receiving a reward of 1.4 per cent of totex, and the least efficient GDNs (WWU and NGG London) incurring penalties of 0.8 and 1.2 per cent of totex respectively. (See appendix 2 for licensee level data.)

Table 4.1: Proposed reductions to GDNs' cost forecasts for cost efficiency

	NGGD	NGN	SGN	WWU
Reduction for cost efficiency	9%	5%	8%	12%
Income reward/penalty (as % of totex)	0.10	1.38	0.64	0.76
Efficiency incentive rate	63%	64%	63%	62%

Real price effects and ongoing efficiency

4.12. Real price effects (RPEs) and the ongoing efficiency assumption form part of the ex ante allowances for each GDN. The allowance for RPEs represents the expected change in input prices (e.g. wages) relative to the Retail Prices Index (RPI). The ongoing efficiency assumption is the expected productivity improvement that an efficient company should be able to make over the price control.

4.13. For labour costs, which comprise around 60 per cent of GDNs' costs, our RPE is based on independent forecasts for wage growth over the short term, which indicate negative real wage growth, and an assumption that real wage growth will revert to the long-term trend of 1.4 per cent per annum. Overall, our real wage assumption is 0.5 per cent per annum, although the cost allowances reflect the expected profile, i.e. negative RPEs in the early part of the period. In general, our forecast real wage effect is lower than the GDNs' forecasts, primarily because we assume a negative real wage effect in years' 2011-12 to 2013-14.

4.14. We have estimated other input prices based on the historical long-term relationship relative to RPI. Our forecast for material input price effects tend to be higher than the average industry forecast.

4.15. Taking our forecasts together, we estimate a composite RPE of 0.5 per cent per annum. (based on weighted average of all inputs), and ongoing productivity of 0.8 per cent per annum. Therefore, the overall net impact is -

0.3 per cent per annum. That is, we expect GDNs to more than offset input price increases by productivity improvements.

4.16. Compared to GDNs' forecasts, our proposed net impact assumption is below the lowest GDN assumption of -0.2 per cent per annum (WWU), and materially below the highest net impact at 0.6 per cent per annum (NGGD).

Overall cost allowances

4.17. Table 4.2 sets out proposed cost allowance at the group level taking into account both our proposed reductions for cost efficiency, as well as changes to outputs (as discussed in chapter 2). This shows that we are proposing reductions in costs allowances of 17 per cent relative to GDNs' plans at an industry level.

Table 4.1: Proposed cost allowances (£m, 2009/10 prices)[20]

Average Annual Costs				
	GDPCR1 outturn	**GDN Plan RIIO-GD1** (no output adjustments)	**Ofgem allowance (post IQI)**	**% change between GD1 plan and our allowances**
Industry	**1,903**	**1,950**	**1,612**	**-17%**
NGGD EoE	280	281	242	-14%
NGGD Lon	256	277	206	-26%
NGGD NW	240	227	181	-20%
NGGD WM	171	173	146	-16%
NGN	192	229	199	-13%
SGN SC	181	177	148	-17%
SGN SO	369	346	308	-11%
WWU	214	242	182	-25%

[20] The GDNs' plans and Ofgem allowances are for controllable costs excluding shrinkage costs, licence fees, rates, NTS pension deficit charges, street works costs associated with the implementation of permitting by additional highways authorities, lane rentals and smart metering. Both GDNs plans and our allowances are gross of real price effects (RPEs).

5. Uncertainty mechanisms

Chapter Summary

This chapter sets out our proposed approach to dealing with uncertainty.

Question: We would welcome your views on our overall approach. (For more detailed questions in this area, please see the Finance and Uncertainty Supporting Document.)

Strategy Document

5.1. We stated in our Strategy Document that under the new framework, we expect network companies to manage the uncertainty they face. The regulatory regime should not protect companies against all forms of uncertainty. The use of uncertainty mechanisms should be limited to instances in which they will deliver benefits for consumers (e.g. in terms of reduced risk premium) while also protecting the ability of networks to finance efficient delivery.

5.2. In our Strategy Document we proposed a number of uncertainty mechanisms for RIIO-GD1. We also outlined the information the GDNs would need to provide in their business plans in support of requests for additional or alternative mechanisms.

