UNIVERSITY OF CAMBRIDGE | Electricity Policy Research Group

A regulatory regime for energy that is fit for purpose

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E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

Plan

- What do we know about network regulation?
- Questions to be addressed
- Themes in Future Regulation
- Role of Regulator/Governments/EU

Lessons from network regulation?

- Incentive regulation +ve (Jamasb and Pollitt, 07)
- Unbundling +ve (Pollitt, 08a)
- Privatisation +ve (Jamasb et al., 04)
- Competition and regulation related (Green et al., 06)
- Quality can improve if incentivised (Ter-Martirosyan, 03)

- Easy to get it wrong, sometimes badly
  - (e.g. Netherlands, New Zealand) (Nillesen et al., 07; Bertram, 06).

Cost reflectivity vs incentives

- *General economic principles:*
- Incentives should be stronger the greater the scope for extra effort / innovation
- Demand/Technology risks/uncertainty best handled by market
- Given the above market based incentives deliver better price-quality vectors.

- This implies that going forward incentives and prospective returns should rise.

Optimal number of companies?

- *General economic principles:*
- Competitive market forces should choose scale.
- More information is better than less.
- Scales should be flexible up and down.

- This problem is about the value of information but also about failure risk.

Optimal number of companies?

- International data is a must.
- Virtual vs actual comparators. Ease of reversibility an issue.
- Value of small comparators.
- Some national comparison is good but could be small (4 gas distribution network cos vs 7 electricity in UK).

- Costly to maintain comparators for sake of regulation (lazy on part of regulator).

Sufficient capacity?

- *General economic principles:*
- Markets good at providing short term flexibility – governments (very) bad at this.
- Markets good at managing known longer term risks supply and demand risks.
- Markets may be bad at handling low probability catastrophic events.
- Governments have tendency to ineffectively interfere with market incentives for capacity.
- Regulatory incentives should be given for risk reduction rather than for particular solutions.

Sufficient capacity?

- Project Discovery looking at this in UK.
- Key role for regulator is providing/auditing market level information to all participants.
- Long run investment facilitated by proper forecasting (like Quarterly Inflation Report).
- Market design failures (particularly between linked markets) may be identified which prevent market operating effectively at times of stress.
- Any new security investments should be competitively tendered.

Who should pay for networks?

- *General economic principles:*
- Charges should allocated to those best able to respond efficiently to them.
- Charges should be cost reflective and vary by time and location.

- Deep charging penalises small network users and delays entry to networks.
- Given that demand and supply side response is possible, both sides should pay.

How should networks be regulated?

- *General economic principles:*
- Ideally need a supply and demand side for network services.
- An incumbent network / regulator will be biased towards new network investment.
- Incentives to cost minimisation should exist.

- Negotiations and auctions way forward.
- ISO/TO – DISO/DNO splits might help.

Congestion management

- *General economic principles:*
- Too much congestion is an externality problem.
- Nodal prices are required to deal with congestion.

- Rising congestion costs increase returns to investment in a nodal pricing model.

Dealing with Innovation

- *General Economic Principles:*
- Incumbent monopolies bad at innovation
- Incentives to innovate low in a regulated industry.
- Incumbents may wish to frustrate (drastic) innovation.

- There is a case for a competitive fund for financing innovation trailing across networks.
- Low carbon networks fund in UK.

Themes in Future Regulation

- Five can clearly be identified:

- More use of negotiation
- Extension of auctions
- Attention to access terms
- Innovation in/across networks
- Role of unbundling and ownership

Role of Independent Regulator

- Agent of competition authority
  - Reliance on competition implies closer relationship
- More responsive to market requirements
  - 5 year price control review too inflexible
- Core independent analysis provider
  - More of real-time monitoring role

Role of Government

- Specifies High Level Outputs
- Subsidy and levy setter
- Responsible for security issues
- Standards setter and arbitrator

International Issues

- Cross border investments raise seems issues e.g. international interconnectors
- Collaboration important e.g. on benchmarking companies
- Role of EU in forcing change e.g. via Directives and Competition Policy