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Third benchmarking report on the implementation of the internal electricity and gas market

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THIRD BENCHMARKING REPORT ON THE IMPLEMENTATION OF THE INTERNAL ELECTRICITY AND GAS MARKET

SUMMARY REPORT

1 BACKGROUND

The new electricity and gas Directives[1] and the Regulation on cross border electricity exchanges[2] have now become part of Community law with the main provisions entering into force in July 2004. This event, combined with the enlargement of the EU to twenty-five Member States, means that the electricity and gas markets have begun a new stage of development. These reforms are designed to create a more efficient and dynamic energy sector providing high standards of public service by extending competition and encouraging cross border transactions. It is the task of the Commission to ensure that the new legislation meets expectations in relation to these objectives. Accordingly, the need to compare and evaluate the performance of the Member States for electricity and gas continues to be highly relevant and valuable.

The new Directives themselves now require the Commission to issue regular reports on the functioning of the market on an annual basis. Article 28(1) [31(1) for gas] sets out the subjects that must be covered in these. Article 28(2) also requires the report to cover public service issues in detail every two years and include possible recommendations for improvements. In addition, Article 28(3) requires a special more detailed report before the end of 2005 which will set the scene for full market opening. This must analyse, among other things, the functioning of legal unbundling. It is intention of the Commission that the coverage of the current benchmarking exercise will be extended appropriately in order to ensure that these reporting obligations are fulfilled. Therefore, the fourth report, which will be produced by the end of 2004, will be the first under Article 28(1) of the new Directives. The fifth report, to be produced by the end of 2005, will cover the additional material in Article 28(2, 3).

This summary document constitutes the Commission's third annual benchmarking report on the functioning of the internal market. It now covers all 25 Member States plus Norway as well as neighbouring countries in the south east Europe region, including three candidate countries. The report is based on information collected from governments and regulators during the second half of 2003 which will, broadly speaking, provide a snapshot of the period July 2002-July 2003. Every effort has been made to include the most up to date information. However the electricity and gas industry is changing rapidly and it is possible that some information contained in this report may be superseded between editing and publication.

[1] Directives 2003/54 and 2003/55
[2] Regulation 1228/2003

2 IMPLEMENTATION OF THE ELECTRICITY DIRECTIVE: DETAILED EVALUATION

Table 1 contains an evaluation of the position in the electricity sector. As in previous reports, the more boxes that are shaded red, the less likely that competition will develop satisfactorily.

Table 1 Implementation of the Electricity Directive[3]

	Declared market opening (%)	Unbundling: transmission system operator\owner	Unbundling: Distribution system operator[4]	Regulator	Balancing conditions favourable to entry	Biggest generators' share of capacity (%)[5]	Biggest 3 generators' share of capacity (%)[6]
Austria	100	Legal	Accounts	ex-ante	favourable	6[7]	33
Belgium	80	Legal	Legal	ex-ante	unfavourable	59	66
Denmark	100	Legal	Legal	ex-ante	favourable	0	25
Finland	100	Ownership	Accounts	ex-post	favourable	11	29
France	37	Management	Accounts	ex-ante	moderate	78	86
Germany	100	Legal	Accounts	planned	unfavourable	23	61
Greece	34	Legal\Mgmt	Accounts	ex-ante	unfavourable	85	87
Ireland	56	Legal\Mgmt	Management	ex-ante	moderate	80	90
Italy	66	Own\Legal	Legal	ex-ante	moderate	43	72
Lux	57	Accounts	Accounts	ex-ante	unfavourable	0	0
Neth	63	Ownership	Legal	ex-ante	favourable	n.k	33
Portugal	45	Ownership	Management	ex-ante	moderate	59	74
Spain	100	Ownership	Legal	ex-ante	favourable	37	79
Sweden	100	Ownership	Legal	ex-post	favourable	16	50
UK	100	Ownership	Legal	ex-ante	favourable	16	37
Norway	100	Ownership	Accounts	ex-ante	favourable	12	24
Estonia	10	Accounts	Accounts	ex-ante	unfavourable	15	21
Latvia	11	Legal	Legal	ex-ante	n.k.	0	0
Lithuania	17	Legal	Legal	ex-ante	moderate	0	29
Poland	51	Management	Accounts	ex-ante	moderate	4	25
Czech R	30	Legal	Accounts	ex-ante	unfavourable	43	53
Slovakia	41	Legal	Legal	ex-ante	moderate	29	40
Hungary	30	Accounts	Accounts	n.k.	moderate	5	41
Slovenia	64	Legal	Accounts	ex-ante	unfavourable	16	43
Cyprus	0	Management	None	ex-ante	not decided	100	100
Malta	0	Derogation	None	n.k.	not decided	100	100
Candidate Countries							
Romania	33	Legal	Accounts	ex-ante	moderate	n.k	44
Bulgaria	15	Accounts	Accounts	ex-ante	moderate	n.k	45
Turkey	23	Legal	Accounts	ex-ante	unfavourable	n.k	62
Other Neighbouring Countries							
Croatia	9	None	None	ex-ante	not decided	40	n.k.
Bosnia	0	None	None	planned	not decided	n.k.	n.k.
Serb\Mont	0	None	None	planned	not decided	n.k.	n.k.
FYROM	18	None	None	ex-post	not decided	n.k.	n.k.
Albania	0	None	None	ex-post	no information	69	70

[3] **Throughout the report, n.k. = not known, n.a. = not applicable**
[4] i.e. unbundling from supply activities.
[5] After taking account of import capacity: red if > 40%, Green if < 20%
[6] After taking account of import capacity: red if > 70%, Green if < 40%
[7] Before Energie Austria merger

This table demonstrates the progress that continues to be made in developing a successful framework for competition in the electricity sector. In the last year, market opening has been extended and the unbundling strengthened in many Member States, for example, Belgium and the Netherlands. Plans are also being made to strengthen the role of regulators in, for example Germany and some of the acceding countries.

Some obstacles still remain to competition. In particular, the following observations remain relevant.

- Member States which have not yet opened their markets, in particular the acceding countries, must adhere to the agreed timetable for market opening

- Regulators must continue to ensure effective regulation of network businesses in particular preventing cross subsidies. However with the forthcoming general application of regulated TPA no judgement will now be made on the suitability or otherwise of network tariffs since this is the responsibility of national regulators rather than the European Commission. Estimated tariffs are reported in Table 7 of Annex A.

- The high levels of market power among existing generating companies, lack of interconnection including vital transmission lines creating bottlenecks within Member States, and the continued use uncoordinated and discriminatory methods to manage congestion continue to impede new entrants. This is discussed in the Commission's latest Communication on Infrastructure and Security of Supply.[8] Little progress is being made to improve the market structure of the electricity industry.

3 IMPLEMENTATION OF GAS DIRECTIVE: DETAILED EVALUATION

As far as gas is concerned, the main observations that can be made are as follows.

- As for electricity, there is an agreed timetable for gas market opening which Member States must comply with.

- Improvement to tariff structures has been recorded with the removal or modification of a number of crude distance related tariff regimes. Greater consistency for transactions between different TSO areas is, however, still needed.

- Some improvements have been made in transparency regarding the availability of infrastructure capacity with most TSOs now publishing this information. However publication of available capacity at most relevant entry-exit points still need to be accomplished. Moreover an harmonised methodology to calculate and compare the available capacities still need to be established

- Capacity reservation procedures are more flexible and responsive to clients for third party access and balancing regimes have improved in a number of cases. However booking procedures, congestion management and balancing mechanisms have not yet been harmonized among different TSO areas, thus causing obstacle to new entrants in obtaining capacity and in managing transportation of the same flow through different countries.

[8] COM (2003) 743

Contractual congestion also still exists in the absence of approrpaite use-it-or-lose-it mechanisms.

- Non discriminatory and transparent TPA Access to storage as implementation of the new Directive is still to be implemented in many Member States

Overall, although there has been some progress since the last report, competition in the gas sector remains somewhat behind than that for electricity. A key barrier is the continuing dominance of the existing companies in their Member State or, in some cases, specific region. The only way to resolve this issue is to create a smoothly functioning single market at European level. The agreement of new guidelines for good practice at the latest Madrid Forum will to some improvement on the issues above. However it is vitally important that the guidelines are fully implemented and that a mechanism exists to develop them over time. The Commission has therefore proposed a Regulation, analogous to that for electricity, in order to establish a more formal framework.

Better management of EU network will reduce problems of concentration of gas production and import in a few companies and permit more competition. Due to its strong dependency on gas imports and transits, the gas market requires harmonised solutions on cross border issues in order to efficiently satisfy the national demand in EU countries. Indeed, the way the directive is implemented on crucial topics such as network access and tariffs and on management of day by day operation in any single country will influence the gas market in the other countries. Gas release programmes would also help the development of competition in some cases.

Table 2 below summarises the position in each Member State and the candidate countries highlighting characteristics in the same way as for the electricity section. Again, practices likely to impede competition are shaded red, with positive conditions in green.

Table 2 Implementation of the Gas Directive

	Declared market opening (%)	Unbundling transmission system operator	Unbundling Distribution system operator	Regulator	Transmission tariff structure	Capacity booking procedure	Balancing conditions favourable to entry Y/N	Concentration in wholesale market
Austria	100	Legal	Legal	ex-ante	post\distance	flexible	yes	yes
Belgium	83	Legal	Legal	ex-ante	entry-exit	moderate	moderate	yes
Denmark	100	Ownership	Legal	ex-post	postalised	flexible	yes	yes
France	37	Accounts	Accounts	ex-ante	entry-exit	moderate	moderate	moderate
Germany	100	Management	Accounts	planned	distance	moderate	no	moderate
Ireland	85	Management	Management	ex-ante	entry-exit	moderate	yes	no
Italy	100	Legal	Legal	ex-ante	entry-exit	flexible	yes	yes
Lux	72	Management	Management	ex-ante	postalised	moderate	moderate	yes
Neth	60	Management	Legal	ex-ante	entry-exit	flexible	moderate	moderate
Spain	100	Legal	Legal	ex-ante	postalised	flexible	yes	yes
Sweden	51	Accounts	Accounts	ex-post	postalised	moderate	moderate	yes
UK	100	Ownership	Ownership	ex-ante	entry-exit	flexible	yes	no
Estonia	80	None	None	ex-ante	not decided			yes
Latvia	0	Legal	Legal	ex-ante	not decided			yes
Lithuania	80	Accounts	Accounts	ex-ante	postalised			moderate
Poland	34	Accounts	Accounts	ex-ante	postalised	no information		yes
Czech R	0	Accounts	Accounts	ex-ante	not decided			yes
Slovakia	33	Legal	Legal	ex-ante	postalised			yes
Hungary	0	Legal	Accounts	ex-ante	not decided			yes
Slovenia	50	Accounts	Accounts	ex-ante	postalised			yes
Candidate Countries								
Romania	25	Legal	Accounts	ex-ante	postalised			moderate
Bulgaria	80	Accounts	None	ex-ante	postalised	no information		yes
Turkey	80	Accounts	Accounts	ex-ante	not decided			yes

NTPA=Negotiated third party access

The table shows some improvements in the degree of market opening and in unbundling provisions, for example Denmark, the Netherlands, Austria and some of the candidate countries such as Latvia and Slovakia. Further improvements will be required by the new Directives during 2004. The level of concentration at national level remains a problem and this underlines the need to establish a more effective single market for gas in the extended EU as soon as possible. As noted, the Commission's proposal to introduce a Regulation relating to cross border exchanges of gas[9] has this objective in mind.

[9] COM (2003) 741

4 TRENDS IN ELECTRICITY AND GAS PRICES

Table 3 below reviews the current (July 2003) price level and trends in prices for different customer groups. Member States have been grouped according to whether prices are low, medium or high relative to the EU average, and to whether prices have increased (>5%), been stable (±5%), or reduced (>5%) since the entry into force of the Directives.

Table 3 Summary of energy price levels: July 2003

ELECTRICITY Large Users

Price levels

trend since 1/1999	Low	Med.	High
Falling	UK,	FR, ES, LX	DE
Stable		EL	BE, PT
Rising		DK, FI, SE	IT, IR

AT, NL, no data

ELECTRICITY Small Commercial

trend since 1/1999	Low	Med.	High
Falling	UK, SE	FR, AT	IT, BE, DE, LX
Stable		EL, ES	IR, PT
Rising	DK, FI	NL	

ELECTRICITY Household

trend since 1/1999	Low	Med.	High
Falling	ES,	UK, FR	IT
Stable	EL	AT	BE, PT, DE
Rising	DK, FI, SE	IR, NL	LX

GAS Large Users

Price levels

trend since 7/2000	Low	Med.	High
Falling	UK	SE, AT, IT, DK, BE, ES, LX, PT, FR	
Stable			DE, FI
Rising			

Ireland, NL: no data

GAS Small Commercial

trend since 7/2000	Low	Med.	High
Falling	LX, UK	SE, DK, BE, ES,	IT
Stable		DE, AT, FR, IR	PT
Rising			

NL no data

GAS Household

trend since 7/2000	Low	Med.	High
Falling	DK		
Stable	LX, UK	DE, AT, IT, BE, IR	ES, PT
Rising		FR, NL	SE

In general, electricity prices have tended to increase during 2002-03 as a result of wholesale market conditions and, in particular, the increasingly tight balance between supply and demand. Wholesale price increases were recorded in the Nordic market during winter 2002-03 and have remained above historic levels. Increases were also recorded in continental markets, particularly during the hot summer months. Such price increases, to a certain extent, necessary to encourage new generation capacity into the market and to encourage demand management at times of tight supply conditions. Despite these trends, prices to end users appear, in general, to remain lowest in those Member States which are well advanced with the market opening process.

For gas, it appears that, prices to large users have fallen in almost all countries since 2000. This is partly due to the reduction in the crude oil price in that period but may also be due to increasing gas to gas competition at this end of the market. Prices to smaller users are more stable. The UK and Denmark retain their position as the generally lowest price country for end users. Prices in other Member States without effective full market opening have been either static or rising during the last 12 months.

Further details on trends in prices can be found in Annex A.

5 CUSTOMERS' SWITCHING SUPPLIER

Table 4 reports estimates of the degree of customer activity in terms of switching and renegotiating supplier. In this report this data is, for the first time reported, as far as possible, on an annualised basis. This indicator is important for assessing the robustness of the electricity and gas markets. Based on experience in those Member States which have already had a competitive market for some time, one might expect a well functioning market to have around 15-20% of businesses changing suppliers every year with most, if not all, seeking to renegotiate tariffs with their current supplier every year. For households, an annual level of switching of perhaps 10% would seem a reasonable benchmark.

