

# Agenda

Advancing economics in business

## The (potentially) topsy-turvy world of energy regulation: RPI – X@20 and Project Discovery

This article examines two current major reviews being undertaken by Ofgem, the GB energy regulator, of how it regulates wholesale energy markets (Project Discovery) and energy networks (RPI – X@20). Tim Tutton, Senior Adviser, Oxera, asks whether these two reviews could lead to the surprising result—at least from the standpoint of conventional regulatory economics—of the re-regulation of wholesale markets (especially the wholesale electricity market), while exposing network activities to increased competition

Since the privatisation of the electricity supply industry in 1990, there has been a relatively simple philosophy which has underpinned the regulation of both the gas and electricity industries in Great Britain. This has been to promote competition when it is feasible and to regulate when it is not. Thus, as expressed in Ofgem's Annual Report for 2006–07:

Ofgem combines independent regulation of monopolies with promotion of competition to meet customers' needs.

Ofgem's policy of looking to competition in wholesale and retail markets to protect customers' interests has continued to bring benefits. Competition puts pressure on suppliers to rein in prices and incentivises them to innovate and offer consumers diversity in products. In so doing, competition has delivered good deals for customers.

In sections of the industry where competition is not a realistic option Ofgem protects customers' interests by imposing controls and incentives. This applies to the monopoly businesses that run the networks of pipes and wires that carry gas and electricity to homes and businesses. In this way we ensure that homes and businesses get the best value for money and reliable supplies.<sup>1</sup>

This philosophy of promoting competition where feasible has been reflected not only in the removal of price controls from electricity and gas supply, but also in the de-regulation of some activities, such as

metering, which were previously undertaken by the monopoly energy networks.

However, this progressive whittling away of activities that are subject to ex ante regulation (as opposed to the ex post application of competition law) has not been continuous, especially recently. For example, and as described in a previous *Agenda* article,<sup>2</sup> Ofgem has recently moved to the re-regulation of electricity and gas supply, not least through the imposition of two new licence conditions that require electricity and gas suppliers to:

- charge cost-reflectively between different payment methods;
- not discriminate without objective cost justification between one group of domestic customers and any other group.

The basis for these changes was Ofgem's conclusion (in its Energy Supply Probe of 2008) that supply competition had been relatively ineffective in protecting the interests of particular customer groups—notably, some of those using pre-payment meters, those not able to access dual-fuel deals, and those taking their supplies from the previously local monopoly supplier.<sup>3</sup>

However, what has seemed to signal the prospect of a potentially more systematic change in Ofgem's approach to regulation has been its undertaking of two major reviews: 'RPI – X@20' and 'Project Discovery'. The first is reviewing how Ofgem should regulate energy networks, whereas the second is examining the

The views expressed in this article are those of the author.

operation of the gas and electricity markets, particularly the wholesale markets.

What these reviews seem to be opening up is at least the possibility that Ofgem's policy of regulating networks and liberalising markets could end up being partially inverted (hence the title of this article). In other words, the reviews have created the possibility that wholesale gas and electricity supply (in particular, the latter) could be significantly re-regulated, whereas what have previously been regarded as 'core' monopoly network activities could be exposed to greater competition. This article thus poses two main questions.

- What are RPI – X@20 and Project Discovery about?
- Where are they, and the broader direction of GB energy regulation which they encapsulate, going?

## What is RPI – X@20 about and where is it going?

Announced on March 6th 2008, Ofgem's RPI – X@20 project is unlikely to conclude much before the end of 2010. Even then, it may take some time after that for the project's recommendations to be worked up into detailed amendment of current network regulatory arrangements.

At present, the project is still in its self-proclaimed 'visionary' phase, due to culminate in the publication of an 'emerging thinking' document early in 2010. In trying to get a handle on what changes may eventually emerge from the project, this article seeks to answer the following questions.

- What issues/problems is the project trying to address?
- What are the strands in Ofgem's thinking which have emerged from the quite large number of papers that have been published?
- Of this thinking, what is likely to survive to the end of the project?

## What are the problems that RPI – X@20 is trying to address?

When Alistair Buchanan, Ofgem's Chief Executive, announced the RPI – X@20 project (or 'RPI at 20', as it was then called), he flagged the following as reasons for undertaking the review:

- the government's climate change agenda and how energy network regulation needed to evolve to facilitate its delivery;
- the evolution of European energy regulation and what changes this might require of regulation in Great Britain;
- the increased complexity of GB energy network regulation and whether this could be reversed;

- whether there had been a 'paradigm shift' in the financing of energy networks, which had made possible the premia (over regulatory asset value) that had been paid for some regulated networks and which might suggest that existing price controls were over-generous to companies.<sup>4</sup>

Since then, all but one of these factors appear to have diminished in importance for Ofgem.

