

# Reflecting on RIIO

## Cadent response to Ofgem Open Letter on the RIIO-2 Framework

04 September 2017



## Context

Cadent thanks Ofgem for the opportunity to respond to their open letter on the RIIO-2 framework which was published on 12 July 2017.

At Cadent, we exist to keep the energy flowing. We're proud to be at the heart of heat, working closely with local communities across the nation to keep them warm, safe and connected. We know that there are some things in life that just need to work, without thinking about it and without any hassle. This represents our focus on both today and tomorrow.

Underneath the feet of all our communities run 200 years of innovation; a gas pipe network connecting 12 million homes and businesses, an invisible commitment to meet our customers' energy needs, now and in the future.

## Summary

We are excited to work with Ofgem to develop the RIIO-2 framework. It represents the bridge between today and tomorrow and will contain the vital cogs that will drive the industry forward to meet the challenges of delivering the affordable, secure and decarbonised whole energy system of the future.

We have already been working with our stakeholders to reflect on the RIIO framework and to look forward to the next price control period and have identified the following four key messages:

- RIIO-GD1 provides a strong platform that can be evolved for RIIO-GD2 to deliver the outcomes that customers want and need;
- Ofgem must ensure that the RIIO-GD2 framework can manage the interactions in costs across sectors ensuring the lowest cost pathway to the decarbonisation of heat and transport recognising the critical role of the gas networks in achieving these wider societal benefits;
- In order to maintain and attract the required investment to deliver the outcomes required by current and future customers, all network companies must have a realistic opportunity to achieve fair returns in RIIO-GD2 which are clearly aligned to improvements in customer outcomes;
- Customer requirements will vary across Great Britain, and there will be no one solution to decarbonisation, so the RIIO-GD2 framework must evolve to be more adaptable and responsive to regional energy strategies.

In this report we build on these key considerations for RIIO-GD2 before providing detailed responses to the 37 questions posed by Ofgem in their open letter.

## RIIO-1 provides a strong platform to evolve

The RIIO-GD1 framework has driven significant improvements in network companies' focus on customers and a step change in stakeholder engagement. The move from an input to output based regime at RIIO-GD1 has improved the customer service delivered across all products and services in every gas distribution network (GDN).

The use of, and defining of, outputs has provided network companies with a clear set of deliverables and commitments to their customers which Ofgem has then held them to account on. GDNs are delivering strong

safety and reliability performance, with more than 97% of uncontrolled gas emergencies responded to within one hour and with gas available to our customers more than 99.99% of the time.

The GDNs are also leading on the development of customer safeguarding practices across multiple utility sectors. They are saving lives by identifying at risk groups and delivering carbon monoxide (CO) awareness programmes and also working to tackle fuel poverty, with more than 50,000 fuel poor connections delivered in the first four years of RIIO-GD1.

Alongside delivering improved customer service the certainty provided by, and the greater opportunity for companies to innovate within an eight year RIIO-GD1 price control has enabled GDNs to deliver forecast reductions of around 12% in controllable costs compared to allowances and 9% reductions in customer bills, in real terms, over the period.

Additionally, the innovation stimulus in RIIO-GD1 has helped redefine the future role for gas and identify the wider potential for the gas networks in decarbonising heat and transport as well as tackling Great Britain's waste and landfill challenges delivering wider societal benefits for both current and future customers.

## **RIIO-2 must recognise that gas is central to achieving the lowest cost pathway to decarbonisation**

A KPMG study<sup>1</sup>, published in 2016 on the role of the gas networks in a 2050 whole energy system, and supported by a number of other studies including Policy Exchange's 'Too Hot to Handle'<sup>2</sup> and Policy Connects' 'Future Heat Series Part 2 - Policy for Heat'<sup>3</sup>, has demonstrated that by leveraging and potentially repurposing existing gas assets it would provide the lowest cost pathway to the secure decarbonisation of heat and transport. The study shows that compared to electrification utilising the existing gas networks for secure decarbonisation would realise savings of £200 billion, or £10,000 per household, by 2050.

When Ofgem designed and developed the RIIO-GD1 framework they brought together long term controls, a total expenditure (Totex) approach with a strong efficiency incentive and a culture of innovation. This has enabled network companies to drive efficiencies and manage within-sector costs and this must continue. However, to manage the cost of decarbonisation, and the delivery of the UK's 2050 emissions targets, Ofgem must now consider how to administer the costs across, and interactions between, sectors (i.e. gas and electricity, distribution and transmission). This will require the RIIO-2 framework to enable expenditure decisions in one sector which optimise the cost of decarbonisation across the whole industry. This is critical in ensuring that energy networks deliver the best outcome for the UK delivering for both our current and future customers.

By moving from an output based regime to one focused on customer outcomes, and by establishing outcomes that customers can recognise across all sectors, it will enable them to understand the interactions between sectors and any potential cost offsets required. Whilst these outcomes may not always be highly valued by current customers, Ofgem must ensure that the framework drives the delivery of these wider societal benefits for future generations of customers.

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<sup>1</sup> [2050 Energy Scenarios, KPMG](#)

<sup>2</sup> [Too Hot to Handle, Policy Exchange](#)

<sup>3</sup> [Future Heat Series Part 2 - Policy for Heat, Carbon Connect](#)

## **To continue to deliver great outcomes for customers and deliver the investments they require, all networks must have the realistic opportunity to achieve strong, but fair, financial returns**

The RIIO-GD1 regime has been successful in delivering a step-change in customer outcomes, including value for money, compared to the last price control - GDPCR1, and will raise the bar again for RIIO-GD2.

There is already significant uncertainty surrounding attracting investment in infrastructure in Great Britain due to Brexit, it is therefore critical that Ofgem maintains its established regulatory principles focusing on the long term interest of consumers by recognising the need to create a stable and predictable regulatory framework. This will increase the appetite to commit to investment projects which underpin the decarbonisation challenge and avoid driving higher financing costs for future customers if risk is perceived to have increased by investors.

The financial returns seen so far in RIIO-GD1, with some companies achieving low double-digit returns, have been the result of GDNs responding to the incentives within the regime to deliver significant service improvements whilst also driving cost reductions for customers, with 37p in every £1 of efficiency savings being returned to customers within the control period.

If network companies had not responded to these incentives then they faced significant financial penalties which would have seen their financial returns fall to around or below the cost of debt<sup>4</sup>.

The returns range of circa plus or minus five per-cent around the cost of equity seen in RIIO-GD1 is comparable to other sectors and has provided the right level of incentive to firstly ensure that companies performance for their customers, who cannot shop around like in a competitive market, does not slip and secondly that they strive to continue to deliver more for less. As such, we consider that the returns earned have been in the interests of customers and therefore fair.

However, many of the performance measures within the RIIO-GD1 regime are not recognisable to customers so it is difficult for them to attribute value to them. At RIIO-GD2, by aligning networks financial performance with recognisable outcomes which can be observed and understood by customers it will help demonstrate that they have been value for money.

All networks should be equally incentivised to deliver better outcomes for their customers. To maintain this incentive the RIIO-GD2 framework should retain the principle that networks' financial performance should be based on their actual performance relative to the thresholds set up front during the price control review.

## **RIIO must evolve to be more adaptable and responsive to regional requirements**

Whilst the RIIO-GD1 framework has delivered service improvements across all networks, the one size fits all approach used has led to some inconsistencies and ambiguity in output measures and it does not recognise the differing requirements across the regions.

With the increased devolution of powers to the regions, and with some geographical areas being more suitable for certain types of emerging solutions, it is clear that there will be no one pathway to decarbonisation.

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<sup>4</sup> [RIIO-GD1: Final Proposals - Overview](#) (p38)

As such, the RIIO framework must be evolved so that there is a core set of customer outcomes which will be recognisable across all regions and customers. Beneath this there could be the potential for different output measures and incentives that deliver against specific regions', and potentially customer groups', requirements in achieving the same outcome.

# **Annex**

## **Responses to Ofgem's 37 questions**

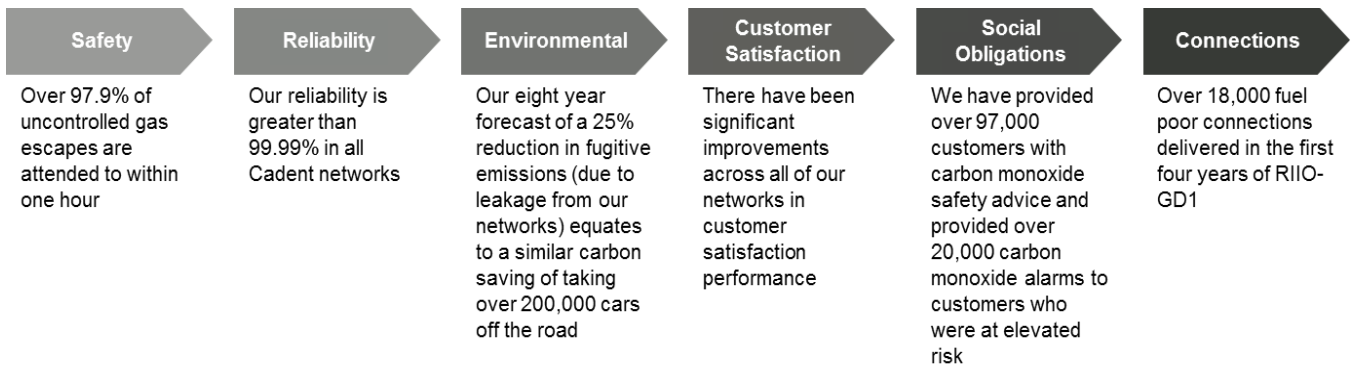
## Annex: Responses to Ofgem’s 37 questions

### Objective for RIIO-2

#### 1. Do you agree with our overarching objective for RIIO-2 and how we propose to achieve it?

Cadent agrees with the overarching objective and is supportive of Ofgem’s aim to focus on the value for money outcomes that are being delivered for customers<sup>5</sup>. It is important to set the context for the challenges that face the gas and electricity industries over the RIIO-2 timescale and how this evolves from the existing RIIO-1 control.

