

**REGULATING ENERGY NETWORKS FOR THE FUTURE:
RPI-X@20 PRINCIPLES, PROCESS AND ISSUES**

**THE RESPONSE TO OFGEM'S CONSULTATION PAPER FROM
CE ELECTRIC UK FUNDING COMPANY**

24 April 2009

INTRODUCTION

1. CE Electric UK Funding Company (CE) is the UK-based parent company of the electricity distribution licence holders Northern Electric Distribution Limited (NEDL) and Yorkshire Electricity Distribution plc (YEDL). This paper is the response of CE, NEDL and YEDL to the Ofgem consultation paper *Regulating energy networks for the future: RPI-X@20 Principles, Process and Issues* (the *Consultation paper*).
2. CE is a wholly owned subsidiary of MidAmerican Energy Holdings Company (MEHC), registered in Des Moines, Iowa, USA. MEHC and its affiliates operate in a number of regulatory jurisdictions in the USA. Prior to preparing aspects of this response CE has consulted with MEHC and some of its affiliates about alternative models of regulation. This response therefore benefits from that experience.
3. In preparing this response we have chosen to follow the order of the *Consultation paper* and to provide answers to the numbered questions set out in each chapter. We have also been guided by the supplementary questions that appear in some chapters of the *Consultation paper*, but we have not structured this response around these supplementary questions.
4. The headings (in bold type and capital letters) and the numbered questions (in bold type and italicised) are taken directly from the *Consultation paper*.

FOREWORD

5. In the foreword to the *Consultation paper* Alistair Buchanan says that he is keen to hear views among other things on:
 - the arguments for wider involvement, particularly of consumers, in both the regulatory framework and appeal processes;
 - the extent of which environmental issues should lead this review; and
 - the scope and scale of the promotion of innovation.
6. Our views on these matters are given in more detail in response to the questions set out below. In brief:
 - We are not opposed to wider involvement, particularly of consumers, in the regulatory framework. Giving a formal right to consumers to force an appeal to the Competition Commission (CC) would be problematic and it is unnecessary given the protections that already exist. Giving such a formal right to other parties (e.g. suppliers) would be wrong from a policy perspective.

- We agree that environmental issues should be central to this review, which may not be quite the same as leading it. Furthermore we consider that there is nothing inherent in the broad RPI-X approach that is inconsistent with the achievement of environmental objectives.

CHAPTER ONE - INTRODUCTION

7. Chapter one of the *Consultation paper* sets out Ofgem's reasons for reviewing the current regulatory regime for network companies, the proposed scope of the review, proposed themes for the review and the proposed timetable.

Question 1: Do you have any comments on the rationale for the review?

8. We agree with Ofgem that after more than twenty years of one form of regulation (RPI-X) it is appropriate to stand back and look at the mechanism afresh to see if it is still 'fit for purpose'. However, it would be wrong to suppose that throughout its lifetime the form of regulation that we call RPI-X has not evolved significantly. During that period of time the quinquennial reviews have been the occasions on which significant changes have been made to the form of regulation that was originally applied to the telecommunications sector in 1984, the gas sector in 1986 and the electricity and water sectors in 1990. To give an idea of how RPI-X has developed during these years, consider the concept of the regulatory asset value (RAV). This is now regarded as fundamental to the RPI-X mechanism but it was completely unknown at privatisation and indeed the first price control review of British Gas plc was conducted without the concept being introduced.
9. Throughout this response we use the term RPI-X regulation to describe an overall approach to the regulation of utilities (or, more precisely, after unbundling, to the regulation of networks). Its essential feature that distinguishes it from other forms of regulation is its reliance on controlling the price of the service, rather than the profits derived from it, during the price control period. We note that some of the early discussions with wider stakeholders were hampered by unhelpfully narrow and/or inaccurate perceptions of what RPI-X regulation actually represents.
10. Since the control of prices as opposed to profits is its only defining characteristic, it is not surprising that it has shown itself capable of significant development over many years in many sectors. Moreover, even the defining feature of RPI-X – the reliance on price rather than profit control – can be seen, on closer inspection, to be a matter of *degree* rather than an absolute.
11. It would be a mistake to suppose that until the RPI-X@20 project was launched regulators had slavishly applied a single method of regulation that it is timely now to

review for the first time. Such a characterisation not only does not do justice to the approach taken by UK regulators over the last quarter of a century but also more importantly, may condition the analysis that underpins the RPI-X@20 project by neglecting to emphasise RPI-X's proven track record in developing and adapting itself.

12. We agree with the *Consultation paper* that there are new and uncertain challenges for energy networks - principally the change from a focus on delivering operating cost gains to a focus on facilitating the delivery of environmental targets, whilst maintaining security of supply. We see no reason why the broad form of RPI-X regulation is inappropriate for these challenges.
13. The *Consultation paper* refers to concerns that 'the framework has become too complex'. Simplicity may be attractive and it may make it easier for people to 'respond to consultation and effectively engage in the process', but Ofgem should not give simplicity too elevated a position in the considerations that guide it in the design of a regulatory regime. Complexity that is necessary to achieve a sound purpose is to be preferred to simplicity that gives rise to perverse incentives and results in undue rewards or penalties. However, where the complexity itself is the cause of unintended consequences, simplicity that achieves the purpose is obviously to be preferred.
14. At this and other points the *Consultation paper* appears to prefer a world in which regulation is simple and where the processes and the outcomes would be enriched by the participation of those who are currently excluded by the unnecessarily arcane features that have developed over the years. We think such a model is neither realistic nor desirable and we would suggest that Ofgem should accept that regulation is sometimes necessarily complex and that it is an activity that best serves its purpose if those charged with the responsibility do not pursue an agenda of simplification for its own sake.

Question 2: Do you agree with the proposed scope of the review?

15. We agree with Ofgem's view that the review should be given a wider scope than was originally conceived when it was first announced. The wider scope will enable the project to take into account legislative changes, and recent relevant policy developments.

Question 3: Do you think the proposed themes for RPI-X@20 are appropriate?

16. We agree with the *Consultation paper* that the two primary themes of the review should be:
 - focussing on consumers' needs; and
 - delivering a sustainable energy sector.

Question 4: Do you have any views on our proposed approach for engaging with stakeholders?

17. The *Consultation paper* states that the workshops held so far have been ‘invaluable’. Our own view, having participated in some of them, is that the workshops have been well managed and the participation of delegates has been constructive and enthusiastic. We believe, however, that it is inherently unlikely that such forums will shed much new light on the issues at stake. The most that can be expected from events on this scale is that participants with decided positions will articulate them in front of other people. The ensuing discussion cannot be expected to be particularly illuminating. Nevertheless, the workshops do seem to provide a helpful level of wider awareness and sense of engagement in the process without which we do not think that it would be wise to proceed.
18. We understand that the discussions at the advisory panel, which benefit from being gatherings of a more manageable size, have been useful.
19. Moreover, we believe that the proposed working groups may develop a focus that will enable the project to benefit from their input.
20. The web-forum is a helpful aid to transparency.

Question 5: Do you have any comments on the timetable for the review?

21. Provided that the project oversight honours the commitment made at the outset to ensure that any issues that are identified that need to be implemented in time for the conclusions of the current electricity distribution price control review (DPCR5) are accelerated accordingly, we cannot see that there is any material risk of the outputs being delivered too late, since there are no other price control reviews scheduled that could be affected by an earlier delivery.