- Regulatory developments at the European level have not, thus far, appeared to be a material consideration.
- Developments in capital markets since March 2008 have reduced the probability of substantial premia being paid for network assets, at least for the immediate future.
- A reduction in the complexity of regulation, although seen as desirable in itself, is probably going to be in significant conflict with other considerations, not least Ofgem's desire to elaborate the outputs which networks ought to be delivering.

However, the remaining objective—of facilitating the achievement of the government's climate change agenda—has, if anything, become more prominent. Since March 2008, Ofgem's statutory objectives have been refined by the Energy Act 2008 to give more prominence to 'the achievement of sustainable development', and ministers frequently reiterate the government's determination to keep up the pressure on carbon reduction.

At the same time, Ofgem has normally interpreted its duty to protect the interests of (existing and future) consumers as being very much about protecting them from unnecessary price rises. This tension between, on the one hand, the government's effective volume targets for renewable electricity generation—and the sheer amount of network capital expenditure which could be required to deliver those targets—and, on the other hand, Ofgem's desire for those targets to be delivered 'efficiently' (ie, at minimum long-term cost) is at the heart of Ofgem's objectives for RPI – X@20.

## What are the main themes running through RPI – X@20?

Against the background of the over-arching objective to facilitate the achievement of government carbon targets at minimum long-term cost, there are at least the following main (and often interrelated) themes which have run through the RPI – X@20 project to date.

- **Uncertainty.** Ofgem is particularly concerned that the uncertainty, including technological uncertainty, about what sort of networks will best deliver a low-carbon economy in the long term increases the risks that investment undertaken in the more immediate future

may be wasted (or, to use the conventional regulatory term, 'stranded').<sup>5</sup>

- **Innovation.** For Ofgem, innovation (whether technical or commercial) is seen as the only real way to improve what it sees as a currently unattractive trade-off between delivering a low-carbon energy sector and the cost of so doing. Ofgem also sees the existing network regulatory regimes as not offering sufficient encouragement for that innovation.<sup>6</sup>
- **Efficiency.** In the context of achieving long-term carbon-reduction goals, Ofgem sees a need to refine the meaning of 'efficiency'—a term which runs through the statutory and licence obligations on networks and which is the main underpinning of network price control reviews. In such reviews in the past, efficiency has come to mean, in effect, the lowest costs incurred over a five-year period. Given its objective of minimising the cost of achieving long-term de-carbonisation, the RPI – X@20 project is searching for a definition of efficiency which covers a period much longer than five years, and which embraces the total cost of energy provision, rather than just the cost of developing and operating networks.<sup>7</sup>
- **Competition.** Ofgem has always believed that competition will, in principle, be more likely than regulation to lead to 'efficiency' and 'innovation'. The question in RPI – X@20 is how this might apply to network activities which have at least elements of natural monopoly and where the costs (direct and indirect) and time involved in introducing competition need to be weighed in the overall balance, especially given the importance of time in achieving government de-carbonisation targets.<sup>8</sup>
- **Consumers.** The question posed has been whether there should be an enhanced role for consumers in the regulatory process—possibly through the sort of 'constructive engagement' which has been tried in relation to BAA's London airports, possibly through more extensive consumer consultation, or perhaps by giving consumers, as well as the network companies themselves, the right to trigger a referral of price controls to the Competition Commission.<sup>9</sup>
- **Role of government.** Against the background of government objectives, especially for renewable generation, the question posed has been about the extent to which government itself should prescribe what networks should do in order to facilitate the achievement of those objectives.<sup>10</sup>
- **'Enhanced regulatory framework'**. To the extent that total reliance for improvement in the regulatory framework is not placed on enhanced competitive pressure and/or on an enhanced role for consumers

in the regulatory process, the RPI – X@20 project has been about the more incremental ways in which the existing regulatory framework could be changed to encourage the achievement of desired outcomes. Ideas floated in this regard include:

- 'richer' business plans at price reviews (for example, covering longer periods than is usual for price review business plans, as well as the options available in the context of different future energy scenarios);
- tighter and more extensive specification of the outputs which network companies would be required to deliver;
- incentives which would be more focused on achieving longer-term efficiency and delivering specified outputs on time.<sup>11</sup>

### Where will the project finish up?

As noted above, the RPI – X@20 project still has a long time to run and is still in its initial phase. It is therefore to be expected that many of the ideas currently being discussed will eventually be dropped or substantially modified. However, it is not out of the question that the outcome might have the following elements.