5.3. We set out our policy for reopener mechanisms to deal with uncertainty relating to street works, enhanced physical site security and changes to the connection charging boundary for distributed generation. In particular, we noted that these would be restricted to two reopener windows (with any changes to allowed revenues impacting in 2016 and 2019) and that costs would have to breach a materiality threshold. We proposed a materiality threshold of 1 per cent of allowed expenditure in year one of the price control, following the application of the efficiency incentive rate derived from the IQI assessment process.

5.4. We also highlighted the uncertainty around potential further changes to the HSE iron mains replacement programme, and funding in relation to asset integrity expenditure if GDNs could demonstrate that they had further robust information on asset health and criticality. We also stated our intention to undertake a review of the fuel poor network extension scheme to accommodate the implications of DECC's heat strategy.

5.5. We also set out the basis for the mid-period review of outputs. We noted that the mid-period review would be tightly restricted to: (i) changes to outputs that can be justified by clear changes in government policy; and (ii) the introduction of new outputs that are needed to meet the needs of consumers and other network users.

GDNs' business plans and our proposed mechanisms

5.6. In general, the GDNs support the uncertainty mechanisms that we set out in our Strategy Document. However, they proposed some revisions to the mechanisms, as well as a number of new mechanisms.

5.7. In relation to new mechanisms, all GDNs set out proposals to deal with the uncertainty related to the impact of the supplier led smart meter roll-out programme.[21] The GDNs have also identified the need for uncertainty mechanisms in relation to tier 2 iron mains replacement (following the announcement of the HSE's iron mains policy in June 2011). The GDNs also identified a number of company specific mechanisms, e.g. medium rise multiple occupancy buildings (MOBs) for NGGD; Statutory Independent Undertakings (SIUs) for SGN; and large load connections; and, a range of other mechanisms (e.g. in relation to legislative change) for WWU.

5.8. We agree we should address the uncertainty in relation to smart meter roll-out costs through an uncertainty mechanism. We consider that the costs are uncertain, and potentially material. As part of Initial Proposals, we are consulting on the details of the proposed mechanism. We also agree that we should introduce a volume driver in relation to tier 2 iron mains, and a mechanism for the connection of new large loads. We also propose to introduce an uncertainty mechanism in relation to the future funding arrangements for Xoserve[22] following the completion of a strategic review of Xoserve earlier this year.[23]

5.9. Table 5.1 summarises our proposed uncertainty mechanisms for Initial Proposals. These reflect our Strategy Document and include the four additional uncertainty mechanisms we propose to introduce.

[21] DECC Smart Meters: http://www.decc.gov.uk/en/content/cms/tackling/smart_meters/smart_meters.aspx
[22] Xoserve provides data services on behalf of transporters. For example, they provide billing services for shippers for use of the transportation network, manage the booking of capacity on the distribution network, run the industry settlement systems and manage the change of supplier process.
[23] Open letter: review of Xoserve – Ofgem's conclusions: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=345&refer=Networks/GasDistr/RIIO-GD1/ConRes

Table 5.1: Proposed uncertainty mechanisms

Mechanism	Area covered	Regularity of potential adjustment
Indexation	Inflation, cost of debt[1]	Annual
Pass through	Licence fees, business rates,[1] pension deficit costs,[2] third party damage & water ingress, additional costs directed by the Authority, costs relating to gas theft, the price of gas (in relation to shrinkage), and NTS exit capacity charges	Annual
Reopener	Street works, enhanced physical site security, connection charging boundary, smart metering, connection of new large loads, innovation roll-out	Twice: April 2016, 2019
Reopener	Asset health/risk data improvements	Once: April 2017
Volume driver	Tier 2 mains replacement	Annual
Review	Xoserve funding, fuel poor network extension scheme	At any time
Mid-period review	Any legislative change including the HSE iron mains programme, introduction of new outputs	Once: April 2017
Trigger	Tax legislation[1]	At any time
Reset	Pension deficit repair[1]	April 2015, and every three years there after
Disapplication	Enables price control parameters to be reset if GDN experiences financial distress	At any time

(1) See Chapter 3 (cost of debt), Chapter 6 (business rates and tax trigger) and Chapter 5 (pension deficits) of the Finance and Uncertainty Supporting Document for further details on these mechanisms. (2) The requirement for pass-through of NTS pension deficit costs depends on whether the current arrangements for the recovery of such costs remain in place. We discuss this Chapter 7 of the Finance and Uncertainty Supporting Document.

6. Financial issues

Chapter Summary

This chapter sets out our financial proposals for the GDNs. We focus on the allowed rate of return and financeability issues. We provide more details on these and other financial issues (tax, pensions, setting RAV) in the Finance and Uncertainty Supporting Document.