RIIO-GD1<sup>6</sup> has delivered improved safety, reliability, environmental and customer satisfaction performance whilst incentivising networks to reduce costs which are passed on to customers both within and beyond the current controls; with Gas Distribution Networks (GDNs) forecast to achieve a 12% reduction in controllable costs versus their allowances by the end of RIIO-GD1 and an overall 9% reduction in customer bills in real prices.



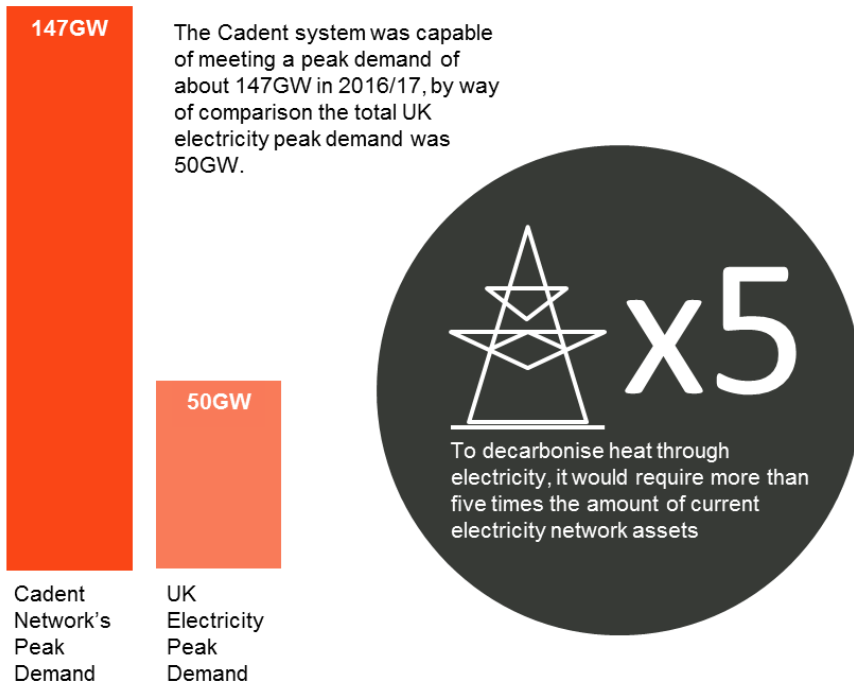
RIIO-2 must recognise that gas is central to achieving the lowest cost pathway to decarbonisation. Ofgem must ensure that the framework incentivises GDNs to facilitate the decarbonisation of heat and transport through the connection of low carbon gas and by utilising the existing gas network assets to their fullest.

It is essential that the RIIO-2 framework can manage the interactions in costs across all sectors to ensure the lowest cost pathway to decarbonisation. In managing the delivery of the UK’s 2050 emissions targets, Ofgem must consider the costs across, and interactions between, sectors and the RIIO-2 framework must enable expenditure decisions which optimise the cross-industry cost of decarbonisation.

<sup>5</sup> Note: throughout this document those seeking to connect and those already connected to our network are classified as customers. Where we refer to stakeholders we mean interested parties, which could include customers and organisations that represent customers.

<sup>6</sup> Where the terms RIIO-GD1 or RIIO-GD2 are used we are specifically referring to the Gas Distribution Networks (GDNs) price control.

## Lowest Cost Pathway to Decarbonisation



In order to maintain and attract the required investment all network companies must have an opportunity to achieve fair returns for good performance in RIIO-2 which are clearly aligned to improvements in customer outcomes. The RIIO framework already has all the necessary features to enable companies to earn fair returns. The returns achieved to date in RIIO-GD1 are at the upper end of Ofgem's range, however they have been achieved against allowances and performance targets that were ambitious, and also enabled a correspondingly high reduction in customer bills, hence making the customer the long-term beneficiary of efficiency and performance improvements.

It should also be noted that Return on Regulatory Equity (RoRE), the measure currently used to display network financial performance, is not a measure of profit. It is made up of a return to repay the investments previously made by network companies plus incentives achieved through the delivery of efficiencies and better customer outputs. As such, a potential performance range of +/-5% on the latter does not seem unreasonable compared to competitive markets especially given the value delivered for customers.

Customer requirements will vary across Great Britain, and there will be no one solution to decarbonisation, so the RIIO-GD2 framework must evolve to be more adaptable and responsive to regional energy strategies. At the heart of the evolution of the RIIO framework must be a core set of customer outcomes which will be recognisable across all sectors, regions and customers. Beneath these common outcomes there is then the potential for different output measures that deliver against specific regions, and potentially customer groups, requirements.

Cadent's work to date with internal and external stakeholders has identified four core customer outcomes:

- **Providing value for money services:** this requires companies to be efficient and keep customer bills at a fair cost level, connect customers to energy when they need it, understand the services that customers value and deliver against their expectations;



- **Keeping customers connected to the safe energy they need:** reducing disruption whether in the street or at a customer's property, keeping our people, customers and communities safe and providing continuity and reliability of supply;
- **Reducing environmental impact:** protecting the environment we live in, reducing emissions, promoting and facilitating low carbon gas;
- **Delivering positive outcomes to the communities we serve:** supporting customers in vulnerable situations, helping people and communities choose the right energy solutions, making the industry work better through better governance and more accurate bills and contributing to the prosperity of the communities we work within.

## Key principles for the framework review

### 2. How can we strengthen the consumer voice (primarily end consumers), in the development of business plans and price control decisions?

Successful companies in well-functioning markets, where customers are empowered and have choice over their supplier, must understand and respond to their customers' needs and requirements otherwise they will go out of business. In regulated markets where customers do not have choice over their supplier, the regulator seeks to mimic the outcome of a competitive market by incentivising companies to genuinely understand and respond to the needs and requirements of their customers.

Ofgem has been successful in ensuring the voice of the customer has been much stronger through the RIIO-GD1 framework through incentives such as the Stakeholder Engagement Incentive Submission (SEIS), Customer Satisfaction and Complaints handling increasing the emphasis on customer performance.

The focus in RIIO-GD1 has, however, predominantly been on domestic customers but for RIIO-GD2 this should be widened to secure a representative sample of our customer base. For example, it should include our Industrial & Commercial (I&C) customers as well, who in Cadent's North West network account for over 40% of total demand.

Cadent supports increased engagement with customers and stakeholders during the RIIO-2 price control review process as this will:

- Ensure our business plans meet our customers' requirements;
- Raise awareness of the benefits being delivered by the RIIO framework and network companies;
- Ensure that we use the right customer performance measures to drive the behaviours that customers value;
- Support the understanding of the legitimacy of our plans and performance; and
- Recognise and address regional variances and drive energy strategies and decarbonisation.

Ofgem must place the requirement and responsibility for this engagement clearly with network companies. GDNs already have well-developed approaches to stakeholder engagement and engage with customers and stakeholders through a variety of mechanisms to understand and respond to their requirements.

It can, however, be difficult to get informed views from customers on all key topics and hence any questioning and involvement must be targeted. An example being that safety and reliability could be perceived as a given and hence not necessarily acknowledged or appreciated by customers, however this represents a key area of our

work and therefore we need to be able to build an understanding of how customers value continuity of supply into our business plan.

As such, there is more value in involving a wider range of stakeholder groups who can represent customers and understand their requirements. In other industries, including the water sector where they have been identified as a key success of the PR14 regulatory framework<sup>7</sup>, customer challenge groups<sup>8</sup> have been designed and established to hold companies to account through their business planning processes. Cadent is already exploring how we can apply this to our RIIO-GD2 business plan process whilst noting that energy networks are different to water companies who have a direct relationship with their customers through their retail businesses.

**3. How should we support network companies in maintaining engagement with consumers throughout the prices control period?**

Network companies should lead the engagement with their customers and stakeholders and Ofgem should support by allowing and incentivising them to do this.

There should be a continuation of the stakeholder engagement incentive in order to drive a continued focus on, and further step change in, stakeholder engagement which will ensure that the right behaviours are demonstrated by networks throughout the price control period.

RIIO-GD1 Step Change in Stakeholder Engagement

	13/14	14/15	15/16	16/17
No. of responses to annual Stakeholder Consultation	79	133	136	203

This stakeholder engagement should bring in a wider voice of industry stakeholders, including shippers and suppliers, who hold the direct relationship with the customer, by recognising and potentially incentivising how network companies make the industry work better.

In other industries, including the water sector, customer challenge groups have been designed and established to ensure companies maintain their focus on customers’ requirements throughout the price control period. Cadent is already exploring how we can apply this to the RIIO-GD2 price control period whilst noting that energy networks are different to water companies who have a direct relationship with their customers through their retail businesses.

