

**Impact case study (REF3b)**

<p><b>Institution:</b> University of Cambridge</p>
<p><b>Unit of Assessment:</b> 19 - Business and Management Studies</p>
<p><b>Title of case study:</b> Improving Energy Network Regulation in Great Britain: Ofgem's RPI-X@20 Review</p>
<p><b>1. Summary of the impact</b></p> <p>Research examining the regulation of energy network utilities in the UK carried out by Pollitt and Littlechild at Cambridge during 2006-2008 was a significant motivation for and contribution to the RPI-X@20 Review of regulation carried out by the UK electricity regulator, Ofgem, between 2008 and 2010. Both Pollitt and Littlechild carried out additional research which was fed into the RPI-X@20 consultation process. The review subsequently recommended the adoption of a new system of network regulation known as RIIO (Revenue=Incentives+Innovation+Outputs), which is being implemented by Ofgem. The underlying principles are also being adopted by UK water regulators.</p>
<p><b>2. Underpinning research</b></p> <p>The research was conducted between 2006 and 2008 by Pollitt, (University Lecturer 1994-, Reader in Business Economics 2006-) with Dr Stephen Littlechild, Principal Research Fellow (part-time) in Privatisation, Regulation &amp; Competition (2000-2004), and CJBS Fellow (2004-), submitted to the RAE2008 as a Category C researcher at the School.</p> <p>Pollitt (<b>Ref 1</b>), developing an earlier conference presentation (in 2007), showed that the system of RPI-X incentive regulation for energy networks, put in place at privatisation, was no longer fit for purpose in a low carbon world where network investment requirements were rising and the opportunities for operational efficiency improvements were diminishing. The paper introduced a new paradigm for network regulation, focussing on the process by which regulatory targets (i.e. the use of competition and consumer engagement) were set, rather than on the outcome of the regulatory settlement (i.e. the size of X). Inter alia, the paper argued for the greater use of constructive engagement with non-network energy companies in order to decide on investments and quality targets for energy networks, more use of competitive procurement of network assets and more use of large scale experiments in low carbon energy. Pollitt (<b>Ref 2</b>) argued for more competition in the provision of network assets, drawing on lessons from the telecoms sector.</p> <p><b>Ref 1</b> drew inspiration from and explicitly referenced earlier research by Littlechild on alternative systems of network regulation in North and South America. This research, first presented at a conference in 2003, provided evidence that substantial parts of the regulation of network utilities could be delegated to a process of negotiation between buyers and sellers of network services. Drawing on experience with negotiated settlements between owners and users of oil and gas pipelines in Canada (<b>Ref 5</b>) and between consumer representatives and utilities in Florida (<b>Ref 3</b>), Littlechild showed that such negotiations could result in agreed investments and quality incentives, possibly with regulatory involvement in certain aspects of the negotiations, such as the allowed rate of return on assets. He suggested that this kind of approach could usefully be applied in the UK (<b>Ref 4, Ref 6</b>).</p> <p>The research of Pollitt and Littlechild provided evidence that UK regulation was too reliant on the interaction between the regulator and the regulated company and did not make enough use of the information held by users of network services. The approaches they advocated sought to remedy this.</p>
<p><b>3. References to the research</b></p> <p>1. Pollitt, M.G. (2008) <i>'The future of electricity (and gas) regulation in a low-carbon policy world', The Energy Journal 29 (S2): 63-94</i></p>