Question: We would welcome your views on our overall approach. (For more detailed questions in this area, please see the Finance and Uncertainty Supporting Document.)

Introduction

6.1. Ensuring that efficient companies are able to finance themselves (through both debt and equity) and are remunerated appropriately lies at the heart of the RIIO approach to financeability. We stated that we would use the return on regulated equity (RoRE) framework to ensure that our overall proposals offered a balance of risk and reward.

6.2. In our Strategy Document, we stated that we intended to capitalise iron mains replacement expenditure (or repex) fully to ensure long-term sustainability. We also recognised that this change in approach could have adverse cash-flow consequences and stated that we would consider transitional arrangements if justified. In addition, we stated that we would apply front-loaded depreciation profiles to all asset categories as a measure to guard against increasing customer costs in the longer term, from declining network flows. We also set out how we would determine the allowed rate of return based on an assessment of companies' cash-flow risk.

6.3. In this overview paper, we set out a summary of our proposals for the allowed rate of return (i.e. comprising cost of equity, cost of debt and notional gearing), financeability and transitional arrangements, and the expected return on regulated equity (RORE). In the Finance and Uncertainty Supplementary Document, we provide detail in relation to the technical regulatory and accounting issues, such as setting the regulatory asset value (RAV), tax and pensions.

Allowed rate of return

6.4. Table 6.1 sets out our view of the cost of equity, cost of debt, and notional gearing for RIIO-GD1. Based on the current value of the cost of debt index (3.03 per cent), our overall proposed allowed rate of return equates to a vanilla weighted average cost of capital (WACC) of 4.3 per cent. We explain our reasons for the cost of equity, cost of debt and notional gearing below.

Table 6.1: Summary of allowed return proposals

	RIIO-GD1
Cost of equity (post-tax real)	6.7%
Cost of debt (pre-tax real)	iBoxx 10-year simple trailing average index (currently 3.03%)*
Notional gearing	65%
Implied vanilla WACC*	4.3%

* The value of the index may change ahead of final proposals, and may vary during the price control period. Any changes would be reflected in the WACC.

Relative risk

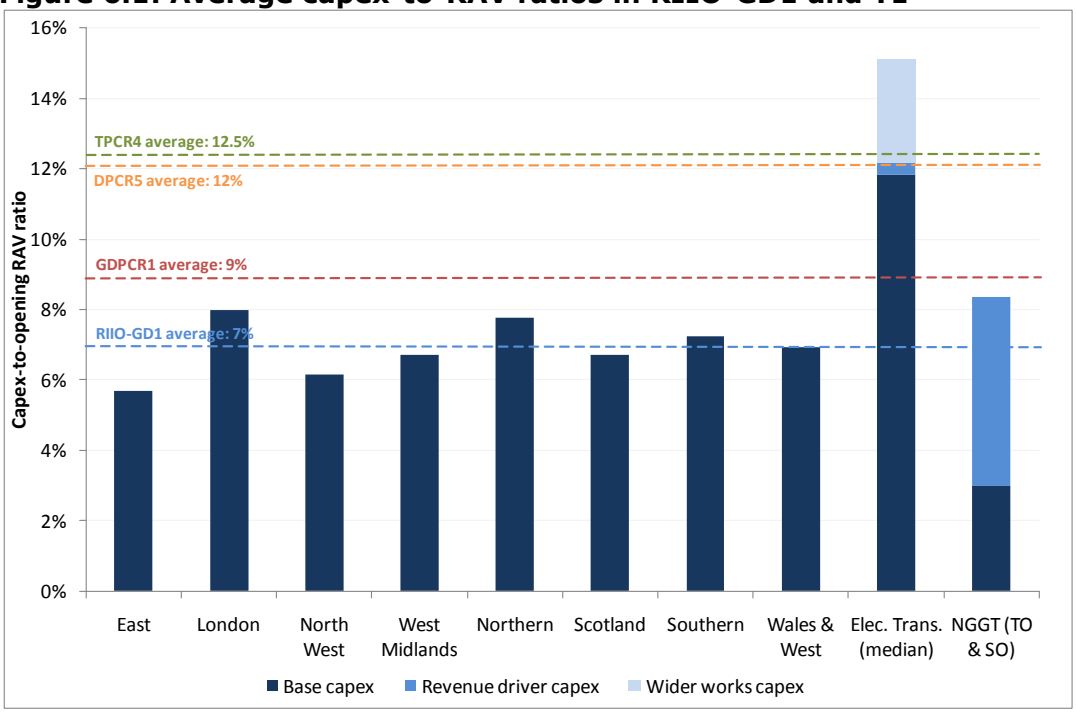
6.5. In our Strategy Document, we stated that we would consider the cash-flow risk of GDNs in determining the allowed cost of equity and gearing. We have undertaken a comparative risk assessment for GDNs, transmission operators (TOs), as well as the cash-flow risk associated with the last distribution price control review (DPCR5) for the electricity distribution networks (DNOs), and the allowed equity costs for the most recent respective price reviews (TPCR4,[24] GDPCR1 and DPCR5) to inform our proposals.