The customer performance metrics and measures within the RIIO-GD1 framework need to be evolved in order to increase the depth and reach of the mechanisms to a wider customer base. The focus in RIIO-GD1 has predominantly been on domestic customers but for RIIO-GD2 this should be widened to include Industrial & Commercial (I&C) customers as well, who account for over 40% of demand in Cadent’s North West network.

<sup>7</sup> [Ofwat PR19 Customer Challenge Groups](#)

<sup>8</sup> A customer challenge group would consist of stakeholders who represent specific groups of customers.

Demand by Customer Group

	EoE	Lon	NW	WM
Domestic	58.43%	61.63%	59.35%	64.25%
Commercial	26.27%	36.59%	26.22%	12.37%
Industrial	15.30%	1.78%	14.43%	23.38%

Although the mechanisms within the RIIO-GD1 framework are targeted at domestic customers there is more that could be done to obtain the views of a wider range of customers. The existing postal feedback mechanism has strict guidance on how GDNs can seek customer feedback, by extending this to a multi-channel approach this could not only be widened but could also provide networks with more real-time feedback which would improve their responsiveness to customer requirements.

**Outputs Framework**

**4. Does this structured approach to defining outputs provide the right level of clarity around delivery?**

Defining outputs has provided network companies with a clear set of deliverables and commitments to our customers. Network companies have predominantly delivered or exceeded against these commitments and where they have not been met Ofgem has held companies to account.

However, there are some areas which can be improved. There are some measures that do not deliver against their intention, including interruptions where the targets need to be disaggregated to separate out multi-occupancy buildings, and others, including repair risk, where there are inconsistencies in how the targets were set due to variations in historic delivery approaches before the introduction of outputs at RIIO-GD1. There is also ambiguity around the treatment of under or over delivery of outputs at the end of the control.

The total number of output measures, including secondary deliverables, does not easily focus networks on the measures, or outcomes, that customers value the most and it is not always clear on what is being delivered and what is just being monitored. By aligning measures to customer outcomes it will help network companies become more focused in their approach, will make the regime more accessible and transparent to customers and will enable network companies to innovate further around how they best deliver against customer requirements.

This would also support the rationalisation of the regime as it will support the identification of current measures that either need to be amended so that they align to a customer outcome or be dropped as they do not contribute towards an outcome valued by customers. There are currently around 60 measures within the RIIO-GD1 framework, whereas by utilising an outcome based approach in water has enabled Ofwat to propose only 14 common measures to cover the whole value chain for their PR19 control.

**5. How can the outputs framework be improved, including the introduction of additional output categories for example around efficient system operation for distribution network companies?**

The move from an input to output based regime at RIIO-1 has delivered many customer benefits such as customer satisfaction improvements on every product in every network, and increased flexibility for network companies to deliver an output in the best way without being limited to a fixed input.

GDN Customer Satisfaction Performance (End GDPCR1 vs. Year 4 RIIO-GD1)

	CADENT								OTHER GDNs								GDN Average	
	EoE		Lon		NW		WM		NGN		Sc		So		WWU		12/13	16/17
	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17		
Connections	7.20	8.41	6.60	7.49	7.80	8.44	7.10	7.69	7.70	9.16	8.30	9.25	7.90	9.03	8.40	9.17	7.63	8.58
Emergency	9.20	9.41	8.50	9.06	9.00	9.38	9.10	9.27	8.80	9.46	9.10	9.48	9.10	9.37	9.00	9.55	8.98	9.37
Planned Work	8.10	8.24	7.90	7.82	7.60	7.64	7.40	7.80	8.10	8.90	8.50	9.03	8.10	8.63	8.40	8.62	8.01	8.34
Average	8.17	8.69	7.67	8.12	8.13	8.49	7.87	8.25	8.20	9.17	8.63	9.25	8.37	9.01	8.60	9.11	8.20	8.76

The six output categories of connections, customer service, environment, reliability, safety and social obligations appeared to be correct at the time of setting RIIO-GD1. There are, however, some things that can be evolved and improved upon for RIIO-GD2 with some examples presented below.

The use of a “one size fits all” regime with the use of the same output measures across all geographical regions of GB and customer groups places focus on the average customer but there is no average network (with each having differing customer, geographic and asset characteristics) let alone an average customer.

The output categories and the measures within them also do not place emphasis on what customers see and feel from GDN activities, such as continuity of service, disruption or cleaner air, and are therefore not easily accessible for customers or their representatives. For example a customer would not be able to relate to or know what they should see or feel, and hence value, from GDNs delivering against measures relating to PSSR faults, the duration of telemetered faults or 1 in 20 capacity obligations.

Some other examples of where the outputs framework could be improved include:

- Revising the Repair Risk output measure to remove the inconsistencies between networks;
- Reviewing and considering the inclusion of areas of safety which are important to customers but are not currently captured within the regime including Member of Public Injuries and Cable Strikes (which could also cause disruption to a customer’s electricity supply);
- Reviewing the complexity, and the value in application, of the NOMs methodology which is at odds with the aim of providing clear and simple outputs; and
- Recognising, and responding to, the unique requirements of customers in Multiple Occupancy Buildings (MOBs)

By evolving the framework to move from outputs to outcomes, Ofgem can simplify the regime and make it more accessible to customers. It will also enable customers to recognise the benefits delivered both within and across sectors.

Cadent’s work to date with internal and external stakeholders has identified four core customer outcomes:

- **Providing value for money services:** this requires companies to be efficient and keep customer bills at a fair cost level, connect customers to energy when they need it, understand the services that customers value and deliver against their expectations;
- **Keeping customers connected to the safe energy they need:** reducing disruption whether in the street or at a customer’s property, keeping our people, customers and communities safe and providing continuity and reliability of supply;
- **Reducing environmental impact:** protecting the environment we live in, reducing emissions, promoting and facilitating low carbon gas;

- **Delivering positive outcomes to the communities we serve:** supporting customers in vulnerable situations, helping people and communities choose the right energy solutions, making the industry work better through better governance and more accurate bills and contributing to the prosperity of the communities we work within.

The need for active management of gas distribution networks is becoming much greater with the increased connection of a wide range of gas sources across the network, as such an output that measures and incentivises the efficient operation of a flexible network should be considered for RIIO-GD2. However, this can be captured within the customer outcome category of operating a safe and secure network. The timely provision of network capacity / flexibility must also be a factor when considering efficient operation of the network i.e. providing the capacity when the customer needs it.

## Clarifying outputs

### 6. Did the outputs target the right behaviours?

The introduction of outputs at RIIO-GD1 has been a success in targeting many of the right behaviours, with the categories feeling broadly right at the time of setting, and upon reflection at the mid-way point through the price control period there are several areas which could be evolved and built upon to improve the framework even further for RIIO-GD2.

The move from an input to output based regime has overall been positive with the Iron Mains Risk Removed measure being a good example of an output which has led network companies to innovate without being limited to a fixed input. In 2016/17 we have substantially outperformed our risk removed targets across all networks. This can be attributed to our policies and procedures prioritising and focusing our work on the replacement of higher risk pipes.

#### GDN risk reduction outperformance

Network	Risk reduction 8 year commitment	Proportionate annual risk reduction for one year	4 Year target risk reduction	Actual risk reduction achieved		Risk removal outperformance		% of the 8 year commitment removed to date
				2017	4-year total	2017	4-year total	
EoE	192,567	24,071	96,284	28,590	142,859	19%	48%	74%
Lon	102,281	12,785	51,141	13,907	53,933	9%	5%	53%
NW	154,428	19,304	77,214	21,337	122,315	11%	58%	79%
WM	131,394	16,424	65,697	18,170	81,661	11%	24%	62%
NGN	111,191	13,899	55,596	26,727	140,953	92%	154%	127%
Sc	44,277	5,535	22,139	11,052	59,053	100%	167%	133%
So	137,287	17,161	68,644	20,352	124,715	19%	82%	91%
WWU	98,727	12,341	49,364	13,071	78,827	6%	60%	80%

Some outputs, however, have resulted in companies displaying perverse behaviours, for example the repair risk output measure can place a disproportionate focus on a small number of gas escapes which may be detrimental to overall customer outcomes.

Some of these challenges are a result of the time that was required to develop the over-arching RIIO framework following the RPI-X@20 review, which, as a result, did not leave Ofgem enough time to work with stakeholders to design, develop and implement the many (around 60) measures within it. In the case of Network Output Measures (NOMs), where the work in developing the mechanism had not been signed off at the start of the period

and is unlikely to be completed until the end of year five, decisions have needed to be made against the rules known at the time.

Whilst NOMs can help support the decision making process it cannot be used mechanistically to determine all asset management decisions. It is also a good example of where the regime has been over-engineered and has become too complex and out of proportion for the level of spend by GDNs.

Overall, for many of the measures the link between them and the outcomes they are designed to deliver for customers and society is not as strong as they could be. By evolving the RIIO framework to an outcome based regime for RIIO-2 it would provide the required link between measures and what customers see and feel and will support networks in developing the behaviours desired by their customers.

This evolution of the framework will also enable its simplification, making it accessible and clear to customers and network companies alike what the right behaviours are. Evolving the framework rather than starting afresh will also allow more time to ensure the right measures are in place before the control begins.