- It might be concluded that, although the long-term future for energy networks is uncertain, there is much less uncertainty about what is required to deliver the shorter-term targets (to 2020 and thereabouts). It might, therefore, be concluded that changes in the regulatory framework over the next few years are more likely to be incremental than some of the more radical changes which have been mooted, whatever the options that will be kept open for the longer term.
- Such incremental change would be likely to build on current developments in, for example, the transmission access review, the current electricity distribution price control review and the tender for offshore transmission networks. If Ofgem is left to its own devices (and this is probably quite a big 'if', not least against the background of a potential change in government and the more interventionist stance taken by shadow energy ministers),<sup>12</sup> such evolution might include:
  - more formal mechanisms for the involvement of consumers/network users in the regulatory process, mechanisms which might or might not include third-party rights to appeal Ofgem's price control decisions;
  - the need for network companies to provide richer business plans, as described above, at price reviews;
  - more extensive specification of the outputs which networks will have to deliver;

- ‘enhanced incentives’ which would give networks a profit incentive to anticipate the future requirements of network users;
- limited increases in the contestability of network activities, possibly focused on particular discrete extensions to existing networks.

## What is Project Discovery about and where will it lead?

If the outcome of RPI – X@20 remains hard to predict, this is not for want of information on both the questions which Ofgem is considering in the project and, in some cases, its tentative answers. As noted above, Ofgem has published a veritable plethora of working papers, consultants’ reports, seminars and presentations.

The same is not true of the other major project which Ofgem has been undertaking since March 2009: Project Discovery. Until October 9th, the part of Ofgem’s website devoted to Project Discovery contained one item—a press release, dated June 26th, stating that ‘Ofgem pushes on with scrutiny of security in GB energy supply’. However, on October 9th, Ofgem published ‘Project Discovery: Energy Market Scenarios’. In the short time that this document has been in the public domain, it has received significant publicity, not least because of the impact on domestic energy bills implied by at least some of the scenarios in question. The opening paragraph of the document summarises what Project Discovery is about.

Since privatisation of the GB gas and electricity sectors in the late 1980s and early 1990s, energy policy has been based on the view that competition between companies to generate and supply energy would deliver the best outcome for consumers. To that end, Ofgem’s focus in protecting consumers has been to promote effective competition in the supply of gas and electricity. We have now entered a period where energy markets are being tested and challenged. As a result, existing market and regulatory arrangements need to be re-examined to see if they are still appropriate.

Thus, the question underlying Project Discovery is whether ‘the market’, or at least the market as currently structured, can be relied on to deliver:

- the de-carbonisation of the energy sector required by current UK government policy;
- a politically acceptable level of security of supply or, in Ofgem’s own words, ‘wider objectives on security of supply’.<sup>13</sup>

The published scenarios relate only to the first of three stages of the project: the identification of the scale of the challenge. Subsequent work will focus, first, on the appropriateness (or otherwise) of current market arrangements and, second, on changes which might be

required under those arrangements. As such, the scenarios imply nothing, explicitly or directly, for energy policy or for market and regulatory arrangements.

Having said this, the scenarios document does nonetheless reveal a certain amount about Ofgem’s thinking on what will be required. Thus, Ofgem assumes in all its scenarios (as it has done throughout its existence) that market participants respond adequately to market signals.

Within our model this means that we assume new investment takes place where companies could earn a reasonable rate of return on their investment under each scenario’s assumptions, taking into account the risks they face. It also means that assets are retired when they are no longer profitable.<sup>14</sup>

Thus, except in the unlikely event that Ofgem discards its belief in companies’ responsiveness to financial incentives, the extent to which the market fails to deliver the required carbon reduction and security of supply goals will not be seen as a question of the market not ‘working’, at least in this narrow sense. Rather, the problem will be a failure to respond to objectives which are not aligned with financial incentives—for example, to deliver unprofitable but politically desired outcomes.

At present, such unprofitable activities would include:

- investing in particular types of generating plant—for example, coal-fired plant with carbon capture and storage and, on the basis of some of the statements from the generating companies involved, nuclear plant;
- achieving on a long-term basis the sort of aggregate generation plant margin (of generating capacity over expected electricity demand) which politicians may well see as desirable but which would not be an objective of a more or less competitive wholesale electricity market left to its own devices.

Of these two objectives, the second is likely to prove less tractable than the first. There are already policies in place to influence the mix of generation plant in Great Britain, including the multiple existing and planned subsidies for renewable generation. Moreover, the Secretary of State for Energy and Climate Change has indicated a willingness to introduce a levy on household bills to help pay for clean coal power stations. There is nothing, in principle, to prevent such measures being extended to other types of plant.

Persuading a more or less competitive market to build and keep open an above-market volume of generating plant (including plant which is not being directly subsidised) would, however, be more complicated and would, one way or another, require consumers paying



more for total generation capacity than that capacity's (competitive) market value.

Some of the complications of trying to achieve this have been observed in the USA.<sup>15</sup> In any event, keeping the price of generating capacity above its competitive level would require significant changes in the way the GB electricity market currently operates and would, in effect, require substantial interference with current GB electricity trading arrangements.

