ofgem Promoting choice and value for all gas and electricity customers

RIIO

Regulating energy networks for the future: RPI-X@20 Recommendations Impact Assessment

Document type: **Impact Assessment**

Date of publication: 26 July 2010

Deadline for response: 6 September 2010

Target audience: Consumers and their representatives, gas and electricity transmission and distribution companies, generators and gas producers/importers, suppliers, shippers, investors, those with sustainable development interests, academics and other interested parties.

Overview:
RPI-X@20 is Ofgem's detailed review of energy network regulation. Our 'Recommendations' paper sets out for consultation, GEMA's minded to decision to implement *Sustainable Network Regulation* for gas and electricity transmission and distribution network companies. The new regulatory framework would first be applied in the next transmission and gas distribution price control reviews (due to be implemented by April 2013) and in the sixth electricity distribution price control review (DPCR6, due to be implemented by April 2015).

This impact assessment looks at the benefits and potential risks or costs associated with the potential implementation of this regulatory framework. We compare the impact of introducing Sustainable Network Regulation against the baseline of retaining the existing RPI-X price control frameworks. The assessment is undertaken at a high level and is largely qualitative as the nature of the proposals means that it is difficult to quantify the magnitude of impacts that may result. The actual impact on bills will only be realised once the principles of Sustainable Network Regulation are implemented at the price control reviews.

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

Tel: 020 7901 7165

Email: RPI-X20@ofgem.gov.uk

Team: RPI-X@20

Context

The gas and electricity industries are at a crossroads. They face major challenges and opportunities, primarily driven by the need to decarbonise Britain's energy sector, while maintaining a safe, secure and affordable system for existing and future consumers. We have been tackling many of these challenges with the network companies in recent years, evolving the RPI-X regulatory framework at price control reviews. This is most apparent in our recent electricity distribution price control review (DPCR5) and in the enhanced investment incentives for transmission companies to connect more renewable generation ahead of demand.

RPI-X@20 is Ofgem's comprehensive review of how we regulate energy network companies to determine whether the existing 'RPI-X' framework will remain fit for purpose in light of these challenges. We developed a vision of the future regulatory framework for our 'Emerging Thinking' consultation in January 2010 and are now consulting on our recommendations for a new regulatory framework. The Gas and Electricity Markets Authority (GEMA) is minded to implement these recommendations and will take account of responses to this consultation when reaching a final decision in autumn 2010.

We have worked closely with a number of stakeholders and interested parties to understand the issues and challenges facing the energy network companies. We have assessed a range of alternative regulatory frameworks and consulted widely on our developing ideas on specific aspects of the regulatory framework.

We have asked whether the current frameworks can help deliver a sustainable energy sector sufficiently quickly, given, in particular, the significant network investment and innovation required. The existing RPI-X framework has delivered lower prices, increased investment and improved quality of service, and ensured network companies have been able to finance themselves. However, that framework was not designed for the challenges that network companies now face. The nature and pace of change possible under the existing framework will not be enough. The regulatory framework must be reformed to encourage network companies to make the scale of changes required.

Our recommendations set out a new framework – *Sustainable Network Regulation.* The framework is based on the RIIO model, setting **R**evenue using **I**ncentives to deliver **I**nnovation and **O**utputs. We have taken the elements of the existing framework that work well, adapted other elements to ensure they are focused on delivery of a sustainable energy sector and long-term value for money, and added elements to encourage the radical measures needed in innovation and timely delivery. We are confident that we have a comprehensive and coherent package that will encourage network companies to play a full role.

This document assesses the potential impact of the new regulatory framework, relative to the option of retaining the existing RPI-X framework. The assessment is largely qualitative in nature as the precise impact will only be known when the framework is implemented at price control reviews.

Associated documents

- Regulating energy networks for the future: RPI-X@20 Recommendations http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/RPI-X@Recommendations.pdf
- A Guide to Price Control Modification References to the Competition Commission - Licensee and Third Party Triggered References (Draft) http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/Mod%20guidance.pdf
- Regulating energy networks for the future: RPI-X@20 Recommendations - Implementing Sustainable Network Regulation http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/Implementation.pdf
- Glossary http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/rec%20glossary.pdf
- Emerging Thinking consultation (January 2010) http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=42&refer=NETWORKS/RPIX20/CONSULTDOCS
- Principles, Process and Issues consultation (February 2009) http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=76&refer=NETWORKS/RPIX20/CONSULTDOCS
- Alistair Buchanan speech**:** Is RPI-X still fit for purpose after 20 years? October 2008 http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=24&refer=NETWORKS/RPIX20/FACTSHEETS
- Alistair Buchanan speech: Ofgem's 'RPI at 20' project, March 2008 http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=23&refer=NETWORKS/RPIX20/FACTSHEETS
- Other working papers, consultant reports and submissions by network companies and other parties can be found on **the RPI-X@20 website:** http://www.ofgem.gov.uk/Networks/rpix20/Pages/RPIX20.aspx
- A full list of all the documents produced for the RPI-X@20 review can be found at: http://www.ofgem.gov.uk/Networks/rpix20/Stakeholder/Documents1/RPI-X@20%20full%20list%20of%20paper.pdf

Table of contents

Executive summary

Background and context

1.1. RPI-X@20 is Ofgem's comprehensive review of how we regulate Britain's energy networks[1]. We are looking ahead, on behalf of consumers, to ensure that we have a regulatory framework in place that can meet current and future challenges. In our 'Recommendations' consultation paper[2], published alongside this Impact Assessment, we set out for consultation our proposal to move to a new regulatory framework, *Sustainable Network Regulation*. We have also published a supporting paper providing further details on how we would envisage implementing the regulatory framework at future price control reviews[3].

1.2. This document complements the Recommendations paper and supporting paper by providing an overview of the key impacts that Sustainable Network Regulation is likely to have, relative to the existing RPI-X framework in place across gas and electricity transmission and distribution network sectors. It is important to clarify that the recommendations of RPI-X@20 will not be implemented until the next price controls in transmission and gas distribution take place and, as such, there will not be any impact on consumer bills until this time. This document therefore seeks to identify the potential impacts that would arise from the application of these principles as part of a price control review. We take a generic view of the whole energy network sector rather than focusing on the impact of the changes in each network sector, recognising that in actuality the detail will vary across each sector and hence the precise impact may also vary by sector.

Key findings and conclusions

1.3. Sustainable Network Regulation would be designed and implemented to encourage energy network companies to:

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

1.4. We have considered the potential impacts of moving away from the existing RPI-X framework to Sustainable Network Regulation in a number of key areas related to our principal objective and statutory duties. When considering the potential impacts of implementing Sustainable Network Regulation, it is important to look at the package as whole, taking account of interactions between the elements.

[1] We are looking at how to set price controls for the monopoly energy network companies. We are not considering other aspects of how we regulate energy network services e.g. gas capacity auctions, gas entry / exit arrangements, electricity transmission access arrangements and system operator incentives.
[2] Available from: http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/RPI-X@Recommendations.pdf
[3] Available from: http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/Implementation.pdf

1.5. Table 1 below provides an overview of the key impacts that implementation of Sustainable Network Regulation could have. Where possible, we have sought to quantify the impacts that would result. This has been challenging as it is difficult to understand fully the effects of Sustainable Network Regulation until it is applied as part of a price control review. Table 1 therefore presents 'ball-park' figures for the impact Sustainable Network Regulation could have if implemented. The table presents a range of potential benefits from, what we consider to be, conservative estimates to potentially more significant impacts. Even under our conservative assessment, Sustainable Network Regulation could deliver a weighted average cost of capital that is 0.25 percentage points lower and efficiency savings that are 1% per annum higher than with RPI-X, resulting in potential savings of around £1 billion for consumers across all four energy sectors over an eight year period.