6.6. We consider that cash-flow risk is primarily determined by the risk associated with the regulatory framework, and in particular the size of the respective investment programmes (relative to RAV) and how investment risk is mitigated by the regulatory framework. We consider that the key distinguishing risk factor for GDNs relative to TOs is the significantly lower capex to RAV ratios of the GDNs.

6.7. Figure 6.1 sets out each GDN's average capex-to-RAV ratios for RIIO-GD1 compared to the corresponding ratios for gas transmission and electricity transmission (median) in RIIO-T1, and the average ratios in previous price controls. This shows that the GDNs face a similar level of risk to each other, and lower risk than previous controls and the TOs.

[24] For the purposes of this analysis we do not include the TPCR4 Rollover, as the decision on the allowed return for the Rollover was not informed by detailed risk analysis.

Figure 6.1: Average capex-to-RAV ratios in RIIO-GD1 and T1



Note: For consistency, we treat repex as 100 per cent capex in this chart.

Notional Gearing

6.8. In addition to considering cash-flow risk in determining the appropriate notional gearing level, we also take into account:

- *Financeability* – we consider the gearing ratios set out by the major credit rating agencies associated with an investment credit rating, as well as the impact of gearing on other credit ratios.
- *Return on regulatory equity (RoRE) range* – our intention is that companies should be able to achieve an upside return on (regulatory) equity in the low double-digits nominal post-tax, and be exposed to a downside return at or below the cost of debt. We set out our RoRE analysis below.
- *Regulatory precedent, and network company's actual gearing* – which provide empirical evidence of the gearing level required to support investment credit ratings.

6.9. Based on this evidence, we propose a notional gearing of 65 per cent for all eight GDNs consistent with achieving financeability and appropriate RoRE range (as we set out below), as well as being consistent with regulatory precedent and observed gearing.

Cost of equity

6.10. As well as our comparative risk assessment, we also asked our consultants to consider the range for the cost of equity published in our Strategy Document of 6-7.2 per cent (real, post-tax). Our consultants confirmed that long-term historical evidence on network companies' financing costs supports the proposed range. We consider that is it appropriate to focus on longer-term estimates for the cost of capital when setting controls for an eight-year period. The long-term evidence supports an assumption of 2 per cent risk-free rate and 5.25 per cent market or equity risk premium.

6.11. Taking into account long-term estimates for the component elements of the cost of equity, and our relative risk analysis, which suggests that GDNs face lower cash-flow risk relative to the TOs, and potentially similar or marginally lower than DNOs at DPCR5, we propose an overall cost of equity of 6.7 per cent. Table 6.2 summarises our cost of equity components which support our conclusion of a cost of equity of 6.7 per cent.

Table 6.2: Cost of equity assumptions for the GDNs

	GDNs	Strategy Document range	GDPCR1
Risk-free rate	2.0%	1.7-2.0%	2.5%
Equity risk premium	5.25%	4.75-5.5%	4.75%
Equity beta	0.9	0.9-0.95	1.0
Cost of equity	**6.7%**	**6.0-7.2%**	**7.25%**

Cost of debt

6.12. Our proposal is to retain the approach of annually updating the cost of debt estimate based on the simple 10-year trailing average of the iBoxx indices.

6.13. In their business plans, a number of the GDNs proposed modifications to our proposed cost of debt index, including basing the index on a BBB index, and applying caps and collars to the index to mitigate the risk that a falling index would not allow GDNs' to recover their embedded debt cost. The network companies also set out concerns in relation to the recovery of debt issuance and other costs, the inflation risk premia, and the potential impact of Basel III and Solvency II regulations.[25]

[25] Basel III and Solvency II are proposed sets of regulations on the capital requirements of banks and insurers, respectively which are expected to come into effect during RIIO-GD1.

