DEVELOPMENTS IN ELECTRICITY REGULATION

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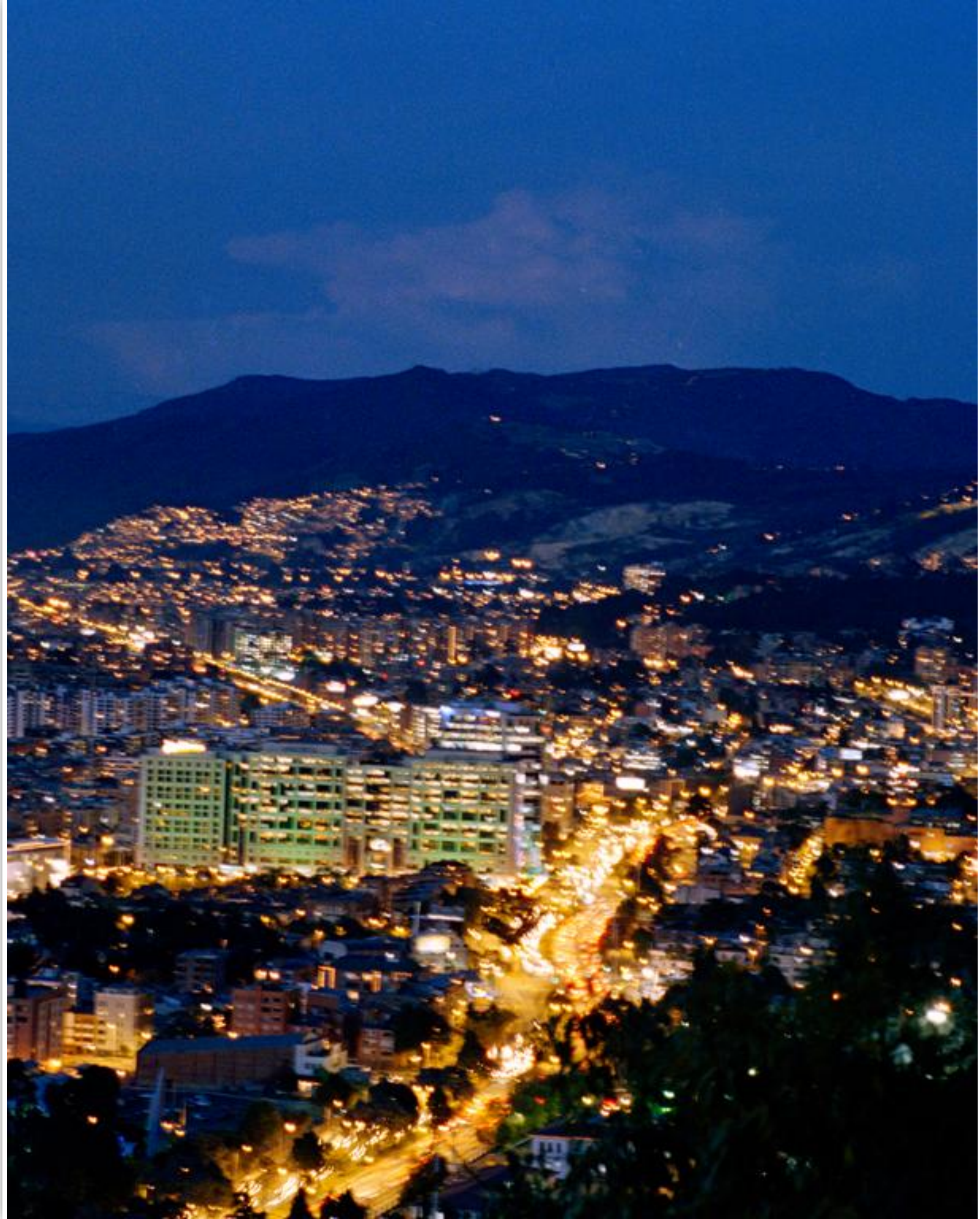


Outline

- Dominican Republic and UK
- Some achievements
- Effect of private ownership
- The importance of good regulation
- Retail competition and separation
- Poverty and fuel poverty
- Concerns about regulation in UK
- An increased role for customers
- Experience in other countries
- The regulatory framework in future

Preamble

- My personal experience as UK electricity regulator for nearly ten years
- Then consultant to World Bank & various electricity companies and regulators
- Conditions in Dominican Republic are different from those in UK
- But there are some points of similarity
- And I hope some lessons to be learned

Conditions in DR and UK

- Dominican Republic electricity sector has some tough challenges
  - Blackouts, subsidies, distribution losses
- UK electricity sector had problems too
  - Inefficiency and high costs
- Now, both countries have high fuel costs
- How did UK address those problems?
- Are there lessons for Dominican Republic?

