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for all gas and electricity customers

Regulating energy networks for the future: RPI-X@20 Emerging Thinking

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Target audience: Consumers and their representatives, those with sustainable development interests, energy transmission and distribution companies, generators and offshore producers, suppliers, shippers, Government, investors, academics and other interested parties.

Overview:

RPI-X@20 is Ofgem's detailed review of energy network regulation. We are looking to the future on behalf of consumers by considering how best to regulate energy network companies to enable them to meet the challenges and opportunities of delivering a sustainable, low carbon energy sector whilst continuing to facilitate competition in energy supply. There is considerable uncertainty about how best to meet these challenges whilst maintaining value for money for existing and future consumers.

The existing 'RPI-X' regulatory framework has served consumers well over the last twenty years. But it was designed for a different era. If Britain's energy network companies are to rise to the sustainable development challenge, the way we regulate the networks needs to change. This document sets out for consultation our emerging thinking on a new regulatory framework. It reflects considerable input from a range of stakeholders. We invite views on all aspects of our emerging thinking.

In the next phase of the review, we will work up in more detail how a new framework would work in the electricity and gas, transmission and distribution sectors, taking into full account respondents' views. The Authority will take its final decisions in summer 2010 and we will then consult widely. Any new framework would first be applied in the next transmission price control reviews in 2013.

Contact details: Hannah Nixon, Partner, RPI-X@20 and Regulatory Finance

Tel: 020 7901 7165

Email: RPI-X20@ofgem.gov.uk

Team: RPI-X@20 and Regulatory Finance

Context

RPI-X@20 is Ofgem's detailed comprehensive, two-year review of how we regulate energy network companies. We are looking to the future on behalf of existing and future consumers, asking whether the existing 'RPI-X' frameworks will remain fit for purpose.

We have already tapped a rich seam of interest in this project and we are keen to record our thanks to all of the companies, academics, organisations and individuals who have participated in and contributed to our review to date. Their comments have been taken into account in preparing this paper.

The energy industry stands at a cross roads; facing considerable challenges and opportunities. These are primarily driven by the need to decarbonise Britain's energy sector, while maintaining a safe, secure and affordable system for existing and future consumers. As the physical link between those producing energy, those selling energy services, and businesses and households who use energy, energy network companies have a key role to play, working actively with others in the industry and more widely in making the energy sector more sustainable while continuing to promote and facilitate competition.

We have been tackling many of these challenges with the network companies in recent years, and the RPI-X regulatory framework has evolved over the 20 years we have been using it. This is most apparent in our recent electricity distribution price control review and in providing transmission companies with enhanced investment incentives to connect renewable generation within a review period. We appreciate and welcome the positive response from many in the sustainable development community. But concerns remain that the nature and pace of change will not be enough and there is much more to be done. Our review has asked whether the current frameworks can facilitate delivery of a sustainable energy sector at the required speed. Any changes we decide to make to the framework will be proportionate and transparent. We shall not make change for change's sake.

We have adopted and will maintain an open and consultative approach to the review. Since our February consultation paper on the principles and process for the review, we have published a series of working papers setting out our current thinking and consultancy reports on key issues. We have held numerous workshops and seminars and facilitated industry working groups that have focused on core issues for the review. We have also discussed key issues with Government, our High Level Advisory Group, the Consumer Challenge Group set up for the electricity distribution price control review, and other regulators in GB (including the Competition Commission) and overseas. We have also tested some of our ideas with our Consumer First Panel. This engagement has provided us with valuable insights and ideas on the benefits of the existing framework and the need for change to meet the challenges of the future.

This paper presents, for consultation, our emerging thinking on a new regulatory framework for electricity and gas transmission and distribution. It reflects our analysis and discussions to date. No decisions have yet been taken.

This document attempts to provide an accessible overview of our emerging thinking. It is aimed at a wide range of interested parties. Our ideas on 'embedding financeability in a new regulatory framework' are discussed in more detail in a parallel consultation paper. Further details on others aspects of the new framework are provided in our series of more technical supporting papers aimed primarily at the network companies, investors and other stakeholders who require a more in depth understanding of our thinking and the rationale underpinning it in some or all areas.

Given the depth and breadth of issues covered, we have set a reasonable length consultation period and we welcome comments on any aspect of our thinking and our ideas by April 9th 2010. Once the consultation has closed, we will carefully consider responses in framing recommendations to the Authority. The Authority plans to take its final decisions on the new framework in summer 2010. We will consult on those proposals.

Associated documents

See Appendix 10 for details of all associated documents

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Executive summary

1. Energy network companies face considerable challenges and opportunities. These are driven by the need to reduce carbon emissions from Britain's energy supply significantly, while maintaining a safe, secure and affordable system for existing and future consumers. All parties in the industry have a role to play. Ofgem is taking a prominent role in moving thinking forward on how to make sure networks play their role in delivering domestic and EU policy objectives and emission reduction targets.

2. The network companies have an important role as the physical link between those producing energy, those selling energy services, and the businesses and households using energy. Gas and electricity transmission and distribution companies must be active in playing their part in delivering a sustainable energy sector. A new regulatory framework needs to encourage and reward them for innovating and making any necessary changes.

3. RPI-X@20 is Ofgem's detailed review of how we regulate energy network companies. We are looking to the future on behalf of consumers and considering whether the current 'RPI-X' framework remains fit for purpose. It is the most significant review of the regulatory framework since RPI-X was first introduced in 1984. In the light of responses to this document, we will make our recommendations to the Authority (GEMA) in summer 2010.

4. The current regulatory framework has served customers well over the last 20 years. However, RPI-X regulation was not designed to meet the challenges of moving to a more sustainable energy sector. It needs to change to be fit to deliver Government policy in the future.

5. This document sets out for consultation our emerging thinking on what a new regulatory framework for all four classes of energy network could look like. If introduced, this framework would change significantly the way we regulate network companies, putting sustainability alongside consumers at the heart of what network companies do.

6. We are aiming to design a new regulatory process for price control reviews that is more streamlined, accessible and transparent. The proposed new regulatory framework would encourage network companies to focus on the longer term and:

- Play a much greater role in facilitating the delivery of a sustainable energy sector whilst continuing to facilitate competition;
- Deliver continuous, long-term improvements in outputs and efficiency;
- Take more responsibility for developing solutions that are best value for present and future consumers;
- Manage uncertainty, taking on risk where appropriate and keeping options open where cost effective;
- Engage more effectively with all stakeholders, responding to existing and anticipated needs of consumers of network services; and
- Be more innovative, looking for new and better ways of delivering and adapting over time as they learn what works best.

7. We think the regulatory framework needs to change to encourage and reward network companies to behave in this way. These changes would, if we decide to implement them, build on the success of the recent distribution price control review but in many areas will seek to go further.

8. The regulatory framework set out for consultation in this document would continue to be an ex ante 'building blocks' price control framework and would encourage the network companies to change by:

- Putting much greater focus on the delivery of outcomes and outputs related to safe, secure, high quality and sustainable network services at value for money;
- Retaining and, where appropriate, strengthening incentives on companies to constrain costs but with much greater focus on the long-term cost of delivery and considering different (and new) approaches;
- Extending at least part of the regulatory package to more than five years;
- Providing a separate time-limited innovation stimulus common to all the energy networks and open to a range of parties, including non-networks;
- Taking a proportionate approach to the regulatory process, with the depth of our scrutiny of each company's plans depending on their track record for delivering;
- Aligning incentives between industry participants focused on delivering a low carbon energy sector; and
- Setting clear principles for ensuring network companies earn appropriate returns (on a defined regulatory asset value) for their performance and the level of risk they face, but not bailing out inefficient companies.

9. Larger, discrete network outputs and investments could be opened up to greater competition through tendering where there was strong evidence that this would drive innovation and long-term efficiency, but only where it would not threaten timely delivery of the challenging emission reduction (or renewable) targets or the integrity of the way the networks are operated.

10. We also propose to encourage network companies to innovate in providing fair, non-discriminatory access to network services to encourage viable energy service companies to emerge and thrive. Network companies might be required to lease or sell assets. The network companies could therefore be much more responsive to existing or new companies with new technologies or new approaches and so no longer be (or be perceived to be) a barrier.

11. All aspects of the proposed new framework would be informed and enhanced by network companies and Ofgem engaging even more effectively with consumers, network users and other stakeholders. In response to suggestions from some stakeholders during this review, we are also analysing the case for providing third parties with a route to challenge our decisions on their merits at the Competition Commission. Given the significant issues this raises, we shall consult separately on this issue in the near future.

12. If implemented, the regulatory framework presented here would be common across the four classes of energy network. But there would likely be differences in emphasis and in the detail of how the components of the core framework are designed.

13. Any changes should not undermine the certainty and predictability of the current framework, which has allowed us to continue to attract significant investment in the energy networks at a cost of capital well below that required in many other countries' regulated energy sectors. Project Discovery has highlighted the unprecedented scale of investment that we require to maintain security of supply whilst meeting our emission reduction targets. We must make sure therefore that any changes do not threaten the timely delivery of the investment we will need in the networks to meet our challenging greenhouse gas emissions reduction targets.

14. In light of the responses to this Emerging Thinking document, we will develop more detailed recommendations, taking full account of responses to this consultation, a detailed legal review, any changes in UK and EU energy policy, ongoing engagement with interested parties, and any other changes that emerge as we work up the detail of the framework. We will provide a clear indication of how, when and where each element of the framework would apply.

15. The new framework would first be implemented at the next transmission and gas distribution price control reviews in 2013. Delivering this framework is likely to need a significant change in mindset and approach from Ofgem, the network companies and stakeholders to be successful. We will provide clarity on the specifics of the new framework for transmission and gas distribution as early as possible.

16. **We welcome views and debate on all elements of our emerging thinking on a new regulatory framework. The deadline for submitting responses to us is 9th April 2010.**

1. A new regulatory framework for a sustainable energy sector

Chapter summary
We describe the outcomes that we would like energy network companies and the regulatory framework of the future to deliver. We explain why we do not think the existing regulatory frameworks will deliver these outcomes and outline the case for significant changes in the way we regulate energy network companies. Delivery of a new regulatory framework would require a change of approach by network companies and by Ofgem.

Question 1: Do you think the desired outcomes for the future regulatory framework are appropriate? Are there any we have missed?
Question 2: Do you agree that we need a fundamental change to the existing 'RPI-X' frameworks to ensure these outcomes are delivered?
Question 3: Do you think the suggested new framework is the best way of delivering these outcomes in the future? Are there any aspects you would change? Have we missed any key aspects?

1.1. RPI-X@20 is Ofgem's comprehensive review of how we regulate Britain's energy networks. We are looking to the future on behalf of energy consumers to design a regulatory framework that meets their needs, particularly those relating to delivery of a sustainable energy sector.

1.2. The regulatory framework is the framework that is used to set price controls for the monopoly energy network companies. We are not considering in this review other aspects of how we regulate energy network services, including gas capacity auctions, gas entry and exit arrangements, electricity transmission access arrangements and system operator incentives. We do, however, consider the linkages between the price control framework and these other aspects of regulation.

1.3. This paper sets out for consultation our emerging thinking on a new regulatory framework for the future. It attempts to provide an accessible overview of our emerging thinking and is aimed at a wide range of interested parties. Our ideas on 'embedding financeability in a new regulatory framework' are discussed in more detail in a parallel consultation paper. Further details on others aspects of the new framework are provided in our series of more technical supporting papers aimed primarily at the network companies, investors and other stakeholders who require a more in depth understanding of our thinking and the rationale underpinning it in some or all areas. References for these papers can be found in Appendix 10.

1.4. We will also shortly be publishing a related consultation paper on whether we should introduce a third-party right to challenge to our final price control decisions, as some participants in the review have advocated.

1.5. Our ideas on aspects of the framework may change as we consider responses to the consultation and develop the detail of the future regulatory framework.

1.6. We have carried out an initial legal review to make sure that our existing powers and duties would allow us to implement all the mechanisms proposed in this document. However, in developing the detail, we will consider legal issues in much greater detail to understand how best to implement each aspect of a new regulatory framework. We will, of course, also reflect any legislative changes that have come into effect and, where appropriate, changes that are in train, including proposed changes to the Authority's duties under the fifth session Energy Bill and implementation of the European Union's Third package.

Desired outcomes of a future regulatory framework

1.7. The starting point for RPI-X@20 needs to be a clear view of what we want network companies, and hence the regulatory framework, to deliver in the future. Setting out these desired outcomes provides us with a framework against which to assess both the existing regulatory framework and potential alternative frameworks.

Proposition 1:

The regulatory framework should encourage energy network companies to:

- play a full role in facilitating delivery of a sustainable energy sector; and
- deliver value for money network services over the long term for existing and future consumers.

A network that efficiently delivers will be financeable.

To deliver these objectives effectively we need an enduring framework that adapts to changing circumstances. Stakeholders would understand what network companies are delivering, helped by more accessible documents and processes.

What do we want a future regulatory framework to deliver?

1.8. Energy network companies should play a greater role in facilitating delivery of a sustainable energy sector whilst delivering at value for money for existing ***and*** future consumers. Consistent with our duties[1], a company that delivers these outcomes efficiently should be rewarded and able to finance its regulated activities.

- From the perspective of energy network companies, a 'sustainable energy sector' involves delivery of safe, secure and quality energy supplies and network services, helping to deliver binding GB environmental targets and network-related social objectives. We set out in Appendix 5 ideas on activities that network companies might undertake to deliver these outcomes.
- Delivering 'value for money' for existing and future consumers requires network companies to seek out innovative, efficient and effective long-term delivery solutions. These are not necessarily solutions that deliver cost savings in the short term, or ones that involve building significant new infrastructure when

[1] Details of the Authority's powers and duties can be found in Appendix 8.

future demand for network capacity is uncertain. Solutions that provide cost savings but fail to deliver outputs would not be considered value for money.

1.9. Delivering these two desired outcomes is consistent with our principal objective to protect the interests of existing and future consumers[2] and our wider statutory duties including our duty to contribute to the achievement of sustainable development.

1.10. Our existing approach to the regulation of energy network companies is already focused on these outcomes, as demonstrated by the electricity distribution price controls recently agreed[3] and our proposals to enhance transmission investment incentives[4]. We recognise that the network companies are also taking steps forward. For example, the Electricity Networks Strategy Group's work looking forward to 2020 shows a move towards longer-term thinking and a greater focus on the networks we will need to deliver our renewable targets. A new regulatory framework could build on these developments.

What do we mean by an enduring and accessible regulatory framework?

1.11. Any regulatory framework that results from RPI-X@20 should be constructed to last. However, uncertainty about what needs to be delivered and how best to deliver is likely to remain. It is therefore important that the regulatory framework and network companies are flexible and adaptable to changing circumstances.

1.12. Any regulatory framework needs to be transparent, accessible and streamlined wherever possible. Regulatory effort should be targeted in areas where it provides greatest value for consumers. Our core documents will need to be written so they are accessible to a wider range of stakeholders, with limited use of jargon and technical terms. More generally, any future regulatory framework should be consistent with the principles of better regulation; transparent, accountable, proportionate, consistent and targeted[5]. Further ideas can be found in our paper on 'Simplicity of the framework: issues to consider'.

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[2] The Energy Bill 2009 proposes changes to our principal objective to clarify, amongst other matters, that the interests of existing and future consumers includes their interest in the reduction of emissions of targeted greenhouse gases and security of supply. There is scope for the wording to change as the Bill progresses through Parliament, and we will take account of any changes to the statutory scheme when making our recommendations to Authority in summer 2010.
[3] For DPCR5 final proposals see:
http://www.ofgem.gov.uk/NETWORKS/ELECDIST/PRICECNTRLS/DPCR5/Documents1/FP_1_Core%20document%20SS%20FINAL.pdf
[4] See our website for further details on our work on transmission access reform:
http://www.ofgem.gov.uk/Networks/Trans/ElecTransPolicy/tar/Pages/Traccrw.aspx
[5] This is consistent with our duties under Section 3A (5A) of the Electricity Act 1989 and section 4AA (5A) of the Gas Act 1986.

Delivering desired outcomes and meeting future challenges

1.13. There is significant uncertainty, in all four network sectors[6], about the best way to deliver the desired outcomes. "Doing nothing" is a not a viable option for network companies or for the regulatory framework. However, the appropriate response may vary over time and by company. Using practices that have been in place for decades, and existing engineering models and approaches, could go some way to enabling network companies to contribute to the achievement of a sustainable energy sector, including the 2020 renewables targets. However, they are unlikely to always be the solution that is best value for existing and future consumers. There is also a potential risk to timely delivery if network companies wait for more certainty about future demand for network services.

1.14. A summary of the challenges facing energy network companies is provided in Appendix 2. Project Discovery[7] emphasises the unprecedented scale of investment required to maintain security of supply whilst meeting our emissions targets. The Government's 2050 Road Map[8], due to be published in spring 2010, will provide further insight on options for delivering a low carbon economy. Other developments are set out in our 'Update on domestic and EU policy context' paper. Over time, new challenges may of course emerge while others may become less significant.

1.15. Identifying the solutions that are best value will require a focus on the long-term implications of today's decisions and innovation. Trial and error, adaptability and consideration of a much wider range of potential delivery options than has been the case historically will be needed. Network companies will need to work with others in the sector to develop commercially integrated solutions. Network companies that are inflexible are unlikely to identify the best ways of meeting the new demands of a low carbon economy. Planning and operating in a new way is a significant change for the network companies and will require a new approach to regulating them. We set out below, for consultation, a possible new regulatory framework designed to encourage network companies to deliver the desired outcomes in the face of uncertainty about how best to deliver.