## **7. How can we address areas of expenditure for which a clear output is difficult to define?**

In gas distribution there are clear identifiable customer outcomes that can be set and within these outcomes there are clear measureable outputs that networks can deliver against.

In RIIO-GD1, however, there has been ambiguity over the treatment of under or over delivery of specific outputs which has led Cadent to proactively return the allowances for our London Medium Pressure (MP) work to customers. The reason for this return was centred on customer and stakeholder feedback about the disruption this work would cause.

The RIIO-2 framework must provide more clarity over the treatment of under or over delivery where customers or stakeholders' requirements have changed or need to be met in an alternative way. For RIIO-GD2 there will be some areas, such as fuel poverty, where whilst an output could be beneficial, the network company should be incentivised to do as much as possible and not be constrained by hard outputs.

Where an output cannot be defined an ex ante allowance should be provided and the work treated as a separate project with clear deliverables. If an input is the best recognisable delivery measure then this should be used rather than trying to "force fit" the activity to an output; however, this must still be clearly aligned to a customer outcome.

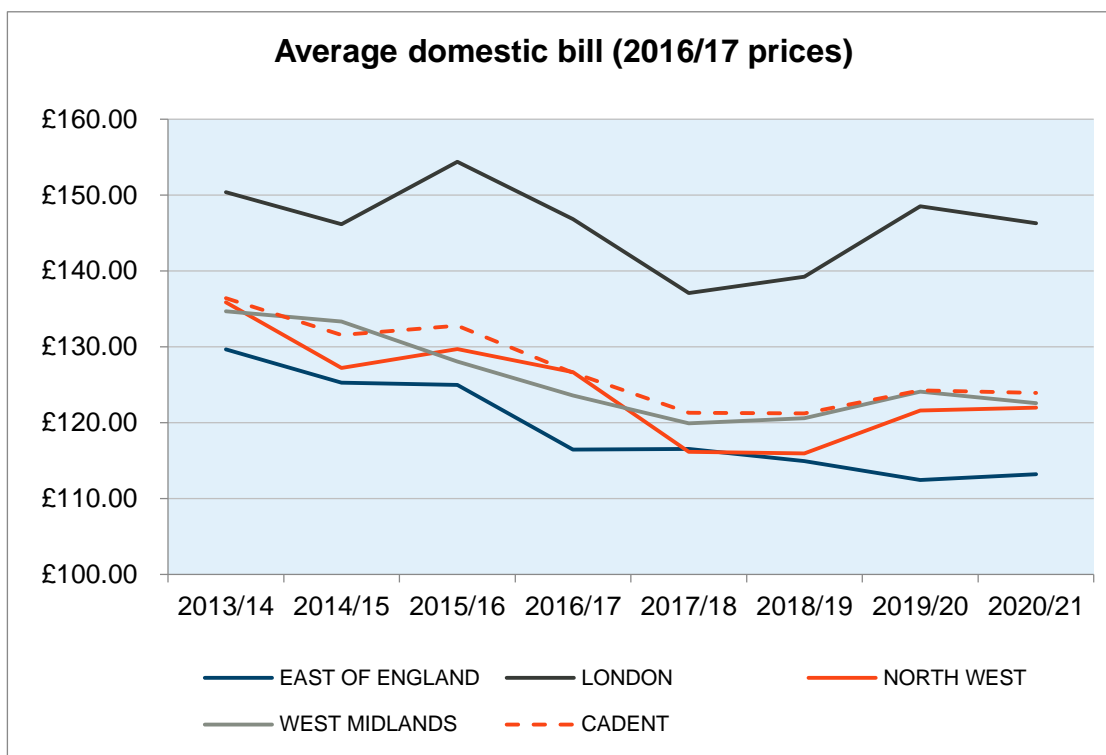
This must all be underpinned by the principle that innovation and efficiency should be rewarded and that companies should not be tied to inputs unless explicitly agreed upfront.

## **Output incentives**

### **8. Were the output targets and associated financial incentives set for RIIO-1 appropriate, reflecting what consumers value and are willing to pay for?**

The output and other financial incentives, including the Information Quality and Totex efficiency incentives, used in RIIO-GD1 have driven significant improvements in service and value for money for customers. Customer satisfaction has improved in every product in every network, there has been a step change in stakeholder engagement and we forecast that leakage from our networks will reduce by 25% by the end of the control period, the equivalent of 30,000 domestic properties' consumption. At the same time GDNs forecast to reduce

controllable costs by 12% versus their allowances by the end of RIIO-GD1 and achieve an overall 9% reduction in customer bills in real prices.



Whilst the output incentives and the broad output categories used in RIIO-GD1 have supported the delivery of improved service and lower bills, some outputs and secondary deliverables would not be recognised by, or mean anything to, customers and this makes it difficult for customers and their representatives to attribute value to network performance even though they could be important measures. By developing a simplified outcome based framework focussed on what customer's value most is would aid this understanding and better support customer willingness to pay, or similar, research. Cadent has set out the four outcomes areas identified to date through our engagement with internal and external stakeholders in our response to question 5.

In the RIIO-GD1 control the greatest customer value, and hence incentive value, was attributed to driving cost efficiencies and reducing customer bills. For RIIO-GD2 Cadent has already begun working with our stakeholders, including customer group representatives, to identify both the outcomes that our customers value most and the incentives that could drive the right behaviours in delivering against these outcomes.

There may, however, need to be incentives developed to drive outcomes that are not identified as of high value by our current customers but are required by society / future customers or for the UK to meet its legal obligations, for example relating to carbon emission reductions. In these cases Ofgem must take a key role in balancing the requirements of current customers, such as lower bills, with those of future customers, such as clean air. Network companies will also need to undertake additional engagement with customers, or their representatives, to help them understand the value of these measures and incentives.

We value improvements in customer experience, and removal of any existing frictions between various participants of the energy value chain that could negatively impact the customer, and would be keen to target outcomes that would incentivise network companies to align and improve their behaviours enhancing an overall customer experience.



We also believe that GDNs should be incentivised to drive the facilitation of lower overall emissions and other environmental impacts, whether it be emissions from our network, from the gas that is used by our existing customers, by connecting new customers to realise benefits in other sectors like transport or by supporting the solutions to other environmental issues such as sludge and land fill. Incentives in this area were discussed when setting RIIO-1 but were parked in the absence of clarity on the future role of gas which we now have following the redefinition of the role of gas and the wider potential of the gas networks during RIIO-1.

**9. What changes in the RIIO framework would facilitate returns that are demonstrably good value for consumers?**

The returns seen in RIIO-GD1 have been fair, provided good value for customers and are the results of GDNs delivering significant service improvements and cost reductions for customers against robustly assessed efficient allowances for well justified outputs. Through a step change in innovation GDNs are forecast to reduce controllable costs by 12% versus their allowances by the end of RIIO-GD1 and achieve an overall 9% reduction in customer bills in real prices.

At the same time customer satisfaction has improved in every network across every product since the end of GDPCR1, and there has been a demonstrable step change in stakeholder engagement. Asset health has also improved whilst environmental impact has reduced beyond the stretching targets set at the beginning of the control and GDNs have delivered and exceeded against their social obligations.

	CADENT								OTHER GDNs								GDN Average	
	EoE		Lon		NW		WM		NGN		Sc		So		WWU		12/13	16/17
	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17	12/13	16/17		
<b>Connections</b>	7.20	8.41	6.60	7.49	7.80	8.44	7.10	7.69	7.70	9.16	8.30	9.25	7.90	9.03	8.40	9.17	7.63	8.58
<b>Emergency</b>	9.20	9.41	8.50	9.06	9.00	9.38	9.10	9.27	8.80	9.46	9.10	9.48	9.10	9.37	9.00	9.55	8.98	9.37
<b>Planned Work</b>	8.10	8.24	7.90	7.82	7.60	7.64	7.40	7.80	8.10	8.90	8.50	9.03	8.10	8.63	8.40	8.62	8.01	8.34
<b>Average</b>	8.17	8.69	7.67	8.12	8.13	8.49	7.87	8.25	8.20	9.17	8.63	9.25	8.37	9.01	8.60	9.11	8.20	8.76

Cadent recognises that it is not clear or easily demonstrable to all of our customers the value that we deliver through some outputs. By moving to an outcome based regime, focussed on what customers see, feel and value, it would be easier to demonstrate the benefits that are being delivered to customers and help legitimise the returns being achieved by network companies.

All network companies should have the realistic opportunity to achieve additional returns beyond the cost of capital, if they can demonstrate good, and improving, customer outcomes in line with industry benchmarks; this will ensure that investment is maintained across all GB networks.

A threshold of good performance should be set up front with all companies having opportunities to achieve or exceed it which will in turn raise the threshold for future controls. If higher returns are linked to better service, and those improvements are shown to be valued by customers, then the returns are demonstrably good value.

Likewise, Cadent recognises that if a network company does not perform in line with the benchmarks then they should be penalised, which is already a feature of the RIIO-GD1 methodology.

All customers want to receive the best customer service possible so by creating a framework, as already seen in RIIO-GD1, which rewards or penalises companies based on their actual performance against up front benchmarks, rather than their relative performance against each other during the control, this will maintain the incentive for networks to deliver the best performance possible and set a higher performance threshold for the next control period.