UK nationalised industries

- 1940s – 1980s nationalised industries a major sector of the UK economy
  - Electricity, gas, coal, water, airports, rail, telecoms
- But increasingly problematic
  - Inefficient, excessive costs, uneconomic investment
  - Policy driven by short-term political pressures
- 1979 Government said: UK cannot afford to have inefficient basic industries
- Not a sound basis for economic growth
- Solution: privatisation competition regulation

How to achieve benefits?

- Regulation? Yes, but not solution on its own
- Create competition where possible:
  - in generation & retail supply
- Create sufficient generation competition so price controls not necessary & unhelpful
  - No company more than 20% generation market
- Until full retail competition: temporary price controls with pass-through of relevant costs
- Then competition - remove price controls

Monopoly Networks

- Distribution & supply : regulation used incentives provided by private ownership
- Profit incentive led to greater efficiency
- RPI-X price cap: price could follow inflation (RPI) with benefits (X) to customers
- Companies keep the gains from efficiency for 5 year periods – then share with customers

Achievements in UK electricity

- Efficiency increases (1990-2006)
  - Distribution operating costs down 5.5% annually, 3.1% transmission, workforce now 1/3 original level
- More network investment (trans + distribn)
  - Annual capex roughly double pre-privatisation
- Prices down (10 yrs: ave bill £350 to £250)
  - But now £600: fuel price increases & renewables
- Service quality up
  - 11% fewer power cuts, 30% shorter duration

But problems in Guernsey

- Regulation alone insufficient eg Guernsey
- Small UK island, affluent, electricity utility regulated but still in public ownership
- Repeated conflicts with local regulator
  - Lack of communication & prices held too low
  - Govt company willing to accept losses
- Independent investigations called for
  - Found delays, unclear & unreasonable decisions
- This regulatory conduct would not have been sustainable under private ownership

Regulation & Ownership

- UK regulation part of privatisation policy
- UK needed substantial new investment
- Regulation had to be acceptable to customers AND investors
- What did investors require?
- Assurance that prices could follow inflation
- And that they would be allowed to earn a reasonable return on investment
- Regulator had a duty to allow this

Nature of UK Regulation

- Strictly limited role for government
- No other bodies setting/advising on policy
- Regulator independent of government
  - Responsible to parliament, not government
- Due process of regulation
- Regulator could not impose decisions
  - Could propose, & refer to CC if company refused
- Companies could appeal against regulator
  - to Competition Commission or courts

Experience in Delhi

- India generally has state-owned utilities
  - Inefficient, low prices, low investment, poor quality of service, financial losses, high technical losses
- Delhi privatised 3 distribution businesses
- Significant reduction in technical losses
  - 2002-11: 53% to 13%, 63% to 20%, 51% to 17%
- Plus investment to improve reliability, reduce theft, online billing
- With rewards to timely payment of bills

Retail Competition

- Generation competition accepted – but competition in retail supply controversial
- Customers have choice of supplier and variety of tariffs, better customer service
  - Initially problems with metering & billing
  - Costs & benefits for residential customers?
- Over half customers have now switched
- Prices now reflect wholesale cost of supply
  - Still concerns about profits, but fuel costs the problem

Separation

- UK requires distribution networks and retail supply in separate companies
- This clarifies responsibilities and improves incentives to efficiency in each business
- Separation of distribution & supply also allows specialisation & risk reduction
- Now, most distribution networks are separate from supply companies

Scottish Water Company

- Similar benefits observed in government-owned Scottish Water since about 2006
- Significantly lower cost operations
- Increased margin on sales 2.4% to 5.1%
- Lower working capital requirements
  - Finance cost £1.5m/year lower
- Reduced bad debt 1.7% to 0.7% (£3m/yr)
- Extra value £138m+ from separation

Poverty & Fuel Poverty

- Difficult to set prices that cover costs when many customers cannot afford electricity?
- Even in UK fuel poverty is an issue
  - Definition: when fuel costs > 10% of income
- Typical fuel cost as % of income
  - UK average 3%, London 2.2% N Ireland 4.9%
- UK 1996 26%, 2003 6%, 2009 18%
- N Ireland 34% of population in fuel poverty 2006, higher now with price rises

