
Good, BETTA, best? The role of industry structure in electricity reform in Scotland

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Introduction

- Impact of industry structure on liberalization of network industries
 - OECD (2001): Vertical integration vs. Structural separation
 - Steiner (2000): Empirical study on effects of structural separation on prices, efficiency and quality
 - Michaels (2004): integration is cost-reducing
 - AGCM (2004): Separation and public ownership of the infrastructure
- Restructuring of the Scottish electricity supply industry (SESI)
- Goal is to assess the impact of vertical integration on SESI and evaluate potential benefits from changes in industry structure (and market rules) under BETTA

Structure of the paper

Assessment (mainly qualitative) of:

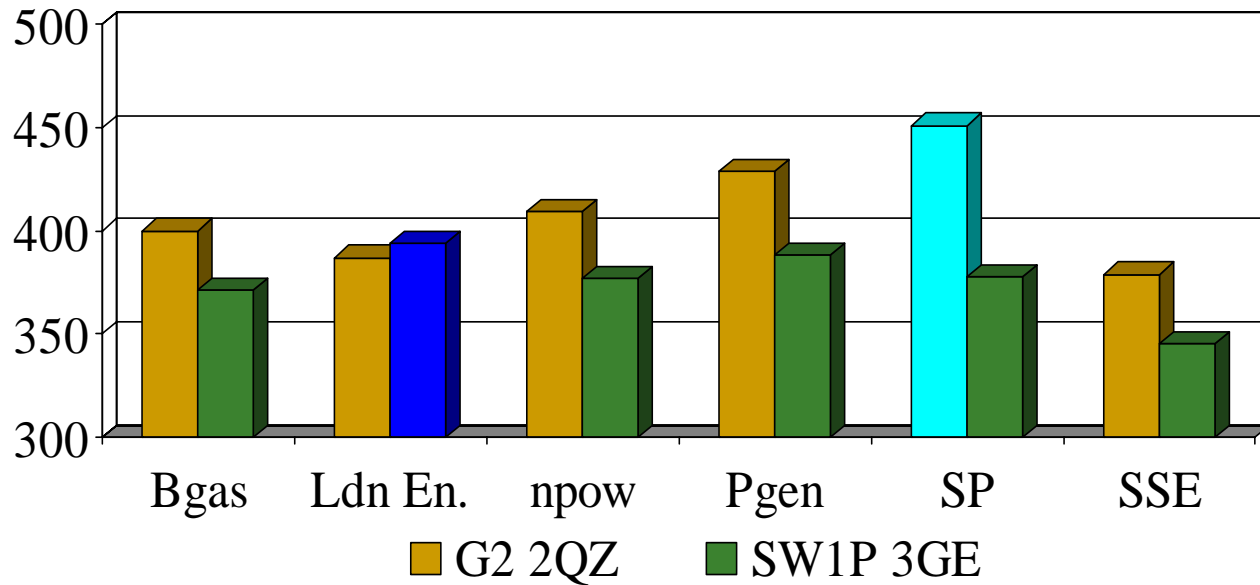
- Pre-BETTA regulatory framework
- BETTA reform programme
- Beyond BETTA

Assuming regulator's goals (Utilities Act 2000, part II, art. 13):

- Promotion of upstream/downstream competition
- Efficient use of the network (short-run)
- Efficient investment in the network (long-run)

Electricity bill comparison for Ofgem offices

Electricity Supply Price Comparison
January 2005, High Domestic User, Direct Debit, £ per year



Source: www.energywatch.org.uk

Incumbency advantage:
London Energy 65% in SW1P 3GE
Scottish Power 63% in G2 2QZ

The Pre-BETTA framework I – Characteristics

- Two regional “host companies” SP and SHE holding almost all generation through “restructuring contracts”
- Vertical integration of competitive and monopoly activities
- Composite licence (U.A. 2000): generation, transmission (SHETL and SP Transmission), distribution and supply
- SP and SHE independently manage and balance the transmission system
- Additional regulation and second tier supply arrangements to face the likely lack of competition