## 10. How can we minimise the scope for forecasting errors?

Cadent can find no evidence of any material forecasting errors during RIIO-GD1 and the regime has worked well in driving the desired behaviours of improved service for lower costs. The efficiencies delivered could not be predicted at the outset of RIIO-GD1, and they were only possible as a result of the RIIO framework, which was brand new to the industry.

Ex ante controls provide network companies with certainty which allows them to plan on a long term basis including contracting arrangements, pay deals and other procurement activities. This allows us to drive efficiencies across our network outputs, ultimately resulting in lower customer bills and the return of cash to customers, hence why it is important not to index everything or move to a complete ex post regime which does not encourage innovation.

In the areas where there was some material uncertainty but no volume trend or only limited cost evidence, Streetworks and Smart Metering, Ofgem has successfully utilised uncertainty mechanisms during RIIO-GD1. As such, Cadent supports the continued use of the full range of Ofgem's RIIO toolkit, including revenue drivers, re-openers, ex ante allowances and incentives, to manage any identified uncertainties.

Overall, the right balance between mitigating forecasting challenges and restricting long term planning and innovation must be found.

## 11. What constitutes a fair return for a regulated monopoly network company, and how can we ensure that returns remain legitimate in the eyes of stakeholders?

We believe that it is in customers interest, and consistent with the principle in the RIIO framework, that all network companies should have the opportunity to earn enhanced returns if they can demonstrate strong performance against targets that are ambitious but achievable and aligned to outcomes that customer's value.

The total Returns on Regulated Equity (RoRE) seen in RIIO-GD1 have been aligned to significant service improvements and cost reductions for our customers and hence we believe they are fair. The returns achieved in RIIO-GD1 are at the upper end of Ofgem's range, however they have been achieved against allowances and performance targets that were ambitious, and also enabled a correspondingly high reduction in customer bills, hence making the customer the long-term beneficiary of efficiency and performance improvements. We therefore believe that the RIIO framework has the necessary features to enable the sector to earn fair returns.

For example the incentives within the RIIO-GD1 framework have focussed gas distribution networks on driving increased efficiencies, with a 12% reduction in controllable costs forecast by the end of RIIO-GD1. These allowances were set at the upper quartile with long run efficiency assumptions included. To achieve this, the companies have demonstrated innovation, through contractual delivery arrangements, in-line with the intention of the RIIO framework. Companies strong performance in this area coupled with performance against key output incentives, such as customer satisfaction and the environmental emissions incentive, has led to the returns that are aligned with our customer requirements.

However, Cadent recognises that this is not clear to all of our customers and believe that by moving to an outcomes based regime, focussed on what customers see, feel or value, it would be easier to demonstrate the benefits that are being delivered to customers and legitimise returns being seen by network companies.

Returns are made up of a cost of capital to fund the investment required to deliver safe and secure supplies for consumers (now and for the future) and efficiency and output incentives to deliver those outputs that matter to customers in a value for money way and encourage performance improvement. Hence the range of fair returns

needs to consider an appropriate long term return for capital employed and a range of incentives to drive efficiency and better outcomes.

Baseline Weighted Average Cost of Capital (WACC) should reflect long-term market conditions to keep the sector stable and attract long-term responsible investors, targeting strong operating performance and sustainable long-term returns. Companies that perform well should have an opportunity to earn additional return to incentivise improvements in efficiencies and customer outcomes, which would ultimately be returned to the customers in future periods through lower baseline Totex allowances and greater outcomes. Likewise, Cadent recognises that if a network company does not perform in line with the ambitious but achievable benchmarks then they should be penalised, which is already a feature of the RIIO-GD1 methodology.

Looking ahead for RIIO-GD2, Cadent believes that in light of recent market conditions (most notably negative real interest rates) a robust review of the approaches traditionally adopted for establishing cost of equity will be required to ensure a fair allowed return on equity. Alongside this there should continue to be a stretching risk and reward mechanism for strong and consistent performance which delivers meaningful outcomes for customers.

## Cost of capital

### **12. What factors do you think are relevant for assessing and setting the cost of capital so it properly reflects the risks faced by companies?**

Baseline Weighted Average Cost of Capital (WACC) should reflect long-term market conditions to keep the sector stable and attract long-term responsible investors, targeting strong operating performance and sustainable long-term returns. Companies that perform well should have an opportunity to earn additional return to incentives improvements in efficiencies and customer outcomes, which would ultimately be returned to the customers in future periods through lower baseline totex allowances and greater outcomes. Likewise, Cadent recognises that if a network company does not perform in line with the ambitious but achievable benchmarks then they should be penalised, which is already a feature of the RIIO-GD1 methodology.

The opening theoretical position in setting the WACC would be to consider the CAPM components and the asset beta based on the cash flow profile, reflecting the total quantum of expenditure and other factors, such as the timing between price setting and income receipt. Then determine the appropriate view of assumed gearing. This factor may need to be adjusted through iteration of the financeability tests as historically ultra-low real cost of capital allowances present cash flow pressures where most of the debt and equity service cash flows are nominal.

Looking ahead for RIIO-GD2, Cadent believes that in light of recent market conditions (most notably negative real interest rates) a robust review of the approaches traditionally adopted for establishing cost of equity will be required to ensure a fair allowed return on equity. Alongside this there should continue to be a stretching risk and reward mechanism for strong and consistent performance which delivers meaningful outcomes for customers.

Any output must then be sense checked against a number of comparatives and financeability tests. There are a number of material uncertainties and the final allowance must be set at an absolute level sufficient to encourage investment in GB infrastructure to deliver 2050 carbon targets.

Companies and investors have to make long-term investment commitments with the return capital expending across multiple price controls. Therefore, despite the recent period of very low and indeed negative real rates, the regulator needs to strike a balance between enabling customers to benefit from rates below the long-term average and providing sufficient continuity and certainty of approach to investors.

The review should also recognise the unique period of uncertainty facing the UK, through Brexit, which may deter foreign investment in UK businesses and infrastructure. If there are significant changes in the regulatory approach to setting the cost of capital this may undermine investor confidence especially amongst foreign investors.

Additionally, this would undermine the confidence of bond investors, resulting in more expensive financing in the long-term. Cadent replaces more than 1,700 km of network per year to improve the safety of its customers, investing around £400m every year annually. It is important for us to remain predictable and financeable and continue to attract debt investors willing to co-finance this investment programme.

### **13. Can we improve our methods for the indexation of the costs of debt and equity?**

In-line with the RIIO handbook, Ofgem should review the construct of the mechanisms for RIIO-2 and consider to what extent the forecast levels will act as a reasonable proxy for each sectors' actual debt costs, based on frequency of debt issuance, lag in response to changes and the inflation adjustment.

We welcomed the transition to iBoxx for cost of debt indexation, as it traces the average cost of debt in the industry with appropriate duration of debt. It must be reviewed if the 10-year average iBoxx index appropriately remunerates network companies. We also noted that Ofgem accepted in the RIIO-ED1 review that network companies need to issue long-dated debt to meet institutional demand and so agreed a 20-year trailing average was most appropriate, albeit transitioned through the "trombone" mechanism as more iBoxx data becomes available.

Whilst a shorter trailing average, such as the five years proposed by Citizen's Advice (CA)<sup>9</sup>, may appear attractive as it aligns better to recent market rates, this would have an increased variation to actual debt costs. Ofgem should consider the practicalities and risks of all UK infrastructure being financed on a rolling five year debt maturity profile. The debt capital markets would not support this as they are seeking to match much longer term liabilities from pensions and life insurance. The bank market, that may typically lend shorter up to five years, does not have the capacity to support the many tens of billions of debt to UK infrastructure and indeed to do so would absorb scarce lending capital from supporting small businesses and domestic customer loans and mortgages. Network companies would therefore not be able to match this assumed issuance frequency meaning the index would not act as a reasonable proxy for actual costs.

Companies and investors need to make long-term decisions when financing networks and cannot in practice secure capital on an annual basis. Cost of equity should reflect long-term required equity returns, sought by private investors into illiquid stock. There is not an appropriate index that could be used to estimate the required returns of such investors, and therefore we consider that it is more appropriate to use the existing approach employed by Ofgem in RIIO-GD1 of setting a well-considered allowed return on equity for the price control period.

## **Financeability**

### **14. Are there specific amendments to any core aspects of financeability that we should be considering in light of performance during RIIO-1 and the change in the financial environment?**

For existing investments (to the end of RIIO-GD1) it is important for Ofgem to maintain regulatory consistency and stability in their approach to tax, capitalisation and depreciation. The current arrangements will have formed the basis of investment decisions across utilities and if reneged upon may impact future investment in network companies and decarbonising the GB economy. For new investments in RIIO-2 and beyond, regulatory consistency is vitally important but assessments must be made of the current macro-economic environment.

Cadent considers that there will be a need to robustly test any theoretical cost of debt and cost of equity figures against a range of credible scenarios to ensure financeability of the network businesses. The timing of and the

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<sup>9</sup> [Citizens Advice Energy Consumers' Missing Billions](#)

absolute levels of cash flows are crucial in determining a company's credit rating and so debt capacity. The key financeability challenge arises from the fact that cash allowances are real whereas most debt and equity returns are paid in nominal cash flows.

In an environment where real rates have been negative for several years, the dynamics of a potentially negative real allowance, i.e. a deduction from base allowances needs to be fully explored, modelled and debated. Although companies can theoretically issue debt at negative real rates, at present they are still paying positive nominal coupons in cash.