Dealing with Fuel Poverty

- Does fuel poverty need govt ownership? No

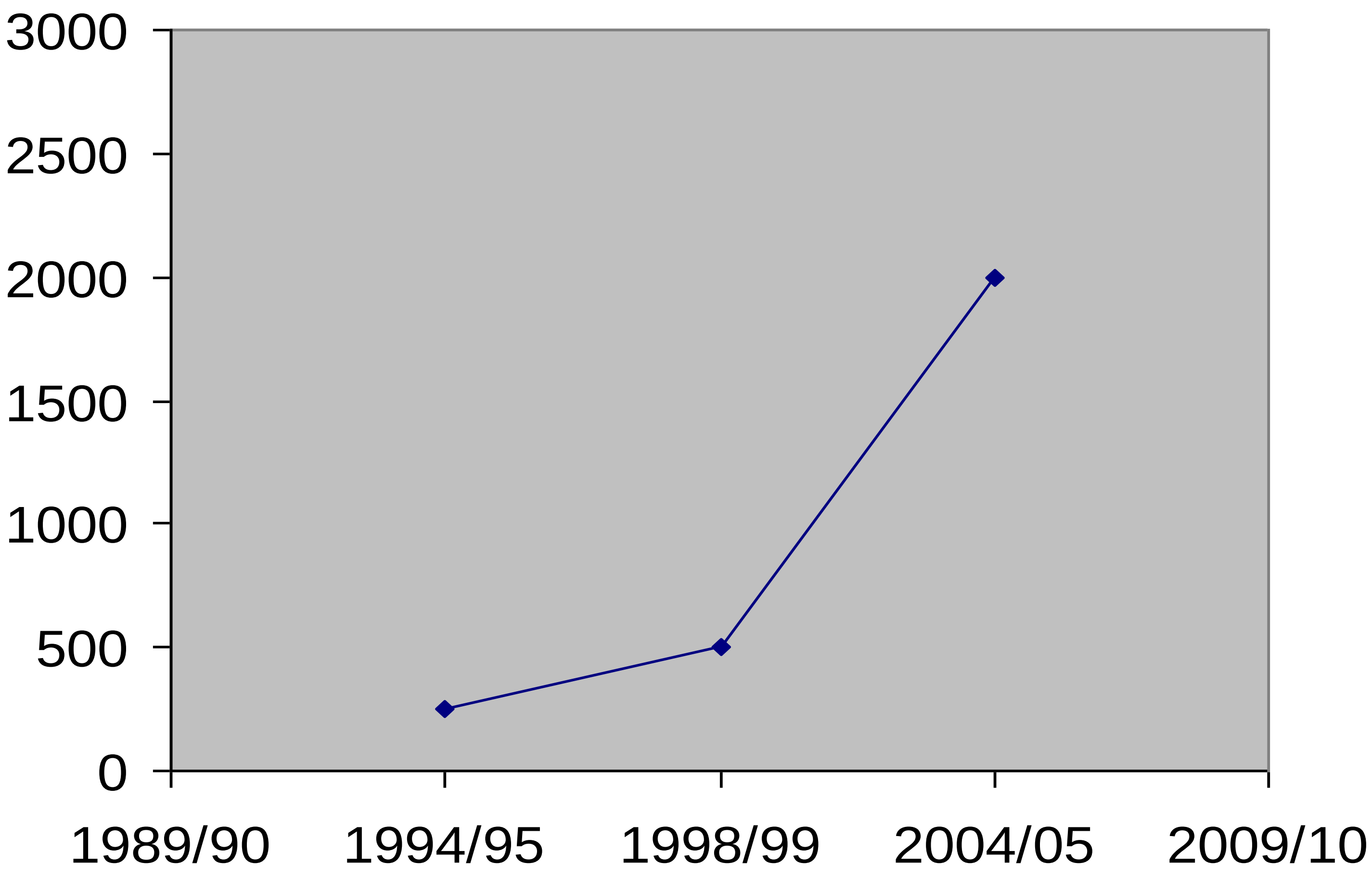
- Low prices for all & losses? No. Options:
  - Tariffs with no standing charge
  - Affordability tariffs with government funding available to most needy households
  - Winter fuel payments; no winter disconnection
  - Debt repayment calibrated to ability to pay
  - Energy efficiency investments targeted at poor