[6] The four energy network sectors are electricity distribution, electricity transmission, gas distribution and gas transmission.
[7] For information on Project Discovery see: http://www.ofgem.gov.uk/Markets/WhlMkts/Discovery/Documents1/Discovery_Scenarios_ConDoc_FINAL.pdf
[8] The low carbon transition plan available from: http://www.decc.gov.uk/en/content/cms/publications/lc_trans_plan/lc_trans_plan.aspx

A new regulatory framework

Proposition 2:

RPI-X regulation is not broken but it is not fit for purpose for delivery of a sustainable energy sector. A fundamental change is needed in our price control framework. Our new regulatory framework would put sustainable development and more effective engagement alongside consumers at the heart of what network companies do.

The case for change

1.16. RPI-X price control regulation limits, upfront, the prices that energy network companies can charge. The framework has adapted over time, rising to new challenges and responding to lessons from previous price control periods. Change has been incremental rather than driven by an overarching review of the regime. This has resulted in the frameworks that we use being very different to the original simple idea of RPI-X regulation, and variation across the energy network sectors.

1.17. Regulation of energy network companies has delivered significant benefits for consumers for more than twenty years[9]. Network charges have fallen substantially, reflecting improvements in operating efficiency, more efficient capital structures and financing. Quality of service has improved significantly and investment has increased where needed. There are real benefits from the system we have in place today. Any future framework will need to build on these benefits. There is no sense in which RPI-X is 'broken'; it has delivered well what it was designed to deliver.

1.18. However, as illustrated in Appendix 3, there are concerns that the current regime will not effectively deliver our desired outcomes in the future. Respondents to our review have suggested that the current framework encourages network companies to focus on[10]:

- Five-year price cycles, with innovation limited to changes that deliver short-term cost savings or, in recent years, on research and development as a result of the Innovation Funding Incentive;
- Ofgem and the regulatory package, rather than focusing on the needs of their existing and future consumers; and
- Tried and tested infrastructure solutions; pressures on operating and capital efficiency have not impacted in a significant way on the way that network companies plan, build and operate their assets.

1.19. It is these aspects of network planning and decision making that we need to address. They are characteristics that are unlikely to facilitate the delivery of a

[9] Further information can be found in our February supporting paper on 'Performance of the energy networks under RPI-X'.
[10] These are stylised examples. We recognise that network companies have delivered a number of benefits for consumers and that some companies have done more than others in the areas discussed. Our emphasis is on how the current regulatory framework could encourage networks to operate in this way.

sustainable energy sector and value for money for the long term. Therefore a fundamental change in the regulatory framework is needed.

A new regulatory framework

1.20. We set out here for consultation a new regulatory framework that we think would effectively deliver our desired outcomes[11]. The new framework would be focused on encouraging network companies to look to the long term and consider how best to deliver the desired outcomes for existing and future consumers.

A new ex ante price control framework

1.21. The new regulatory framework would continue to be an ex ante price control framework. The price control would be set using the building block approach familiar to all involved with RPI-X regulation. That is, it would be determined by assessing expected efficient costs of delivery, depreciation allowances and an allowed return on the regulatory asset value. An inflation index would be applied to the control. When working up the detail of the framework, we will examine whether the retail price index (RPI) remains the appropriate index to use for revenue allowances and for specific aspects of the control (for example the regulatory asset value) or whether other indices (such as the consumer price index (CPI) used by the Bank of England when setting monetary policy) would be more appropriate.

1.22. Although we would expect to retain the familiar structure under a new regulatory framework, how the control would be set, how the building block components would be assessed, and what the package would like would be significantly different. As discussed in Chapter 4 we may also alter the length of some aspects of the price control.

What would be different in the new regulatory framework?

1.23. To assist comprehension and facilitate consultation, an overview of a possible new regulatory framework is provided in Figure 1. The main differences from the current framework are summarised in Appendix 4. The overarching framework is the same for the four energy network sectors, but the detail of how it would work and how it would be applied is likely to vary by sector. An initial view on how the sectoral frameworks may vary is provided in Appendix 6.

1.24. The suggested framework is a new one, building on recent developments by Ofgem and network companies. To 'kick start' the change to the new framework, we would be likely to need to introduce strong targeted incentives to ensure the required changes are made as quickly as possible, including provisions to deal with companies that fail to adapt.

[11] We review, in a supporting paper, the merits of existing alternative regulatory frameworks. There are a number of lessons to be learned but no model that could simply be adopted for GB energy networks.

1.25. This framework appears to meet the needs of a wide range of stakeholders but it involves challenges for the network companies. Ongoing uncertainty about how best to balance different interests, particularly future interests, makes the need for flexibility, innovation, engagement and learning over time (by Ofgem as well as the network companies) more important than ever. The framework would need to have provisions to ensure any significant changes are made in a transparent manner, mindful of the need to balance the benefits of adaptation with the benefits of regulatory commitment to an existing approach.

1.26. The Gas and Electricity Markets Authority (GEMA) will reach a decision on the firm proposal in summer 2010. In autumn 2010, following discussion with Government, we will consult on our firm proposals for a new regulatory framework. We will consider responses to this consultation and issues that arise as we work up the detail. We will consider how best to implement the future framework ensuring that the future framework is fully consistent with our statutory powers and duties.

Figure 1: Overview of our emerging thinking on a potential new regulatory framework

Proposals

Enhanced engagement

Ofgem and network company decisions informed by engagement with consumer reps, network users, Govt and other interested parties

New business plans

- Longer-term scenarios
- Link costs to outputs
- Alternative delivery options considered
- Informed by engagement

Longer-term focus

- Longer-term business plans, outputs and incentives
- Commitment on some aspects for more than five years
- Regular monitoring of performance
- Learning and adapting over time

Energy services competition

- Non-discriminatory access terms to facilitate competition
- Backstop requirement to lease or sell 'last mile' assets?

Outcomes-led price controls

(1) Reliability (network and system); (2) Safety; (3) Environmental targets, particularly low carbon energy sector; (4) Conditions for connecting to network services; (5) Customer satisfaction; (6) Mandatory social objectives

Shared understanding of what networks are expected to deliver, with direct link to revenue constraint

Innovative and efficient delivery for long term

- Output delivery incentives
- Strong value for money incentives, independent of type of spend
- Rewards for responding to and anticipating consumer needs
- Consider interactions between charging and efficiency incentives
- Incentives to work with others to identify delivery solutions and adopt new roles (e.g. distribution system operator)
- Possibility of tendering discrete large-scale projects
- Proportionate and differential treatment of networks
- Time limited 'all networks' innovation stimulus open to range of parties

Financeability

Efficient delivery is financeable. No bail out for inefficiency.

- Cost of capital reflects cashflow risk
- Depreciation reflects economic asset lives
- No arbitrary 'financeability adjustments'

Accountability

We are also considering the merits of providing third parties with a merits-based right to challenge our final price control decisions

2. An outcomes-led framework

Chapter summary
We describe how a new regulatory framework would focus on delivery of our desired outcomes. We discuss the types of outputs that would be considered.

Question 1: Do you agree that a new regulatory framework should focus on delivery of desired outcomes?
Question 2: Do you have any comments on the categories of outputs related to these outcomes?
Question 3: Do you have any comments on how these outputs should be incorporated into the new regulatory framework?

2.1. The desired outcomes set out in Chapter 1 would be the cornerstone of a new regulatory framework, influencing how network companies plan and operate, and how we assess network planning and delivery. The new regulatory framework would be focused on delivery of outputs related to these outcomes. Outputs are used to different degrees in the existing regulatory framework, across the four energy network sectors but are much less developed in electricity transmission than in other areas. However, they are not central to current regulation where the focus is primarily on costs (inputs)[12]. Furthermore, the outputs that currently exist do not sufficiently capture everything that is needed to deliver our desired outcomes.

2.2. Based on discussions with a range of stakeholders we have identified a number of arguments for moving to a more outcomes-led framework:

- It would allow Ofgem, network companies and stakeholders engaged in the process to have a genuine understanding of what consumers are getting for their money.
- It would promote a focus on value for money in the short and long term, with an understanding that delivery must be assured and the costs of delivery managed.
- By focusing on what is delivered rather than how it is delivered, the framework should encourage network companies to identify the best means of delivering for the long term as they would retain benefits from being innovative and efficient.
- A focus on outcomes would provide Ofgem and network companies with an incentive to be flexible and innovative in considering what needs to be delivered to meet the desired outcomes (subject to statutory requirements).
- It could lead to a more streamlined price control review process, building on regular monitoring of progress on delivery of outputs.

2.3. We welcome views on our ideas for a new outcomes-led regulatory framework. Further details on the outcomes-led framework are provided in our supporting paper on ‘Incentivising efficient long-term delivery of desired outcomes’.

[12] The balance between costs and outputs has shifted in recent price control reviews.

Proposition 3

The regulatory framework would focus on delivery of our desired outcomes for the long term.

Outcomes would be reflected in outputs relating to:

- reliability (of network services and the wider energy system);
- safety;
- environmental targets, particularly delivery of low carbon energy services;
- conditions for connecting to network services;
- customer satisfaction; and
- network-related social obligations.

Where outcomes cannot be defined by clear quantitative outputs, there would be a qualitative understanding of what network companies need to deliver.

What outputs should network companies deliver?

2.4. For each regulatory period, and for the long term, Ofgem, network companies and stakeholders engaged in the price control review process would have a shared understanding of what network companies need to deliver. It would be for the network companies to determine how best to deliver the outcomes, including meeting their statutory obligations, and to make a clear case for associated expenditure.

2.5. To enable us to understand and monitor network companies' planning and delivery of these outcomes, they would be broken down into clearly defined outputs. In the new regulatory framework we would focus on the six output categories listed in Figure 2, a combination we think will contribute to delivery of a sustainable energy sector. We would have a common set of base outputs for all companies in a sector. Network companies may have different target levels for each output and may have additional outputs beyond the base set.

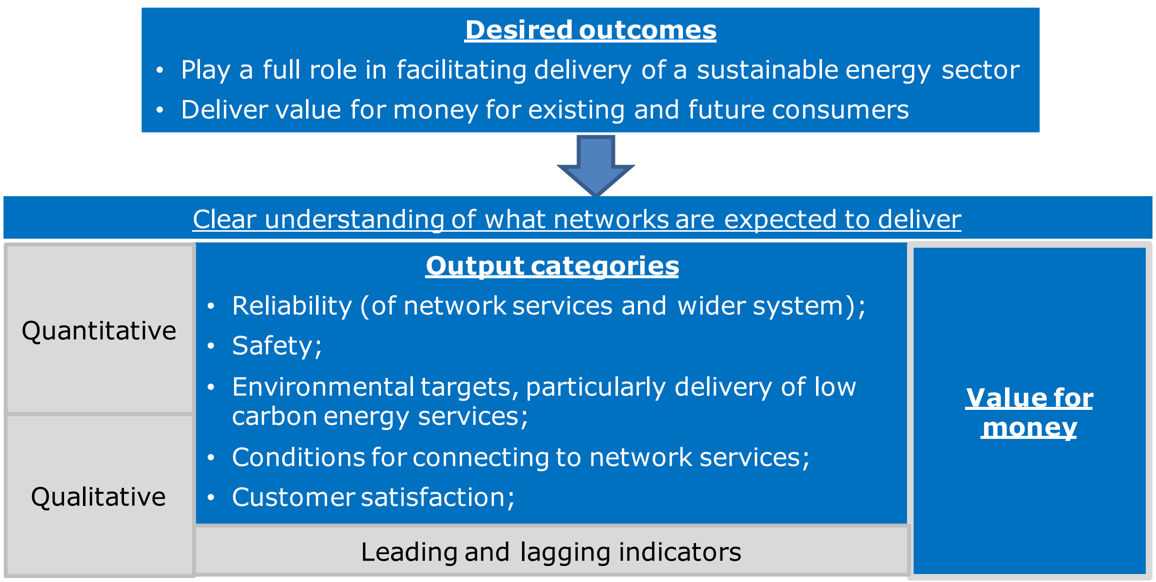
2.6. Output definition may vary by category. For example, safety outputs would be defined in a way that is consistent with statutory requirements (as set out by the Health and Safety Executive). The relevant timeframes for the output measures may also vary; with short, medium and long-term targets.

2.7. It may not be possible to have quantitative measures for all aspects of delivery. In some areas we may need to use a more qualitative approach to agreeing what network companies are expected to deliver. The outputs to be delivered may be specified in licence conditions or, for outputs that go beyond the base set, network companies may develop voluntary service level agreements with their consumers. Delivery may be linked to specific project milestones in some cases.

2.8. We may have leading and lagging indicators within each output category, providing information on network performance relative to output delivery. Leading indicators would be particularly important in ensuring that short-term delivery of outputs is not at the expense of long-term delivery. For example, measures relating to asset health condition and capability would be considered leading indicators of performance or reliability.

2.9. We will undertake further work for our summer 2010 recommendations on what the outputs in each category might be.

Figure 2: The relationship between outcomes and outputs



Who would set the outputs?

2.10. Network companies would propose the level of each output they intend to deliver in their plan. They would need to show their proposed level of outputs reflecting effective engagement with consumers and network users. They would also need to ensure they are meeting requirements set by other parties, for example the Health and Safety Executive, and their statutory obligations. Outputs would also need to be consistent with wider regulatory requirements, including charging methodology requirements and transmission access arrangements. We would expect companies to anticipate what is needed for the future.

2.11. Building on the companies' proposals, we would set the final outputs taking account of the companies' statutory obligations. We would use our engagement with consumers[13], consumer representatives, network users and Government to understand more fully what the appropriate level of outputs is.

[13] Some of the measures, for example customer satisfaction measures and reliability measures, would be informed by market research with end consumers.

How would outputs sit in the regulatory framework?

2.12. The new regulatory framework would provide a clear connection between efficient total costs required (baseline revenue) and delivery of these outputs. Adjustments would only be made to revenue if they could be linked to output delivery. There would be rewards for delivering outputs and penalties for non-delivery. These may involve a mix of upfront financial incentives, revenue adjustments during a price control period, and discretionary rewards after outputs have been delivered. The incentives used may vary by output measure. Delivery would be monitored regularly and we may use 'traffic light indicators' to provide updates on performance.

2.13. We would reward companies which provide better information in their plans on outputs and which demonstrate a clear link between output delivery and total costs, showing the plan is consistent with efficient delivery. We would also, as discussed in Chapter 4, take account of output delivery performance when considering how to treat companies proportionately in future price control reviews.

2.14. All potential output incentives would need to be credible. For outputs that are to be delivered beyond the next price control period, we would need to be able to commit to them for the longer term. The rewards and penalties would need to be calibrated to ensure they are strong enough to change companies' behaviour. Further details on these output delivery incentives are discussed in our supporting paper on 'Incentivising efficient long-term delivery of desired outcomes'.

Implementing our proposals

2.15. We recognise it will take time to establish credible outputs that Ofgem, network companies, consumer representatives and other stakeholders have confidence in. The starting point varies significantly between the sectors. Our experience with the recent electricity distribution price control review show significant progress can be made when all parties are committed to moving forward. We also recognise that it would take time to develop outputs that are the same for all network companies in a sector. We would consider whether it is appropriate to have company-specific outputs (rather than sector-wide ones) for a short period.

2.16. As we move to the new regulatory framework, it would be important there is a common understanding that the regulatory framework would be outcomes-led. We would need to provide incentives for network companies to develop meaningful and transparent outputs. Initially some outputs may not be considered sufficiently robust and we would need to adjust the strength of any financial incentives associated with these outputs accordingly.

3. Effective engagement and accountability

Chapter summary
We set out our emerging thinking on how network companies and Ofgem could engage more effectively with Government, consumers, network users and other interested parties. We set out the suggestions from those participating in our review that third parties should have a fuller right to challenge our price control decision. We will consult on this issue and consider the benefits and disadvantages in more detail in a forthcoming consultation paper.

Question 1: Do you agree that it is appropriate for network companies and Ofgem to improve their engagement with stakeholders as a way of improving the quality and legitimacy of decision making? Do you have ideas on how to improve engagement by network companies and Ofgem?
Question 2: Do you think we should consider introducing a third-party merits-based right to challenge our final price control proposals?

3.1. We are increasingly likely to be making decisions against a backdrop of greater uncertainty about how best to deliver at value for money, as well as increased costs associated with delivery of a sustainable energy sector. It will therefore be more important than ever that our decision making is, and is seen to be, accountable and legitimate. It is also important that network companies' plans and delivery are consistent with the interests of existing and future consumers. This includes the interests of network users, including suppliers, generators and shippers.

3.2. We intend to develop current processes to understand better what consumers need and to ensure our policies are consistent with those needs. A new framework could build on the engagement requirements placed on the electricity distribution network companies in the most recent price control review.

3.3. Some respondents have argued that allowing third parties a fuller right to challenge - over and above their existing rights by way of judicial review – could balance the right available to the network companies, and might also help make engagement effective. Others, including the network companies, have highlighted the potential disadvantages. Such a right may increase the number of appeals leading to delayed investment. A broader right of challenge could also increase regulatory uncertainty, which could raise the cost of capital or reduce investors' appetite to own and invest in GB network companies.

3.4. Our Emerging Thinking draws on discussions in the many papers published by us and others on our website. Further details are provided in our 'Enhanced engagement' supporting paper.

3.5. We welcome views on whether and how to achieve more effective consumer engagement by network companies and by Ofgem as a central part of the new regulatory framework. In anticipation of a later, more detailed consultation paper, we also welcome views on the advantages and disadvantages of introducing a third-party right of challenge.

Proposition 4:

We would continue to make final price control decisions and use effective engagement to inform our decisions.

Network companies that demonstrate that they engage effectively on an ongoing basis with the consumers of their network services would be rewarded.

We would adopt a multi-layered approach to engagement, building on models developed in recent years.

Government would provide clarity on relevant policy developments, but would not be involved in price control related decisions.