The full range of tools such as capitalisation rates, depreciation allowances and level of WACC need to be explored but the decisions need to be fully informed by the credit rating agencies approach as ultimately they determine the related companies data capacity. Similarly Ofgem should reinstate engagement with the City alongside consumer and other stakeholder to ensure it develops a balanced view of the required package.

## Inflation and price indices

### **15. Should we consider moving to CPIH (or another inflation index) and how should we put into effect any change to ensure it is present value neutral for investors?**

Although the technical deficiencies within the construction of the RPI are noted, we do not believe that the overall benefits to customers of moving RIIO price reviews to a CPI based index have yet been demonstrated. Indeed there is the likelihood that prices for current customers would increase and that overall such a potential change has significant disadvantages for the following reasons:

As previously noted by Ofgem, an established and liquid market in CPI index-linked gilt instruments would be required by Network Operators (NWOs) to allow them to continue to raise a proportion of debt linked to the indexation of a CPI linked Regulatory Asset Value (RAV). Such a market development would also be required to derive the CPI based real cost of equity and debt components within a changed Cost of Capital allowance. Such a market does not exist at this present time and the UK Government Debt Management Office has stated it has no plans to issue CPI linked gilts. Without market derived CPI real rates any construction from the existing RPI rates would be dependent upon a wholly subjective, and likely changeable, estimate of the RPI less CPI "wedge".

If all the components of the price review were to be consistently amended then there would be no impact on the total costs to customers over time. There would however be an increase in the proportion of costs borne by current customers from future customers, since the real cost of capital would increase. It's important that Ofgem understand and recognise that the appeal of a price reduction for customers simply because CPI is lower than RPI is illusory.

Introduction of CPI is likely to introduce extra risk for equity and debt investors, particularly pension funds where their existing liabilities are predominantly RPI rather than CPI linked. The matching of RPI linked returns to RPI liabilities has been a key aspect of the attractiveness of UK energy networks and a change or transition will create complexity and increase the relative riskiness to be reflected in costs for customers.

As a consequence of the concerns set out above our current view is to retain use of the RPI (and RPEs) to compensate for inflationary effects faced by the NWOs and set WACC and RAV indexation linked to RPI.

Whilst we consider that the benefits to customers of maintaining the RPI link can be demonstrated we note that other economic regulators are dealing with the issue in different ways. For example, a hybrid approach whereby the cost of capital components remain linked to RPI but headline price changes for customers are expressed in CPIH is being considered in other sectors. Cadent considers that the required scope of changes to the price

review mechanism to ensure internal consistency would be very significant and require extensive work to ensure any transition is made on a Net Present Value (NPV) neutral and overall consistent basis.

## Incentivising whole system coordination / potential for greater price control alignment

### 16. Do you think there are sufficient benefits in aligning the electricity price controls to off-set the disadvantages we have outlined?

The decarbonisation of heat through electricity would require “traditional” network investment and couldn’t be negated through new smart technology. To decarbonise heat through electricity would require at least five times<sup>10</sup> as much electricity distribution infrastructure as there currently is and that is before the addition of electric vehicles which are expected to broadly double the current domestic energy consumption in a typical day to fully charge a vehicle. As such, to ensure that customers do not have higher bills than necessary, Ofgem, must consider the interactions between all sectors not just electricity transmission and distribution.

There are decisions which must be made that may drive expenditure on the gas distribution network which avoid greater costs on the electricity distribution network, or vice versa such as removing gas from a high rise building. Therefore Ofgem must consider how best to incentivise the most economic and secure energy delivery system, and the accommodation of lower emissions with the facilitation of low carbon gas. As such, we must consider how we manage interactions between all sectors to ensure that investment is being focussed where it will deliver the most benefit to customers and will provide the lowest cost pathway to decarbonisation and lower emissions.

Aligning price controls may be one way of achieving this, however this would require significant workload, additional resources and costs for Ofgem, but there are alternative ways to achieve this including the use of shared adaptable incentives, shared innovation funding and shared uncertainty funding across sectors.

### 17. Are there any other realignment options we should consider?

Ofgem should be considering the alignment of customer outcomes, outputs, incentives and innovation funding across all sectors and price controls in order to reduce costs for customers. However, this does not necessarily require the alignment of price control start points and durations.

Ofgem should support joint planning functions across sectors and innovation funding for inter-network working. They could also consider expanding the stakeholder incentives to cover electricity and gas interactions, as there are many shared stakeholders that would value coordinated and cooperative engagement including local government and developers associated with a new town or large new housing development.

## Flexibility

### 18. What amendments to the RIIO framework, if any, should we consider in supporting companies to make full use of smart alternatives to traditional network investment?

Ofgem must ensure that the framework incentivises network companies to leverage existing assets before considering building new ones and recognise that smart is not solely about electricity. Ofgem and networks must think about how to incentivise smart alternatives on the gas network to avoid less efficient investment in the electricity network.

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<sup>10</sup> Typical gas heated home uses 100kWh of gas on a peak day for heating, compared with 20kWh of electricity consumed in the same home on a peak day.

New sources of distributed gas, such as Biomethane, Shale, Hydrogen blending and BioSNG as well as power generation connections for electricity balancing plant, are connecting to the networks already. The tools to make the gas network more flexible will be required to accommodate these new sources. Flexible incentives to support these developments will be required, as well as the continued support for innovation.

The use of a Totex approach in RIIO already incentivises and mitigates distortions in company's expenditure decisions and ultimately encourages the trade-off between commercial, or smart, solutions and investment. The framework needs to focus on service measures which customers value and allow companies to identify the best means of meeting these requirements.

Input measures such as tracking volumes of work delivered can constrain companies into delivering in fixed ways. For example if we are trying to deliver the customer outcome of providing continuity of supply, measured via an output of unplanned interruption minutes, one way would be by replacing old metallic mains which are prone to failures with new PE ones. However, the same outcome of continuity of service and output of reduced unplanned interruption minutes could be achieved by considering and addressing other causes of, and inputs to reducing, them including the variability of or absolute pressure in the pipeline, the effectiveness of cathodic protections systems, the overall resilience of the system or the way in which we respond operationally to a failure.

As such, by focusing a company on just one input, the regulatory regime dis-incentivises companies from looking at the other inputs, innovating and potentially finding a more effective and efficient way of delivering the same output and achieving the same outcome for customers.

It is not practical to set input targets for all of these items and the move to an outputs based regime at RIIO-GD1 has enabled companies to innovate in their delivery. By focusing on outcomes at RIIO-GD2 it will allow for further innovation and incentivise companies to work through the different means of delivering that outcome and optimising their response.

## Managing asset utilisation risk

### **19. Given the uncertainty around demand for network services, how much of an issue might asset stranding be and how should this risk be dealt with?**

RIIO-GD1 has redefined the future role of the gas network and wider potential for the network. It has been demonstrated that there is no credible pathway to the decarbonisation of heat and transport without the use of the gas network hence we do not anticipate a high risk of asset stranding in RIIO-GD2. This view is supported by a study undertaken by KPMG on the role of the gas networks in a 2050 whole energy system<sup>11</sup> and also by the inclusion of gas in each of National Grid's 2017 Future Energy Scenarios<sup>12</sup>.

Investment in new assets needs to be aligned with and driven by customer requirements to mitigate the risk of stranding. If a risk of asset stranding is identified then Ofgem should shorten asset lives. Across all sectors where assets are stranded there must be a principle that network companies can quickly recover the RAV on a NPV basis to reduce intergenerational cost exposure.

<sup>11</sup> [2050 Energy Scenarios, KPMG](#)

<sup>12</sup> [National Grid Future Energy Scenarios 2017](#)



## Options for managing uncertainty

### **20. How do we need to adapt the RIIO framework and the uncertainty mechanisms in particular, to deal with this uncertainty?**

The uncertainty in gas has changed from the beginning of RIIO-1 when there were still questions whether the gas network was still needed. Now that these questions have been answered and it has been demonstrated that gas must be central to any credible and affordable pathway to the decarbonisation of heat and transport the uncertainty has changed to how the network will be used including what resources will connect where and what flexibility will be needed.

Ofgem already has a strong menu of uncertainty mechanisms available, which are being used in RIIO-1, and would be effective in managing this uncertainty. The framework could, however, be evolved to account for cross sector interactions to ensure that investment decisions are made on a whole energy system basis ensuring the delivery of the outcomes needed by customers at the lowest cost.

The process to utilise some of the mechanisms should be simplified to enable the timely recovery of efficient costs, an example being Smart Metering where Cadent is already incurring costs which cannot be recovered until 2021. This will be particularly important in RIIO-GD2 when this could delay new gas sources connecting to the network and potentially kill off investment on the production side leading to higher long term costs in decarbonisation.

### **21. Is an eight-year price control period with built-in uncertainty mechanisms still appropriate given the greater range of plausible future scenarios?**

The eight year RIIO-GD1 control has delivered significant benefits to customers by enabling us to innovate to drive down our costs and improve the service we provide. Moving away from eight years or longer controls will lose the opportunity to create the benefits delivered by long term contracts negotiated as part of the RIIO-GD1 process and could result in a significant increase in the cost of procurement.