Table 1: Key impacts of implementing of Sustainable Network Regulation

Element of Sustainable Network Regulation	Impact on avg consumer bills in the long term	Indicative quantitative savings relative to retaining RPI-X: Based on Discovery estimates of £32bn of onshore investment; £m per annum savings across four energy sectors; See Appx 1 for further details
Cost of capital	Lower cost of capital — / ↓	**Impact of individual elements:** Transparent predictable financeability principles ↓; Better risk/return alignment ↓ Reduction in WACC relative to RPI-X: -0.1% / -0.25% / -0.5% Average saving per annum: **£50m / £120m / £240m**
Efficiency savings	Greater efficiency savings — / ↓	**Impact of individual elements:** Outputs led: —/↓; Value for money incentives ↓; Proportionate assessment —/↓; Enhanced engagement —/↓; Length of price control ↓; Innovation stimulus —/↓; Third party involvement ↓ Efficiency savings relative to RPI-X: 1% / 5% / 10% Average consumer saving per annum: **£60-80m / £290-415m / £580-830m**
Innovation stimulus	↓	Upfront funding from consumers would lead **to efficiency savings** over time
Third party involvement	↓	**Third party involvement** could lead to savings of 10-20% of project value
Depreciation and capitalisation	—	➢ No net impact. Should rebalance costs between existing and future consumers ➢ E.g. bills may fall for existing consumers but increase in the future
Overall	↓	**Based on conservative estimates, Sustainable Network Regulation could lead to a lower increase in consumer bills of £1 billion across all four energy sectors over an eight year period, relative to retaining RPI-X**

1.6. We would welcome the views of interested parties on this impact assessment, particularly on the costs and benefits presented and whether there are better ways to quantify these. Responses should be received by 6 September 2010.

1. Key issues and objectives

Chapter summary: This chapter provides an overview of the rationale for the proposed implementation of Sustainable Network Regulation. It also sets out the approach that we are taking in preparing this impact assessment.

The rationale for Sustainable Network Regulation

1.7. Throughout RPI-X@20 we have engaged with a range of stakeholders on the merits of the existing RPI-X regime to assess the areas in which it has delivered well over time and those in which it has not delivered. We have also looked to the future to identify the challenges for the energy networks that are likely to arise and considered the way in which the regulatory framework may need to change to allow the energy networks to meet these challenges at value for money for consumers.

1.8. We have developed objectives for Sustainable Network regulation, in line with our principal objective to protect the interests of existing and future consumers and our wider statutory duty to contribute to the achievement of sustainable development. The objectives reflect the challenges that the energy networks are expected to face in the coming years. The objectives are that the framework would be designed and implemented to encourage energy network companies to:

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

1.9. Within these core objectives are a number of key aims that we are seeking to achieve through our recommendations on Sustainable Network Regulation. These include the following.

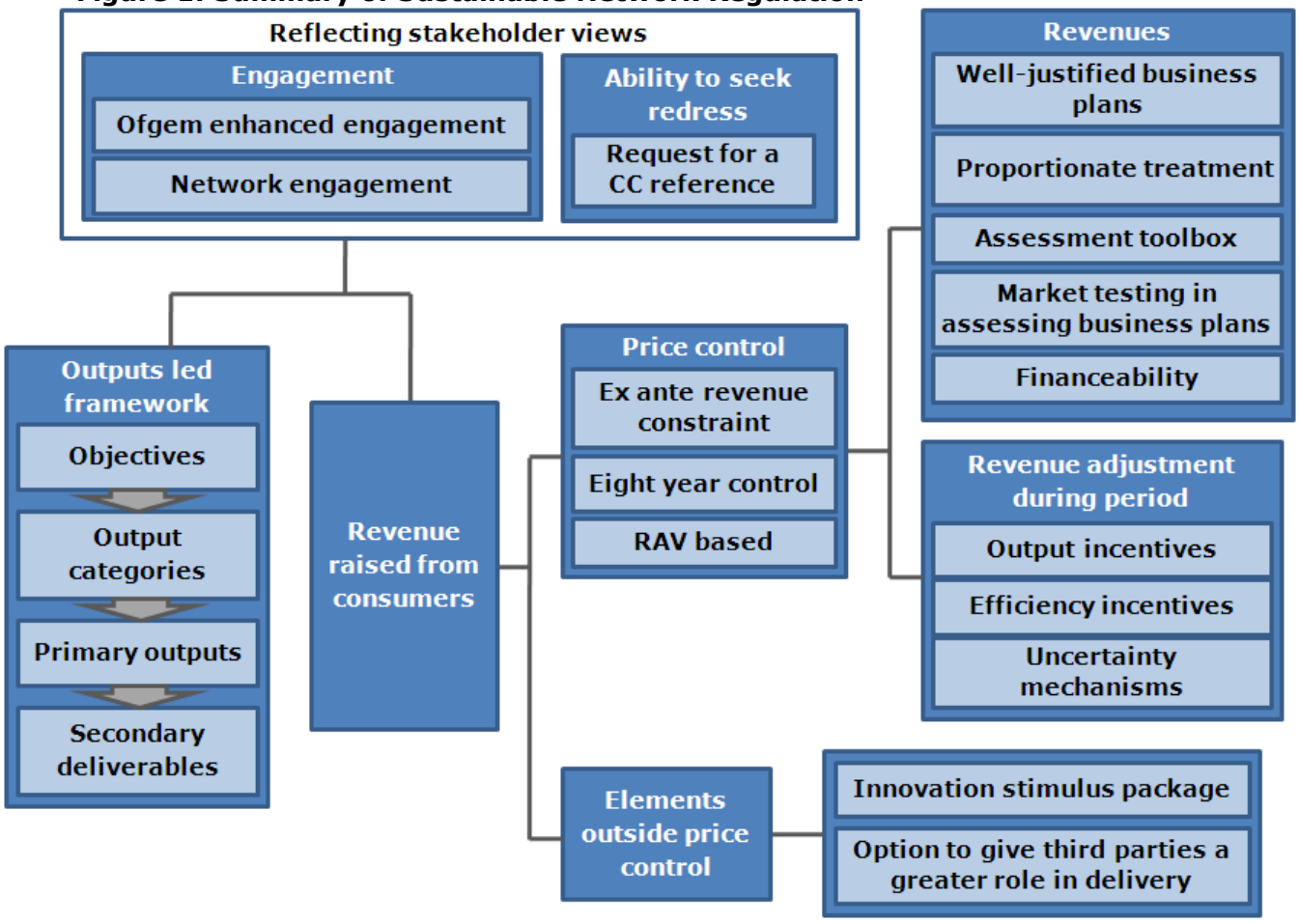
- **Driving smarter and more sustainable networks necessary for a secure, low carbon energy sector:** we want to encourage the energy networks to play a full role in meeting the objectives set out above. Through the framework, we will seek to mimic the competitive markets by rewarding those companies that rise to the challenges and penalising those that do not.
- **Managing the impact on customers' bills whilst spreading costs fairly between existing and future consumers:** the delivery of a sustainable energy sector is likely to involve increased costs to consumers. Sustainable Network Regulation will ensure these costs are shared fairly between existing and future consumers. We also anticipate that the investment required will be delivered at lower cost to consumers than would be the case under the RPI-X framework.
- **Evolving the existing framework:** the package builds on the success of the existing RPI-X framework, particularly the innovations introduced as part of the DPCR5. However, what we are asking of the network companies will change and they will need to think and act differently.
- **Stimulating large-scale innovation in network design, operation and charging:** Sustainable Network Regulation will include strong incentives for

network companies and third parties to innovate in the way they design, operate and charge for their networks. This reflects the strong evidence we have that delivering a sustainable energy sector will require a radically different approach to network design, operation and charging than has been in place for the past 50 years.

- **Smarter, more proportionate regulation:** The new regulatory framework involves enhanced stakeholder engagement, a proportionate approach to regulation and greater transparency and predictability.
- **Transparent principles to ensure network company financeability:** Our financeability principles will provide greater clarity and predictability for companies and investors. We will ensure that appropriate transition arrangements are in place to facilitate this.

1.10. In our Recommendations consultation paper and supporting paper we describe what Sustainable Network Regulation is and how it would work. A summary of the key elements is provided in Figure 1 and stakeholders should look to these documents for more detail on the regulatory framework. We focus here on the expected impact of the change rather than describing the framework.