Effective engagement in a new regulatory framework

Type of engagement

3.6. As the independent economic regulator with the principal duty to protect the interests of existing and future consumers, it would remain our responsibility to reach decisions on energy network price controls in a new framework. This is expected to be consistent with requirements under the third package, after implementation in April 2011.

3.7. To discharge our duty effectively and in a manner that is transparent, accountable, proportionate and targeted we must understand the interests of existing and future energy consumers. We think this could be best achieved by encouraging network companies to engage with consumers on an ongoing basis. We would complement that engagement with our own. However, our engagement would not be intended to be used by network companies as a reason not to engage themselves.

3.8. Effective engagement would provide information both on the areas of a price control where different stakeholders agree and those where there is less consensus. This would allow us to target effort in those areas where more detailed understanding of the issues is needed. Furthermore, and perhaps most importantly, it would encourage network companies to focus on the needs of their consumers rather than on the regulator. This would allow them to develop more fully informed views of what is needed today and in the future to facilitate delivery of a sustainable energy sector at value for money.

3.9. We do not, however, envisage a model where network companies negotiate directly with other parties on part or all of the overall price control. However, this does not preclude any of the parties involved identifying areas where agreement can be reached (e.g. on specific outputs) as part of any effective engagement process.

Who would we engage with?

3.10. In a new regulatory framework we could encourage a wide range of parties affected by the price control to become involved in the process. We recognise that this would mean different forms of engagement for different parties, who could include:

- domestic consumers (individuals[14] or groups of consumers), small and medium enterprises (SMEs), industrial and commercial consumers (I&C), and representatives of each of these consumer groups;
- suppliers, generators, shippers and other users of network services such as interconnectors, independent network operators and independent connection providers;
- network employees and their representatives;
- Government;
- other regulators, including the Health and Safety Executive and where appropriate other European regulators including the EU Agency (ACER);
- investors and their representatives; and
- other special interest groups (e.g. environmental groups).

3.11. The interests of these groups often differ from each other and from the interests of existing and future consumers. We would continue to balance the different interests in line with our duties, in particular to ensure that the interests of future consumers are taken into account in the price control review. This would reflect the general change in focus on the longer term that a new regulatory framework would be designed to encourage.

3.12. We discuss in our supporting paper on enhanced engagement the extent to which different parties may engage. This will reflect how a price control impacts on them as well as on their access to resources and expertise. We envisage some groups engaging with the regulator, others engaging with the network companies and others engaging with both.

3.13. We recognise that in many cases the expertise and resources of some consumer representatives and network users may be limited. We would aim to make the regime, and our documents, as accessible as possible to enable them to make the best use of their resources. We will consider further whether there is a case for providing some limited technical or financial support to such organisations.

3.14. Ofgem and energy network companies have engaged with the wide range of parties identified above in different ways since privatisation. Details of the different types of engagement that we undertake are outlined in our October 2009 working paper on 'Consumer engagement in the regulatory process'. A number of advances

[14] Individual consumers are unlikely to engage on all aspects of the review but we can use market research and our Consumer First Panel to understand their needs better. Consumers may be more interested in engaging in the future. This may happen, for example, if networks have more to do with consumers, potentially through smart meters and smart grids and through effective engagement, and consumers understand better the implication of rising network charges for their energy bills.

have been made in recent years and it is important that the new regulatory framework retains the benefit of these. Nonetheless, both network companies and we could do more, particularly to make the engagement more effective and to improve our accountability to those with whom we engage.

What do we mean by effective engagement by network companies?

3.15. We would expect network companies to be responsible for deciding how to deliver outputs. The incentive framework would be designed to encourage efficient delivery for the long term (see Chapter 4). We would also expect them to work with others where this is considered appropriate (see Chapter 5). They would similarly need to show that they have effectively engaged with consumers and network users, and shown due regard to their views. Such engagement would underpin the outputs and delivery plans in a new regulatory framework.

3.16. As discussed in Chapters 2 and 4, evidence of effective engagement would be needed if we are to agree to output proposals and other aspects of network companies' business plans. This builds on the approach taken for the electricity distribution companies in the recent price control review. Network companies would need to show how they have taken the views expressed into account or have robust reasons for not doing so. They would also need to demonstrate that they have discussed and taken account of the impact of their plans on existing and future consumers of network services.

3.17. Network companies which put effective engagement at the centre of how they plan and deliver would be rewarded. The reward options we will consider are discussed in our 'Incentivising efficient long-term delivery of desired outcomes' supporting paper. To ensure we reward the right companies, we would, as part of our effective engagement processes, seek feedback from the relevant consumer bodies and network users. We would also consider how views on the network's engagement might be incorporated into a broader 'customer satisfaction' output measure.

What do we mean by 'effective engagement by Ofgem'?

3.18. We would engage with a range of interested parties in the price control review. This is intended to complement effective engagement by the network companies themselves. Effective engagement by the companies would be the principal way in which the needs of existing and future consumers are captured in outputs and delivery plans.

3.19. We envisage developing a multi-layered approach to effective engagement. We are considering a number of ideas of what might be involved, stopping short of consumers and network users agreeing all or part of the regulatory settlement with network companies. These ideas are set out in our supporting paper and include:

- introducing a new price control review forum[15] for open discussion on key issues, with membership varying for different energy network reviews;
- developing our existing mechanisms, including market research, the Consumer Challenge Group and the Consumer First Panel;
- making greater use of existing arrangements, for example for non-domestic consumer groups (Large User Group and the Small and Medium User Group) and for special interest groups such as the electricity connections steering group; and
- making the information we provide more accessible and easier to understand.

3.20. We anticipate that this will need to be structured to meet the specific needs of different price control reviews and could also develop over time as we learn what aspects of the effective engagement model work best.

A potential third party right to challenge our final price control decisions

3.21. Third parties can already challenge our final proposals through the Judicial Review mechanism. This allows challenges to be brought on the basis that the decision was unlawful (i.e. ultra vires), procedurally unfair or irrational. However, this route does not confer powers to challenge the rights and wrongs (i.e. the merits) of decisions taken. The Court undertaking the review does not make recommendations on the price control decision; the matter is referred back to Ofgem for final decision. Arguably, a third party merits-based right of challenge could complement the existing Judicial Review route.

3.22. We have received representations (including papers) from stakeholders on the introduction of a mechanism to provide third parties with a right to challenge our final price control decisions. There are strong views both for and against such a mechanism.[16]

3.23. Such a right of challenge could, it is argued by some, potentially, if effectively designed, enhance the new regulatory framework. It could provide additional incentives on network companies and stakeholders to take more responsibility for engaging on how best to deliver desired outputs in a meaningful and productive way. This could improve the perceived legitimacy of the regulatory regime

3.24. On the other hand, there are risks that such a mechanism may prompt unwarranted challenges that unnecessarily raise regulatory uncertainty and lead to delays in the implementation of price control, potentially delaying needed investment.

3.25. We are undecided on the relative merits of introducing such a third party right of challenge.

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[15] The High Level Advisory Group established for RPI-X@20 provides a useful illustration of how a range of stakeholder interests, including Government, can proactively and constructively debate key regulatory issues in such a forum. They can influence policy development without making any decisions.
[16] These are available on our web forum at: http://www.ofgem.gov.uk/Networks/rpix20/forum/rocag/Pages/rocag.aspx

3.26. We will set out the issues arising more fully in a separate consultation paper: 'Third party right to challenge our final price control decisions', which we plan to publish shortly. We welcome comments on the principles and practicalities of introducing such a right. We shall incorporate our conclusions in our recommendations later this year.

Engagement with Government

3.27. Consistent with the independence of energy regulators recently confirmed in the EU Third Energy Package, we will continue to take decisions on price controls independent of Government.

3.28. However, Government sets overall energy policy. A number of parties have suggested that energy network companies, and other stakeholders, need to understand better developments in energy policy and their implications for the future of energy networks. This is true of developments at national and EU level.

3.29. We think there is merit in including Government in our multi-layered approach to effective engagement. At times it may be appropriate to include other regulators, including the EU Agency or other European regulators, in discussions. This would be in addition to our existing engagement with European regulators, our current working arrangements with key Government departments, and our work with other GB regulators including the Health and Safety Executive. The purpose would be to facilitate better understanding of policy by network companies and other stakeholders, using the price review process as an opportunity for discussions on Government policy between all parties engaged on energy network-related issues.

Implementing our proposals

3.30. No significant transition period is envisaged to implement more effective engagement. We are confident that these processes could be implemented for the next round of price control reviews. Nor would there necessarily need to be a significant transition period if we decided to implement a third party right of challenge under existing legislation, on which we shall shortly consult in a separate paper.

3.31. There would no doubt be learning and development on some aspects of the detail of the consumer engagement process. The effectiveness of the process would also evolve over time. We will review the timing of the process as we work up the detail for our summer 2010 recommendations. We will also consider what guidance needs to be provided to ensure engagement is effective.

3.32. We recognise that the requirements on network companies would be new, although in the case of electricity distribution they largely build on those of the most recent price control review. It is important that steps are taken to implement effective engagement by network companies as soon as possible. We will consider how to ensure that associated rewards are sufficiently strong to motivate the network companies to make the required changes. We will also consider whether we need to do more to facilitate network engagement with other parties. We recognise that some companies have more advanced and longer standing engagement programmes than others.

3.33. We will continue our analysis of an improved engagement process for our summer 2010 recommendations. With regard to a possible enhanced third-party right of challenge, we will continue to consider legal issues and work closely with the Competition Commission and, if appropriate, the Secretary of State. We will also continue our discussions with other regulators.

Looking further ahead

3.34. In our discussions with consumers and their representatives, none wished to move to a system of direct negotiation or to take a greater role than they do currently. This may, of course, change in the future as we and network companies place greater emphasis on engaging and providing more accessible information. We would support this in principle but we would need to be satisfied that all consumer interests were represented. The pace of change may also be influenced by technological developments if smart meters and smart grids develop and affect the relationships between network companies and consumers.

3.35. Even if negotiated agreements become more viable, we think we would need to remain the final decision maker on price controls. This is to ensure that, consistent with our duties, the interests of existing and future consumers are protected. As part of this we would anticipate retaining the right to modify or veto agreed settlements that we considered were not in the interests of all existing and future consumers.

4. Incentivising efficient long-term delivery

Chapter summary
We present our emerging thinking on a new framework of incentives to encourage network companies to find delivery solutions that are efficient for the long term.

Question 1: Do you have views on our suggestion that financial commitments could be provided for longer than five years for some elements of the price control? What would be the appropriate length of this partial 'longer' period? To which aspects of the control might it be appropriate to give a longer-term commitment?
Question 2: Do you have views on our suggestions on what business plans might look like in the new regulatory framework?
Question 3: Do you have comments on our ideas on how efficient costs might be assessed in the new regulatory framework?
Question 4: Do you have comments on our ideas on how efficient long-term delivery might be incentivised in the new regulatory framework?
Question 5: Do you have comments on our suggestions of how the new regulatory framework might encourage network companies to anticipate and deliver on the needs of existing and future consumers and network users?
Question 6: Do you have views on our ideas on how the interactions between charging and price review incentives might be taken into account at price reviews?
Question 7: Do you have comments on our suggestion to treat companies differently at the price control, both in terms of process and incentives, reflecting planning and delivery performance?
Question 8: Do you have views on our suggestion to open up some aspects of delivery to competition?
Question 9: Do you have comments on the design of a cross-sectoral time-limited innovation stimulus that is open to a range of parties?
Question 10: Do you have comments on our straw man on how we would embed our financeability duty into the new regulatory framework?

4.1. In the future we want network companies to deliver the desired outcomes, which go beyond what was required of the original RPI-X framework. A new set of incentives may be needed to encourage efficient delivery. This would build on the successes of the incentives embedded in the existing regimes. We are confident that network companies can deliver in response to appropriately targeted and sufficiently strong incentives. The regulatory framework can also adapt, if needed, to any unintended consequences.

4.2. Building on an outcomes-led framework (see Chapter 2) we set out here a potential new incentive framework. The incentives for efficient long-term delivery are discussed in more detail in our 'Incentivising efficient long-term delivery of desired outcomes' supporting paper.

4.3. We welcome views on our emerging thinking ideas on the new incentive framework.

Proposition 5:

The outcomes-led framework would be underpinned by incentives to encourage efficient delivery over the long term.

We would provide commitment to some elements of the price control package for longer periods than others.

We would treat network companies differently at future reviews, in terms of both the regulatory process and the range of incentives provided, reflecting the variation in their performance in efficient long-term delivery.

We would reward network companies that:

- deliver required outputs efficiently;
- engage effectively with their consumers and network users,
- respond proactively to known and anticipated demand for network services;
- adopt innovative charging structures that help drive the efficient delivery of outcomes;
- work with others to seek out sectoral solutions to challenges;
- effectively manage risk and uncertainty; and
- adapt and learn over time.

We would have the option to open up delivery of some elements of network services to competition (e.g. by tendering of specific projects) but only where there is a strong case for potential benefits and it would not introduce significant delay and/or threaten the operation of an integrated network.

The new framework would include a time limited specific innovation stimulus. This would build on our Low Carbon Networks Fund in electricity distribution, covering innovation across all four networks sectors and being open to a wide range of parties.

We would ensure that efficient delivery is financeable, with the allowed return reflecting the cashflow risks that the business faces.

We would provide an extra 'step change' incentive at the next round of price control reviews to stimulate the required mindset change.

Length of the price control period

4.4. We have emphasised that we want network companies to deliver at value for money for existing and future consumers. This would require both network companies and Ofgem to be forward looking at price reviews, considering what is needed today and anticipating future requirements. The new regulatory framework would therefore be designed to encourage network companies to focus on the long term when deciding what needs to be delivered and how best to deliver. We would be working with longer-term business plans, longer-term outputs and longer-term incentives.

4.5. We are also considering changing the length of the price control period to stimulate the change in focus and demonstrate commitment to the long term. The merits of alternative options are discussed in a paper by Reckon LLP on 'Longer term price controls'.

Partial lengthening of the price control period

4.6. Under the new regulatory framework we would commit to some elements of the control for longer than others, to give network companies a clear financial stake in their long-term costs. Some elements would be reviewed after a short period (potentially the current five-year model) and some would be reviewed less frequently. This would balance the benefits of extending all aspects of the control for longer control with the benefits of more frequent review.

4.7. The length of time over which commitment is provided for the various elements may vary by sector, and from review to review as network companies change and requirements on them evolve. Furthermore, the range of areas where commitment is provided for a longer period may increase over time, reflecting companies' reputations for efficiently delivering outcomes.

Monitoring

4.8. As emphasised throughout this paper, the regulatory framework would be outcomes led. There would be regular and transparent monitoring of delivery of agreed outputs. This would be particularly important when elements of the control are fixed for longer periods. We will consider further the appropriate frequency and detail of the monitoring regime.

4.9. Monitoring would provide us with information over time and across companies, giving us a better understanding of potential risks to delivery as well as progress towards meeting agreed outputs. We may use the information to trigger discussions with companies about any concerns and potentially to enable us to undertake detailed assessments of aspects of delivery to inform future reviews. The information would also be used to assess whether rewards and penalties should be implemented. We would not anticipate using the information to make adjustments to price controls.

Adaptation during the price control period

4.10. The new regulatory framework would incorporate provisions to reopen aspects of the control where needed (e.g. changes in circumstances or changing requirements on companies). As discussed in our summer 2009 working paper on 'Ensuring the future regulatory framework is adaptable', we would take a structured and balanced approach to the implementation of mechanisms for managing network exposure to risk during the regulatory period. In general, we would expect network companies to manage the risks they face and we expect the use of such mechanisms to be limited to well-justified cases. When considering how these mechanisms would work we would consider the impact of specific events on the company in the round.

4.11. The regulatory framework may also need to adapt from time to time, to reflect changing circumstances. It is important that any adaptation is consistent with better regulation principles (notably transparency and proportionality). In particular, we would weigh the importance of commitment to longer-term incentives against the benefits of potential changes to the framework.

New regulatory business plan requirements

4.12. The focus of the business plans would be on the longer term, although we recognise that some aspects would be easier to set out for the future than others. We welcome views on what the appropriate length of the business plan period might be. We are mindful of the need to consider the impact of the requirement of the third package for ten-year business plans for transmission operators[17].

What would need to be in the new business plans?

4.13. We set out in our 'Incentivising efficient long-term delivery of desired outcomes' supporting paper what information we would expect network companies to provide in the new business plans. Companies would need to present a clear and defensible case for their business plan proposals. They would need to demonstrate a clear link between outcomes and the expected costs of delivery, showing that they have taken account of a range of delivery options and credible future scenarios.

4.14. As now, network companies would be expected to justify the cost level for delivery. We would place greater onus on the companies to provide evidence of their own benchmarking and efficient procurement strategies. We would also expect network companies to set out how their plans and delivery decisions have evolved over time and how they anticipate managing changes in the future to ensure efficient delivery of outputs for the long term.

4.15. Network companies would need to provide evidence that they have effectively engaged with consumers and network users on the options considered in the plans. They would need to set out how they have incorporated stakeholder views, including where this has led to proposed changes in the level or scope of outputs to be delivered. There may also be value in network companies working with others in the industry to develop scenarios of the future and to better understand collaborative delivery options. Similarly, network companies may wish to make use of information

[17] Under the EU third package, which is required to be implemented by March 2011, transmission companies will be obliged to undertake a ten-year network development plan. This is required to indicate the main transmission infrastructure that needs to be built or upgraded over the next ten years and to identify new investments that need to be executed within the next three years. The transmission companies will be obliged to consult upon their development plan and submit it to the regulatory authority, who may request it is amended if it considers that it does not cover all the investment needs identified or that it is not consistent with the EU-wide ten-year network development plan.

from other organisations (e.g. academics, Government) on scenarios of the future. Working with others in the sector, and making use of available information, would provide support for the network companies' own business plan and we would anticipate reviewing such collaborations as one part of the evidence base provided.