2. Pollitt (2009) *Does electricity (and heat) network regulation have anything to learn from fixed line telecoms regulation?* EPRG Working Paper No.0914. Subsequently published in *Energy Policy*, [38 \(3\)](#) (March 2010):1360–1371. Available at: <http://www.ofgem.gov.uk/Networks/rpix20/ConsultReports/Pages/ConsultReports.aspx>
3. Littlechild, S.C. (2007a) *The bird in hand: stipulated settlements in Florida electricity regulation* (2007), EPRG Working Paper No.0705. Subsequently published in *Utilities Policy*, 17 (3-4) (September 2009): 276-287
4. Littlechild, S.C. (2007b) *Negotiated settlements: A role for American practice in UK policy*, Presentation at Hertford College, Oxford. Available at: <http://www.rpieurope.org/Seminars/RPI%20Stephen%20Littlechild%20presentation.pdf>
5. Doucet, J. & Littlechild, S.C. (2006) *Negotiated settlements and the National Energy Board in Canada*, EPRG Working Paper No.0629, subsequently published in *Energy Policy* [37 \(11\)](#) (November 2009): 4633–4644
6. Littlechild, S.C. (2008) ‘Constructive engagement and negotiated settlements – a prospect in the England and Wales water sector?’, Available at: <http://www.eprg.group.cam.ac.uk/wp-content/uploads/2008/11/negotiatedsettlementsew29aug08.pdf>

#### 4. Details of the impact

Pollitt’s published research led to his appointment as an external economic advisor to Ofgem 2007-2011. He was directly approached for the role via Ofgem’s membership of the Energy Policy Forum, a CJBS network established to facilitate knowledge exchange between corporate members and the Energy Policy Research Group (EPRG), of which Dr Pollitt is an Assistant Director. In September 2007 Dr Pollitt presented a talk on ‘Regulatory electricity networks in an age of rising real prices’ to the EPRG/CEEPR (Centre for Energy and Environmental Policy Research, MIT) London Conference. Ofgem then commissioned research based on this presentation (**Ref 1** above). This work became a primary reference for the RPI-X@20 Review, which commenced in March 2008. Pollitt’s critical assessment of the state of current regulation spurred Ofgem to action. Ofgem’s Chief Executive references the Pollitt paper in initiating the review (**Source 1**). The Review investigated the best way to regulate energy network companies to enable them to meet the challenges of delivering the networks required for a sustainable low-carbon energy sector. In his March 2008 speech launching the RPI-X@20 Review, the Ofgem CEO commented that ‘*leading regulatory thinkers including Littlechild, Doucet and Michael Pollitt (Ofgem’s in-house consultant) have been advocating quite different approaches to regulation recently*’ (**Source 1**). He cites **Refs 1-5** above.

The RPI-X@20 review resulted in a proposal for a new system of regulation called RIIO - (Revenue=Incentives+Innovation+Outputs), which is now being implemented for the regulation of electricity and gas transmission and distribution networks. In its Decision Document, Ofgem (**Source 2**) suggests that the ‘*RIIO framework rewards companies that innovate and run their networks to better meet the needs of consumers and network users. It does this by setting longer eight-year price controls, offering incentives focused on delivering results, and expanding by £500 million the Low Carbon Network Fund to encourage the growth of smart grids*’. Ofgem (**Source 2**) also describes one of the key elements of the RIIO model as: ‘*delivering outputs that reflect what consumers want from energy networks and meeting the needs of a sustainable energy sector*’. This is to be achieved by a greater element of customer engagement with more structured use of input from the purchasers of network services. This picks up directly on the *negotiated settlements* arguments of Pollitt and Littlechild in a low carbon context. Another key element of RIIO, according to Ofgem, is ‘*having the option to give new entrants responsibility for delivery of some large infrastructure projects where this can help with timely and lower cost delivery*’. In particular, there is now an explicit possibility to competitively tender the procurement of new network assets if

distribution network companies are not seen to be competitively procuring assets themselves. This picks up on Pollitt (**Ref 1, 2**). In Ofgem's current thinking document of October 2009, there are references to Pollitt's work on introducing competition into electricity distribution network services, based on lessons from telecoms (**Source 4**).