6.14. We do not agree with the GDNs arguments. We have modelled GDNs' cash-flow risk associated with a falling cost of debt index, and we do not consider that this presents a material source of risk. In relation to debt issuance costs, we note that the network companies continue to outperform our proposed index. We set out more detailed reasons for rejecting GDNs' arguments in the Finance and Uncertainty Supporting Document.

Financeability and transitional arrangements

6.15. As part of our Strategy Document, we stated our intention to capitalise fully iron mains replacement expenditure (repex) to ensure that we better align the benefits that accrue over the asset life to the charges recovered from consumers. The proposed treatment contrasts with the current treatment where 50% of repex is capitalised, and 50% is expensed in the year it is incurred.

6.16. We also decided to apply front-loaded depreciation to all assets, to guard against the future uncertainty in relation to network asset use, and the potential increase in customer charges that would arise from declining network flows. This offsets some of the cash flow impact of fully capitalising repex.

6.17. We recognise that, overall these policies reduce near-term cash flows and stated that we will allow transitional arrangements in regard of repex capitalisation rules in order to mitigate this impact.

6.18. As transitional arrangements, most GDNs have proposed a uniform repex capitalisation rate of 75 per cent over the eight years of RIIO-GD1. WWU proposed a transition based on equal annual steps from 50 per cent in the first year to 100 per cent by year eight.

6.19. We have considered the requirement for transitional arrangements in the context of our financeability analysis. Our analysis indicates that transitional arrangements are appropriate to ensure that the GDNs maintain a comfortable investment grade rating (i.e. in the BBB-A range).

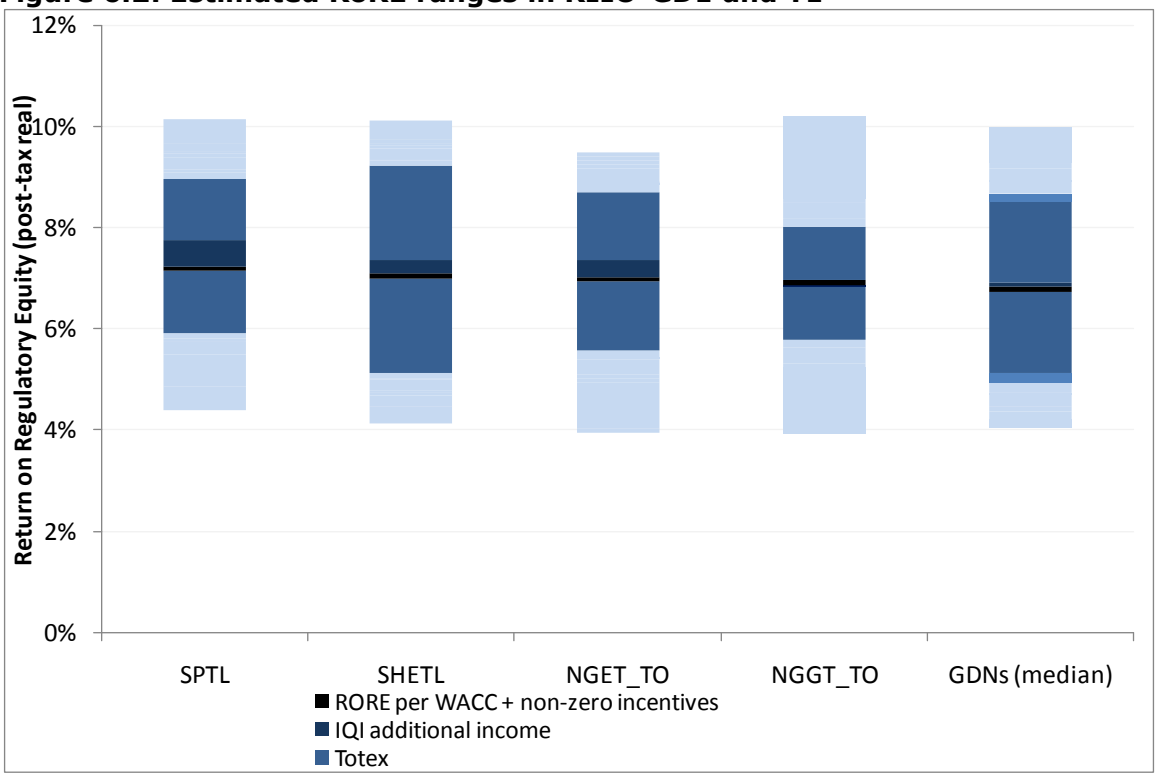
6.20. We consider that the optimal arrangements involve a stepped transition for repex capitalisation, i.e. from 50 per cent capitalisation in 2013-14 to 100 per cent in 2020-21, in eight equal incremental steps.