The Pre-BETTA framework II – Assessment

- Competition substantially hindered:
 - >90% of output still contracted by host companies
 - Supplier switching below GB average
 - Energy price differential “paradox”
- Discrimination:
 - Connection methodology: deep vs. shallow
 - Balancing charges and services
 - Deny, Delay and Detail: DDD tactics?
- Lack of transparency: charging, scheduling, balancing, etc.
- Confidentiality problems

The Pre-BETTA framework III – Assessment (*con'd*)

- Efficient use of the network:
 - Affected by strategic behaviour

- Efficient investments:
 - No locational signal in charges, unless deep
 - Still, deep charges affected by first/second comer issues
 - Perverse incentive in network development (Interim GB SYS)

BETTA I - Characteristics

- Single GB SO, independent of generation and supply interests (NGC)
- 3 Regional TOs (NGC, SP Transmission, SHETL)
- Interconnector assets as part of the transmission system
- Single set of GB-wide trading arrangements (BSC)
- Single set of GB-wide transmission arrangements (CUSC)
- Single GB Grid Code

BETTA II – DTI RIA (Jan 2003)

BENEFITS		COSTS	Development	Ongoing
	(£ mil./ y)		(£ mil.)	(£ mil./y)
Comp Gen.&Supply	8.0	Central Systems	26.0	0
Comp. Bal. Services	1.8	Interface SO/TO	4.0	1.5
Locational Signals	2.0	Market Participants	7.5	0.5
Scale ec. in SO	1.0	Ofgem	8.0	0
Intercon. Arrangements	0.5	DTI	0.2	0
Total	13.3		45.7	2.0
<i>Discounted Benefit/Costs</i>				
	(£ mil.)		(£ mil.)	
20y, 6% discounted	152.6		68.6	
10y, 6% discounted	97.9		60.4	

BETTA III – Assessment

- Effects on competition:
 - Wider Market, no interconnector agreements
 - Reduced scope for discrimination against generators and/or suppliers
 - But: discrimination by SO among non-affiliated TO?
 - Benefits seem to arise from changes in market structure rather than changes in market rules:
 - Vertical as well as horizontal disintegration
 - Did NETA really have an influence on prices?
Compare Bower (2002) and Evans and Green (2003)
Federico and Rahman (2003): ambiguous effect of PAB auctions on independent entry (hence, mkt pow in the medium term)

BETTA IV – Assessment (*con'd*)

- Efficient use of the network + Efficient Investments:
 - Improved locational signals: zonal charges (TNUoSC)
 - But: winners and losers; distortion of competition or cost-reflectivity?
 - Demand-side participation in the BM
 - (Shallow) Incentive scheme for the SO: profit sharing

Beyond BETTA

BETTA represents a major breakthrough, still at low implementation costs

At the same time, it is *the very least* Ofgem could do

- BETTA as a first step towards a single GB Transco
 - Avoids discrimination against non-affiliated TOs
 - Is mere TO actually neutral with respect to competitive activities?
 - Avoids incentive problems for investment (Cf. Italian experience)

The Italian SO/TO experience

Table 7: Investments in Transmission in Italy (Million Euros)

	Average 1990/1998	2000	2001	2002	2003	2004	2005
Investments	450(*)	219	191	164	241	278	259

TO/SO split

Source: processing on Terna's Financial Statements except (*) from Clò (2003, p.7) in constant 2002 Euros.

	2001	2002	2003	2004°	2005°
Lines completed during the year (Km)	345	160	44	150	171
Lines planned in the previous-year PdS* (Km)	1200	1360	960	500	2720
<i>of which 380-500 kV</i>	1100	1160	1200	430	2500
<i>of which 220 kV</i>	-1300	-900	-740	-130	-450
<i>of which 132/150 kW</i>	1400	1100	500	200	670
Completion rate of the PdS* (%)	28.8%	11.8%	4.6%	30.0%	6.3%
Increase in Transformers Capacity completed in the year (MVA)	960	2100	1953	1770	1559
Increase in Transformers Capacity planned in the PdS* (MVA)	9047	10297	5690	12100	12100
Completion rate of the previous-year PdS* (%)	10.6%	20.4%	34.3%	14.6%	12.9%
* PdS = GRTN's 'Piano di Sviluppo'; ° Data referred to short and medium term planned expansions					
Source: Processing on GRTN's Piani di Sviluppo, www.grtn.it					

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