4.16. We would provide network companies with guidance on what needs to be included in their business plan at each review. We would have mandatory data templates to enable us to collect any data required for our assessment of the network companies' proposals. We would also expect network companies to provide a detailed narrative business case, with supporting evidence, to set out what they intend to deliver, what delivery solutions they have considered and propose to adopt, and what the expected efficient costs of delivery are. We would not provide a formal business plan template for all companies to fill in. This flexibility would allow network companies to consider their own innovative and efficient solutions for delivery, and allow them to identify the best way of presenting their business case to us.

How would we assess business plans?

4.17. We would use a proportionate approach to assessing business plans. For some aspects of delivery, or for some companies, we would review plans in detail; potentially using different assessment tools to those we use now. For other aspects of the plan or for some companies we would use less detailed or complicated approaches. The degree of variation between parts of the plan and across companies is likely to change over time. This approach would allow us to target regulatory effort where it is likely to be of most benefit.

4.18. In our supporting paper on 'Incentivising efficient long-term delivery of desired outcomes' we set out ideas on how we would assess the plans. The focus would be first on understanding whether the preferred delivery solutions are appropriate and second whether the cost levels associated with delivery represent value for money over the long term. We envisage that we would use a mix of techniques, including total cost benchmarking, expert assessment of network company plans and engineering models, and analysis of network companies' own benchmarking analysis and productivity assumptions.

4.19. The level of detail required when employing these different techniques would depend on the quality of the business plan and the company's reputation for efficient delivery. The appropriate mix of techniques would also vary by sector where appropriate.

Incentives for efficient delivery over the long term

4.20. The incentives framework would be focused on delivery of outputs, not delivery of the business plan. We would ensure value for money by providing network companies with a package of incentives to look for the likely lowest total cost solutions over the long term.

Design and strength of incentive rates

4.21. A network company's incentive to seek out delivery solutions that are efficient depends on the benefit it attains relative to the cost of these solutions. In the new regulatory framework we would design incentives to balance decisions in favour of solutions that are likely to be lower cost over the long term. We would provide a commitment to the incentives for the long term where appropriate.

A fixed incentive rate

4.22. If outputs are delivered network companies would retain a fixed proportion of the benefit of any saving made. The proportion would be known upfront, alongside rules on when savings would be shared with consumers[18]. We will consider further whether and how the incentive rate should vary by company, for example depending on a company's reputation for planning and delivering efficiently. We will also consider whether there is a case for using a mechanism like our 'Information Quality Incentive' to set the incentive rate.

4.23. As long as outcomes and outputs are delivered savings would be shared through the fixed incentive rate, with no other discretionary adjustments. Such adjustments could reduce the impact of incentives for efficiency savings, and thereby limit the prospect of lower prices (than would otherwise be the case) over the long term. If outputs are delivered but the costs of delivery are higher than expected for a company, the incentive rate would work symmetrically with consumers contributing a fixed proportion of the additional cost.

4.24. Where expenditure is deemed to be manifestly inefficient we may decide that consumers should not contribute towards this expenditure. The new regulatory framework would be transparent about the types of expenditure decisions that might be expected to be treated in this way and the criteria we would use to consider what is in the best interest of existing and future consumers.

4.25. If network companies fail to deliver required outputs in full, we would reclaim the value of undelivered outputs for consumers. We could do this through revisions to the regulatory asset value, through specific penalties and/or by clawing back a proportion of revenue allowed (and paid for by consumers). We would do this in a way that keeps the network company appropriately incentivised to deliver outputs. We would also consider taking enforcement action under the licence where failure to deliver is persistent and/or substantial, including the revocation of licences. Furthermore, as discussed below, we would scrutinise the plans of companies that fail to deliver in more detail than others at the price control review and we would take account of reputation in the design of other incentives.

[18] Sharing does not need to happen at the end of a price control period. Mechanisms can be used, particularly if there are longer control periods, to share savings earlier.

Equalised incentive rates for different types of cost

4.26. In the new regulatory framework, we and network companies would focus on the total costs of delivering. We would want network companies to make choices between infrastructure and non-infrastructure delivery decisions with little consideration for how different types of costs are treated by the regulator.

4.27. We would minimise any distortions in incentives to spend or save particular cost types. This would be done by having a common incentive rate for all network costs. We have made significant steps in these directions in the recent electricity distribution price control review, which we would build on in the new framework.

4.28. We would also treat, where possible and appropriate, different types of expenditure consistently at future price control reviews. Benchmarking company costs provides important information about the scope to improve efficiency. This is an aspect of the existing framework that we would like to develop further. However, our approach to benchmarking may affect network decisions about what to spend and save during a regulatory period. For example, even with equalised incentive rates a network might continue to be less willing to choose operating solutions rather than undertake capital investment if there was a risk that this would make them look less efficient in operating expenditure benchmarking exercises.

4.29. When working up the detail of our framework, we will consider how best to balance these incentives in our cost assessment methodologies. We recognise that there is value in being transparent about how actual cost information is used to inform our view of expected efficient costs for future price controls. There is also value in being able to commit to an approach from one review period to the next, to enable long-term decision making by network companies.

Encouraging network companies to anticipate future needs

4.30. We want energy network companies to look to the future, anticipating what is needed to facilitate the delivery of a sustainable energy sector and to deliver value for money for the long term. This would require them to take a view on future demands on network services and may require us to take some risk with consumer money by potentially providing funding for network plans based on anticipated demand. In the future, we anticipate that forward-looking strategic decision making would be the norm where there are clear benefits for consumers.

4.31. The main risk with delivery solutions based on anticipated need is that any associated infrastructure may turn out to be underutilised. We want to strike a balance between encouraging network companies to anticipate what is needed, and get on with delivery, and ensuring that consumers do not pay the full cost of delivery solutions that turn out not to be needed, or not needed at the scale anticipated.

4.32. In the new regulatory framework the overall package would be designed to manage this balance. A number of aspects of the package would be particularly relevant:

- outputs and the extent to which they capture the need to respond efficiently to existing requirements, anticipate future needs, deliver within specified timeframes, and be flexible to a range of potential scenarios;
- evaluation of business plan proposals, particularly evidence and scenario analysis supporting expenditure related to anticipated demand for network services;
- incentives for efficient delivery of outputs and consideration of greater competition in some aspects of delivery;
- the length of some or all aspects of the price control period;
- treatment of expenditure in the regulatory asset value, both upfront and over the longer term, and the extent of any linkage to asset utilisation;
- treatment of expenditure in the regulatory asset value and the extent of any linkage to evidence of efficient decision making and phasing of delivery plans; and
- the scale of the allowed rate of return.

4.33. As we develop detailed proposals we will consider the impact with the interim funding measures introduced for electricity transmission, and our work on all aspects of the transmission access review.

Taking account of interactions between charging and efficiency incentives

4.34. In the new regulatory framework we would consider whether, and how, to take account of interactions between network companies' structure of charges and incentives to save costs during a price control period. We set out here ideas on how these interactions might be taken into account at a price review. Further details are provided in our ‘Incentivising efficient long-term delivery of desired outcomes’ supporting paper.

4.35. To be clear, we are not, in RPI-X@20, undertaking a wholesale review of the structure of charges in any of the network sectors. The ideas considered here would be complementary to existing and developing arrangements for charging modifications. This includes any developments from our Code Review of Governance Arrangements[19] or from implementation of the third package which requires us to ‘fix or approve’ charging methodologies.

4.36. As discussed above, we would continue to provide incentives for companies to seek delivery solutions that enable them to reduce costs over time. We recognise that such incentives can influence network companies' structure of charges decisions.

- A network company may choose not to change its structure of charges over time. Undertaking a structure of charges modification process would mean spending on operating activities, limiting potential gains from operating efficiency as developing and implementing charging modifications is largely an operating cost. This may be appropriate but there may be cases where a modification of the structure of charges would have a beneficial impact on delivery of outcomes.

[19] Details on our work on the Governance Review can be found on our website: http://www.ofgem.gov.uk/Licensing/IndCodes/CGR/Pages/GCR.aspx

- On the other hand, incentives to reduce costs may also encourage a network company to change its structure of charges in a way that changes demand for network services by some consumers and enables the network company to avoid expenditure that was considered necessary at the time of the price review. Such charging changes could help with delivery of our desired outcomes. However, even where modifications are allowed by the Authority we may find, after the fact, that the combination of the price control and charging arrangements are not always consistent with delivery of our desired outcomes. We need to consider further whether and how to ensure that these interactions are taken into account at price control reviews.

4.37. In the new regulatory framework we would encourage network companies to consider the relationship between charging and the price control. We would expect these interactions to be considered in their business plans, in their engagement with consumers, network users and other parties, and in ongoing decision making about how best to deliver outcomes efficiently over the long term.

4.38. For our summer 2010 recommendations, we will consider whether it is appropriate to provide network companies with rewards for considering how best to manage the interactions between charging and the price control. We recognise that both network companies and consumers should benefit if changes in charging arrangements contribute to the delivery of a sustainable energy sector and value for money for existing and future consumers. To provide the network companies with an incentive to make these changes we would ensure there is some benefit. Essentially, gains which are considered to be in the interests of existing and future consumers would be subject to incentive arrangements. We would also consider whether there would need to be more significant downside for changing charges in ways which we consider, once the impact is observed and interactions with the price control taken into account, not to be in the best interests of existing and future consumers.

4.39. We set out here some initial ideas on options for providing rewards and downside relating to the interactions between price control incentives and charging. We welcome views on these options, including the extent to which they might be more or less appropriate for different energy network sectors.

- We could explicitly reward networks that demonstrate in their business plans and on an ongoing basis that they have considered changes in charging arrangements as part of their assessment of alternative delivery solutions (this would include for example full consideration of non-network solutions to limit volume or avoid/defer reinforcement to ensure the most efficient long-term solution for customers). This could be part of a general approach to treating network companies differently at a price review to reflect differences in planning and delivery performance.
- We could provide explicit rewards for those companies which implement new charging structures that benefit customers[20].
- We could make adjustments to a network company's allowed revenue if cost savings that arose from choices on charging structures were deemed not to be in

[20]Any proposed changes in charging methodology by a network company would be subject to consultation requirements and standard charging principles set out in their licences (e.g. cost reflectivity, facilitating competition, and non-discriminatory) and would still need to be agreed through standard processes.

the interests of existing and future consumers. We will consider further whether such arrangements could be developed by linking charges to outputs as part of the 'understanding of what was to be delivered' under the price control package.

- We could explicitly assess the impact of the price control package on different groups of consumers, and consider whether it is appropriate to set constraints on the proportion of costs that are raised from different types of charges (e.g. volumetric and connections charges) or different groups of consumers.

4.40. For our summer 2010 recommendations, we will consider further how best to consider charging and efficiency incentives 'in the round' at price control reviews.

Differential treatment of network companies

4.41. Network companies differ from each other, in terms of how they are organised, how they operate, and how they behave with Ofgem and with their consumers. Some network companies may respond better and/or more quickly than others to the challenge of delivering our desired outcomes.

4.42. This raises the potential for incentivising behaviour by treating companies in a way that reflects their reputation for planning and delivering. We set out ideas in our 'Incentivising efficient long-term delivery of desired outcomes' supporting paper on how we could consider treating companies differently at a review. The differential treatment would come through how we assess plans and how we set financial incentives. Our approach would need to be transparent and credible. We would also need to ensure that our approach is non-discriminatory.

4.43. A differential approach would enhance the comparative competitive pressures in the new regulatory framework, working alongside benchmarking and other comparative approaches. It would provide network companies with an extra incentive to strive to be the best at planning and delivering efficiently for the long term. As a consequence regulatory effort would be targeted in the areas where it is likely to have greatest benefit and reduced regulatory burden for the network companies that perform best.

A greater role for competition in delivery

4.44. In RPI-X@20 we have considered the scope for there to be a greater role for competition in the delivery of network services, testing the boundaries of what is a natural monopoly business. We set out our current thinking in our October working paper on 'Enhancing competitive pressures on regulated networks' and present our thinking here. Further details can be found in our supporting paper 'A greater role for competition in delivery'.

4.45. We have already demonstrated commitment to promoting competition and choice in the building and maintenance of new gas and electricity connections by establishing rights for independent network operators to compete with existing distribution networks. In developing our summer 2010 recommendations, we will consider the lessons from our experience in this area.

4.46. We do not expect network-on-network competition[21] to develop in the foreseeable future and we do not plan, as part of RPI-X@20, to consider further the potential implications of the regulatory framework on the scope for such competition. Regulation of the energy network companies will therefore be needed.

4.47. However, we do think, as discussed in our October working paper, that there is merit in introducing the possibility of other parties being involved in some aspects of delivery, with the parties identified through competitive tendering processes. A credible threat of third parties being responsible for delivery could strengthen further the incentives on network companies to set out innovative and efficient long-term delivery solutions. Tendering may also expose efficient costs and innovative, timely, and high quality solutions, with third parties potentially offering solutions that network companies are not considering.

4.48. For tendering to be a real option, projects would need to be sufficiently large to justify the transaction costs. They would need to be appropriate from an engineering perspective (for example, with respect to the way in which they mesh with the wider network), provide opportunities for innovative approaches (for instance in financing, risk transfer or the use of new technologies) and deliver value to consumers. We would also need to be sure there are companies willing and able to deliver the project and which would be likely to add value in doing so. We would also need to ensure that tendering would not jeopardise timely delivery of required outputs, especially where they are necessary to meet legally binding targets to cut greenhouse gas emissions.

4.49. We set out in our supporting paper 'A greater role for competition in delivery' our ideas on when tendering might be used and how the tendering process might be designed. We anticipate that – as already happens - in many cases tenders would be run by the network companies themselves, with Ofgem looking for evidence of efficient procurement (e.g. of design and build of a project) as part of the assessment of a company's business plan. For some projects, where assets are to be owned by the tender winner (a new licensee), Ofgem may run the tender, building on the approach used for offshore transmission. We also intend to explore the potential for making greater use of our ability to revoke licences as a last resort (e.g. by strengthening the Authority's ability to revoke licences for persistent non-delivery) and franchise out some or all of the operations of the licensee. We will consider legal aspects of these ideas for our summer 2010 recommendations, including the extent to which the existing statutory scheme may constrain proposed changes in terms of the Authority's power to revoke, and whether new legislation may be required. We will also explore the potential to require the transfer of assets, in relation to both existing assets and future pre-construction expenditure.

[21] I.e. companies operating and owning network assets, competing for consumers with other network companies, potentially meaning multiple sets of network assets in some areas.

4.50. Tendering - in its various forms - would be part of the core regulatory tool-kit. Network companies would continue to deliver network services unless there is a clear justification for tendering delivering long-term benefits, with no detrimental impact on timely delivery of outcomes. The tool-kit would apply to all four network sectors, although the scope and the approaches which are appropriate may vary over time and by sector. A careful review of potential tendering opportunities would be needed in future price control reviews. Nevertheless, we would continue to expect the majority of outputs to be delivered by the network companies.

4.51. We recognise the potential for opening up output delivery to competition to cause concerns, particularly in terms of greater uncertainty for network companies and investors. In our summer 2010 recommendations we would therefore set out clear principles for considering when and how to tender. These principles would include the need to consider the impact on timely delivery, uncertainty, risk and the expected impact on cost to consumers (considering benefits of lower costs of delivery with any potential impact on the cost of capital for example). This should enable companies and investors to understand the scope for and terms of any tendering arrangements. When working up the details we will consider legal implications of how to develop this approach, taking into account the implications of the third package (particularly unbundling provisions) and other relevant legislation.

Specific innovation stimulus

4.52. In time we expect that an outcomes-led framework, with appropriately designed longer-term incentives and a greater role for competition in delivery, would encourage network companies to seek out innovative delivery solutions. Furthermore, the scale of innovation required is likely to change over time. We need significant transitional changes now, but as we move to a low carbon energy sector the scale of required innovation may reduce.

4.53. It may take time for network companies to respond to the incentives in a new regulatory framework. In addition, the innovation required to deliver a low carbon energy sector has particular characteristics that may mean the commercial opportunities are not recognised, or not recognised immediately, by companies, even with the enhanced incentives of the new regulatory framework. In particular:

- companies may not take account of all the benefits from innovation that accrue to a wide range of parties as they consider the relative merits of innovations;
- the upfront costs of innovation may be significant, potentially outweighing expected benefits for the network company itself;
- the long-term private cost to network companies from choosing not to innovate may not be significant, particularly if the costs associated with continuing to deploy existing technologies are generally funded under a price control;
- companies may discount the future benefits of innovation if the carbon price is low or they doubt the political commitment to meet the targets.

4.54. These factors, coupled with the challenging targets to be delivered over the next ten years, means there is a need, at least in the short to medium term, for a separate innovation stimulus within the new regulatory framework. The need for this would be kept under review. The stimulus could be removed if, for example, it became clear the regulatory framework was itself encouraging sufficient innovation or there was evidence that the scale and nature of innovation required was reducing.

4.55. The innovation stimulus would be introduced at the next round of price control reviews. Electricity distribution network companies have the opportunity to obtain funding for innovation projects earlier through the Low Carbon Network (LCN) Fund and will be rewarded for acting early. Taken together, the LCN Fund and this new stimulus would encourage network companies and others to prioritise innovation.

4.56. We present further ideas on the design of the innovation stimulus in our 'A specific innovation stimulus' supporting paper. We will develop the detailed design of the stimulus for our summer 2010 recommendations, taking account of legal implications on how best to design and implement the stimulus.

4.57. In summary, we would have a single innovation stimulus for all energy networks, building on the LCN Fund introduced in the recent electricity distribution price control review. The new innovation stimulus would build on the LCN Fund in three ways:

- the fund would be used for innovation related to delivery of energy services across all the energy networks;
- subject to any legal constraints, which we will explore further, non-network parties (e.g. communications companies) would be able to lead innovative projects and bid into the fund, as well as network companies; and
- funding would be available for all types of innovation, ranging from R&D to 'near to market ready' trials.