CHAPTER TWO: AIMS, PRINCIPLES AND APPROACH OF THE REVIEW

Question 1: Do you have any views on our aims for RPI-X@20?

22. The aims of the review are set out at paragraphs 2.3 and 2.4 of the *Consultation paper*.
 - ‘2.3 RPI-X@20 aims to ensure that an effective regulatory framework for energy networks is in place that delivers choice and value for consumers, and places appropriate incentives on companies to facilitate efficient delivery of a sustainable energy sector. This is in line with the Authority’s primary duty.

- 2.4 The more specific objectives of the review are to develop a regulatory framework that encourages licensees to:
- facilitate delivery of a sustainable energy network;
 - invest appropriately in networks;
 - strive for increasing efficiency, innovation and appropriate quality of service; and
 - respond to the needs of current and future consumers.’
23. Two uses of the term ‘sustainable’ appear in the quoted extracts. The first refers to delivery of a sustainable ‘energy sector’. The second refers to a sub-set of this, namely a ‘sustainable energy network’.
24. With respect to the facilitation of a ‘sustainable energy network’ we observe that Ofgem may be signalling its concern that the form and conduct of network regulation should not be such as to encourage network companies to create assets that may prove not to be needed in future. If these words are indeed intended to signal this concern, we would agree that the avoidance of stranded assets is, generally speaking, a sensible objective of regulatory policy. However, if a sustainable energy sector means a low, or lower, carbon energy sector we should perhaps recognise that this may not be achievable within the timescales required without accepting the risk that stranded assets will be created. This may be the necessary price of speeding up the process of bringing forward low-carbon generation.
25. Distributors have to be concerned with precisely where new generation/demand is going to be located. In our view the future is currently so uncertain that we cannot justify taking the risk of making investments that may be unused and therefore unremunerated. However, if there were greater clarity on roles and responsibilities and we had a better means of appraising the users’ response to government initiatives, distributors could, after appraising the commercial risks, start to make investments that were intended to meet that need knowing that some of these might in the short or medium term be redundant. The way to minimise the extent of that risk would be for the Department for Energy and Climate Change (DECC) and Ofgem to come together, perhaps with other contributors, to articulate a vision of the future.

Question 2: Do you think the principles for undertaking the review are appropriate and sufficient?

26. The guiding principles of the review are set out at paragraph 2.8 of the *Consultation paper*, namely:
- consultation;
 - transparency;
 - no surprises;

- better regulation;
- no retrospective action; and
- no stranding of efficient investment.

27. We agree with these guiding principles.

Question 3: Do you have any views on our proposed approach to the review?

28. We agree with the proposed approach, namely:
- to take ideas from a range of sources; and
 - to ensure that the review is appropriately linked to other Ofgem-driven projects and with EU and national policy.

Question 4: Do you have any comments on the inter-relationships between RPI-X@20, other Ofgem projects and EU and national policy developments?

29. It is likely that the RPI-X@20 project will have to be mindful of its inter-relationship with DPCR5 (as referred to above) and Ofgem’s Project Discovery. Moreover, developments on a national scale that might touch on matters such as smart metering, electric vehicles and home energy efficiency also have a potential relevance to the project.

CHAPTER THREE: SETTING THE SCENE

Question 1: Are the original principles of RPI-X regulation still valid?

30. If the original principles of RPI-X regulation are taken to be those set out in Stephen Littlechild’s seminal 1983 report on the regulation of British Telecom’s profitability¹ this is bound to seem a little anachronistic today. In the intervening years regulation has developed very considerably but, more to the point, in 1983 Littlechild was concerned with the regulation of the telecoms sector in which it was quite feasible to consider that regulation was necessary only to hold the fort until competition arrived. That was not, and is not now, the case with respect to energy networks. Consequently, we see little benefit in comparing today’s practice in network regulation with Littlechild’s vision of light-touch regulation in telecommunications.

Question 2: Do you have any comments on our description of the context of energy regulation since privatisation? Are there any issues or events relevant to the regulation of energy networks that we have not considered?

31. The *Consultation paper*’s description of the context of energy regulation is balanced.

¹ Littlechild S (1983), ‘Regulation of British Telecommunications’ Profitability: A Report to the Secretary of State’, Department of Trade and Industry: London.

Question 3: Do you have any comments on our description of the evolution of network regulation since privatisation?

32. One important feature of the history of energy network regulation that is becoming relevant is that, at privatisation and to an important extent at subsequent price control reviews, the focus on the *price* of the service made the tacit assumption that *what* was being provided in return for this price was appropriate. In this tacit assumption lay implicit judgements about the appropriate degree of risk to be carried by the network company and the appropriate degree of cross-subsidy that would flow between consumers.
33. This neglect of one side of the bargain in a price control review is now being addressed to some extent in the fifth electricity distribution price control review (DPCR5), where ‘outputs’ are taking an appropriate place for the first time. The ability of RPI-X to accommodate such incentives shows how this form of regulation is capable of evolution to respond to such challenges.
34. It is instructive to contrast the immediate post-privatisation history of the energy networks with the history of the water industry over the same period. In the water sector it was recognised at the outset that the service being provided was going to change significantly. Very quickly in water regulation consideration of *what* needed to be done preceded the regulatory assessment of the costs of achieving this. The regulatory regime developed formal mechanisms that recognised this distinction. In respect of electricity distribution no equivalent mechanisms were developed: the tacit assumption that the optimum trade-offs between price, risk and quality were embodied in the DNOs’ current performance and planning assumptions went unchallenged.

Question 4: Do you think our description of the existing regulatory framework in electricity and gas transmission and distribution is the appropriate base case (starting point) for RPI-X@20? Is it appropriate to consider electricity distribution regulation using developing proposals from DPCR5?

35. The *Consultation paper* states that the starting point for this review is an understanding of how each of the energy industries is currently regulated and that Ofgem’s ‘base case’ is the ‘emerging thinking from DPCR5 and T[ransmission] A[ccess] R[eview].’
36. We agree that, whilst ‘emerging thinking’ may be a little imprecise and subject to change, making it a rather unstable base case, it is sensible to recognise not only the way that RPI-X has evolved up to now but also the potential developments that are being considered within the current price control and access reviews. One of the merits of RPI-X regulation is its ability to evolve and it would be invalid to reach conclusions about its future if practical and likely changes are disregarded.

Question 5: What lessons do you think RPI-X@20 can take from the history of energy regulation?

