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Dear Jonathan

### **NGN response to Ofgem's RIIO-2 Framework Consultation**

Thank you for the opportunity to respond to your consultation on the regulatory framework that will apply for the next set of network price controls in the UK.


In many areas we share the same principles with regards to the regulatory framework. The introduction of RIIO in 2013 was a significant step forward in building upon the approach that had already delivered significant benefits for customers in the UK. RIIO-GD1 has seen significant further increases in terms safety, reliability, environmental performance, cost and customer bills - that is the issues of greatest importance to our customers and stakeholders. This has coincided with record levels of customer satisfaction and assessments of levels of customer service delivered by NGN benchmarking alongside or even above leading companies across the wider economy.

NGN has been at the frontier of this performance over the period and are clear that the strong incentive and output-based framework has been key enabler in delivering these results.

However, every periodic review comes with additional insight and learning which can be used to further refine the framework to continue to drive value for customers. Our detailed responses to the issues and questions raised within your consultation set out clearly where we believe these changes are required and where the current approach continues to provide the best way forward.

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We also recognise that the world around us continues to change at an ever-increasing rate and that investment will be required to deliver this change. The framework needs to continue to challenge companies to extend the frontiers of performance through setting challenging benchmarks, delivering ongoing investment and seeking new innovative ways of delivering our services. Whilst also dealing with the uncertainties presented by the range of pathways to a decarbonised future for heat. The ability to continue to attract significant sums of long-term investment in the UK's energy sector remains of paramount importance to achieving these objectives.

We continue to support the core principles of the RIIO framework and remains the most appropriate way in which we can meet our customers', stakeholder and investors' requirements in the short and longer term.

We look forward to continuing working with yourself and your team to deliver a RIIO-2 outcome based on these objectives. If you would like to discuss any aspect of the detail contained within our response then please do not hesitate in contacting me.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'G. Mills', followed by a period.

Gareth Mills  
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**Question 1. How can we enhance these models and strengthen the role of stakeholders in providing input and challenge to company plans? What are your views on the proposal to have Open Hearings on areas of contention that have been identified by the groups?**

We have no issues with the proposals for the two groups, but we do need to ensure that the “stakeholder view” is not unduly driven by the opinions of the individuals sat on these groups. It will be important for ourselves and Ofgem to ensure that they reflect as far as possible a balanced viewpoint and individuals do not dominate the thinking or approach of the groups. Clearly the role of the Chair will be important in ensuring this does not occur.

As Ofgem’s research (and our own experience) has shown that there are limitations on where stakeholders can satisfactorily provide input and challenge. As the consultation acknowledges ultimately GEMA make the decisions and it is important for Ofgem to ensure it has the right level of resources and expertise available particularly as Ofgem will again be running 3 simultaneous price reviews for gas distribution, gas transmission and electricity transmission.

We have no issues with the proposal for open hearings. We are sceptical of the value that will be gained but happy to see how this works in practice.

**Question 2. Do you agree with our preferred position to set the price control for a five-year period, but with the flexibility to set some allowances over a longer period, if companies can present a compelling justification, such as on innovation or efficiency grounds?**

- **What type of cost categories should be set over a longer period?**
- **How could we mitigate the potential disruption this might cause to the rest of the framework?**
- **What additional measures might be required to support longer-term thinking among network companies?**

**Do you instead support the option of retaining eight-year price controls with a more extensive Mid-Period Review (MPR)? What impact might the alternative option of an eight-year price control with a more extensive MPR have on how network companies plan and operate their businesses?**

We believe that the 8-year control period has been successful in providing an appropriate time period to allow networks to address some of the significant structural issues within the industry. NGN has used this extended period to address some of these key issues such as:

- modernising employee terms and conditions
- reducing ongoing pensions liabilities
- changing the commercial arrangements for the delivery of key investment activities through our Direct Service Provider (DSP) model
- introduce a customer-centric employee culture and
- build a culture and supply chain that can sustainably support ongoing research, development and innovation.

All of these initiatives have been significant contributors to extending the frontier in terms of both levels of cost and service performance for our customers over the RIIO-GD1 period. But more importantly set a benchmark for performance across the industry going forward. Many of these initiatives are still underway and it is clear to us that given the significant levels of investment and senior management support required, it would not have been possible to achieve the same level of benefit within a shorter price control period. As this consultation document illustrates very strongly, periodic reviews introduce the potential for very significant and fundamental changes to the regulatory framework. As such they introduce a very significant level of uncertainty and hence risk to longer-term planning horizons that can result in a rational aversion to investments or initiatives that are based on cost benefit analysis that span price control periods. This is particularly the case where programmes require an amount of research, development, innovation and hence longer time periods to implement better solutions. It is clear therefore that a move to a shorter time-period will impact the broader incentive properties of the framework even without any other changes.

However, given Ofgem's position that they do not feel confident in their ability to effectively employ the wealth of data and information it has on company costs and service delivery, to set and manage price controls over a longer period, from the options presented we would support a move to a 5-year price control. Significantly extending the scope of a Mid Period Review (MPR) whilst maintaining a longer price control period will simply highlight the risks outlined above and, in our opinion, further impact the incentive properties of the framework.

For Gas Distribution Networks (GDNs) the concept of introducing the flexibility to set some allowances over a longer period, if there is a clear justification, is worthy of consideration for the remainder of the Iron Mains Risk Removal Programme (IMRRP or Repex). A mandated programme with a known and well understood work basket and duration would seem a good candidate for this sort of treatment within a more limited overall price control period.

Setting allowances for Repex over a period to its completion in 2032 will potentially provide a number of benefits for customers, including:

- Certainty and hence de-risking of the regulatory arrangements surrounding the Repex programme through to its completion in 2032
- Provides a long-term basis upon which contractual and pricing arrangements can be agreed with service providers.
- Manages more effectively risks of retaining specialist resource out to the end of the programme and limit any resulting increasing cost pressures.

In addition, we believe the longer term regulatory treatment of the Repex programme within the framework can be further enhanced by the reintroduction of an appropriate volume driver that funds directly the volume and mix of the type of work (e.g. by diameter bands of pipes replaced). This mechanism would be similar in principle to the Mains Replacement Incentive Mechanism (MRIM) that existed in the regulatory framework prior to RIIO-GD1 and to the Tier 2a volume driver in the current framework.

This would have the additional benefit of dealing with the uncertainty surrounding having to forecast and fix ex-ante workload volumes and diameter band mix for each company. A change to the framework which in itself would support the ability to set these arrangements over a longer period.

**Question 3. In what ways can the price control framework be an effective enabler or barrier to the delivery of whole system outcomes? If there are barriers, how do you think these can be removed? What elements of the price control should we prioritise to enable whole system outcomes?**

Price controls can drive or hinder actions through their structure and incentives. At a general level business plans should demonstrate the necessary interactions and trade-offs between distribution and transmission to justify actions on one or both of the relevant networks.

When it comes to big uncertainties around the future of heat it is necessary to consider what are the relevant timescales when major changes or decisions are likely to be made that would fundamentally change the nature of the price control. Whilst such things can never be predicted with certainty the vast majority of forecasts show little change in the use of natural gas as the primary source of heat until the 2030s. Therefore, the next price control running to 2026 in gas distribution is unlikely to be significantly impacted but should be based on active experimentation with regard to decarbonisation of gas and exploring the potential interactions between the gas and electricity networks.

**Question 4. Do you agree with our minded-to position to retain the current start dates for the electricity transmission and electricity distribution price controls, and not align them?**

A whole system approach would undoubtedly be better supported by a closer alignment of the timescales for individual price controls across gas and electricity and distribution and transmission. Several years in between decisions made in each sector will make it very difficult to 'join up' effectively decisions that support optimal whole system energy solutions. This issue is further exacerbated by a potential lack of consistency between individuals and teams within Ofgem to bring together issues across sectors and timescales.

However, given the significant level of change that Ofgem are proposing to the wider framework and the very large workload that is required in analysing and assessing each of the submitted business plans it is not clear that a bringing together of all the relevant price controls can effectively be achieved in the short term.

On this we would support the position that the only viable option is to retain the current start dates for all the current price controls.

**Question 5. In defining the term 'whole system', what should we focus on for the RIIO-2 period, and what other areas should we consider in the longer-term? Are there any implementation limits to this definition?**

For the RIIO-2 period in gas distribution the focus should be on active experimentation to explore the opportunities for the decarbonisation of gas system and exploring the potential interactions between the gas and electricity networks.

For the longer-term government policy decisions and incentives will seek to influence the future of heat and energy use by customers. How technology develops and how customers react will determine the future of the energy networks and consequently the regulatory regimes that will be required. Whilst the possibility of rapid changes cannot be ruled out the frequency at which households change their heating systems for example is by its nature a very slow one. Until the direction of travel becomes much clearer for the gas networks then it is difficult to predict what issues will need to be considered.