Figure 1: Summary of Sustainable Network Regulation



Our approach to the impact assessment

1.11. This impact assessment aims to identify the potential range and significance of benefits, costs and impacts likely to result from the implementation of Sustainable Network Regulation as compared with the existing regulatory frameworks across gas and electricity transmission and distribution. When considering the range of impacts that could result, we consider the objectives of Sustainable Network Regulation and how elements of the framework would facilitate their achievement.

1.12. We have compared implementation of Sustainable Network Regulation to the frameworks that were implemented under the most recent price control reviews for each sector[4]. We have taken a 'generic' view of the whole energy network sector rather than focusing on the impact of the changes in each network sector. We recognise that in actuality the detail will vary across each sector and hence the impacts will also vary. These differences will be apparent at price control reviews. We note that many of the elements of Sustainable Network Regulation represent evolution from principles that were applied in the last electricity distribution price control and therefore the impact in electricity distribution could arguably be less pronounced than in other sectors.

1.13. When considering the impacts that could result from the implementation of Sustainable Network Regulation, it is important to focus on the package as a whole, taking account of interactions between the various elements of the framework. This is the approach that we adopt in this Impact Assessment.

1.14. The nature of the proposals means that it is difficult to quantify the costs and benefits associated with implementation of Sustainable Network Regulation. This is largely due to the fact that we are recommending the application of principles in the next round of price controls. We therefore do not have full visibility on the impact on bills until the principles are applied during the price control process. However, where possible, we have tried to quantify the impacts that may result from implementation. The numbers presented in this document should be treated as 'ball-park' figures and are intended to provide an indication of the likely direction and scale of impacts that might result. Appendix 1 provides further details on the way that we have calculated the potential quantitative impacts. Consistent with our statutory duty, in this impact assessment we also have regard to the way that implementation of Sustainable Network Regulation would help to facilitate principles of best regulatory practice.

1.15. We would welcome the views of interested parties on the issues set out in this impact assessment by 6 September 2010. In particular, we would be keen to understand the views of stakeholders on the costs and benefits presented and whether there are potentially better ways to seek to quantify these in advance of implementation at price control reviews.

[4] The fifth electricity distribution price control review (DPCR5), the fourth transmission price control review (TPCR4) and the first gas distribution price control review (GDPCR1).

2. Options

Chapter summary: This chapter provides an overview of the varying regulatory regimes considered as part of the RPI-X@20 review. It sets out the alternative regulatory frameworks we have considered and explains why an ex ante price control has been identified as the preferred option for future regulation of energy network companies.

Consideration of alternative options

2.1. The RPI-X@20 review has provided the opportunity for us to step back and consider the case for a fundamental change in the type of regulatory framework used to drive outcomes and constrain the prices, revenues and profits of energy network companies. As part of the review, we have considered whether there is a case for moving to other regulatory frameworks discussed in the academic and regulatory literature or used in other jurisdictions. As part of this work we have considered:

- ex post regulation;
- negotiated settlements; and
- alternative ex ante controls.

2.2. A brief overview of our assessment in each of these areas is provided in the following sections. This is intended to provide the rationale for our proposed retention of an ex ante framework and the reasons why we have not chosen to adopt a more radical change.

Ex post regulation

2.3. Ex post regulation covers a range of approaches in which no firm price control is specified upfront. Instead, reliance is placed on other mechanisms or rules to drive outcomes and constrain the prices and behaviour of the regulated company, with regulatory intervention if there is a breach.

2.4. Prior to the publication of our Emerging Thinking consultation, we commissioned LECG to undertake work to examine the case for "ex post" regulation of energy network companies drawing on both economic literature and case studies[5]. These studies informed our assessment of whether the objectives of RPI-X@20 would be better served by switching from ex ante regulation towards an ex post approach.

2.5. The work that was undertaken highlighted that there is no single definition of an ex post regime but rather there is a spectrum of approaches from pure ex ante to pure ex post regulation. There are a number of different models along this spectrum, some of which are principally ex ante with some elements determined

[5] The case for ex post regulation of energy networks, LECG (2009), available from http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=11&refer=NETWORKS/RPIX20/CONSULTREPORTS

after the event, and others which are principally ex post but have some elements set up front.

2.6. The main conclusions reached from the work taken forward as part of RPI-X@20 suggested that application of ex post regulation would not be appropriate within the energy network sectors. As the network companies do not face competitive pressures and have a high degree of market power, ex post regulation may not be effective in constraining excessive prices, potentially to the detriment of consumers.

2.7. Ex post regulation had some success in Australian airport regulation. Under this model, network companies and the regulator face a lower regulatory burden than the ex ante approach adopted in GB energy network regulation. The regime also performed better in terms of delivering efficient and timely investment and innovation. However, we concluded that this model would not provide a suitable replacement for a framework based on ex ante controls. A particular concern with this approach was that success was contingent on the ability of the airlines to negotiate effectively with airports and we remain of the view that Ofgem should retain responsibility for regulatory decisions taking account of information obtained through stakeholder engagement. Another concern noted with this example was that the potential existed for a reduction in safeguards against excessive pricing.

2.8. In light of the work completed, we concluded that we had not identified a case for moving towards an ex post regulatory approach in GB energy network regulation, particularly as we had concerns that consumers would not be adequately protected from high prices. However, we outlined that this should be kept under review if competitive conditions were to change or conditions arose which would facilitate effective negotiations between network companies and industry stakeholders.

Negotiated settlement and constructive engagement

2.9. We are aware that a number of different regulatory approaches have been adopted in other regimes which place greater emphasis on the role of engagement in determining the final form of the regulatory settlement[6]. A particular approach that has been adopted in a number of contexts in North America is negotiated settlements. Under negotiated settlements network companies and consumers would hold discussions about key elements of the framework, and would be given responsibility for agreeing the most appropriate way forward for the next price control period. A variant of this adopted in GB airport regulation is constructive engagement, under which the CAA stated that it would, as far as possible, base key aspects of the price control (e.g. capital expenditure) on the outcome of direct negotiation between the airport operator and airlines.

[6] Some of these issues are discussed in a consultant report we commissioned from Littlechild and Cornwall entitled 'Potential scope for user participation in the GB energy regulatory framework, with particular reference to the next Transmission Price Control Review' available from: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=2&refer=NETWORKS/RPIX20/CONSULTREPORTS Our views are also discussed in 'Regulating energy networks for the future: RPI-X@20 Emerging Thinking - Enhanced engagement', available from: http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/et%20engagement.pdf

2.10. We recognise the benefits of these types of approaches in providing opportunities for stakeholders to engage meaningfully on, and influence, the outcome of the price control review. Where these types of models have been applied effectively, we also note that this can streamline the approach and reduce the administrative burden of taking forward a price control.

2.11. However, we concluded that we did not think it would be appropriate to adopt an approach based on negotiated settlement for GB energy networks. Given the diverse range of views that stakeholders have, we thought it would be more appropriate for GEMA to continue to take decisions regarding the outcome of the price control process. In particular, we were concerned that there was no representative to negotiate on behalf of future consumers and a number of parties had raised concerns that not all parties that might wish to negotiate with the companies would be able to represent the interests of consumers effectively. We do, however, think that stakeholders should be given opportunities to engage effectively with both us and the network companies so that we have a full understanding of their views when setting the price control and so that network companies focus on the needs of their consumers, and their commercial relationships with users of the network, on an ongoing basis.

Other ex ante price control frameworks

2.12. We have looked at a number of alternative ex ante price control frameworks during RPI-X@20 including[7]:

- rate of return;
- pure price caps;
- yardstick regulation;
- TFP-based price caps;
- sliding scale;
- profit-sharing; and
- long-run average incremental cost.

2.13. In our assessment we recognised that the current regime already represents a mix of elements from alternative price control models. We concluded that we had not identified a good case for a wholesale move to one of these models but noted that there were lessons that we could learn from these approaches in terms of the best way to progress Sustainable Network Regulation.