37. RPI-X regulation has been used to particular effect to incentivise energy network companies to reduce their operating costs and look for ways to improve their understanding of the network's requirement for capital expenditures, while making some incremental improvements in what is, broadly speaking, the same type and general level of service. There is, however, no reason to presuppose that the mechanism that has been used to such effect for these purposes would be ill-suited to a world in which environmental obligations and expectations are changing, giving rise to a need to make significant levels of capital investment.
38. Keith Palmer recently observed that energy networks may now be entering a phase that is not dissimilar to the experience of the water sector at privatisation. In that sector the RPI-X form of control co-existed quite happily with the delivery of a significantly enhanced capital investment programme that was largely driven by a new environmental agenda.
39. It is false to suggest that this form of price control is only good for 'sweating assets'. Indeed, it could be argued that, the bigger the investment programme that is being envisaged, the more we need this form of regulation to ensure that incentives are aligned with the efficient conception and delivery of the programme. Of course this may mean that the mechanisms associated with the RPI-X control have to become more sophisticated (perhaps even more complicated) so that the mechanism rewards genuine efficiency rather than inefficient underspend of a poorly specified or inadequately understood investment assumption. The Information Quality Incentive (IQI) introduced at DPCR4, with further changes expected at DPCR5, was an early response to the perceived need to maintain incentives on efficient capital spend whilst encouraging the delivery of usable forecasts from the licensees.
40. Although the RPI-X regime has shown itself capable of adapting over time, regulators have wisely ensured that its evolution has taken place within a general framework that recognises the value that investors place upon stability. This is particularly true of investors' perceptions of the regulatory commitment to the RAV. This stability has played its part in allowing Ofgem to use a relatively low cost of capital in the price control reviews of network businesses.

Question 6: Do you have any comments on our assessment of the performance of the network industries since privatisation?

41. See answer to Question 7 below.

Question 7: Do you think our description of energy networks and the regulatory framework today (the legacy of RPI-X) is accurate? What do you think the implications of this legacy are for RPI-X@20

42. The ‘strawman’ characterisation of today’s energy network companies is summarised in the *Consultation paper* (at paragraph 3.29) as follows:
- tight operating cost bases, as a result of efficiency savings delivered;
 - financed by a mix of equity and debt, with evidence of increased gearing;
 - low risk and potentially risk averse (in their culture, and in operational, organisational and financial choices);
 - willing to undertake investment only when commitment is provided by users and/or the regulator that the investment will be allowed into the regulatory asset base;
 - focused on allowed revenue and less concerned about the structure of network charges that can have a significant impact on the need for network investment and on the costs faced by consumers and different groups of consumers (for example business and domestic customers);
 - more focused on Ofgem, and understanding how to 'beat' the regulatory contract, rather than on understanding their own consumers' needs and being rewarded for improving customer service;
 - reactive to developments in government policy (at national and EU level) rather than proactive;
 - reluctance to innovate; and
 - focused on their own business but not interactions with markets (upstream and downstream) or other networks.
43. The *Consultation paper* asks whether respondents agree with this characterisation and, if so, whether they think this is a response to the existing regulatory regime and the incentives it creates.
44. Contributors to this strawman characterisation of the energy network sector may well have considered that there were significant behaviours in this list that were undesirable and would impede the delivery of what is needed in the forthcoming period. Ofgem itself has added a mild disclaimer, saying that the characterisation is ‘highly stylised’ and ‘does not properly reflect the attitude and performance of the many energy network companies that operate in Britain’.
45. However, we have to say that, to some extent, we *do* recognise the strawman and, within the limits of its presentational purpose, we believe it to be a broadly fair characterisation of the electricity distribution sector.

46. It also seems to us to be certain that the behaviours observed are responses to the existing regulatory regime and the incentives that it creates. The alternative explanation, namely that there is something uniquely bad or at least unimaginative about those who happen to manage networks that explains why they have developed such tendencies in isolation from the regulatory regime, seems highly improbable. But what the *Consultation paper* does not do is ask whether this is a good or bad thing. Consider the components of the strawman that have the more negative connotations, i.e.:
- risk averse in culture and operational choices;
 - willing to undertake investment only when commitment is provided that it will enter the RAV;
 - focused on allowed revenue (not charging structure);
 - focused on Ofgem and beating the regulatory contract rather than on customers;
 - reactive not proactive with respect to government policy;
 - reluctant to innovate; and
 - focused on their own business (rather than upstream and downstream).
47. It is not clear that all of these are undesirable behaviours in a network business.
48. For example, it is said that network businesses are risk averse. Customers benefit from that risk aversion. This is because the risk aversion is accompanied by a low cost of capital that has led to lower prices. It also means that network businesses take very seriously their duties with respect to the continuity of the service they provide. To imply that risk aversion is undesirable and that this mindset needs to be corrected in some way would be to make an assumption that we believe to be misconceived. The critics of risk aversion in network businesses perhaps forget that the nature of the service provided by a network is one that has asymmetric properties in terms of societal risk. The downside of taking risks that may later prove to be ill-judged (because that is the other side of the risk coin) is far worse for British society and the British economy than the downside that comes from over-doing the caution. Perhaps those who see this risk aversion as an undesirable characteristic should reflect upon what might have happened if network businesses had behaved like the financial services sector in recent years. That sector was no doubt very innovative and its innovations were evidently unencumbered by the dead hand of risk aversion. In short, there is nothing necessarily wrong with a network business adopting a position in relation to risks that others might characterise as risk averse.
49. We believe that the second ‘negative’ behaviour – that of being willing to invest only when commitment is provided that the investment will enter the RAV - is a rational response to a sensible regulatory regime. It is a sensible *response* because a regulated utility can recover only those costs (including any upside potential) that the regulatory

regime allows it to recover. That is the fundamental unalterable fact of being a regulated monopoly business. All risks in the end amount to regulatory risk because it is the regulator that determines whether the business can recover its costs (and this includes the amount of profit that it may retain). In unregulated sectors businesses no doubt invest making a judgement on the likelihood that the investment will pay for itself. Of course this is subject to uncertainty, but the corollary of that is that the upside is very unlikely to be confiscated or controlled. For a network utility the analogue to that decision is that the regulator (and, in the extreme, the politician) takes the place of the market. It would be reckless, and possibly a breach of the duty to develop an efficient network, for managers to invest shareholders' funds in a project that was unlikely to pay because it would be exposed to the risk of regulatory disallowance. So the question is not whether it is desirable that companies should invest without clarity on cost recovery, but whether it is desirable, or even possible, for regulators to behave in a manner that makes such investments subject to validation by the market rather than the regulator. The plain fact is that regulators *do* determine whether, and by how much, any licensee's investment will be remunerated and there is nothing that can be done to disapply that fundamental truth. The validity of this is something than even a project as free ranging and fundamental in its terms of reference as the RPI-X@20 project cannot alter. As long as the return on investment that a network company can make is a function of the behaviour of a regulator (rather than a market) it is inevitable that the rational network management will make only those investments that are likely to satisfy the regulator's test for cost recovery. Under our present arrangements that question is represented by the concept of the RAV. Moreover, it is not at all clear that customers would be better off in a world in which network companies made investments unconcerned with questions of whether users or the regulator would commit to cost recovery. But since it is hard to conceive of a practical set of circumstances in which that could happen, at least for mainstream network investment, it is unnecessary to explore this question any further.