Clearly if there were rapid and significant changes during the RIIO2 period then more immediate changes to the price control would need to be made. For example, if there was a decision by government to go for 100% hydrogen conversion. It may therefore be appropriate to have a reopener in the price control associated with major changes in the pattern of usage of the network or government decisions.

**Question 6. Do you agree with our view that National Grid's electricity SO price control should be separated from its TO price control?**

No Response

**Question 7. Do you agree that we should be considering alternative remuneration models for the electricity SO? If so, do you have any proposals for the types of models we should be considering?**

No Response

**Question 8. Should we consider alternative remuneration models for the gas SO? If so, why and what models?**

No Response

**Question 9. What options, within the price control, should be considered further to help protect consumers against having to pay for costly assets that may not be needed in the future due to changing demand or technology, while ensuring companies meet the reasonable demands for network capacity in a changing energy system?**

It is imperative that the framework supports the principle that both current and future customers do not pay bills that are any higher than necessary over both the short and longer term.

The regulatory framework has always had to deal with issues relating to uncertainty on the prevailing conditions that may exist across the lifecycle of long duration assets. The risks relate to the fact that costs for consumers may be higher than they otherwise would be than if there were absolute certainty about the future. This risk is normally expressed (as highlighted by the phrasing of the above question) solely in terms of cost being higher due to investments being made that with hindsight were not required. However, importantly the risk also works in the opposite direction in that investments that may be deferred due to uncertainty result in higher costs because of both reduced reliability, safety or environmental performance and higher investment costs to recover this position after the event.

It is important that both of these risks are considered in addressing this issue or the solution may imply even higher costs for customer longer term. Examples of this can be taken from

preparations for RIIO-GD1 where a number of stakeholders held very strong views on the pathway and long-term future for gas:

- i. ***“Gas has no role in the energy mix long term”*** – This position supported a view that the Repex programme could no longer be justified and should be dramatically reduced in scope. This would provide short term benefits to customers in terms of lower investment costs and bills. However, it is now clear that continuing the Repex programme has ensured that the gas networks are in a position to be considered as a low-cost option for the decarbonisation of heat in the UK whilst continuing to deliver the increasing levels of safety, reliability and environmental performance demanded by our customers. Long term costs for energy consumers could be significantly higher without this option in place.
- ii. ***“Gas demand will fall rapidly over RIIO-GD1”*** – This position was put forward to postulate that in the pathway to the removal of gas from the energy mix gas demand would continue to fall rapidly and investment to manage network capacity was not required. Gas demand on NGN’s network (both annual throughput and 1 in 20 peak daily demand) has increased consistently in recent years in line with economic recovery. Without necessary investment in localised new capacity to meet these incremental increases in demand would have resulted in capacity constraints and potentially loss of supply issues for customers.

It is important to recognise that there is now significant evidence that supports the continued role for gas and the distribution networks in all future heat decarbonisation scenarios driven by a range of both practical, technological and financial considerations. The ‘Future of Energy Scenarios’ produced by National Grid illustrate very clearly the role gas has to play across all of the relevant scenarios out to 2050.

However, the broad approach adopted to assessing investment requirements in RIIO-GD1 provides a useful starting point for addressing the same issues in RIIO-GD2. We would support a continuation of this approach which included:

- The use of Cost Benefit Analysis that could illustrate that the benefits accrued from the investment by customers is in excess of costs and importantly where appropriate ‘pays back’ in a period that is less than that implied by any uncertainty of when it may be required.
- Illustration of meaningful ‘optioneering’ of solutions that include both non-asset-based solutions and/or shorter-life asset-based solutions. Some examples from RIIO-GD1 include:



- The use of interruption contracts to offset requirements for large scale reinforcement of LTS pipelines;
- Increasing maintenance frequencies and investing to extend asset lives
- Investing in cheaper, shorter life asset solutions that allow more effective management of distribution system pressures rather than reinforce the pipeline system.

Within this broader background we would support the continued use of this approach during RIIO-GD2 as an effective means by which to effectively address any residual points of uncertainty relating to long life assets.

**Question 10. In light of future challenges such as the decarbonisation of heat, what should be the role of network companies, including SOs, in encouraging a reduction in energy use by consumers in order to reduce future investment in energy networks? What could the potential scale of this impact be?**

It is clear that there is a case for an expanded role for energy networks in helping customers address their energy usage and promote greater energy efficiency than has been utilised in the past.

There is scope to build upon the work that NGN are currently doing in the areas of fuel poverty and vulnerability to address a wider audience in this area. Some of these initiatives include:

- Extending access to gas as an energy source for heating for domestic customers
- Providing Energy Efficiency Advice directly to customers at all points of contact
- Providing online tools and learning facilities relating to energy efficiency
- Building and facilitating wider 'networks' for the delivery of energy efficiency advice and access to further support e.g. local energy ambassadors, NEA- Green Doctors
- Extending the role of our gas engineers to include in-house appliance testing and servicing with an energy efficiency focus.

The extensive work that NGN have carried out in this area to date illustrates the positive impact that networks can have in delivering increases in energy efficiency performance. It is possible to see how we can build upon this and extend to a wider customer base.

**Question 11: Do you agree with our proposal to retain dedicated innovation funding, limited to innovation projects which might not otherwise be delivered under the core RIIO-2 framework?**

It is clear that the innovation stimuli NIA, NIC, IRM and their predecessors have been successful in instilling innovative thinking and a culture of challenging the norm into an industry that is known for its adversity to risk and change. Ofgem's own analysis shows clearly the very significant positive net benefit that the innovation stimuli have delivered for consumers.

We would very clearly support the continued funding for innovation into the RIIO2 period. A focus on funding for innovation projects that might not otherwise be delivered under the core framework points clearly at projects that support research, development and testing of solutions to key issues surrounding the transfer to a low carbon economy and wider whole systems approaches.

We would however, ask Ofgem to consider more fully the impact that the wider proposals for the RIIO2 framework may have on other forms of R&D and innovation that support the running of the network. It is not clear that the proposals for a very low risk and low financial returns environment is conducive to supporting very active innovation and research. The proposals for failsafe mechanisms present further challenges to the support for ongoing business as usual innovation. Under this environment the returns for any successful investment in R&D could be eroded very quickly or completely removed at the end of each year.

It would seem that some further clarity is required in Ofgem's approach across the different aspects of the proposals. We would contend that a very low risk, low return environment that furthermore seeks to actively reduce the potential upside returns from any investment in new ways of working poses a significant risk to ongoing innovation without any continued financial support from within the framework.

**Question 12: Do you agree with our three broad areas of reform: i) increased alignment of funds to support critical issues associated with the energy transition challenges ii) greater coordination with wider public-sector innovation funding and support iii) increased third party engagement (including potentially exploring direct access to RIIO innovation funding)?**

Yes, we agree that there should increase alignment of funding dedicated to tackling these challenges and the funding criteria should be set in a way that drives a collaborative approach and includes all players of the whole-system solution (demand and supply,

transmission and distribution, gas and electricity and different sectors (energy, heat and transport)). The level of funding provided should be in accordance with the size of the issue, however this should not come at the expense of the availability of funding for smaller-scale projects enabling projects that has been a necessary precursor to successful NIC projects during RIIO1.

We believe it could lead to increased out-of-sector collaborations and better innovative solutions as a consequence. However, practicalities such as who leads these collaborations and how can funding criteria be aligned require clarification in particular considering the increased administrative burden such collaborations can result in for networks.

We would support third party driven solution development to problems networks face could lead to more disruptive ideas and should have more focus. Direct access to funding for third parties, however poses the challenges of legal and licence monitoring requirements and the regulatory burden to third parties as already identified in the review undertaken by Ofgem in 2016. From a network perspective it also needs to be explored who takes the risk of testing innovations on the networks and how the need for retrospective alignment of solutions to problems can be avoided.

The issues associated with the enduring ownership of enduring intellectual property rights is a factor that must be addressed when considering an increased role for third parties in this innovation. A challenge would seem to be ensuring that funding of the nature that is currently delivered via the networks is compatible with the business models of third party organisations who may require additional retention over IPR derived from these projects.

**Question 13: What are the key issues we will need to consider in exploring these options for reform at the sector-specific methodology stage, including:**

- (i) What the critical issues may be in each sector and how we can mitigate the bias towards certain types of innovation through focusing on these issues?**

The critical issues at hand are the decarbonisation of heat, power and transport with the aim to meet the targets of the Climate Change Act set for 2050. The challenge is big and complex and we all know that there is no silver bullet to solve it. The magnitude of the issue requires a solution that cuts across vectors and industries, which is why we believe that a sector-specific approach is outdated. In particular considering that we only have about 30 years left to meet the Climate Change Act target. The provision of one fund available to the energy (gas and electricity), heat and transport industry alike could drive collaboration and the creation of far-reaching multi-vector solutions that are urgently needed.

Bias could be mitigated by a clear formulation of the problems the fund is dedicated to solve and by setting carefully designed but simple criteria which favour the best solution to the problem. The panel to assess projects should be a mix of experts of all industries and key stakeholders to enable a detailed and holistic assessment of proposals. Collaboration should be made compulsory.