[7] Greater detail on each of the frameworks is provided in 'RPI-X@20 Emerging Thinking consultation document: Alternative ex ante and ex post regulatory frameworks, available from: http://www.ofgem.gov.uk/Networks/rpix20/ConsultDocs/Documents1/et%20alternatives.pdf

3. Potential benefits

Chapter summary: This chapter provides an overview of the expected potential benefits of moving from RPI-X to Sustainable Network Regulation.

3.1. We set out, in Chapter 1, the objectives for Sustainable Network Regulation. These are intended to encourage certain types of behaviour from the network companies. To facilitate delivery against these objectives, we have developed a range of output categories and primary outputs to provide clarity to stakeholders on what the network companies need to deliver, which will allow us to monitor their performance over time. This will provide full visibility on the deliverables from the network companies and the associated cost which should improve our understanding of the extent to which the network companies are delivering at value for money.

3.2. The framework also places emphasis on longer-term thinking and longer-term solutions delivering value for money. We would therefore need to have regard to the extent to which network companies are achieving value for money for consumers over the longer-term. The framework also includes incentives on the network companies to innovate to achieve further efficiencies in delivery.

3.3. Each of these components of the framework is designed to ensure that the network companies deliver outputs in line with stakeholder expectations, at lower costs than would have been seen under the existing RPI-X framework.

3.4. The following sections provide an overview of the potential benefits for consumers that may be achieved, focused particularly on:

- the delivery of outputs aligned with a sustainable energy sector;
- the management of increases in network charges over the long-term (and hence customers' bills);
- innovation;
- the needs of consumers and network users; and
- proportionate and transparent regulation.

Delivery of outputs

3.5. Sustainable Network Regulation would be guided by the objectives that we have set for the regulatory framework. This places a clear focus on value for money for existing and future consumers and clarifies our expectation that network companies should have a role in the delivery of a sustainable energy sector. The intention of these objectives is to place sustainability alongside the needs of consumers at the heart of the regulatory framework, recognising the value that could be achieved where delivery of energy is sustainable over the longer-term.

3.6. The output categories and primary outputs would provide transparency to all stakeholders on how network companies should seek to achieve these objectives. As

far as possible, the output categories should capture the key areas within which consumers would expect the delivery of high quality services from the network companies. The presence of primary outputs would allow delivery in these areas to be monitored and should reflect the expectations of a range of consumers with respect to network services, drawing on the views expressed through stakeholder engagement with the network companies and with Ofgem. Where consumer views are reflected in primary outputs and levels of performance that the network companies are required to deliver, this would help to ensure value for money is delivered, in line with their expectations.

Management of increases in network charges

3.7. Throughout RPI-X@20, we have highlighted that there are significant challenges facing energy networks including maintaining security of supply and moving to a low carbon economy. As a result, we anticipate that network companies will need to undertake markedly higher investment. Indeed, Project Discovery highlighted that around £32bn of investment is likely to be needed to 2020 across onshore transmission and distribution[8].

3.8. Given the magnitude of investment that needs to be delivered, we would expect the level of consumer network charges compared to today to increase, regardless of the regulatory regime in place. Any increases will have a significant impact on consumer bills, with consumer network charges making up around 20 per cent of final consumers' energy bills[9]. For an average dual fuel bill of £1,105[10] this equates to around £220 per annum.

3.9. We are confident that the introduction of Sustainable Network Regulation would, over the long-term, deliver lower average network charges for consumers than would be the case if we continue to use RPI-X regulation. This conclusion is not surprising given that the regulatory framework has been designed to encourage network companies to do more to deliver a sustainable energy sector but also to provide stronger incentives to deliver at long-term value for money. The following sections provide an overview of the areas in which we think the regulatory framework will contribute to lower network charges.

Focus on the longer-term

3.10. Under Sustainable Network Regulation, the length of the price control period would be extended from five to eight years to encourage the network companies to think on a longer-term basis. They would also be encouraged to consider the implications that their proposed expenditure for the coming period would have for required investment and associated efficiency beyond the control period.

[8] Across the four scenarios presented by Discovery the level of investment needed ranges from £30.6 - £31.8bn

[9] Network charges make up around 23 per cent and 19 per cent of final consumers' bills in electricity and gas respectively. Distribution charges account for majority of this – in the region of 17 to 18 per cent of final consumer bills. Source: June 2010 Supply Market Report and internal calculations.

[10] Data for May 2010. Source: June 2010 Electricity and Gas Supply Market Report

3.11. We would also seek to ensure value for money by providing network companies with a package of incentives to encourage them to look for the likely lowest total cost solutions over the long-term. This would help address the current narrow focus that the network companies have on the achievement of short-term efficiencies, during the five-year price control period, rather than considering the longer-term implications of their actions. We would expect this longer-term focus to have a positive effect on the way the companies run their networks, making them more cost efficient over a longer time horizon and thereby allowing them to play a full role in the delivery of a sustainable energy sector at efficient costs for both existing and future consumers. There is the potential for these savings to then be passed onto the consumer, delivering improved value for money network services at lower environmental costs.

3.12. The focus on the longer-term is a further factor that could help to manage the level of increases in network charges by potentially exposing efficiencies in delivery.

Increased efficiency savings

3.13. Sustainable Network Regulation would be expected to deliver higher efficiency savings over time, and hence lower allowed revenue, than would be the case under RPI-X. For example, the focus on the longer-term, reinforced by the eight year control period, would be expected to increase efficiency savings. In addition, moving to an outputs-led framework and introducing tendering into the regulatory tool-kit would also be expected to have a marked impact.

3.14. To give an indication of the magnitude of potential consumer savings, an additional 1 per cent reduction in costs (i.e., a 1 per cent higher rate of efficiency saving) could result in consumer saving between £60-80m per annum which, for an average annual dual fuel bill[11], would equate to a saving in the range of £7-£9 per year, relative to RPI-X[12]. If the difference in efficiency savings is greater than 1 per cent, as we would expect it to be, this would lead to much greater annual savings for consumers. For example, relative to retaining RPI-X, an additional 5 per cent efficiency saving could yield consumer savings between £290-£415m per annum.

3.15. Efficiency savings could also result from implementation of the innovation stimulus, discussed in Paragraphs 3.16 to 3.17 and the option to give third parties a greater role in delivery, discussed in Paragraphs 3.20 to 3.21.

Innovation

[11] This is assumed to be £1105 based on Ofgem's Electricity and Gas Supply Market Report, June 2010 http://www.ofgem.gov.uk/Markets/RetMkts/ensuppro/Documents1/Electricity%20and%20Gas%20Supply%20Market%20Report%20June%202010.pdf

[12] See Appendix 1 for further details of the calculation. Calculation based on scenario of 10 per cent growth in expenditure and latest annual allowed revenue figures in all four of the energy sectors.

3.16. The innovation stimulus package would learn lessons from the Innovation Funding Incentive (IFI) and Low Carbon Networks (LCN) Fund[13]. It would develop some of the principles from the LCN Fund and allow non-network parties to compete for funding as well as providing support across the energy network sectors for projects focused on the delivery of a sustainable energy sector. The funding for the innovation projects would be raised from consumers through network charges, with the amount raised set at price control reviews. We anticipate that the innovation stimulus package would lead to more innovative network solutions, ensuring longer-term cost reductions and increased efficiency, which would ultimately deliver greater value for money for consumers. In addition, the innovation stimulus should also facilitate the effective delivery of renewable and emission reduction targets at lower overall cost.

3.17. In the longer-term, we anticipate that the incentives inherent to Sustainable Network Regulation would encourage greater levels of innovation, potentially removing the need for the innovation stimulus package. In particular, the focus on the delivery of outputs, the emphasis on assessment of efficiencies over the longer-term and the proposals to equalise capex and opex incentives should encourage network companies to innovate to ensure that they play a full role in the delivery of a sustainable energy sector at value for money for existing and future consumers. This could increase benefits to consumers by exposing efficiencies in delivery through innovation without the need for specific funding to achieve this. We therefore think that there would be greater potential benefits for consumers in the longer-term.

Lower cost of capital

3.18. Under Sustainable Network Regulation, we anticipate that the cost of capital would be lower than if we retained RPI-X. For example, we would expect that transparency on the principles for setting the allowed return and our approach to determining gearing could lead to a lower cost of capital than would be the case under RPI-X regulation.