50. The suggestion that networks are more concerned with their allowed revenue than with the structure of their charges is probably valid. It is possible, but as yet unproven, that customers in general would benefit from a structure of charges that had sharper disincentives where continuing or increasing consumption would lead to an investment requirement. It is unproven because the pain for the losers (including supply businesses if the price signals are volatile) may exceed the overall benefit. Irrespective of this, the appropriate response is to change the requirements placed upon the network licence holder with respect to pricing signals.
51. The observation that network companies are more focused on Ofgem and on understanding how to beat the regulatory contract than on understanding their own customers' needs and being rewarded for improving customer service looks at first

sight to be rather damning (if true). However, as long as we regulate network utilities we must expect the response to be that the licence holder will make sure that it satisfies its regulator. Moreover, the purpose of the regulatory contract (particularly that relating to the price control) is to create the incentive to beat it because from that comes the virtuous end result of efficiency. It is the challenge of regulatory design to ensure that the incentives within the regulatory contract are aligned so that the distinction between beating the formula and benefiting the customer becomes a distinction without a significant difference. As long as regulation, rather than markets, determines the rewards available to a network company, we should not be surprised or dismayed if regulated companies respond primarily to that set of incentives. The logical and incentive problems that arise if a different model of utility behaviour is assumed are considered in paragraphs 84 to 88 below. However, we do not consider that a very clear focus on satisfying the regulator and endeavouring to outperform the assumptions made at a price control review precludes a network company from taking steps to engage actively with its customers and the users of its network. To the extent that the RPI-X@20 project is seeking to promote an increased level of connection between users of the networks and those who run them, we cannot see anything other than benefits. But we do not think it is realistic or desirable to expect that increased level of connection to be at the expense of the attention that a regulated licensee pays to its regulator.

52. The suggestion that network companies have not been more 'proactive' at national and EU level with respect to 'developments in government policy' is hard to understand. Network companies cannot, of course, develop government or EU policy. The most they can do is participate in the processes by which it emerges, anticipate it, or react to it. We think the intended inference here is that network companies react to, rather than anticipate, policy changes. This is both desirable and inevitable for the reasons set out above with respect to risk aversion and investment and regulatory commitment. To do otherwise would inevitably cause customers and/or shareholders to incur unnecessary expense.
53. The characterisation of network business as 'reluctant to innovate' begs the question of what is meant by innovation. Although the networks sector has had to innovate to bring about the improvements that have been seen since privatisation, we would accept that this is probably not what those who make this observation mean by 'innovation'. Many of the points made above about risk aversion and unwillingness to invest without regulatory or user commitment also apply to innovation. However, there is an additional point to make here: it is hard to refute an accusation that depends on a presumption that beneficial innovations were possible but left undiscovered or unimplemented because of the closed mindset of the network business. Here we can never know the counter-factual to the level of innovation that has been observed, so this

component of the strawman is at best an unqualified observation. Yet even here it is possible to observe that innovation can be funded or incentivised to a greater or lesser extent by the RPI-X regulatory framework. If society wants more innovation we shall have to consider how this can be encouraged in an environment that focuses on cost reduction and caps the upside that might result from successful innovation.

54. Finally, the observation that network companies focus on their own business, rather than on upstream or downstream interactions or other networks, is best addressed by asking who is the network primarily there to serve? In other words, if the purpose of the network is to ensure delivery of energy to the end user at the optimal price/quality mix, that suggests one model of behaviour that we should incentivise from the network business. The regulatory regime and the network business will look upon the end user as the primary recipient of the network service and the corollary of this is that the supplier is essentially the user of a service that has been designed not to meet its specific and transient needs but on the presumption that the service provided by the network is the same irrespective of the identity and even the preferences of the supplier who, for the time being, may be trading energy with the end user. The energy networks are not the equivalent of the haulage company for the transport of manufactured goods and the suggestion that network companies are not focused on their interactions with suppliers is misdirected. The principle of the supplier hub, whereby the end user contracts with the supplier and the supplier contracts with the network company, is a useful fiction – useful because it enables a competitive energy trading market to take place without requiring the end user to contract separately and receive bills from all the other players – but it is a fiction nevertheless. Thus it is a virtue, rather than a vice, that the network companies offer a non-discriminatory, universal service rather than give priority to the preferences of those who operate upstream or downstream of the networks.
55. In short, the strawman characterisation of today's energy network companies is unhelpful to the consideration of the future of RPI-X regulation because it fails to recognise that energy networks have done precisely what was required of them in the twenty years of RPI-X regulation. Removing inefficiency, whilst improving customer service and delivering new, but efficient, capital investment, was what was required in this period. Innovation to anticipate an as yet undefined future of changed environmental priorities was not the agenda that society set for regulators and for network companies.
56. As society changes its requirements there is every reason to suppose that, once those new requirements are properly embodied in new incentive mechanisms within the regulatory framework, energy networks will deliver against the new objective just as effectively as they did against the old ones. If clear incentives are provided for

innovation, then innovation will follow. However, if the networks continue to be regulated and the form of regulation does not reward innovation, it should surprise no-one if the potential to innovate further remains untapped.

Question 8: Are the identified challenges the right ones? Are they new challenges not previously addressed? Are they short-term (temporary) or permanent challenges? Are there others that we should consider in RPI-X@20?

57. We believe that the *Consultation paper* has identified the correct challenges, and that the environmental agenda has changed the nature of the regulatory challenge to some extent. This is likely to be the determining context of UK regulation for the foreseeable future. The issues that have to be faced as a result of the credit crunch may be of a shorter duration. However, we believe that the RPI-X regime is able to evolve and cope with both the environmental and the financial challenges.

CHAPTER FOUR – FOCUSING ON CONSUMER NEEDS

Question 1: We present a number of issues that we will consider when assessing the processes that we and networks use to focus on consumers. Have you any views on these issues? Are there others that we should also consider?

58. The processes that are appropriate for focusing upon consumers follow from the role that is to be given to consumers in the determination of regulatory decisions.
59. For example, Ofgem has recently launched its Consumer First initiative with the aim of getting better insight into consumers' needs. This, and other forms of opinion survey, may be useful to ensure that regulatory judgements are not made in ignorance of what customers value. However, experience of even quite sophisticated opinion-researching techniques suggests that caution is necessary. At DPCR4 and DPCR5 Ofgem appointed the same set of consultants who surveyed customers to ascertain *inter alia* their willingness to pay for improvements (or to receive compensation for detriment) in the quality of service provided by DNOs (including environmental performance). The most striking thing about those surveys is the enormous change in willingness to pay that was seen over so short a period of time (i.e. five years). Given that a DNO's investment may be expected to last for forty years, and be paid for over perhaps twenty years, it is not entirely clear how the information derived from this exercise can sensibly be used to determine investment priorities and, consequently, set charges at a price control review.
60. The second striking feature about these surveys is the enormous variation in willingness to pay that occurs geographically and across the social classes to which pollsters attribute individuals. Given, firstly, the variation over time, geography and social class,

with respect to something so fundamental as willingness to pay and, secondly, the fact that, for the most part, a single network-wide decision has to be made about the price/quality trade-off, it is not really clear how much better off we are for knowing that people differ significantly in their opinions about this.