## Whither GB energy regulation?

In the wake of Ofgem's substantial re-regulation of the gas and electricity retail markets (largely driven by the government's social agenda), it is highly likely that wholesale energy markets (and, in particular, the wholesale electricity market) will be subject to a substantial increase in government/regulatory intervention over the next few years—whichever political party is in power.

In addition to Ofgem's Project Discovery, other recent evidence of the increased pressure for intervention, largely to achieve de-carbonisation and security of supply objectives, include:

- the recent 'Wicks report' on energy security, with its conclusion in favour of a 'more strategic' role in determining the fuel mix for power generation;<sup>16</sup>
- the recent report from the Committee on Climate Change on meeting carbon budgets,<sup>17</sup> alongside the comments from the Committee's Chairman and the Chief Executive on the inability of a competitive market to deliver the required de-carbonisation of the UK economy and the desirability of 'mandatory investment in low-carbon power'.<sup>18</sup>

Against this background, the possibility of a 'topsy-turvy' outcome—in which the re-regulation of generation and supply coincides with increased competition either for, or in, energy network activities—cannot be discounted. However, against the background of the pronounced (and cross-party) trend to a more interventionist energy policy, a pronounced increase in competition in network activities would represent an unusual triumph for the regulatory 'agent' over the government 'principal'.

## Tim Tutton

<sup>1</sup> Ofgem (2007), 'Ofgem Annual Report 2006-2007', July, pp. 6, 16 and 22.

<sup>2</sup> Tutton, T. (2008), 'Is the Competitive Electricity Supply Market Dying (and Does it Matter)?', *Agenda*, December.

<sup>3</sup> Ofgem (2008), 'Energy Supply Probe—Initial Findings Report', October 6th. See also Ofgem (2009), 'Addressing Unfair Price Differentials', January 8th; and Ofgem (2009), 'Addressing Undue Discrimination', June 26th.

<sup>4</sup> Buchanan, A. (2008), 'Ofgem's "RPI at 20" Project', presentation to the SBGI, March 6th.

<sup>5</sup> Ofgem (2009), 'Ensuring the Future Regulatory Framework is Adaptable', October 2nd.

<sup>6</sup> Ofgem (2009), 'Innovation in Energy Networks: Is More Needed and How Can This be Stimulated?', July 27th.

<sup>7</sup> Ofgem (2009), 'What do we Mean by Efficiency?', September 3rd.

<sup>8</sup> Ofgem (2009), 'Enhancing Competitive Pressures on Regulated Networks: Ofgem's Current Thinking', October 2nd.

<sup>9</sup> References for this include: Littlechild, S. and Cornwall, N. (2009), 'Potential Scope for User Participation in the GB Energy Regulatory Framework, with Particular Reference to the Next Transmission Price Control Review: Report to Ofgem', March 28th; Ofgem (2009), 'Consumer Engagement in the Regulatory Process', October 1st; LECG (2009), 'Should Energy Consumers and Energy Network Users Have the Right to Appeal Ofgem Price Control Decisions? If so, What Form Should the Appeals Process Take?', October 7th; France, J. (2009), 'Consumers, Stakeholders and Appeal Mechanisms in the Regulation of Energy Networks', September 29th. All of these articles (and many others covering RPI – X@20) can be found in the RPI – X@20 section of the Ofgem website.

<sup>10</sup> Ofgem (2009), 'Delivering Desired Outcomes: Who Decides What Energy Networks of the Future Look Like?', July 31st.

<sup>11</sup> Ofgem (2009), 'A Modified Ex Ante Framework', September 3rd.

<sup>12</sup> See, for example, the interview with Charles Hendry published in *Utility Week* (2009), 'Conservative Shadow Energy Minister Clarifies Party Line on Fate of IPC', October 2nd.

<sup>13</sup> Ofgem (2009), 'Project Discovery: Energy Market Scenarios', October 9th, para 1.1.

<sup>14</sup> *Ibid.*, para 1.12.

<sup>15</sup> See, for example, Bowring, J., 'The Evolution of PJM's Capacity Market' in F.P. Sioshansi (ed.) (2008), *Competitive Electricity Markets: Design, Implementation, Performance*, Oxford: Elsevier.

<sup>16</sup> Wicks, M. (2009), 'Energy Security: A National Challenge in a Changing World', August, para 6.32.

<sup>17</sup> Committee on Climate Change (2009), 'Meeting Carbon Budgets—the Need for a Step Change', October.

<sup>18</sup> *Financial Times* (2009), 'Climate Change: Transition Fuel or True Low Carbon Option?', October 12th.

If you have any questions regarding the issues raised in this article, please contact the editor, Dr Gunnar Niels: tel +44 (0) 1865 253 000 or email [g\\_niels@oxera.com](mailto:g_niels@oxera.com)

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