3.19. A reduction in the cost of capital, relative to what it would have been under the RPI-X regime, may be expected to yield notable consumer savings. To illustrate, a reduction of 0.1 per cent to 0.5 per cent in the cost of capital could result in consumer savings per annum of £50m - £255m[14]. For an average annual dual fuel bill of £1,105 this could result in savings of £5.50-£29 per annum, relative to maintaining RPI-X[15].

Option to give third parties greater role in delivery

3.20. Having the option to involve third parties in delivery, through competitive processes, could lower the cost to consumers. If we use the option we would expect

[13] The IFI was implemented in electricity distribution as part of DPCR4. The IFI was subsequently introduced in transmission and gas transmission. At DPCR5, the success of the IFI in stimulating expenditure on R&D was recognised, but it was noted that there was insufficient funding to allow trialling of innovative technologies. The low carbon network (LCN) fund was developed to address this.
[14] See Appendix 1 for further details of the calculation.
[15] £1105 figure based on Ofgem's Electricity and Gas Supply Market Report, June 2010

new entrants to present innovative solutions, with lower operating and financing costs. The option itself would have an effect, even if we did not use it, as it would encourage network companies to be innovative and more efficient.

3.21. The scale of benefits from having the option of involving third parties in delivery is potentially significant for consumers. For example, and as an illustration only of the potential magnitude of savings, the option could drive down the scale of the £5bn capital investment programme for electricity transmission proposed by the Electricity Networks Strategy Group (ENSG)[16] with savings of £500m to £1bn[17]. These benefits would feed through into the efficiency savings benefit estimates discussed above in paragraphs 3.13 to 3.15.

3.22. In addition, where third parties are involved in delivery, this could lead to more innovative solutions particularly with respect to the transition to a sustainable energy sector at value for money for existing and future consumers.

Balance between existing and future consumers

3.23. Sustainable Network Regulation is an outputs-led framework. As presented in Chapter 1, we have clearly set out the two objectives that the regime is designed to facilitate. To ensure that all stakeholders have clarity over the areas in which the networks are expected to deliver, the framework includes clear output categories and associated primary outputs. The output categories we have developed are intended to encompass the areas in which the network companies should demonstrate delivery to play a full role in the delivery of a sustainable energy sector. The output categories include: customer satisfaction, safety, reliability and availability, conditions for connections, environmental impacts and social obligations. The inclusion of a specific output category related to the environment illustrates the emphasis that we are placing on the role of the network companies in this area.

3.24. The primary outputs and output categories would represent key aspects of the regime on which stakeholder engagement would take place, allowing us to ensure that the outputs were developed to encompass the areas of importance to existing and future consumers, and network users. As far as possible, we would commit to the output categories and primary outputs over the longer-term to provide clarity to the network companies of the need for delivery in these areas into the future.

3.25. We recognise the importance of placing incentives on the network companies to encourage efficient delivery of primary outputs over time. Therefore the outputs-led framework includes provisions for the network companies to flag up areas in which expenditure may be needed in the current price control period to ensure the delivery of primary outputs in future periods. For example, where a large investment may be required to accommodate the deployment of renewable generation in the

[16] The ENSG report 'Our electricity transmission network: A vision for 2020' is available from: http://www.ensg.gov.uk/assets/1696-01-ensg_vision2020.pdf

[17] This is an illustrative example based on potential savings of 10 per cent to 20 per cent highlighted by the National Audit Office – see Annex 1 for further details

future. This would allow required investment to take place ahead of need to ensure the continued delivery of primary outputs for existing and future consumers.

3.26. This approach would be supported by the well-justified business plans network companies would need to submit to support their proposed expenditure over the price control period. In these business plans the network companies would need to be able to demonstrate that their proposals were intended to facilitate the transition to a sustainable energy sector and represented long-term value for money for existing and future consumers. We would encourage the network companies to consider alternative ways of delivering against the primary outputs where this delivered long-term value for money. In this respect, although a new or innovative approach to delivery may increase costs during the coming price control period; this could be justified where it delivered efficiency savings in future periods.

3.27. Our financeability principles have also been developed to balance the costs paid by existing and future consumers in a fair way, so that consumers pay for the assets and investments that they generate value from. To do this, we would depreciate assets to reflect their economic life. We would also ensure that capitalisation policy allows us to balance appropriately the cost of assets paid for by existing and future consumers. Our approach to financeability is also designed so that we do not make arbitrary adjustments to our principles in other areas (e.g. equalised incentives, output incentives).

Delivery of outputs at efficient cost

3.28. Over the course of RPI-X regulation, we have observed network companies, notably in transmission, spending more than was allowed for in the price control since privatisation, particularly in recent price control periods. Overspend of between 10 per cent and 20 per cent of capital investment has been observed[18].

3.29. An outputs-led framework, coupled with symmetric efficiency incentive rates, would be expected to encourage network companies to focus on effectively managing delivery of investments and thereby limit the extent of any overspend. If we consider the capital investment proposed in the ENSG report, of around £5bn, under RPI-X there may have been a potential risk of overspend of £500m to £1,000m. With Sustainable Network Regulation, we would expect such overspends to be constrained. These benefits would contribute to realising more significant efficiency savings as discussed above in paragraphs 3.13.-3.15..

Third party request for a reference to the Competition Commission

3.30. Under existing legislation, if a third party were to write to us setting out a material and legitimate concern that our price control determination may act against the public interest, the Authority would need to respond. Under Sustainable Network Regulation we would publish guidance on how we would respond to public interest

[18] Calculations based on information set out in various price control documents and regulatory reporting annual reports.

concerns from third parties. This would provide transparency on the process we would adopt in considering any such requests.

3.31. The key benefit likely to arise from incorporating such a provision is that it would improve the effectiveness of engagement between network companies and stakeholders, ensuring that the wider views of interested parties are fully incorporated into our decision making. Publishing the guidance is also consistent with better regulation principles, improving the transparency and legitimacy of our decision-making.

Focus on consumers and network users

3.32. Under Sustainable Network Regulation, there would be onus on both us and the network companies to demonstrate effective engagement with consumers, network users and other stakeholders on an ongoing basis. We anticipate that the outputs-led framework should facilitate more effective consumer engagement. It would provide something tangible around which meaningful engagement could take place. Where it is possible to reflect consumer preferences in the final price control settlement through enhanced engagement this should help to ensure that the final settlement represents value for money for consumers. To facilitate this, it would be important that accessible information was made available by both the network companies and by us to allow consumers to engage more effectively.

3.33. Where engagement is effective, it should provide a route for stakeholders, including both consumers and network users, to indicate to the network companies where more investment may be required to meet their future needs. If this leads to the network companies being more proactive in considering future development of the network, it should facilitate greater efficiency in the way projects are taken forward and ensure they are delivered to accommodate demands on the network, including changes needed to deliver a sustainable energy system. This would help to deliver value for money for consumers and network users by ensuring there are not delays in connecting to, and ultimately using, the system.

Transparent and proportionate regulation

3.34. We have sought to design a framework that is transparent and proportionate, and provides greater certainty and predictability. The outputs-led approach, new business plans, proportionate assessment, and the longer price control period are designed to enable network companies, ourselves and stakeholders to focus effort where it is expected to add most value. We are committing to transparent principles that would underpin decisions at price control reviews. To ensure effective engagement we aim to continue to be transparent in our decision making.

3.35. We have sought to strike a balance between limiting the complexity in the framework and the need to ensure that the outputs regime and incentive mechanisms are sufficiently robust to protect consumers' interests. Where there is complexity it should be largely 'behind the scenes'; understood by Ofgem and network companies to ensure the incentives work as intended. Efforts would be

made to ensure that we and the network companies explain the framework and what is being delivered in an accessible way to stakeholders.

4. Potential risks and mitigating actions

Chapter summary: This chapter provides an overview of potential risks of introducing Sustainable Network Regulation and explains the mitigating actions that have been incorporated into the framework to manage these risks.