- Prepayment meters for better budgeting
  - About 14% GB customers, 30% N Ireland
  - In NI available at lower cost than other tariffs

New regulatory concerns in UK

- RPI-X network regulation in many ways impressive, thorough, effective, but …
- Increasingly complex & burdensome
- Same in UK water sector: independent review of Ofwat for Government found:
- “regulatory burden has increased massively …major cultural change needed on both sides”

Increasing Regulatory Burden



Pages in Offer/Ofgem Distribution Price Control Reviews

RPI-X@20

- Ofgem’s review of regulation 2009-2011
- Are customers sufficiently involved in the regulatory process to get the investment and quality of service that they want? NO
- Tomorrow’s world will be different
  - Low carbon, renewables, smarter technologies
- Is RPI-X regulation still fit for purpose? NO
- So what is Ofgem’s new policy?

Ofgem's solution: RIIO

- "a new way to regulate energy networks"
  - **R**evenue set for **I**ncentives, **I**nnovation & **O**utputs
  - Regulator will set Outputs reflecting enhanced engagement with customers, with incentives for timely & efficient delivery & for innovation
- If customers support company plans, light regulatory challenge & fast track
- If not, strong challenge & slow track
  - 2011 review 4 UK transcos, all tried for fast track
  - 24 Oct: 2 transcos still on fast track, 2 no longer

Investment & Quality of Service

- If regulator listens, customer engagement will impact on investment plans
- In UK, are customers prepared to pay for additional environmental investment?
  - In electricity & water, higher costs & prices are being challenged – so defer optional investment?
- In DR, are customers willing to invest and pay more if blackouts are reduced?
- In both, more influence to customers?

Civil Aviation Authority

- UK airport regulator has implemented this
- Constructive Engagement 2004
- If airports and airlines can agree
  - Traffic projections, capital expenditure additions & desired quality of service
- Then CAA will include this in price controls
- 2006 parties did (just) reach agreement
- 2010 airports & airlines agreed extensions
- Now, parties are negotiating new controls

Argentina Public Contest Method

- Argentina electricity privatisation 1992 – govt did not trust companies or regulator
- Existing transmission grid: RPI-X price cap
- But new investment proposals had to be proposed, voted for and paid for by users
- Then put out to tender to determine cost
- Initial problem but generally worked well
- Users work together to decide investments

US Energy Regulation

- US federal energy regulators encouraged parties to settle (to cope with backlog)
- 1994-2000: 41 gas pipeline cases, 34 settled in full, 5 in part, only 2 litigated
- Main gain: different process led to innovative rate freezes – more certainty for both parties, better efficiency incentives
- Regulator could not legally impose these