4.58. Like the LCN Fund, project funding would be provided through regular open competitions. Projects would be awarded partial funding. Parties participating in the fund would need to meet pre-bidding criteria and agree to participation conditions. For example, bidders could be asked to agree to share lessons learned from their innovation. We will balance the need to allow those undertaking innovation projects to be rewarded with the need to share the benefits with the consumers who have paid for the fund.

4.59. Under current legislation, the Authority would make final decisions on the awarding of funding. They would be advised by a suitably experienced panel, similar to that being established for the LCN Fund, with members from Ofgem, industry and other stakeholder groups. When evaluating proposals and making recommendations the panel would take account of information on the performance of participating companies in delivering over time.

4.60. The funding for the stimulus would be raised from end consumers. Once the decision on the overall size of the fund is made, other aspects of the operation of the stimulus would be taken outside of the price control review process.

4.61. Innovation is needed sooner rather than later. The fund would be time limited and include specific aspects in the design to encourage early participation. For example, as for the LCN Fund, we could limit the extent to which funding can be taken from one bidding round to another. We could also, at future reviews, ensure that participation in the fund, and general responsiveness to the need for innovation, was taken into account. For example, it could be one of the aspects that we take into account when deciding whether and how to treat companies differently at a price control review.

Embedding our financeability duty in the regulatory framework

4.62. We have been clear from the start of this review that whatever regulatory framework is in place, our financing duty must be embedded within it. In the new regulatory framework we aim to set out clear and transparent principles that balance appropriately the interests of existing and future consumers and guide our judgements on financeability and related policy issues for future price controls.

4.63. We set out in a parallel consultation a straw man for how we might embed financeability in a new regulatory framework. In summary:

- **Financing duty**: we would ensure that efficient, well-managed network companies can access finance on reasonable terms. There would be no 'bail out' for inefficiency. Network companies could earn a below average return if they fail to deliver outputs or if they deliver them inefficiently. A very poor performing company may, as in the competitive sector, see zero or negative returns. Conversely, a strongly performing company would receive above average returns. The framework would be designed to ensure that both sides of this proposal are credible. The primary responsibility for the financial integrity of a network company would remain firmly with that company's management.

- **Allowed return**: the allowed rate of return embedded in the regulatory settlement would relate to the riskiness of the network company's revenue and cost streams, assuming that it operates in an economic and efficient manner (i.e. its cost of capital). The allowed return could vary across a regulated sector, driven by factors such as the size of the investment programme and the incentive structure provided by the regulatory regime.

- **Depreciation**: the depreciation charge would reflect the average expected economic life of network assets. Moving from our current approach of shortening assumed asset lives to increase short-term cash flows may have significant cash flow implications. We will need to consider how best to manage any transition.

- **Capitalisation policy**: in the recent electricity distribution price control review, we introduced a mechanism that does much to remove the distortions between different types of costs by capitalising a fixed percentage of total expenditure into the RAV, which is returned as 'slow money', while the remainder is received within a year – 'fast money'. Going forward, we will review this approach and aim to establish clear principles for determining an appropriate capitalisation policy.

- **Calibrating the package**: we need a measure or set of measures for performance and returns that can be monitored on a regular basis. We expect to build on the 'Return on Regulatory Equity' measure used in the recent electricity distribution price control review to ensure the overall impact of different incentives, the capitalisation policy, the depreciation charge and the approach to the allowed rate of return are transparent and widely understood.

- **Checks on financial well being**: we would continue to assess the expected financial health of an efficient network company under a proposed price control. As part of this, we would specify what tests should be used, potentially moving away from a focus on those used by credit rating agencies. We would rule out the use of essentially arbitrary adjustments (e.g. accelerated depreciation) to the price control to ensure financeability.

4.64. We think it is appropriate to consider the form of the new regulatory framework before working up our detailed approach to financeability. We recognise that there are interactions between the two, which we will take into account. For example, we will consider whether the new regulatory framework would change the risks facing companies. We will also consider whether our approach to financeability alters our thinking on other parts of the new regulatory framework.

Making the step change

4.65. Our desired outcomes need to be delivered in a timely manner and moving to the new framework would require a change in approach by network companies and by Ofgem. Those network companies which demonstrate they have delivered the outcomes efficiently and have changed to meet the challenges they face would earn an additional reward at the end of the first price control period in which the new regulatory framework applies. The reward could be a premium on the cost of capital, a higher incentive rate, or a lump sum. We will consider further how such a 'step change' incentive might be designed and implemented.

Implementing our proposals

4.66. We think that the majority of the changes proposed for incentivising efficient delivery for the long term could be implemented at the next round of price control reviews. Experience, particularly in the most recent electricity distribution price control review, tells us that changes in incentive design can be made within a price control review. Changes in business plans can also be made and we have time to design and develop both the competitive tendering and innovation stimulus aspects of the framework before the next round of price control reviews.

4.67. The one aspect that may take longer to implement fully is a transparent approach to treating companies differently at the price control review. We could differentiate companies on the basis of a comparison of their plans at the next price control reviews. We will need to consider how best to do this in a transparent manner. Differentiation on the basis of performance in delivering outputs can only be instigated once outputs are in place and delivery is being monitored. Arguably, a number of outputs already exist in all four sectors and performance relative to current outputs could be used as a basis for differentiation at the next review. Even in this case we expect it would take time before the full set of options for treating network companies differently are adopted.

4.68. In developing the detail of the new regulatory framework we will consider how best to move from current arrangements to the new framework in each sector. We will review the case for retaining, refining or replacing existing incentives. Any changes will be proportionate and transparent. We will ensure there is no retrospective action on money already spent.

5. Cross-sectoral solutions for a sustainable energy sector

Chapter summary
We describe how network companies would be encouraged to work with other parties in the energy sector to identify cross-sectoral solutions to delivering our desired outcomes. We also set out how network companies, and the regulatory framework, would facilitate effective competition in energy services.

Question 1: Do you agree that a new regulatory framework can deliver our desired outcomes within the existing industry structure?
Question 2: Do you agree that it is appropriate to encourage network companies to work with others to identify cross-sectoral solutions to the challenges the sector faces?
Question 3: Do you agree that the regulatory framework should ensure energy network companies facilitate effective competition in energy services?

5.1. Energy network companies are only part of the solution to delivering a sustainable energy sector at value for money. They will not be able to deliver in isolation. We expect that they will need to work with other parties including energy service companies, suppliers, generators and consumers, as well as relevant parties in other sectors (e.g. transport and communications). We recognise that a number of network companies already work in partnerships with others. More is needed in the future. This presents a number of new opportunities for network companies.

5.2. We welcome views on our ideas on how network companies could be encouraged to develop solutions to energy sector challenges with others.

Proposition 6:

The new regulatory framework can deliver within the existing industry structure. Network companies which work with others to find efficient ways of delivering outputs would be rewarded.

Network companies and the regulatory framework would facilitate the emergence of viable energy service companies.

Industry structure

5.3. A full review of the structure of the gas and electricity industries is beyond the scope of RPI-X@20. However, we have considered whether the new regulatory framework can effectively deliver our desired outcomes with the current industry structure. We are confident that the outcomes can be delivered under the current structure. However, we need to ensure that the incentives in the new regulatory framework are aligned with others in the energy sector to enable and encourage network companies to work with others in the sector to develop new and innovative ways of delivering sustainable energy services.

Delivering cross-sectoral solutions

5.4. Delivery of a sustainable energy sector presents a number of new opportunities for network companies. Working with others in the sector they have the potential to develop commercial business models that deliver low carbon, safe and secure energy services[22]. We expect network companies to take the initiative in identifying and developing such opportunities. The new framework would encourage them to do this.

5.5. We would encourage network companies to work with others to develop infrastructure and non-infrastructure solutions which will be efficient for the longer term and will help network companies to build on their existing skills. We would achieve this through the realignment and strengthening of incentives, effective engagement, an innovation stimulus that is open to a range of parties and competitive tendering of key aspects of delivery.

5.6. In our discussions with stakeholders, academics and other interested parties, a number of specific aspects of the existing industry structure and regulatory arrangements were highlighted as potential constraints on delivery of our desired outcomes. The concerns primarily relate to the ownership and regulatory arrangements of the transmission owners and system operator, and to the ability of distribution network operators to undertake effective active demand management.

5.7. We set out in our 'Incentivising efficient long-term delivery of desired outcomes' supporting paper ideas on how incentives between the transmission operator and the system operator; and between distribution network companies, the system operator and suppliers might be better aligned. Building on work undertaken by Frontier Economics on 'The role of future energy networks' we do not think that structural changes are necessary for delivery of our RPI-X@20 outcomes, although we anticipate that the roles of some network companies will change over time[23]. Our priority is to ensure that incentives are aligned between different industry players. We will develop the detail of how the regulatory framework will do this for our summer 2010 recommendations, taking account of legal issues, including implications of the third package.

Facilitating competition in energy services

5.8. Energy service companies can take a variety of forms ranging from companies offering advice on energy efficient solutions to those providing a commitment to deliver the benefits of energy, such as comfort, refrigeration or industrial scale heating.

[22] It is important that any cross-sectoral working is consistent with ensuring continued compliance with obligations on safety and security of supply.
[23] The Frontier Economics report highlights a number of structural (e.g. distribution network operators owning back-up generation capacity) and relationship changes (e.g. coordinated processes between the transmission system operator and distribution system operators) that might be considered desirable more generally and which might enhance delivery of our outcomes, if DNOs were to increasingly rely on active demand management as an alternative to network investment. We will give these issues further consideration as we work up the detail of the framework.

5.9. They may contribute to delivery of a low carbon energy sector, by linking low carbon energy sources to communities and by developing energy efficiency solutions. They have the potential to contribute to a value for money solution. There have also been suggestions that integrated energy service companies, with their own network assets (either owned or leased), could put competitive pressures on the existing distribution network companies.

5.10. There are a number of different energy service business models, some of which require energy to be transported along distribution network assets, often at a very local level. During RPI-X@20 a number of interested parties have suggested that electricity and gas distribution network companies and the regulatory framework could do more to facilitate the emergence of viable energy service companies.

5.11. Energy service companies are retail businesses that will operate in the competitive supply market. It is not for us to pick winners. Ultimately it will be for an energy service company to decide whether to build its own network or to make use of the existing assets of the local electricity or gas distribution network company. This may be an area where network companies identify opportunities and choose to work with energy service companies to develop viable models. However, if energy service companies are viable, but are not able to obtain reasonable access terms to distribution network services, we would need to take action.

5.12. We commissioned two papers by Michael Pollitt and Peter Boait[24] to inform our understanding of how distribution network companies could facilitate competition in energy service companies. These papers emphasised that distribution network companies would need to provide access to network services on appropriate terms. Access terms, including charging, would need to be efficient, effective and non-discriminatory. Information would need to be provided and connections made in a timely manner.

5.13. Distribution network companies already face obligations on access conditions in their licences and we will consider further whether these obligations are sufficient and appropriate and whether the regulatory arrangements to ensure they are met are sufficient. Many of the concerns are the same as those raised in the review of the regime governing distributed energy. Most notably the concerns raised about distributed network charges not fully capturing the cost savings from locating generation close to demand. We recognise developments have occurred in this area resulting from the joint BERR/Ofgem work[25] and the associated electricity distribution structure of charges work[26]. We intend to monitor the impact of changes introduced under these reviews and the extent to which they encourage distribution network

[24] Does Electricity (and Heat) Network Regulation have anything to learn from Fixed Line Telecoms Regulation? Pollitt (2009), available from: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=3&refer=Networks/rpix20/forum/cp and Energy Services Companies – their benefits and implications for regulation and the consumer, available from http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=1&refer=Networks/rpix20/forum/cp

[25] For further information on this review see: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=2&refer=Sustainability/Environment/Policy/SmallrGens/DistEng

[26] Information on the electricity distribution charging work that we have been taking forward is available from: http://www.ofgem.gov.uk/Networks/ElecDist/Policy/DistChrgs/Pages/DistChrgs.aspx

companies to facilitate development of energy service companies. We will also consider the implications of developing Government proposals relating to renewable heat incentives and feed in tariffs.

5.14. In the new regulatory framework we would encourage distribution network companies to provide standardised, efficient, effective, timely, transparent, and non-discriminatory access terms, building on requirements already in place. This would be done through our outputs relating to conditions for connecting to network services (see Chapter 2). We would also consider how to reward electricity and gas distribution companies which develop charging structures which facilitate these models (see Chapter 4).

5.15. Distribution network companies would need to face the threat of real sanctions if they fail to provide appropriate access terms. As with other outputs, they could face penalties and enforcement action. We also intend to explore the potential to require network companies to lease, or even sell, assets if they fail to offer fair and timely access terms. We will consider this matter further, including associated legal issues, in developing our summer 2010 recommendations to the Authority.

5.16. The aim would be to give network companies a strong incentive to provide reasonable access terms. We would not expect it to be commonplace for energy service companies to buy or lease assets. If there was a transfer of assets, we would need to consider how, if at all, to regulate the energy service company operating and owning those assets. We expect there are lessons to be learned from independent network companies in this regard. We would also need to consider whether different approaches are appropriate depending on the nature of the assets and the extent to which they serve shared consumers or individual premises. For all these measures we will consider further, taking account of legal issues, how best to implement changes.

6. Next steps

Chapter summary
We explain how to respond to this consultation and set out next steps for the review. We discuss the next stage of the project, reflecting the overall timeline for the review set out in Appendix 9.

Responding to this document

6.1. We recognise that this emerging thinking on a new regulatory framework would represent, if implemented, a significant shift away from the current regulatory frameworks. We are allowing a reasonable time for consultation for:

- This present consultation; and
- The two parallel consultation documents on embedding financeability into the regulatory framework and on a potential third-party merits-based right to challenge our price control decisions.

6.2. Details of how to respond are set out in Appendix 1. We welcome responses between now and 9th April 2010.

Stakeholder engagement in 2010

6.3. Our review is being conducted in an open and transparent manner, as set out in Appendix 7. We welcome the ideas and challenges that we have heard at our various workshops and meetings, and the papers submitted to our web forum.

6.4. As noted above, we welcome formal written responses to this consultation. We also continue to welcome submissions to our web forum and we will be holding a number of workshops in the coming months. Information on dates, venues and how to subscribe will be provided on our website in due course. If you would like to be sent this information directly then please let us know[27].

6.5. We are also considering how to make more use of industry working groups as we develop the detail of the regulatory framework. These groups have provided valuable input to date and we expect that they will provide a useful forum in which to stress test our ideas. We also intend to seek the views of our Consumer Challenge Group who have been working with Ofgem on the recent electricity distribution price control review and with whom we have had some exploratory discussions.

Our work to summer 2010

6.6. Based on the consultation, we will adapt and develop in greater detail our final proposal for consultation later this year.

[27] Email: rpi-x20@ofgem.gov.uk

6.7. It will be important to have a credible transition path to take us from existing frameworks to the new framework. We will consider how to signal commitment to a new framework during any transition phase, so that all affected parties change their behaviour in the intended direction.

6.8. We think it is appropriate to have a common framework for the four energy network sectors. The detail of how the framework operates may vary by sector, however. We provide an initial view of how the new regulatory framework might vary between the sectors in Appendix 6. This is a preliminary view and in working up the detail and the transition arrangements we will focus attention on what is needed in each sector.

Implementing our final decisions

6.9. The next transmission price control, for gas and electricity transmission companies, will run from April 2013[28].The regulatory framework applied in that price control review will be the new framework which comes out of RPI-X@20. The RPI-X@20 and transmission teams are working together on the frameworks for gas and electricity transmission to ensure that the change in the framework is as effective and efficient as possible.

6.10. The next gas distribution price control review is also to be implemented from April 2013, and will be conducted using the new regulatory framework. The gas distribution team is working closely with the RPI-X@20 team to stress test the ideas emerging on the new framework and to consider how best to move to the new framework.

6.11. We have recently completed the fifth electricity distribution price control review. This review was formally outside the scope of RPI-X@20, but the two reviews have been running in parallel with common ideas on what future energy network companies need to deliver. When working up the details of the new regulatory framework for electricity distribution from 2015 we are mindful of the need to ensure that there is a smooth transition from the recently determined framework.

[28] Our decision on the timetable for the fifth transmission price control review (TPCR5) can be found on our website:
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/TPCR5/Documents1/FINAL%20-%20TPCR5%20draft%20letter%20of%20notice%20of%20Auth%20Dec%20(sig)%20(2).pdf

Appendices

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Appendix 1 - Consultation response and questions

1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.2. Responses should be received by 9th April 2010 and should be sent to:

RPI-X@20 consultation - Local Grids and RPI-X@20
Ofgem
2nd floor
9 Millbank
London
SW1P 3GE
Email: RPI-X20@ofgem.gov.uk

1.3. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on our website www.ofgem.gov.uk. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.4. Respondents may request that their response is kept confidential. Respondents who wish for their responses to remain confidential should clearly mark them to this effect and include the reasons for confidentiality. Confidentiality disclaimers within emails will not be taken to represent a request for confidentiality with respect to the response itself. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. We will publish a summary of responses on the website and we will consider comments received during the course of RPI-X@20. Any questions on this document should, in the first instance, be directed to:

Cloda Jenkins, Head of Regulatory Review
Ofgem
2nd floor
9 Millbank
London
SW1P 3GE
Email:cloda.jenkins@ofgem.gov.uk

Emerging Thinking Specific Questions for Consultation

Chapter 1
Question 1: Do you think our desired outcomes for the future regulatory framework are appropriate? Are there any we have missed?
Question 2: Do you agree that we need a fundamental change to the existing 'RPI-X' frameworks to ensure these outcomes are delivered?
Question 3: Do you think the suggested new framework is the best way of delivering these outcomes in the future? Are there any aspects you would change? Have we missed any key aspects?