4.1. Throughout RPI-X@20 we have engaged with a range of stakeholders including network companies, network users, consumer representatives, environmental groups, academia and other interested parties. We have valued the input of these stakeholder groups and sought to deal with any potential issues as they were raised.

4.2. In this chapter we set out some of the perceived risks that stakeholders have raised associated with the implementation of Sustainable Network Regulation. Some of these risks, if they are realised, could lead to costs for consumers. However, we have sought to implement protections to guard against these risks and, in the event that they were to materialise, we would have tools at our disposal to manage their impact. In light of the protections that we have put in place, if these costs did arise, we think the consumer benefits outlined in Chapter 3 would outweigh these quite significantly.

4.3. This chapter looks in turn at potential risks to the achievement of benefits, and possible downsides associated with, Sustainable Network Regulation. These are addressed in the following order:

- network companies overspend in the delivery of their primary outputs;
- network companies underspend and do not deliver their primary outputs;
- we overestimate the allowances required by the network companies;
- we underestimate the allowances required by the network companies;
- uncertainty associated with the regime leads to increased regulatory risk;
- there are changes to the political context that require a change in outputs;
- there are questions about the credibility of the regulatory regime; and
- there are financeability problems that lead to an increase in the cost of capital.

Overspend in the delivery of outputs

Risks associated with the outputs-led framework

4.4. We have heard from stakeholders that there is a risk that under an outputs-led framework, network companies could inefficiently overspend as compared with the allowances agreed during the price control. In this case, consumers would be exposed to a proportion of these increased costs through the fixed efficiency incentive rate. We consider it necessary to expose consumers to this risk if network companies are to face credible incentives to find ways, during the price control period, to reduce and restrain their costs. Network companies may have little financial incentive to reduce their expenditure if the price control could be adjusted downwards to reflect reduced levels of costs.

4.5. Under Sustainable Network Regulation, we have also committed to refrain from making retrospective adjustments to revenue in the event that costs were different to those assumed when the price control was set. As such, we do not intend to carry out a detailed analysis, at the end of each price control review, of whether or not the actual expenditure incurred by network companies over the price control period should be considered "efficient".

4.6. We do not think that as a result there would be a credible risk of consumers being exposed to inefficient overspends by network companies. There are two reasons for this. First, the framework includes changes to the way that the level of the efficiency incentive rate is set to reduce the risk that the upfront efficiency incentive is not effective in deterring wasteful expenditure. Second, if we became aware, and could demonstrate, that a network company had wasted money, we would reserve the option to adjust the revenues that company could collect so as to prevent consumers from bearing a proportion of that waste. We would need to show that expenditure decisions taken by the company were unreasonable at the time they were made, in light of the information available. This provision would only be used in exceptional circumstances.

Non-delivery of the primary outputs

4.7. Under Sustainable Network Regulation, network companies would need to consider options around the delivery of outputs, as part of their business plans, rather than just a business as usual approach. Stakeholders have suggested that while this could expose innovative and efficient ways of delivering, there would also be a risk that the new approach was not effective and that the company therefore did not deliver against its outputs. They have also highlighted that this could potentially create a risk to the delivery of emission reduction targets and a sustainable energy sector overall.

4.8. We anticipate that these risks would be mitigated, to some extent, by our approach to assessing network company business plans and the high hurdle that we would establish for the companies to demonstrate their ability to deliver against the outputs. In addition, provisions would be in place to penalise companies for non-delivery against their outputs and this would provide incentives to them to ensure continued delivery even in the event that the new approach was not successful.

Non-delivery as a result of third party involvement

4.9. We have heard concerns from stakeholders that the introduction of the option to allow third parties to be involved in delivery could lead to non-delivery of projects and subsequently impact on the delivery of primary outputs.

4.10. We think that these concerns could be addressed through the design of the process used to involve third parties and the safeguards that were put in place to ensure delivery. In addition, the potential impact on timely delivery would be embedded in the principles that we would use to support our decision on whether to involve third parties in delivery through competitive processes.

Overestimation of allowances

Potential for overestimated allowances

4.11. Stakeholders have suggested that under Sustainable Network Regulation, greater potential would exist for us to agree to overestimated costs submitted by the network companies. We do not consider this to be a credible risk. We anticipate that the outputs-led framework would provide greater visibility on what the network companies are proposing to deliver and the costs associated with this. This would provide us with greater understanding of the extent to which the network companies would deliver value for money over the longer-term for existing and future consumers and contribute to the delivery of a sustainable energy sector.

4.12. This should also be set within the context that under the existing framework network companies, notably in transmission, have spent more than was allowed for in the price control in a number of years since privatisation. We estimate that an overspend of between 10 per cent to 20 per cent of capital investment has been observed. We anticipate that the provisions of Sustainable Network Regulation, most notably associated with the outputs-led approach, should address this overspend.

4.13. The outputs-led approach would also be complemented with the provision of well-justified business plans. These should provide a long-term strategy for the delivery of outputs and highlight the costs associated with various different options for delivery. We would continue to use a variety of tools, including benchmarking where relevant, to ensure that the costs assumed in the price control reflected a well-informed view of the efficient costs of delivery. This, combined with the outputs-led framework, should give us confidence that the network companies are delivering value for money over the longer-term.

4.14. Finally we are proposing to use the IQI in each of the four energy network sectors when setting price controls. This is designed to provide further protection against any risk that network companies would submit forecasts that include inflated estimates of costs.

Potential for overinflated costs through fast-tracking

4.15. Stakeholders have raised a number of concerns that companies could be fast-tracked through the price control process based on their business plan with the potential for information to then emerge which suggested that the company had over-inflated its costs. In the event that this happened, consumers would face unnecessary additional costs as the company would be able to charge greater revenues than required to deliver its outputs.

4.16. The framework would include protections against this. For network companies to be classified as a high performer and be fast-tracked through the price control process, they would need to demonstrate good past performance with respect to delivery of primary outputs and submit a well justified business plan, which would

represent a high hurdle to being fast-tracked. Network companies would need to show a thorough efficiency assessment had been completed, that they had considered the merits of outsourcing work to third parties and that they had looked into a range of options for delivery of the primary outputs.

Longer-term price control

4.17. Stakeholders have suggested that proposals to increase the price control period from five to eight years could lead to base revenues being set too high. This could occur due to difficulties associated with effectively forecasting what network companies will be required to deliver and at what cost. They have set out that this would be particularly pronounced given the uncertainty that exists about the role of the networks in the transition to a sustainable energy sector.

4.18. We would seek to mitigate these risks by calibrating the strength of the upfront efficiency incentives in light of the uncertainty. We would also develop uncertainty mechanisms to help manage the risks from forecasting uncertainty without undermining the benefits of setting a longer-term price control.

Underestimation of allowances

Uncertainty over the development of the network

4.19. During RPI-X@20, we have heard concerns that, given the uncertainty that exists with respect to the way that the networks will need to develop to meet the challenges of moving to a sustainable energy sector, we may underestimate the allowances required to effectively make this transition. This creates the risk that the network companies will not be able to play a full role in the delivery of a sustainable energy sector. We think there are sufficient safeguards within the framework to ensure that this does not happen.

4.20. Under Sustainable Network Regulation, we would have a number of different options to deal with uncertainties over price and volume risk as part of the price control package. These include, but are not limited to risk sharing through the efficiency incentive rate and uncertainty mechanisms. Both of these provisions would provide for network company allowances to flex in response to differences in actual conditions as compared with those forecast at the price control. For example, uncertainty mechanisms would provide for changes to allowed revenues to be made for factors that changed which were outside of the network companies' control.

Longer-term price control

4.21. Stakeholders have suggested that proposals to increase the price control period from five to eight years could lead to base revenues being set too low (in a similar vein to the arguments outlined above in paragraphs 4.17.-4.18.). As outlined above, we would seek to mitigate these risks by calibrating the strength of the upfront

efficiency incentives to reflect the uncertainty and developing uncertainty mechanisms to manage these risks.

Increased regulatory risk

Third party request for a Competition Commission referral could create uncertainty

4.22. Stakeholders, particularly network companies, have raised concerns that the introduction of a third party request for a referral to the Competition Commission (CC) would introduce risks associated with agreement of the final price control settlement. They have also suggested that this could increase the risks of delays to the delivery of key network projects covered within price control revenue allowances.