**(ii) How we can better coordinate any dedicated RIIO innovation funding with wider public sector funding and support (including Ofgem initiatives such as the Innovation Link and the Regulatory Sandbox)**

Although we can see value in a coordination of Ofgem innovation and public-sector funds as outlined under Q12 ii), we believe that the practicalities of aligning funding criteria, political agendas and a supposedly increased administrative burden to all parties involved are challenges that outweigh the benefits of pro-actively coordinating funds.

In order to capture the benefits of wider public funding, however, demonstrating that alternative funding options have been explored could become a criterion for accessing dedicated innovation funding. Ofgem could support networks in meeting this requirement by publishing up-to-date alternative funding sources, their criteria and timeframes on its website, for example. However, it needs to be pointed out that the fact that benefits gained from projects that were funded with wider public funding could be capped under the proposed financial framework might discourage networks to seek funding from alternative public sources.

Via the Innovation Link and the Regulatory Sandbox innovators can seek advice from Ofgem on the viability of their concepts from a regulatory perspective. NGN would welcome introductions to innovators with the view to potential collaborations provided that the concepts demonstrate a clear link to our gas distribution business.

**(iii) How we can enable increased third-party engagement and what could be the potential additional benefits and challenges of providing direct access to third parties in light of the future sources of transformative and disruptive innovation?**

Third party engagement is the engine for our rich and diverse portfolio of innovation projects. We approach third parties by:

1. Issuing problem statements or challenges to the industry via different channels (early stage engagement)

2. Presenting the industry with a solution we have already identified and running a tender for developing it
3. Attending conferences and other industry events
4. Collaborating with long-standing partners in our supply chain

A large proportion of our current portfolio of live innovation projects are the result of early engagement with third parties. We use the Call for Innovation service provided by the Energy Innovation Centre (EIC) to access SMEs. This way we not only generate great projects but also attract a large variety of project partners – each of these projects in our portfolio has a different partner company.

Based on this success, we are seeking to grow the number of channels we use to access the latest thinking: we have only recently launched a broad innovation challenge with the Digital Catapult North East & Tees Valley to explore opportunities to use new technology to develop and build smart infrastructure. To continue this path, we would welcome support in the form of information on different channels and platforms that enable us to reach out to third parties in a targeted way.

**Question 14: What form could the innovation funding take? What would be the advantages and disadvantages of various approaches?**

Overall, we believe that the current RIIO-1 innovation stimulus package has been a success and that the underlying principle of providing different funding mechanisms for different types of innovation projects has resulted in the creation of ground-breaking innovations such as the suite of hydrogen-related projects evolving around H21 and the Low Carbon Gas Pre-Heating (LCGP) project which drives energy efficiency in gas distribution. Both projects were funded by the Network Innovation Competition (NIC) but were preceded by projects funded by the Network Innovation Allowance (NIA) which enabled to proof the concept of the initial ideas and bring the projects up to the Technology Readiness Level (TRL) that is required to qualify for NIC funding.

These are only two examples of a series of successful innovations that have resulted from either using the two mechanisms in conjunction or on a stand-alone basis. We therefore propose that the principle of the current stimulus package be maintained throughout RIIO-GD2 but be updated so that it reflects the increased maturity networks have reached in the delivery of innovation and the current view about how to tackle the energy challenge.

In the following we discuss the advantages and disadvantages of different forms of “NIA-type” funding for smaller-scale business level innovation projects:

a. No funding available in RIIO-GD2 – please see our response to Q11.

b. Funding based on TRL-risk:

Each technology readiness stage has a different level of risk associated to it based on the probability of success, i.e. return on investment in form of benefits to the customer. According to this, research and development projects, due to their early stage are the riskiest. Based on this principle, we propose following funding mechanism:

<b>Project type</b>	<b>TRL</b>	<b>Funding mechanism</b>
Research projects	1-3	70-90% funded by Ofgem depending on TRL.
Development projects	4-6	30-60% funded by Ofgem depending on TRL.
Demonstration projects	6-9	100% business funded

The advantages of this mechanism are that it encourages networks to continue undertaking low TRL research and development projects in a financial environment that is not conducive to risk-taking and that it at the same time reflects the networks' maturity in delivering innovation by letting them take on all the risk of higher TRL demonstration projects. Establishing a method to attribute TRL-risk consistently and correctly however, could pose a challenge. This mechanism could also result in an increased administrative burden to networks. Another "half-way" but simpler solution could be that Ofgem offers 50% of funding for all projects regardless of TRL.

c. Retain NIA funding in its current form:

The advantage of continuing with the current form of funding is that processes to manage the governance around NIA-projects are now well established within networks. Introducing a new mechanism would require a re-adjustment which might distract networks from focussing on innovation delivery until new processes are established. Adjusting to new governance and demonstrate benefits in a shorter, 5-year price control period seems challenging. The disadvantage of continuing with the current NIA funding mechanism is that it would undermine a transition of innovation to BAU.

For our proposal in relation to innovation targeted at the transition to a low-carbon energy system, please refer to Q12(i).

**Question 15: How can we further encourage the transition of innovation to BAU in the RIIO-2 period? How can we develop our approach to the monitoring and reporting of benefits arising from innovation?**

A distribution of risk between the networks and the customer that allows for continued stimulation of innovation and at the same time enables networks to transition to BAU is key. In addition, it is important that the mechanism is simple and does not require major process adjustments, so that networks can build on their achievements made during RIIO-1 and take their innovation activities to the next level in a 5-year price control.

A holistic approach to monitoring and reporting benefits is required that is reflective of the complex nature of innovation projects: Although achieving efficiencies through innovation is an overarching aim, many projects simply cannot result in financial benefits. Projects that move between low TRLs, for example, only have an enabling benefit – if successful they move the project on to further stages or, if not, encourage to think about the problem differently. Many projects have social, environmental and safety benefits which are difficult to quantify. In order to capture their real benefit, it is important to assess their value in relation to the aim they were set to achieve, like for example meeting a stretching output target. When a new technology has been developed as a result of an innovation project, the success and the scale of the roll-out are the determining factors for calculating the benefits.

NGN has developed its own methodology to track and capture financial benefits of completed projects and a value framework that includes non-financial benefits in a cost-benefit analysis. In addition, NGN participates in ongoing collaborative work to develop an Innovation measurement framework. Other parties included in this project are the EIC, WWU, Cadent, SSE, SPEN and UKPN. However, NGN can see the value in the development of a coherent approach that can be adopted by all GDNs. NGN would be pleased to support this work.

**Question 16. Do you agree with our proposal to extend the role of competition across the sectors (electricity and gas, transmission and distribution)? What are the trade-offs that will need to be considered in designing the most efficient competitions?**

**Question 17. Do you consider there are any reasons why our new, separable and high value criteria might not be applicable across all four sectors? If so, what alternative criteria might be suitable?**

We would agree that an extended role for competition in all sectors has the potential to deliver increased value for customers.

The proposals set out within the framework consultation have identified some of the key challenges in delivering this framework including the size, scale and duration of projects alongside the applicability of such an approach within a highly integrated and complex network operation.

It is easier to envisage how such a model could be applied to new, very large-scale infrastructure projects such as those experienced within the offshore transmission arena. The position becomes an order of magnitude more complex where a project is relatively small-scale which will make it less attractive to investors and is embedded within a highly integrated network configuration where the specification of an individual asset will directly impact upon the necessary configuration, operation and hence costs of surrounding assets.

The proposed new, separable and high value criteria set out in the consultation usefully recognise that such an approach may not be applicable in all circumstances and would seem a reasonable starting point for addressing some of the challenges associated with increased competition.

It is also important to recognise that the wider regulatory framework does provide very strong incentives for networks to develop commercial frameworks that deliver customer value through the competitive tendering of projects, seek out and adopt innovative technical solutions to investment challenges and wider innovation within these commercial arrangements. It should remain a priority that RIIO preserves these strong incentive properties.

**Question 18. What could the potential models be for early stage competitions (for design or technical solutions)? What are the key challenges in the implementation of such models, and how might we overcome them?**

We would support the view that early stage competition has the potential to deliver further benefit for customers in a number of ways but in particular bringing an amount of innovation in to the design and technical specification of a project.

However, there are a number of challenges to the implementation of this approach and a number of these have been highlighted within the consultation. In addition to those already raised, a key issue would seem be the extent to which these competitions lead to solutions that challenge current approaches, policies and procedures that require further adaptation which adds to both costs and timescales particularly if further research and development is required.



The criteria on which any of these projects will be considered will be the key to ensuring this framework can be effective. These will need to be set up front and provide absolute clarity for both incumbents and new entrants or this risk may become a key barrier to entry.