Chapter 2
Question 1: Do you agree that a new regulatory framework should focus on delivery of desired outcomes?
Question 2: Do you have any comments on the categories of outputs related to these outcomes?
Question 3; Do you have any comments on how these outputs should be incorporated into the new regulatory framework?

Chapter 3
Question 1: Do you agree that it is appropriate for network companies and Ofgem to improve their engagement with stakeholders as a way of improving the quality and legitimacy of decision making? Do you have any ideas on how to improve engagement by network companies and Ofgem?

Question 2: Do you think we should consider introducing a third-party merits-based right to challenge our final price control proposals?

Chapter 4
Question 1: Do you have views on our suggestion that financial commitments could be provided for longer than five years for some elements of the price control? What would be the appropriate length of this partial 'longer' period? To which aspects of the control might it be appropriate to give a longer-term commitment?
Question 2: Do you have views on our suggestions on what business plans might look like in the new regulatory framework?
Question 3: Do you have comments on our ideas on how efficient costs might be assessed in the new regulatory framework?
Question 4: Do you have comments on our ideas on how efficient long-term delivery might be incentivised in the new regulatory framework?
Question 5: Do you have comments on our suggestions of how the new regulatory framework might encourage network companies to anticipate and deliver on the needs of existing and future consumers and network users?
Question 6: Do you have views on our ideas on how the interactions between charging and price review incentives might be taken into account at price reviews?
Question 7: Do you have comments on our suggestion to treat companies differently at the price control, both in terms of process and incentives, reflecting planning and delivery performance?
Question 8: Do you have views on our suggestion to open up some aspects of delivery to competition?

Question 9: Do you have comments on the design of a cross-sectoral time-limited innovation stimulus that is open to a range of parties?
Question 10: Do you have comments on our straw man on how we would embed our financeability duty into the new regulatory framework?

Chapter 5
Question 1: Do you agree that a new regulatory framework can deliver our desired outcomes within the existing industry structure?
Question 2: Do you agree that it is appropriate to encourage network companies to work with others to identify cross-sectoral solutions to the challenges the sector faces?
Question 3: Do you agree that the regulatory framework should ensure energy network companies facilitate effective competition in energy services?

Appendix 2 – Challenges facing energy network companies

Challenges facing all four network sectors

Economy
- Availability of finance
- Cost of finance
- International competitiveness
- Price volatility

EU policy
- Renewable energy targets
- Green house gas emission reduction targets
- Energy efficiency
- Third Package
- 2nd Strategic energy Review

Government
- CCC advice to focus on decarbonised electricity
- Low carbon transition plan
- Roadmap for 2050
- Election 2010
- Smart metering/smart grids

Industry structure
- System Operator/ Transmission Owner split
- Potential distribution system operator role
- Energy service companies
- Mergers

Specific challenges for electricity networks

- Reduced demand/ energy efficiency
- Back-up generation for renewables
- Renewable energy targets
- Ageing assets
- Electric vehicles
- Electric space heating

Transmission

- Connecting remote renewables
- Closure of existing coal and nuclear plants
- Connection of new nuclear, gas and CCS generation

Distribution

- Distributed generation
- Active demand management
- Adapting to impacts of climate change

Specific challenges for gas networks

- Secure sources of supply
- Safety
- Storage
- Reduced demand/ energy efficiency
- Ageing assets
- Alternative network use for CCS
- Uncertain future demand average or peak
- Renewable gas

Transmission

- Changing mix of supplies
- Potential gas hub for Europe
- Gas quality issues
- New sources in new places
- Liquid Natural gas
- Increasing import dependency

Distribution

- Demand from Combined Heat and Power
- Social obligations on extensions
- Adapting to impacts of climate change
- Mains replacement
- District heating

Appendix 3 – Can RPI-X deliver the desired outcomes?

1.1. Over the last 20 years the RPI-X regulatory framework has, in relation to energy network companies, delivered increased capacity and investment, greater operating efficiency, higher reliability and lower prices. This has brought benefits both to gas and electricity consumers. Since privatisation, allowed revenues have declined (until recently) by 60 per cent in electricity distribution[29], 30 per cent in electricity transmission and by approximately 45 per cent in gas distribution and transmission.

1.2. These reductions have been achieved without sacrificing capital investment, which has continued across all sectors since privatisation. In the electricity sector, investment is higher than immediately prior to privatisation. The gas sector has also seen significant investment including the recent cast iron mains replacement programme. There is also evidence to suggest that operating efficiency has improved. For example, the electricity distribution network companies have seen real operating unit expenditure fall by the equivalent of approximately 5.5 per cent per year since privatisation.

1.3. The RPI-X framework has also led to significant improvements in quality of service. Between 1990 and 2009, the number and duration of reported outages fell by around 30 per cent. In the gas sector, the number of unplanned customer interruptions has remained lower than 0.5 per 100 customers annually since 2003.

1.4. The framework continues to be described as RPI-X but has also been successful in adapting to changes in circumstances and requirements e.g. removing distortions to spending profiles caused by the proximity of the next price control.

1.5. We recognise therefore that the RPI-X framework, including in the form taken in the most recent energy price controls, has delivered but as set out in our main paper there are concerns that it will not deliver our desired outcomes in the future. We set out in Table A1 a summary of the main concerns that we have heard in our engagement with stakeholders and other interested parties. These are generic high-level concerns and the extent to which they are significant will vary by sector. Other detailed concerns with specific aspects of the regime (e.g. incentive mechanisms) have also been raised and will be considered further as we develop the detail of the new regulatory framework.

[29] Not including DPCR5 final proposals.

Table A1: Will RPI-X deliver the desired outcomes?

Risks resulting from continued use of existing frameworks	Contribution to delivery of sustainable energy sector	Value for money	Engagement and accountability	Administrative burden	Financing energy networks
Desired outcomes not translated into outputs/obligations that provide clarity on what network companies need to deliver in a control period	Yes	Yes			
Framework is too complex for stakeholders to understand, engage in and have confidence with	Yes	Yes	Yes	Yes	
High administrative burden			Yes	Yes	
Insufficient adaptation	Yes	Yes			
Delay to connection of renewable generation because of insufficient investment ahead of user commitment	Yes				
Network companies encouraged to favour 'tried and tested' approaches at expense of innovation and experimentation particularly where innovation would only bring about long-term benefits	Yes	Yes			
Network company actions focused on short term (particularly 5 year control period)	Yes	Yes			
Network companies may be encouraged to see revenue allowances as a budget that needs to be spent	Yes	Yes			
Distortions to investment timing (particularly approaching the end of a control period)	Yes	Yes			
Uncertainty may deter network companies from investing	Yes	Yes			
Distortion to network company decision making because of different regulatory treatments (e.g. the treatment of operational and capital expenditure)		Yes			
Network companies may exploit information		Yes			

Risks resulting from continued use of existing frameworks	**Contribution to delivery of sustainable energy sector**	**Value for money**	**Engagement and accountability**	**Administrative burden**	**Financing energy networks**
advantage over regulator on delivery costs					
Inability to achieve benefits from new entrants	Yes	Yes			
Insufficient focus by network companies on consumers, network users and other stakeholders	Yes	Yes	Yes		
Insufficient priority given to consumers due to limited involvement in process	Yes	Yes	Yes		
Consumer engagement may occur too late to influence outcome	Yes	Yes	Yes		
Companies who are not best at delivering outputs may still earn greatest returns	Yes	Yes	Yes		
Charges may be volatile either during a control period or between control periods	Yes				
Charges may lead network users to make what is perceived as inefficient use of the network	Yes	Yes			
Insufficient transparency on financing duty leading to perception of over generous or insufficient compensation		Yes			
Depreciation profiles do not reflect economic lives of assets	Yes	Yes			Yes
Unsustainable adjustments are made to ensure determination meets financeability tests		Yes			Yes

Appendix 4 – Comparison of current and proposed new frameworks

Element of framework	Existing	Proposed new
Type of framework	Ex ante price control determined by assessing building blocks (including RAV), a number of specific incentive mechanisms, and mechanisms for changing constraint during period. Five-year control.	Ex ante price control determined by assessing building blocks (including RAV), streamlined incentive mechanisms and mechanisms for changing constraint during period. Potentially longer control.
Outputs focus	Mainly focused on costs (inputs). Outputs on quality of service in all sectors. Work on asset health condition outputs developed in DPCR5 but not for other sectors.	The regulatory framework would be outcomes-led, focused on delivery of our desired outcomes for the long term. Outcomes would be reflected in outputs relating to: reliability; safety; low carbon energy services; conditions for connecting to network services; customer satisfaction; and social obligations. Where outcomes cannot be defined in clear outputs, there would be a qualitative understanding of what network companies are delivering.
Role of government	Sets energy policy. Working level meetings on ad hoc basis with review teams – no clear role in review process.	Sets energy policy. Working level meetings, with transparent brief upfront to engage effectively on what network companies need to deliver to be consistent with energy policy. Potential role for government to provide clarity on direction of policy at effective engagement meeting.
Role of consumers	Opportunity to respond to consultations. Often technical documents, with complicated discussion. In DPCR5, network companies encouraged to engage on their plans. Ofgem used Consumer First initiative to provide legitimacy to process.	Opportunity to respond to consultations. Documents would be accessible and easy to understand. More engagement opportunities for consumers and network users on issues that matter to them at

Element of framework	**Existing**	**Proposed new**
Role of consumers (cont..)	Limited transparency on how engagement has impacted on our decisions. No ability to challenge our final decisions.	appropriate times in review. Greater transparency on how engagement has impacted on our decisions.
Incentives	Primarily focused on achieving cost savings, particularly operating expenditure. Incentives for Quality of Service delivery. Specific incentives to meet identified needs in recent years – e.g. losses, DG connections. Numerous financial incentives, focused on specific objectives. Aim in DPCR5 to ensure returns are commensurate with performance. Link between returns earned and performance not considered in other sectors. Framework does not encourage network companies to consider, as part of the price control review, the interactions between charging and their decisions on how best to deliver desired outcomes.	Outcomes-led framework underpinned by incentives to encourage efficient delivery. Rewards for long-term efficiency, measured in terms of total cost savings over time. Streamlined financial and reputational incentives. Streamlined incentives focused on output delivery and value for money. Framework for use of discretionary rewards and penalties ex post. Clear link between performance and returns earned. Would encourage network companies to consider the two-way direction of interactions between charging and the price control.
Regulatory business plans	Network companies submit final business plan questionnaires, using Ofgem template. Focus on next five years in regulatory plans. Provide one option for delivery and focus on justification of unit costs of activities. No clear link between outputs and costs. No requirement to demonstrate that have reviewed alternative scenarios for future or considered different ways of delivering. DNOs asked to engage with consumers on their plan in DPCR5. In other sectors no engagement required.	Network companies submit Business Plans with longer-term focus, demonstrating how they intend to deliver outputs and what the expected total cost of delivery is. Required to demonstrate in plans effective engagement with range of stakeholders including consumers, network users and other parties. Required to demonstrate that they have considered long-term impact of different ways of delivering. Required to demonstrate that have considered different scenarios of what future might look like.
Differential treatment of network companies in a	No transparent framework for treating network companies differently at price control reviews.	Transparent framework to allow network companies to be treated differently, in proportion to reputation for delivery.

Element of framework	Existing	Proposed new
sector		
Innovation	IFI for all sectors. Low Carbon Networks Fund being introduced in DPCR5. Only DNOs can get funding, potentially in consortia.	One innovation stimulus for all sectors. Funding available to network companies and non-network parties, by bidding into open competition.
Competition in delivery	Network companies undertake delivery. Make decisions about whether to procure external services.	Regulatory tool-kit would include framework for requiring aspects of delivery to be tendered out where there is a clear value for money justification gain and no detrimental impact on timely delivery.
Managing uncertainty during price control period	Specific provisions in place to deal with identified uncertainties – number and type vary by sector. No formal framework for determining how and when to use different options for managing uncertainty.	Network companies manage uncertainty where they are best placed to do so. Develop guidance for identifying when and which type of specific mechanisms may be appropriate for managing uncertainty. Consider mechanisms holistically.
Adaptability over time	Regulatory framework in all sectors has changed at price control reviews, in response to new information and changing circumstances. No clear transparent framework for ensuring balance between regulatory commitment and need to learn and adapt.	Transparent adaptation of framework, with need to provide clear justification for changes and need to demonstrate commitment to regulatory framework. Network companies also encouraged to adapt and learn over time; moving away from plans where appropriate.
Financeability Financeability (cont..)	Duty to ensure network companies can finance their functions. This is generally assumed to be the financing of efficiently incurred expenditure. No transparent framework on how financing duty embedded in framework but clear precedence. Depreciation calculated on basis of an arbitrary assumption for asset life which is not linked to economic asset lives. Financeability checks against modelled cash flow ratios, with potential to adjust elements of control other than WACC to ensure financeability.	Clear statement on how financing duty would be interpreted in regulatory framework: efficient delivery would be financeable and no 'bail out' for inefficient or non-delivery of outputs. Depreciation potentially calculated on basis of economic asset lives. Financeability primarily assured by getting the cost of capital 'right', with the allowed WACC reflecting expected cash flow risk of the business on average.

Element of framework	Existing	Proposed new
Facilitating energy service retail competition	Provisions in place that include requiring non-discriminatory access. Concerns about charging arrangements and access terms available to new types of retail model. No requirement on network companies to lease or sell part of assets to energy service companies.	Network companies encouraged to provide standardised, efficient, effective, timely, transparent, and non-discriminatory access terms through our outputs relating to access terms. Potential option to require lease, or even sale, of assets, if network companies fail to offer fair and timely access terms.

Appendix 5 – Delivery of the desired outcomes

6.12. As stated in Chapter 2, we think the future regulatory framework should encourage network companies to:

- play their role in facilitating delivery of a sustainable energy sector; and
- deliver value for money network services for existing and future consumers.

6.13. This Appendix sets out our current thinking on the types of activities in which the network companies could engage to play their role in facilitating the delivery of a sustainable energy sector. Our supporting paper on incentivising efficient long-term delivery of desired outcomes provides our emerging thinking on the way these roles may be translated into outputs that the network companies would be incentivised to deliver against. The supporting paper also sets out our emerging thinking on the way the network companies could be encouraged to deliver at value for money in seeking to achieve these outputs.

6.14. We recognise that many definitions of sustainable development incorporate environmental, economic and social aspects. Therefore the table below provides an overview of the role that the network companies may play in the delivery of a sustainable energy sector from an environmental economic and social perspective. We would welcome the views of interested parties on the role that the network companies should play in each of these areas.

Role of the network companies in facilitating a sustainable energy sector

<table>
<tr><th colspan="3">Potential role in facilitating environmental sustainable development</th></tr>
<tr><td rowspan="2">Electricity</td><td>Transmission</td><td>▪ Facilitate connection and transmission of generation, particularly low carbon generation, e.g. renewables, nuclear and Carbon Capture Storage (CCS)
▪ Effectively assess requirements to support low carbon initiatives, e.g. electric vehicles
▪ Effectively assess innovative technical and operational practices
▪ Effectively assess carbon footprint reduction measures, e.g. to reduce losses</td></tr>
<tr><td>Distribution</td><td>▪ Facilitate connection and operation of low/zero carbon generation, e.g. distributed energy including microgen
▪ Facilitate the electrification of carbon intensive technologies, particularly heating and transportation
▪ Consider their role in demand side tariffs and energy efficiency – impacted by the rollout of smart meters
▪ Effectively assess innovative technical and operational practices and deploy where efficient to do so
▪ Effectively assess carbon footprint reduction measures, e.g. to reduce losses
▪ Facilitate the establishment of viable Energy Service Companies (ESCos)</td></tr>
<tr><td>Gas</td><td>Transmission</td><td>▪ Facilitate connection and transmission of low carbon gas sources, e.g. biogas</td></tr>
</table>

		▪ Consider alternative use of the gas network as appropriate, e.g. CCS and the way the switchover of use could be managed ▪ Effectively assess innovative technical and operational practices ▪ Effectively assess carbon footprint reduction measures, e.g. to reduce shrinkage
	Distribution	▪ Facilitate connection and transmission of low carbon gas sources, e.g. biogas ▪ Consider alternative use of the gas network and the way the switchover of use could be managed, as appropriate e.g. use of hydrogen, transportation of carbon for carbon capture and storage projects ▪ Effectively assess and implement innovative technical and operational practices that lead to environmentally sustainable benefits ▪ Facilitate the establishment of viable ESCOs by offering appropriate terms and conditions for network access
Potential role in facilitating economic sustainable development		
Electricity	Transmission	▪ Consider the range of supply quality and security that could be met, given changing technology and the composition of generation and demand ▪ Consider a range of innovative methods to maintain security of supply, e.g. electricity storage or innovative operational methods and considering the impact of climate change adaptation ▪ Assess the options for administering clear, transparent and timely cost-reflective charging arrangements ▪ Assess the options for considering timely and efficient connection of generation to the network
	Distribution	▪ Consider the range of security of supply levels that could be delivered to consumers, given changing technology and the composition of generation and demand ▪ Effectively assess the scope for network innovation to facilitate the connection of low carbon generation and long-term efficient decarbonisation of energy, particularly heating and transport ▪ Consider a range of innovative methods to maintain security of supply, e.g. utilising demand side response and considering the impact of climate change adaptation ▪ Facilitate the establishment of ESCOs with the potential to offer a range of services to consumers ▪ Assess the options for administering clear and transparent cost-reflective charging arrangements; ▪ Assess the options for considering timely and efficient connection of generation and supply to the network
Gas	Transmission	▪ Consider alternative uses of the network that may be aligned with long-term efficient use of the network ▪ Effectively assess ways that use of the gas transmission system may change over time and adapt the approach to security of supply, potentially offering a choice of different tariffs to consumers

		▪ Assess the options for administering clear and transparent cost-reflective charging arrangements
	Distribution	▪ Consider alternative uses of the network that may be aligned with long-term efficient use of the network ▪ Effectively assess ways that use of the gas distribution system may change over time and adapt the approach to security of supply, potentially making available a choice of different tariff with differing levels of reliability ▪ Facilitate the establishment of viable ESCOs by offering appropriate terms and conditions for network access ▪ Assess the options for administering clear and transparent cost-reflective charging arrangements
Potential role in facilitating social sustainable development		
Electricity	Transmission	▪ Deliver secure energy supplies and a quality of supply consistent with expectations ▪ Maintain priority registers, for example of customers who are of pensionable age, disabled or chronically sick ▪ Comply with guaranteed standards of performance in line with requirements under the Electricity Act 1989
	Distribution	▪ Deliver secure energy supplies and a quality of supply consistent with expectations ▪ Maintain priority registers, for example of customers who are of pensionable age, disabled or chronically sick. ▪ Comply with guaranteed standards of performance in line with requirements under the Electricity Act 1989 ▪ Seek to find innovative ways to address social issues for which discretionary rewards are available to network companies that demonstrate best practice in these areas (which are not easily incentivised)
Gas	Transmission	▪ Deliver secure energy supplies and a quality of supply consistent with expectations ▪ Maintain priority registers, for example of customers who are of pensionable age, disabled or chronically sick ▪ Comply with guaranteed standards of performance in line with requirements under the Gas Act 1986
	Distribution	▪ Deliver secure energy supplies and a quality of supply consistent with expectations ▪ Maintain priority registers, for example of customers who are of pensionable age, disabled or chronically sick ▪ Comply with guaranteed standards of performance in line with requirements under the Gas Act 1986 ▪ Seek to find innovative ways to address social issues for which discretionary rewards are available to network companies that demonstrate best practice in these areas (which are not easily incentivised)

Appendix 6 – Variations to the framework by sector

1.1. We are confident that our proposals for the new regulatory framework could be applied to each of the four energy network sectors (electricity transmission, electricity distribution, gas transmission and gas distribution). When we work up the detail of how the framework would operate in practice there may be some variation in how aspects of the new framework are applied across the sectors. We set out here the areas where differences might be apparent.

