



UNIVERSITY OF  
CAMBRIDGE

Electricity Policy  
Research Group

# How can we encourage networks to efficiently facilitate delivery of a sustainable energy sector? *Some Thoughts*

*Michael Pollitt*

2 July 2009



CAMBRIDGE  
Judge Business School

# Some starting economic principles

- Not about investment *or* networks per se.
- It *is* about the provision of energy services.
- Incentives work but targets which are incentivised must not conflict or undermine non-incentivised but desirable activity.
- We must find an institutional arrangement appropriate for the UK (not necessarily import one wholesale from somewhere else).
- Thus principles of least cost per quality adjusted unit and competition where appropriate are relevant.

# How do we deliver security of supply and environmental targets while providing value for money?

- Security of supply:
  - Identify market failure(s) clearly
  - Use output incentives not input incentives
- Environmental targets:
  - Need to think seriously about prioritisation of ‘targets’ rather than actions
  - CO2>>>Renewables>[Energy Efficiency]
  - Apply incentives to parties to achieve ‘targets’

# Do we need a new definition of efficiency when considering network behaviour?

- Yes, but old tools may be appropriate.
- We need to move to a more holistic definition of the 'output' of the energy sector (Yu et al., 2009).
- We should reward provision of 'security' where it has added value.
- We should reward the achievement of government climate targets and align incentives with these. May require interaction with CCC. Joined up government!
- For example, reward on efficiency of process of ensuring connection of renewable and distributed generation.

# Is the five-year framework a help or a hindrance in an uncertain world?

- Difficult to avoid a significant multi-year review.
- Now has consistency with CCC budgets.
- Possibly Transmission Price Control Review needs to be moved (CCC: 2013-17, TPCR 2012-17)
- However need some flexibility in pathway to 2050, otherwise a substantial benefit of timetable is lost.
- Therefore need a streamlined process for approving new investments as capacity requires it between periods.

# How do we assess and reward network performance?

- Distinguish new and replacement investment.
- Replacement investment can be rewarded via *menu regulation* regime.
- New investment needs to a process for decision *and* a method of ensuring least cost.
- *Constructive engagement* process with *auctions* would seem to be a way forward.

# Are there lessons from other sectors?

- Telecoms (see Pollitt, 2009, EPRG WP 0914):
  - Unbundled access in distribution networks
  - More competition in energy services
  - Utility convergence
- Railways (see ORR, 2008):
  - High level output specifications defined
  - Specified investments by government OK
- Airports (see Pollitt, 2008, Littlechild and Cornwall, 2009):
  - Constructive engagement process
  - Transmission – yes
  - Distribution – could be
- Is energy much different?
  - Key elements would seem to be in place, but careful application required.

# References

- 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.  
<http://www.ofgem.gov.uk/Networks/rpix20/publications/CD/Documents1/User%20participation%20Ofgem%2028%20March%202009%20-%20final.pdf>
- ORR (2008), *Determination of Network Rail's outputs and funding for 2009-14*, London: ORR.
- Pollitt, M. (2009), *Does Electricity (and Heat) Network Regulation have anything to learn from Fixed Line Telecoms Regulation?*, Ofgem website or EPRG Working Paper, 0914.
- Pollitt, M. (2008a), 'The Future of Electricity (and Gas) Regulation in Low-carbon policy world', *The Energy Journal*, Special Issue in Honor of David Newbery, pp.63-94. <http://www.ofgem.gov.uk/Networks/rpix20/forum/Documents1/1a.pdf>
- Yu, W., Jamasb, T. and Pollitt, M. (2009), 'Willingness-to-Pay for Quality of Service: An Application to Efficiency Analysis of the UK Electricity Distribution Utilities' *The Energy Journal*, forthcoming. Also Electricity Policy Research Group Working Papers, No.0713.