Table 4 Switching Estimates for the calendar year 2002

	ELECTRICITY		GAS	
	Large eligible industrial users[10]	Small commercial/ Domestic	Large eligible industrial users[11]	Small commercial/ domestic
Austria	15%	5%	6%	0%
Belgium	5%[12]		n.k.	
Denmark	45%		17%	
Finland	[13]	10%		
France	15%		20%	
Germany	20%	5%	5%	<2%
Greece	0%			
Ireland	20%	2%	100%[14]	
Italy	15%		10%	0%
Luxembourg	10%[15]		0%	
Netherlands	20%		15%	
Portugal	10%			
Spain	20%		38%	1%
Sweden	[10]	10%[16]	0%	
UK	15%	12%	16%	19%
Norway	12%	14%		
Estonia	0%		0%	
Latvia	0%		0%	
Lithuania	0%		0%	
Poland	2-5%		0%	
Czech R	8%		0%	
Slovakia	n.k.		<5%	
Hungary	>50%		n.k.	
Slovenia	n.k.	6%	0%	
Cyprus	0%			
Malta	0%			

[10] in general this refers to clients consuming more than 1GWh/year
[11] in general this refers to clients consuming more than 0.1million m3 per year
[12] 40% have renegotiated their contract
[13] Most large users in Finland and Sweden tender every year for a new supplier
[14] All large users (mostly power stations), self ship.
[15] 15% have renegotiated their contract
[16] cumulative 40% since 1998

Candidate Countries				
Romania	13%		0%	
Bulgaria	0%		0%	
Turkey	0%		0%	
Other Neighbouring Countries				
Croatia	0%			
Bosnia	0%			
Serbia\Mont.	0%			
FYROM	0%			
Albania	0%			

source: Eurostat, Information provided by survey.

Overall the data shows that, for electricity, the performance of the different Member States in terms of the switching level for industry is, with the exception of Belgium, Greece, and Luxembourg, relatively good. However, other than Hungary and Romania, most of the new Member States' and candidate country markets are not sufficiently well developed. For household customers, however, progress is slower with only the UK and Nordic states meeting the rule of thumb of 10% p.a. This is partly due to the continued existence of end user price controls for households which are an important feature in many countries. Such controls may be desirable at one level since they allow for a smooth transition from a regulated to a competitive sector and give a safeguard to customers. However a balance also needs to be struck between this desirable objective and the effect of such interventions on the functioning of the market over the long term. For gas some progress appears to have been made for large users in Denmark, France, Ireland, Spain and the Netherlands. For smaller customers, it remains the case that only the UK has been offering a meaningful level of real choice to final consumers. Overall very little progress is being made in the new Member States and candidate countries

6 PUBLIC SERVICE AND SUSTAINABILITY ISSUES

The key issue identified in the report regarding the standard of service relates to the increasingly delicate supply demand balance position for electricity in certain regions. Examples include the Nordic countries, Greece and Ireland, and now Italy. Information collected from the latest UCTE power balance forecasts is contained in Table 6 of Annex A.

The issue of network performance in terms of interruptions has clearly also been of relevance in 2003. In view of the need to ensure a continued high standard of service in the liberalised market and to provide certainty to investors and consumers concerning their obligations, the Commission on 10 December 2003[17], came forward with proposals relating to these issues.

The other major issue relates to the ongoing need to increase the share of renewable energy and combined heat and power (CHP), and to encourage demand management. Information collected in this report shows that these technologies continue to make an important contribution to new generation capacity, although this was much less in 2002 than in previous years. Most new capacity coming on line was conventional gas fired generation with the majority being constructed in Spain and Italy.

[17] COM (2003) 741, Proposed Directive on Electricity Infrastructure and Security of Supply.

7 OVERALL CONCLUSIONS

Overall, progress in developing the internal electricity and gas market has been steady but, if anything, a little disappointing. However Member States are beginning to prepare for the next step for market opening in 2004 which should see some acceleration. It is becoming clear that the main problem for electricity in coming years will be the issues of market dominance at national level and the inadequate level of interconnection between Member States. These subjects were covered in the Commission Communication of 10 Dec 2003 referred to above.

For gas, it would seem that further progress is dependent on improved conditions for cross border exchanges and the development of a coherent tarification and capacity allocation regime at EU level. The implementation of the Madrid Guidelines and their development through the process set out in the Commission's proposal for a Regulation will allow such improvements to be made.

ANNEX A SUPPLEMENTARY DATA

Table 1 Market Opening Basic Data

	Electricity						Gas					
	Market opening	size of open market TWh	eligibility threshold	unbundling TSO	unbundling DSOs	Network access	Market opening	size of open market bcm	eligibility threshold	unbundling TSO	unbundling DSOs	Network access
Austria	100%	55	-	leg.	acc.	Reg.	100%	8	-	leg.	acc.	Reg.[18]
Belgium	80%	60	10GWh[19]	leg.	leg.	Reg.	83%	9	5mcm[9]	leg.	leg.	Reg.
Denmark	100%	33	-	leg.	leg.	Reg.	100%	5	-	own.	leg.	Reg.
Finland	100%	77	-	own.	acc.	Reg.						
France	37%	140	7 GWh	man.	acc.	Reg.	37%	15	8 mcm	acc.	acc.	Reg.
Germany	100%	490	-	leg.	acc.	Neg.	100%	90	-	man.	acc.	Neg.
Greece	34%	15	1kV	leg.	acc.	Reg.						
Ireland	56%	12	0.1 GWh	leg.	man.	Reg.	85%	4	0.5 mcm	man.	man.	Reg.
Italy	66%	182	0.1 GWh	leg.	leg.	Reg.	100%	69	-	leg.	leg.	Reg.
Luxembourg	57%	3	20 GWh	acc.	acc.	Reg.	72%	<1	15mcm	man.	man.	Reg.
Netherlands	63%	64	3*80 A	own.	leg.	Reg.	60%	25	1 mcm	man.	leg.	Hybrid
Portugal	45%	18	1kV	own.	man.	Reg.						
Spain	100%	205	-	own.	leg.	Reg.	100%	20	-	leg.	leg.	Reg.
Sweden	100%	135	-	own	leg.	Reg.	51%	<1	15mcm	acc	acc	Reg.
UK	100%[20]	335	-	own.	leg.	Reg.	100%	105	-	own.	own.	Reg.
Norway	100%	115	-	own.	acc.	Reg.						
Estonia	10%	<1	40GWh	acc.	acc.	Reg.	80%	<1	'industry'	n/a	n/a	Reg
Latvia	11%	<1	40GWh	leg.	leg.	Reg.	0%	0	-	leg.	leg.	Neg
Lithuania	17%	<1	9GWh	leg.	leg.	Reg.	80%	2	15mcm	acc.	acc.	Reg
Poland[21]	51%	48	10GWh	man.	acc.	Reg.	34%	4	25mcm	acc.	acc.	Reg
Czech R	30%	15	40GWh	leg.	leg.	Reg.	0%	0	-	acc.	leg.	Hybrid
Slovakia	41%	4	40GWh	leg.	leg.	Reg.	33%	2	25mcm	leg.	leg.	Reg.[22]
Hungary	30-35%	9	6.5GWh	leg.	acc.	Reg.	0%	0	-	leg.	acc.	Reg
Slovenia	64%	6	41kW	leg.	acc.	Reg.	50%	<1	25mcm	acc.	acc.	Neg
Cyprus[23]	33%	1	0.5GWh	man.	none	Reg.						
Malta	-	-		-	-	S. Buyer						
Candidate Countries												
Romania	33%	11	40GWh	leg.	leg.	Reg.	25%	4	5mcm	leg.	leg.	Reg.
Bulgaria[24]	19%	4	100GWh	acc.	leg.	Reg.	80%	2	80 mcm	acc.	none	Reg.
Turkey	23%	24	9GWh	leg.	acc.	Reg.	80%	12	1mcm	n/a	acc.	Reg.
Other Neighbouring Countries												
Croatia	0%	0	-	none	none	Reg.						
Bosnia	0%	0	-	none	none	[Reg.]						
Serbia\Mont.	0%	0	-	none	none	[Reg.]						
FYROM	18%	<1	100KV	none	none	Reg.						
Albania	0%	0	-	none	none	Reg.						

source: Survey responses

18 For national transport only
19 Full market opening in the Flanders region.
20 In Northern Ireland the electricity market is only 35% open and the gas market only to very large users.
21 Currently open for domestic production only
22 Negotiated for transit
23 from 2004
24 The Bulgarian gas market is only open for domestic production

Table 2 Competences and Resources of Regulators

	ex-ante/ ex-post	Network access conditions	Dispute settlement	Ministry involvement	Information powers	Staff number	Annual Budget 2003 (€m)	Increase in budget since 2002 (€m)
Austria	Ex-ante	R(elec)/R gas)	R(elec)/R(gas)	general guidelines	strong	60	8	-1.0
Belgium[25]	Ex-ante	R/R	R/R	no	strong	99	17	+2.0
Denmark	Ex-post	R/R	R/R	yes	strong	25	2.5	-0.5
Finland	Ex-post	R/R	R/R	no	strong	16	1.25	+0.25
France	Ex-ante	R/R	R/R	tariff approval	strong	96	12	+3.0
Germany	n.a.	N/N	C/C	n.a.	n.a.	n.a.	n.a.	n.a
Greece	Ex-ante	M/n.a.	R/n.a.	tariff approval	strong	40	4.4	+0.4
Ireland	Ex-ante	R/R	R/R	no	strong	39	10	+4.0
Italy	Ex-ante	R/R	R/R	general guidelines	strong	104	18.6	+0.6
Luxembour	Ex-ante	M and R	R/R	n.k.	strong	2	0.3	+0.0
Netherlands	Ex-ante	R/H	C/C	issues instructions	strong	55	7	+1.0
Portugal	Ex-ante	R/n.a.	R/n.a.	no	strong	53	6.4	-0.3
Spain	Ex-ante	M/M	R/R	yes	strong	187	21.0	+2.0
Sweden	Ex-post	R/R	R/R	no	strong	42	3	0.0
UK	Ex-ante	R/R	R/R	no	strong	302	57	-1.0
Norway	Ex-ante	R	R	no	strong	33	1.8	n.k.
Estonia	Ex-ante	R/R	R/R	n.k.	n.k.	11	0.3	+0.0
Latvia	Ex-ante	R/R	R/R	no	strong	68	1.7	+1.2
Lithuania	Ex-ante	R/R	R/R	instruction	strong	50	0.6	+0.0
Poland	Ex-ante	R/M	R/R	supervision	strong	258	6.7	-1.3
Czech R	Ex-ante	R/R	R/R	no	strong	88	3.8	+0.6
Slovakia	Ex-ante	R/R	R/R	no	limited	57	1.5	+0.0
Hungary	Ex-ante	M/M	R/R	tariff approval	strong	95	6.2	+1.8
Slovenia[26]	Ex-ante	R/M	R/R	non-eligible	strong	22	1.5	-0.4
Cyprus	Ex-ante	R	R	instructions	strong	7	0.5	+0.5
Malta		R	R	n.a.		15	0.3	
Candidate Countries								
Romania	Ex-ante	R/R	R/R	no	strong	78	1.6	
Bulgaria	Ex-ante	R/R	R/R	no	strong	85	0.7	
Turkey	Ex-ante	R/R	R/R	no	strong	283	25.0	+17.0
Other Neighbouring Countries								
Croatia	Ex-ante	M and R	R	tariff approval	strong	8	2.0	
Bosnia				No Regulator has been appointed yet				
Serbia\Mont.				No Regulator has been appointed yet.				
FYROM	Ex-ante	R	R	n.k.	strong	n.k.	n.k.	
Albania	Ex-post	R	R	instructions	strong	17	0.2	
source: Survey responses								

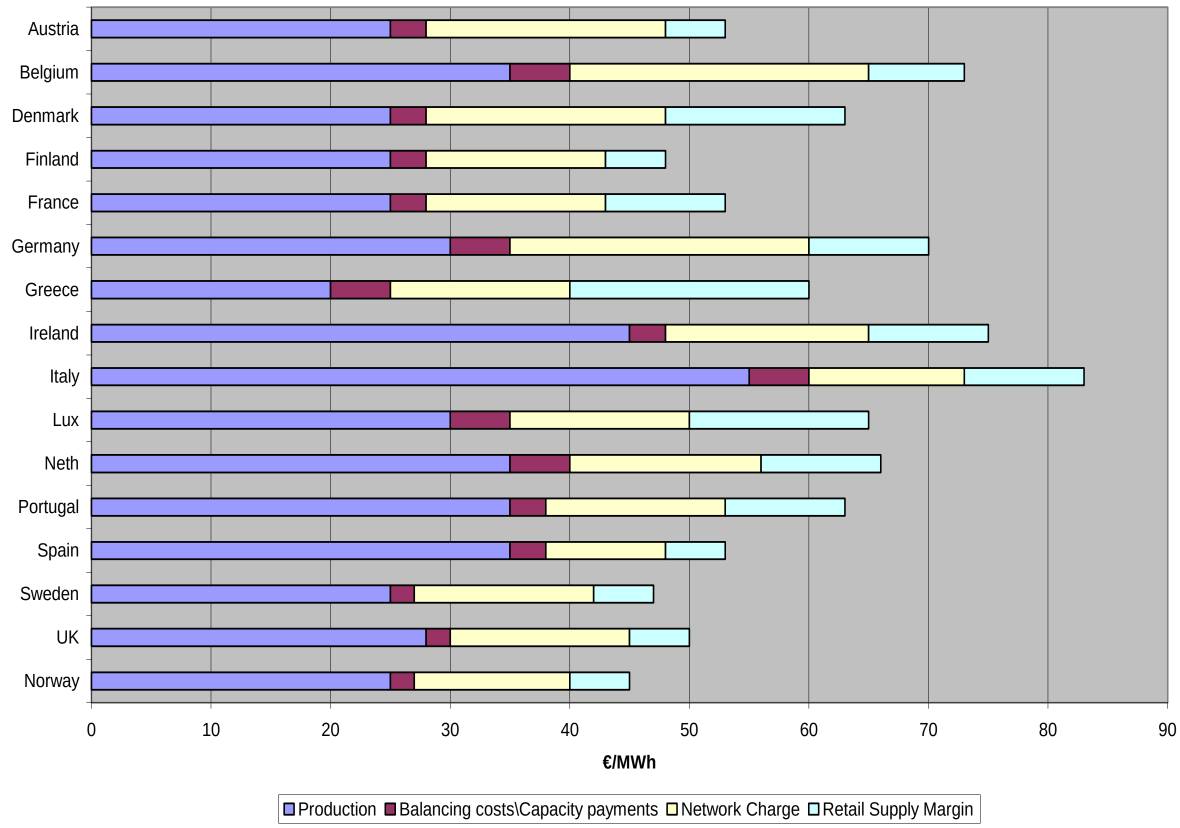
R – regulator responsible, M – ministry responsible, C – competition authority, N – not regulated , H - hybrid
n.a. –no regulator

25 Distribution tariffs are controlled by the federal regulator: the CREG. Budget and staff numbers include the CREG as well as the regional regulators, VREG, CWAPE and IBGE-BIM.