**Question 19. What views do you have on our proposed approach to specifying outputs and setting incentives? When might relative or absolute targets for output delivery incentives be appropriate? What impact would automatically resetting targets for output delivery incentives during a price control have? Which outputs might best suit this approach?**

We support Ofgem's proposal to specify outputs as a set of consumer facing outcomes that the networks commit to delivering in RIIO-GD2. The existing six categories of outputs represent a good start but should be reviewed and built upon through the enhanced stakeholder engagement process both Ofgem and the networks will undertake as part of the business planning process.

RIIO-GD1 has taught us that greater clarity around the exact output deliverables and how they interact with the incentives, cost allowances and any uncertainty / close out mechanisms is essential. Appropriate resource and time should be dedicated to this at the end of the planning process.

Consistency should be applied where appropriate, but this should not prevent a network differentiating itself through an exceptional plan and challenging targets. Not all networks have the same operating model, stakeholders may value outputs differently, and regional differences could drive variances.

We support the view that networks who have performed poorly and failed to deliver outputs and targets that drove cost allowances and service targets in RIIO-GD1 should be held to account in RIIO-GD2. Their future cost allowances and targets should take previous underperformance into account with no future revenues provided for something that has in effect already been funded.

We would support the continuation of absolute targets for output delivery incentives. We have seen huge improvements in customer service for example in RIIO GD1 so far, showing how successful absolute targets can be. Absolute targets provide a level of certainty which promotes investment in the service area to deliver the target, as well as allowing us to disseminate the target down to individual departments / employees through incentive schemes etc which all drive the performance. Even with absolute targets there is a reputational and relative incentive to be number one across the industry, and to increase returns through a higher reward than your peers. Absolute targets can still be stretching

and set relative to industry performance so that networks earn different returns and show differentiation. Absolute targets can also be more easily increased over time to drive performance improvement.

Automatically resetting targets can cause similar issues to relative targets. There is less certainty with reduced incentive to invest over time. It can promote short termism and dysfunctional behaviour as performance could be managed to deliver incentives over time rather than from year one in a price control. The mechanisms can be complex and difficult to manage through the regulatory formula. Our preference would be to set stretching absolute targets from day one with incremental increases over the price control, giving networks something to aim for and manage. Some of our current incentives reward us for annual improvement only but this is known up front and allows us to plan and manage accordingly.

**Question 20. What views do you have on our general approach to setting cost allowances?**

**Question 21. What views do you have on our intention to index RPEs?**

**Question 22. What impact would resetting cost allowances based on actual cost performance (eg benchmarked to the average, upper quartile or best performer) during a price control have? Which cost categories might best suit this approach?**

We support the general approach to setting cost allowances – namely that ‘repeatable’ and ‘predictable’ cost areas will have upfront allowances set, but there will be an increased usage of uncertainty mechanisms – volume drivers, revenue triggers, reopeners, pass through – where either costs or volumes are difficult to predict and material. This supports the general principle that networks should be rewarded for the decisions and options they choose, not pure chance or gaming of workloads over time for long term projects such as Repex.

As highlighted in the consultation, we would be interested in exploring the option of setting allowances for longer periods for areas such as Repex where the work programme spans multiple price controls. The reintroduction of a volume driver similar to how the Mains Replacement Incentive Mechanism worked in GDFRC1 and how Tier 2a work is allowed for in RIIO GD1 should mitigate gaming across price control periods. However greater certainty about workload targets will allow us to gain commercial advantage with our service providers in the long term and mitigate cost pressures we are likely to see from increased competition from an increasingly scarce resource.

The goods and services we procure in our normal activities is significantly different from those that make up the general measure of prices for the economy. As a result, over time

our cost base is unlikely to move in line with the general economy. This cost differential or Real Price Effect (RPE) has been recognised in previous price controls and managed through an upfront cost allowance. However, we recognise that this differential is driven by many factors and is inherently uncertain and difficult to forecast. Setting the wrong upfront cost allowance could therefore unfairly penalise or reward the network. To protect the networks and consumers and provide the right incentive we therefore support the indexation of RPEs. The annual cost allowances will then better reflect the actual market conditions experienced throughout the price control.

In terms of cost benchmarking RIIO-GD1 will provide valuable historic information. However, the benchmarking should also take into account expected future movements in costs, and so an appropriate balance should be taken of future forecasts and historic data to inform the allowances. We support the use of simplified incentives to ensure network forecasts are well justified and ambitious. Understanding these mechanisms up front is key to delivering this.

We believe this, combined with appropriate uncertainty mechanisms and sharing mechanisms between the networks and consumers is a better approach than resetting cost allowances during the price control period. The regulatory settlement is in effect a contract and a degree of certainty is needed to allow us to plan and to guarantee investment.

### **Question 23. Do you agree with our assessment of IQI?**

We would encourage the continued use of a mechanism such as IQI to provide incentives both for efficiency, ambition and cost revelation. Ofgem's assessment of IQI as set out within the framework consultation we believe has not taken into account several key factors that were prevalent during the RIIO-GD1 business planning process, including;

- The parameters and cost benchmark were unknown to the GDNs whilst developing their business plans. The effectiveness of the IQI mechanism as a tool was significantly weakened by the absence of any detail on both the process for identifying the cost benchmark but also the relative strength of any penalty or reward within the mechanism. Companies' could not assimilate the menu incentives into the development of their plans and created uncertainty.
- The RIIO-GD1 business plans were developed during a period of significant uncertainty around the arrangements for iron mains replacement expenditure over the period (which accounted for up to 50% of Totex). The change to a new '3-Tier approach' late in the process of business plan development introduced significant change to workload volumes, types and mixtures of pipe replacement and new risk

management principles significantly uncertainty into how this may effect the unit costs of delivery going forward.

The experience of RIIO-GD1 has however indicated that its efficacy could be improved. A review of the both the application/implementation of IQI has highlighted that adapting the framework in a number of areas could deliver more appropriate outcomes in terms of both benefits for consumers and company financial returns. Our review of the TOTEX menu incentives and Ofgem's implementation of the menu implies several areas for improvement;

- The greatest differentiation of ex post returns is likely to come from excluding rewards through the TIM for cost improvements that are largely outside the GDNs' control. Reducing the ability of the companies to benefit from outperformance arising from uncontrollable costs through uncertainty mechanisms (e.g. pass-through or indexation) could be effective.
- Introduction of higher-powered or more meaningful incentives which would be expected to lead to more dispersion in the GDNs' ex post returns due to greater variation in their incentive rates. The results of the cost benchmarking at RIIO-GD1 provided the clear justification to differentiate more significantly between companies based on both historic and forecast performance.
- Publishing the menu, its parameters and potentially the cost benchmark earlier would allow companies to respond earlier during the price control period and to achieve more of the framework's intended benefits to allow the GDNs sufficient time to understand the incentives they face and their costs relative to the regulator's benchmark.

These changes we believe can significantly improve the IQI mechanism to deliver the desired outcomes. The changes will strengthen the incentives both to deliver ambitious business plans and continue to drive the efficiency frontier throughout the price control period. Both of which will drive greater value for customers in both the short and longer term than the range of alternative mechanism set out within the consultation.

**Q27. Do you have any views on the factors we should take into account when deciding how to differentiate efficiency incentives for companies if we do not use the IQI?**

As outlined above, we believe the core IQI mechanism should be retained with targeted amendments that experience during RIIO-GD1 has highlighted will improve outcomes for consumers.

However, under any strong incentive-based regime it is clear that relative efficiency and performance, both historic and forecast should always be the differentiating factors

whether the IQI is utilised or not. Failure to deliver adequate differentiation between companies based on relative performance we would suggest is one of the key learning points to be taken from experience in RIIO-GD1.

**Question 28. Is an explicit upfront financial reward required to incentivise companies to submit high quality business plans, in addition to differential incentive rates or sharing factors?**

Yes. A framework that explicitly encourages and supports ambition within business plans should be supported. We would contend that this is a key element of the information revealing properties of an IQI type mechanism.

Companies that put forward business plans that contain fully justified, ambitious and efficient cost forecasts that continue to push the frontiers of efficiency implicitly are taking on more risk. But in doing so are delivering stronger benchmarks to set cost allowances for all companies in a sector. Removing the up-front reward reduces the incentive to take on those risks and fails to recognise the additional benefit provided for customers over the longer term.

The calibration of these rewards and penalties however is key. The parameters of the mechanism must be meaningful to drive a genuine change in behaviour and deliver the outcomes in term of cost revelation and efficiency.

**Question 29. Do you have any views on our proposal to remove fast-tracking for transmission?**

As fast tracking is an option in regulatory tool kit, and consequently does not have to be awarded to any company, we don't see that anything is gained by removing this option. We accept that given the absence or very limited comparative data available then the bar for fast track should be higher in transmission.

**Question 30. Do you have any views on how we propose to incentivise better business plans from transmission companies, including removing the prospect of an upfront financial or procedural reward and placing greater reliance on user and consumer engagement and scrutiny?**

No Response

**Question 31. How can we best improve the suite of annual reporting requirements to be as efficient and useful as possible?**

**Question 32. How can we make the annual reports easier for stakeholders to understand and more meaningful to use?**

The gas distribution annual reporting covers all of the key areas that we should report on, but the level of detail required for each area varies significantly. We would like to see this rebased to a consistent level, which should reduce some of the burden of reporting and make it clearer and easier to follow for all parties.