Return on regulatory equity (RoRE)

6.21. We use the return on regulated equity (or RoRE) analysis to calibrate the price control package so that well performing GDNs can earn nominal post-tax double-digit returns on (notional) equity, and potential for GDNs who perform poorly to earn returns at or below the cost of debt.

6.22. Figure 6.2 compares the RoRE range for the median GDN with gas and electricity TOs in RIIO-T1. The overall range of RORE is broadly similar across sectors reflecting the fact that our higher assumed notional gearing for GDNs (relative to TOs) offsets the relative lower risk associated with GDNs' cash-flows (based on our relative risk assessment).

Figure 6.2: Estimated RoRE ranges in RIIO-GD1 and T1



7. Next steps

Chapter Summary

The purpose of this chapter is to set out the next steps for RIIO-GD1.

7.1. We welcome the views of interested parties in relation to any of the issues set out in this document and the three Supporting Documents. Responses should be provided to RIIO.GD1@ofgem.gov.uk by 21 September 2012. Unless clearly marked as confidential, responses will be published on our website.

7.2. In light of respondents' views, we will publish our Final Proposals for GDNs in December 2012, and the new price control will come into effect on 1 April 2013.

7.3. We have published a draft set of licence conditions for consultation along with our Initial Proposals. We intend to publish a further consultation on licence conditions in October 2012 and undertake the statutory licence consultation in December 2012.

Appendix 1 - Consultation response and questions

1.1. We would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. Responses should be received by 21 September 2012 and should be sent to:

- RIIO.GD1@ofgem.gov.uk

1.3. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.4. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.5. Any questions on this document should, in the first instance, be directed to:

- James Grayburn
- RIIO-GD1
- 9 Millbank, London, SW1P 3GE
- 020 7901 7483
- RIIO.GD1@ofgem.gov.uk

1.6. We identify a single question for all relevant chapters in this Overview paper. For more detailed questions, the reader should refer to the detailed Supporting Documents identified at the beginning of each chapter.

CHAPTERS: 2-6

Question: We would welcome your views on our overall approach.

Appendix 2 – Supporting information

1.1. This annex sets out supporting information in relation to our cost and revenue allowances.

Table A2.1: Comparative efficiency scores by modelled approach[26]

GDN	Models est. using historical (2008/09-10/11) data		Models est. using forecast data		Average efficiency score
	Totex	Activity level	Totex	Activity level	
East of England	13%	15%	8%	12%	13%
London	19%	19%	15%	19%	18%
North West	9%	16%	4%	15%	11%
West Midlands	5%	14%	0%	14%	8%
NGN	9%	7%	4%	5%	6%
Scotland	12%	11%	8%	9%	10%
Southern	13%	12%	8%	8%	10%
WWU	17%	18%	13%	15%	16%

Table A2.2: Required reductions for cost efficiency, IQI ratios, income reward/penalty and IQI efficiency incentive rate

	NGGD (East)	NGGD (London)	NGGD (North West)	NGGD (West Midlands)	NGN	SGN (Scotland)	SGN (Southern)	WWU
Reduction to totex for cost efficiency	-9%	-13%	-8%	-6%	-5%	-7%	-8%	-12%
IQI score	114	122	112	109	107	111	111	119
Income reward/penalty (% of totex)	0.14	-1.24	0.44	1.05	1.38	0.68	0.61	-0.76
Efficiency incentive rate	63%	61%	63%	64%	64%	63%	63%	62%

1.2. Table A2.3 sets out the allowed revenue profiles for each of the GDNs in RIIO-GD1, and the change relative to GDPR1. At an industry level, we expect the overall allowed revenues to be around 4% higher by the end of the period. The expected change in allowed revenues varies by GDN from around -4% to +14%. However, we need to treat the expected change in allowed revenues by GDN with caution. The

[26] For definition of comparative efficiency see para. 4.7.