61. We should remember also that at privatisation there was an elaborate structure of consumer committees – one for each Regional Electricity Company and, of course, a national body – each serviced by staff of the Office of Electricity Regulation (OFFER). These committees met regularly and responded to the various consultation papers that were issued by OFFER. It is fair to say that we cannot recall a single regulatory judgement that bore the influence of this elaborate structure of consumer representation.
62. It is possible to become unrealistic about what can be expected from direct engagement with consumers. It seems to us that the designers of the regulatory regime need to make a choice. Consumers can be protected by the conscientious discharge of its duties by a regulatory body that is equipped to balance all the conflicting priorities to secure the best outcome that is possible for consumers. That is broadly the model we have today and we agree that, provided its limitations are understood, there is value in trying to ascertain the preferences of consumers as one input to the judgements that a regulator must make.
63. The alternative, and more radical, model would give real power to consumers (or, more accurately, to their representatives). This would raise significant issues of governance and legitimacy but it could be done. Under this model consumer representatives would be empowered to reach agreements with network operators, which the regulator would either endorse or reject. The corollary of this would be that the consumer representatives would need expert advice to enable them to negotiate effectively on behalf of consumers. However, we should be realistic about this. Whatever merits it has in terms of facilitating deals that are mutually advantageous for consumers and network providers, we should not expect any benefit to arise from any idea that such a process could avoid considering the complex issues that currently arise in price control reviews.
64. Both sides would know that their alternative to any agreement would be a regulatory review conducted by Ofgem or by the CC. Each side, assuming it behaved rationally, would assess any prospective agreement by reference to its prospects through the alternative, conventional, regulatory route. Thus, the factors that would determine the normal (regulated) outcome would feature in each side's assessment of its position and, very probably, in the negotiation itself.
65. In short, empowered consumer bodies would need expertise and resources.

66. The alternative, i.e. essentially the current regime, needs little change to present arrangements and resources. Regulators and network operators should continue, from time to time, to try to ascertain the preferences of consumers whilst recognising that this assigns them a very different and much more limited role.
67. An important distinction between these two approaches is that the current approach requires only that the *preferences* of consumers are taken into account in reaching regulatory decisions. It does not require that consumers should become acquainted with technical, financial or regulatory issues or participate in the discussions of these matters. By contrast, the more radical option where consumers, through a representative body, are empowered to conclude agreements with network companies requires that the representatives of consumers in that process become expert in these technical, regulatory or financial issues.
68. The *Consultation paper* observes that the service provided to consumers reflects the behaviour and decisions by all companies along the supply chain, and asks whether this means that users of the network should also be involved with any regulatory process intended to improve the focus on consumer needs. In particular the *Consultation paper* asks if energy supply companies could take the responsibility for representing the interests of final consumers.
69. This suggestion is based on a failure to recognise the extent to which the monopoly characteristics of the distribution network mean that the competitive market in energy supply offers no protection to the consumer with respect to the provision of the network component of the final product being provided. Suppliers have no commercial interest in whether their customers receive an adequate *distribution* service. This can be shown by the following brief synopsis of who provides what to whom and who stands to gain or lose from a good or bad performance on the part of the distributor. We recognise that in some respects the picture may be different for transmission networks.
70. We must start with the proposition that the distribution system has monopoly characteristics. Next, the fact that it is a *system* precludes users of the system from negotiating bespoke terms and conditions in which they make choices of the kind that could be tested in a competitive market about price, quality and risk. The network exists to serve all end users, present and future, irrespective of their supplier, since its characteristics cannot change when the customer changes his supplier. Competition in supply is based on the ability of the customer to change his supplier at will. Within this model suppliers cannot be given rights over the connection between the customer's premises and the network. Suppliers come and go, but investment decisions affect the quality of service that the end user receives for years to come. The misalignment (or perhaps non-alignment) between the interests of customers and those of suppliers is illustrated by the fact that a supplier will benefit from a reduction in use of system

charges until these are competed away (which may take quite a long time) even if that reduction is predicated upon a reduction in allowed investment that compromises security of supply. In these circumstances the supplier wins even though the customer loses.

71. One supplier has made the case for being given a formal role in the price control review process on the grounds that distribution charges are a significant cost for its business. It argues that it has fixed-price contracts with many customers and unexpected price increases squeeze its margins. This, however, is an argument for adequate notice and transparency rather than for a representative role in the review process.
72. Suppliers might argue that it is *they* who pay use of system charges, so they should be participants in the process that determines investment levels and prices. This is true *contractually*, because we have built commercial arrangements around the principle of the ‘supplier hub’, but we did so for convenience. The supplier hub principle ensures that the end customer is not troubled by the necessary complexities of the commercial regime. In particular he receives only one bill. However, we must be careful not to reach the wrong conclusions from this useful fiction. The fact that the supplier pays the use of system charges in the first instance and the presence of a (semi-)competitive market in supply does not make it sensible for the price control review process to give a formal place to the supplier. The supplier’s interests are misaligned with those of the customer. Reductions in use of system charges are only of interest to suppliers if we assume that the reductions will benefit them (rather than the end customer), if only for a period, (i.e. until they are competed away).
73. The task of representing the interests of consumers in the regulatory process is something that suppliers are particularly ill-suited to perform. To give suppliers a formal role in the price control process would be to give a role to someone whose incentives are misaligned with those of the customers.
74. The *Consultation paper* asks about the issues on which Ofgem and the network companies should engage with consumers and about the timing of such engagement. We suggest that the interests of consumers should be paramount at all stages of the process. Assuming that consumers are not to be empowered by adopting the system of negotiated settlements considered above, Ofgem and network companies should satisfy themselves, insofar as this can be done in any meaningful way, that they understand consumers’ preferences. For the reasons set out in paragraphs 58 to 67 above we would caution against too much being expected from such a process.
75. The *Consultation paper* asks if the regulatory controls are ‘too complex’, making it ‘difficult for consumers to engage in consultations’. Perhaps complex controls make it even harder for the lay person to make a contribution to the debate, but we should be

realistic about this. If the controls were expressed in a simpler format, or even if they were simpler in their conception, would that really generate an upsurge in *representative* consumer participation? We doubt it and, in any case, if it did, how useful would that really be in setting a price control for a network business? In competitive markets consumers make choices from the range of products available to them. This deficit in a regulated monopoly market cannot be overcome, or even attenuated, by a process of consultation designed to contribute towards a judgement about the component costs that will be efficiently incurred in providing the appropriate level of service and the design of the incentives to ensure its efficient delivery. It is important to understand customers' *preferences* about price and quality. It is not important to secure their active participation in the regulatory discourse.

76. The *Consultation paper* asks whether engagement between network companies and consumers and users is something that should be required and whether this should be an ongoing requirement or just a requirement at particular times. Whether it is voluntary or compulsory, the important thing is that, after such consultation has occurred the network company must retain the obligation to formulate its own plans, and this means that it must retain the right to use its discretion with respect to the representations that it receives during the engagement process.
77. Finally, the *Consultation paper* asks if there are other ways that the regulatory process could be improved from a consumer perspective, (e.g. providing consumers with a right to appeal the regulatory settlement to the CC). We give consideration to this proposition below.
78. There are two aspects of the current regulatory mechanism that may already serve this purpose. The first of these is that, when Ofgem conducts a price control review, it does so having regard to all of its statutory duties, pre-eminent amongst which is the principal objective to protect the interests of consumers.
79. It is not clear why a consumer veto is necessary in a process where the interests of the consumer are already required to be paramount in any proposals put forward by Ofgem. It is true that Ofgem's duties are not solely to protect the interests of consumers, but that is its principal objective and it is one that we believe it takes seriously. Moreover, any veto would have to be exercised by a body that was *representative* of consumers. It could not be exercised by consumers in totality. That representative body would have to be capable of ascertaining and balancing the different interests of different groups of consumers with divergent interests and preferences. It is not clear that any representative body would be better equipped to do this than Ofgem already is. Furthermore, Ofgem is required to take into account the interests of future consumers. It is not clear how a body that represented existing consumers could be expected to balance the competing interests of current and future consumers.