The structure and format of the tables used could also be reworked to provide greater clarity and linkage between costs and outputs. At Ofgem's request we reworked our Commentary submission to provide this linkage last year, and this could form the basis for further discussion.

The gas distribution networks have begun looking at benchmarking for RIIO-GD2 and this has flagged up some areas of inconsistency and options for improving cost and data capture to support the process. We would welcome the opportunity to review this with Ofgem.

We believe Ofgem's current Data Services project has clear benefits in terms of data management, analysis and information-sharing. These include:

- a simplified and consistent method of data transfer
- complete visibility of the methodology behind how and why data is collected and analysed, and
- the ability to share and collaborate much more regularly than is currently possible. This could significantly improve annual reporting and then the speed and dissemination of Ofgem's analysis to stakeholders in a clear consistent manner. Whereas we are happy and keen to engage with our stakeholders directly, their feedback to us shows they value a central point for comparative data across networks and indeed sectors.

Our engagement with stakeholders has also shown us that they value standardised reports which present crucial data in a short, simple and visual way. It should show comparative data trended over time where possible. There should be an appropriate level of narrative to support the key conclusions in the report.

The RIIO Accounts process has shown us that we should engage with stakeholders early to identify their focus areas and set the reporting outputs they want to see up front. This then enables you to work backwards to identify the simplest and most efficient process to deliver their requirements, with an appropriate level of governance and assurance. We would welcome the opportunity to engage further with stakeholders and Ofgem on this.

**Question 33. What are your views on the policy objectives that we have defined with respect to the cost of debt?**

We support Ofgem's overall aim "to ensure that a well-run company can access the financing it needs while ensuring that consumers pay no more than they need to". In our view, accessing financing efficiently requires a network company to maintain a "comfortable" investment grade credit rating.

We are also supportive of the four "principles" guiding the cost of debt methodology.

Analysis of the tenor of debt actually issued by companies compared to the tenor of the bonds used to construct the benchmark indices needs to be approached with care. The use in RIIO-1 of indices with an average maturity of around 20 years may have changed issuer behaviour with network companies reluctant to issue long-term debt (as would be the "natural" choice to fund long-life assets) so as to avoid being under-compensated by the allowance derived from generally cheaper debt of a shorter term.

Moving to a longer-term inflation assumption runs the risk of amplifying the mismatch that already exists between the 10-year breakeven value used to calculate a real allowance and the in-year RPI (subject to true-up) used to calculate nominal revenues. Presumably because of the inflation risk premium the 20-year breakeven (derived from real and nominal government debt) tends to track higher than the 10-year equivalent. For example, between November 2002 (the starting point for the 2013/14 trailing average allowance calculation) and April 2018, 20-year breakeven inflation on UK Gilts has averaged around 30 basis points higher than the 10-year equivalent.

We welcome that Ofgem is looking at transaction costs as these are not explicitly allowed for under the current arrangement.

**Question 34. Which option might help to ensure that the approach to updating the cost of debt methodology delivers best value to consumers and why?**

We would agree that there is a strong case for reviewing the current approach to funding the cost of debt and assessing of different approaches better meet the relevant objectives. The move to an indexing of the cost of debt has undoubtedly provided benefit for consumers and we would contend is an appropriate mechanism for efficiently funding new debt. However, a number of problems exist within this approach, most notably its inability to address the issue of peaks and troughs in the market and in particular the implications of efficiently incurred historic or embedded debt during periods of high interest rates as in the period surrounding the financial crisis.

### Option A: Re-calibrate the RIIO-1 indexation policy

Scenario testing to assess how well the RIIO-1 methodology might reflect the true efficient cost of debt in the future is a logical move but it needs to test a plausible range of interest rate scenarios and make reasonable assumptions about existing debt and the size and timing of future debt.

A “trombone” mechanism for all sectors could be appropriate subject to selection of the most appropriate “anchor” point. In order to ensure that the cost of embedded debt is adequately compensated this would have to be set so that debt raised before, during and immediately after the global financial crisis, when interest rates were much higher than current rates, is captured.

Moving to the ‘A’-rated benchmark index for the cost of debt is unlikely to be appropriate if the cost of equity is lower than under RIIO-1 and the associated impact on cash generation puts downward pressure on credit ratings.

Weighting the cost of debt index to account for differences in the timing of debt issuance by individual companies would be welcomed: as Ofgem acknowledge there are peaks and troughs in the volume of debt issued over time by network companies. In the absence of any weighting, a bond representing a material portion of a company’s total issuance within a 10-year period, issued at a time when yields are very high or very low relative to the 10-year average, could be significantly under-funded by the allowance (to the detriment of the network company) or over-funded (to the detriment of customers). RAV growth, however, may not be a valid proxy for the timing of debt issuance, particularly for infrequent issuers with modest capital expenditure programmes;

Whilst actual debt costs in the sector have, in the past, tended to be lower than the benchmark index used for the allowance that will not necessarily be the case in the future. The “much lower baseline allowed return for RIIO-2” foreseen by Ofgem suggests additional risk compared with previous price controls for which debt investors will seek compensation in the form of higher coupons. Moreover, any perception by the credit rating agencies that wider changes under RIIO-2 render the regulatory regime less stable and predictable could lead to a reassessment of business risk for network companies, putting further pressure on credit ratings with a knock-on effect on actual debt costs.

### Option B: A fixed allowance for existing debt plus indexation for new debt only



In theory at least, disaggregating current and future debt for the purpose of determining an allowance appears to have merit. However, if this option were adopted, care would need to be taken in the following areas:

- Consideration as to whether a “one size fits all” approach is optimal for both networks and consumers;
- The correct ratio of embedded debt to new debt to apply;
- Whether an average ratio assumption for the price control gives a true reflection of the evolution of the old/new debt mix over the price control period;
- Making robust assumptions on the rate to apply in respect of debt issued between Final Proposals and the start of RIIO-2 (including forward rate adjustments);
- The “correct” rate to use for the embedded debt allowance
- Whether the impact of derivatives on actual embedded costs should be taken into account;

#### Option C: Pass-through allowance for debt

A simple pass through of actual debt costs would result in very different results across both companies within sector and across sectors. Such a methodology would require an objective assessment of whether the actual debt costs were ‘efficient’ both in terms of the composition of the debt portfolio and of each transaction. This would place too much reliance would be placed on Ofgem’s ability to determine what are “efficient” debt costs.

The notion of a pass-through suggests that companies are not incentivised to seek out efficiencies, to the likely detriment of customers.

Options A and B offer the best chance of delivering value to customers, subject to the precise methodologies ensuring that, at the same time, the network companies are able to recoup the costs of efficiently-incurred debt.

#### **Question 35: Do you agree with our proposed methodology to estimate the cost of equity?**

Investors’ expectations of future market returns are inherently unobservable, which suggests that however robust the chosen methodology for estimating the cost of equity is, any ex ante estimation will differ from the realised reality. However, we believe that the cost of an error caused by overstretched allowed network returns and long-term risks associated with underinvestment is by far higher than the one which might be a result of allowing incentivising rates of return over a relatively short period of time of a price control.

In preparation to RIIO-1 Ofgem underlined in this regard that “The RIIO framework is about providing incentives to encourage companies to deliver their outputs at minimum cost. This requires a level of opportunity and risk that does not align with a low cost of equity”<sup>1</sup>. The above argument becomes even better justified in the context of the present-day imperatives of a smooth transition to a low carbon economy, which must be delivered against the backdrop of rapid technological change and policy uncertainty.

Below we set out our views on each element of the proposed methodology to estimate the cost of equity in RIIO-2. More detailed analysis is provided in a comprehensive report on the cost of equity<sup>2</sup> and supplementary study<sup>3</sup> produced by Oxera for the ENA and energy networks. We would urge Ofgem to carefully consider the evidence, contained in the above-mentioned pieces of research, prior to any policy decisions.

**CAPM** - We agree that CAPM has been and remains the best model for the estimation of the cost of equity for energy networks. However, it should be recognised that CAPM cannot capture all systematic risks in the times of major technological and/or structural change. The calculation results produced by the model in these circumstances are prone to underestimation. It remains prudent to use CAPM as the primary tool to derive the cost of equity range, but the regulator needs to account for the wider risk environment faced by the gas networks when selecting a point within a CAPM range. The ongoing debate on the future of gas and the absence of a clearly defined policy direction points to the top of a CAPM range as regards gas networks. Other asset pricing models can also be employed, but only for sense-checking of the results produced by CAPM.