2012/2013 allowed revenue assumptions (on which the forecast changes for RIIO-GD1 are based) are GDNs' forecast allowed revenues and subject to change.[27]

Table A2.3 – Allowed revenues

Allowed Revenue for year ending 31 March (09/10 prices - £m)	2013	2014	2015	2016	2017	2018	2019	2020	2021
Industry	**2,834**	**2,973**	**2,901**	**2,965**	**2,927**	**2,927**	**2,931**	**2,927**	**2,944**
Yr on Yr Change		4.9%	-2.4%	2.2%	-1.3%	0.0%	0.1%	-0.1%	0.6%
Cumulative Change		4.9%	2.4%	4.6%	3.3%	3.3%	3.4%	3.3%	3.9%
NGGD (total)	**1,428**	**1,470**	**1,421**	**1,455**	**1,414**	**1,413**	**1,412**	**1,410**	**1,415**
Yr on Yr Change		2.9%	-3.3%	2.4%	-2.8%	-0.1%	-0.1%	-0.1%	0.3%
Cumulative Change		2.9%	-0.5%	1.9%	-1.0%	-1.1%	-1.2%	-1.3%	-0.9%
East	482	501	484	490	477	477	476	476	478
Yr on Yr Change		4.0%	-3.4%	1.1%	-2.6%	-0.1%	-0.1%	-0.1%	0.5%
Cumulative Change		4.0%	0.5%	1.6%	-1.0%	-1.1%	-1.2%	-1.3%	-0.8%
London	326	329	322	345	333	329	329	326	328
Yr on Yr Change		0.9%	-2.2%	7.3%	-3.6%	-1.1%	-0.2%	-0.7%	0.4%
Cumulative Change		0.9%	-1.4%	5.9%	2.1%	1.0%	0.8%	0.1%	0.5%
North West	347	366	348	351	344	345	344	345	346
Yr on Yr Change		5.4%	-4.9%	1.0%	-2.1%	0.3%	-0.2%	0.2%	0.3%
Cumulative Change		5.4%	0.2%	1.2%	-0.9%	-0.6%	-0.8%	-0.6%	-0.3%
West Midlands	273	274	267	269	260	262	262	263	263
Yr on Yr Change		0.3%	-2.6%	1.0%	-3.4%	0.6%	0.1%	0.2%	0.1%
Cumulative Change		0.3%	-2.2%	-1.3%	-4.6%	-4.0%	-3.9%	-3.7%	-3.6%
NGN	**335**	**337**	**339**	**347**	**341**	**333**	**335**	**338**	**343**
Yr on Yr Change		0.7%	0.4%	2.5%	-1.7%	-2.4%	0.7%	0.9%	1.5%
Cumulative Change		0.7%	1.2%	3.7%	1.9%	-0.6%	0.1%	1.0%	2.4%
SGN (total)	**751**	**841**	**819**	**841**	**839**	**845**	**851**	**848**	**859**
Yr on Yr Change		12.0%	-2.6%	2.7%	-0.2%	0.7%	0.7%	-0.4%	1.3%
Cumulative Change		12.0%	9.1%	12.0%	11.8%	12.5%	13.3%	12.9%	14.3%
Scotland	228	251	247	251	253	256	258	257	262
Yr on Yr Change		10.2%	-1.7%	1.4%	0.8%	1.3%	1.0%	-0.6%	2.1%
Cumulative Change		10.2%	8.4%	9.9%	10.8%	12.2%	13.3%	12.6%	14.9%
Southern	523	590	572	591	587	589	593	591	597
Yr on Yr Change		12.8%	-3.0%	3.3%	-0.7%	0.4%	0.6%	-0.3%	1.0%
Cumulative Change		12.8%	9.4%	13.0%	12.2%	12.7%	13.4%	13.0%	14.1%
WWU	**320**	**324**	**322**	**321**	**332**	**336**	**333**	**331**	**327**
Yr on Yr Change		1.4%	-0.8%	-0.2%	3.4%	1.1%	-1.0%	-0.4%	-1.3%
Cumulative Change		1.4%	0.6%	0.4%	3.8%	5.0%	3.9%	3.5%	2.2%

[27] In addition, we note changes to the NTS exit capacity regime (Enduring Regime) are fully reflected in our allowed revenues but only partly reflected in 2012/13 revenues.

Appendix 3 - Feedback Questionnaire

1.1. We consider that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

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London
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andrew.macfaul@ofgem.gov.uk