4.23. We think there is a robust rationale for the introduction of provisions to allow third parties to request a reference to the CC. This should encourage a range of parties to participate in the process and therefore increase the effectiveness of engagement. We recognise the potential for uncertainty to arise in the event that a reference to the CC is made following a third party request. However, we think that sufficient safeguards would be in place to ensure that this only happened in situations where there may be benefits from a CC reference. In particular, for a third party request to be referred to the CC, they would need to demonstrate that they had engaged fully in the price control review process (which would involve a certain level of commitment on their part in terms of resources). They would also need to demonstrate that the price control operates or may be expected to operate against the public interest. We think that these represent high hurdles that the third parties would need to meet and therefore cases would only be referred in circumstances where there was a robust rationale for referral based on material and legitimate concerns.

Mid period review of output requirements

4.24. Stakeholders have suggested that the mid-period review would not be sufficiently tightly defined. They have therefore raised concerns that this could represent a further opportunity for us to undertake a price control review, essentially meaning that the benefits of the longer-term price control would be lost.

4.25. As part of the final proposals for any price control review, we would tightly define the scope of the mid-period review, setting out clear and transparent principles for the approach that we would adopt. We would also provide commitment that we would not consider other aspects of the control. The mid-period review would be limited to changes required to refine the primary outputs to ensure that they were operating effectively to ensure that the network companies were delivering in line with the objectives of Sustainable Network Regulation. In addition, we would commit to undertake an initial assessment of the need for a mid-period review to determine whether it was required rather than automatically progressing the process.

Risk that financeability proposals make investment unattractive

4.26. A number of concerns have been raised about the financeability principles proposed and whether they would deter investors from the sector. We think that the proposed financeability package would provide commitment to investors by providing a transparent set of principles that will increase predictability and reduce risk. However, we acknowledge that the full application of our principles could result in near-term revenue decreases for some companies. Were this to occur, we would put in place appropriate transition arrangements to ensure that the application of these principles would not have a significant impact on the attractiveness of the network companies to investors.

Risk that insufficient weight given to needs of future consumers

4.27. Although stakeholders acknowledge there could be significant benefits from placing greater emphasis on enhanced engagement, concerns have been raised that insufficient weight could be given to the needs of future consumers. In particular, stakeholders have highlighted that it is not possible to have full visibility of the views of future consumers and that specific representatives for these groups are absent. Particular concerns could be raised where the views of existing consumers and network users are not aligned with the interests of future consumers.

4.28. In this context, it is important that GEMA, with its duty to protect the interests of existing and future consumers, continues to take a balanced approach to assessing the price control. We would provide a transparent explanation of how we have made our decisions and how we considered the balance between existing and future consumers. This would be particularly important in situations where GEMA makes a decision that is different to what is proposed in a company business plan or to what has been put forward by stakeholders when engaging with Ofgem.

Changes in outputs required

4.29. We recognise that there is a risk that the circumstances in which the network companies operate will change, for example as a result of a change in government policy, and therefore the output categories would not capture all relevant areas of delivery or the pace of delivery may need to change. We have included provisions within the regulatory framework to allow for changes to the outputs framework to be made over time, either during the mid-period review or at a full price control review. Where any changes to the output categories or primary outputs may be needed, it would be important that there was appropriate consultation with all stakeholders.

Concerns about the credibility of the framework

Potential for collusion

4.30. The proposed regulatory framework emphasises the need to ensure effective engagement between industry parties. This could provide the network companies

with valuable information on what consumers of network services want in terms of network development. It could also highlight opportunities where there may be benefits associated with cooperation or collaboration between industry players which could lead to the more efficient delivery of outcomes. However, the increased emphasis on engagement could also lead to the risk of collusion between the network companies themselves or the network companies and industry players.

4.31. We consider that there are provisions in place within the existing regulatory arrangements which would prevent this from happening. In particular, Chapter 1 of the Competition Act 1998 prohibits agreements which have as their object or effect the prevention, restriction or distortion of competition. In addition, under the provisions of the Utilities Act 2000 we can initiate investigations of any complaints which are made in relation to Chapter 1 of the Competition Act 1998. More generally, in our assessment of network company business plans we would be vigilant in ensuring that there was no evidence of anti-competitive practices.

Increase in the cost of capital

4.32. A number of stakeholders have suggested that as there are increased risks associated with the application of Sustainable Network Regulation, this would require us to provide the network companies with a higher cost of capital. As set out in Chapter 3, we think that our principles could lower the cost of capital, relative to what would arise with RPI-X, over the long-term. We do not anticipate that the change in the framework itself will lead to a higher cost of capital but we do recognise that the risks that network companies face in the future could potentially be different in the past. Under our principles for setting the allowed return, the risk that a network company is expected to face would be reflected in our assessment of the appropriate allowed return.

5. Conclusion

Chapter summary: This chapter sets out how we would review our recommendations post-implementation and on the role that ongoing monitoring would play in ensuring delivery in line with the objectives that we have set out for the regime.

5.1. At the start of RPI-X@20, we set out that the regulatory framework of the future will need to be able to manage uncertainty and be sufficiently flexible to adapt to industry changes. We remain of this view. The package of measures represented by Sustainable Network Regulation should be flexible to a variety of outcomes and changes in conditions. Where changes to the regime are proposed, these should be assessed thoroughly and justified clearly prior to implementation.

Monitoring delivery of the objectives

5.2. If Sustainable Network Regulation is implemented, we would need to ensure that we understand the extent to which the objectives of the framework are being met. In this respect, as part of the standard post-price control review that we undertake under Sustainable Network Regulation we would:

- monitor the performance of network companies in delivering against the primary outputs, and the extent to which this is facilitating delivery of the objectives;
- analyse the use of longer-term controls and the extent to which this encourages companies to think longer-term;
- understand the performance of the network companies in delivering well justified business plans and the role this had played in exposing innovative operational solutions, maintaining flexibility and ensuring that network companies focus on delivery over a longer-term;
- monitor the application of proportionate treatment and the changes that it facilitates in terms of the performance of the network companies in seeking to deliver against the primary outputs and in the submission of their business plans;
- assess the use of Ofgem-led tendering and the extent to which having the option in the tool-kit has delivered efficiencies and exposed innovative solutions;
- monitor the innovation stimulus package and consider, based on the principles set out in our supporting paper (chapter 14) whether and when it may be appropriate to wind-down the time-limited stimulus;
- assess the development and application of uncertainty mechanisms and the role they play in ensuring that network companies remain able to finance their activities in a changing environment; and
- assess the extent to which the principles on financeability are ensuring that the network companies remain able to finance their activities in a timely manner and at a reasonable cost to consumers.

5.3. The role that we would take in monitoring the outcomes of Sustainable Network Regulation would allow us to better understand the extent to which it had delivered in line with the costs and benefits anticipated in this impact assessment. It would

also allow us to make any amendments to the framework, where this may be needed to better facilitate delivery against the objectives.

Adapting the framework over time

5.4. Given uncertainty about the best way to develop the networks to facilitate the transition to a sustainable energy sector, it is important that Sustainable Network Regulation is able to adapt to changing circumstances. This would enable us to refine regulatory arrangements over time to learn from issues identified in previous control periods, adapt to changing government policy and learn lessons from other sectors.

5.5. We expect that the objectives and principles of Sustainable Network Regulation will be long lived, and should be adaptable to changing circumstances. The way in which the principles are implemented will need to reflect the context at the time.

5.6. Although there are significant benefits from having an adaptable regulatory regime in place, we recognise the need to provide transparency about how this adaptation could take place. We would therefore seek to ensure consistency with the principles of better regulation when initiating any modifications to adapt Sustainable Network Regulation[19]. The following list outlines the principles we would adopt in adapting Sustainable Network Regulation over time.

- consider the principles of better regulation;
- ensure decision making is open and transparent;
- ensure accountability to stakeholders;
- take decisions based on robust and auditable evidence;
- provide clear and reasoned explanations when changes are made;
- consider the impact of changes on regulatory commitment and credibility; and
- ensure the proportionality of any changes made.