**Risk Free Rate** - NGN does not believe that focusing on current market evidence, including spot yields on government gilds, in setting the risk-free rate (RFR) will offer an appropriate risk/reward balance for both consumers and the network companies. Currently negative RFR may have been caused by ad hoc policy measures and are not expected to be sustained during RIIO-2: forward rates and recent increases of bank base rates serve as good evidence. Moreover, it should be noted that yield volatility has ‘spiked’ recently, which introduces a ‘noise’ in the current market data. We would urge against the adoption of a purely mechanistic approach and for allowing a risk buffer, which would mitigate an increased probability of the estimation error.

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<sup>1</sup> Decision on strategy for the next transmission and gas distribution price controls - RIIO-T1 and GD1 Financial issues, 31 March 2011.

<sup>2</sup> Oxera (2018), ‘The cost of equity for RIIO-2’, prepared for Energy Networks Association, 28 February 2018.

<sup>3</sup> Oxera (2018), ‘Review of Ofgem’s initial cost of equity proposals for RIIO-2’, prepared for the Energy Networks Association, April 2018

**Total Market Return** - As regards the expected market return, we are pleased to infer from the consultation document that Ofgem seems to support the view that Total Market Return (TMR) rather than the equity risk premium (ERP) is relatively stable and reverts to a long-term average, and, consequently, that changes in the RFR are largely offset by changes in the ERP. We fully support this viewpoint and note support for this view from other commentators including that so do the CMA and the Bank of England.

The detail on how to estimate the TMR appears to be the centre of the controversy. We would argue for putting most weight on a long-run arithmetic mean of realised returns contained in the DMS dataset, with the required period of observation being no shorter than the investment horizon, i.e. 45 years or more for gas distribution networks. As almost all equity has been issued in the past, forward looking DGMs should have considerably less weight (if any) in the estimation. The latter argument is further amplified by the fact that these models are extremely sensitive to input assumptions and produce rather dispersed TMR estimates, currently ranging from 4.4% to 8.1% in real terms.

**Beta** - On the estimation of beta we believe that it is paramount to take account of the following:

- Equity investment in gas networks is riskier than in water/electricity networks. Gas companies face greater uncertainty about the ability to recover incurred costs in the future compared to water or electricity sector. Consequently, asset betas of gas distribution companies will be higher than those of water and electricity companies;
- UK sample of listed utility companies is not representative of risk faced by the gas networks. The comparator base must include listed gas networks from other European jurisdictions;
- Care needs to be taken in translating between observed raw equity betas and notional betas of the network companies. Market levels of gearing are often materially lower than the notional gearing, so precision in correctly de-levering of observed raw equity betas and then re-levering to a notional level of the regressed asset betas is required;
- Incorrectly assumed debt beta can artificially reduce the result of the equity beta estimation. A move away from 0 debt beta needs to be robustly justified;
- Non-conventional econometric techniques are yet to be proven to be fit for purpose for RIIO price controls. Extensive industry consultation is needed before deciding to give any weight to GARCH or to any other untested, potentially less statistically robust techniques.

**Market to Asset Ratios (MARs):** We would point out that the seemingly low cost of equity that the winning bidder may have assumed in the Cadent transaction (Estimated by CEPA at

3.1% to 6.3% CEPA<sup>4</sup>) are extremely sensitive to parameters used in the analysis. CEPA appears to have based its calculations on an incorrect level of gearing. Once re-levered to 65% gearing and adjusted to more realistic performance expectations, the range for the cost of equity implied by the transaction in question becomes 4.9% to 9.7% with a midpoint of 7.3%, which is materially higher than the range currently proposed by Ofgem.

**Competitive Procurement of Network Assets** - Operational and regulatory risks faced by an OFTO is inherently different from those of an onshore (gas distribution) network. This is why it is just not appropriate to compare the cost of equity required by an OFTO investor with the one expected by onshore energy networks' investors.

If a comparison with the Competition Proxy model were to take place, the estimates of the required cost of equity differ very significantly depending on the assumptions employed e.g. CEPA proposed a range of the real cost of equity for the operational phase of the Hinkley Seabank (HSB) project to be 3.48% to 5.83%, whereas NERA argues that CEPA's calculations are flawed and the range should be 6.0% to 7.4%.

NGN would not support a proposal to distinguish the 'regulatory allowed return' from the 'regulatory expected return' for setting the cost of equity. Provided that all aspects of the price control are set correctly, companies' ability to outperform the allowed cost of equity should be limited to their response to incentives. The incentive delivery lies outside of the scope of a networks' core performance obligations, is contingent and thus inherently unpredictable. The fact that a company delivered over and above its licence obligations in the past under a particular set of circumstances does not mean that the same company would be willing or able to do the same in the future, especially if and when the (regulatory) environment changes.

We strongly believe that core outputs delivery should be rewarded by a baseline allowed cost of equity, the level of which is transparent on the outset and is not influenced by the factors outside the company's control. Over and above the baseline, the regulatory regime should provide sufficient incentives for the shareholders to outperform. If the allowed returns were to be reduced by "reasonable expectations of outperformance" an unprecedented element of risk would be introduced, requiring in turn the increase in the baseline allowance.

We would highlight strongly the importance of avoiding mechanistic ways in estimating the cost of equity. The decision on the methodology in general and its individual elements

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<sup>4</sup> CEPA (2017) Key questions for RIIO-T2 and GD2: Lessons from the sale of National Grid Gas Distribution, July 2017.

would have to be made in the context of their interplay with each other, with other elements of the regulatory contract and with the financeability constraints.

**Question 36. Do you agree it would be desirable to index the cost of equity?**

Indexation of the cost of equity in general and of the risk-free rate, may appear to offer a mechanism to reduce subjectivity and minimise forecasting errors. However, if either the indexing methodology or the input data is imperfect, which can be particularly the case when rapid structural changes in the environment take place, the scope and the magnitude of errors caused by the mechanistic application of an index dramatically increase.

We can objectively observe the risk-free rate, but how to measure and approximate the observations to infer investor expectations is highly uncertain. Volatility and unpredictability produced by an indexed RFR may lead to unintended implications for consumers and higher required cost of capital from both equity and debt providers.

There are several practical considerations must be considered and accounted for in evaluating any proposal to index the cost of equity. These include;

- The RFR should not be indexed in isolation from the ERP. The two are negatively correlated and move in a countercyclical order. An offsetting adjustment of the ERP is required to any movement in the RFR.
- The index should not be based on the (short-term average) spot rates of RFR as they do not represent a fair assessment of investors' future expectations.
- A headroom on top of the results produced by an index should be allowed to account for volatility.
- The greatest weight in estimating the TMR should be placed on arithmetic mean of the longest available DMS dataset;
- Incorrect setting of beta will invalidate any attempt to reduce forecasting errors. The further the beta is from unity, the greater the magnitude of an inaccurate cost of equity estimation produced by the index will be.

If all of the above points are embedded into a mechanism of indexation, we would tend to agree that Ofgem's proposal to treat the cost of equity as a weighted average of an indexed RFR and a stable TMR with the weight equal to the fixed beta factor is probably superior when contrasted with other proposed options.

However, at present it is not clear that such a proposal could be delivered in practice and whether any of unintended consequences of this change would clearly be in the consumers' long-term interests.

**Question 37. Do you consider there is merit in removing the indexation of the RAV and adopting a nominal return model in RIIO-2? What would be the benefits and drawbacks?**

Arguably, regardless of the way in which the compensation for inflation is provided (through a real WACC applied to an indexed RAV or via a nominal WACC applied to historic-cost asset values) the results of the calculation should be NPV-neutral over the payback period. However, taken over a shorter period, i.e. length of one price control, the chosen methodology produces very different results in terms of consumers' bills and companies' cash flows.

Currently investors in the UK energy networks have been compensated for the effects of inflation by the application of real WACC to indexed RAV (revenue). Indexation of RAV is one of the key contributors to the low risk nature of investment in the sector - indexed RAV prevents the value of their investment from erosion over time. On this basis removal of this hedge for RPI will increase risk and place upward pressure on the cost of equity.

Additionally, consideration must also be given to the premium that exists for an RPI linked asset. It is clear from the portfolio of investors in utility assets that there is a clear bias for certain large-scale investors such as pension funds for long term assets that provide a hedge to RPI and capital appreciation. Again, removal of this hedge will reduce the premium and explicitly increase the underlying cost of equity for such investors.

Against the backdrop of lower returns proposed by Ofgem for the energy networks in RIIO-2, changing the way in which investors are compensated for inflation is being considered as one of the options to alleviate potential financeability concerns.

We agree with Ofgem that removing the indexation of the RAV would be a significant change to the regulatory framework. NGN currently does not have inflation-linked liabilities, but the uncertainty arising from such a shift in the way the return is paid may still give rise to unintended consequences, including the increase in a perceived risk and the rise of the cost of capital. Nominal WACC has not been widely tested by the UK regulators, so the precise details of its application are yet to be properly explored or understood.

Our very high-level understanding of the implications of this change suggests that the amount of money brought forward in time by the nominal WACC is likely to be excessive for the networks in the short-term and significantly change the current intertemporal allocation of cashflows between current and future customers. We believe that other levers will be better suited for solving financeability issues

On this basis we would not currently support removing the indexation of the RAV and adopting a nominal return model in RIIO-2.