An eight year, or longer, control is appropriate for RIIO-GD2 as this will continue to drive long-term thinking in network company decisions, thinking about and delivering value for current and future customers. There has been a step change in network companies approach to stakeholder engagement since the beginning of RIIO-1 and through further improvements this engagement can provide greater confidence in the outcomes and outputs to be delivered over the next price control period, whether eight years or longer.

Ofgem does not necessarily need to use the same length of control for each sector, if there is greater uncertainty or change required in some sectors than others then different control lengths could be used. There is less uncertainty now in the GDNs role than when RIIO-1 was set, however we can see that there is still significant uncertainty in what the electricity networks will need to deliver which may warrant a different approach. This view is supported by a study undertaken by KPMG on the role of the gas networks in a 2050 whole energy system<sup>13</sup> and also by the inclusion of gas in each of National Grid's 2017 Future Energy Scenarios<sup>14</sup>.

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<sup>13</sup> [2050 Energy Scenarios, KPMG](#)

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Ofgem already has a strong menu of uncertainty mechanisms available, which are being used in RIIO-1, which would be effective in managing this uncertainty. The framework could, however, be evolved to account for cross sector interactions to ensure that investment decisions are made on a whole energy system basis ensuring the delivery of the outcomes needed by customers at the lowest cost.

## **Cost assessment of business plans**

### **22. What improvements should be made to the assessment of business plans?**

Ofgem should continue to evolve their benchmarking methodology with a move towards a fully loaded output approach providing that upper quartile business support costs are demonstrably cost efficient compared to the external world beyond energy networks. There is also the potential to merge some outputs into the cost and benchmarking analysis making it possible to set a frontier in outputs as well as costs which may help in ensuring that output targets are consistently challenging across all networks.

By moving to this approach it will enable network companies to continue to innovate and be flexible in their delivery models. Companies need to provide evidence that their approach is robust, that good practice has been used, checks made and processes documented. This should not be a prescriptive approach but rather a requirement that assurance should be provided.

### **23. Should we give further consideration to companies' historic performance against their business plans?**

Reflection of historic plans is appropriate in understanding benchmarking, cost levels and areas of out-performance but RIIO, and RPI-X before it, were focussed on providing incentives for networks to reduce costs. RIIO-GD1 benchmarking demonstrated that GDNs were cost efficient on support activities and further savings have been achieved during the control so this work could be repeated. This would then enable benchmarking on a "fully loaded" basis where all costs, both direct and indirect, associated with delivering an output are included.

The work undertaken at RIIO-GD1 on the links between investment and future maintenance should also be re-verified to ensure consistency of assessment as there are known variations in capitalisation.

Future plans should be assessed using appropriate benchmarking of historic costs and the provision of evidence, by companies, to support any cost movements.

### **24. Should we determine the revenues an "efficient" network company requires before seeking information from the companies themselves?**

The Regulatory Reporting Packs submitted annually by network companies provide Ofgem with the information to assess a view of current efficiency, they do not however, and it is not their role to, predict the future. Instead Ofgem should take evidence based plans, check that future investment is cost beneficial and use this to set cost allowances.

Moving to an approach where Ofgem determines the future revenues of an efficient network without the involvement of the companies would create a more linear and elongated approach. This approach risks Ofgem



arriving at an unrealistic and unachievable network company benchmark which has the potential to incentivise behaviours which are at odds with our customer requirements and expectations.

All network companies have different ownership, resourcing and delivery models which all have their relative merits. It would be very difficult to unpick these differences to create a generic efficient network company model without the companies' involvement throughout the process. This approach is likely to lead to a longer and more inefficient process than previous models and by Ofgem undertaking this in isolation it is also likely to lead to flaws in the assessment.

## Length of price control

### **25. What has an eight-year price control period allowed network companies to accomplish or plan for that would not have occurred under a shorter price control period?**

Longer controls provide greater certainty for businesses, investors, stakeholders (including the supply chain) and customers whilst also reducing the regulatory burden. For example, the RIIO-1 control period has enabled Cadent to take a long term innovative approach to our contracting strategy – locking in competitive contractor rates with our Gas Distribution Strategic Partners (GDSPs) at the beginning of the period and allowing efficiencies to be driven in work planning and resourcing against a known and visible plan. It has also allowed Cadent to take a longer term view on innovation projects.

Long term controls focus network companies' leadership teams, as well as Ofgem, on delivery for customers rather than re-designing the regulatory framework more frequently. Longer term controls present a real opportunity for integrating our work with other industries. For example, being able to share long term plans with Network Rail or the Environment Agency could allow Cadent to co-ordinate interventions on our assets with interventions they are making on theirs. Having the long term certainty allows these discussions to be held. Joint working has the potential to significantly reduce disruption and holistic cross-industry costs.

An eight year, or longer, control is appropriate for RIIO-GD2 as this will continue to drive long-term thinking in network company decisions, thinking about and delivering value for current and future customers. There has been a step change in network companies approach to stakeholder engagement since the beginning of RIIO-1 and through further improvements this engagement can provide greater confidence in the outcomes and outputs to be delivered over the next price control period, whether eight years or longer.

Ofgem does not necessarily need to use the same length of control for each sector, if there is greater uncertainty or change required in some sectors than others then different control lengths could be used. There is less uncertainty now in the GDNs role than when RIIO-1 was set, however we can see that there is still significant uncertainty in what the electricity networks will need to deliver which may warrant a different approach. This view is supported by a study undertaken by KPMG on the role of the gas networks in a 2050 whole energy system<sup>15</sup> and also by the inclusion of gas in each of National Grid's 2017 Future Energy Scenarios<sup>16</sup>.

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<sup>15</sup> [2050 Energy Scenarios, KPMG](#)

<sup>16</sup> [National Grid Future Energy Scenarios 2017](#)

## Efficiency incentive

### **26. How well has the IQI and efficiency incentive worked in revealing efficient costs through the business plan process and encouraging efficiency throughout the price control period?**

The IQI process seeks to give networks the incentive to submit their most competitive business plan. As such, this is a powerful tool and any assessment of its success must consider how much higher allowances, and hence customer bills, may have been without it. The mechanism, however, could be enhanced as at RIIO-GD1 it did not recognise the benefits delivered by submitting a competitive first business plan for those outside of the fast track process.

The Totex efficiency sharing mechanism provides an incentive to network companies to drive efficiencies delivering benefits for customers through the return of cash and in future with the resetting of allowances. This, especially coupled with an eight year control and strong innovation stimulus, has been very effective in driving efficiency during the price control with GDNs forecasting a 12% reduction in controllable costs by end of RIIO-GD1 and an overall 9% reduction in customer bills in real prices.

### **27. What alternative approaches could we consider to encourage companies to give us high quality information that minimises the damage from their information advantage?**

The approach utilised in RIIO-GD1 has been a success and set a new bar for network companies whilst including incentives that have driven companies to improve further. Whilst the approach could be evolved for RIIO-GD2 Ofgem already utilises a broad menu of powerful tools, including benchmarking, cost benefit analysis and external sources for specific items, which ensure that the onus sits with network companies to provide evidence to justify their plans.

Network companies also provide detailed returns every year through the regulatory reporting process providing Ofgem with consistent and regular cost, workload and revenue data. This provides strong historical evidence on which network plans can be assessed.

## Innovation stimulus package

### **28. What impact has the innovation stimulus had on driving innovation and changing the innovation culture?**

The innovation stimulus has driven a significant change on network companies approach to innovation. It has enabled investment in a diverse portfolio of projects, encouraged cross-sector projects which would otherwise not have been possible and promoted sharing of best practice. Some specific examples of such projects include our BioSNG plant in Swindon, HyDeploy at Keele University and the multiple projects delivered through the Energy Innovation Centre (EIC) such as “The Energy Loop”.

A change in the wider-innovation culture can be evidenced through the many smaller projects delivered by network companies outside of the innovation funding regime including locking cooker valves<sup>17</sup> and excavation scanners.

Our main challenge experienced with the innovation regime during RIIO-GD1 relates to the Intellectual Property (IP) arrangements and the administrative burden associated with the funding which can slow down the process

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<sup>17</sup> [Cadent Locking Cooker Valves](#)

and not aligned with the aims of innovation. There is also a challenge around the interpretation of the scope of projects eligible for innovation funding; currently projects have to be beneficial directly to network customers, however if a project can demonstrate wider-energy / societal benefits, including supporting UK industrial strategy, network companies should still be able to proceed.

Taking each component of the innovation stimulus in turn:

#### Network Innovation Competition

Without NIC funding Cadent would not have invested in projects such as our BioSNG plant in Swindon or HyDeploy at Keele University where we will get no return but which support the identification and demonstration of technology which will drive the lowest cost pathway to a secure decarbonised whole energy system for energy customers.

The NIC has allowed networks to leverage wider investment in innovation through partnerships and the framework has brought multiple new players to the gas industry. Attracting this wider investment was still a challenge through the NIC so would have been even harder and less likely to have occurred without it.

The NIC regime is, however, currently skewed towards electricity and needs to be re-balanced by becoming technology agnostic to deliver the lowest cost pathway to decarbonisation. Large sums of money continue to be made available for electricity innovation without demonstrable evidence that the electrical innovation would represent the least cost energy system solution. There is also an opportunity for increased cross-governmental department working so that there is better alignment of large-scale innovation funding.