During the course of the RPI-X@20 Review, Ofgem also conducted the fifth electricity distribution price control review, to decide prices associated with the £4.5bn p.a. of charges collected from users of the lower voltage electricity distribution grids from April 2010. This provided an opportunity for the early implementation of some of the ideas being fed into the RPI-X@20 process. One of these was Pollitt's recommendation (**Ref 1**) for a *greater emphasis on large scale experimentation*, in the face of the decline in R+D which accompanied privatisation and the increased need for innovation. The fifth distribution price control review (2010-2015) introduced a Low Carbon Networks Fund (LCNF), which increased by 500% consumer funded research and development by electricity distribution networks from £20m to £100m p.a. The LCNF allows for larger demonstration projects to trial new technologies on GB electricity networks. Most of these projects are decided upon via a competitive process. This fund has now been initiated, with most distribution utilities setting up future networks units to bid for and manage LCNF projects.

Ofgem is already implementing the RIIO approach in its ongoing review of transmission price controls. A notable feature is the emphasis on engagement with consumers and users. Ofgem CEO comments that *'The Judge Business School's regulatory Unit is respected internationally as possibly the leading institution in economic regulation. [...] Their views and models are sought across the globe.'* He confirms Pollitt and Littlechild's involvement in the re-writing of the regulatory model *'provided credibility to this very significant project'* (**Source 8**).

Littlechild's work on constructive engagement for UK electricity was taken up by UK water regulators. Further work was commissioned and has been acted on by the water regulator in Scotland (WICS), who were advised by Littlechild. In April 2009, the Cave Review (**Source 6**) noted that *'recent analysis has discussed the potential role of "negotiated settlements" in the regulatory process'* (para 5.32) and referenced Littlechild (**Ref 6**). It recommended this approach in the UK water sector (developing the earlier work on electricity). This view was endorsed by the Walker Review (**Source 7**) and the Gray Review (**Source 5**). All three Reviews were commissioned by the Government. Meanwhile Ofwat initiated its own review in October 2010 and stated that *'the thinking in this document has been informed by [...] research we commissioned from Professors Stephen Littlechild and Catherine Waddams'* (p 1). In the light of this review, Ofwat decided to put much greater focus on customer engagement in the forthcoming price control reviews (**Source 5**).

The Chief Executive of WICS commented: *'the research into constructive engagement and negotiated settlements carried out by Professor Stephen Littlechild was compelling. [...] As a direct result of Stephen's research and his unstinting support, we have agreed a role for a Customer Forum in Scotland. [...] Customers are already benefitting from the interaction between Scottish Water and the Customer Forum'* (**Source 9**).

## 5. Sources to corroborate the impact

1) March 2008 speech launching the RPI-X@20 Review by Ofgem CEO. CEO speech cites **references 1-5** listed in Section 2.

<http://www.ofgem.gov.uk/Networks/rpix20/Factsheets/Documents1/AB%20March%2008.pdf>

2) Ofgem Decision Document 4/10/10, <http://www.ofgem.gov.uk/ofgem-publications/51870/decision-doc.pdf>

3) Key documents driving launch of RPI-X@20 review include:

**Ref 2, Ref 6** from section 2. Documents are available on Ofgem's RPI-X@20 webpages: [www.ofgem.gov.uk](http://www.ofgem.gov.uk).

4) Ofgem's Current Thinking Document: *Regulating energy networks for the future: RPI-X@20 Delivering a sustainable energy sector and value for money: enhancing competitive pressures on regulated networks Ofgem's current thinking*

<http://www.ofgem.gov.uk/Networks/rpix20/WorkingPapers/Documents1/RPI-X@20%20Working%20Paper%20-%20Enhancing%20competitive%20pressures%20-%20Final.pdf>

5) Gray Review (2011) <http://www.defra.gov.uk/publications/files/ofwat-review-2011.pdf>

6) Cave Review (2009)

<http://archive.defra.gov.uk/environment/quality/water/industry/cavereview/documents/cavereview-finalreport.pdf>

7) Walker Review (2009) <http://www.defra.gov.uk/publications/files/walker-review-final-report.pdf>

8) Supporting written statement from Ofgem CEO, 20/11/2012

9) Supporting written statement from Water Commission, Scotland (WICS) CEO, 17/11/2012