80. The second aspect of the current arrangements that protects consumers is the provision that exists within the statute that equips the Secretary of State with a power of veto over any licence modification to be made by agreement between the Gas and Electricity Markets Authority (the Authority) and the licensee. If there is a concern that a proposed change to a price control would not be in the interests of consumers, it is open to those who consider that their interests have not been properly served to satisfy the Secretary of State that this veto should be exercised. The Secretary of State shares the same principal objective as the Authority (i.e. to protect the interests of consumers), so his decision on the exercise, or non-exercise, of his veto should take into account consumers' interests. Since the exercise of any consumer veto would require that some body or person makes the decision as to whether the veto should be applied, it is not clear why the existing provision that confers this power upon the Secretary of State needs to be amended. Moreover, this function (including any failure to exercise it) is something that is already potentially subject to judicial review. Consumers therefore already benefit from considerable protection and this already includes the exercise of a veto on their behalf. The case for an additional power of consumer veto has not been made.

Question 2: We present a number of issues that we will consider when assessing how the regulatory framework encourages networks to meet the needs of consumers. Have you any views on these issues? Are there others that we should also consider?

81. We believe that the RPI-X system of regulation has developed satisfactory mechanisms and approaches in the areas listed in the *Consultation paper*, namely:
- identifying what customers need;
 - balancing the objectives of different customers;
 - securing value-for-money efficiency and innovation; and
 - incentivising an appropriate quality of service.
82. Some of these mechanisms are being developed and enhanced at DPCR5. In other respects, such as volatility of charges and the structure of charges, there is more work to be done. We believe that it is possible to continue to consider these outside the price control review since they are unlikely to give rise to significant changes in revenue or service offerings or investment needs in the forthcoming regulatory period.
83. As far as alignment of incentives along the supply chain is concerned, we believe that the fundamental task of a network business is to connect generation and to distribute power to end users and to interconnected networks. However, since most of the environmental consequences of electricity consumption arise in the generation activity, it is important that distributors are able to facilitate delivery of a sustainable energy sector. We deal with this in more detail in our response to Chapter Five below.

84. The *Consultation paper* asked whether it is the job of the network business or the regulator to identify what customers need. The answer is probably both, although we believe that behind this question and some others posed at this point in the *Consultation paper* there is a more profound question about the respective roles of a shareholder-owned network business and a regulatory body in securing the public interest. We consider this below.
85. The regulatory framework established at privatisation was based on the assumption that the privatised firms would behave like any other companies. In the absence of competition, monopoly power was constrained by price caps and regulators were given the duty to enforce these and any other constraints that were to be placed on the privatised companies.
86. It was assumed that one of the principal virtues of privatisation was that it would replace the confusion of objectives so evident in the practical expression of the Morrisonian nationalisation model with the clarity of the profit-maximising firm.²
87. RPI-X regulation bases its claim to pre-eminence upon its superior incentive properties. It is generally accepted that incentives are enhanced by clarity. The incentive properties of RPI-X regulation are clear enough when we assume a profit-maximising firm, but it is harder to see how the basis of the RPI-X model can be consistent with the view of the firm that requires it to balance other objectives and to arbitrate between these to secure the public, or even the consumer, interest.
88. Since the regulatory model assumes that the firm will profit-maximise, how can it be consistent with this to expect the firm to trade off the interests of the various stakeholders except in the way that maximises shareholder value? Thus we conclude that, if competing interests have to be reconciled, these must be reconciled by a body with a public-interest remit, such as Ofgem, rather than by a business whose pre-eminent duty is to its shareholders.
89. The current arrangements whereby Ofgem endeavours to identify the preferences of consumers and to take these into account as it conscientiously discharges its statutory remit are appropriate. The alternative, discussed above, is a system where the consumers are empowered to reach their own negotiated settlements with network companies.

² See e.g. CD Foster, *Privatisation, public ownership and the regulation of natural monopoly*, 1992 pp 92, 236, 237 and 242.

CHAPTER FIVE – DELIVERING A SUSTAINABLE ENERGY SECTOR

Question 1: Do you have any views on our description of the sustainability challenges facing networks? Are these new challenges? Are the challenges different for electricity and gas, and for transmission and distribution?

90. The *Consultation paper* presents a reasonable summary of the challenges. These are not new, as they have been described in (for example) previous papers from the DPCR5 project that runs ahead of this RPI-X@20 project. The generic challenges are the same for all network businesses: there is a need to decarbonise the future economy, which means consuming energy more efficiently and producing energy from low/zero-carbon (LZC) sources. The implications will differ between networks: for example, decarbonising heat may mean a shift from gas to electricity.

Question 2: We present issues that we think we should consider when assessing how decisions about what needs to be done by the networks are incorporated in the regulatory regime. Have you any views on the list of issues? Are there others that we should consider?

91. With distributors as facilitators, delivery of a sustainable energy sector does not fundamentally change the way that network businesses need to make investment and operating choices. The regulatory processes for considering operation, maintenance, replacement and enhancement of the physical networks do not need to change. The framework would need to change only if distributors took on supplier or system operator (SO) responsibilities.

92. Any significant change to the role of distributors, particularly any more active engagement in constraining end-user behaviour (which is what smart grids and active network management entail), threatens the fundamental basis of the current market framework. Supplier hub and BETTA are based upon suppliers understanding and then despatching both generation and demand to balance their own portfolios, as part of balancing the total system. If distributors were to contract with local generation and demand and despatch them for what are purely local issues, it would undermine years of hard work and marginalise the role of suppliers.

93. Distributors should not in isolation make strategic decisions about their role. The network businesses need to interact with other parties along the supply chain when the industry is making fundamental decisions about investment to facilitate delivery of a sustainable energy sector, because the industry must consider all the investment required, the greater part of which is in the generation fleet (central and dispersed). The key issue (of roles and responsibilities) is whether we constrain generation and demand to minimise network costs, or build networks that facilitate the least-cost, lowest-carbon operation of generation to meet reasonable customer demands.

94. Changes in the role of networks should not be determined by the market nor should they be determined by regulators or government acting in isolation. The market will not deliver because no one party is exposed to the full costs and benefits of its actions. However, distributors are not prepared to stand idly by and abdicate their responsibilities in this area. We submit that Ofgem/DECC should facilitate round-table meetings involving all parties in the supply chain, from primary fuel to appliances, and look to the industry to bring forward detailed proposals. Ofgem/DECC have taken this role before, from 1998 through to BETTA.
95. Once these issues of roles and responsibilities are resolved, then it can be left up to the network owners (and other parties) to determine what they need to do to deliver a sustainable energy sector.

Question 3: We present issues that we think we should consider when assessing how the regulatory framework can ensure that any capital investment is efficient and is financed. Have you any views on the list of issues? Are there others that we should consider?

96. We do not see that delivering sustainable networks changes the need to encourage efficient investment – in fact we think that the need for incentives for efficiency will, if anything, be greater in the next ten years than in the last ten. The nature of investment in the physical network will not change: it will continue to deliver multiple outputs (e.g. safety and customer service), and it needs to be demonstrably sufficient and efficient. We suggest implementing a basket of metrics to safeguard against under-investment, combined with effective financial rewards to forecast and invest only what is needed at any given time.
97. The degree of uncertainty over future customer needs suggests to us that, at least until 2015, the only investment required in advance of proven need is that to develop the tools we may require should customer need evolve rapidly. This will involve trials of new techniques on real networks where they may not be ‘needed’, to prove the technology before it is required in anger.
98. This position changes if distributors take on part of the responsibilities of a supplier/SO, such as despatching generation and/or demand.