#### Network Innovation Allowance

The NIA has supported Cadent in tackling some truly innovative challenges within the area of mains replacement in particular, and the rules have allowed Cadent to have a mixed portfolio of projects at varying levels of technology readiness.

The main benefit delivered, which would not have occurred without the NIA, has been the sharing of innovations between network companies. This has seen the establishment of the Gas Innovations Governance Group (GIGG) and best practice sharing through the ENA Portal which has led to multiple networks adopting other companies NIA innovations. We have most recently adopted two NIA funded projects managed and delivered by Northern Gas Networks. The 'Remote water removal system' (NIA\_NGN\_45) and Service water extraction (NIA\_NGN\_100) projects have been implemented into business as usual. These readily available products have been tested and are therefore appropriate for use within our network which has culminated in benefits to customers.

Cadent supports the continuation of NIA funding, and recognise there are multiple ways of funding this type of innovation which we welcome the opportunity to discuss further.

#### Innovation Rollout Mechanism

One area of the innovation stimulus that needs developing for RIIO-GD2 is a mechanism to support the rollout of innovations into business as usual. The innovation rollout mechanism (IRM) within the RIIO-1 framework has been too narrow and has not worked, with no network companies having utilised it. By evolving this mechanism it would support accelerating the delivery of the benefits delivered from innovations.

## **29. Have the incentives inherent in the RIIO model encouraged network companies to be more innovative and what should we consider further?**

Innovation to create radically new approaches was supported and encouraged by the innovation stimulus in RIIO-GD1, with projects such as our BioSNG plant at Swindon and HyDeploy at Keele University unlikely to have been undertaken without the NIC.

Whilst innovation to improve existing processes and optimise cost and performance against incentives was as a result of the strong Totex incentive and an eight-year control period which enabled companies to plan, experiment and deploy long-term strategies such as our GDSP contracts.

So the combination of a specific innovation stimulus and the incentives inherent in the RIIO model has been a success in RIIO-1 but there is scope for improvements around flexibility, reducing the administrative burden and cost. The RIIO framework could be evolved further with increased cross sector measures, including innovation, to ensure that the most effective and efficient investment is undertaken to drive the delivery of the outcomes required by customers, particularly in the areas of decarbonising heat and transport.

### **The role of competition**

## **30. Do you agree that the scope of competition should be expanded in RIIO-2? What further role can competition play?**

Competition already exists within gas and is well established in the below 7 bar gas connections market, with over 450,000 properties being connected to IGT sites within Cadent's footprint since the beginning of RIIO-GD1.

For non-standard connections, including sites of greater than four properties, Cadent constructs and then owns only 3.5% of connections by supply point. A further 2.5% of connections by supply point are connected by Utility Industry Providers (UIPs) and adopted by Cadent; whereas 94% of connections by supply point are constructed by Utility Infrastructure Providers (UIPs) and adopted by IGTs.

However, due to the Domestic Load Collection Allowance (DLCA) Cadent still has the greater market share of standard connections for sites between one and four properties. Cadent constructs and then owns 83% of connections by supply point; a further 10.5% of connections by supply point are constructed by UIPs and adopted by IGTs.

Cadent has also been active in encouraging competition in the entry (Biomethane) connection process, including running a trial to provide Self Lay Organisations (SLO's) the opportunity to lay high pressure pipelines on our behalf which were then connected on to our Local Transmission System Gas Distribution Network, potentially enabling the customer to negotiate a more competitive contract. However, stronger incentives are required for GDN's to increase the level of new and low carbon sources of gas throughput in RIIO-GD2. Incentives will play a significant role in changing behaviours and ways of working which at present can be susceptible to slowing growth rather than accelerating it, as seen with the many anaerobic digestion sites still choosing to burn the Biomethane on site to generate electricity even though this is a less efficient use of the energy.

The requirement or competition in gas network assets needs to stay under review as new types of assets and commercial models, supporting sustainable gas are identified and brought online. However, it is important that the distinction is made between single connections and assets that are an integral part of the infrastructure network.

### **31. Which elements add the most complexity and how do you think that these and the broader RIIO framework could be simplified?**

The large number of primary outputs and secondary deliverables within the RIIO-GD1 framework makes translating the price control to our customers a challenge and places significant reporting burdens on networks and assessment burdens on Ofgem. The level of information required from networks should reflect, and be proportionate to, the value attached to the outcomes by our customers.

A specific example is the risk that the reporting requirements, due to the development of the NOMs methodology, surrounding our capital investment programme will not be proportionate in relation to the scale of expenditure and introduce a significant reporting burden to network companies and Ofgem for limited, or no, value to customers. It is useful to be able to talk about total network risk, and as networks we understand that this will underpin safety and reliability to customers, however articulating this in detail to customers and making it meaningful is difficult and is not purely mechanistic.

Simplification can be achieved through the move to an outcomes based approach where reporting is focussed on the measures that mean most to customers. The RIIO-GD2 framework should aggregate the reporting up to an outcome level with a strategic overview to make it more accessible and value adding for customers and Ofgem.

### **Developing a common methodology for business plans**

### **32. What improvements could be made to the format and presentation of the business plans?**

Network companies should be able to produce plans that allow them to articulate their values, vision and specific customer demands for RIIO-2. However, we recognise that it is important that there is consistency when detailing specific measures within business plans, for example outputs, cost assessment methodologies and cost justification. This will enable Ofgem to assess the plans and make evidenced based decisions in setting RIIO-2 targets.

At RIIO-GD1 networks were encouraged to find their own format which was useful to help express what was a step change in regulatory framework, but we believe made it harder for Ofgem to read across all submissions and even more so for other stakeholders. We suggest the use of a standard template but with the opportunity to add additional items for network specific topics and factors. A bespoke summary of the plan could be produced by each network company to engage with its stakeholders.

### **Fast tracking**

### **33. Should the plans be revised at any stage during the price control, for example annually?**

Network companies' base allowances should not be revised during the course of the regulatory periods as it would create uncertainty and adversely impacts performance. It would also remove the incentives for the companies to drive efficiency improvements.

The current annual regulatory reporting process already includes cost, outputs and revenue forecasts to end of the price control. Increasing the requirement to provide full business plans, equivalent to price control submissions, will provide significant management burden and will distract from delivering against our customers' requirements to no added benefit. Ofgem should explore the approach used in other industries, including water, where companies have moved away from an annual return which collected thousands of line of data to a process which collects just a handful of key measures.

For areas of revised allowances during the control the existing uncertainty mechanism process already requires networks to provide a full cost justification, including evidence of what has been done to minimise the costs incurred. Submissions also must justify any additional costs in relation to the previous Regulatory Reporting Pack (RRP) forecast.

#### **34. Should we retain fast tracking and if so, for which sectors?**

Companies should be rewarded for submitting ambitious business plans and as such Ofgem should take the time to focus on ensuring that benchmarking, outcomes, measures and customer value assessments are fit for purpose rather than retaining the fast track process.

Some of the main challenges seen during RIIO-GD1, and other RIIO-1 regimes, are a result of there not being enough time for Ofgem to work with network companies and stakeholders to design, develop, justify and implement the measures within the framework. By removing the fast track process it will enable more time for this work to take place.

### **Monitoring and information**

#### **35. Do we collect the right information in the right format and are there better ways to monitor the performance of companies?**

The intention of the RRP process is to enable effective benchmarking and to monitor the delivery of network company's commitments to their customers. The current framework demands a significant volume of reporting and should be changed to reduce the burden on companies and Ofgem. The move to an outcomes based approach would support a reduction in regulatory reporting burden.

An example of the burden is the challenge, due to the volume of data, for Ofgem to convert network companies RRP submissions into an annual report; in the first four years of RIIO-GD1, due to the volume of data Ofgem must process, this report was published almost one year after the performance year has ended so was immediately out of date. Ofgem should explore the approach used in other industries, including water<sup>18</sup>, where companies have moved away from an annual return which collected thousands of line of data to a process which collects just a handful of key measures.

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<sup>18</sup> [Ofwat September 2014 Consultation on Regulatory Reporting](#)

## Electricity system operator (SO) price control

### **36. What are your views on how the changing role of the electricity SO should be factored into the RIIO framework, including whether or not the electricity SO should have a separate price control?**

Cadent has no specific views on the changing role of the electricity SO.

## Providing for stakeholder engagement during the framework review

### **37. Do you agree with our broad stakeholder engagement approach set out above?**

We are supportive of increased stakeholder engagement across this process which must seek to understand regional variances. As such, network companies are best placed to drive and be central to the engagement of stakeholders throughout the process. RIIO-GD1 has driven a step change in company's approaches to stakeholder engagement and companies should remain accountable for developing and owning these relationships.

Upon review of the proposed set of working groups it is not clear how we will reach the outcomes that customer's value and then identify the outputs or measures required to deliver those outcomes. It is important that the objectives of the various Ofgem working groups are clear to ensure that the outcome that best supports the RIIO-2 process is achieved. The development of a clear set of terms of reference for each working group would support this. When developing the terms of references, Ofgem must consider when and when not to use cross-sector working groups to ensure that they can reach strategies for the different controls whilst achieving a consistent over-arching strategy.

It will also be vital, when designing the working groups, that the ambition for the scope and the level of detail that will be contained within the RIIO-2 framework decision is understood by all parties, i.e. will specific outcomes, outputs and incentives be defined or just the high level categories or principles.