5.7. We would welcome the views of interested parties on the issues set out in this impact assessment by 6 September 2010. In particular, we would be keen to understand the views of stakeholders on the costs and benefits presented and whether there are potentially better ways to seek to quantify these.

[19] The principles of better regulation are: transparent, accountable, proportionate, consistent, and targeted. Adhering to these principles is consistent with our duties under Section 3A (5A) of the Electricity Act 1989 and Section 4AA (5A) of the Gas Act 1986.

Appendices

Index

Appendix 1 - Indicative quantitative assessment

1.1. It would be extremely difficult to robustly quantify the expected impact of Sustainable Network Regulation, relative to RPI-X. To do this we would need to make numerous assumptions about key elements feeding into any allowed revenue assessment including, expected efficiency, required capital investment and the return needed to finance the network business. Making these assumptions is highly uncertain until the price control reviews are conducted and further complicated when looking at potential benefits over time. In addition, to look at benefits over a hypothetical price control period requires further assumptions about key aspects of the regulatory regime, e.g. RAV growth or how allowed revenue might flex over the control period in response to changes in demand.

1.2. Given these complications, we provide an indicative assessment of the potential scale of saving to consumers that could be achieved as a result of the introduction of Sustainable Network Regulation, compared with retention of the RPI-X framework.

1.3. The tables below provide an indicative summary of the benefits of Sustainable Network Regulation relative to maintaining the RPI-X framework.

Reduction in cost of capital

Table 2: Indicative average consumer savings per annum arising from lower WACC from using Sustainable Network Regulation rather than RPI-X (£m, constant prices)*

Reduction in WACC relative to retaining RPI-X	Total pa (£m)
Scenario - RAV does not grow	
Reduction in WACC	
-0.10%	40
-0.25%	105
-0.50%	215
Scenario - RAV grows to deliver £32bn of network investment under Project Discovery scenarios**	
Reduction in WACC	
-0.10%	50
-0.25%	130
-0.50%	255

* Calculations are based on taking latest annual indicative RAV in each sector, applying a constant growth rate to meet the level of investment assumptions and multiplying by the WACC. Average consumer savings are based on an eight year price control, if implemented today, across all four energy sectors. Figures are rounded to the nearest £5m.
**Assumes as for DPCR5 capitalisation of 85:15 (slow/fast money). As such £27bn of investment is assumed to go into the RAV.

1.4. These numbers are indicative only and make a number of simplifying assumptions. Savings to consumers will depend on many other factors, including out-turned inflation, future expenditure requirements, capitalisation and depreciation policies as well as output incentive arrangements. Thus any actual differences could be significantly different from those shown here.

Efficiency savings

1.5. We have designed Sustainable Network Regulation to deliver long-term value for money for existing and future consumers. We therefore expect long-term efficiency savings to be higher than if we retained RPI-X. The introduction of the longer-term price control is expected to be key here, as is the greater use of outputs. The table below presents an indicative range of potential efficiency savings relative to RPI-X.

Table 3: Indicative average efficiency savings on controllable expenditure to consumers, per annum, relative to RPI-X (£m, constant prices)*

Efficiency saving relative to retaining RPI-X	Total pa (£m)
Scenario - expenditure grows by 0% pa	
1%	60
5%	290
10%	580
Scenario - expenditure grows by 5% pa	
1%	70
5%	345
10%	690
Scenario - expenditure grows by 10% pa	
1%	80
5%	415
10%	830

*The calculations are based on the latest Ofgem calculated annual controllable totex figures[20] in each of the energy sectors. In each sector this figure is grown by a constant growth rate and different efficiency saving applied. Average consumer savings are based on an eight year price control, if implemented today, across all four energy sectors. Figures are rounded to the nearest £5m.

1.6. For the reasonable scenario of 10 per cent growth in expenditure (given the investment needed to deliver a sustainable energy sector) an additional 1 per cent reduction in total costs (i.e. a 1 per cent higher rate of efficiency saving) would result in an additional £80m saving in annual allowed revenue. If the difference in efficiency savings is greater than 1 per cent, as we would expect it to be, this can lead to even greater annual savings for consumers.

20 Totex is defined as controllable operating costs and capital expenditure. It excludes pension costs, pass through costs, depreciation, return on capital, interest payments and taxation.

Having an option of involving third parties in delivery

1.7. Having the option to provide third parties with a greater role in delivery should strengthen incentives on incumbents to actively seek out innovative and long-term least cost solutions for delivery and manage their own efficient procurement strategies. These benefits would feed through into the efficiency savings benefit estimates discussed above.

1.8. If we use the option for significant projects the cost to consumers of these projects is expected to be lower than they otherwise would have been if they had been taken forward by the existing network company.

1.9. The benefits are likely to come from a number of sources including lower cost of capital and lower costs of delivery due to the adoption of innovative approaches to delivery and better management of project delivery by other parties. The potential scale of the benefits would clearly depend on the role of third parties in delivery, the extent of interest from third parties and the market's view of the value of the project. We therefore cannot predict what the benefit for consumers would be, although we are confident that this option would only be taken forward where there was a clear benefit for consumers.

1.10. Given these issues above we provide an illustrative example based on two sources of information.

- The NAO suggests that tendering can lead to 10 to 20 per cent fall in costs relative to not tendering[21]. However, it must be recognised that there are a number of factors limiting the extent to which the NAO results can necessarily be extrapolated to this context (including that they are based on evidence not directly related to tendering by energy networks).
- ENSG highlighted around £5bn of capital investment projects needed in electricity transmission by 2020[22].

1.11. To illustrate the potential magnitude of benefits for consumers of having an option of giving third parties a greater role in delivery, table 4 considers it in the context of potentially driving down the scale of the £5bn capital investment programme proposed by ENSG. Based on the table below, having this option might deliver savings between £500m to £1bn.

21 Source http://www.berr.gov.uk/files/file50576.pdf
22 Figure based on ENSG report
http://www.ensg.gov.uk/assets/ensg_transmission_pwg_full_report_final_issue_1.pdf

Table 4: Indicative consumer savings, resulting from having an option of giving third parties a greater role in delivery

Description of project	Assumed cost if project delivered by existing network companies(£m)	Reduction in cost due to option of third party involvement in delivery	Total cost savings (£m)
ENSG identified projects for electricity transmission	4860[23]	10.0%	495
		15.0%	745
		20.0%	995

23 ibid

Appendix 2 – 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 (such as the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Acts of 2004, 2008 and 2010) as well as arising from directly effective European Community legislation.

1.3. References to the Gas Act and the Electricity Act in this appendix are to Part 1 of those Acts.[24] 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.[25]

1.4. The Authority's principal objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems. The interests of such consumers are their interests taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply of gas and electricity to them.

1.5. The Authority is generally required to carry out its functions in the manner it considers is best calculated to further the principal objective, wherever appropriate by promoting effective competition between persons engaged in, or commercial activities connected with,

- the shipping, transportation or supply of gas conveyed through pipes;
- the generation, transmission, distribution or supply of electricity;
- the provision or use of electricity interconnectors.

1.6. Before deciding to carry out its functions in a particular manner with a view to promoting competition, the Authority will have to consider the extent to which the interests of consumers would be protected by that manner of carrying out those functions and whether there is any other manner (whether or not it would promote competition) in which the Authority could carry out those functions which would better protect those interests.

24 Entitled "Gas Supply" and "Electricity Supply" respectively

25 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.

1.7. In performing these duties, the Authority must 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[26]; and
- the need to contribute to the achievement of sustainable development.

1.8. In performing these duties, the Authority must have regard to the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[27]

1.9. 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:

- promote efficiency and economy on the part of those licensed[28] 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.

1.10. And shall, in carrying out those functions, have regard to the effect on the environment.

1.11. In carrying out these functions the Authority must also have regard to:

- 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.

26 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 Acts in the case of Electricity Act functions.
27 The Authority may have regard to other descriptions of consumers.
28 Or persons authorised by exemptions to carry on any activity.