**Question 38. Should the onus for ensuring financeability lie with the network operating companies in whole, or in part?**

In addressing this issue, it is important to recognise that the financial proposals set out within the consultation document imply a significant and enduring financeability issue for the 'Notional Efficient GDN' not only for RIIO-GD2 but also for subsequent price control periods.

This is as a result of a number of factors that lower the cash position of GDNs. These include;

- Significant investment (relative to RAV) still required in GDNs up until early 2030s under all scenarios.
- Relatively smaller financial allowances for depreciation than other sectors
- Significantly reduced cost of capital
- Unwinding of previous financeability adjustments (either whole or in part) such as Catch-Up Depreciation, phased transition to 100% Repex capitalisation and a change to sum-of-digits depreciation policy.

The scale and duration of these financeability issues imply that requiring companies and their shareholders to bridge this gap is not consistent with a low risk, low return regulatory environment. There is clear evidence that extending cash flow duration places significant upward pressure on the cost of equity. Our analysis suggests that addressing these financeability issues fully via equity injection would imply deferring and dividend return to shareholders for up to 15 years and may not meet all requirements. This position is exacerbated by the current uncertainty for gas that is perceived to exist beyond 2040. Together this would imply a very significant premium to the cost of equity and would be a clear deterrent to investment in the gas sector in the UK.

We would continue to support the well-established principle that Ofgem's duties only extend to ensuring that an efficient company, with a notional financial structure should form the basis of the financial assessment of the price control. With this in mind, it is not clear how Ofgem's option to require companies to reduce actual gearing to notional levels addresses the financing of the notional financial structure and we believe is not relevant for consideration against this issue.

However, we believe it is appropriate that company business plans are required to set out how they are proposing to address any financeability issues and how these proposals strike an appropriate and efficient balance between consumer and shareholders in the short and longer term.

**Question 39. Do you consider the introduction of a revenue floor, to protect the ability of companies to service debt, to have merit?**

We welcome Ofgem's intention to continue to assess financeability by following the rating methodologies published by rating agencies such as Moody's and Fitch, provided that the notionally geared, efficient network company thus evaluated can support a credit rating comfortably above the minimum level for investment grade: a company's financial flexibility and access to competitively priced funding could be severely constrained by having no ratings headroom above the floor for investment grade.

To the extent that other methods of adjusting revenue (e.g. through asset lives or depreciation rates) are not compatible with supporting financial ratios commensurate with an investment grade credit rating, then a revenue floor, if it is set at the correct level for each year, could support financeability over the short term i.e. within a price control period.

The setting of a revenue floor cannot deal with large, systematic, long term financeability issues such as those described previously for GDNs in RIIO-GD2 and beyond. We would therefore contend that this approach would only be appropriate to address short term variations in financeability and only after a appropriate financeable structure has been identified for the efficient, notional company.

**Variant 1: Maximum Penalties** - Setting maximum penalty levels (Variant 1) could, in certain circumstances, provide unwarranted additional revenue to poorly performing networks. In our view it is the regulator's position to ensure that an efficient notional company is financeable. Providing protections for companies who encounter financeability issues because of poor performance does not appear to be in consumers' best interests.

**Variant 2: Minimum coverage ratios:** This could provide welcome protection in the very short term where, for reasons outside the network companies' control, in a particular year lower revenue and/or higher costs would lead to financial ratios that are below requirements for the current credit ratings unless some adjustment to revenue were made.

Protecting customers' interests by recovering the "additional" revenue in later years through a suitable mechanism is entirely reasonable, provided that the mechanism and



recovery period do not lead to a cycle of adjustments that is inconsistent with maintaining credit ratings over both the short and the longer term.

**Question 40: Do you agree that Ofgem should review the causes of any variances between tax allowances and taxes actually paid to HMRC (including the treatment of group tax relief)? Which of the options described in this consultation may be worth investigating further to address any material variances?**

We believe the current method of providing tax allowances has served Ofgem and the customers well, in providing tax on the hypothetical company whilst taking into account efficiencies and providing the 1% dead-band which avoids adjustments for minor issues whilst allowing major changes in accounting, tax law and practice to be accommodated.

There are significant difficulties and complexities involved with any arrangement that attempts to identify and isolate causes of variance between tax allowances without any clear benefit for consumers. These include:

- Differences in group situations which could affect the regulated entity of which the prime example is the Corporate interest restriction (“CIR”) legislation which is subject to wide ranging group rules and elections, including the Public benefit infrastructure exemption – which can be applied differently in very similar circumstances.
- Another example of differences which can apply are the standards (e.g. IAS39) and the disregard regulations which can affect companies differently as to how much interest / including Fair value movements is brought into tax.
- One of the benefits of the last price review was that average capital allowances across the GDN’s were used to agree capital allowances – and comparing actuals would mean Ofgem needing to get into a great amount of detail as to differences in tax allowable depreciation.
- Some companies will have tax years which are open for many years and so any reconciliation between allowances, accounts and tax returns may need to be revisited and reviewed over many periods before there is an ultimate “true up”. Again we do not consider this effort would be to the ultimate benefit of the customer.

With respect to group relief we continue to believe that the funding of the efficient notional company is the most appropriate mechanism. The customer pays for the tax expenses on the allowances given net of any efficiency – and if reliefs from other group members are available then the customer only pays for the relief to the extent they would have paid tax

to HMRC. We have no concern with Ofgem spot checking that the economic value is being paid for tax losses.

Our initial assessment of the policy options presented are set out below:

**Option A: Notional allowance with added protection** - A general review of the operation of the notional tax allowance would consider as appropriate. This would prove this is the most effect mechanism for customers to meet the tax expense. There could be a general comparison to tax payments but for the reasons outlined above with respect to differences in application of tax law in different circumstances, it would not be of demonstrable benefit to perform an ongoing reconciliation.

**Option B: Actual Payments to HMRC** – This approach would give no incentive for GDN's to manage their tax liabilities as there would effectively be a guarantee from the customer regardless of their tax profile. It is not clear that this would be in the customers' interests.

**Option C: The 'double-lock': The lower of notional and actual** - This option has all the costs of tracking over a potentially long period of time the reconciliations referred to above, and for actual tax the same drawbacks as Option B.

Based on this assessment our preference would be for a review of the notional allowance to determine if it can be improved in the light of changes in tax legislation and practice since GD1 as set out in Option A. This allows comparability of allowance to different GDN's.

**Question 41: Do you agree that we should move away from RPI for RIIO-2 (including for the indexation of the RAV if retained as a feature)? If yes, which of the two potential indices – CPI or CPIH – might be most suitable? Is a phased transition between RPI and the chosen successor index necessary or desirable?**

The case for a change to the basis of indexation within the regulatory framework is complex and ultimately will require a view to be taken on a subjective basis for several considerations and for other where there is lack of empirical data or evidence.

However, both general and regulatory precedent are indicating a move towards a more consistent approach to using some form of CPI based approach to indexation. On this basis we do not have any issues in principle with a move away from RPI to either CPI or CPIH.

The CEPA report on this issue provides a balanced summary of both the theoretical and very practical issues that will need to be addressed in making such a change. We would

therefore support the move away from RPI to a different measure of CPI or CPIH subject to the following issues being satisfactorily addressed:

- Addressing any premium for an RPI based asset over one indexed to CPI through the cost of equity. It is clear from the portfolio of investors in utility assets that there is a clear bias for long term assets that provide a hedge to RPI and capital appreciation.
- Maintaining genuine NPV neutrality for a range of reasons including that outlined above may be more complex than simply applying a simple RPI-CPI wedge to the WACC.
- Understanding the full impact of the intertemporal impact upon cash flows and customer bills of such a change. A CPI/CPIH indexed RAV will move cash forward in time. Whilst this may be an attractive option in the short to medium term particularly when considering how to address financeability issues within RII02 an NPV neutral way. It may exacerbate future financing issues which will potentially result in customers not receiving the benefit of any pull forward of cash flow in future years.
- Addressing the issue of existing RPI-linked instruments within networks' portfolios and any associated costs of transitioning to a new mechanism.
- Appropriate consideration of how the lack of existing markets for CPI based products will impact wider assumptions within the financial package.

These issues will need to be balanced against the options that Ofgem has at its disposal to deal with issues of financeability over the RII02 period. GDNs would seem to have a systemic issue with cash flow and financeability when compared to other sectors. With the now more limited ability to use depreciation and/or fast/slow money split to allocate revenues and cash over time. This change may provide a viable alternative.

Similarly, the decision between indexing to CPI or CPIH is not clear or simple. At this stage our preference would be for the development of a CPIH based measure.

The use of a mechanism which transitions to a CPI based measure over time will be dependent upon the assessment of the impact of dealing with existing RPI-linked instruments already in place. Any transition will add significantly to the complexity of the regulatory mechanism and therefore if appropriate we would prefer single step move to a CPI based measure of inflation.