Question 4: We present issues that we think we should consider when assessing how the regulatory framework balances risk and rewards. Have you any views on the list of issues? Are there others that we should consider?

99. The *Consultation paper* states that a number of stakeholders have contended that delivery of a sustainable energy sector will increase the risks that energy network businesses face. For the reasons set out in paragraph 49 above we believe that the

extent to which this becomes the case depends upon the regulatory approach to, and treatment of, these risks.

100. There is certainly a risk, under some scenarios, that network businesses will create assets that are under-utilised. At the other end of the spectrum there is a risk that there will be such a lack of clarity about how the costs of necessary investments will be recovered that rational investors will decline to provide the necessary funds. It seems to us that the choice is between:
- a lower-risk scenario (i.e. where the network businesses see a high probability of cost recovery). The downside of this is that unnecessary assets may be constructed and, to an extent, there is a higher risk that they may be inefficiently conceived and executed; and
 - a higher-risk scenario (i.e. where the network businesses perceive that they bear significant risks of non-recovery of their costs but these risks are balanced by either the prospect of unregulated earnings or highly incentivised regulated earnings). The downside of this is that the overall cost may be higher (even allowing for the superior efficiency incentives) and the network businesses may build the wrong assets in the wrong places at the wrong times or they may build no (appropriate) assets of this kind at all.
101. The answer to the subset of questions listed at paragraph 5.29 of the *Consultation paper*, which relate essentially to who should bear which risks, depends critically upon the approach that is to be taken to the question of what is to be the role of the energy network in the future.
102. Until now network businesses have primarily been expected to *respond* to the requirements of the various users of the network. If network businesses are to be expected to *anticipate* what users will require in future, the regime will have to choose the optimal point between guaranteed cost recovery and uncapped exposure to upside and downside risk.
103. Alternatively, if there is to be a significant component of state direction (which may take the form of the guiding mind discussed in Chapter Six) which requires that network businesses become part of the process that encourages users and connectees to behave differently, this implies a model in which network businesses are neither responding to, nor anticipating, future user behaviour but are being expected to influence or determine that behaviour and this would suggest a low-risk regime with a high degree of assurance of cost recovery. For reasons set out in paragraphs 110 to 114 below we would not advocate this role.

Question 5: We present issues that we think we should consider when assessing how the regulatory framework can encourage innovation by the networks. Have you any views on the list of issues? Are there others that we should consider?

104. The requirements of the physical network continue to evolve, but the case for radical change is (despite the claims of LENS) not yet proven. Networks with high levels of heat pumps and/or electric vehicle charging may look no different from those with storage heaters. High levels of micro-generation may need no more than enhanced voltage control.
105. The area where significant innovation may be required is in local trading and balancing, which is currently a supplier role. Smart Grids are an opportunity for the entire supply chain, not just networks. As we shall explore in more detail below, DECC/Ofgem must facilitate an holistic and effective debate on roles and responsibilities to allow parties in the entire supply chain to understand what is expected of them. Without this, innovation will not come forward as companies cannot be sure that they will reap the rewards.

Question 6: Are we addressing the right issues and questions in the 'Delivering a sustainable energy sector' theme? Are there any issues missing from this theme?

Question 7: Are there issues that need to be covered in RPI-X@20 that are not adequately captured by our two themes? Please specify what these issues are.

We shall take these two questions together.

106. We agree with the statements that:
- ‘The delivery of a sustainable energy sector involves all parties along the supply chain in both the gas and electricity industries. The networks ultimately have a facilitating role, ensuring assets and operations adapt to changing demands (both upstream and downstream)...’ (5.2); and
 - ‘The challenge for the networks is to ensure that capacity, and operational capability, is able to facilitate delivery of the low carbon economy. This involves adapting to changes in generation and in demand’ (5.14).
107. We feel that there is significant value in clarifying this expectation: once parties better understand what they are expected to do, they can better plan for the future, specifically in bringing forward innovation to help companies and energy systems evolve.
108. As noted in our response to Question 1 in this chapter, we agree that the pattern of production and consumption of electrical energy is going to change.

109. We agree that there is an opportunity for distributors to continue to develop 'active network management' techniques to minimise the costs of developing the distribution networks to serve these new patterns of production and consumption. Here, we mean the 'active asset management' techniques referred to in our response to the December 2008 'policy' consultation.
110. We agree that there is an opportunity better to integrate the management of generation and demand. As Dr Michael Pollitt (Electricity Policy Research Group, University of Cambridge) said in evidence to the Energy and Climate Change Committee, 'we should not let the network tail wag the generation dog'. Around 95% of carbon emissions and two-thirds of costs relate to generation, while only 5% of emissions and one-fifth of costs relate to distribution. Therefore, we must focus on using 'demand-side management' (specifically 'demand response' as referred to in our response to the December 2008 'policy' consultation) to optimise the generation fleet.
111. Experience in the USA and Australia is that the main value of demand response is in reducing the need for peaking plant. In both those countries, demand response programmes have been justified entirely on the basis of generation costs, with the network impacts deemed so insignificant as not to be worth modelling. Research closer to home also shows that demand response has a significant impact on making best use of the output of intermittent renewables such as wind.
112. As Professor Goran Strbac (Chair in Electrical Energy Systems, Imperial College) said in evidence to the Energy and Climate Change Committee, moving large parts of transport and heat loads to electricity could increase peak demand from 60GW to 300GW. In his view this could be reduced to 150GW through deploying demand response. Generation utilisation would also improve, increasing its efficiency (and reducing carbon emissions). This particular type of demand response, deployed primarily to reduce generation costs and emissions, would have the beneficial side-effect of reducing the need for investment in transmission and (to a lesser extent) distribution.
113. This helps us begin to define the 21st century network; the revolution comes in the way that energy is produced, consumed and traded. This requires active suppliers at least as much as it requires active networks, and will be driven by active customers. There is a 'virtual' layer, where developments such as smart meters facilitate integrated management of generation and demand. Energy Services Companies (ESCOs) emerge, engaging more actively with more informed customers to support local trading, using Smart Grids to balance generation and demand to minimise their exposure to wholesale markets, as foreseen at the DECC/Ofgem Distributed Energy Working Group (DEWG). Other niche suppliers use Smart Grids to provide green tariffs that more closely match consumption to production from renewable sources. The larger supplier/generators

adopt demand response, just as American and Australian utilities have, to trim peak demand to reduce the need for new plant as the generation crunch bites.