1.2. Once we have worked up the detail of how the framework would apply to each sector, we will consider how best to implement changes, moving from existing frameworks to the new frameworks at the next round of price reviews[30] . We will also consider the extent to which the effectiveness of each aspect of the framework is likely to vary by sector, calibrating incentives differently where appropriate.

1.3. This is our initial view on how the framework may vary by sector. As we work up the detail, and consider responses to the consultation, other issues may arise. We welcome comments on which aspects of the framework it is appropriate to vary by sector.

1.4. The main areas where the details of the framework would be likely to vary by energy network sector are set out here. Where an area of the framework is not specified (e.g. nature of business plans, efficiency incentives, cost of capital, financeability adjustments, third party right of challenge), we do not at envisage a need for differentiation across the sectors. When working up the detail of the frameworks for each sector we will consider a case for varying the detail between sectors against the potential benefits of consistency and transparency across the regulatory frameworks.

- **Outputs**: the outputs used in each sector would vary, although the primary output categories would, as far as possible, be the same. The extent to which outputs are largely driven by statutory obligations or other specific requirements would vary. For example, in gas distribution legal obligations driven by health and safety requirements largely determine the network capital expenditure requirements. In gas transmission the nature of outputs would need to be considered in the context of capacity requirements driven by capacity auctions. We would need to also consider the impact of outputs on other aspects of the wider regulatory regime in each sector. For example, in electricity transmission we would need to ensure consistency with the transmission access review, including ensuring that outputs do not favour one type of generation (e.g. renewables) over another. We would also need to consider how best to calibrate incentives for delivery of outputs in each sector, taking account of sector-specific issues where appropriate (e.g. the appropriate risk-return balance that investors are interested in).
- **Enhanced engagement:** we expect that network companies and Ofgem would develop processes to enable more effective engagement with consumers and

[30] TPCR5 implemented from 1st April 2013, GPDCR2 implemented from 1st April 2013 and DPCR6 implemented from 1st April 2015

network users. These processes would build on those already being used, although we recognise that the experiences with engagement vary by sector (e.g. NGET has experience through its work on SO incentives and DNOs have developed their approaches for DPCR5). We expect that this aspect of the framework will be important in all four sectors, with variation in who engages with Ofgem and network companies, and variation in the processes used in each sector. Engagement at the price review would be supplemented by other ongoing activities in each sector and these would influence how and who we and network companies engage with. For example, in gas transmission the needs of shippers are to some extent signalled through the capacity auctions and there may be questions about whether and how they wish to engage further in the price review process. We welcome comments from interested parties on how best to ensure their interests are adequately represented.

- **Assessment of business plans**: we envisage, in RPI-X@20, developing a set of assessment techniques that could be used to assess business plans and determine expected efficient expenditure for delivering outputs. The set of techniques would be the same for each sector, but the ones actually used and the way they are employed may vary. For our summer 2010 recommendations, we will consider whether it is appropriate to emphasise the need for particular types of techniques to be used in some or all sectors (e.g. benchmarking of high level total costs).
- **Differential treatment of network companies**: in all four sectors we would consider how best to design and implement a transparent approach to treating companies within a sector proportionately, relative to planning and delivery performance. We recognise that the way this is done, and the potential for significant differentiation, would vary between distribution and transmission. However, we are not ruling out adopting this approach in transmission (including gas transmission) and would consider further for our summer 2010 recommendations what the basis and nature of any differentiation might be.
- **Uncertainty mechanisms**: as now, the nature and type of uncertainty mechanisms that are used may vary by sector. However, we envisage that decisions on which mechanisms to use would be based on a common set of principles.
- **Greater role for competition in delivery**: we expect to reserve the right to introduce more competition in delivery, through tendering, in all four network sectors. However, the extent to which this element of the regulatory tool-kit is used may vary by sector.
- **Innovation stimulus**: the innovation stimulus would be designed and implemented to enable innovation proposals relating to any of the four energy network sectors to be submitted. However, it may be the case that the proposals would be skewed towards one or two sectors (most notably electricity distribution). Keeping the stimulus open to all four sectors ensures that we do not pre-judge where innovation is most needed or is most likely to develop.
- **Longer-term price controls**: in all four sectors there are grounds for encouraging network companies and Ofgem to focus on the long term. In this context, we think there is merit in exploring the option of introducing partial longer-term controls in each sector. However, the aspects of the control that are committed to for longer periods than others may vary by sector. Furthermore, there may be reasons to vary the length of the 'long-term' and 'short-term' aspects of the price control by sector. For example, there may be a need for shorter 'long' periods in one sector if there is a higher likelihood of needing to

introduce changes in obligations or changes in wider aspects of the regulatory framework. We would consider the need for regulatory consistency, both in terms of principles and process, when considering variation in this aspect of the framework.

- **Treatment of capital expenditure and operating expenditure**: in all four sectors we expect to remove, where possible, distortions in the regulatory framework that encourage network companies to favour one form of expenditure rather than another. When understanding the potential impact of changes we recognise that the starting point would be different across the sectors. For example, auctions and other measures (e.g. capacity substitution and offtake reform) have an impact in gas transmission and measures are being introduced in the recent electricity distribution price control review. In gas distribution we would need to consider further implications of the current arrangements for financing the gas mains replacement programmes (50% is funded as operating expenditure and 50% as capital expenditure).
- **Depreciation**: the implication of moving to economic assets lives may vary by sector. This may have implications for any transition arrangements introduced. However, we would expect the underlying principles to be common across the sectors.
- **Facilitating competition of energy service companies**: this aspect of the regulatory framework is only relevant for electricity and gas distribution network companies, although the wider principles of ensuring regulation does not distort competition in the markets would apply across all four sectors.

1.5. We will also consider, when working up the detail of the frameworks, specific characteristics of each of the sectors. For example, we are mindful of the need to consider the implications of capacity auctions and other specific mechanisms (e.g. capacity substitution and offtake reform) in gas transmission on the design and implementation of the regulatory framework.

Appendix 7 – Stakeholder engagement in RPI-X@20 to-date

1.1. RPI-X@20 is an open and transparent review. We do not have a monopoly on ideas about the future regulatory framework and therefore we think it is important to discuss issues and ideas with a range of interested parties.

1.2. We set out below the main parties that we have engaged with during the visionary phase of the project (September 2008 to December 2009). This engagement in RPI-X@20 is in addition to Ofgem's more general ongoing engagement with stakeholders, government and EU regulators, at senior and working level. It is also in addition to the range of perspectives provided by the Non Executive Directors on the Gas and Electricity Markets Authority (GEMA).

1.3. We intend to continue with our open and transparent process for the next phase of the project. We welcome engagement from interested parties, in response to this consultation and more generally to inform our thinking as we work up the detail of the future regulatory framework. Details of how to engage on RPI-X@20 going forward are set out in Chapter 6.

Engagement with network companies and network users

1.4. We have had a number of meetings with the Energy Networks Association (ENA) and bilateral meetings with individual network companies. Network companies were also well represented at our industry workshops, at Stephen Littlechild and Nigel Cornwall's small discussion group on consumer engagement in the regulatory process, and at Cambridge Economic Policy Associates' workshop, 'RPI-X@20: "Strawmen"'. The materials from each of these events, and notes of the discussions, are available from our website[31]:

1.5. The network companies actively participated in our working groups, with representatives from all four energy network sectors engaging in these sessions. Senior leaders from network companies also sat on our High Level Advisory Group and presented at our Powering the Energy Debate in April 2009[32]. We have also met with representatives of the independent gas and electricity network companies.

1.6. The ENA and individual companies have contributed papers to our web forum. They also provided written responses to our February 2009 'Principles, Process and Issues' consultation paper and the series of working papers that we published over the course of the summer and early autumn.

1.7. Suppliers and generators have also actively contributed to our discussions and debates. They attended our workshops and Powering the Energy Debate event and were represented on our High Level Advisory Group. Representatives also

[31] http://www.ofgem.gov.uk/Networks/rpix20/publications/Presentations/Pages/Presentations.aspx
[32] http://www.ofgem.gov.uk/ABOUT%20US/PWRINGENERGYDEB/Pages/PwringEnergyDeb.aspx

contributed through our industry working groups. We received written responses to our February consultation paper from a number of industry players.

Engagement with consumers

1.8. During the visionary phase of RPI-X@20 we have presented our ideas and debated the issues with Consumer Focus. We have also presented at Ofgem's regular meetings for our Small and Medium Users Group (SMUG) and Large Users Group (LUG). We have discussed our ideas with our Consumer Challenge Group[33].

1.9. We discussed the idea of consumers being more actively engaged with network companies. We have also discussed the regulatory framework with end consumers using our Consumer First Panel[34].

Engagement with environmental/sustainable groups

1.10. We have been mindful throughout this project that the delivery of a sustainable energy sector is the key driver for change in the regulatory framework. To inform our understanding of what is needed we have met with a number of different representatives that have sustainable development interests. We will continue to meet with these groups during the remainder of the project.

1.11. We presented our ideas to our Environmental Advisory Group (EAG) and the DPCR5 environmental stakeholders group. We also had meetings with Green Alliance and Sustainability First. Sustainable development interests were represented on our High Level Advisory Group. They also contributed to our industry workshops and our Powering the Energy Debate. A number of academics with sustainable development interests also participated in our academic workshops.

1.12. We received written submissions to our February consultation paper from BWEA and Good energy.

Engagement with investors

1.13. Since RPI-X@20 was announced we have made clear that we understand that 'capital market trust is hard won and easily lost[35]'. It is therefore important that the City understand our ideas and that we understand potential reactions to our ideas. We expect the extent of engagement to increase in response to publication of our Emerging Thinking.

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[33] The Consumer Challenge Group was set up to assist Ofgem in ensuring that the consumer view is fully considered during its Electricity Distribution Price Control review. Its members include representatives from consumer groups, academia and environmental groups.

[34] As part of the Consumer First initiative, Ofgem has set up the 'Consumer First Panel', a diverse group of 100 domestic energy consumers recruited to take part in a series of research events and surveys and be 'the voice of the consumer' and a unique resource for Ofgem.

[35] http://www.ofgem.gov.uk/Media/keyspeeches/Documents1/BEESLEY%20LECTURE%20OCTOBER%202008.pdf, page 11

1.14. We have engaged with investor interests through members of our High Level Advisory Group. In addition, Ofgem's City Liaison has provided updates on our developing ideas (e.g. publication of our current thinking working papers) to interested investors. RPI-X@20 was also one of the main projects discussed at our November City Briefing.

Engagement with Government

1.15. We have had discussions with a number of government departments during the visionary phase of the project, including the Department of Energy and Climate Change, Her Majesty's Treasury, and the Department for Business, Innovation and Skills. These meetings have enabled us to discuss our ideas with government and to better understand developing government energy policy (for example in relation to energy efficiency developments within the Heat and Energy Savings Strategy and the District Heat working group). We have also met with non-departmental government agencies, including the National Audit Office and Consumer Focus.

1.16. Senior members of Government, from DECC and the NAO, have sat on our High Level Advisory Group. Government has also been well represented at our industry workshops.

Engagement with academics

1.17. We have had two academic workshops[36] during the visionary phase of RPI-X@20. Attendees at these workshops included academics, engineers and expert consultant economists. A number of leading academics have also participated in a workshop run by Cambridge Economic Policy Associates on strawmen for the future regulatory framework[37]. Michael Pollitt, Ofgem's economic advisor, has discussed a number of our ideas with us and was a member of our high-level advisory group.

1.18. We have also had bilateral discussions with a number of leading academics and energy experts working in economic consultancies.

Engagement with regulators and regulated businesses in other sectors and countries

1.19. We emphasised in our 'Principles, Process and Issues' consultation paper that we would review experiences in other regulatory frameworks to identify any potential

[36] December 2008 workshop:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=15&refer=Networks/rpix20/publications/Presentations
July 2009 workshop:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=35&refer=Networks/rpix20/publications/Presentations
[37] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=28&refer=Networks/rpix20/publications/Presentations

lessons for the future regulatory framework for GB energy networks. We have researched alternative regimes using a number of methods including:

- desktop research (literature survey and review of documents);
- asking consultants to look at case studies from other countries;
- having presentations from those involved with regulation in other sectors at our academic workshops and other seminars; and
- bilateral discussions with a number of regulators and regulated businesses.

1.20. We have also engaged with the Joint Regulators Group (JRG), giving presentations and contributing to discussions as well as other cross-regulator and cross-government groups.

1.21. We set out below details of the case studies that our consultants looked at and the cases discussed at our academic workshops. We also set out who we met and on what issues in the table below. Lessons from alternative regimes are discussed in our supporting paper on 'Alternative ex-ante and ex-post regulatory frameworks'.

Case studies in consultancy reports

1.22. Cambridge Economic Policy Associates looked at the regulatory regimes in a number of different sectors and countries in three papers that we commissioned them to write. These papers looked at 'The use of RPI-X by other network industry regulators'[38],'A review of the Rail and Water regulatory models - lessons for energy'[39] and 'New Zealand gas industry regulation - lessons for energy'[40]. Specifically these papers looked at the regulatory regimes in the following sectors:

- UK water and sewerage
- UK post
- The UK's three regulated airports
- Network rail
- Irish gas transmission and distribution
- French gas transmission
- Dutch electricity sector
- Australian water and sewerage
- Electricity distribution in Victoria, Australia
- The Mississippi power company
- The regime for Niagara Mohawk Power Corporation, New York
- Gas in New Zealand
- UK rail

[38] Found here:
http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/CEPA%20Final%20Ofgem%20report%20270209.pdf
[39] Found here:
http://www.ofgem.gov.uk/Networks/rpix20/forum/lfor/Documents1/Review%20of%20regulation%20in%20rail%20and%20water.pdf
[40] Found here:
http://www.ofgem.gov.uk/Networks/rpix20/forum/lfor/Documents1/NZ%20gas%20regulation.pdf

1.23. Stephen Littlechild and Cornwall Associates looked at a number of regulatory regimes in the paper that we commissioned them to write on 'Potential scope for user participation in the GB energy regulatory framework, with particular reference to the next Transmission Price Control Review[41]'. They looked at the following regimes which place significant emphasis on greater involvement by consumers:

- The Public Contest Method in Argentina's electricity transmission sector
- The constructive engagement method as used by the Civil Aviation Authority (CAA)
- The negotiated settlement approach in USA and Canada
- Negotiated services in Australian electricity

1.24. More recently, we commissioned Stephen Littlechild to provide further ideas on the interactions between ex post regulation; negotiated settlements and right of appeal taking account of experiences in Airport Regulation in Australia[42].