**Question 42: In the light of our proposal not to amend, at a price control framework level, our policies for depreciation and asset lives set in RIIO-1 do you have any views or suggestions that you wish to put forward?**

Depreciation policies differ significantly across the sectors and as such produce sizeable differences in the durations of cash flows. Without any adjustment this would imply a premium to the cost of equity for these assets. Current policies are a result of a long history of specific changes in each sector. In RIIO-GD1 significant changes were made to the depreciation policy to deal with the full capitalisation of Repex and deal with financeability issues over the period.

As mentioned above, our own analysis has shown that for the RIIO2 period, GDNs will again face very significant financeability issues over the period out to the mid-2030s particularly given the proposed changes elsewhere within the framework. The indication from the rating agencies that previous approaches would not be considered appropriate in this context highlights this issue further.

In this context we would urge Ofgem not to close down any of the options that could address this issue.

**Question 43: We propose to review the fast/slow money split at the business plan submission stage, do you have views that you wish to put forward at this stage?**

We would consider the proposed approach as appropriate at this stage. A review of this issue following the receipt of business plans is a sensible approach.

However, as with the position on asset lives and depreciation we would urge Ofgem not to close any of the options that could address this significant financeability issues highlighted above.

**Question 44. Do you think existing mechanisms for providing allowed revenue to compensate for the raising of notional gearing are appropriate in principle and in practice?**

As already set out above, the proposed reduction of the levels of allowed cost of capital alongside other mechanisms to constrain networks companies' returns undoubtedly put financeability pressures on the forefront of the financial strategy discussions for RIIO-2. Given that large investment will still be required for the network companies during RIIO-2

there may be an increased need to resort to equity injections to ensure that credit metrics are maintained at levels consistent with a comfortable investment grade credit rating.

An ex-ante allowance for the cost of raising equity forms part of the RIIO-1 regulatory contract. The allowance is assumed at five per cent of the amount of notional new equity needed to be issued during the price control to bring the gearing level back to the notional level once the annually assessed level of gearing exceeds the hurdle level of 70%.

However, we believe that in RIIO-2 equity injections may turn out to be unavoidable in meeting funding requirements and in maintaining credit quality. Therefore, we support the retention for RIIO-2 of the current mechanism for providing allowed revenue to compensate for the raising of notional equity in principle.

**Question 45: What are your views on each of the options to ensure fair returns we have described in this consultation?**

The RIIO framework contains strong incentives aimed at driving efficiency, enhancing levels of service and continue to innovate to drive forward frontiers of performance and meet the increasing challenges of transitioning to a low carbon economy. The RIIO framework has been very successful in delivering against its key objectives. Historically high levels of reliability, safety, environmental performance and customer service are all being delivered at an overall lower cost to consumers. The success of the regime has been recognised widely and including Ofgem's advisers in their review of RIIO1.

We would continue to strongly support the view that a correctly calibrated and executed mechanism such as that which exists within RIIO-GD1 is the best route to deliver long term benefits for customers in terms of both price and service. Whilst also delivering the associated outcomes of ensuring fair returns for investors in network companies.

However, we also recognise that there are lessons that can be learned from the experience to date in RIIO1 and that these can be used to enhance the framework further and allow the necessary evolution of the regulation of networks in the UK. We would propose several enhancements to the current framework that we believe deliver the desired outcomes. These include:

- Publish the full detail of the incentive framework early in the process so companies assimilate clearly into the business plans.
- Calibrate the mechanism so they are 'meaningful' and provide a clear incentive for efficiency that differentiates between relatively strong and weaker performance.

- Introduce and in some case reintroduce mechanisms (volume drivers) that address more directly with uncertainty and can automatically calibrate for changes across the price control period
- Introduction of the use of indexation for certain elements of costs within the price control

It is not clear what criteria, if any, Ofgem and its advisers have employed to determine that the introduction of a failsafe mechanism would be preferable to the development of the current framework. At this stage seemingly, the only criteria being that such a mechanism would reduce network returns, without full consideration of whether this would better meet their primary obligation of protecting the interests of current and future customers. It is obvious that there is a significant amount of work that Ofgem need to complete to enable it to confirm this conclusion.

Ofgem has made much of both its desire to reduce the complexity of price control frameworks and mechanisms it has previously put in place have not been 'perfect' and have delivered unintended consequences. These arguments have been presented as rationale for fundamentally changing current arrangements. However, each of the failsafe mechanisms proposed will also introduce significant complexity into the regime and being less well understood than current arrangements pose an even greater risk of unintended consequences.

The ENA has recently commissioned an independent assessment of the five separate failsafe mechanisms presented in the consultation document. The report begins to address the detailed evaluation of the options missing from Ofgem's and its advisers' proposals. This report will be shared with Ofgem upon completion.

We would conclude that at present there is no clear case for the introduction of any of the [resented failsafe mechanisms for RIIO-2 or that it would be in customer' interests to do so. This is particularly the case when compared to the enhancement of the existing tools Ofgem has developed and refined over recent price controls, which if calibrated and implemented more robustly, could address the problems some stakeholders have perceived in relation to RIIO-1.

A more detailed and full assessment of each of the possible fair returns mechanism, including how these mechanisms deliver the objectives of the price controls better than robustly applying existing tools, needs to be undertaken before any decision is taken to introduce to the RIIO framework.

**Question 46: Is RoRE a suitable metric to base return adjustments on? Are there other metrics that we should consider, and if so why?**

RoRE is a measure of the return a network can achieve by outperforming the cost allowances and incentive targets within the regulatory formula, expressed in relation to the proportion of RAV attributable to Equity. The metric was developed as one part of the assessment to calibrate the overall price control mechanism. In principle this sort of metric is suitable for measuring performance and determining any adjustments. However, there are three potential issues:

- The measure is not complete. It doesn't include the performance against all of the allowances within the regulatory formula, most notably tax and cost of debt.
- It is a notional model only and so doesn't reflect real world gearing in the proportion of RAV attributable to equity. This will have clear interactions with tax and the cost of debt mentioned above.
- It is a profit / return based measure and takes no account of timing and hence cash flow / financeability concerns.

These issues are brought into focus when the RORE measured as designed is used for an alternative purpose. This introduces a significant risk that incorrect conclusions are drawn and/or prompts an incorrect response which may not be in consumer' interests.

We would support the use of a RORE measure as an important part of the RIIO framework. However, it has to be very clear what the intended purpose of the measure will be and that it is designed to deliver against its intended purpose. Any extended use of RORE needs to address the issues outlined above as a minimum.

**Question 47: Do you have any views on the interlinkages and interactions outlined in this consultation and those that we will need to consider as we develop our sector-specific proposals?**

It is already clear at this stage that financeability will be a significant issue for the RIIO-GD2 price control. Our modelling is already showing that even with zero shareholder returns throughout GD2 we would not be able to finance investment on a sustainable basis. This is partly driven by the decision at GD1 to fully capitalise the iron mains replacement programme, the ending of catch up depreciation associated with the move to sum of digits depreciation and the relative size of the investment programme to the RAV.

When these factors are combined with a move to a much lower cost of capital then a significant financeability issue is created. We would therefore urge Ofgem not to make final

decisions or close down options on issues such as regulatory depreciation/economic asset lives, approaches addressing financeability concerns or move to CPI/CPIH until it has done the detailed financial modelling for each of the sector specific price controls.

**Question 48. Do you have any views on the issues highlighted that we will consider as we develop our sector-specific proposals?**

On Repex we would support the reintroduction of a 'volume driver' mechanism that addresses changes in amounts and types of work carried out by companies. Additionally, Ofgem needs to ensure that larger diameter work funded in GD1 allowances and not completed is not funded again in GD2 allowances. This also applies to other areas of outputs and investment commitments not delivered in the RIIO-GD1 period.

On the future of gas and heat decarbonisation care must be taken not over focus on this issue when virtually all forecasts predict little change in the period to 2026.

The RIIO2 period will require consideration of investment that may be required to facilitate either the maintenance of particular policy options until a decision is made or indeed ensure that a policy option can be delivered to appropriate timescales. The facilitation of options around the decarbonisation of heat in particular but also transport and power through the conversion to Hydrogen will potentially require additional investment in the RIIO2 period.

**Question 49. Are there any sector-specific issues or policy areas that we should ensure we review and consider as we develop our sector-specific proposals?**

The following issues should be review:

- Treatment of xoserve costs post FGO changes
- Future role of xoserve with the development of the Retail Energy Code
- Use of the economic test for specific reinforcement requests
- Price control arrangements for Independent Gas Transporters
- The arrangements surrounding the charges and incentives related to NTS Exit Capacity and charges
- Obligation to provide a Post Emergency Metering Service (PEMS) to Gas Suppliers for Smart Meters



**Question 50. Do you have any views on our high-level proposals for timing of RIIO-2 implementation, and on our proposals for engagement going forward?**

For gas distribution the timetable does not allow sufficient time between the sector-specific methodology decision in Q2 2019 and the business plan submission in Q3 2019.