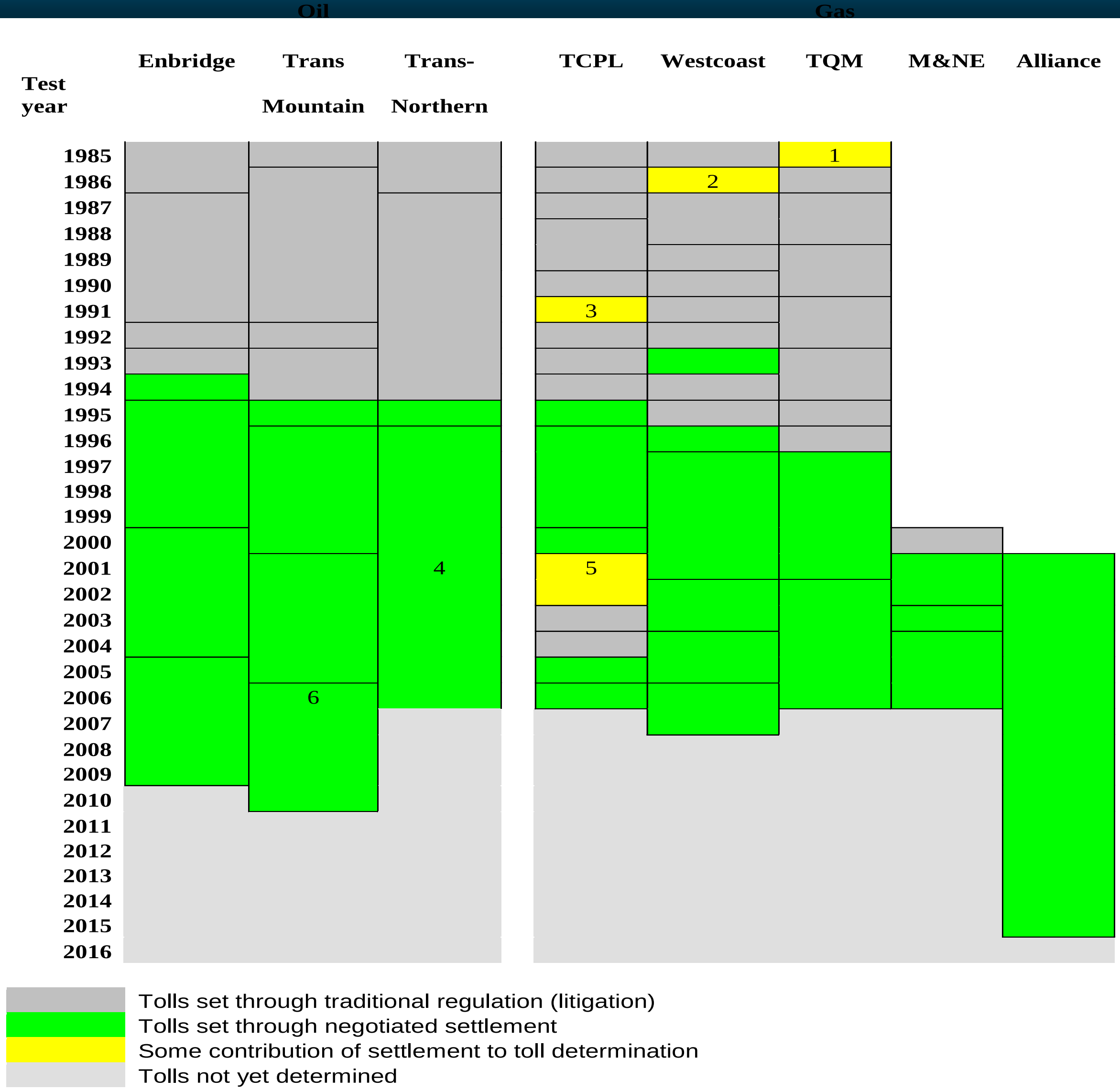
Consumer Advocate in Florida

- Public Service Commission is regulator
- But consumer advocate (Public Counsel) has negotiated settlements with utilities
  - Electricity: over ¾ total rate reductions worth $4bn
  - Customers preferred this to building reserves
- Utilities got greater accounting flexibility
- And revenue-sharing efficiency price freezes instead of rate of return control

Pipelines in Canada

- Before: National Energy Board long hearings
- Since 1997 almost all rate cases settled
  - Especially multi-year incentive systems
  - Also provision of info, quality of service provisions
  - Better info and customer relationships in industry
- Set cost of capital formula to aid negotiation
- Policy: if process sound, accept outcome
  - Don’t substitute own view of public interest

Settlement activity since 1985



Source: NEB toll decisions

Federal Energy Reg Com

- In contrast to these ‘hands off’ approaches FERC takes a pro-active approach
  - FERC trial staff analyse utility rate request and make first settlement proposal after 3 months
  - They lead settlement discussions & counter-proposals
  - They actively seek common ground between parties
- 95% of cases settle, & faster than regulation
- Regulation is compatible with regulation to enable settlements between the parties

General Principles

- Regulatory responsibility does not mean that the regulator has to take all the decisions
- New role of regulation: facilitate negotiations between parties, not take all the decisions
- If users can appeal to regulator, this removes monopoly power of utility
- Utilities & users can determine outcome
- Parties are in fact willing & able to participate
  - Transactions cost not a problem in practice

Still a Role for Regulator

- To set timetable & process
- Satisfy itself on who represents customers
- Protect those not at the table
  - Small customers significant for electricity sector
  - Scottish water regulator created a Customer Forum
- Enforce constraints eg government policy
- Enforce rules on information disclosure
- Provide further information if helpful
  - E.g. benchmarking, cost of capital

Conclusions 1

- UK serious problems electricity sector until 1980s
- Solution: regulation + competition + privatisation
- Good regulation critical
- With very limited role for government
- But regulation alone was not enough
- Ownership & competition also important
- Similar experience in other countries

Conclusions 2

- Regulation has limitations, not least in UK
- This is leading to alternative approaches
- Increasingly, regulation aims to help companies and customers negotiate
- Regulator does not take all the decisions
- Means more responsiveness to customers
- How applicable in Dominican Republic?

Thank you