26 For gas Regulation is ex-post with limited information powers for the regulator

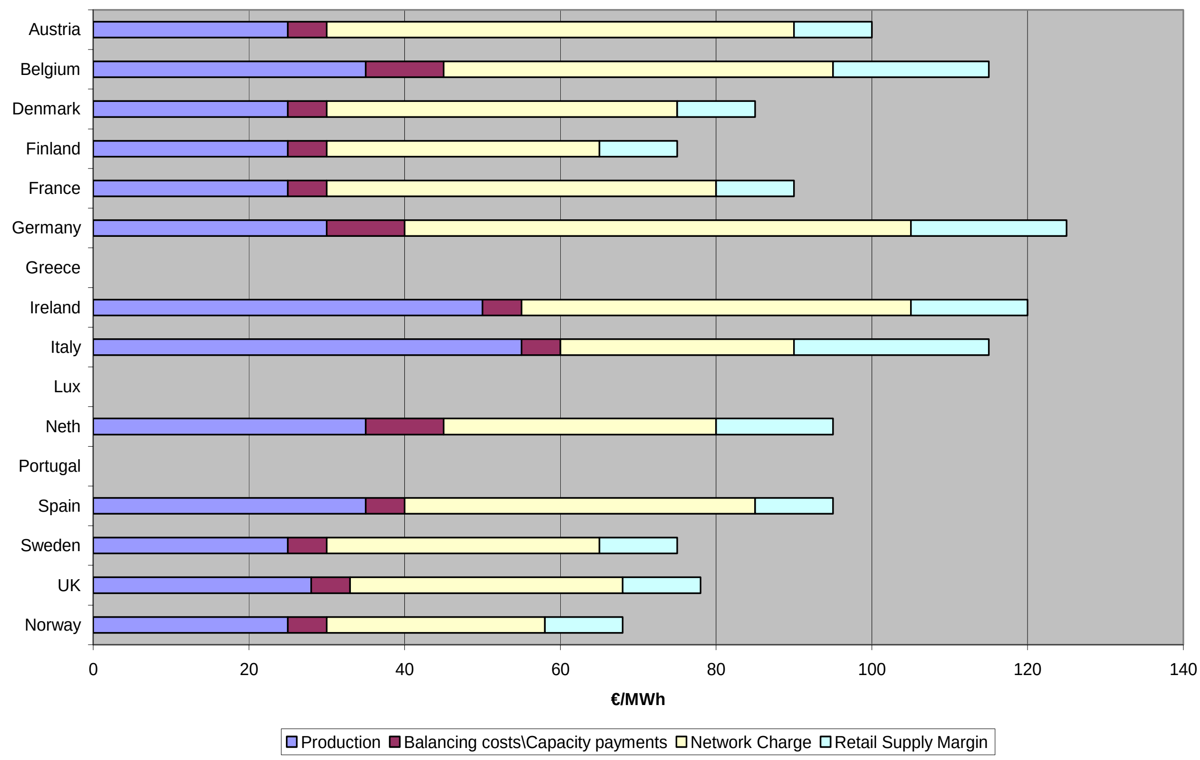
Graph 1 Estimated Breakdown of expected Electricity Prices 2004

24GWh/year customer

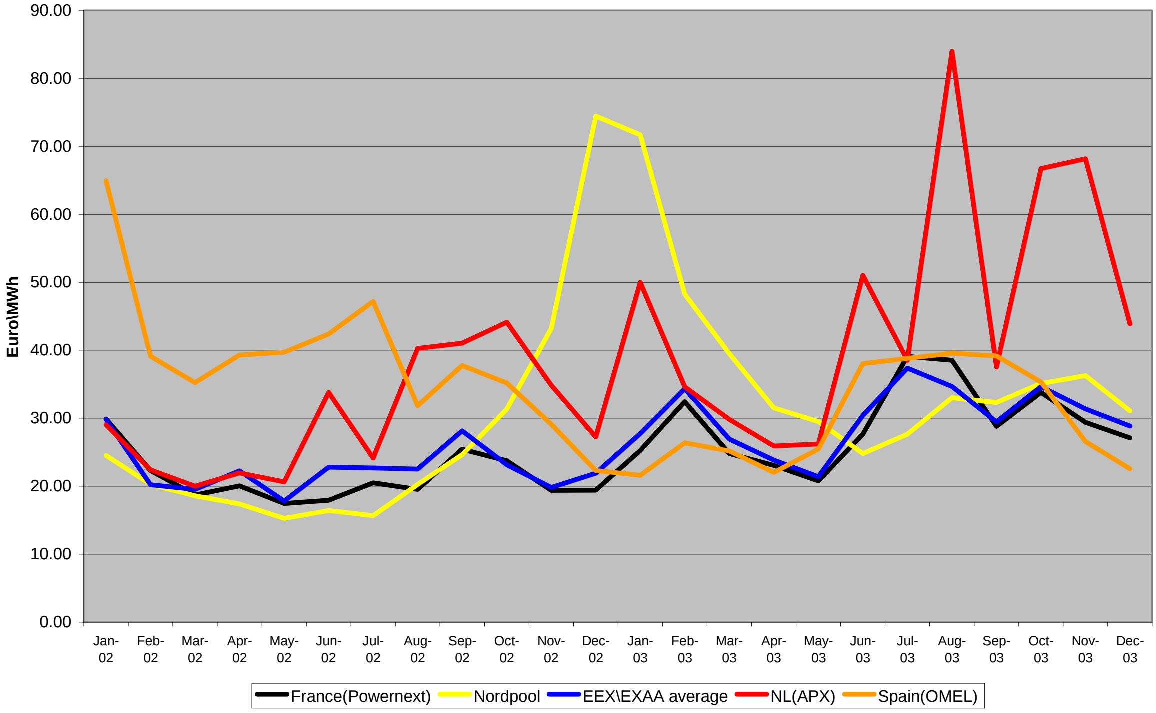


Graph 2 Estimated Breakdown of expected Electricity Prices 2004

50 MWh/year customer (€/MWh)



Graph 3 Evolution of wholesale Electricity prices January 2002 – December 2003



source: relevant power exchange websites

Table 3 Market Development Indicators: Concentration and New Entry[27]

	Basic market model	Companies with at least 5% share of installed capacity	share (% installed capacity)[28] Top 1	Top3	Installed generation capacity (GW)[29] a	Import capacity **NTC**[30] (GW) b	Import capacity as % of installed capacity b ÷ a	Share (% installed capacity) net of import capacity **2001 data** Top 1	Top3
Austria	Bilateral	5	36[31]	63	17	5.1	30%	6	33
Belgium	Bilateral	2	88	95	16	4.6	29%	59	66
Denmark	Hybrid	2	37	76	8	4.1	51%	0	25
Finland	Hybrid	4	26	44	14	2.1	15%	11	29
France	Bilateral	1	87	95	112	10.3	9%	78	86
Germany	Bilateral	4	34	72	109	12.2	11%	23	61
Greece	Bilateral	1	95	97	10	1.0	10%	85	87
Ireland	Bilateral[32]	2	85	95	5	0.3	6%	80	90
Italy	Bilateral	5	51	80	80	6.0	8%	43	72
Lux	Bilateral	n.a.	n.a.	n.a.	1.2	1.0	90%	0	0
Neth	Bilateral	4	n.k.	67	20	4.7	24%	n.k	33
Portugal	Bilateral	3	67	82	11	0.9	8%	59	74
Spain	Pool\CFD	4	40	82	56	1.8	3%	37	79
Sweden	Hybrid	3	45	79	27	7.8	29%	16	50
UK	Bilateral	6	19	40	80	2.3	3%	16	37
Norway	Hybrid	7	30	42	23	4.2	18%	12	24
Estonia	Bilateral	2	90	96 (2)	3	2.0	75%	15	21
Latvia	Bilateral	1	97	100	3	3.6	>100%	0	0
Lithuania	Pool\CFD	3	46	79	6	3.1	50%	0	29
Poland	Bilateral	8	14	35	35	3.5	10%	4	25
Czech R	Bilateral	1	66	76	16	3.6	23%	43	53
Slovakia	Bilateral	1	75	84	8	3.5	44%	29	40
Hungary	Bilateral	6	27	63	8	1.8	22%	5	41
Slovenia	Bilateral	3	69	96	3	1.6	53%	16	43
Cyprus	Bilateral	1	100	100	1	-	-	100	100
Malta	Bilateral	1	100	100	1	-	-	100	100
Candidate Countries									
Romania	Bilateral	7	n.k	50	22	1.4	6%	n.k	44
Bulgaria	Bilateral	7	n.k	55	10	1.4	10%	n.k	45
Turkey	Bilateral	2	n.k.	69	28	1.9	7%	n.k	62
Other Neighbouring Countries									
Croatia	n.k.	1	95	n.a.	4	2.2	55%	40	n.k.
Bosnia	n.k.	3	n.k.	98	4				
Serbia\Mont.	n.k.	1	n.a.	100	11	3.5	20%		
FYROM	n.k.	1	n.k.	100	2				
Albania	n.k.	1	99	n.a.	2	0.6	30%	69	70

Source: Eurostat: Competition Indicators in Electricity Market, ETSO, UCTE, Survey Responses

27 Most of this information on generation market structure relates to data recorded by Eurostat in 2001. Some updates have been made where available.

28 This data may understate concentration to the extent that cross ownership exists (e.g. Italy, Germany)

29 UCTE July 2003 forecast, Nordel winter 2003-4 forecast, NGC 7 year statement.

30 Based on ETSO Winter 2003-04 NTC data, includes capacity from Switzerland, Morocco, Russia not included

31 Data before merger of "Energie Austria"

32 Ireland plans to move to Pool\CFD market by 2005

Table 4 Electricity Balancing Arrangements

	Balancing period (minutes)	How are charges set	Supernational (S) National (N) or regional (R) balancing	Balancing groups allowed	Intraday market possible	"Gate closure"	Dominant single generator within balancing area?	% of balancing energy supplied by consumers during 2002	% of balancing energy supplied by non national sites during 2002
Austria	15	market	R	Y	N	day ahead	N	1-2%	0%
Belgium	15	TSO/reg	N	Y	planned	day ahead	Y	0%	0%
Denmark	60	market	S	Y	Y	1 hour	N	20%	20%
Finland	60	market	S	Y	Y	1 hour	N	0%	30%
France	30	market	N	Y	Y	n.k.	Y	0%	0%
Germany	15	market	R	Y[33]	Y[34]	day ahead	Y	0%	0%
Greece	60	market	N	N	N	day ahead	Y	95%	5%
Ireland	30	reg/mkt	N	Y	N	day ahead	Y	0%	0%
Italy	60	reg	N	Y	N	day ahead	Y	0%	0%
Lux	15	TSO	R	Y	N	day ahead	N	n/a	n/a
Neth	15	market	N	Y	N	real time	N	<0.5%	<0.2%
Portugal	60	reg	N	n.k.	N	n.k.	Y	0%	0%
Spain	60	market	N	Y	Y	0.5-3.5 hrs	N	0%	0%
Sweden	60	market	S	Y	Y	1 hour	N	n.k.	n.k.
UK	30	market	N	Y[35]	Y	1 hour	N	0%	0%
Norway	60	market	S	Y	Y	1 hour	N	0%	33%
Estonia	60	TSO	N	n.k.	N	day ahead	Y	n.k.	n.k.
Latvia	60	n.k.	S	n.k.	N	day ahead	N	n.k.	some
Lithuania	60	Reg/mkt	N	N	N	day ahead	N	n.k.	n.k.
Poland	60	market	N	Y	N	day ahead	N	3%	0%
Czech R	60	market	N	Y	N	day ahead	Y	n.k.	n.k.
Slovakia	60	reg.	N	n.k.	N	day ahead	Y	n.k.	n.k.
Hungary	15	reg.	N	Y	N	day ahead	N	0.5%	0%
Slovenia	60	TSO	N	Y	N	day ahead	Y	n.k.	n.k.
Cyprus	30	TSO	still under discussion						
Malta			N						
Candidate Countries									
Romania	60	market	N	n.k.	N	n.k.	N	0%	0%
Bulgaria	60	regulator	N	N	Y	n.k.	N	0%	0%
Turkey	360	mkt /reg	N	n.k.	N	n.k.	Y	0%	0%
Other Neighbouring Countries									
Croatia				not yet decided				0%	0%
Bosnia				not yet decided				0%	0%
Serb\Mont.	60	n.k.	N	n.k.	N	n.k.	Y	0%	0%
FYROM				not yet decided				0%	0%
Albania				not yet decided				0%	0%
source: Survey responses									

[33] within zones only
[34] intraday market within zones
[35] within DSO area only

Table 5 Market shares retail supply

	Number active licensed suppliers	Number of suppliers independent of DSO	Number with market share > 5%	Top 3 suppliers' share (all consumers)[36] 2001 data	Market share of foreign owned suppliers
Austria	144	2	4	67%	2%
Belgium	17	17	4	51%	4%
Denmark	48	17	1	<20%	n.k.
Finland	100+	9	3	29%	21%
France	67	60	1	91%	8%
Germany	1050	50	3	53%	"substantial"
Greece	11	10	1	100%	0%
Ireland	6	4	3	100%	<10%
Italy	212	183	4	72%	5%
Lux	12	1	2	100% (2)	0%
Neth	36	16	3	62%	n.k.
Portugal	8	7	1	97% (1)	n.k.
Spain	69	61	4	88%	5%
Sweden	127	120	3	70%	40%
UK	91	67	7	62%	64%
Norway	130	70	5	40%	n.k.
Estonia	87	0	2	96% (2)	0%
Latvia	1	0	1	100% (1)	0%
Lithuania	21	14	1	100% (1)	0%
Poland	475	446	4	20%	0%
Czech R	396	0	4	48%	n.k.
Slovakia	85	13	4	77%	n.k.
Hungary	15	5	5	66%	0%
Slovenia	68	63	6	53%	20%
Cyprus	1	0	1	100%(1)	0%
Malta	1	0	1	100%(1)	0%
Candidate Countries					
Romania	55	47	1	45%	1%
Bulgaria	8	0	8	52%	0%
Turkey	8	0	4	64%	0%
Other Neighbouring Countries					
Croatia	n.k.	n.k.	n.k.	n.k.	n.k.
Bosnia	4	0	3	n.k.	n.k.
Serb\Mont.	11	0	n.k.	72%	0%
FYROM	1	0	1	n.k.	n.k.
Albania	1	0	1	n.k.	n.k.

Source: Eurostat: Competition Indicators in Electricity Market, Survey Responses

[36] includes both eligible and non-eligible markets

Table 6 Electricity Security of Supply

	Supply Demand Position				Measures to Encourage Peak Capacity			
	amount of reserve generation capacity GW[37]	as % of generation capacity	import capacity (% generation capacity) [38]	% p.a. increase in peak load	Mainly market based	Incentives e.g. capacity payments	Obligation on TSO or suppliers	Tender by Regulator or TSO
Austria[39]	5.4	30%	44%	+1.2%	x			
Belgium	0.0	0%	29%	+2.1%	x		(x)	
Denmark	0.6	8%	51%	+1.5%	x			
Finland	-0.9	-6%	25%	+3.0%	x			
France	10.9	10%	>10%	-0.6%	x			
Germany	5.2	5%	14%	+1.9%	x			
Greece	-0.3	-2%	10%	+3.8%				x
Ireland	0.0	0%	6%	+4.6%		x		x
Italy	1.5	2%	12%	+1.2%		(x)		
Luxembourg	0.4	24%	90%	+2.8%	n.a.			
Netherlands	0.5	4%	24%	+5.6%	x		(x)	
Portugal	1.2	12%	8%	-5.3%	x			
Spain	6.8	11%	5%	+6.5%		x		
Sweden	-0.1	0%	29%	-4.4%	x		(x)	
UK	n.k.	5-10%	3%	+5.3%	x			
Norway	1.1	5%	18%	n.k.	x			
NB: NORDEL	0.8	1%	5%	+0.8%	x			
Estonia	n.k.	100%	75%	+0.5%	not covered in this report			
Latvia	n.k.	60%	>100%	+1.5%				
Lithuania	n.k.	100%	50%	+3.0%				
Poland	5.4	12%	10%	+1.3%				
Czech R	2.4	16%	23%	+3.0%				
Slovakia	0.4	5%	44%	+1.5%				
Hungary	0.4	5%	22%	+1.5%				
Slovenia	0.2	8%	53%	+3.0%				
Cyprus	n.k.	26%	-	+5.0%				
Malta	n.k.	25%	-	+4.0%				
Candidate Countries								
Romania	1.7	11%	6%	+4.0%	not covered in this report			
Bulgaria	2.2	20%	10%	+1.0%				
Turkey	n.k.	n.k.	7%	+9.0%				
Other Neighbouring Countries								
Croatia	1.3	32%	55%		not covered in this report			
Bosnia	0.9							
Serb\Mont.	0.1	6%	20%					
FYROM	0.1							
Albania	n.k.	n.k.	30%					

source: UCTE, Nordel (x) indicates planned measures

37 According to UCTE definition of "remaining capacity" = "guaranteed capacity" minus "load at 11 am" as a percentage of "total generation capacity". Power Balance of UCTE: Forecast 2004-10, published 19 January 2004. Forecast for 2004: lowest value from January or July. Nordel figure based on June 2003 report "Power and Energy Balances, 2006/7 forecast normal winter.
UK based on NCG seven year statement, "plant margin" adjusted to approximately correspond to "remaining capacity" definition with outages\overhauls and system reserve =10% and non-usable capacity 0-5%.
Ireland based on ESB NG Generation Adequacy Report 2004-10: 2005 results, median assumptions on availability and demand growth, interconnector deducted.

38 Based on ETSO NTC winter 2003-04 including Switzerland, Russia and Morocco

39 High levels of reserve capacity reported result from inclusion of storage plant capacity of some 6,4 GW. This figure is not adjusted for actual storage levels

Table 7 Network Access: Electricity

TOTAL NETWORK TARIFFS	Number of transmission companies	Number of distribution companies	Medium Voltage: Estimated average charge (€/MWh)	Medium Voltage: Approx. range high-low (€/MWh)	Low voltage: Estimated average charge (€/MWh)	Low voltage: Approx. range high-low (€/MWh)
Austria	3	139	24	18-36	60	44-75
Belgium	1	28	23	21-26	70	63-97
Denmark	2	130	21	n.k.	45	n.k.
Finland	1	95	15	9-22	34	22-52
France	1	166	16	n.a.	50	n.a.
Germany	4	930	26	20-39	55	40-75
Greece	1	1	15	n.a.		
Ireland	1	1	17	n.a.	52	n.a.
Italy	1	178	13	n.k	30	n.k
Luxembourg	2	11	15	10-20		
Neth	1	20	16	10-24	35	n.k.
Portugal	1	1	15	n.a.		
Spain	1	299	15	n.a.	45	n.a.
Sweden	1	180	10	8-11	38	33-45
UK	4	15	15	10-17	35	20-50
Norway	1	190	13	n.k.	28	24-34
Estonia	1	67	not covered in this report			
Latvia	1	13				
Lithuania	1	7				
Poland	1	29				
Czech Rep	1	390				
Slovakia	1	3				
Hungary	1	6				
Slovenia	1	5				
Cyprus	1	1				
Malta	1	1				
Candidate Countries						
Romania	1	8	not covered in this report			
Bulgaria	1	8				
Turkey	1	9				
Other Neighbouring Countries						
Croatia	1	1	not covered in this report			
Bosnia	3	4				
Serb\Mont.	1	27				
FYROM	1	1				
Albania	1	1				

source: Survey responses, DG Tren Analysis

Data Sources

AT: Charts on e-control website Medium voltage = “Netzebene 5”, Low voltage = “Netzebene 7”.

BE: Based on report on CREG website and information provided to household customers

DK: Based on data on Danish regulator website: price statistics “elprisen oktober 2003”: “netbetaling + abonnement”

FI: Data provided by Finnish regulator website “Prices of Electricity Distribution in Finland as at March 1, 2003” taxes removed.

FR: Based on approved tariff structure 23.07.2002, CRE website.

DE: Based on VDN data 07.10.2003, Medium voltage, Customer type “5.000h/a mit Leistungmessung”. Low voltage = 3.5MWh/year. Does not include “Single Buyer” access.

GK: Data provided by Greek government

IR: Based on ESB published network tariff structure, based on group 7 “medium voltage”. **Now includes transmission charges.**

IT: Based on data for Enel distribution on AEEG website,
Medium voltage “Opzione tariffaria base per il servizio di trasporto destinata alle altre utenze in media tensione” M3
Low voltage “Opzione tariffaria base per il servizio di trasporto destinata alle altre utenze in bassa tensione” B1

LX: Based on published CEDEGEL tariffs “reseau 20kV” for medium voltage and SOTEL **“**Accès au Réseau SOTEL : publication des tarifs et conditions pour l’année 2003”

NL: Medium voltage: Low voltage: Data used from previous report

PT: Data used from previous report

ES: Data used from previous report

SE: Based on data provided in stem report “The Electricity Market 2003”

UK: Based on Ofgem/Ofreg analysis of distribution costs with estimated NGC transmission costs added.

NO: nve website “Transmission Tariffs - Industrial/Commercial Customers (national averages)” “Transmission Tariffs (households, low voltage) - Overview and Summary” (for 20MWh/year customer

Table 8 Unbundling of Network Operators: Electricity

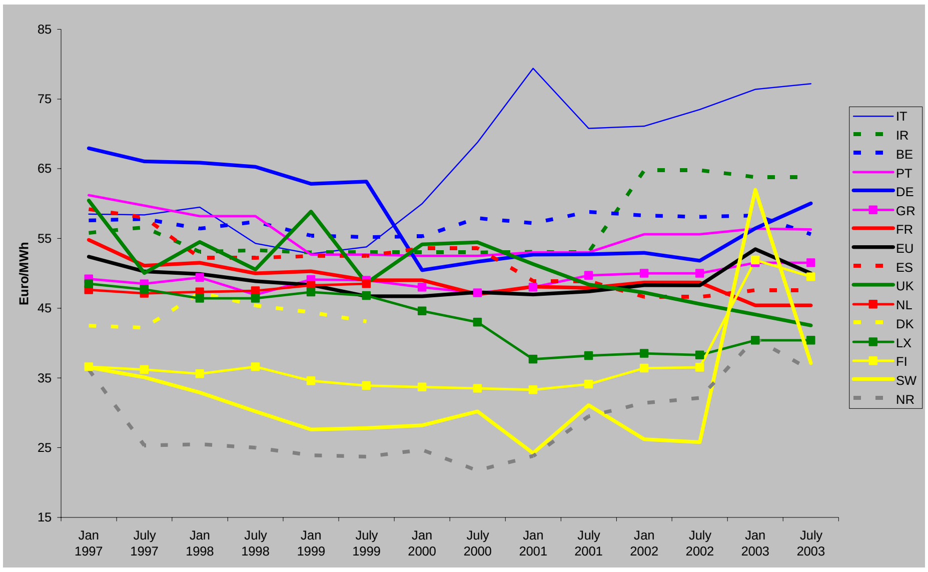
	Basic unbundling model		Shareholders from vertically integrated company?	Published accounts		Compliance officer		Separate corporate identity		Separate locations		Total Yes
	TSO	DSO		TSO	DSO	TSO	DSO	TSO	DSO	TSO	DSO	
Austria	L	A	most DSOs	Y	Y	N	some	Y	N	Y(1)	N	4
Belgium	L	L	64% VI	Y	Y	Y	Y	Y	Y	Y	Y	8
Denmark	L	L	some DSOs	Y	Y	1 of 2	Y	Y	N	Y	N	5½
Finland	O	A	around 50%	Y	Y	Y	N	Y	N	Y	large	5½
France	M	A	100%	Y	Y	Y	N	Y	N	Y	N	5
Germany	L	A	100% VI	Y	Y	Y	N	Y	N	Y	partly	5½
Greece	L/M	A	49% VI	N	N	N	N	Y	N	Y	N	2
Ireland	L/M	M	100% VI	Y	Y	Y	Y	Y	N	Y	Y	7
Italy	L	L	state owned	Y	Y	N	N	Y	Y	Y	Y	6
Lux	A	A	n/a	Y	Y	N	N	N	N	N	N	2
Neth	O	L	state, no VI	Y	Y	N	N	Y	Y	Y	Y	6
Portugal	O	M	TSO 30% VI	Y	Y	N	N	Y	N	Y	Y	5
Spain	O	L	minimal	Y	Y	Y	Y	Y	Y	Y	N	7
Sweden	O	L	Most DSO	Y	Y	Y	N	Y	Y	Y	N	6
UK	O	L	[40]	Y	Y	Y	Y	Y	often	Y	often	7
Norway	O	A	DSOs munic	Y	Y	Y	N	Y	N	Y	N	5
Estonia	A	A	state VI	N	N	N	N	Y	N	N	N	1
Latvia	L	L	state owned	N	N	N	N	N	N	Y	Y	2
Lithuania	L	L	state mostly	Y	Y	Y	Y	Y	N	Y	Y	7
Poland	M	A	state VI	N	N	N	N	Y	N	N	N	1
Czech R	L	A	yes CEZ	Y	Y	N	N	Y	Y	Y	Y	6
Slovakia	L	L	yes DSOs	Y	Y	N	N	Y	N	Y	Y	5
Hungary	A	A	TSO state	Y	Y	Y	N	Y	N	Y	N	5
Slovenia	L	A	state owned	Y	Y	N	N	Y	Y	Y	Y	6
Cyprus	M	N	100% VI	Y	N	Y	N	N	N	N	N	2
Malta	N	N		N	N	N	N	N	N	N	N	0
Candidate Countries												
Romania	L	A	100% state	Y	Y	Y	N	Y	N	Y	Y	6
Bulgaria	A	L	100% state	Y	Y	Y	Y	N	N	N	Y	5
Turkey	L	A	100% state	Y	Y	N	N	Y	N	Y	N	4
Other Neighbouring Countries												
Croatia	N	N		N	n.k.	N	n.k.	N	n.k.	N	n.k.	0
Bosnia	N	N		N	n.k.	N	n.k.	N	n.k.	N	n.k.	0
Serb\Mont.	N	N	100% state	N	N	N	N	N	N	N	N	0
FYROM	N	N		N	n.k.	N	n.k.	N	n.k.	N	n.k.	0
Albania	N	N	100% state	N	N	N	N	N	N	Y	N	1

source: Survey responses

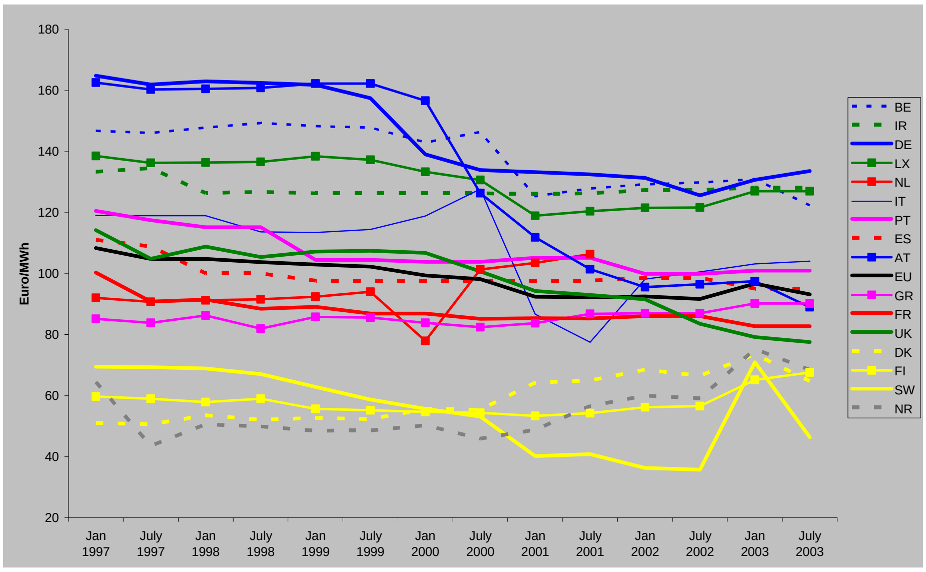
O ownership
L legal
M management
A accounts
N no unbundling

[40] Scottish TSOs are vertically integrated and some DSOs with suppliers

Graph 4 Electricity prices to large industrial consumers 1997-2003: 24GWh/year



Graph 5 Electricity prices to small commercial consumers 1997-2003: 50MWh/year



Graph 6 Electricity prices to household consumers 1997-2003: 3.5MWh/year

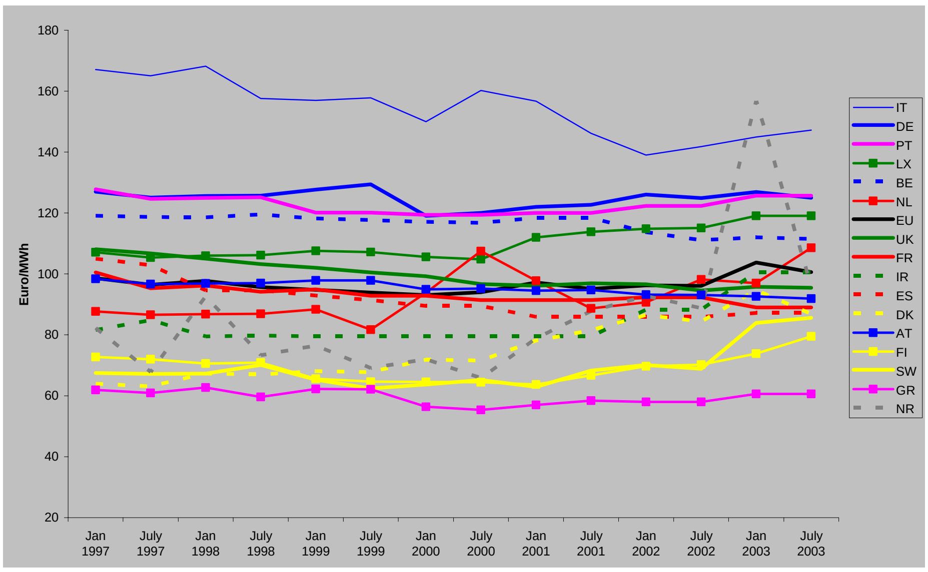


Table 9 Eurostat Electricity Retail Prices (Current Prices, Before Taxes)

INDUSTRIAL IG (€/MWh) **Eurostat category Ig: Consumption of 24000MWh/year**

	Jan 1997	July 1997	Jan 1998	July 1998	Jan 1999	July 1999	Jan 2000	July 2000	Jan 2001	July 2001	Jan 2002	July 2002	Jan 2003	July 2003		% change since 1/1999	% change since 7/2002
IT	59	58	60	54	53	54	60	69	79	71	71	74	76	77	IT	46%	5%
IR	56	57	53	53	53	53	53	53	53	53	65	65	64	64	IR	20%	-2%
BE	58	58	56	57	55	55	55	58	57	59	58	58	58	56	BE	0%	-4%
PT	61	60	58	58	53	53	53	53	53	53	56	56	56	56	PT	7%	1%
DE	68	66	66	65	63	63	50	52	53	53	53	52	56	60	DE	-4%	16%
AT	66	65	63	63	60									37	AT		
GR	49	49	49	47	49	49	48	47	48	50	50	50	52	52	GR	5%	3%
FR	55	51	52	50	50	49	49	47	48	48	49	49	45	45	FR	-10%	-7%
EU	52	50	50	49	48	47	47	47	47	47	48	48	53	50	EU	3%	4%
ES	59	58	52	52	53	53	54	54	49	49	47	47	48	48	ES	-9%	2%
UK	60	50	54	51	59	49	54	54	51	48	47	46	44	43	UK	-28%	-7%
NL	48	47	47	48	48	49									NL		
DK	43	42	47	45	44	43									DK		
LX	49	48	46	46	47	47	45	43	38	38	39	38	40	40	LX	-15%	5%
FI	37	36	36	37	35	34	34	34	33	34	36	37	52	50	FI	43%	36%
SW	37	35	33	30	28	28	28	30	24	31	26	26	62	37	SW	34%	44%

INDUSTRIAL IB (€/MWh) **Eurostat category Ib: Consumption of 50MWh/year**

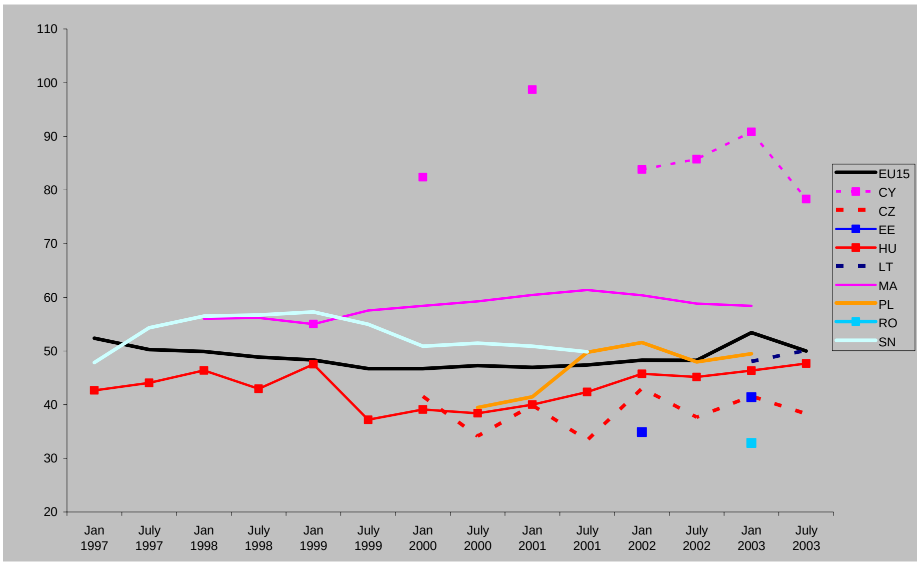
	Jan 1997	July 1997	Jan 1998	July 1998	Jan 1999	July 1999	Jan 2000	July 2000	Jan 2001	July 2001	Jan 2002	July 2002	Jan 2003	July 2003		% change since 1/1999	% change since 7/2002
BE	147	146	148	149	148	148	143	146	125	128	129	130	131	122	BE	-18%	-6%
IR	133	135	126	127	126	126	126	126	126	126	127	127	128	128	IR	2%	1%
DE	165	162	163	163	162	158	139	134	133	133	131	126	131	134	DE	-17%	6%
LX	139	136	136	137	139	137	133	131	119	121	122	122	127	127	LX	-8%	4%
NL	92	91	91	92	92	94	78	101	104	106					NL		
IT	119	119	119	114	114	115	119	128	87	78	98	101	103	104	IT	-8%	3%
PT	121	118	115	115	105	105	104	104	105	105	100	100	101	101	PT	-3%	1%
ES	111	109	100	100	98	98	98	98	98	98	99	99	95	95	ES	-3%	-4%
AT	163	160	161	161	162	162	157	126	112	102	96	97	98	89	AT	-45%	-8%
EU	108	105	105	104	103	102	99	98	92	92	93	92	97	93	EU	-9%	2%
GR	85	84	86	82	86	86	84	83	84	87	87	87	90	90	GR	5%	4%
FR	100	91	92	89	89	87	87	85	85	85	86	86	83	83	FR	-7%	-4%
UK	114	105	109	105	107	108	107	101	94	93	92	84	79	78	UK	-28%	-7%
DK	51	51	54	52	53	52	56	55	64	65	69	67	74	65	DK	23%	-3%
FI	60	59	58	59	56	55	55	54	53	54	56	57	65	68	FI	21%	19%
SW	70	69	69	67	63	59	56	53	40	41	36	36	71	46	SW	-26%	30%

DOMESTIC DC (€/MWh) **Eurostat category Dc: Consumption of 3.5MWh/year**

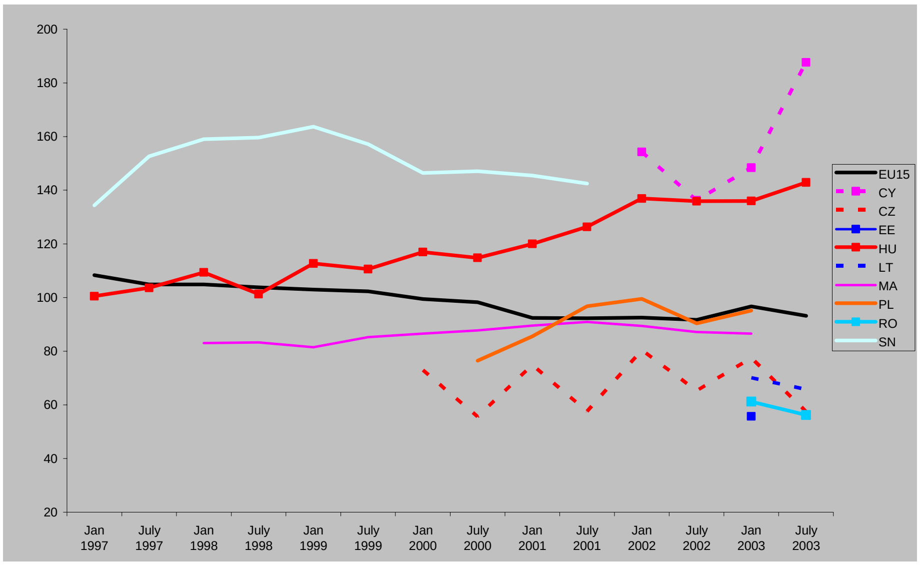
	Jan 1997	July 1997	Jan 1998	July 1998	Jan 1999	July 1999	Jan 2000	July 2000	Jan 2001	July 2001	Jan 2002	July 2002	Jan 2003	July 2003		% change since 1/1999	% change since 7/2002
IT	167	165	168	158	157	158	150	160	157	146	139	142	145	147	IT	-6%	4%
DE	127	125	126	126	128	129	119	120	122	123	126	125	127	125	DE	-2%	0%
PT	128	125	125	125	120	120	119	119	120	120	122	122	126	126	PT	5%	3%
LX	107	105	106	106	108	107	106	105	112	114	115	115	119	119	LX	11%	3%
BE	119	119	119	120	118	118	117	117	118	118	114	111	112	112	BE	-6%	0%
NL	88	87	87	87	88	82	94	108	98	89	91	98	97	109	NL	23%	11%
EU	99	96	98	96	95	94	93	94	97	95	96	96	104	101	EU	6%	5%
UK	108	107	105	103	102	101	99	97	96	97	97	95	96	95	UK	-6%	1%
FR	101	95	96	94	95	93	93	91	91	91	92	92	89	89	FR	-6%	-4%
IR	82	85	80	80	80	80	80	80	80	80	88	88	101	101	IR	27%	14%
ES	105	103	95	95	93	91	90	90	86	86	86	86	87	87	ES	-6%	2%
DK	64	63	67	67	68	68	72	72	78	82	87	84	95	87	DK	28%	3%
AT	98	97	97	97	98	98	95	95	95	95	93	93	93	92	AT	-6%	-1%
FI	73	72	71	71	66	65	65	64	64	67	70	70	74	80	FI	21%	13%
SW	68	67	67	70	65	62	64	65	63	68	70	69	84	86	SW	31%	24%
GR	62	61	63	60	62	62	56	55	57	58	58	58	61	61	GR	-3%	4%

Prices in the tables and graphs above exclude VAT and other energy taxes.

Graph 7 Electricity prices to large industrial consumers 1997-2003: 24GWh/year



Graph 8 Electricity prices to small commercial consumers 1997-2003: 50MWh/year



Graph 9 Electricity prices to household consumers 1997-2003: 3.5MWh/year

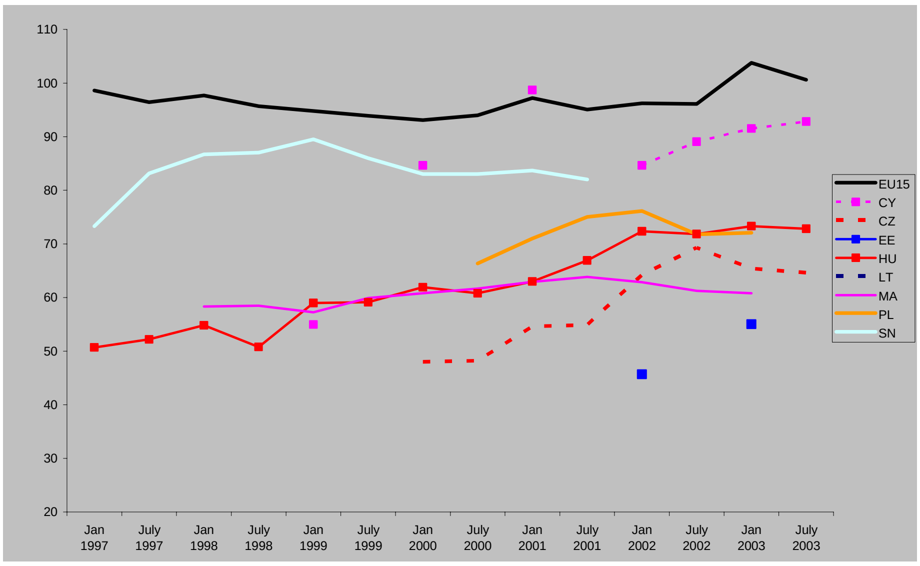


Table 10 Public Service and Service Standards: Electricity

Electricity	Universal service: default supplier	End user price controls	pereq-uation (uniform tariff)	special tariffs	Vulnerable Customers: pre-payment meters	"free" supply amount	restrictions on disconnection	number of disconnections for non-payment in 2002
Austria	D	no	N	N	Y	N	N	n.k.
Belgium	P	all	Y	Y	Y	Y	Y	0.15%[41]
Denmark	P	HH only	N	N	N	N	Y	negligible
Finland	P	HH only	N	N	N	N	Y	negligible
France	P	all customers	Y	Y	N	N	Y	215,000
Germany	P	yes[42]	N	N	Y	N	Y	0.02%
Greece	P	all customers	Y	N	N	N	N	n.k.
Ireland	P	all customers	Y	Y	Y	Y	Y	7,000
Italy	D	all customers	N	planned	N	N	Y	255,264
Lux	N	all customers	N	N	N	N	Y	n.k.
Neth	P	households	N	N	N	Y	N	n.k.
Portugal	P	all customers	N	Y	N	N	Y	n.k.
Spain	P	all customers	Y	Y	Y	N	N	n.k.
Sweden	P	No	N	N	Y	N	Y	n.k.
UK	P	No	N	N	Y	-	Y	995
Norway	P	no	N	N	Y	N	N	n.k.
Estonia	n.k.	n.k.	n.k.	n.k.	n.k.	n.k.	n.k.	n.k.
Latvia	Y	all customers	Y	N	N	N	N	37,500
Lithuania	P	all customers	Y	N	N	N	Y	20,000
Poland	D	all customers	N	N	Y	N	Y	n.k.
Czech R	D	n.k.	N	N	N	Y	Y	n.k.
Slovakia	D	households	N	Y	Y	N	N	n.k.
Hungary	D	households	N	N	N	N	Y	n.k.
Slovenia	P	all customers	N	N	N	N	Y	n.k.
Cyprus	P	all customers	Y	N	N	N	N	7,290
Malta	no information							
Candidate Countries								
Romania	P	n.k.	N	Y	Y	N	Y	644,075
Bulgaria	P	all customers	N	Y	N	N	N	588,236
Turkey	P	all customers	N	N	N	N	Y	n.k.
Other Neighbouring Countries								
Croatia	P	all customers	no information					
Bosnia	P	all customers	no information					
Serb\Mont.	P	all customers	N	N	N	N	Y	25,000
FYROM	P	all customers	no information					
Albania	P	all customers	Y	Y	N	Y	N	200,000

source: Survey responses

* by regulator

Default supplier: P – predetermined, D –designated by regulator if necessary
HH households

41 2001data
42 by federal state authorities

Table 11 Public Service and Service Standards: Electricity

Electricity	Standards of Service Distribution network performance minutes of interruptions per customer per year[43]	are there targets for performance	how are these enforced	Conditions are placed on retail suppliers	how are these enforced
Austria	43	no	n.a.	no	n.a.
Belgium	<60	yes	technical regulation	yes	regulator checks
Denmark	"high service level"	no	n.a.	general retail standards	L
Finland	230	no	n.a.	no	n.a.
France	65	yes	in contracts	M,R,A	C
Germany	15	no	n.a.	no	n.a.
Greece	n.k.	no	n.a.	yes	L
Ireland	385	yes	I	M,R,A	L,C
Italy	300	yes	I, C	M,R,A	C
Lux	n.k.	no	n.a	M	n.a.
Neth	35	yes	I	M,R,A	L
Portugal	>500	yes	reporting	M,R,A	C
Spain	215	yes	C	M,R,A	C
Sweden	192	planned	planned	yes	L
UK	85	yes	C,I	M,R,A	L, C
Norway	315	no	C	no	n.a.
Estonia	n.k.	n.k.	n.k.	n.k.	n.k.
Latvia	n.k.	yes	L	yes	L
Lithuania	n.a.	planned	n.a.	planned	n.a.
Poland	n.k.	yes	L	yes	L
Czech R	n.k.	yes	L	yes	L
Slovakia	n.k.	n.k.	n.k.	n.k.	n.k.
Hungary	6	yes	I	yes	I
Slovenia	n.k.	no	n.a.	yes	L
Cyprus	1.92KWh/year lost	yes		no	n.a.
Malta			no information		
Candidate Countries					
Romania	n.k.	yes	n.k.	Y	n.k.
Bulgaria	n.k.	yes	L	Y	L
Turkey	n.k.	yes	I	Y	I
Other Neighbouring Countries					
Croatia					
Bosnia					
Serb\Mont.			not covered in this report		
FYROM					
Albania					
source: Survey responses, CEER 2nd Benchmarking report on Quality of Supply					

I = financial incentives\ penalties in price limit, C = direct compensation to customers
L = licence condition or other legal instrument

A = appointments and works, M = connection, meter reading and billing standards, F – financial and technical status, R = response to complaints, queries

[43] both planned and unplanned

Table 12 Environmental Policy Framework: Electricity generation

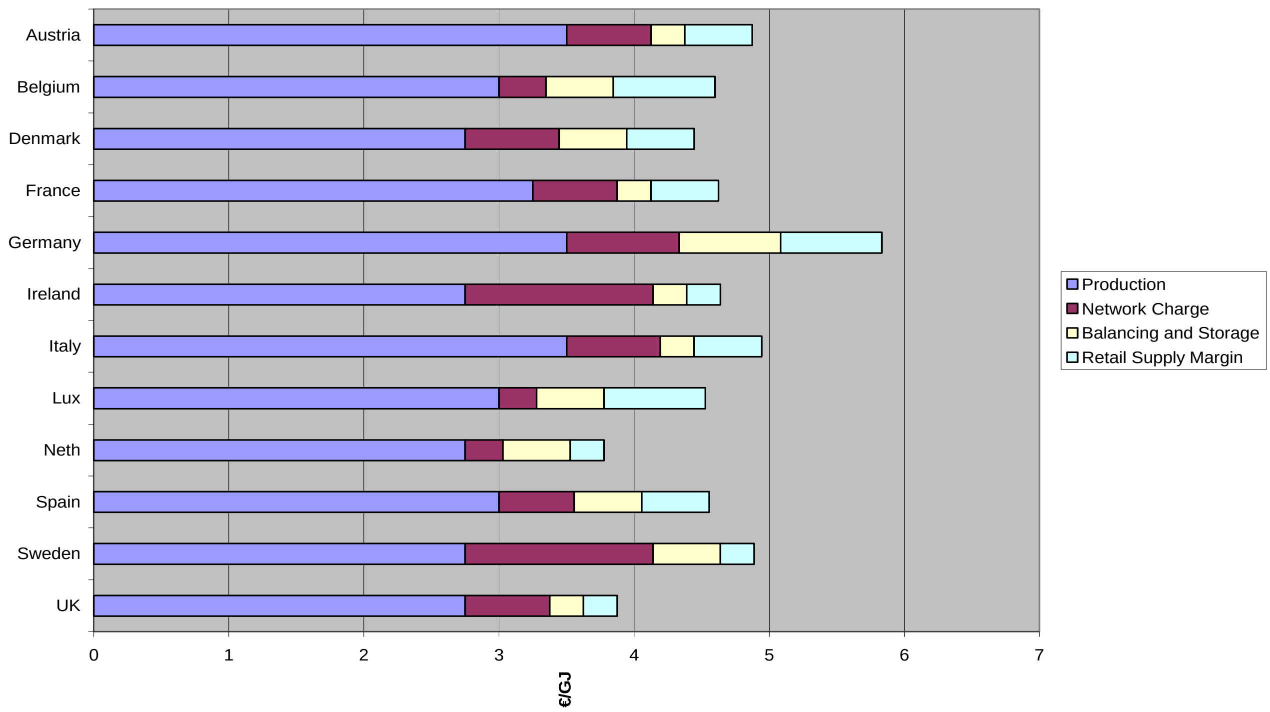
	VAT rate	energy tax	main RES support mechanism	Net addition to generation 2002 (MW) net new coal/oil	net new gas	net new RES/CHP	other
Austria	20	**	fixed feed in tariff	-429	-273	+186	0
Belgium	21	*	obligation (green certs.)	0	0	+40	0
Denmark	25	***	obligation (green certs)	0	0	n.a.	n.a.
Finland	22	**	investment subsidies	0	0	+140	+15
France	19.6/5.5	*	obligation (tender)	0	0	+66	0
Germany	16	***	fixed feed in tariff	n.k.	n.k.	n.k.	n.k.
Greece	8	none	fixed feed in tariff plus subsidies	+75	+492	0	0
Ireland	13.5	none	obligation (tender)	0	+700	+23	0
Italy	10	**	feed in tariffs and certificates	0	+2400	+400	0
Lux	6	*	fixed feed in tariff	0	0	n/a	n/a
Neth	19	***	obligation (green certs)	n/a	n/a	n/a	n/a
Portugal	5	none	fixed feed in tariff	0	0	+++	0
Spain	16	*	fixed feed in tariff	0	+2600	+225	+1700
Sweden	25	***	obligation (green certs)	0	0	+222	0
UK	17.5/5	**	obligation (green certs)	0	0	+++	+++
Norway			no information available				
Estonia	n.k.	-	n.k.	-	-	-	-
Latvia	18	none	feed in tariffs	0	0	+35	0
Lithuania	18	*	fixed price purchase	0	0	0	0
Poland	22	*	obligation	+110	+231	+54	0
Czech R	22	none	feed in tariff	0	+64	+5	+1000
Slovakia	14	none	none	-	-	-	-
Hungary	12	none	feed in tariff	0	+110	+185	0
Slovenia	20	none	feed in tariff	0	0	-	0
Cyprus	0	*	direct grants	0	0		0
Malta			no information available				
Total				**-250**	**+6500**	**+1500**	**+2700**
Candidate Countries							
Romania	19	none	certificates	0	0	0	0
Bulgaria	20	none	feed in tariff	0	0	+1	0
Turkey	-	-	feed in tariffs	0	0	0	0
Other Neighbouring Countries							
Croatia			no information available				
Bosnia			no information available				
Serb\Mont.	0	***	none	0	0	0	0
FYROM			no information available				
Albania	20	none	none	+300	0	0	+100

source: Eurostat, Survey responses

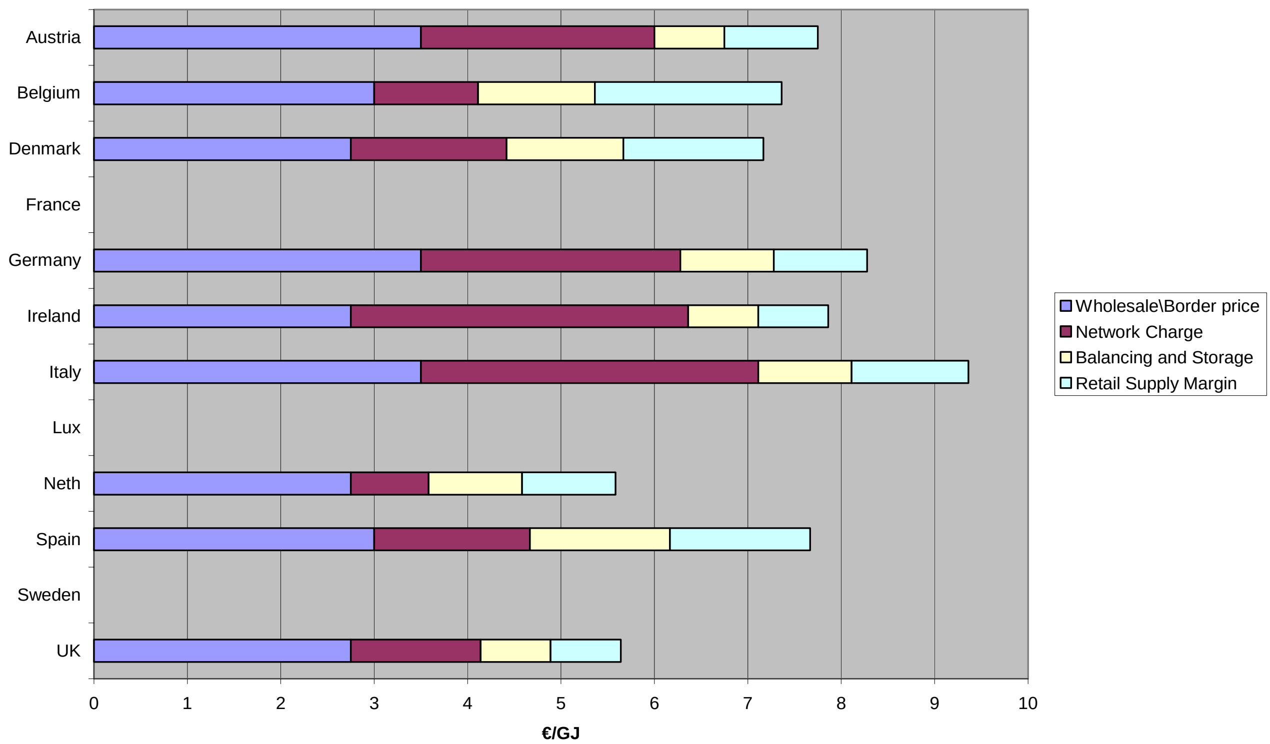
* average energy tax less than €5/MWh
** average energy tax between €5-15/MWh
*** average energy tax above €15/MWh

Graph 10 Estimated breakdown of expected gas prices for 2004

25,000,000m3 customer €/GJ



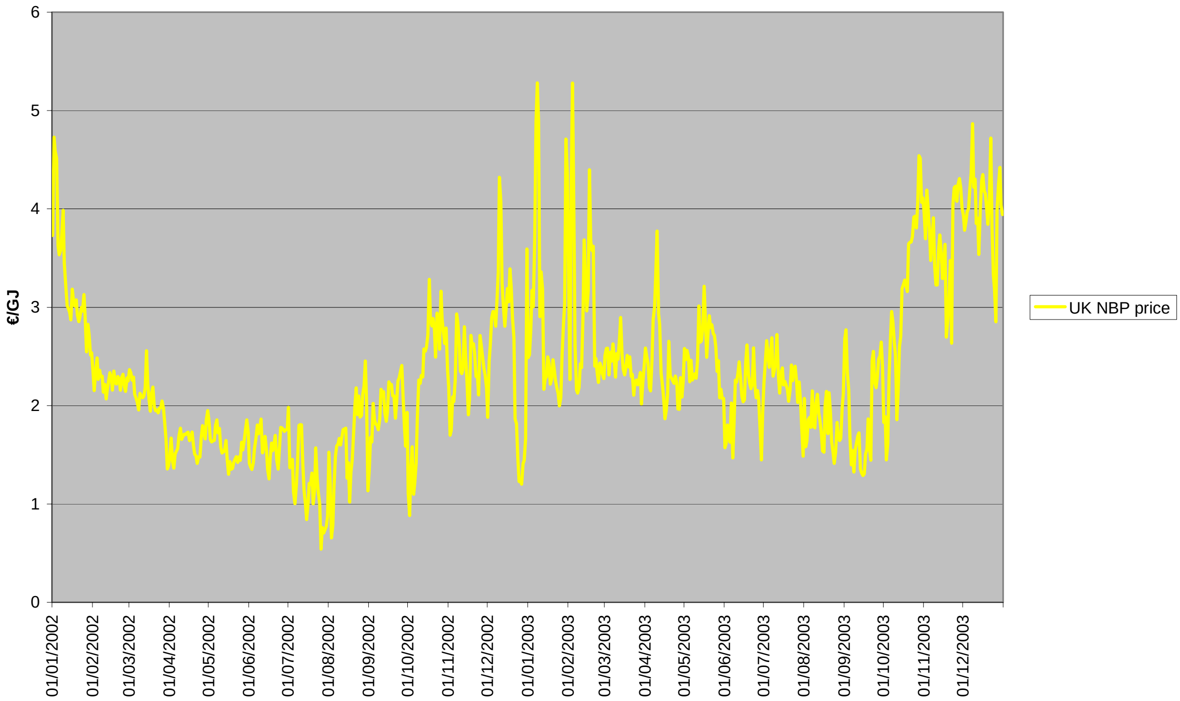
100,000m3 customer €/GJ



Graph 11 Wholesale Gas Markets

Graph 11 below reports the gas price level recorded at the UK National Balancing Point. This is, to date the only liquid spot market existing in Europe and serves, to an extent, as a reference price for NW Europe.

However now that many Member States have begun to move toward entry-exit based transmission tariffs, this provides an impetus for further gas wholesale markets to develop on an individual Member State basis. This has already happened in the Netherlands with the establishment of the TTF virtual trading hub.



Source: EnMO

The chart shows that prices during the summer have, on average settled at around €2/GJ (15p/therm) with winter prices around €3-3.5/GJ (22-26p/therm).

The German government (Bundesministerum für Wirtshaft und Arbeit) reports the imported prices of gas at the border on a monthly basis. For 2003 the average price was around €3.5/GJ.

Table 13 Market Structure in Import and Production of Gas

	% of gas from domestic production	% of gas from imports (no. of sources)	No. of companies with at least 5% share of available gas[44]	% of available gas controlled by largest company	Gas release programme	Cross border pipeline capacity as % of consumption[45]	LNG import capacity as % of consumption
Austria	23%	77% (3)	1	>90%	yes	>100%	0%
Belgium	0%	100%	1	100%	no	>100%	50%
Denmark	98%	2%	2	90%	planned	60%	0%
France	4%	96% (6)	3	64%	no	30%	0%
Germany	18%	82% (5)	9	c. 50%	yes	>100%	15%
Ireland	18%	82% (1)	4	40%	no	>100%	0%
Italy	20%	80% (6)	3	80%	yes	30%	5%
Luxembourg	0%	100% (3)	1	100%	no	>100%	0%
Netherlands	84%	16%(3)	3	n.a.	no	>100%	0%
Spain	3%	98%(6)	2	85%	yes	30%	>100%
Sweden	0%	100%	1	100%	no	0%	0%
UK	90%	10%	6	c. 25%	completed	10%	0%
Estonia	0%	100% (1)	1	100%	no	0%	0%
Latvia	0%	100% (1)	1	100%	no	0%	0%
Lithuania	0%	100% (1)	4	43%	no	0%	0%
Poland	34%	66% (3)	1	100%	no	>100%	0%
Czech R	1%	99% (2)	1	99%	no	>100%	0%
Slovakia	3%	97% (1)	1	97%	no	>100%	0%
Hungary	25%	75% (2)	1	100%	no	10%	0%
Slovenia	0%	100 (3)	1	100%	no	>100%	0%
Candidate Countries							
Romania	80%	20% (1)	7	n.k.	no	0%	0%
Bulgaria	1%	99% (1)	1	100%	yes	>100%	0%
Turkey	3%	97% (5)	1	100%	yes	0%	0%

source: Survey responses

44 available gas from either local production or import, figures refer to 2001.

45 with other EU Member States, other than main import routes. Potential backhaul included.

Table 14 Retail Supply and Consumer Choice Supplier market share

	Number of active licensed suppliers	Suppliers independent of DSO	No. of suppliers with > 5% share	Top supplier's overall market share[46]	Top 3 suppliers' share	Share of foreign owned suppliers
Austria	29	3	2	75%	90%	8%
Belgium	n.k.	5	5	39%	54%	n.k.
Denmark	8	4	4	73%	93%	3%
France	8	5	3	n.k.	88%	n.k
Germany	770	12	1	6%	<15%	n.k.
Ireland	8	7	3	47%	99%	1%
Italy	530	minimal	1	93%	n.a.	0%
Luxembourg	6	1	1	n.k.	n.k.	n.k.
Netherlands	24	0	4	n.k.	75%	n.k.
Spain	36	28	2	78%	83%	n.k.
Sweden	7	1	5	55%	86%	n.k.
UK	125	123	3	20%	59%	41%
Estonia	4	1	1	80%	n.k	n.k.
Latvia	1	0	1	100%	n.a.	0%
Lithuania	10	9	4	43%	n.k.	0%
Poland	78	72	1	>95%	n.a.	n.k.
Czech R	134	126	7	n.k.	24%	n.k.
Slovakia	36	0	1	97%	n.a.	n.k.
Hungary	10	9	7	n.k.	27%	n.k.
Slovenia	50	22	1	78%	87%	0%
Candidate Countries						
Romania	31	0	5	n.k.	n.k.	n.k.
Bulgaria	29	0	1	96%	n.k.	0%
Turkey	1	0	1	100%	n.a.	0%
Source: Survey responses						

46 includes both eligible and non-eligible markets

Table 15 Current Security of Supply Position: Gas

	Security of Supply Position 2003 (bcm)			
	consumption	amount of local production	import capacity[47]	increase in consum-ption 2002.v. 2001 (% p.a.)
Austria	8.3	1.9	41.0	-1.8%
Belgium	16.0	0.0	79.0	n.k.
Denmark	7.5	7.3	1.7	+0.6%
France	40.3	1.7	63.0	+0.2%
Germany	98.4	20.2	87.0	+0.5%
Italy	70.0	14.3	86.0	0.0%
Ireland	4.2	0.6	8.4	+2.5%
Luxem.	0.8	0.0	4.0	+36.0%
Netherl.	36.0	65.0	17.0	n.k.
Spain	23.5	0.7	33.5	+15.0%
Sweden	0.8	0.0	2.0	+9.8%
UK	94.0	112.0	9.5	-4.0%
Estonia	n.k.	n.k.	n.k.	n.k.
Latvia	1.5	0.0	1.5	+1.0%
Lithuania	2.6	0.0	6.0	+1.5%
Poland	12.4	4.0	7.8	-1.5%
Czech R	9.6	0.1	12.0	-3.0%
Slovakia	7.5	0.2	7.3	+5.4%
Hungary	12.8	3.1	13.0	+0.0%
Slovenia	1.0	0.0	3.5	-3.6%
Candidate Countries				
Romania	15.0	12.0	12.0	-0.6%
Bulgaria	3.0	0.0	6.0	-9.0%
Turkey	17.6	0.4	26.0	+10.0

source: Survey responses, GTE website

[47] From all physical import pipelines directly or indirectly linked to producing countries plus LNG.

Table 16 Gas Network Tariffs

	number of transmission companies		tariff structure	Number of distribution companies	Estimated charges range (€/MWh)			
	super regional	regional			25million m3 large user		100,000m3 small business	
					min	max	min	max
Austria	3	4	post\distance	19	1.0	4.5	1.0	14.0
Belgium	1	3	entry-exit	21	1.0	1.5	3.5	4.0
Denmark	1	0	postalised	4	2.0	2.5	5.5	6.0
France	3	0	entry-exit	25	1.5	3.0		
Germany	5	10	distance	705	1.0	3.5	9.0	12.0
Ireland	1	0	entry-exit	1	3.5	5.0	13.5	16.0
Italy	2	0	entry-exit	583	1.5	3.5	12.0	13.5
Luxembourg	1	0	postalised	4	1.0	1.0		
Netherlands	1	0	entry-exit	24	1.0	1.0	2.5	3.0
Spain	1	4	postalised	26	2.0	2.0	6.0	6.0
Sweden	1	1	postalised	7	5.5	5.5		
UK	1	0	entry-exit	1	1.5	3.0	4.0	5.0
Estonia	1	0	not published	1	not covered in this report			
Latvia	1	0	not published	1				
Lithuania	1	0	postalised	4				
Poland	2	6	postalised	22[48]				
Czech R	1	0	not published	8				
Slovakia	1	0	postalised	1				
Hungary	1	0	not published	10				
Slovenia	1	0	postalised	16				
Candidate Countries								
Romania	1	0	postalised	13	not covered in this report			
Bulgaria	1	0	postalised	29				
Turkey	1	0	not published	6				
source: Survey responses, DG Tren analysis								

rounded to nearest €0.5/MWh

48 PGNIG is the largest one (6.3 million customers)

Data Sources

large user = annual consumption 25mm3, daily peak 100,000m3, hourly peak 4100m3;
small business user = annual consumption 100,000m3, daily peak 800m3, hourly peak 33m3;
domestic user = annual consumption 2000m3, daily peak 30m3, hourly peak 1.2m3

All transmission cost estimates based on GTE report, "European TPA tariff comparison 2003. Minimum values = 100km transmission plus average regional network charge. Maximum values based on the higher of 500km MTS tariff and 200km MTS plus average regional network charge.

Distribution costs estimated as follows

AT: Distribution costs based on example for Vienna, Energie Control approved tariffs

BE: Distribution based on tariffs for IVERLEK, "tarief voor de basisdiensten"

DK: Data provided by DONG transmission (Gastra from 1 Apr 2004) and DONG distribution

FR: Distribution network data from previous report

DE: Distribution data from VV Gas anlage III

IR: Data from BGE Transmission website

IT: For large user: Minimum, without distribution lowest cost entry point, Maximum, highest cost entry with distribution using Selvazzano as example. Small commercial both max and min with distribution using Salvazzano.

LX: Data from previous report

NL: Distribution charges from Eneco website

ES: Data from CNE website

SE: Data from Novanaturgas website

UK: Data from previous report

Table 17 Gas Network Access Conditions

	Minimum booking period	type of capacity booking	allocation method	use it or lose it?	overall assessment
Austria	1 month	entry-exit	fcfs	yes	flexible
Belgium	1 week[49]	point-point	fcfs	yes	moderate
Denmark	1 month	entry	fcfs	yes	flexible
France	1 month[50]	entry-exit [51]	fcfs	no	moderate
Germany	1 day	point-point	fcfs	no	moderate
Ireland	1 year	point-point	fcfs	yes	moderate
Italy	daily transfers	entry-exit	fcfs	yes	flexible
Luxembourg	1 year	entry-exit	fcfs	no	moderate
Netherlands	1 day	entry-exit	fcfs	yes	flexible
Spain	no minimum	point-point	fcfs	yes	flexible
Sweden	1 day	entry	fcfs	no	moderate
UK	1 day	entry	auction	yes	flexible
Estonia					
Latvia					
Lithuania					
Poland		not covered in this report			
Czech R					
Slovakia					
Hungary					
Slovenia					
Candidate Countries					
Romania					
Bulgaria		not covered in this report			
Turkey					
source: source: Compliance Overview of Madrid Guidelines					

[49] from 2004
[50] from early 2004
[51] within individual zones

Table 18   Summary of Gas balancing rules

	Balancing period	Conditions set/approved by	Tolerance bands	Premium for "short" imbalance over tolerance band (x market price)	Grouping allowed?
Austria[52]	hourly	regualtor	no[53]	market based price	ex-post
Belgium	hourly	regulator\TSO	10%	+30%	ex-ante
Denmark[54]	daily	regulator\TSO	15%\5%	+20%	ex-ante
France	daily	regulator	20%/5%	+50%	ex-ante
Germany	hourly	TSO	cumulative 15%	+100-420%	ex-ante
Ireland	daily	regulator\TSO	3%	+40% max	ex-post
Italy	daily	regulator\TSO	8%	+10% max	ex-ante (daily), ex-post (monthly)
Luxembourg	daily	TSO	5%/3%	+50% max	no
Netherlands	hourly/daily	regulator\TSO	2/13%	up to +180%	ex-ante, ex-post with penalty
Spain	monthly	Ministry\TSO	-15% to +5%	based on storage fee	yes
Sweden	hourly	regulator\TSO	10%	approx 20%	ex-ante
UK	daily	market	zero	usually <20%	ex-post
Estonia	rules not yet in place				
Latvia	rules not yet in place				
Lithuania	daily	TSO	yes	n.k.	yes
Poland	hourly/daily	TSO\regulator	no	n.k.	no
Czech R	n.k.	n.k.	n.k.	n.k.	n.k.
Slovakia	hourly	n.k.	no	n.k.	no
Hungary	daily	regulator\Ministry	in preparation	in preparation	yes
Slovenia	daily	TSO	yes	n.k.	no
Candidate Countries					
Romania	monthly	TSO	yes	n.k.	no
Bulgaria	daily	TSO	yes	n.k.	no
Turkey		regulator	yes	n.k.	yes

source: Compliance Overview of Madrid Guidelines

52 from October 2002
53 +/-2% for transit flows
54 a new network code was introduced in October 2002

Table 19 Network Unbundling: Gas

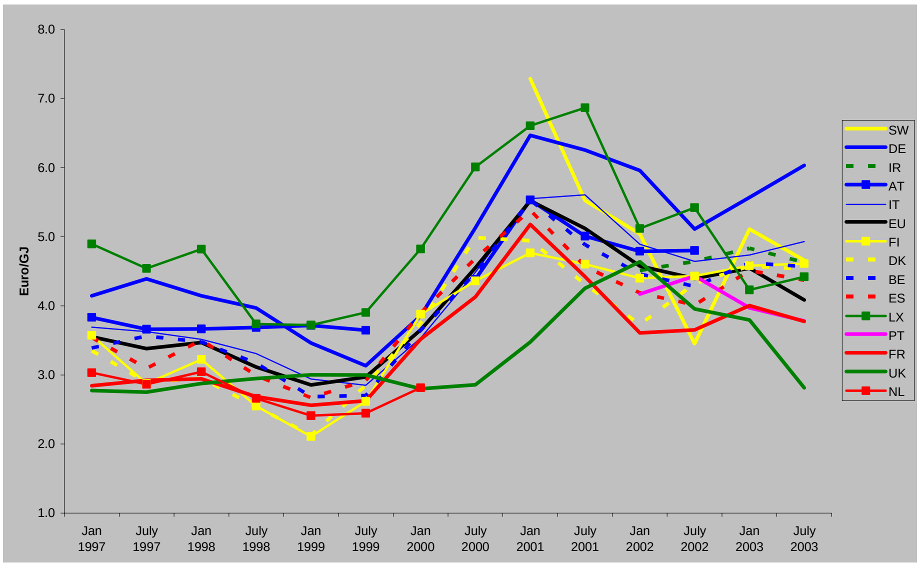
	Basic Unbundling Model		Shareholders from vertically integrated company?	Published accounts		Compliance officer		Separate corporate identity		Separate HQ location		Total Y
	TSO	DSO		TSO	DSO	TSO	DSO	TSO	DSO	TSO	DSO	
Austria	L	L	DSOs	Y	Y	Y	Y	Y	Y	Y	N	7
Belgium	L	L		Y	N	Y	N	Y	Y	N	N	4
Denmark	O	L	100% VI	Y	Y	Y	N	Y	N	Y	N	5
France	A	A	100% VI	N	N	Y	N	N	N	N	N	1
Germany	A	A		N	N	N	N	N	N	N	N	0
Ireland	M	M	100% VI	N	N	Y	Y	N	N	N	N	2
Italy	L	L	60% VI	Y	Y	N	N	Y	N	Y	mixed	5
Lux	A	A	n/a	Y	Y	Y	N	N	N	N	N	3
Neth	M	L	DSOs govt	Y	Y	Y	Y	Y	Y	Y	N	7
Spain	L	L	40% VI	Y	Y	Y	Y	Y	Y	Y	N	7
Sweden	A	A	often VI	Y	Y	N	N	Y	N	N	N	3
UK	O	O	no	Y	Y	Y	Y	Y	Y	Y	Y	8
Estonia	no information											
Latvia	A	A		N	N	N	N	N	N	Y	Y	2
Lithuania	A	A		Y	Y	Y	Y	N	N	N	N	4
Poland	A	A	100%	N	N	N	N	N	N	N	N	0
Czech R	A	A		N	N	N	N	N	Y	N	Y	2
Slovakia	A	A	part state	N	N	N	N	Y	N	Y	Y	3
Hungary	L	A		Y	N	Y	N	Y	N	Y	N	4
Slovenia	A	A		Y	Y	N	N	N	N	N	N	2
Candidate Countries												
Romania	L	A	100% state	Y	Y	Y	Y	N	N	Y	Y	6
Bulgaria	A	N	100% VI	Y	N	Y	N	N	N	N	N	2
Turkey	N	A		N	N	N	N	N	N	N	Y	1

source: Survey responses

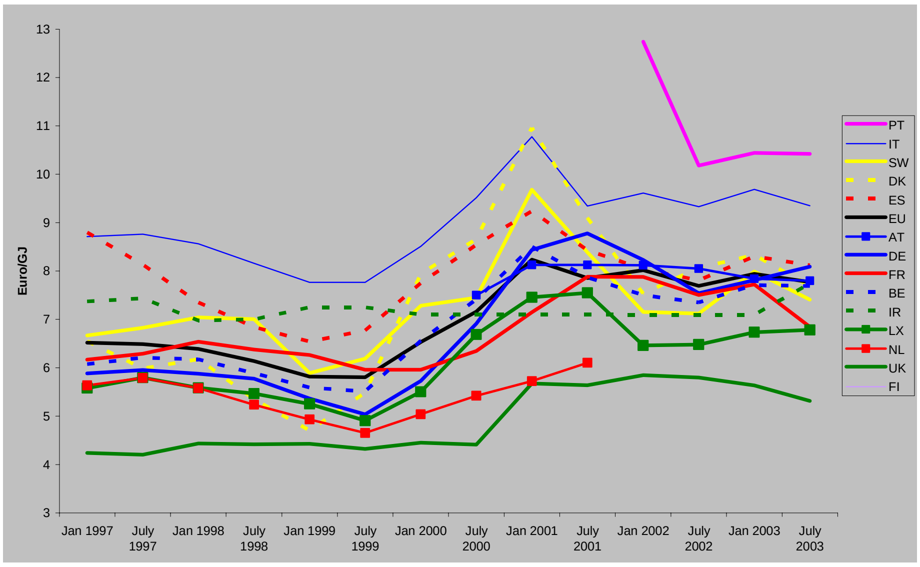
O ownership
L legal
M management
A accounts

N none

Graph 12 Gas prices large commercial consumers 1997-2003: 420 TJ/year (approx. 120GWh)



Graph 13 Gas prices small commercial consumers 1997-2003: 420GJ/year (approx. 120MWh)



Graph 14 Gas Prices to household consumers 1997-2003: 16GJ/year (approx. 4.5MWh)

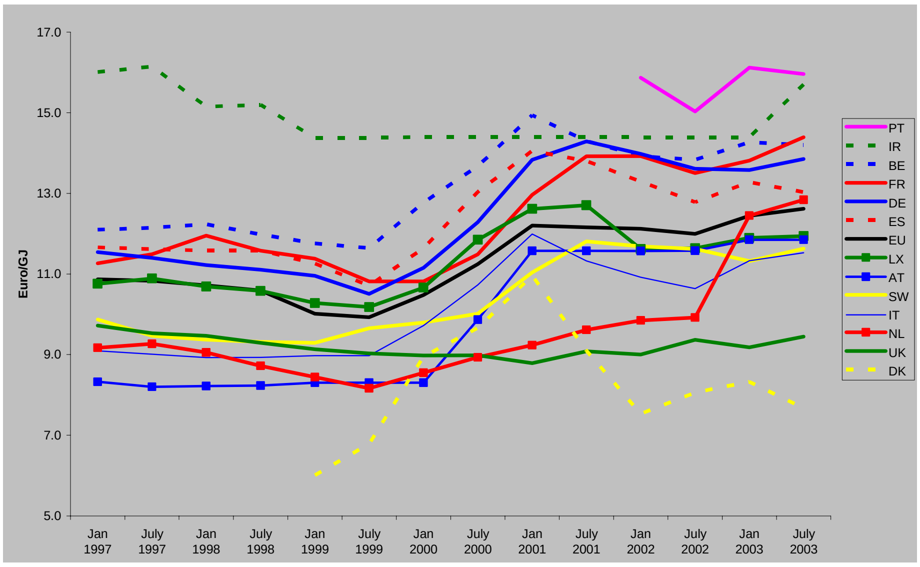


Table 20 Eurostat Gas Retail Prices (Current Prices, Before Taxes)

(€/GJ) Eurostat category I4-1: Consumption of 418.6TJ/year c. 120GWh

	Jan 1997	July 1997	Jan 1998	July 1998	Jan 1999	July 1999	Jan 2000	July 2000	Jan 2001	July 2001	Jan 2002	July 2002	Jan 2003	July 2003		% change since 7/2000	% change since 7/2002
SW									7.3	5.5	5.0	3.5	5.1	4.7	SW		35%
DE	4.1	4.4	4.1	4.0	3.5	3.1	3.9	5.1	6.5	6.3	6.0	5.1	5.6	6.0	DE	18%	18%
IR											4.5	4.6	4.8	4.6	IR		0%
AT	3.8	3.7	3.7	3.7	3.7	3.6	0.0	4.4	5.5	5.0	4.8	4.8			AT		
IT	3.7	3.6	3.5	3.3	2.9	2.8	3.5	4.5	5.6	5.6	4.9	4.6	4.7	4.9	IT	10%	6%
EU	3.6	3.4	3.5	3.1	2.9	3.0	3.7	4.5	5.5	5.1	4.6	4.4	4.5	4.1	EU	-10%	-7%
FI	3.6	2.9	3.2	2.5	2.1	2.6	3.9	4.4	4.8	4.6	4.4	4.4	4.6	4.6	FI	6%	4%
DK	3.3	2.9	2.9	2.5	2.1	2.8	3.7	5.0	4.9	4.3	3.7	4.3	4.6	4.5	DK	-9%	5%
BE	3.4	3.6	3.5	3.2	2.7	2.7	3.6	4.5	5.5	4.9	4.5	4.3	4.6	4.6	BE	2%	7%
ES	3.5	3.1	3.5	3.0	2.7	2.9	3.9	4.7	5.4	4.6	4.2	4.0	4.5	4.4	ES	-7%	9%
LX	4.9	4.5	4.8	3.7	3.7	3.9	4.8	6.0	6.6	6.9	5.1	5.4	4.2	4.4	LX	-26%	-18%
PT											4.2	4.4	4.0	3.8	PT		-15%
FR	2.8	2.9	2.9	2.7	2.6	2.6	3.5	4.1	5.2	4.4	3.6	3.7	4.0	3.8	FR	-9%	3%
UK	2.8	2.8	2.9	2.9	3.0	3.0	2.8	2.9	3.5	4.3	4.6	4.0	3.8	2.8	UK	-1%	-29%
NL	3.0	2.9	3.0	2.7	2.4	2.4	2.8								NL		

(€/GJ) Eurostat category I1-1: Consumption of 418GJ/year c. 120MWh

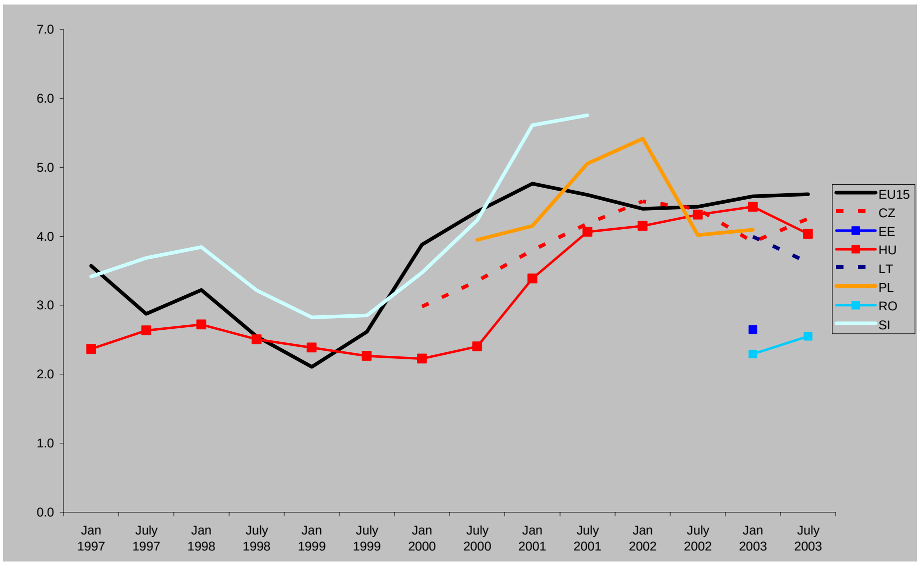
	Jan 1997	July 1997	Jan 1998	July 1998	Jan 1999	July 1999	Jan 2000	July 2000	Jan 2001	July 2001	Jan 2002	July 2002	Jan 2003	July 2003		% change since 7/2000	% change since 7/2001
PT											12.7	10.2	10.4	10.4	PT		2%
IT	8.7	8.8	8.6	8.2	7.8	7.8	8.5	9.5	10.8	9.3	9.6	9.3	9.7	9.4	IT	-2%	0%
AT								7.5	8.1	8.1	8.1	8.1	7.8	7.8	AT	4%	-3%
DK	6.5	6.0	6.2	5.3	4.7	5.5	7.9	8.7	11.0	9.1	7.5	8.1	8.3	7.7	DK	-11%	-5%
ES	8.8	8.1	7.3	6.8	6.5	6.8	7.8	8.5	9.2	8.4	8.0	7.8	8.3	8.1	ES	-5%	4%
EU	6.5	6.5	6.4	6.1	5.8	5.8	6.5	7.2	8.2	7.9	8.0	7.7	7.9	7.8	EU	8%	1%
DE	5.9	6.0	5.9	5.8	5.4	5.0	5.7	6.9	8.4	8.8	8.2	7.5	7.8	8.1	DE	17%	7%
FR	6.2	6.3	6.5	6.4	6.3	6.0	6.0	6.3	7.1	7.9	7.9	7.5	7.7	6.8	FR	8%	-9%
BE	6.1	6.2	6.2	5.9	5.6	5.5	6.6	7.4	8.5	7.9	7.5	7.4	7.7	7.7	BE	4%	5%
SW	6.7	6.8	7.0	7.0	5.9	6.2	7.3	7.4	9.7	8.4	7.2	7.1	8.0	7.4	SW	-1%	4%
IR	7.4	7.4	7.0	7.0	7.3	7.3	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.7	IR	9%	9%
LX	5.6	5.8	5.6	5.5	5.3	4.9	5.5	6.7	7.5	7.5	6.5	6.5	6.7	6.8	LX	1%	5%
NL	5.6	5.8	5.6	5.2	4.9	4.7	5.0	5.4	5.7	6.1					NL		
UK	4.2	4.2	4.4	4.4	4.4	4.3	4.5	4.4	5.7	5.6	5.8	5.8	5.6	5.3	UK	20%	-8%
FI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	FI		

(€/GJ) Eurostat category D2: Consumption of 16GJ/year c. 4.5MWh

	Jan 1997	July 1997	Jan 1998	July 1998	Jan 1999	July 1999	Jan 2000	July 2000	Jan 2001	July 2001	Jan 2002	July 2002	Jan 2003	July 2003		% change since 7/2000	% change since 7/2001
PT											15.9	15.0	16.1	16.0	PT		6%
IR	16.0	16.1	15.1	15.2	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	15.7	IR	9%	9%
BE	12.1	12.1	12.2	12.0	11.8	11.6	12.8	13.7	14.9	14.3	13.9	13.8	14.3	14.2	BE	4%	3%
DE	11.5	11.4	11.2	11.1	11.0	10.5	11.2	12.3	13.8	14.3	14.0	13.6	13.6	13.9	DE	13%	2%
FR	11.3	11.5	12.0	11.6	11.4	10.8	10.8	11.5	13.0	13.9	13.9	13.5	13.8	14.4	FR	25%	7%
ES	11.7	11.6	11.6	11.6	11.3	10.7	11.6	13.0	14.1	13.8	13.3	12.8	13.3	13.0	ES	0%	2%
EU	10.9	10.8	10.7	10.6	10.0	9.9	10.5	11.2	12.2	12.2	12.1	12.0	12.4	12.6	EU	12%	5%
SW	9.9	9.5	9.4	9.3	9.3	9.7	9.8	10.0	11.0	11.8	11.7	11.6	11.3	11.6	SW	16%	0%
LX	10.8	10.9	10.7	10.6	10.3	10.2	10.7	11.8	12.6	12.7	11.6	11.6	11.9	11.9	LX	1%	3%
AT	8.3	8.2	8.2	8.2	8.3	8.3	8.3	9.9	11.6	11.6	11.6	11.6	11.9	11.9	AT	20%	2%
IT	9.1	9.0	8.9	8.9	9.0	9.0	9.7	10.7	12.0	11.3	10.9	10.6	11.3	11.5	IT	7%	8%
NL	9.2	9.3	9.1	8.7	8.4	8.2	8.5	8.9	9.2	9.6	9.9	9.9	12.5	12.8	NL	44%	29%
UK	9.7	9.5	9.5	9.3	9.1	9.0	9.0	9.0	8.8	9.1	9.0	9.4	9.2	9.4	UK	5%	1%
DK					6.0	6.8	9.0	9.7	11.0	9.1	7.5	8.1	8.3	7.7	DK	-21%	-5%
FI															FI		

Prices in the tables and graphs above exclude VAT and other energy taxes.

Graph 15 Gas prices large commercial consumers 1997-2003: 420 000GJ/year (approx. 120GWh)



Graph 16 Gas prices small commercial consumers 1997-2003: 420GJ/year (approx. 120MWh)

Graph 17 Gas Prices to household consumers 1997-2003: 16GJ/year (approx. 4.5MWh)

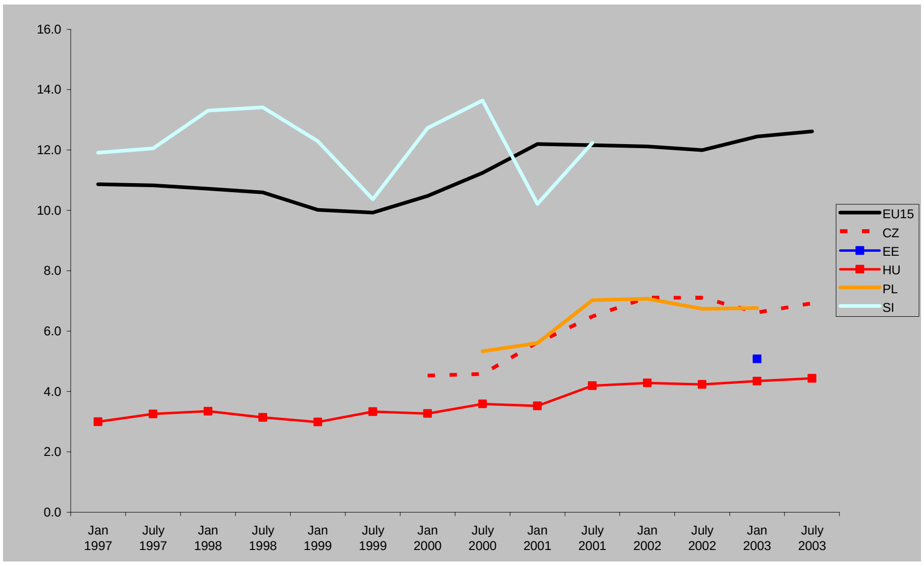


Table 21 Public Service and Service Standards: Gas

Gas	Universal Service				Vulnerable Customers				
	% connected to network	default supplier	end user price controls?	uniform tariff	special tariffs	pre-payment meters	free supply amount	restrictions on disconnection	number of disconnections
Austria	17%	no	no	no	no	Y	N	N	n.k.
Belgium	20%	yes	no	yes	-	Y	N	Y	n.k.
Denmark	15%	yes	no	no	n	n	N	n	2,900
France	n.k.	no	no	partial	n	n	N	y	n.k.
Germany	51%	no	no	n	n	n	N	y	n.k.
Ireland	25%	no	yes	yes	n	y	N	n.a.	n.a.
Italy	69%	yes	yes	yes	no	no	N	yes	25,499
Lux	43%	no	no	yes	no	no	N	yes	n.k.
Neth	98%	no	no	no	no	no	Y	yes	0
Spain	30%	yes	no	yes	no	no	no	yes	negligible.
Sweden	<5%	no	no	no	no	no	N	no	15,000
UK	80%	yes	no	no	N	Y	N	Y	21,780
Estonia	18%	yes	yes	yes	no information				n.k.
Latvia	33%	no	no	no	N	N	N	N	15,000
Lithuania	39%	yes	yes	yes	N	N	N	Y	“very few”
Poland	52%	no	yes	no	Y	Y	N	Y	n.k.
Czech R	62%	yes	yes	no	N	N	Y	Y	n.k.
Slovakia	83%	yes	yes	yes	Y	Y	Y	Y	n.k.
Hungary	72%	no	no	no	N	N	N	N	n.k.
Slovenia	n.k.	no	yes	no	N	N	N	Y	n.k.
Candidate Countries									
Romania	20%	no	no	no	N	N	Y	Y	88,831
Bulgaria	0,3%	yes	yes	yes	N	N	N	Y	27
Turkey	8%	no	no	no	N	N	N	N	n.k.

source: Survey responses

ANNEX B GLOSSARY OF ACRONYMS

UCTE	Union for the Co-ordination of Transmission of Electricity
TSO	Transmission system operator
DSO	Distribution system operator
Reg.	Regulated
Neg.	Negotiated
NTC	Net Transfer Capacity
ETSO	European Transmission System Operators
CFD	Contracts for Differences: a contract where the purchaser agrees to pay \ receive the difference between the spot price for electricity in a Pool type market and an agreed fixed price. This allows for hedging of the variable spot price for electricity and is equivalent to a bilateral contract for electricity between the two parties outside the Pool.
NGC	National Grid Company; the UK TSO
ESBNG	Electricity Supply Board of Ireland, National Grid: the Irish TSO ("Eirgrid")
LNG	Liquified Natural Gas
bcm	billion cubic metres
GTE	Gas Transmission Europe
MTS	Main transmission system
VV Gas	Verbändevereinbarung Gas