



Regulatory cooperation: two countries, one Single Electricity Market

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Economic Objectives of Regulation
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- “The **Utility Regulator (UR)** issues licences,..” Its statutory objectives include “Protect the short and long-term **interests of electricity .. consumers** with regard to price and quality of service; **Promote competition, where appropriate ...**”
- The **Commission for Regulation of Utilities (CRU)** grants, **revokes and enforces Licences**. Its aims for electricity “is to **protect the interests** of energy **customers**, maintain security of supply, and to **promote competition** covering the generation and supply of electricity and supply of natural gas.” Its strategic priorities include:
 - “Deliver sustainable low-carbon solutions with **well-regulated markets** and networks
 - Ensure compliance and accountability through best regulatory practice”

- The island of Ireland has two NRAs, but a **Single Electricity Market (SEM)** governed by the SEM Committee (SEMC), with two members from each NRA, and two independents.
- “The principal objective of the SEMC is to protect the **interests of consumers** of electricity wherever appropriate by **promoting effective competition** between persons engaged in, or in commercial activities connected with the sale or purchase of electricity **through the SEM.**”
- Many functions remain with the NRAs, only those affecting the SEM come to the SEMC.
- These include market monitoring, market design, EU compliance, capacity auctions

- Network tariffs guide **location decisions**
 - New generators, mobile large loads like server farms
 - Location constraints relevant to capacity auction procurement
- Guidance can be via nodal prices (US standard model) or Locational fixed T charges on generation (GB model)

⇒ A SEM or NRA matter?

- Nodal prices allows decentralisation but not chosen
- Price zones set according to constraints or politics?

⇒ **politics wins** despite N-S constraint

⇒ SEMC finds it hard to change NRA regulated tariffs

Hard to coordinate across jurisdictions



- Networks have economies of scale = **quasi public goods**
- Should equity be left to ministries of finance?
⇒ How finance fixed costs of distribution network?
 - Simple Ramsey? Purely efficiency, hits poor more
 - Ability to pay? Protects poor better
- ⇒ **Strong case to consider equity as in public economics**
- Liberalised suppliers choose efficiency over equity
 - Or risk losing profitable customers to rivals
- Customer-specific network charges require **network to set user network charges** (ideally also own smart meter)
- Retailers then just charge for energy => more competitive



Regulatory challenges

- Standard model – periodic reviews, lengthy consultations, devolve many tariff decisions to network operators
 - ⇒ regulatory stability **good for investor confidence**
 - ⇒ **poor at addressing inefficiencies**, short-run challenges
- Capacity auction decides outcomes **in minutes**
 - ⇒ location decisions last 20-40 years
 - ⇒ Critically depend on correct location decisions
 - ⇒ Access charges and RES support inappropriate
- **GB auction** expected 600+ MW CCGT connecting to grid
 - But 10 MW reciprocating engines connect to distribution networks



- Delivering competitive outcomes – **how interventionist?**
- Electricity markets need detailed design
 - Unintended consequences need rectifying but create winners and losers => **Judicial review; legal not economic, slow not speedy**
- How do we know if the market is well-designed?
 - E.g. could compare old SEM with I-SEM/TEM
 - Regulated audited bidding of variable costs + central dispatch vs self dispatch? **Hard to persuade regulators to compare outcomes**
- **Market monitoring** critical for assuring efficiency/fairness
- Market power an issue in concentrated markets
- **Good news**: market transparency provokes questions
- **Bad news**: changes often redistribute more income than efficiency gains => judicial review

Regulation – the least worst solution?

- Stability/predictability vs responsiveness
- Hard/slow to change decisions => need to think carefully about changes beforehand, but delays costly
 - I-SEM took 5 years to implement, cost €100+ million
 - Coupling interconnectors took 12 years, annual loss before coupling €20-30 million/yr
- Politics constrains choices that require cross-jurisdiction agreement (NI and RoI, SEM and EU, ...)
 - Four EU packages. 20+yrs, and now, Brexit
- **Equity is a legitimate concern** for network tariffs

Catherine Waddams has led on this and other topics