114. Distributors' role in facilitating the transition to a low-carbon economy is not as the principal agents of the transition, but as its facilitators. Distributors need to provide the 'physical' layer, i.e. the network paths needed to support this revolution. Some of the changes driven by the principal agents (i.e. customers and suppliers) may increase the need for network capacity, such as matching consumption to production from renewable sources. Others will reduce the need for network capacity, such as trimming peak demand better to meet available generation. Distributors must become more active, engaging better with users to understand these evolving needs, and bringing forward further active asset management techniques that operate in the background to provide network paths most efficiently. The key point here is that the requirement for a network path is defined by the users and not constrained by distributors.
115. Some models of future market frameworks would, perhaps inadvertently, restore the network distributor to something approaching a vertically integrated local monopoly. This is because such models envisage distributors owning and operating network assets, funding the provision of some generation and having significant control over the despatch of most generation and the aggregation and trading of generation output. If this is the role that society wishes network businesses to take on we are willing and able to do so with respect to the distribution services areas that we serve. However, we do not think that this would be the best way to secure the delivery of an efficient, sustainable energy market because it will fail to make use of the opportunities to use competitive markets where these could be part of the solution.
116. The role of policymakers and regulators in the move towards a sustainable energy sector is to:
 - stimulate customer awareness;
 - encourage low-carbon production and consumption;
 - support smart meter roll-out in a timely manner, with a specification that will support both demand response and active asset management;
 - promote vibrant markets for ESCOs and niche suppliers, specifically by ensuring that the larger supplier/generators provide effective support facilities at reasonable prices;
 - have a coherent approach to community energy schemes, so that producers of electricity are encouraged to create ESCOs and trade that electricity locally, rather than simply taking a feed-in tariff; and
 - continue to support innovation in the physical layer.

CHAPTER SIX: IDEAS FOR FURTHER EXPLORATION

Question 1: We have presented a number of ideas on changes that could be made to the existing regulatory framework. Are there other alternative frameworks that you think RPI-X@20 should look at?

117. One of the problems that confronts a regulator is that it can never know as much about the investment needs of the network as the licence holder does. However, the system of RPI-X regulation rewards a network business if it spends less than the regulator assumed when the price control was set. The IQI was introduced at DPCR4, and then adopted in gas distribution and water, to incentivise companies to reveal their best view of capital investment needs in the forthcoming period. Another approach to this issue is the system known as baseball arbitration or pendulum arbitration.
118. This technique was often discussed during the industrial relations disputes of the 1970s but it has also been used in setting network access prices in Guatemala and has been recommended for use in Chile.
119. The essential features of the mechanism are as follows. The parties to the negotiation must be defined. Once this is settled they are given a maximum period of, say, four months in order to negotiate an acceptable settlement. If they are unable to agree, prices and presumably quality of service issues may be determined by a third party on the basis of pendulum arbitration. Under these arrangements the arbitrator must choose between the two final offers presented by the parties to the dispute. It is said that such a regime 'limits the parties' posturing incentives' and provides them with an incentive for truthful revelation. More accurately, it has been said that it is in each party's interest to make an offer that is marginally fairer than the opponent's expected offer, giving a strong incentive both to make reasonable offers and to reach a negotiated agreement.
120. Stephen Littlechild has observed that the advantages of negotiated settlements are diminished if the regulator is permitted to cherry-pick the bits of an agreed settlement that it likes and to supplement or replace these with its own preferences where it disagrees with the freely negotiated outcome. He believes that the regulator should be required to adopt or reject the negotiated settlement in its entirety. Pendulum arbitration would take this principle further. It could be applied where the parties cannot agree.
121. Limiting the arbitrator's role to choosing between the competing views of the parties would probably require a change to the primary legislation. Moreover, for pendulum arbitration to work effectively *all* levels of the appeal process must be similarly constrained. Otherwise the posturing incentives are still present.

122. The existing institutions could be adapted to use this form of regulation. For example, the network company and Ofgem could be the parties to the initial negotiation. If they failed to agree the CC could be the body that is required to choose between the packages offered by the two parties.
123. We are not necessarily advocating this method of regulation since we can see that it raises a number of issues that would need further careful consideration. In particular it is not clear to us how the mechanism deals with the situation where both sets of proposals are deficient, but in different ways. For example, the regulator's cost of capital assessment might be too low to attract investment, but the licensee's investment plans might be overstated. Nevertheless, the RPI-X@20 project might seek to discover how such problems have been overcome in the regimes in which it has been tried.
124. In general we believe that Ofgem should concentrate upon finessing the current RPI-X system of regulation rather than seeking entirely new forms, processes and structures. This finessing could include the accommodation of the 'guiding mind' concept within the existing regulatory framework. It would also mean that Ofgem should settle on how cost efficiency can continue to be incentivised now that the traditional technique of partial operating cost benchmarking has reached the limits of its useful life. The pragmatic assumption that the errors and inaccuracies in this form of efficiency assessment are not material because of the significant potential to reduce operating costs is no longer valid. We believe that it is in areas such as these that fresh thinking needs to be applied.

Question 2: Do you have any provisional views on the ideas presented here?

125. The *Consultation paper* offers two alternative approaches. One is characterised as 'tidying up the existing regulatory framework' and the other as 'Add-ons to the existing regulatory framework'. Whether a possible change would be classed as an 'add-on' or 'tidying up' is not particularly important. We believe that the current system of RPI-X regulation is quite compatible with ideas like giving network businesses more freedom to develop strategic plans for meeting the needs of consumers and, indeed, at DPCR5 the emphasis on credible plans linked to measurable outputs could be seen as such a development. Similarly, improved incentives for efficient capital investment and efficiency and innovation can be pursued without departing from the existing overall format.
126. Some of the 'add-ons' merit special mention. These are considered below.
127. Our views on increased consumer participation in the regulatory process have been set out above, but we would caution against adopting the model of constructive engagement used in the airports sector. The potential to use such a mechanism is

greater in airports because the airlines will bear some of the consequences of any actions they take as their customers may choose other airlines or forms of transport. This is not true of energy networks for the reasons set out in paragraphs 68 to 73 above. Even in the airports sector the constructive engagement process has suffered from the misalignment of incentives.

128. The suggestion that the regulatory process may benefit ‘if consumers [we note that Ofgem does not say users] have a right to appeal any proposed settlement’ is one that we have considered in more detail above, but an important issue is that there has to be a downside to the automatic choice of the appeal route and it is hard to see how such a downside could be applied to *consumers*.
129. The *Consultation paper* asks whether the sector would benefit from the establishment of a ‘guiding mind’ and, if so, who should perform that function. The fact that in other sectors the economic regulator and regulated businesses are provided with guidance on policy objectives is certainly worth further consideration. The history of the energy networks sector has enabled the determination of *what* is to be delivered to be shared amongst Ofgem, DECC and its predecessors and the network businesses themselves in a very informal manner. As long as the nature of the service was tacitly assumed to be the continuation of the status quo, there was no perceived need to establish this input as a formal aspect of the regulatory process. The changes in the energy network sector now being envisaged make it more like the post-privatisation water sector and there may therefore be merit in establishing a body that would act as a guiding mind. This could be Ofgem, but it might be preferable to enhance its legitimacy by giving DECC a pre-eminent role.
130. We agree with the consensus that there should be more emphasis on outputs. This can be achieved within the RPI-X model.
131. As far as alternatives to the RPI-X regulatory framework are concerned, we do not believe that the magnitude of the sustainability challenge means that the RPI-X framework is no longer fit for purpose. The RPI-X approach is capable of accommodating the environmental externality in ways that other market-based models would find difficult.

CHAPTER SEVEN: NEXT STEPS

Question 1: Do you have any views on the proposed next steps for the review?

132. We note the timetable set out in Chapter Seven of the *Consultation paper*.

133. We look forward to continuing to participate in the process through attendance at working groups and the submission of written papers.