1.25. In their paper on 'The case for ex post regulation of energy networks'[43] LECG looked at a number of regimes that used ex post regulation to constrain behaviour of regulated businesses. The cases looked at were:

- Ex post assessment of prices with detailed ex ante specification of regulatory approach to costing, in Swedish and Finnish electricity distribution
- Ex ante non binding price and quality thresholds, in New Zealand electricity distribution
- The use of competition law alone in US telecommunications fibre access networks
- The use of competition law but with regular reviews, in Australian airports

1.26. LECG looked at the experiences with having a third party right of appeal in other regulatory regimes in their paper on 'Should energy customers and energy network users have the right to appeal Ofgem price control decisions? If so, what form should the appeals process take?'[44]. This paper used examples from both within and outside of price control processes. The cases looked at included:

- Appeals on Ofcom determinations, including price control decisions
- The potential of an extension of appeal rights in the regulation of the UK's airports

[41] Available from: http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/User%20participation%20Ofgem%2028%20March%202009%20-%20final.pdf

[42] These papers are available from: http://www.ofgem.gov.uk/NETWORKS/RPIX20/FORUM/ROCAG/Documents1/Consumer%20involvement%20ex%20post%20%20consumer%20appeal%2029%20Nov%2009%20(2)%20(2).pdf, and http://www.ofgem.gov.uk/NETWORKS/RPIX20/FORUM/ROCAG/Documents1/Consumer%20involvement%20ex%20post%20%20consumer%20appeal%2029%20Nov%2009%20(2)%20(2).pdf and, http://www.ofgem.gov.uk/NETWORKS/RPIX20/FORUM/FOR/Documents1/Australian%20airport%20regulation%2029%20Nov%2009%20(2).pdf

[43] Available from: http://www.ofgem.gov.uk/Networks/rpix20/forum/for/Documents1/Final%20report%20ex%20post%20regulation.pdf

[44] This paper is available from: http://www.ofgem.gov.uk/Networks/rpix20/forum/rocag/Documents1/Right%20of%20Appeal%20Final.pdf

- The right to appeal merger control decisions by the OFT
- Appeal rights against Ofgem's decisions regarding energy sector codes
- The regulated firms' right to reject licence modifications in UK water, rail and air traffic control

1.27. The Regulatory Policy Institute provided us with lessons from the literature on alternative regimes in their report, 'Characteristics of alternative price control frameworks': an overview'[45].

1.28. Michael Pollitt provided ideas on lessons from the telecoms sector in his report 'Does electricity (and heat) network regulation have anything to learn from fixed line telecoms regulation?'[46] . This paper is complemented by a Peter Boait paper on energy services companies[47].

1.29. KEMA's report on 'RPI-X@20: Technological change in electricity and gas networks'[48], provides information on a number of innovation case studies in relation to energy networks around the world. This has informed our work on innovation.

Presentations at our academic workshops

1.30. We held two academic workshops during the visionary phase of RPI-X@20, one in December 2008[49] and one in July 2009[50] . A number of the presenters provided insights from experiences in other sectors. These included:

- CAA on experiences with regulation of investment at BAA's regulated airports
- Chris Bolt, PPP Arbiter and Chairman Office of Rail Regulation on lessons on 'Financing vehicles/contracts'
- Sir Ian Byatt, Water Industry Commission for Scotland, on lessons from regulation of water sector in England & Wales and in Scotland
- Martin Cave on lessons from telecoms and water
- Easyjet on constructive engagement in airports

[45] This paper is available from: http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/RPI_Characteristics%20of%20alternative%20price%20control%20frameworks_270209.pdf
[46] This paper is available from: http://www.ofgem.gov.uk/Networks/rpix20/forum/cp/Documents1/Telecoms%20Pollitt.pdf
[47] This paper is available from: http://www.ofgem.gov.uk/Networks/rpix20/forum/cp/Documents1/Ofgem%20RPI-X20%20ESCo%20paper%20final.pdf
[48] This paper is available from: http://www.ofgem.gov.uk/Networks/rpix20/forum/innovation/Documents1/KEMA%20Technology%20changes%20Final%20Report.pdf
[49] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=15&refer=Networks/rpix20/publications/Presentations
[50] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=35&refer=Networks/rpix20/publications/Presentations

Bilateral meetings with regulators and regulated companies

1.31. In addition to these workshops and papers we have had bilateral discussions with a number of regulators and regulated companies in other sectors and other countries. Details are provided in the table below.

Who we talked to	What we discussed
The Dutch Energy Ministry (Minez)	Experience with yardstick competition and consideration of long-run investment needs for innovation, climate change and changing role of network companies.
Consumer Advocate, Florida, USA	Experience with rate base regulation, role of consumer advocate and impact of negotiated settlements.
Ex-regulator, Queensland, Australia	Role of energy ombudsman and experience with 'quasi' negotiated settlements.
New Zealand (Electricity Commission And Orion Networks)	Changes in regulatory framework, including approach to investment planning and setting standards. Experiences of distribution networks as system operators.
Regulatory Assistance Project (US)	Experience with regulation in range of US states, particularly Vermont and California. Lessons on role of networks in delivering energy efficiency projects and active demand management.
Canadian regulators – British Columbia State Regulator and Federal regulator	Experiences with negotiated settlements as part of rate base regulation.
Civil Aviation Authority (CAA)	Experiences with constructive engagement at Heathrow, Gatwick and Stansted.
Martin Cave	Ideas from Cave's 'Independent Review of Competition and Innovation in Water Markets' and experience of innovation and investment requirement in telecoms, particularly in relation to next generation access requirements.
Danish Energy Regulatory Authority (DERA)	Regulation of gas, electricity and district heat networks.
PG&E, California, USA	Approach to regulating new investment required in transmission to connect renewables with potential to earn 100 basis points about average. Transmission operators also have low carbon incentives placed on them. Lessons on role of consumers, with regulator encouraging agreement where possible but having final say where appropriate.
Civil Aviation Regulator (Ireland)	Experiences with broadly defined right to appeal decisions on price controls of Dublin Airport Authority.
Energiamarkkinavirasto (Finnish Energy Market Authority)	The scope of their review of energy regulation, their previous use of ex post regulation, implementation of smart metering in Finland, arrangements for distributed generation and microgen, support schemes for renewables and cost of capital.
Chevening programme in the Economics of Energy	Sharing of views with international regulators on the direction of RPI-X@20.
Ofcom	Introduction of a right of appeal for third parties in telecoms and their experiences.

DfT	Franchising, introduction of a right of appeal for third parties in airports, and their experiences. Electric vehicles and the provision of re-charging infrastructure.
CC Water	Consumer engagement practises and views on our current thinking.
ORR	Experiences in rail franchising
NAO	Experiences in tendering and franchising
Ofwat	Overall scope and process of review, comparison of experience of water and energy networks approaches to price control.
Water companies/UKWIR	Attended UKWIR seminar on options for future water regulation
Norwegian energy network companies	Experiences of recent change in regulation of energy networks in Norway

Appendix 8 – The Authority's powers and duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This Appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.[51]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[52].

1.4. The Authority's principal objective when carrying out certain of its functions under each of the Gas Act and the Electricity Act is to protect the interests of existing and future consumers, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas conveyed through pipes, and the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.

1.5. The Authority must when carrying out those functions have regard to:

- the need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- the need to secure that all reasonable demands for electricity are met;
- the need to secure that licence holders are able to finance the activities which are the subject of obligations on them[53];
- the need to contribute to the achievement of sustainable development; and
- the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[54]

1.6. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

[51] entitled "Gas Supply" and "Electricity Supply" respectively.
[52] However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.
[53] under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.
[54] The Authority may have regard to other descriptions of consumers.

- promote efficiency and economy on the part of those licensed[55] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity; and
- secure a diverse and viable long-term energy supply.

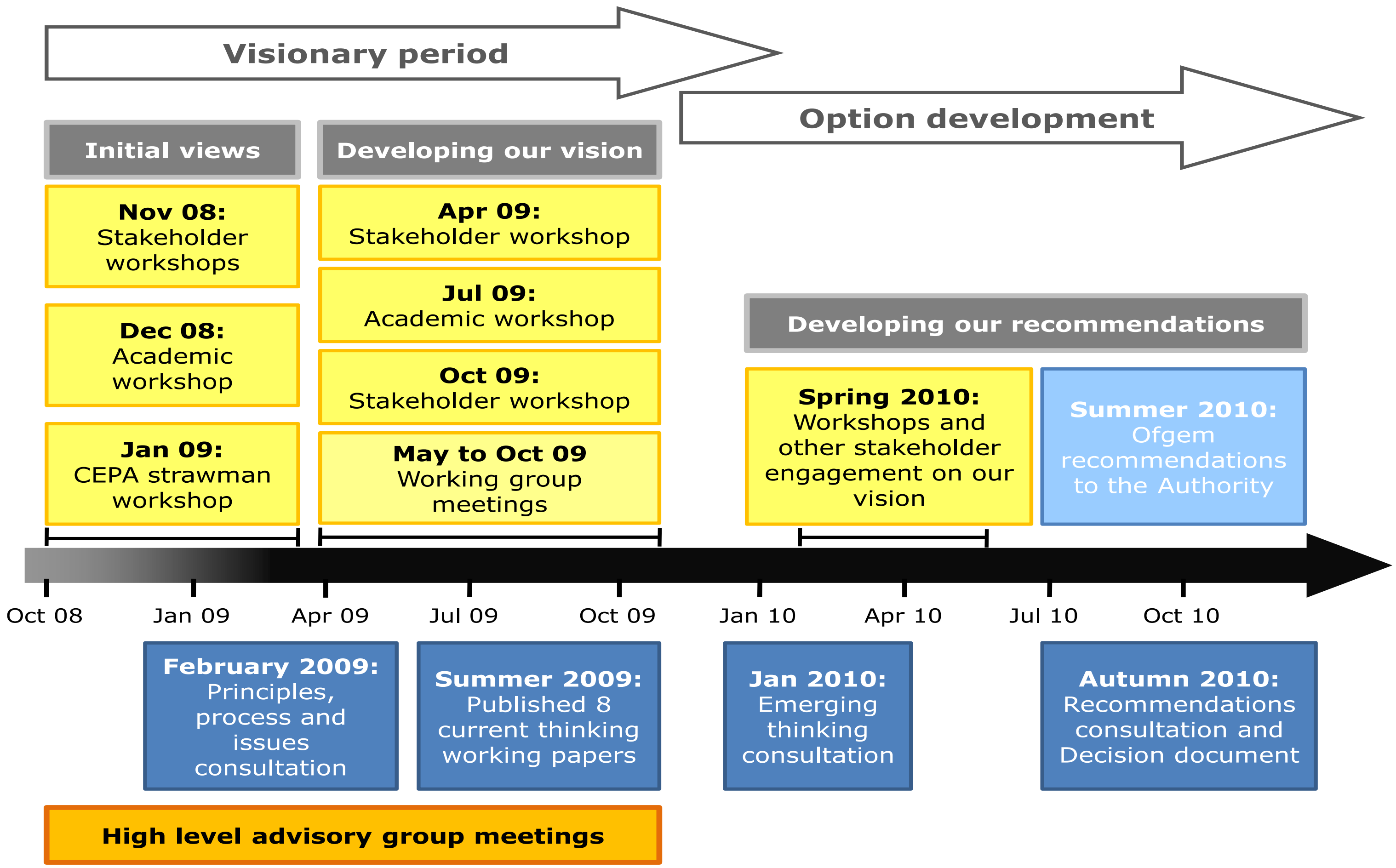
1.7. In carrying out the functions referred to, the Authority must also have regard, to:

- the effect on the environment of activities connected with the conveyance of gas through pipes or with the generation, transmission, distribution or supply of electricity;
- the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[56] and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

[55] or persons authorised by exemptions to carry on any activity.
[56] Council Regulation (EC) 1/2003

Appendix 9 – RPI-X@20 timeline



Appendix 10 – Associated documents

Parallel consultation papers:

- Embedding financeability in a new regulatory framework
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20financeability.pdf
- ***We will also shortly be publishing a separate consultation on 'Third-party right to challenge our final price control decisions'.***

Supporting papers:

- Longer-term price controls, Reckon LLP (2010)
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/reckon%20lt%20controls.pdf
- Enhanced engagement
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20engagement.pdf
- Incentivising efficient longer-term delivery of desired outcomes
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20long%20term.pdf
- A specific innovation stimulus
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20innovation.pdf
- Greater role for competition in delivery
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20competition.pdf
- Simplicity of the framework: issues to consider
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20simplicity.pdf
- Alternative ex ante and ex post regulatory frameworks
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20alternatives.pdf
- Update on domestic and EU policy context
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/et%20policy.pdf
- **Glossary**
  http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/glossary.pdf

RPI-X@20 February consultation document and supporting papers

- Regulating energy networks for the future: RPI-X@20 Principles, Process and Issues
  http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=1&refer=Networks/rpix20/publications/CD

RPI-X@20 working papers

- Regulating energy networks for the future: RPI-X@20, Delivering outcomes: Consumer engagement in the regulatory process
  http://www.ofgem.gov.uk/Networks/rpix20/forum/rocag/Documents1/Role%20of%20consumers%20working%20paper_FINAL.pdf

- Regulating energy networks for the future: RPI-X@20, Delivering desired outcomes: Who decides what energy networks of the future look like? http://www.ofgem.gov.uk/Networks/rpix20/forum/rocag/Documents1/rpix20%20who%20decides%20what%20energy%20networks%20of%20the%20future%20look%20like%20FINAL.pdf

- Regulating energy networks for the future: RPI-X@20, Innovation in energy networks: Is more needed and how can this be stimulated? http://www.ofgem.gov.uk/Networks/rpix20/forum/innovation/Documents1/RPI-X20%20Innovation%20Working%20Paper_FINAL%20DRAFT.pdf

- Regulating energy networks for the future: RPI-X@20, Delivering a sustainable energy sector and value for money - A modified ex ante incentive framework http://www.ofgem.gov.uk/Networks/rpix20/forum/for/Documents1/Modified%20ex%20ante%20regulatory%20framework.pdf

- Regulating energy networks for the future: RPI-X@20, Delivering outcomes: Ensuring the future regulatory framework is adaptable http://www.ofgem.gov.uk/Networks/rpix20/forum/do/Documents1/FINAL%20Adaptability%20paper.pdf

- Regulating energy networks for the future: RPI-X@20, Delivering a sustainable energy sector and value for money - What do we mean by 'efficiency'? http://www.ofgem.gov.uk/Networks/rpix20/forum/do/Documents1/what%20do%20we%20mean%20by%20efficiency_publish.pdf
- Regulating energy networks for the future: RPI-X@20, Delivering a sustainable energy sector and value for money: enhancing competitive pressures on regulated networks http://www.ofgem.gov.uk/Networks/rpix20/forum/cp/Documents1/RPI-X@20%20Working%20Paper%20-%20Enhancing%20competitive%20pressures%20-%20Final.pdf

- Regulating energy networks for the future: RPI-X@20 - Working paper 1: What should a future regulatory framework for energy networks deliver? http://www.ofgem.gov.uk/Networks/rpix20/forum/do/Documents1/RPI-X20%20Working%20Paper%20-%20What%20should%20a%20future%20energy%20regulatory%20framework%20deliver%20-%20Final.pdf

Consultant reports for RPI-X@20

- Should energy consumers and energy network users have the right to appeal Ofgem price control decisions? LECG (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/rocag/Documents1/Right%20of%20Appeal%20Final.pdf

- Consumer involvement, ex post regulation and customer appeal mechanisms, response to consultant and contribution documents, Stephen Littlechild (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/rocag/Documents1/Consumer%20involvement%20ex%20post%20%20consumer%20appeal%2029%20Nov%2009%20(2)%20(2).pdf

- RPI-X@20, Technological change in electricity and gas networks, KEMA (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/innovation/Documents1/KEMA%20Technology%20changes%20Final%20Report.pdf

- The case for ex post regulation of energy networks, LECG (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/for/Documents1/Final%20report%20ex%20post%20regulation.pdf

- The role of future energy networks, Frontier Economics (2009) http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=2&refer=Networks/rpix20/forum/for

- Energy Services Companies – their benefits and implications for regulation and the consumer, Peter Boait (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/cp/Documents1/Ofgem%20RPI-X20%20ESCo%20paper%20final.pdf

- Does Electricity (and Heat) Network Regulation have anything to learn from Fixed Line Telecoms Regulation? Michael Pollitt (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/cp/Documents1/Telecoms%20Pollitt.pdf

- A review of the rail and water regulatory models – lessons for energy, CEPA (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/lfor/Documents1/Review%20of%20regulation%20in%20rail%20and%20water.pdf

- New Zealand Gas Industry Regulation – lessons for energy, CEPA (2009) http://www.ofgem.gov.uk/Networks/rpix20/forum/lfor/Documents1/NZ%20gas%20regulation.pdf

RPI-X@20 industry working groups

- RPI-x@20 Consumer Working Group Paper http://www.ofgem.gov.uk/Networks/rpix20/forum/rocag/Documents1/Consumer%20Working%20Group%20Paper_FINAL.pdf

- RPI-X@20 Working Group Report on Innovation in Energy Networks http://www.ofgem.gov.uk/Networks/rpix20/forum/innovation/Documents1/FINAL%20working%20group%20paper%20on%20innovation.pdf

- RPI-X@20 Finance Working Group Paper http://www.ofgem.gov.uk/Networks/rpix20/forum/financing/Documents1/Finance%20WG%20-%20Final%20Final.pdf

- RPI-X@20 Investment Working Group Paper http://www.ofgem.gov.uk/Networks/rpix20/forum/investment/Documents1/Working%20group%20on%20investment%20final%20paper%20public%20version.pdf

Other sources for RPI-X@20 supporting material

- RPI-X@20 web forum – contains Ofgem, consultant, academic and stakeholder publications and responses to RPI-X@20 related issues. http://www.ofgem.gov.uk/Networks/rpix20/forum/Pages/forum.aspx

- RPI-X@20 workshops http://www.ofgem.gov.uk/Networks/rpix20/publications/Presentations/Pages/Presentations.aspx

Speeches by Alistair Buchanan on RPI-X@20

- Is RPI-X still fit for purpose after 20 years? October 2008 http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=8&refer=Media/keyspeeches

- Ofgem's 'RPI at 20' project, March 2008 http://www.ofgem.gov.uk/Media/keyspeeches/Documents1/SBGI%20-%206%20MARCH.pdf

Appendix 11 - Glossary

1.1. A full glossary of the terms used in our suite of Emerging Thinking papers can be found on our website (http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/glossary.pdf).

Appendix 12 - Feedback questionnaire

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

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

1.2. Please send your comments to:

Andrew MacFaul
Consultation Co-ordinator
Ofgem
9 Millbank
London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk