



# Competition indicators in the electricity market

EU, Norway and candidate  
countries

**Data 1999-2001**

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## ABBREVIATIONS

kWh	Kilowatt hour
MWh	Megawatt hour ( $10^3$ kWh)
GWh	Gigawatt hour ( $10^6$ kWh)
TWh	Terawatt hour ( $10^9$ kWh)
MW	Megawatt
kV	Kilovolt
A	Ampere
NACE	Statistical Classification of Economic Activities in the EU.
UCTE	Union for the Co-ordination of Transmission of Electricity.
ETSO	European Transmission System Operators organisation.

## SUMMARY

This publication provides basic quantitative information on the electricity markets of the European Union Member States and Norway from 1999 to 2001. It concentrates on the results of a questionnaire-based data collection exercise aimed at monitoring competition in the electricity market as a result of the ongoing liberalisation process. In addition, following the enlargement process, data from the Candidate countries for the same period have been added with particular reference to the structure of their electricity markets.

The **Introduction** presents the objectives and content of this publication and provides a list of the national organisations that have supplied to Eurostat the information released.

**Section I** is devoted to the Member States and Norway. The sub-section on **Overall information and results** presents a summary of the main aggregated data available for each country through comparative tables and graphs, mainly covering 2000 and 2001. It provides basic economic information on the electricity sector, data on the progress of the liberalisation process as well as the main results for the three groups of activities into which the electricity market is divided: generation, transmission and supply. The sub-section on **Results by country** shows all the information provided by the national organisations cooperating with Eurostat.

**Section II** covers Candidate Countries. As in Section I, the sub-section on **Overall information and results** gives a summary of the main data available for each country, while the sub-section on **Results by country** gives the detailed information on the structure of the electricity market provided by the national organisations cooperating with Eurostat.

Finally, the **Annexes** provide copies of the questionnaires answered by the national organisations as well as data regarding prices quoted in power exchange markets and for final consumers.

## INTRODUCTION

Directive 96/92/EC of 19 December 1996 concerning common rules for the internal market in electricity constituted the first EU-level milestone towards the liberalisation of national electricity markets and the completion of a European internal electricity market. The United Kingdom and the Scandinavian countries had already started this process and had achieved significant results in terms of improving competition and reducing prices without harming the standard of service.

The provisions of Directive 96/92/EC fixed February 1999 as the deadline for Member States to bring into force the necessary national regulations to comply with this Directive. Derogation periods were granted only for Belgium (one year), Greece (two years) and Ireland (one year). In effect therefore, 1999 can be considered as the starting year in most of the Member States for the application of the principles set out in the Directive.

A political agreement (Energy Council held on 25 November 2002) has been already reached on completing the liberalisation process. The existing Directive will be adapted with the objective of making all non-household customers eligible by 1 July 2004 and all customers by 1 July 2007.

In order to respond to the increasing demand for data to monitor the progress of competition in the electricity market, Eurostat proposed a set of indicators of a quantitative nature to address this issue, in line with the conclusions of a specific Task Force. Qualitative information of administrative nature referring in particular to the application of the Directive or the regulated part of the industry was not taken into consideration.

Once the list was agreed by the Member States, a first data collection pilot exercise was launched for the provision of information for 1999. Following the success of this exercise, regular questionnaire-based data collections have been set up and an annual publication giving the results has been scheduled.

Two years have been surveyed so far: 2000 and 2001. In order to allow comparability and compatibility of results, the questionnaire has remained unchanged. The questionnaire sent for year 2001 is given in **ANNEX I** and includes the definitions and explanations for each indicator. The list is divided in three groups of activities: generation, transmission and retailing, following the structure of the electricity sector. The indicators cover the main aspects of each activity and are referred to as technical, monetary and structural variables.

This publication is a compilation of the information provided by the Member States in response to the 2000 and 2001 questionnaires. It also provides the compatible data collected in the 1999 pilot exercise. In addition, it provides further information on the electricity sector as a whole or for some of its activities obtained from available public sources or other Eurostat surveys.

Most Candidate Countries have also started the liberalisation process. Therefore, Eurostat decided to extend the data collection exercise to these countries, at least for the indicators concerned in the structure of their electricity markets. A brief

questionnaire, also attached in **ANNEX I**, has been disseminated and the results covering the period 1999 to 2001 are shown in this publication.

This publication could not have been prepared without the co-operation and the data provided by the national organisations dealing with electricity sectoral statistics and/or policies. Unless stated, data for each country have been provided by the following institutions:

BELGIUM	Ministère des Affaires Economiques – Administration de l'Énergie
DENMARK	Danish Energy Regulatory Authority and Danish Energy Authority
GERMANY	Statistisches Bundesamt
GREECE	Regulatory Authority for Energy (RAE)
SPAIN	Ministerio de Economía
FRANCE	Ministère de l'Économie des Finances et de l'Industrie – Direction Générale de l'Énergie et des Matières Premières – Observatoire de l'Énergie
IRELAND	Commision for Electricity Regulation
ITALY	Ministero dell' Industria del Commercio e dell' Artigianato – Direzione Generale dell' Energia e delle Risorse Minerarie
LUXEMBOURG	Ministère de l'Économie - Direction de l'Énergie
NETHERLANDS	Statistics Netherlands – Energy Unit
AUSTRIA	Elektrizitäts-Control GmbH
PORTUGAL	Entidade Reguladora do Sector Eléctrico (ERSE)
FINLAND	Statistics Finland – Environment and Energy
SWEDEN	Statistics Sweden – Energy Statistics
UNITED KINGDOM	Department of Trade and Industry (DTI)
NORWAY	Statistics Norway – Energy Statistics
BULGARIA	National Statistical Institute
CYPRUS	Statistical Service of Cyprus
CZECH REPUBLIC	Czech Statistical Office
ESTONIA	Statistical Office of Estonia
HUNGARY	Energy Centre
LATVIA	Central Statistical Bureau of Latvia
LITHUANIA	Statistics Lithuania
MALTA	National Statistics Office
POLAND	Central Statistical Office
ROMANIA	National Institute of Statistics and Economic Studies (INSSE)
SLOVAK REPUBLIC	Slovak Statistical Office
SLOVENIA	Statistical Office of Slovenia
TURKEY	State Institute of Statistics

This initiative has also benefited from the support of the Directorate-General for Transport and Energy (DG TREN) of the European Commission.

**SECTION I**

**MEMBER STATES AND NORWAY**



# OVERALL INFORMATION AND RESULTS

## 1.- ECONOMIC INDICATORS OF THE ELECTRICITY SECTOR

Under the Structural Business Statistics (SBS) regulation a set of economic indicators by sector is collected. The sectors are defined according the NACE Rev.1 classification where the electricity industry is recorded under code E401 "Production and distribution of electricity". Four indicators have been selected for this publication:

- Number of persons employed
- Turnover
- Value added at factor cost
- Gross operating surplus

These indicators provide an overall picture of the economic size of the electricity sector in the EU countries. Table 1 shows the most recent available data covering 2001 or 2000 depending on the indicator. However, in some Member States the figures are not available or are confidential.

**Table 1: Economic indicators of the electricity sector**

	<b>Number of persons employed</b> 2001 data	<b>Turnover</b> 2001 data (€ million)	<b>Value added at factor cost</b> 2000 data (€ million)	<b>Gross operating surplus</b> 2000 data (€ million)
Belgium	17 610	24 921	4 518	2 955
Denmark	9 330	na	835	542
Germany	205 986 p	90 074 p	na	na
Greece	na	na	na	na
Spain	32 751	22 864	8 572	6 775
France	c	c	c	c
Ireland	na	na	c	c
Italy	85 022	33 703	13 875	9 577
Luxembourg	900 p	492 p	158	99
Netherlands	na	na	na	na
Austria	24 673	7 692	3 752	1 977
Portugal	12 754	7 730	2 319	1 795
Finland	10 933	6 951	1 724	1 253
Sweden	c	c	4 506	3 449
United Kingdom	74 239	59 375	c	c
Norway	na	na	na	na

p: provisional      na: not available      c: confidential

Source: Eurostat – SBS Statistics

## 2.- STATUS OF THE LIBERALISATION PROCESS

The liberalisation process of the electricity market is following different time schedules in each Member State. In some of them the electricity market was fully liberalised by the time Directive 96/92/EC came into force while in others derogation periods were granted.

The development of the electricity market opening is normally defined by the percentage that the consumption of the eligible consumers (those allowed to choose electricity supplier) represents as a proportion of total electricity consumption. Member States decide the consumption threshold for a consumer's eligibility at any time, although Directive 96/92/EC fixed certain minimum opening steps.

Table 2 shows the degree of market opening and the corresponding annual consumption threshold of eligibility the Member States and Norway at the end of 2001 and as at October 2002. In addition, the date for full opening of the market is included, taking into account the political agreement reached on November 2002 to complete the liberalisation process by making eligible all customers on 1 July 2007.

**Table 2: Degree of market opening**

	Degree of market opening		Eligible consumers' consumption threshold		Date for full opening of the market
	At 12/2001	At 10/2002	At 12/2001	At 10/2002	
Belgium <sup>1</sup>	35%	52%	20 GWh	1/10 GWh	2003/2007
Denmark	35%	35%	1 GWh	1 GWh	2003
Germany	100%	100%	-	-	1999
Greece	30%	34%	100 GWh	1 kV	2007
Spain	54%	55%	1 GWh	1 GWh	2003
France	30%	30%	16 GWh	16 GWh	2007
Ireland	30%	40%	4 GWh	1 GWh	2005
Italy <sup>2</sup>	45%	45%	20 GWh	9 GWh	2007
Luxembourg	57%	57%	20 GWh	20 GWh	2007
Netherlands	33%	63%	20 GWh	3x80 A	2003
Austria	100%	100%	-	-	2001
Portugal	30%	45%	9 GWh	1 KV	2003
Finland	100%	100%	-	-	1997
Sweden	100%	100%	-	-	1998
United Kingdom <sup>3</sup>	100%	100%	-	-	1998
Norway	100%	100%	-	-	

<sup>1</sup> The lower threshold in October 2002 and the earlier full opening date refer to the Flanders region only.

<sup>2</sup> In Italy smaller customers are able to group their demands in order to pass the thresholds.

<sup>3</sup> In Northern Ireland the electricity market is only 35% open.

Source: DG Transport and Energy (DG TREN) of the European Commission.

### 3.- ELECTRICITY GENERATION

Normally, this is the first part of the electricity business to be opened to competition in order to move away from the past situation of historical monopolies. The openness of this area has been also boosted by incentives to generation processes based on renewable energy sources and cogeneration. However, competition development in generation has to be subject to policies of security of supply in a context of growing electricity demand.

Table 3 shows the evolution of the total net generation during the period 1999-2001. In most countries there has been an increase in electricity generation during the period considered, and in the case of Spain, Ireland and Luxembourg this increase was particularly high. There were also significant rises in Greece and the Netherlands. Falls were recorded in Belgium, Denmark and Norway.

**Table 3: Total Net Generation (GWh)**

	1999	2000	2001	Variation 1999-2000
Belgium	80 851	80 160	76 085	-5.9%
Denmark	37 023	34 443	36 143	-2.4%
Germany	518 662	533 552	541 475	4.4%
Greece	46 021	49 863	49 730	8.1%
Spain	199 217	215 216	228 186	14.5%
France	500 306	516 673	525 556	5.0%
Ireland	20 889	22 775	23 679	13.4%
Italy	252 109	263 623	265 965	5.5%
Luxembourg	996	1 147	1 179	18.4%
Netherlands	82 895	85 951	89 888	8.4%
Austria	59 022	59 985	62 449	5.8%
Portugal	41 739	42 215	44 844	7.4%
Finland	66 655	67 292	71 230	6.9%
Sweden	150 783	141 873	157 807	4.7%
United Kingdom	351 670	360 975	368 451	4.8%
Norway	121 737	142 351	120 952	-0.6%

Source: Eurostat

### 3.1.- Market structure

The structure of the electricity generation market has been monitored by requesting two sets of figures: the number of generating companies and market shares.

Two figures were requested for the first set: generating companies representing at least 95% of total generation and those producing individually at least 5% of total generation. The results are presented in Table 4.

**Table 4: Number of generating companies**

	Companies representing at least 95% of total generation		Companies producing at least 5% of total generation	
	2000	2001	2000	2001
Belgium	2	2	2	2
Denmark	about 826	117	3	2
Germany	about 70	about 70	4	4
Greece	1	1	1	1
Spain	4+	4+	4	4
France	3	3+	1	1
Ireland	1	1	1	1
Italy	62	1 260	4	4
Luxembourg	not applicable	not applicable	not applicable	not applicable
Netherlands	85	75	6	4
Austria	54	46	5	5
Portugal	3+	3+	3	3
Finland	38	39	4	4
Sweden	7	7	3	3
United Kingdom	32+	34+	8	6
Norway	165	156	5	6

Market share information has been obtained in terms of total generation and installed capacity for those generating companies with at least 5% of the national electricity generation. Some countries have had problems of confidentiality in providing company names and/or individual shares and only aggregated shares are available. Detailed figures are provided for each country in the **Results by country** sub-section.

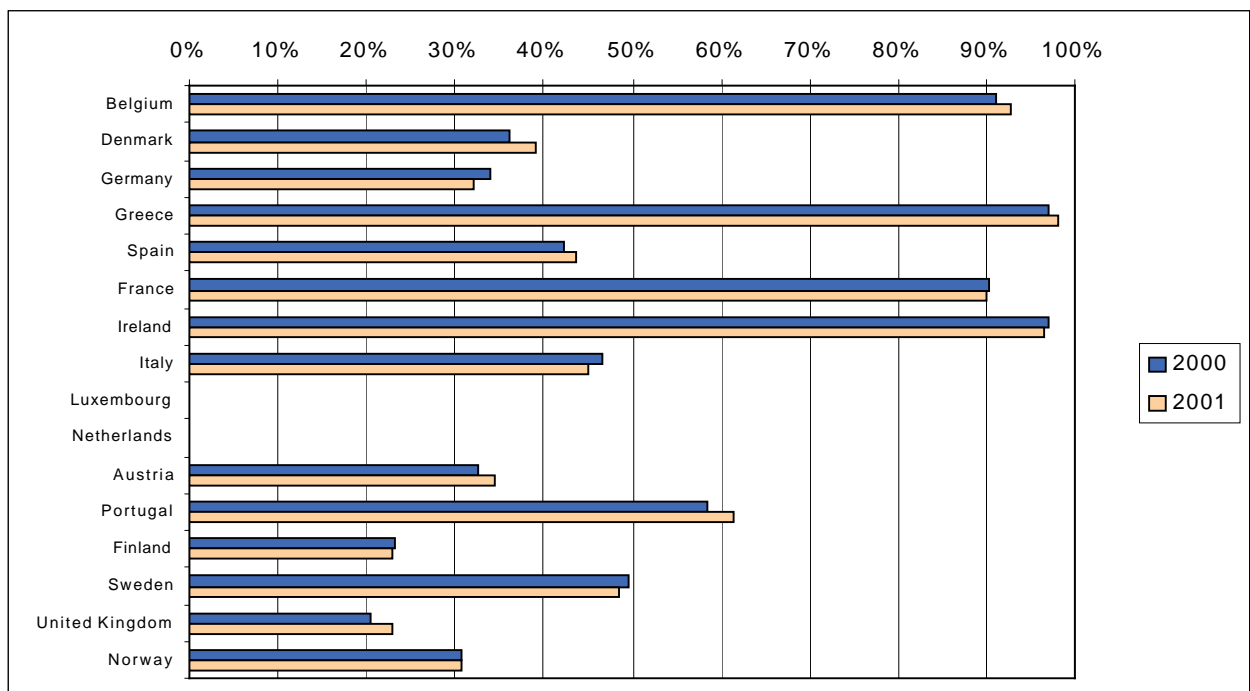
Table 5 presents the aggregated share of the companies producing at least 5% of total net generation during the year and their corresponding share of installed capacity. Thus, Table 5 shows the aggregated market share of the companies included in the right-hand side of Table 4. In addition, Figures 1 and 2 provide the share of the dominant generating company in the electricity generation and in installed capacity respectively.

**Table 5: Aggregated share of companies producing at least 5% of total generation**

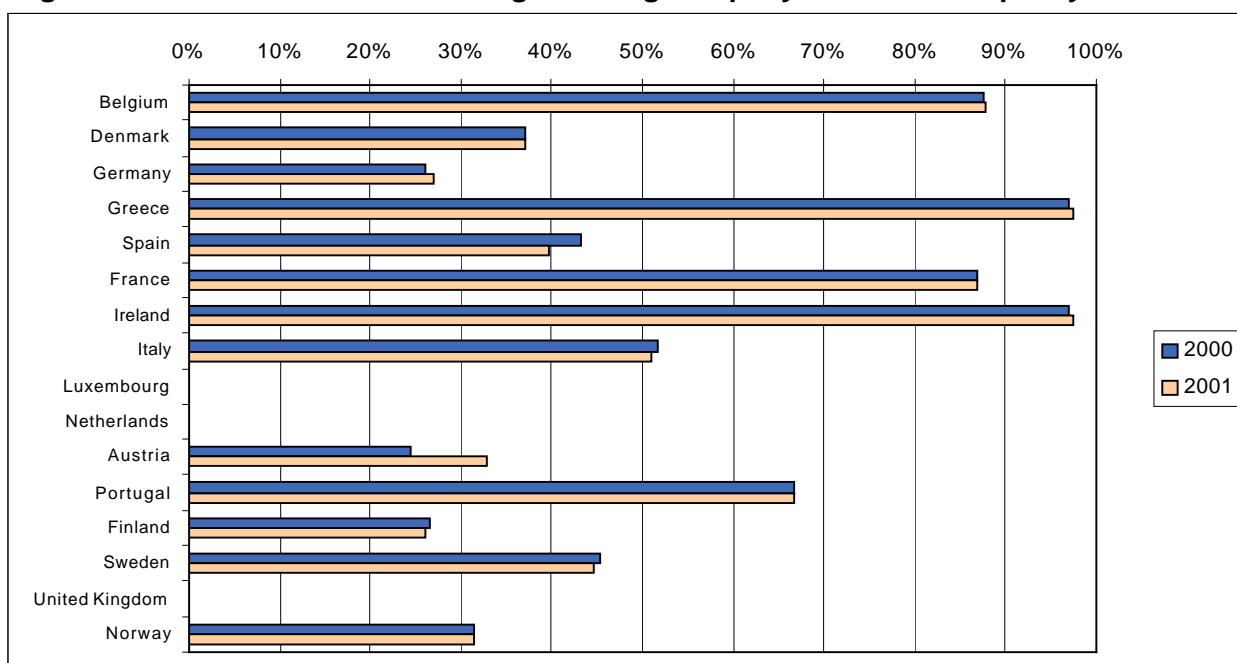
	Generation (%)		Installed capacity (%)	
	2000	2001	2000	2001
Belgium	97.6	97.7	95.9	95.9
Denmark	76	71	78	73
Germany	79	81	71	79
Greece	97	98	97	97.5
Spain	82.3	88.8	87.0	80.6
France	90.2	90.0	86.9	86.9
Ireland	97	96.6	97	97.5
Italy	68	64	72.4	73
Luxembourg	not applicable	not applicable	not applicable	not applicable
Netherlands	79.1	64	82.2	67
Austria	58.9	57.6	58.3	71.7*
Portugal	84.1	84.2	81.6	81.6
Finland	58.9	57	50.2	49
Sweden	84.2	83.3	79.2	78.7
United Kingdom	72.9	58.3	75.4	65.6
Norway	51.4	63.8	53.1	59.8

\*The aggregated share corresponds to seven companies having at least 5% of total installed capacity.

**Figure 1: Market share of dominant generating company in electricity generation.**



**Figure 2: Market share of dominant generating company in installed capacity.**



In general, the market structure in the majority of countries remained stable in both years. Only in two countries did the number of generating companies producing at least 5% of national generation change. This also affected their aggregated shares, making it clearly higher when the number of companies increased (Norway) or clearly lower when the number of companies dropped (the UK).

There have been no major changes in the market share of the dominant company. These companies were able to keep their shares both in generation and installed capacity basically stable in both years. The only exception is Austria, where the dominant company increased its share in installed capacity significantly during 2001 but not its share of electricity generation.

### 3.2.- Installed capacity and maximum demand

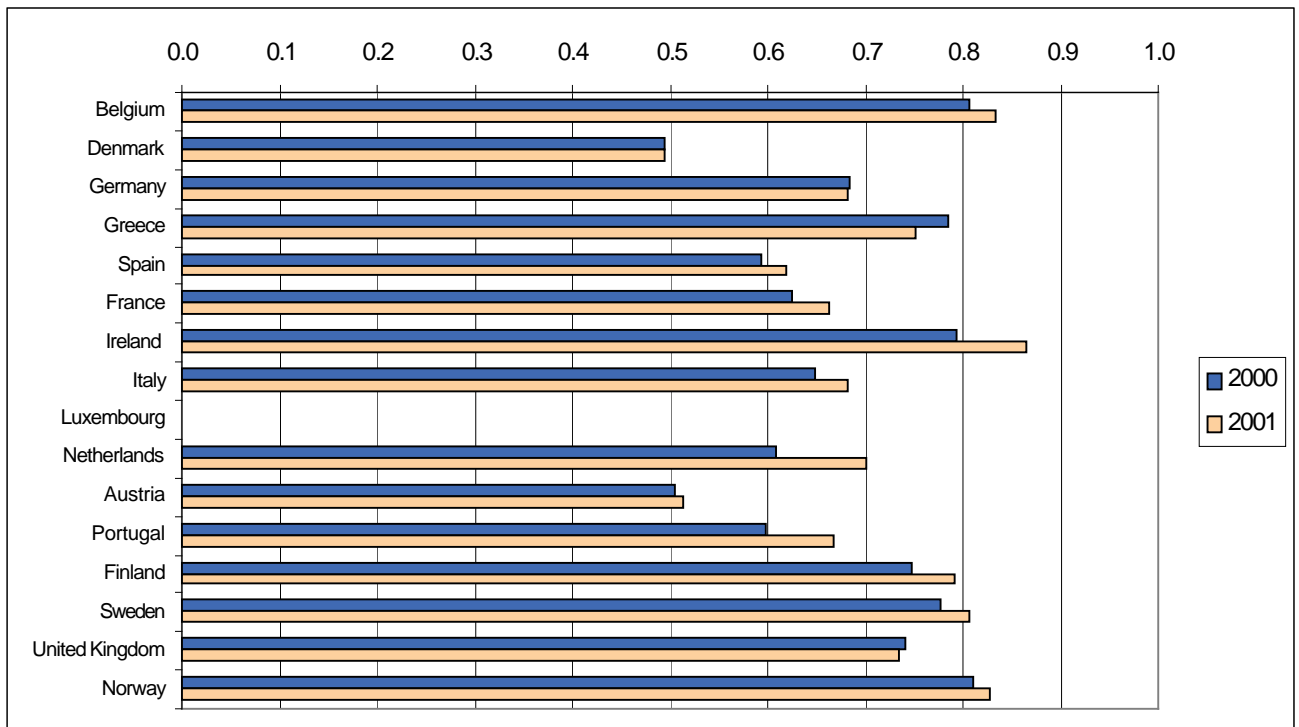
Total net installed capacity figures together with maximum electricity demands for 2000 and 2001 are presented in Table 6. The analysis of these data over time provide an idea about the generators' response to growth in demand. In all countries, the installed capacity figures were very similar in both years. This may be due to a low investment in new capacity during 2001 or to the fact that the newly installed capacity has been compensated for by the capacity decommissioned in the same period. The **Results by country** sub-section give more details about these installed capacity variations.

With regard to maximum demand figures (peak loads), all countries recorded higher maximums in 2001. Based on the data in Table 6, Figure 3 combines both variables to calculate the maximum demand/installed capacity ratio. The two different trends in such variables show an increase in the value of this ratio in most countries during 2001. It can be seen that maximum electricity demand is approaching the maximum production capacity at national level, although in most countries the ratio is still below 0.8.

**Table 6: Installed capacity and maximum demand**

	Total installed capacity (MW)		Maximum demand (MW)	
	2000	2001	2000	2001
Belgium	15 672	15 528	12 653	12 953
Denmark	12 655	13042	6 267	6459
Germany	118 347	119469	80 852	81386
Greece	10 853	11 430	8 531	8 598
Spain	56 000	57 392	33 236	35 490
France	115 404	115 942	72 200	76 900
Ireland	4 842	4 731	3 844	4 091
Italy	75 497	76 210	49 019	51 980
Luxembourg	1 226			962
Netherlands	20 635	20 332	12 558	14 242
Austria	18 238	18 158	9 218	9 337
Portugal	10 710	10 710	6 403	7 143
Finland	16 576	16 827	12 400	13 310
Sweden	33 465	33 506	26 000	27 000
United Kingdom	78 891	79 797	58 452	58 589
Norway	27 876	27 880	22 603	23 054

**Figure 3: Maximum demand/net installed capacity ratio**



In addition, each country has provided a breakdown of the net installed capacity by type of plant at the end of the year. Table 7 shows the main type of technology used to produce electricity in each country and its share in the national net installed capacity. In eleven countries the predominant technology is conventional thermal plants (including CHP plants) burning mainly coal, oil and gas. In four countries, hydro plants are the basic component of installed capacity while in France nuclear power plants are the main type of technology available for producing electricity. Full breakdowns of net installed capacity by technology are included in the **Results by country** sub-section.

**Table 7: Main technology used to produce electricity and share in net installed capacity.**

	2000		2001	
	Technology	Share	Technology	Share
Belgium	Conventional thermal	53.8%	Conventional thermal	53.0%
Denmark	Conventional thermal	80.8%	Conventional thermal	80.3%
Germany	Conventional thermal	68.3%	Conventional thermal	66.4%
Greece	Conventional thermal	70.6%	Conventional thermal	70.4%
Spain	Conventional thermal	49.6%	Conventional thermal	49.1%
France	Nuclear	54.7%	Nuclear	54.5%
Ireland	Conventional thermal	86.6%	Conventional thermal	82.9%
Italy	Conventional thermal	71.8%	Conventional thermal	71.6%
Luxembourg	Hydro (pumping station)	92.3%		
Netherlands	Conventional thermal	95.3%	Conventional thermal	95.1%
Austria	Hydro	64.0%	Hydro	64.3%
Portugal	Conventional thermal	47.2%	Conventional thermal	47.2%
Finland	Conventional thermal	66.1%	Conventional thermal	66.6%
Sweden	Hydro	48.5%	Hydro	48.5%
United Kingdom	Conventional thermal	78.5%	Conventional thermal	78.4%
Norway	Hydro	98.9%	Hydro	99.0%

### 3.3.- Power exchange markets.

In 2001 several electricity spot or pool markets were working or started operations. Some of them are briefly presented below:

- Nord Pool. This is a multi-national market comprising Denmark, Finland, Sweden and Norway. Established in 1993, Nord Pool is one of the most highly-developed power exchange markets in Europe: it comprises not only a spot market but also financial trading (futures, forwards and options) and a clearing service for bilateral contracts. The electricity volume traded in the spot market was 96.9 TWh in 2000, increasing to 111.9 TWh in 2001.
- APX (Amsterdam Power Exchange). This is a daily spot market operational since May 1999 where distributors, producers, traders, brokers and industrial end-users buy and sell electricity on a day-ahead basis. The electricity volume traded in this market was about 4.62 TWh in 2000, increasing to 8.24 TWh in 2001.
- OMEL (Operadora del Mercado Español de Electricidad). The Spanish pool power market started to work in 1998. Most of the electricity produced in Spain is traded via OMEL. In 2000, the electricity volume traded reached a total value of 192.9 TWh, of which 171.6 TWh corresponded to the spot daily market. In 2001 the corresponding figures were 203.1 TWh and 177.4 TWh respectively.
- ELEXON. As a result of the implementation of the New Electricity Trading Arrangements (NETA) in England and Wales, ELEXON was created as from 27 March 2001 to manage and operate the system controlling the balancing and imbalance settlement processes required when electricity bought and sold under contracts between generators, suppliers, trading parties and customers does not match actual electricity consumption. The former Electricity Pool of England & Wales ceased its activities when ELEXON was set up.
- UK PX. The UK Power Exchange launched its spot market on 25 March 2001. This allows participants to trade power up to one hour ahead of delivery of the electricity



contract. It also provides trading services on standardised futures contracts and clearing of bilateral contracts. The volume of electricity traded in the spot market was about 3.79 TWh in 2001.

- **EEX**. The European Energy Exchange is a spot market based in Leipzig (Germany), where trade is executed with bids for purchase and sale for hourly and block power contracts on a day ahead basis. It also provides trade in futures contracts and clearing services. EEX is the result of merger of the two previously-existing German power exchange markets (LPX based in Leipzig and EEX based in Frankfurt). Both markets started operations in summer 2000 but agreed to merge with effect 1 January 2002. In 2000 the aggregated volume of electricity traded in both markets was about 4.16 TWh, while in 2001 the volume traded on the former LPX alone was 13.73 TWh.
- **POWERNEXT**. Based in Paris, this is the first power exchange market in France. It was launched on 26 November 2001 and offers standard hourly contracts with physical delivery the day after.

**ANNEX II** includes tables showing the monthly prices quoted in some of these power exchange markets during 2001.

## 4.- ELECTRICITY EXCHANGES AND TRANSPORTATION

### 4.1.- Imports and exports

The physical cross-border exchanges of electricity in 2000 and 2001 are presented in Table 8 with separate entries for imports and exports as well as the variation from one year to another. Quite significant variations can be observed in countries such as Greece, Ireland, Luxembourg, Finland, Sweden, the UK and Norway. In the **Results by country** sub-section the figures for each country are split by country of origin and destination.

**Table 8: Imports and exports of electricity (GWh)**

	2000		2001		Variation %	
	Import	Exports	Imports	Exports	Imports	Exports
Belgium	11 645	7 319	15 818	6 713	35.8%	-8.3%
Denmark	8 417	7 752	8 199	8 775	-2.6%	13.2%
Germany	45 031	41 877	43 494	44 774	-3.4%	6.9%
Greece	1 729	1 740	2 845	1 189	64.5%	-31.7%
Spain	12 265	7 827	10 177	6 727	-17.0%	-14.1%
France	3 695	73 174	4 471	72 861	21.0%	-0.4%
Ireland	168	72	39	282	-76.8%	291.7%
Italy	44 831	484	48 927	549	9.1%	13.4%
Luxembourg	6 458	735	6 529	1 064	1.1%	44.8%
Netherlands	22 946	4 031	21 492	4 209	-6.3%	4.4%
Austria	13 920	15 216	14 466	14 378	3.9%	-5.5%
Portugal	4 698	3 767	3 742	3 503	-20.3%	-7.0%
Finland	12 206	326	11 769	1 810	-3.6%	455.2%
Sweden	18 308	13 630	11 135	18 454	-39.2%	35.4%
United Kingdom	14 308	134	10 663	264	-25.5%	97.0%
Norway	1 474	20 529	10 744	7 070	628.9%	-65.6%



## 4.2.- Interconnection capacity and load factor

The interconnection of national transmission systems is a key factor in facilitating electricity transit and exchanges and creating a real single European electricity market. This variable seeks to collect information on the inter-connectors capacities in the national transmission systems and their load factor, that is, their actual usage.

Information was requested at national interconnection level, separated for imports and exports if necessary. In countries where interconnection capacities were not available, equivalent data published by ETSO (association of European Transmission System Operators) has been used. Load factor figures were not available for all countries.

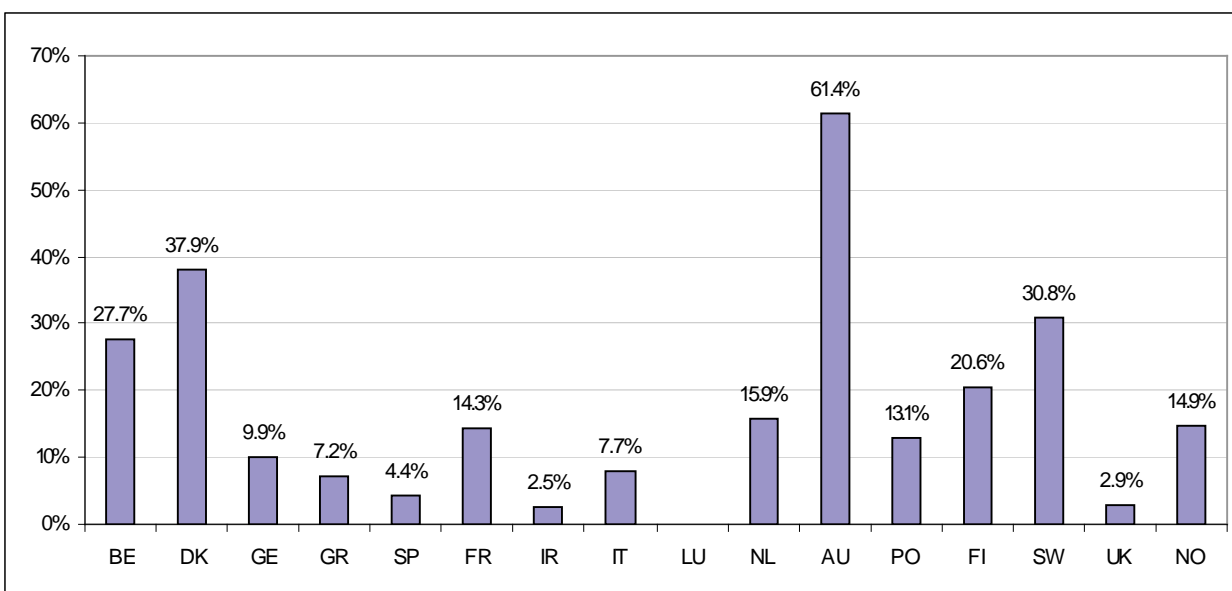
Interconnection capacity information can differ between summer and winter and imports or exports of electricity. Table 9 presents the aggregated national net transfer capacities for imports and exports (if reported separately). When winter and summer capacities have been reported, winter capacities are included in the table. In the **Results by country** sub-section available detailed figures at national level are shown.

**Table 9: Net transfer capacities (MW)**

	Net transfer capacity			Net transfer capacity	
	Import	Export		Import	Export
Belgium	4 300	5 200	Luxembourg		
Denmark	4940	5320	Netherlands	3 235	3 235
Germany	11 810	11 620	Austria	11 150	11 150
Greece	820	950	Portugal	1 400	1 500
Spain	2 550	2 450	Finland	3 460	1 990
France	16 550		Sweden	10 425	10 165
Ireland	120	50	UK	2 300	
Italy	5 900		Norway	4 150	

Based on the data on Table 9 and installed capacity figures reported for 2001 in Table 6, Figure 4 presents the results for the net transfer import capacity versus installed capacity ratio with the aim of measuring the level of interconnection in a country.

**Figure 4: Ratio net transfer import capacity/net installed capacity**



### 4.3.- Transmission and distribution tariffs

The transportation of electricity through the high voltage (transmission) and medium and low voltage (distribution) networks is subject in most countries to a regulated Third Party Access. These activities are considered as natural monopolies either at national or regional level. Therefore, they are subject to strict regulation in order to ensure non-discriminatory access to all interested parties.

Transmission and distribution tariffs are not covered in the data collection exercise. The variety of these tariffs is normally very wide since they can depend on voltage levels, time periods, customer production or consumption volumes or geographical areas within the country.

However, some information can be found in a benchmarking study prepared for the Directorate-General for Transport and Energy (DG-TREN) of the European Commission. This study was carried out by the *Universidad Pontificia de Comillas (Madrid)* under the title "Benchmark of Electricity Transmission Tariffs". The final report was published in February 2002. This study concentrated mainly on the transmission charges and the description of their components. Numerical values of the annual transmission charges for some case examples have been provided for each country according to the existing national regulations.

DG-TREN has carried out a specific analysis of distribution access charges that is included in its document "Second Benchmarking Report on the implementation of the internal electricity and gas markets" published in October 2002. The analysis includes estimated average charges for medium and low voltage networks in most of the Member States.

The two above-mentioned documents can be downloaded from the DG-TREN web page: [www.europa.eu.int/comm/dgs/energy\\_transport/](http://www.europa.eu.int/comm/dgs/energy_transport/)

## 5.- ELECTRICITY SUPPLY

This is the electricity market part where the liberalisation process is most obvious to final consumers for two main reasons:

- The fact that customers can choose their electricity supplier and, therefore, switch from one supplier to another.
- The impact on electricity prices of opening the market to competition.

The breakup of activities resulting from the liberalisation process is resulting in the creation of companies specifically devoted to selling electricity to final consumers. Because liberalisation has not advanced at the same pace everywhere there are countries where electricity suppliers are both distributors (i.e. they transport electricity over the low and medium voltage networks) and retailers (i.e. they sell electricity to final consumers), while in other countries there are traders selling electricity to final consumers through the "pure" distribution companies network. It is also possible to find generators who sell electricity directly to final consumers.

This section on electricity supply attempts to analyse how competition works in a market in which final consumers buy the electricity they need. Final electricity

consumption in the country is therefore a key figure in this section. Table 10 shows the evolution of final electricity consumption during the period 1999-2001. All countries presented a positive growth rate that was particularly high in Ireland, Spain, Austria and Portugal.

**Table 10: Final electricity consumption (GWh)**

	1999	2000	2001	Variation 1999-2001
Belgium	74 505	77 539	78 138	4.9%
Denmark	32 229	32 461	33 014	2.4%
Germany	467 483	482 603	499 749 e	6.9%
Greece	40 879	43 151	44 535	8.9%
Spain	177 252	188 459	200 953	13.4%
France	374 677	385 111	395 489	5.6%
Ireland	18 802	20 201	20 929	11.3%
Italy	261 030	272 547	277 328	6.2%
Luxembourg	5 510	5 716	5 633	2.2%
Netherlands	94 722	97 938	99 428	5.0%
Austria	50 499	51 796	55 558	10.0%
Portugal	36 120	38 373	39 937	10.6%
Finland	74 200	75 446	77 296	4.2%
Sweden	126 580	128 725	132 667	4.8%
United Kingdom	322 770	329 533	333 806	3.4%
Norway	109 267	109 533	112 287	2.8%

e: estimate

Source: Eurostat

## 5.1.- Market structure

The market structure of electricity supply has been monitored by requesting two groups of figures: number of suppliers and market shares. Electricity suppliers are defined in a broad sense as companies selling a part of the final electricity consumption of the country to final consumers.

Two figures were requested for the number of suppliers: suppliers selling at least 5% of total electricity consumed by final customers, and total number of suppliers. The results are presented in Table 11.

**Table 11: Number of electricity suppliers**

	Total number of suppliers		Suppliers selling at least 5% of total electricity consumed	
	2000	2001	2000	2001
Belgium	34	36	3	4
Denmark	83	67	3	1
Germany	about 1200	about 1100	3	3
Greece	1	1	1	1
Spain	about 500	488	3	4
France	174+	174+	1	1
Ireland	6	8	1	2
Italy	194	193	2	2
Luxembourg	2	12	2	2
Netherlands	33	29	7	3
Austria	170	153	7	7

Portugal	13	13	1	1
Finland	100+	100+	3	3
Sweden	165	127	3	3
United Kingdom	22	19	8	8
Norway	155	218	4	4

Market share information has been obtained for those suppliers selling at least 5% of the total electricity consumed. Some countries have had confidentiality problems providing company names and/or individual shares and only aggregated shares are available. Detailed figures are provided for each country in the **Results by country** sub-section.

Table 12 presents the aggregated share of those suppliers selling at least 5% of the total electricity consumed, or, in other words, the aggregated market share of the companies included in the right-hand side of Table 11. In addition, it shows the share of the dominant supplier, if available.

**Table 12: Market shares of suppliers**

	Aggregated share of suppliers with at least 5% of final consumption (%)		Dominant supplier (%)	
	2000	2001	2000	2001
Belgium	52.5	57.0	39.8	38.4
Denmark	37.5	8	16.7	8
Germany	50	53	na	na
Greece	100	100	100	100
Spain	94	97	40	40
France	na	na	na	na
Ireland	na	88	na	78
Italy	72	68	65	60
Luxembourg	100	100	63	62
Netherlands	74	61.8	na	na
Austria	67.3	60	na	na
Portugal	99.5	97.1	99.5	97.1
Finland	27	29	11	12
Sweden	47.0	70	na	na
United Kingdom	84.7	92.0	na	na
Norway	45.9	37.3	na	15.1

na: not available

## 5.2.- Prices to final customers

The main reference in this regard is the half-yearly statistics collected by Eurostat based on the principles of Directive 90/377/EEC. A common methodology is defined for data collection on both domestic and industrial consumers. However, while the provision of prices for industrial consumers is regulated under the directive, the provision of prices for domestic consumers is done in parallel on gentleman's agreement basis.

According to this regulation, Eurostat is responsible for receiving and publishing the data supplied by the Member States. In this context, electricity prices for final consumers are collected in January and July each year. Data collection is based on a system of standard consumers, that is, the prices are recorded for certain fixed levels

of electricity and for certain conditions of supply, chosen as being representative of the population of electricity or gas consumers.

Prices recorded from 1999 to 2001, both for domestic and industrial consumers, are shown in **ANNEX III**.

### 5.3.- Customer switching and renegotiating

One of the objectives of the liberalisation process is to allow consumers to switch from one supplier to another and, as a consequence, introduce or reinforce competition between suppliers. Another way of benefiting from this process for electricity consumers is by renegotiating the contractual conditions they have with their suppliers.

In principle, eligible customers are those with the right to choose an electricity supplier. They are therefore the only ones who can switch supplier or renegotiate their contracts. A customer's eligibility is normally determined by an annual consumption threshold and varies according to the level of market liberalisation in the country as presented in Table 2. In countries which are fully liberalised all customers are eligible.

In general, results provided for this point are limited. Table 13 shows the results available for customer switching separately for domestic and non-domestic consumers. The first figure represents the percentage of eligible consumers who have changed supplier in 2001 while the second represents their corresponding volume of consumption.

**Table 13: Customer switching supplier**

	Non-domestic consumers		Domestic consumers	
	%	Volume (GWh)	%	Volume (GWh)
Belgium	2.6	770		
Denmark	13	898		
Germany	32		3.7	
Greece	0			
Spain				
France	6	14 000		
Ireland	58	3 066		
Italy				
Luxembourg	8	180		
Netherlands				
Austria	7	1 820	0.2	20
Portugal	2.4	956		
Finland	16.4	4 183	3.0	528.5
Sweden				
United Kingdom			26	30 000
Norway	6		8	

Very few results are available regarding contract renegotiation. Only Belgium, Denmark, Germany, Luxembourg, Austria and Finland provided any figures and these are shown in the **Results by country** sub-section.

This issue of customer switching and renegotiating is subject to a specific project where Eurostat is providing grants to finance surveys at national level. This publication already includes the results of the surveys performed in three countries: Denmark, Austria and Finland.

#### 5.4.- Electricity volumes traded

The magnitude and importance of the electricity volumes traded can be evaluated from the volumes negotiated in the power exchange markets and more precisely, calculating the indicator volume of contracts traded in electricity exchanges on daily physical markets in relation to electricity consumption in the market area. This indicator shows how far the market relies on and has confidence in the exchanges.

Using the volume figures of some of the existing power exchange markets in 2000 and 2001 (Point 3.3) and the electricity consumption figures shown in Table 10, we can calculate this indicator for some of those markets. Table 14 shows the results of this exercise.

**Table 14: Indicator of electricity volumes traded**

	2000	2001
<b>Nord Pool (DK, FI, SW, NO)</b>		
Volume of contracts traded in the daily physical market	96.9 TWh	111.9 TWh
Aggregated electricity consumption for the market area	346.3 TWh	355.3 TWh
Indicator	<b>28.0%</b>	<b>31.5%</b>
<b>APX (Netherlands)</b>		
Volume of contracts traded in the daily physical market	4.6 TWh	8.2 TWh
Electricity consumption for the market area	97.9 TWh	99.4 TWh
Indicator	<b>4.7%</b>	<b>8.2%</b>
<b>OMEL (Spain)</b>		
Volume of contracts traded in the daily physical market	171.6 TWh	177.4 TWh
Electricity consumption for the market area	188.4 TWh	200.1 TWh
Indicator	<b>91.1%</b>	<b>88.7%</b>
<b>EEX (Germany)</b>		
Volume of contracts traded in the daily physical market*	4.6 TWh	13.7 TWh
Electricity consumption for the market area	482.6 TWh	499.7 TWh
Indicator	<b>1.0%</b>	<b>2.7%</b>

\*In 2000 aggregated volume of former LPX and EEX while in 2001 only the volume of former LPX.

## **RESULTS BY COUNTRY**

## RESULTS BY COUNTRY

Belgium	27
Denmark	30
Germany	33
Greece	37
Spain	40
France	44
Ireland	48
Italy	51
Luxembourg	54
Netherlands	57
Austria	60
Portugal	64
Finland	67
Sweden	70
United Kingdom	73
Norway	76



## BELGIUM

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	2	2	2
Number of generating companies producing at least 5% of the national net electricity generation	1	2	2

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	92.3	91.1	92.6	86.4	87.5	87.9
Company B	4.3	6.5	5.1	8.2	8.4	8.0
<b>Aggregated share</b>	<b>96.6</b>	<b>97.6</b>	<b>97.7</b>	<b>94.6</b>	<b>95.9</b>	<b>95.9</b>
Other generators	3.4	2.4	2.3	5.4	4.1	4.1

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	8327.2	8427.9	8232.6
Nuclear	5713.0	5713.0	5738.0
Hydro	1404.0	1404.3	1412.3
Wind	9.3	9.9	24.2
Geothermal			
Solar			
Other	115.5	117.3	120.8
<b>TOTAL</b>	<b>15569.0</b>	<b>15672.4</b>	<b>15527.9</b>

<b>Maximum load (MW)</b>	<b>12941</b>	<b>12653</b>	<b>12953</b>
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#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	about 300	537.9	433.9
Capacity decommissioned	about 500	434.5	578.4
<b>Net capacity variation</b>	<b>about -200</b>	<b>103.4</b>	<b>-144.5</b>

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Netherlands	3086.1	5248.8	3133.1	5150.9	3802.3	4486.3
Luxembourg	0	1946.1	0	1966.8	402.5	2020.5
France	5973.1	1012.4	8511.6	201.7	11613.4	205.7
<b>TOTAL</b>	<b>9059.2</b>	<b>8207.3</b>	<b>11644.7</b>	<b>7319.4</b>	<b>15818.2</b>	<b>6712.5</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Belgium, with an estimate of the load factor.

Country	Voltage of the interconnectors (kV)	Import into Belgium				Export from Belgium			
		Winter		Summer		Winter		Summer	
		Net transfer capacity (MW)	Load factor (%)	Net transfer capacity (MW)	Load factor (%)	Net transfer capacity (MW)	Load factor (%)	Net transfer capacity (MW)	Load factor (%)
France	380 and 220 kV	2200	58.3	1500	108.3	3100	1.0	1600	0.1
Netherlands	380 and 150 kV	1700	28.6	1700	15.8	1700	31.6	2200	34.1
Luxembourg	220 and 150 kV	400	18.4	400	5.6	400	59.1	400	54.4

*Note: Net Transfer Capacities (NTC) mentioned in the table are indicative values, computed beforehand - by interpolation from standard situations. Physical exchanges in one period could exceed the indicative NTC value for this period.*

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>34</b>	<b>36</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers		<b>3</b>	<b>4</b>

*No data available for 1999.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A		39.8	38.4
Supplier B		6.4	6.3
Supplier C		6.3	6.3
Supplier D (only for 2001)			6.0
<b>Aggregated share</b>		<b>52.5</b>	<b>57.0</b>
Other suppliers		47.5	43.0

*No data available for 1999.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

The following table shows the figures available for year 2001.

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	<b>2.6</b>	<b>770</b>	-	-
Customer renegotiating	<b>22</b>	<b>6600</b>	-	-

*In 2001 domestic consumers were not considered eligible in Belgium. Therefore, this indicator is not applicable to them.*

## DENMARK

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>approx. 559</b>	<b>approx. 826</b>	<b>117</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>2</b>	<b>3</b>	<b>2</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Elsam	40	32	39	40	38	37
Energy E2	34	36	32	33	37	36
e.on (only 2000)		8			3	
<b>Aggregated share</b>	<b>74</b>	<b>76</b>	<b>71</b>	<b>73</b>	<b>78</b>	<b>73</b>
Other generators	26	24	29	27	22	27

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	10935	10227	10476
Nuclear			
Hydro	11	10	10
Wind	1771	2418	2556
Geothermal			
Solar			
Other	1		
<b>TOTAL</b>	<b>12718</b>	<b>12655</b>	<b>13042</b>
<b>Maximum load (MW)</b>	<b>6520</b>	<b>6267</b>	<b>6459</b>

#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	390	54	507
Capacity decommissioned	636	0	272
<b>Net capacity variation</b>	<b>-246</b>	<b>54</b>	<b>235</b>

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Germany	401	4556	396	5993	3245	3881
Sweden	4255	1586	3390	1616	3017	2110
Norway	532	636	4631	143	1937	2783
<b>TOTAL</b>	<b>5188</b>	<b>6778</b>	<b>8417</b>	<b>7752</b>	<b>8199</b>	<b>8775</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Denmark (and the two transmission systems, east and west), with an estimate of the load factor based on the actual trading transmission capacity and the actual exchange, calculated on an hourly basis.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Denmark	To Denmark	From Denmark	To Denmark
Denmark (east) – Germany	600	600	48	48
Denmark (east) – Sweden	1960	1960	20	39
Denmark (west) – Germany	1200	800	55	63
Denmark (west) – Sweden	610	580	25	53
Denmark (west) – Norway	950	1000	60	51

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>95</b>	<b>83</b>	<b>67</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>3</b>	<b>3</b>	<b>1</b>

*Total number of suppliers in 2000 comprises: 50 supply-committed companies, 11 companies with balance of power responsibility with respect to consumption and 22 trading companies acting as intermediaries, primarily on behalf of the supply-committed companies, without balance of power responsibility.*

*Total number of suppliers in 2001 comprises: 40 companies with balance of power responsibility and 28 trading companies.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
NESA	17.7	16.7	8
Københavns Energi (KE) (Only in 1999 and 2000)	8.2	12.4	
SEAS (Only in 1999 and 2000)	5.6	8.4	
<b>Aggregated share</b>	<b>31.5</b>	<b>37.5</b>	<b>8</b>
Other suppliers	68.5	62.5	92

*Note: trading companies are not included.*

*Source: Association of Danish Energy Companies, except for KE market share for 2000, which has been derived from KE reported sales for that year (2 687 GWh).*

*Since no figures exist on actual sales for 2000, the turnover has been constructed by deducting the supply from supply-committed companies from the total flow registered by distributors and further deducting the share of priority production on a firm-to-firm basis. Calculations are based on a sub-sample of 31 out of 50 supply-committed companies where Københavns Energi (KE Kunde A/S) was not included.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

The following table shows the figures available for year 2001.

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	13 %	898		
Customer renegotiating	26 %	1758		
Both switching and renegotiating	56 %	3810		

*In 2001 this indicator is not applicable to domestic consumers.*

## GERMANY

All data refer to electricity supply companies in the Federal Republic of Germany, excluding plants belonging to *Deutsche Bahn AG* (public railway company).

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>About 70</b>	<b>About 70</b>	<b>About 70</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>4</b>	<b>4</b>	<b>4</b>

*There are altogether around 450 companies which generate power for general supply (excluding private operators of wind turbine generators and hydro power plants).*

#### 1.2 Percentages of total generation and capacity by generating company

Varying corporate configurations make it difficult to calculate market shares. Annual statistics for 1999, 2000 and 2001 available from the German Electricity Association (VDEW) are only approximate.

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
RWE	28.1	34	32	23.4	26	27
e.on	24.4	27	30	24.4	28	34
VEAG	10.2	12	12	9.3	10	11
EnBW	5.4	6	7	5.1	7	7
<b>Aggregated share</b>	<b>68.1</b>	<b>79</b>	<b>81</b>	<b>62.2</b>	<b>71</b>	<b>79</b>
Other generators	31.9	21	19	37.8	29	21

*1999 figures do not include consolidated subsidiaries  
2000 and 2001 figures include consolidated subsidiaries*

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	79371	80794	79380
Nuclear	22329	22396	22396
Hydro	8853	8982	8859
Wind	1555	6095	8754
Geothermal			
Solar		80	80
Other	1		
<b>TOTAL</b>	<b>112109</b>	<b>118347</b>	<b>119469</b>

<b>Maximum load (MW)</b>	<b>81180</b>	<b>80852</b>	<b>81386</b>
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Source: Eurostat

#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	Approx. 3 000	-	-
Capacity decommissioned	Approx. 1 700	-	-
<b>Net capacity variation</b>	<b>Approx. 1 300</b>	-	-

Data for 1999 refer only to power plants rated upwards of 100 MW. No data available for 2000 and 2001.

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Austria	5881	4460	5925	7293	5489	8045
Switzerland	5863	8685	5433	10220	6348	10095
France	13771	222	15351	407	14575	229
Luxembourg	657	4229	738	4400	745	4522
Netherlands	665	17158	898	16684	406	16960
Denmark	5119	598	6413	545	4486	2238
Sweden	1287	100	654	92	992	1170
Poland	368	1954	688	2005	1192	1316
Czech Republic	5693	612	8931	231	9261	199
<b>TOTAL</b>	<b>39304</b>	<b>38018</b>	<b>45031</b>	<b>41877</b>	<b>43494</b>	<b>44774</b>

### 2.2 Interconnection capacity and load factor

The following table presents indicative values for Net Transfer Capacities from/to Germany for the Winter 2001-2002, working days, peak hours (non binding values). Only the values provided by Germany are shown.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Germany	To Germany	From Germany	To Germany
Germany - Austria	1650	1150		
Germany - Netherlands	2800	1350		
Germany - Switzerland	2000	2000		
Germany - France	2250	2850		
Germany - Sweden	370	460		
Germany - Denmark East	550	550		
Germany - Denmark West	800	1200		
Germany - Centrel	1200	2250		

Source: ETSO

Data on load factor is not available.



### 3. Retailing variables

#### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>About 1200</b>	<b>About 1200</b>	<b>About 1100</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>3</b>	<b>3</b>	<b>3</b>

*During the years considered, 1 100 to 1 200 companies were estimated to be selling electricity to final customers. Around 900 of these run their own distribution network.*

*Three companies were each responsible for over 5% of sales of electricity to final customers (direct sales). This includes majority holdings in distribution companies (company groups).*

#### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
RWE		confidential	confidential
e.on		confidential	confidential
EnBW		confidential	confidential
<b>Aggregated share</b>		<b>50</b>	<b>53</b>
Other suppliers		50	47

*Individual market shares are confidential. No data available for 1999.*

#### 3.3 Prices to final customers

See **ANNEX III**.

*Since liberalisation came into force in Germany (100% open market) monopolies have been abolished and customers may choose their own suppliers. In principle, therefore, prices no longer differ from one region to another. Hitherto, VDEW has sent Eurostat the prices charged by companies established in the regions in question. However, these reports do not reflect current prices either, since the companies report the prices in their standard contracts/general tariffs and have in some cases indicated that in the meantime non-standard contracts have been concluded with many customers, along with individual contracts with industrial customers, so that average prices may be much lower than those reported.*

### 3.4 Final customers switching supplier or renegotiating contracts

There is currently no information from official sources or electricity producers' associations in Germany on numbers of customers switching suppliers. Representative market surveys conducted by the VDEW (VDEW customer-focus surveys) provide some indication for households, however. Approximate figures for major industrial consumers switching suppliers can be obtained from the answers to questions which the VIK (Verband der industriellen Energie- und Kraftwirtschaft) put to its members. The latest market studies from the autumn of 2001 gave the following switchover rates for Germany (1998 - 2001):

	Industrial customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	<b>32</b>	-	<b>3.7</b>	-
Customer renegotiating	<b>68</b>	-	<b>27.8</b>	-

*When these figures are interpreted, it must be borne in mind that substantial price reductions have in many cases made a switch to another supplier an unattractive proposition for customers in Germany. When percentages switching are assessed, account also has to be taken of customer preferences, psychological and cultural factors and the extraordinarily high degree of customer satisfaction with the services provided by their suppliers.*

*The major industrial customers have used all the possible ways of obtaining electricity. Along with supply contracts with one or more suppliers, they have also bought power on the power exchanges. Branch managers and businesses established in more than one location have generally tried to keep to one supplier.*

*6.0% of smaller and medium-sized commercial customers (up to 50 employees) switched supplier in the autumn of 2001, and approximately 50% negotiated new contracts.*

## GREECE

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	1	1	1
Number of generating companies producing at least 5% of the national net electricity generation	1	1	1

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
PPC	98	97	98	98	97	97.5
Other generators	2	3	2	2	3	2.5

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	7692	7660	8050
Nuclear			
Hydro	959	2967	3077
Wind	82	226	294
Geothermal			
Solar			0
Other (Biomass)			8
<b>TOTAL</b>	<b>10733</b>	<b>10853</b>	<b>11430</b>
<b>Maximum load (MW)</b>	<b>7366</b>	<b>8531</b>	<b>8598</b>

1999 and 2000 figures source: Eurostat.

#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected			492
Capacity decommissioned			80
<b>Net capacity variation</b>			<b>412</b>

No data available for 1999 and 2000.

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Albania	126	960	50	1111	9	975
FYROM	559	448	1067	205	961	195
Bulgaria	1128	244	612	424	1875	19
<b>TOTAL</b>	<b>1813</b>	<b>1652</b>	<b>1729</b>	<b>1740</b>	<b>2845</b>	<b>1189</b>

1999 and 2000 figures source: Eurostat.

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Greece, with an estimate of the load factor.

INTERCONNECTED COUNTRIES	Transmission capacity (MW)		Load factor (%)	
	From Greece	To Greece	From Greece	To Greece
Greece- FYROM	300	300	36.6	7.4
Greece - Albania	250	100-120	0.4	92.8
Greece - Bulgaria	400	400	53.5	0.5

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	1	1	1
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	1	1	1

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>PPC</b>	<b>100</b>	<b>100</b>	<b>100</b>

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

The following table shows the figures available for year 2001.

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	<b>0</b>	<b>0</b>	-	-
Customer renegotiating	<b>0</b>	<b>0</b>	-	-

*In 2001, the eligibility threshold was fixed at an annual consumption of 100 GWh, representing about 30% of the electricity market. Therefore, this indicator only applies to certain industrial consumers.*

## SPAIN

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	4	4+	4+
Number of generating companies producing at least 5% of the national net electricity generation	4	4	4

*Bearing in mind that the power produced in the special regime (electricity generated from renewable energy sources, waste and CHP plants) accounts for 14.8% of the total produced in Spain and that a multitude of small companies generate within the special regime, it is not possible to specify the number of enterprises which represent at least 95% of electricity generation.*

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Endesa	51.8	42.4	43.8	45.6	43.2	39.6
Iberdrola	25.1	22.9	27.3	36.7	30.0	28.0
Unión Fenosa	14.1	10.8	11.8	12.0	9.8	9.2
Hidrocantábrico	8.3	6.2	5.9	5.0	4.0	3.8
<b>Aggregated share</b>	<b>99.3</b>	<b>82.3</b>	<b>88.8</b>	<b>99.3</b>	<b>87.0</b>	<b>80.6</b>
Other generators	0.7	17.7	11.2	0.7	13.0	19.4

*1999 figures source: Comisión Nacional de la Energía (CNE)*

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	26443	27778	28192
Nuclear	7686	7799	7816
Hydro	17815	17890	18008
Wind	1549	2162	2884
Geothermal			
Solar	1	1	2
Other (biomass and waste)	317	370	489
<b>TOTAL</b>	<b>53811</b>	<b>56000</b>	<b>57392</b>
<b>Maximum load* (MW)</b>	<b>31247</b>	<b>33236</b>	<b>35490</b>

*\*Maximum load in mainland Spain only (excluding islands, Ceuta and Melilla)*

*Source: Red Eléctrica de España (REE)*

## 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	1720	2012	1312
Capacity decommissioned	85	23	0
<b>Net capacity variation</b>	<b>1635</b>	<b>1989</b>	<b>1312</b>

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
France	7466	581	8500	595	6699	1168
Portugal	4485	3631	3765	4697	3466	3722
Morocco	0	1811	0	2263	0	247
Andorra	0	211	0	272	12	1590
<b>TOTAL</b>	<b>11951</b>	<b>6234</b>	<b>12265</b>	<b>7827</b>	<b>10177</b>	<b>6727</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Spain, with an estimate of the load factor.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Spain	To Spain	From Spain	To Spain
Spain - France	750-1000	800-1200		72
Spain - Portugal	750-1050	600-850	21	16
Spain - Morocco	300-400	350-500	54	

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>About 500</b>	<b>488</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>3</b>	<b>3</b>	<b>4</b>

*Total number of suppliers in 1999 is not available.*

*In Spain, distributors are obliged to pursue the regulated activity of selling electricity at the full tariff. There are therefore as many tariff suppliers as there are distributors in Spain, i.e. 339 enterprises supplying at full tariff. Only electricity retailers, which are*

*legally separate from the distributors, are free to set their supply prices. There were 149 registered electricity retailers in late 2001.*

*The 339 distributors' activities are regulated tariff sales. The 149 retailers selling to qualified consumers are legally separate from the enterprises pursuing regulated activities, i.e. from the distributors, and can only pursue liberalised activities.*

### 3.2 Market shares of suppliers to final customers

In 2001, there were four entities operating either as distributors supplying at tariff or as retailers selling at free prices reaching at least 5% of the total demand for electricity.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Endesa	46.1	40	40
Iberdrola	40.1	39	39
Unión Fenosa	10.3	15	13
Hidrocantábrico (only in 2001)			5
<b>Aggregated share</b>	<b>96.5</b>	<b>94</b>	<b>97</b>
Other suppliers	3.5	6	3

### 3.3 Prices to final customers

See **ANNEX III**.

*Prices paid by consumers depend on their status as qualified or non-qualified. In 2001, every customer with a high voltage connection (more than 1000 V), every customer consuming more than 1 GWh/year and the railways were qualified customers. These represented some 80 000 customers and around 54% of the total power.*

- *Non-qualified consumers buy their power from distributors at full tariffs approved by the Government, and the prices for these are updated every year. These tariffs include a cost for using the networks and the cost of the power.*
- *Qualified consumers who choose to operate as such must pay the distributors regulated published access tariffs for the use of the networks and have a number of options when buying their power:*
  - *buying on the market at prices per hour determined by offsetting supply against demand;*
  - *buying on a bilateral contract with a generator at prices which are freely set between the parties;*
  - *buying from a retailer at freely set prices;*
  - *not operating as a qualified consumer and buying power at the tariff.*



### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching				
Customer renegotiating				

*No data available.*

## FRANCE

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>2</b>	<b>3</b>	<b>3+</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>1</b>	<b>1</b>	<b>1</b>

Total production of electricity in France amounted to 500 TWh in 1999, 516 TWh in 2000 and 534.6 TWh in 2001.

November 2001 also saw the appearance of VPPs (Virtual Power Plants). The generating capacity auctioned off by Electricité de France (EDF) accounted for 650 GWh in 2001. The figure was relatively low, covering two months only, though it looked set to increase rapidly the following year.

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
EDF	<b>90.2</b>	<b>90.2</b>	<b>90.0</b>	<b>87.5</b>	<b>86.9</b>	<b>86.9</b>
Compagnie Nationale du Rhône (CNR)	3.6	3.6	2.8	2.6	2.6	2.6
SNET	1.4	1.4	1.2	2.2	2.2	2.2
<b>Aggregated share</b>	95.2	95.2	94.0	92.3	91.7	91.7
Other generators	4.8	4.8	6.0	7.7	8.3	8.3

In 1999 the CNR power plants were operated by EDF.

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	26213	26799	27298
Nuclear	63183	63183	63183
Hydro	25355	25356	25366
Wind		66	95
Geothermal			
Solar			
Other			
<b>TOTAL</b>	<b>114751</b>	<b>115404</b>	<b>115942</b>
<b>Maximum load (MW)</b>	<b>71900</b>	<b>72200</b>	<b>76900</b>

Maximum loads were reached on 21.12.99 at 19h00, on 12.01.00 at 19h00 and on 17.12.01 at 19h00. Monthly evolution of maximum loads is shown in the following table (in GW):

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1999	71,0	68,5	60,7	61,6	52,4	52,4	53,1	51,3	53,2	59,9	67,5	71,9
2000	72,2	65,3	63,9	63,3	54,2	53,4	53,9	52,3	53,1	59,9	66,4	64,9
2001	70.6	69.0	65.5	63.0	58.0	54.9	55.4	54.4	57.6	58.0	72.4	76.9

#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	1992	1272	508
Capacity decommissioned	166	686	66
<b>Net capacity variation</b>	<b>1826</b>	<b>586</b>	<b>442</b>

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	GWh					
	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Belgium	1012	5973	202	8512	204	11651
Luxembourg	0	42	0	42	0	0
Germany	523	14196	618	15653	542	14924
Switzerland	2410	9339	1888	9559	1816	9839
Italy	439	15760	392	16126	459	18030
Andorra	0	59	0	81	0	127
Spain	581	7468	595	8504	1242	6768
United Kingdom	0	15271	0	14697	208	11522
<b>TOTAL</b>	<b>4965</b>	<b>68108</b>	<b>3695</b>	<b>73174</b>	<b>4471</b>	<b>72861</b>

Figures represent physical flows recorded at borders, including water rights. These flows differ from contractual exchanges and so do not provide a picture of actual exchanges by country of origin or destination.

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of France.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From France	To France	From France	To France
France - UK	2000			
France - Belgium+ Germany	3700			

France - Switzerland+Italy	4900		
France - Spain	1100		
France - Germany	2850		
France - Italy	2000		

*Data on load factors is not available. However, since, in structural terms, France is an exporter, the load factor for these interconnections is much higher for exports than for imports.*

### 3. Retailing variables

#### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>174+</b>	<b>174+</b>	<b>174+</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>1</b>	<b>1</b>	<b>1</b>

*In all, there are 172 electricity distributors in France - in addition to the EDF distribution network, there are 171 local distribution enterprises. Total supply by local distribution companies to the end user accounts for just 4% of domestic consumption. The largest supplier sold around 6 TWh, or just under 1% of the total.*

*In addition to these distributors, there is also SNET (30% of whose capital is held by the Spanish electricity supplier Endesa) and Énergie du Rhône (Belgium's Electrabel acquired a 49% shareholding in this company, which markets the power generated by CNR). Other French and foreign operators are also represented on the French market and are recorded in an indicative list published by the "Commission de régulation de l'électricité" (French electricity regulator) available at: [www.cre.fr](http://www.cre.fr). On 21.03.2003 this list showed 48 suppliers, including EDF, SNET and Energie du Rhône.*

*According to EDF informations, no operator other than EDF sold more than 5% of total electricity supplied to final consumers*

#### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001

*In 2001, the eligibility threshold was 16 GWh, representing an opening of more than 30% of the market. During the year, some 1 300 consumption sites were declared eligible, representing around 130 TWh of annual demand.*

*Since this favourable legal framework was created, competition on the French electricity market has developed rapidly. Since sales to eligible customers are not*

*subject to state control or authorisation, no detailed statistics are available on the share of each supplier operating in France..*

*Sales to eligible consumers do not require the control or authorisation of the Administration and, for the time being, there are no data on the market shares of each supplier. However, it is estimated that at the end of 2000, new operators were supplying about 6% of the eligible market, rising to 13% at the end of 2001.*

*Although EDF is the only supplier to enjoy a market share of over 5%, competition increased considerably on the French electricity market during the course of the year. On 31 December 2000, new entrants on the open market accounted for a share of around 6%, and this figure has continued to rise, reaching 13% on 31 December 2001, around 9% of this being for the supply of electricity to eligible sites (almost 200 sites have now chosen to change suppliers), and 4% for transmission grid losses.*

*It should also be noted that the decree of 5 February 2003 lowered the eligibility threshold to 7 GWh, increasing the market share open to competition to 34.5% in accordance with the requirements of Directive 96/92/EC. The market in eligible clients now covers almost 3500 consumption sites.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching				
Customer renegotiating				

*Some 6% of eligible consumers had changed supplier by the end of 2001, accounting for a volume of almost 14 TWh. No data are available on the renegotiation of contracts. However, the emergence of competition has encouraged the vast majority of consumers to renegotiate their contracts since the market was opened up.*

## IRELAND

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	1	1	1
Number of generating companies producing at least 5% of the national net electricity generation	1	1	1

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
ESB	97	97	96.6	95	97	97.5
Other generators	3	3	3.4	5	3	2.5

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	3751	4191	3922
Nuclear			
Hydro	525	531	515 <sup>(1)</sup>
Wind	67	120	127
Geothermal			
Solar			
Other	15		167 <sup>(2)</sup>
<b>TOTAL</b>	<b>4358</b>	<b>4842</b>	<b>4731</b>
<b>Maximum load (MW)</b>	<b>3757</b>	<b>3844</b>	<b>4091</b>

<sup>(1)</sup> 223 MW hydro and 292 MW pump storage

<sup>(2)</sup> Small scale generation-thermal, CHP, Hydro and LFG

#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	0	105	118
Capacity decommissioned	0	0	0
<b>Net capacity variation</b>	<b>0</b>	<b>105</b>	<b>118</b>

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Northern Ireland (UK)	290	49	168.2	71.8	39	282
<b>TOTAL</b>	<b>290</b>	<b>49</b>	<b>168.2</b>	<b>71.8</b>	<b>39</b>	<b>282</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Ireland, with an estimate of the load factor.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Ireland	To Ireland	From Ireland	To Ireland
Ireland - Northern Ireland (UK)	50	120	64	3.7

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>6</b>	<b>8</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers		<b>1</b>	<b>2</b>

*No data available for 1999. Market only open from March 2000.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
ESB PES			78
ESBIE			10
<b>Aggregated share</b>			<b>88</b>
Other suppliers			12

*No data available for 1999 and 2000.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

The following table shows the figures available for year 2001.

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	<b>58</b>	<b>3066</b>		
Customer renegotiating				

*Excluded from the above figures on switching are the customers who moved from ESB PES to Green Suppliers in 2001, of which there were 7300 (out of a total of 1.6 Million) totalling 223 GWh. These Greens were almost totally non-domestic.*

*There is no data available regarding customers renegotiating with their independent suppliers.*



# ITALY

## 1. Generation variables

### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>9</b>	<b>62</b>	<b>1260</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>2</b>	<b>4</b>	<b>4</b>

### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	71.1	46.7	45	78.0	51.6	51
Company B	5.1	8.7	8	3.0	9.4	10
Company C (only in 2000 and 2001)		7.6	6		7.7	8
Company D (only in 2000 and 2001)		5.0	5		3.7	4
<b>Agregated share</b>	<b>76.2</b>	<b>68.0</b>	<b>64</b>	<b>81.0</b>	<b>72.4</b>	<b>73</b>
Other generators	23.8	32.0	36	19.0	27.6	27

### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	52426	54192	54570
Nuclear			
Hydro	20444	20346	20433
Wind	229	363	660
Geothermal	743	590	540
Solar	6	6	6
Other			
<b>TOTAL</b>	<b>73848</b>	<b>75497</b>	<b>76210</b>
<b>Maximum load (MW)</b>	<b>42731</b>	<b>49019</b>	<b>51980</b>

### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected		2772	1100
Capacity decommissioned		1047	394
<b>Net capacity variation</b>		<b>1725</b>	<b>706</b>

*No data available for 1999.*

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
France	15769	440	16175	404	18270	427
Switzerland	21682	50	22165	8	23625	44
Austria	1686	0	1958	0	1869	15
Slovenia	3400	38	4533	72	5164	63
<b>TOTAL</b>	<b>42537</b>	<b>528</b>	<b>44831</b>	<b>484</b>	<b>48927</b>	<b>549</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001 on each border of Italy.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Italy	To Italy	From Italy	To Italy
Italy - France	2200			
Italy - Switzerland	3100			
Italy - Austria	220			
Italy - Slovenia	380			

*Data on load factor are not available.*

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>194</b>	<b>193</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers		<b>2</b>	<b>2</b>

*No data available for 1999.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A		65	60
Supplier B		7	8
<b>Aggregated share</b>		<b>72</b>	<b>68</b>
Other suppliers		28	32

*No data available for 1999.*

### 3.3 Prices to final customers

See **Annex III**.

### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching				
Customer renegotiating				

*No data available for this indicator.*

## LUXEMBOURG

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation			
Number of generating companies producing at least 5% of the national net electricity generation			

*Luxembourg has few domestic energy resources with only a small amount of hydro, wind and CHP generation. Most electricity is imported from Germany and Belgium. Generation and supply of electricity are mainly split between Sotel and Cegedel:*

- *Sotel supplies the iron and steel industry, mainly with power imported from Belgium.*
- *Cegedel supplies all domestic consumers and the rest of industry either directly or through some resale agencies. Cegedel also operates the main grid and gets most of its electricity from Germany.*

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001

*Not applicable*

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	86	72	
Nuclear			
Hydro	1139*	1139*	
Wind	9	15	
Geothermal			
Solar			
Other			
<b>TOTAL</b>	<b>1234</b>	<b>1226</b>	
<b>Maximum load (MW)</b>	<b>569</b>	<b>593</b>	<b>962</b>

\* *Pumping station*

*No data available for installed capacity in 2001.  
Maximum load in 1999 and 2000 : only Cegedel figures.  
Maximum load in 2001: Cegedel, 603 MW and Sotel, 359 MW.*

## 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected		30	
Capacity decommissioned		0	
<b>Net capacity variation</b>		<b>30</b>	

*No data available for 1999 and 2001.*

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Germany	4229	657	4441	735	4522	682
Belgium	1946	0	2017	0	2007	382
<b>TOTAL</b>	<b>6175</b>	<b>657</b>	<b>6458</b>	<b>735</b>	<b>6529</b>	<b>1064</b>

*2001 data source: UCTE*

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Luxembourg, with an estimate of the load factor.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Luxembourg	To Luxembourg	From Luxembourg	To Luxembourg
Luxembourg - Germany				
Luxembourg - Belgium	380	684	12	34

*Only data from Sotel are available (interconnection with Belgium).*

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>2</b>	<b>2</b>	<b>12</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>2</b>	<b>2</b>	<b>2</b>

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
Cegedel	64	63	62
Sotel	36	37	38
<b>Aggregated share</b>	<b>100</b>	<b>100</b>	<b>100</b>
Other suppliers			-

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching*	<b>8.2</b>	<b>180.2</b>		
Customer renegotiating*	<b>4.7</b>	<b>103.0</b>		

\* *Data only available for Sotel customers (38% of national market)*

## NETHERLANDS

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>83</b>	<b>85</b>	<b>75</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>4</b>	<b>6</b>	<b>4</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
<b>Aggregated share of companies with at least 5% of electricity generation</b>		<b>79.1</b>	<b>64</b>		<b>82.2</b>	<b>67</b>
Other generators		20.9	36		17.8	33

*Individual market shares are confidential. No data available for 1999.*

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	19724	19665	19344
Nuclear	449	449	449
Hydro	37	38	38
Wind	409	442	480
Geothermal			
Solar	10	13	21
Other	46	46	
<b>TOTAL</b>	<b>20675</b>	<b>20635</b>	<b>20332</b>
<b>Maximum load (MW)</b>		<b>12558</b>	<b>14242</b>

*Maximum load data not available for 1999.*

#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected		0	227
Capacity decommissioned		0	806
<b>Net capacity variation</b>		<b>0</b>	<b>-579</b>

*No data available for 1999.*

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Germany	17158	663	17796	897	17006	406
Belgium	5250	3086	5150	3133	4486	3803
<b>TOTAL</b>	<b>22408</b>	<b>3749</b>	<b>22946</b>	<b>4031</b>	<b>21492</b>	<b>4209</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of the Netherlands.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Netherlands	To Netherlands	From Netherlands	To Netherlands
Netherlands - Belgium	1105	1105		
Netherlands - Germany	2130	2130		

*Load factor information is not available.*

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>33</b>	<b>29</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>7</b>	<b>7</b>	<b>3</b>

*Total number of suppliers is not available for 1999.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>Aggregated share of companies with at least 5% of total electricity consumed</b>	<b>71.4</b>	<b>74</b>	<b>61.8</b>
Other suppliers	28.6	26	38.2

*Individual market shares are confidential.*



### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching				
Customer renegotiating				

*No data available for this indicator.*

## AUSTRIA

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>55</b>	<b>54</b>	<b>46</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>6</b>	<b>5</b>	<b>5</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Verbund-Austrian Hydro Power AG *	21.43	32.6	34.4	11.5	24.3	32.8
WIENSTROM GmbH	7.90	confid.	confid.	8.2	confid.	confid.
Verbund -Austrian Thermal Power**	7.72	9.0	5.8	12.3	12.2	6.2
Tiroler Wasserkraftwerke AG	confid.	confid.	confid.	confid.	confid.	confid.
STEWEAG - STEG GmbH	6.13	6.0	confid.	5.9	6.4	6.9
EVN AG (only applicable to 1999)	confid.			confid.		
<b>Aggregated share</b>	<b>54.3</b>	<b>58.9</b>	<b>57.6</b>	<b>55.0</b>	<b>58.3</b>	<b>71.7***</b>
Other generators	45.7	41.1	42.4	45.0	41.7	28.3

\* In 1999 this company was Österreichische Donaukraftwerke AG. It has changed its name and some other companies have merged with it (a process that took at least two years).

\*\* In 2000 this company was Österreichische Draukraftwerke AG. It has merged with Verbundkraft creating Austrian Thermal Power.

\*\*\* This aggregated share corresponds to seven companies having at least 5% of total installed capacity: the six companies listed in the table plus Voralberger Illwerke AG.

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	6327	6525	6422
Nuclear			
Hydro	11647	11664	11668
Wind	48	49	69
Geothermal			
Solar			
Other			
<b>TOTAL</b>	<b>18023</b>	<b>18238</b>	<b>18158</b>
<b>Maximum load (MW)</b>	<b>8850</b>	<b>9218</b>	<b>9337</b>

*The maximum load represents the domestic load excluding own use of plants and pumping.*

## 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected			424
Capacity decommissioned			504
<b>Net capacity variation</b>			<b>-80</b>

*The net variation between 2000 and 2001 of the capacity of autoproducers (38 MW) has been included under new capacity connected.*

*No data available for 1999 and 2000.*

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Germany	5573	4972	7362	5410	6778	5593
Switzerland	376	3144	212	4174	726	3644
Italy	0	1686	0	1945	3	1864
Slovenia	6	3570	22	3259	63	3044
Hungary	2018	66	843	426	1167	230
Czech Republic	3635	68	5481	2	5729	2
<b>TOTAL</b>	<b>11 608</b>	<b>13 418</b>	<b>13 920</b>	<b>15 216</b>	<b>14466</b>	<b>14378</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Austria, with an estimate of the load factor.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Austria	To Austria	From Austria	To Austria
Austria – Germany (APG 220/380 kV)	4 050	4 050	15 %	8 %
Austria – Germany (TIRAG 220 kV)	1 524	1 524	9 %	5 %
Austria – Germany (VIW 380 kV)	3 600	3 600	(1)	(1)
Austria – Germany (110 kV)	2 350	2 350	(1)	(1)
Austria – Switzerland (APG 380 kV)	1 340	1 340	2 %	21 %
Austria – Switzerland (VKW 220 kV)	255	255	85 %	0 %
Austria – Italy (220 kV)	260	260	0 %	79 %
Austria – Slovenia (220/380 kV)	700 / 800	700 / 800	1 %	50 %
Austria – Hungary (220/380 kV)	2 120	2 120	8 %	3 %
Austria – Czech Republic (220/380 kV)	500 / 800	500 / 800	100 %	0 %

(1) Not primarily an interconnector

### 3. Retailing variables

#### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>175</b>	<b>170</b>	<b>153</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>6</b>	<b>7</b>	<b>7</b>

*NOTE: Only data for network operators available (not for suppliers)*

#### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
WIENSTROM GmbH	17.8	confident.	confident.
EVN Energie-Versorgung Niederösterreich AG	confident.	confident.	confident.
Energie AG Oberösterreich	confident.	confident.	confident.
Kärntner Elektrizitäts-AG	confident.	confident.	confident.
Salzburg AG (only in 2001)			confident.
STEWEAG - STEG GmbH	4.7	5.1	confident.
Tiroler Wasserkraftwerke AG	5.1	confident.	confident.
Österreichische Elektrizitätswirtschafts AG (only in 1999 and 2000)	confident.	6.0	
<b>Aggregated share</b>	<b>58.3</b>	<b>67.3</b>	<b>60</b>
Other suppliers	41.7	32.7	40

*NOTE: Only data for network operators available (not for suppliers).*

#### 3.3 Prices to final customers

See **ANNEX III**.

#### 3.4 Final customers switching supplier or renegotiating contracts

The following tables provide the requested data for the period 1<sup>st</sup> January to 31<sup>st</sup> December 2001.

	Non-domestic customers (small)		Non-domestic customers (industry)		Domestic customers	
	Percentage (%)*	Volume (GWh)	Percentage (%)*	Volume (GWh)	Percentage (%)*	Volume (GWh)
Customer switching	<b>1,50</b>	<b>139</b>	<b>7,06</b>	<b>1 820</b>	<b>0.17</b>	<b>20</b>
Customer renegotiating	<b>Not available</b>	<b>Not available</b>	<b>58,11</b>	<b>23 665</b>	<b>0.00</b>	<b>0</b>

\* Percentage over number of consumers in each group.

TOTAL RESULTS				
	Percentage over total number of consumers(%)	Volume (GWh)	Percentage over total GWh supplied (%)**	
Customer switching	<b>0.53</b>	<b>1979</b>	<b>4.13</b>	<b>53.55</b>
Customer renegotiating	<b>Not available</b>	<b>23665</b>	<b>49.41</b>	

\*\* Total volume of public supply in 2001: 47892 GWh

## PORTUGAL

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>3+</b>	<b>3+</b>	<b>3+</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>3</b>	<b>3</b>	<b>3</b>

*95% of national net electricity generation is achieved with the three main generating companies and the so-called special regime generators (combined heat and power plants, wind generators and other generators), which are very disperse in terms of share of total national electricity generation.*

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999*	2000	2001
CPPE	57.8	58.5	61.5	73.7	66.7	66.7
Turbogas	16.3	14.4	13.6	6.3	9.2	9.2
Tejo Energia	12.9	11.2	9.2	3.4	5.7	5.7
<b>Aggregated share</b>	<b>87.0</b>	<b>84.1</b>	<b>84.2</b>	<b>83.4</b>	<b>81.6</b>	<b>81.6</b>
Other generators	13.0	15.9	15.8	16.6	18.4	18.4

\* Data refer to the situation at the end of 1998

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	5016	5060	5060
Nuclear			
Hydro	4527	4208	4208
Wind	57	75	75
Geothermal	10		
Solar			
Other**	1140	1367	1367
<b>TOTAL</b>	<b>10570</b>	<b>10710</b>	<b>10710</b>

<b>Maximum load (MW)</b>	<b>6122</b>	<b>6403</b>	<b>7143</b>
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\*\* Combined heat and power generation is included under Other.

## 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected		272	0
Capacity decommissioned		50	0
<b>Net capacity variation</b>		<b>222</b>	<b>0</b>

*No data available for 1999.*

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Spain	3513	4453	4698	3767	3742	3503
<b>TOTAL</b>	<b>3513</b>	<b>4453</b>	<b>4698</b>	<b>3767</b>	<b>3742</b>	<b>3503</b>

### 2.2 Interconnection capacity and load factor

The following table shows the maximum interconnection capacity for commercial use in 2001 on each border of Portugal with an estimate of the load factor.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Portugal	To Portugal	From Portugal	To Portugal
Portugal - Spain	1500	1400	40	41

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>13</b>	<b>13</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers		<b>1</b>	<b>1</b>

*In Portugal suppliers are both distributors and retailers. There is one major supplier and a few local suppliers.*

*No data available for 1999.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>EDP Distribuição *</b>		<b>99.5</b>	<b>97.1</b>
Other suppliers		0.5	2.9

*\* Includes the companies operating in both the public system and the so-called non-binding system.*

*No data available for 1999.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	<b>2.36</b>	<b>955.6</b>		
Customer renegotiating	-	-		

*In 2001 domestic consumers were not considered eligible in Portugal. Therefore, this indicator is not applicable to them.*

*No data available for non-domestic customer renegotiating.*



## FINLAND

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>38</b>	<b>38</b>	<b>39</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>4</b>	<b>4</b>	<b>4</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	26	23.3	23	27	26.6	26
Company B	21	20.9	20	11	10.3	10
Company C	7	7.8	8	8	7.9	8
Company D	6	6.9	6	5	5.4	5
<b>Aggregated share</b>	<b>60</b>	<b>58.9</b>	<b>57</b>	<b>51</b>	<b>50.2</b>	<b>49</b>
Other generators	40	41.1	43	49	49.8	51

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	10843	10960	11200
Nuclear	2640	2640	2640
Hydro	2937	2938	2948
Wind	38	38	39
Geothermal			
Solar			
Other			
<b>TOTAL*</b>	<b>16458</b>	<b>16576</b>	<b>16827</b>

<b>Maximum load (MW)</b>	<b>13080</b>	<b>12400</b>	<b>13310</b>
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\* Refers to the sum of the rated net capacities of the individual power plant units in the power system, and should not be considered to represent the total capacity available at any one time.

#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	46	210	225
Capacity decommissioned	46	92	20
<b>Net capacity variation</b>	<b>0</b>	<b>118</b>	<b>205</b>

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Norway	107	104	132	173	33	232
Sweden	6040	128	7555	153	4053	1578
Russia	5209	0	4519	0	7683	0
<b>TOTAL</b>	<b>11356</b>	<b>232</b>	<b>12206</b>	<b>326</b>	<b>11769</b>	<b>1810</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Finland, with an estimate of the load factor.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Finland	To Finland	From Finland	To Finland
Finland – Sweden*	1830	2230	30	
Finland - Norway	100	70	32	
Finland - Russia	60	1160	75	

\* In certain situations, the transmission capacity can be lower than the limit given here.

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>100+</b>	<b>100+</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers		<b>3</b>	<b>3</b>

*The sale of electricity is not subject to a licence in Finland. Therefore there is no valid register of electricity traders and the precise number of suppliers is not available.*

*No data available for 1999.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A		11	12
Supplier B		10	11
Supplier C		6	6
<b>Agregated share</b>		<b>27</b>	<b>29</b>
Other suppliers		73	61

*Market shares of suppliers are estimated. No data available for 1999.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	<b>16.4</b>	<b>4183</b>	<b>3.0</b>	<b>528</b>
Customer renegotiating	<b>21.4</b>	<b>5458</b>	<b>9.6</b>	<b>1691</b>

*Percentages are calculated from the energy delivered through the distribution networks in 2001.*

## SWEDEN

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>38</b>	<b>7</b>	<b>7</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>3</b>	<b>3</b>	<b>3</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Vattenfall AB	52.8	49.5	48.5	46.4	45.4	44.6
Sydkraft AB	18.2	19.4	20.7	19.0	19.4	19.8
Birka Energi*	13.9	15.3	14.1	14.2	14.4	14.3
<b>Aggregated share</b>	<b>84.9</b>	<b>84.2</b>	<b>83.3</b>	<b>79.6</b>	<b>79.2</b>	<b>78.7</b>
Other generators	15.1	15.8	16.7	20.4	20.8	21.3

\*As from 1 March 2002, Birka Energi is wholly owned by Fortum Power and Heat AB.

Generation figures exclude minority shares. Contracted-out power is included in the companies that have the power at their disposal.

Source: Swedish Energy Agency

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	7375	7526	7536
Nuclear	10076	9461	9436
Hydro	16433	16229	16239
Wind	196	249	295
Geothermal			
Solar			
Other			
<b>TOTAL</b>	<b>34080</b>	<b>33465</b>	<b>33506</b>

<b>Maximum load (MW)</b>	<b>25800</b>	<b>26000</b>	<b>27000</b>
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#### 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	46	600	308*
Capacity decommissioned	1155	1115	56
<b>Net capacity variation</b>	<b>-1109</b>	<b>-515</b>	<b>252</b>

*\*It does not include condensing power commissioned in 2001 included in the Swedish power reserve plants which are conserved for an extended period of time.*

Source: Nordel

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	GWh					
	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Denmark	1600	2100	1619	3392	2237	3143
Finland	900	6800	830	8234	2564	5068
Germany	100	1300	83	915	1141	1012
Norway	5900	5900	15723	664	5193	7531
Poland	0	0	53	425	0	1700
<b>TOTAL</b>	<b>8500</b>	<b>16100</b>	<b>18308</b>	<b>13630</b>	<b>11135</b>	<b>18454</b>

Source: Nordel

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of Sweden, with an estimate of the load factor.

INTERCONNECTED COUNTRIES	Transmission capacity (MW)		Load factor (%)	
	From Sweden	To Sweden	From Sweden	To Sweden
Sweden - Norway	4055	4755	21.2	12.5
Sweden - Denmark	2680	2640	21.6	11.1
Sweden - Finland	2230	1830	16.1	14.0
Sweden-Germany	600	600	19.3	21.7
Sweden-Poland	600	600	32.3	-

Source: Nordel

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>165</b>	<b>165</b>	<b>127*</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>3</b>	<b>3</b>	<b>3</b>

*\* Some of the 127 suppliers are owned, part-owned or otherwise connected with other companies, especially Vattenfall, Sydkraft and Birka Energi.*

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>Aggregated share of suppliers with at least 5%</b>	<b>52.1</b>	<b>47.0</b>	<b>70</b>
Other suppliers	47.9	53.0	30

*Individual shares not available. The large companies have forged ties with many electricity trading companies by take-over or part-ownership or by agreements. 1999 and 2000 figures do not take into account these circumstances. Hence, the 2001 figures are the only ones reported with such ties.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching				
Customer renegotiating				

*No data are available for this indicator.*

## UNITED KINGDOM

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>27+</b>	<b>32+</b>	<b>34+</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>6</b>	<b>8</b>	<b>6</b>

*In each year the number of generating companies shown accounted for around 91% of national total generation. The remaining 9% of generation was by smaller generators (mainly autogenerators).*

#### 1.2 Percentages of total generation and capacity by generating company (excluding smaller generators – mainly autogenerators – see 1.1, above)

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Aggregated share of 6 top companies	72.5	62.7	58.3	65.3	64.7	55.0
<b>Aggregated share of companies with at least 5% of electricity generation</b>	<b>72.5</b>	<b>72.9</b>	<b>58.3</b>	<b>65.3</b>	<b>75.4</b>	<b>65.6</b>
Other generators	27.5	27.1	41.7	34.7	24.6	34.6

*The largest companies in terms of capacity are not necessarily the largest in terms of generation.*

*Individual market shares are confidential. However, the largest generator has authorised the release of its market share in generation: 21.0% in 1999, 20.6% in 2000 and 22.9% in 2001.*

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	58084	61956	62585
Nuclear	12956	12486	12486
Hydro	4265	4273	4296
Wind	151	174	427
Geothermal			
Solar			
Other		2	
<b>TOTAL</b>	<b>75456</b>	<b>78891</b>	<b>79797</b>
<b>Maximum load (MW)</b>	<b>57849</b>	<b>58452</b>	<b>58589</b>

*Installed capacity covers public supply and autogenerators. Maximum load refers only to public supply.*

## 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected	2774	3925	1253
Capacity decommissioned	940	1451	18
<b>Net capacity variation</b>	<b>1834</b>	<b>2474</b>	<b>1235</b>

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
France	14480	0	14267	1	10562	193
Republic of Ireland	27	263	41	133	101	71
<b>TOTAL</b>	<b>14507</b>	<b>263</b>	<b>14308</b>	<b>134</b>	<b>10663</b>	<b>264</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001, on each border of the UK, with an estimate of the load factor.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From the UK	To the UK	From the UK	To the UK
UK - France	2000		Around 60%	
UK - Republic of Ireland	300		< 12%	

*The nominal transmission capacity for interconnection between England and Scotland was 1200 MW with a load factor over 70%. However, average capacity has been much higher than this nominal capacity; the load factor reflects this average capacity. If nominal capacity is used in the calculation, then a load factor in excess of 80% results.*

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>29</b>	<b>22</b>	<b>19</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>9</b>	<b>8</b>	<b>8</b>



### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
Aggregated share of 3 top suppliers	33.6	42.3	53.2
Aggregated share of next 3 suppliers	29.2	29.2	27.4
Aggregated share of next 2 suppliers	13.3	13.2	11.4
<b>Aggregated share of top 8 suppliers</b>	<b>76.1</b>	<b>84.7</b>	<b>92.0</b>
Other suppliers	23.9	15.3	8.0

*Individual market shares are confidential.*

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

The following table shows the figures available for year 2001.

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)*	Volume (GWh)
Customer switching			26	30,000
Customer renegotiating				

*\* On the basis of information from Ofgem on the number of transfers being made, information for domestic customers can be provided. The figures will include some double counting, e.g. where customers have switched supplier twice over the year, they will have been counted twice as if they were two separate customers.*

## NORWAY

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>162</b>	<b>165</b>	<b>156</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>5</b>	<b>5</b>	<b>6</b>

Sources: Ministry of Petroleum and Energy and Norwegian Water Resource and Energy Administration (NVE).

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Statkraft SF		30.6	30.7		31.4	31.4
Norsk Hydro (Only in 2001)			7.1			5.2
BKK AS		5.0	6.8		4.5	5.6
E-CO Vannkraft		5.7	6.8		6.9	6.9
Agder Energi		5.1	6.5		4.7	5.1
Lyse Energy		5.0	5.9		5.6	5.6
<b>Aggregated share of companies with at least 5% of electricity generation</b>	<b>50.2</b>	<b>51.4</b>	<b>63.8</b>	<b>54.2</b>	<b>53.1</b>	<b>59.8</b>
Other generators	49.8	48.6	36.2	45.8	46.9	40.2

Sources: Ministry of Petroleum and Energy Energy and Norwegian Water Resource and Energy Administration (NVE).

No individual market shares in 1999.

#### 1.3 Capacity by type of plant and maximum demand information

	Installed capacity (MW)		
	1999	2000	2001
Conventional Thermal	205	293	271
Nuclear			
Hydro	27653	27570	27596
Wind	13	13	13
Geothermal			
Solar			
Other			
<b>TOTAL</b>	<b>27871</b>	<b>27876</b>	<b>27880</b>
<b>Maximum load (MW)</b>	<b>21 712</b>	<b>22 603</b>	<b>23054</b>

Source: Ministry of Petroleum and Energy Energy and Statnett

## 1.4 Amount of new capacity connected and capacity decommissioned during the year

	MW		
	1999	2000	2001
New capacity connected		100	26
Capacity decommissioned		0	22
<b>Net capacity variation</b>	<b>255</b>	<b>100</b>	<b>4</b>

Source: Ministry of Petroleum and Energy.

## 2. Transmission variables

### 2.1 Imports and exports by country of origin and destination

Country of origin/destination	1999		2000		2001	
	Imports	Exports	Imports	Exports	Imports	Exports
Denmark	623	2760	146	4634	2759	1950
Finland	104	106	174	131	231	33
Russia	232	0	236	0	208	0
Sweden	5898	5910	919	15763	7545	5087
<b>TOTAL</b>	<b>6857</b>	<b>8776</b>	<b>1474</b>	<b>20529</b>	<b>10744</b>	<b>7070</b>

### 2.2 Interconnection capacity and load factor

The following table shows the Net Transfer Capacity in 2001 on each border of Norway.

Interconnected countries	Transmission capacity (MW)		Load factor (%)	
	From Norway	To Norway	From Norway	To Norway
Norway - Sweden	3000			
Norway - Denmark	1000			
Norway - Finland	100			
Norway - Russia	50			

Data on load factor are not available.

## 3. Retailing variables

### 3.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>179</b>	<b>155</b>	<b>218</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>3</b>	<b>4</b>	<b>4</b>

Source: Ministry of Petroleum and Energy.

### 3.2 Market shares of suppliers to final customers

Electricity suppliers	Market share (%)		
	1999	2000	2001
Statkraft SF			15.1
Norsk Hydro Produksjon AS			11.1
Oslo Energi AS			5.9
Tindra AS			5.2
<b>Aggregated share of suppliers with at least 5%</b>	<b>39.5</b>	<b>45.9</b>	<b>37.3</b>
Other suppliers	60.5	54.1	62.7

Source: Ministry of Petroleum and Energy.

No individual market shares in 1999 and 2000.

### 3.3 Prices to final customers

See **ANNEX III**.

### 3.4 Final customers switching supplier or renegotiating contracts

The following table shows the figures available for year 2001.

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching	<b>6</b>	<b>Not available</b>	<b>8</b>	<b>Not available</b>
Customer renegotiating				

Source: Norwegian Water Resource and Energy Administration (NVE)

No data available for customers renegotiating.

**SECTION II**  
**CANDIDATE COUNTRIES**

# OVERALL INFORMATION AND RESULTS

## 1.- STATUS OF THE LIBERALISATION PROCESS

The liberalisation process of the Candidate Countries' electricity markets is not so advanced as in Member States. However, some countries have already achieved a considerable degree of opening and in some cases they have fixed a date for full opening. On the other hand, there are countries operating in a full monopoly situation.

The market opening level is measured as for the Member States, by the percentage that the consumption of the eligible consumers represents over total electricity consumption. Table 1 shows the degree of market opening and the corresponding annual consumption threshold for eligibility in each Candidate Country as at October 2002. In addition, where a date for full opening of the market has been already fixed, this is also shown.

**Table 1: Degree of market opening**

	Degree of market opening at October 2002	Eligible consumers' consumption threshold at October 2002	Date for full opening of the market
Bulgaria	15%	100 GWh	-
Cyprus	-	-	-
Czech Republic	30%	40 GWh	2006
Estonia	10%	40 GWh	-
Hungary	About 35%	6.5 GWh	-
Latvia	11%	40 GWh	2006
Lithuania	21%	20 GWh	-
Malta	-	-	-
Poland	51%	10 GWh	2006
Romania	33%	40 GWh	-
Slovak Republic	41%	40 GWh	-
Slovenia	64%	41 kW	-
Turkey	23%	9 GWh	-

*Source: DG Transport and Energy (DG TREN) of the European Commission.*

## 2.- ELECTRICITY GENERATION

Table 2 presents the evolution of total net generation in the Candidate Countries during the period 1999-2001. In almost all countries there has been an increase in electricity generation during the period considered. This has been especially high in the case of the Slovak Republic, the Czech Republic and Bulgaria. In Cyprus, Lithuania and Malta there were also significant rises. The only fall was recorded in Hungary.

**Table 2: Total Net Generation (GWh)**

	1999	2000	2001	Variation 1999-2000
Bulgaria	34 322	36 884	39 617	15.4%
Cyprus	2 986	3 205	3 364	12.7%
Czech Republic	59 798	67 741	68 780	15.0%
Estonia	7 351	7 590	7 590	3.3%
Hungary	34 903	32 259	33 701	-3.4%
Latvia	3 942	3 980	4 145	5.1%
Lithuania	11 949	10 039	13 218	10.6%
Malta	1 679	1 802	1 867	11.2%
Poland	129 498	132 214	132 666	2.4%
Romania	46 210	48 625	50 423	9.1%
Slovak Republic	24 816	28 289e	29 609	19.3%
Slovenia	12 457	12 795	13 591	9.1%
Turkey	110 702	118 698	116 252	5.0%

e: estimate

Source: Eurostat

Candidate Countries have provided two groups of figures for the market structure of the electricity generation: number of generating companies and market shares.

In the case of the number of generating companies, two figures have been provided: generating companies representing at least 95% of total generation and those producing individually at least 5% of total generation. The results corresponding to 2000 and 2001 are presented in Table 3. In the **Results by country** sub-section the corresponding figures for 1999 are also included.

**Table 3: Number of generating companies**

	Companies representing at least 95% of total generation		Companies producing at least 5% of total generation	
	2000	2001	2000	2001
Bulgaria	30	10	4	5
Cyprus	1	1	1	1
Czech Republic	20	20	1	1
Estonia	2	2	2	2
Hungary	28	31	5	6
Latvia	1	1	1	1
Lithuania	6	6	3	3
Malta	1	1	1	1
Poland	36	31	8	8
Romania	5	7	3	2
Slovak Republic	6	6	1	1
Slovenia	6	6	3	3
Turkey	41	39	5	5

Market share information has been obtained in the same way as for Member States: in terms of total generation and installed capacity for those generating companies with at least 5% of the national electricity generation. Some countries have had confidentiality problems in providing company names and/or individual shares and only aggregated shares are available. Detailed figures are provided for each country in the **Results by country** sub-section from 1999 to 2001.

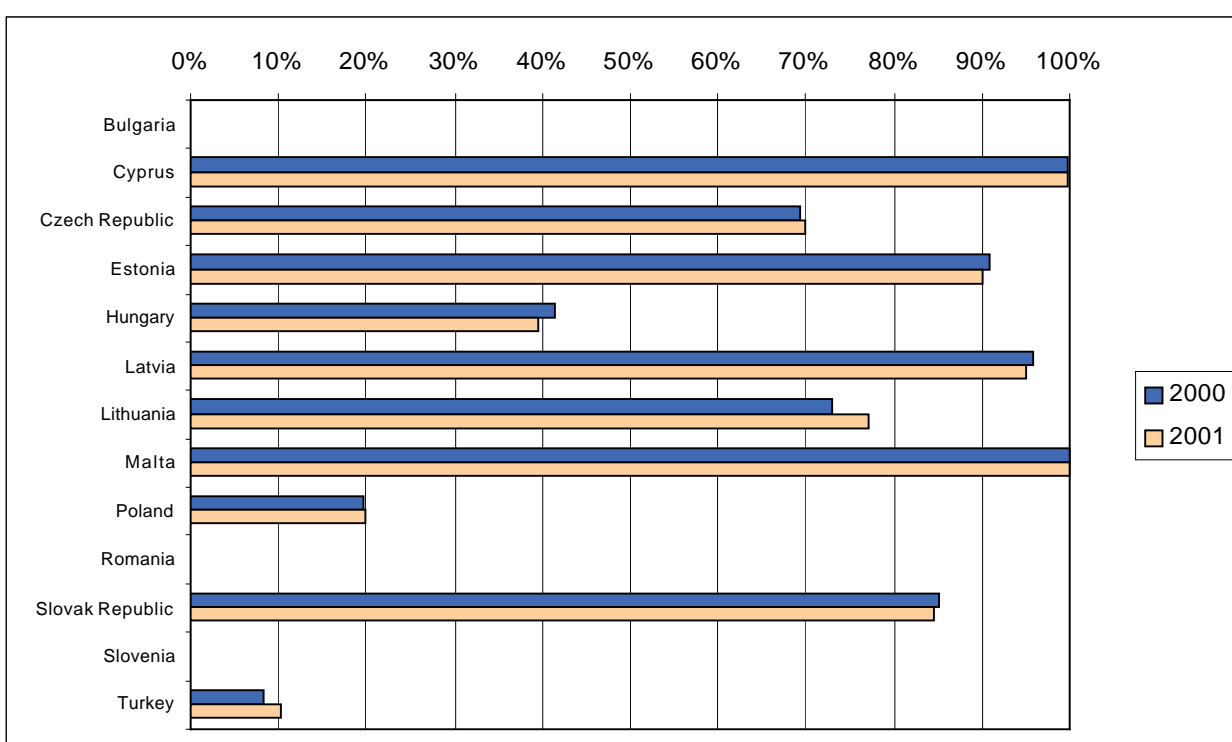
Table 4 presents the aggregated share of the companies producing at least 5% of total net generation during the year and their corresponding share of installed capacity. Thus, Table 4 shows the aggregated market share of the companies included in the right-hand side of Table 3 for 2000 and 2001.

**Table 4: Aggregated share of companies producing at least 5% of total generation**

	Generation (%)		Installed capacity (%)	
	2000	2001	2000	2001
Bulgaria	75.9	83.5	52.0	61.8
Cyprus	99.6	99.6	98.4	98.4
Czech Republic	69.2	69.9	66.2	65.7
Estonia	97	97	96	96
Hungary	86.9	88.4	75.6	79.7
Latvia	95.8	95.0	96.8	96.8
Lithuania	86.9	89.2	79.2	78.9
Malta	100	100	100	100
Poland	62.1	71.5	53.2	62.4
Romania	95.7	88.1	93.6	90.3
Slovak Republic	85.1	84.5	85.3	84.0
Slovenia	86	85	77	69
Turkey	34.8	36.4	30.5	25.9

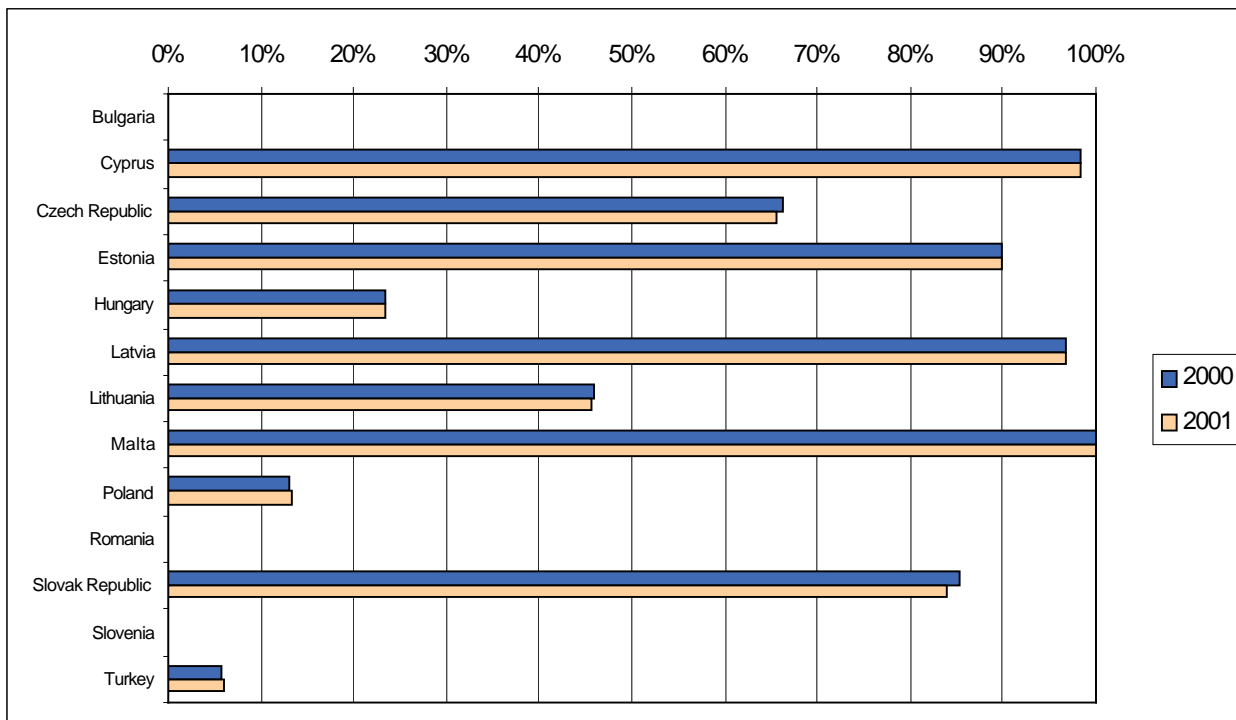
In addition, Figures 1 and 2 provide the share of the dominant generating company in electricity generation and in installed capacity respectively. Basically, the market structure in electricity generation has remained stable in all Candidate Countries. Only a change in the number of companies considered for the analysis has produced some bigger differences in the aggregated generation shares. With regard to the market share of the dominant company, there are very slight differences from one year to another, both in generation and installed capacity.

**Figure 1: Market share of dominant generating company in electricity generation.**





**Figure 2: Market share of dominant generating company in installed capacity.**



### 3.- ELECTRICITY SUPPLY

This section analyses how competition works in the market where final consumers buy the electricity they need. Table 5 shows the evolution of final electricity consumption during the period 1999-2001. All countries, except for Lithuania, presented a positive growth rate that was particularly significant in Cyprus and Malta.

**Table 5: Final electricity consumption (GWh)**

	1999	2000	2001	Variation 1999-2001
Bulgaria	23 728	24 132	24 530	3.4%
Cyprus	2 768	2 996	3 110	12.4%
Czech Republic	48 089	49 351	50 856	5.8%
Estonia	4 763	4 969	5 134	7.8%
Hungary	28938	29 441	30 543	5.5%
Latvia	4 426	4 439	4 523	2.2%
Lithuania	6 520	6 171	6 406	-1.7%
Malta	1 460	1 802	1 867	27.9%
Poland	92 084	96 727	95 880	4.1%
Romania	33 888	33 912	36 265	7.0%
Slovak Republic	22 747	22 010	23 622	3.8%
Slovenia	10 361	10 521	10 942	5.6%
Turkey	89 205	95 873	95 316	6.9%

Source: Eurostat

Candidate Countries have also provided two groups of figures on the market structure of the electricity supply: number of suppliers and market shares.

Table 6 presents the results for the number of suppliers in 2000 and 2001, including two figures per country: suppliers selling at least 5% of total electricity consumed by final customers, and total number of suppliers. In the **Results by country** sub-section the corresponding figures for 1999 are also included.

**Table 6: Number of electricity suppliers**

	Total number of suppliers		Suppliers selling at least 5% of total electricity consumed	
	2000	2001	2000	2001
Bulgaria	8	8	8	8
Cyprus	1	1	1	1
Czech Republic		341	8	8
Estonia	90	78	2	2
Hungary	6	6	6	6
Latvia	1	1	1	1
Lithuania	1	1	1	1
Malta	1	1	1	1
Poland	269	298	4	4
Romania	1	2	1	2
Slovak Republic	11	14	4	4
Slovenia	6	6	6	6
Turkey	75	75	4	4

As in the case of generation, market share information has been obtained for those suppliers selling at least 5% of the total electricity consumed. Some countries have had confidentiality problems providing company names and/or individual shares and only aggregated shares are available. Detailed figures are provided for each country in the **Results by country** sub-section.

Finally, Table 7 presents the aggregated share of those suppliers selling at least 5% of the total electricity consumed and the share of the dominant supplier, if available. Thus, this table shows the aggregated market share of the companies included in the right-hand side of Table 6. The results again show very small differences from one year to another in all countries.

**Table 7: Market shares of suppliers**

	Aggregated share of suppliers with at least 5% of final consumption (%)		Dominant supplier (%)	
	2000	2001	2000	2001
Bulgaria	100	100		
Cyprus	100	100	100	100
Czech Republic		91		16.7
Estonia	95	96	90	91
Hungary	100	100	27.3	27.8
Latvia	100	100	100	100
Lithuania	100	100	100	100
Malta	100	100	100	100
Poland	27.3	26.0	11.3	9.9
Romania	100	100	100	
Slovak Republic	94.5	89.8	30.1	29.3
Slovenia	100	100		
Turkey	36.5	36.2	14.5	14.3

## **RESULTS BY COUNTRY**

## RESULTS BY COUNTRY

Bulgaria	89
Cyprus	90
Czech Republic	91
Estonia	92
Hungary	93
Latvia	94
Lithuania	95
Malta	96
Poland	97
Romania	98
Slovak Republic	99
Slovenia	100
Turkey	101

## BULGARIA

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>36</b>	<b>30</b>	<b>10</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>5</b>	<b>4</b>	<b>5</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
<b>Aggregated share of generating companies producing at least 5%</b>	<b>78.3</b>	<b>75.9</b>	<b>83.5</b>	<b>61.8</b>	<b>52.0</b>	<b>61.8</b>
Other generators	21.7	24.1	16.5	38.2	48.0	38.2

*Individual market shares are confidential.*

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers		<b>8</b>	<b>8</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers		<b>8</b>	<b>8</b>

*No data available for 1999.*

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Aggregated share of 4 top suppliers		64.5	62.8
Aggregated share of next 4 suppliers		35.5	37.2
<b>Aggregated share</b>		<b>100.0</b>	<b>100.0</b>

*No data available for 1999.*

*Individual market shares are confidential.*

## CYPRUS

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	1	1	1
Number of generating companies producing at least 5% of the national net electricity generation	1	1	1

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
<b>Electricity Authority of Cyprus</b>	<b>99.7</b>	<b>99.6</b>	<b>99.6</b>	<b>97.9</b>	<b>98.4</b>	<b>98.4</b>
Other generators	0.3	0.4	0.4	2.1	1.6	1.6

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	1	1	1
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	1	1	1

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>Electricity Authority of Cyprus</b>	<b>100</b>	<b>100</b>	<b>100</b>

## CZECH REPUBLIC

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>20</b>	<b>20</b>	<b>20</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>1</b>	<b>1</b>	<b>1</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
• EZ	<b>71.0</b>	<b>69.2</b>	<b>69.9</b>	<b>66.7</b>	<b>66.2</b>	<b>65.7</b>
Other generators	29.0	30.8	30.1	33.3	33.8	34.3

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers			<b>341</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>8</b>	<b>8</b>	<b>8</b>

*No data available for total number of suppliers in 1999 and 2000.*

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Severo•eská energetika a.s. (SCE)			16.7
St•edo•eská energetika a.s. (STE)			14.1
Západo•eská energetika a.s. (ZCE)			13.0
Východo•eská energetika a.s. (VCE)			11.7
Jihomoravská energetika a.s. (JME)			11.5
Jiho•eská energetika a.s. (JCE)			9.5
Severomoravská energetika a.s. (SME)			7.8
Pražská energetika a.s. (PRE)			6.7
<b>Aggregated share</b>			<b>91.0</b>
Other suppliers			9.0

*No data available for 1999 and 2000.*

## ESTONIA

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>2</b>	<b>2</b>	<b>2</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>1</b>	<b>2</b>	<b>2</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	93	91	90	90	90	90
Company B (Only in 2000 and 2001)		6	7	6	6	6
<b>Aggregated share</b>	<b>93</b>	<b>97</b>	<b>97</b>	<b>96</b>	<b>96</b>	<b>96</b>
Other generators	7	3	3	4	4	4

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>90</b>	<b>90</b>	<b>78</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>2</b>	<b>2</b>	<b>2</b>

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A	91	90	91
Supplier B	6	5	5
<b>Aggregated share</b>	<b>97</b>	<b>95</b>	<b>96</b>
Other suppliers	3	5	4



# HUNGARY

## 1. Generation variables

### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>27</b>	<b>28</b>	<b>31</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>5</b>	<b>5</b>	<b>6</b>

### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	38.9	41.3	39.5	24.5	23.4	23.3
Company B	21.1	17.6	15.9	28.4	27.0	26.8
Company C	13.2	14.0	14.1	9.8	9.5	9.2
Company D	9.4	8.3	7.5	11.6	11.2	11.0
Company E	5.8	5.7	5.3	4.7	4.5	4.4
Company F (Only in 2001)			6.1			5.0
<b>Aggregated share</b>	<b>88.4</b>	<b>86.9</b>	<b>88.4</b>	<b>79.0</b>	<b>75.6</b>	<b>79.7</b>
Other generators	11.6	13.1	11.6	21.0	24.4	20.3

## 2. Retailing variables

### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>6</b>	<b>6</b>	<b>6</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>6</b>	<b>6</b>	<b>6</b>

### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A	27.1	27.3	27.8
Supplier B	22.2	22.3	22.4
Supplier C	15.9	15.7	15.5
Supplier D	12.3	12.1	11.8
Supplier E	11.3	11.2	11.1
Supplier F	11.2	11.3	11.3
<b>Aggregated share</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

## LATVIA

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	1	1	1
Number of generating companies producing at least 5% of the national net electricity generation	1	1	1

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
<b>Company A</b>	<b>96.5</b>	<b>95.8</b>	<b>95.0</b>	<b>96.4</b>	<b>96.8</b>	<b>96.8</b>
Other generators	4.5	4.2	5.0	3.6	3.2	3.2

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	1	1	1
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	1	1	1

*All small power producers are connected to the state company Latvenergo network that supplies to consumers.*

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>Supplier A</b>	<b>100</b>	<b>100</b>	<b>100</b>

# LITHUANIA

## 1. Generation variables

### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>6</b>	<b>6</b>	<b>6</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>3</b>	<b>3</b>	<b>3</b>

### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	73.7	72.8	77.1	45.8	45.8	45.7
Aggregated share of B + C	14.2	14.1	12.1	33.4	33.4	33.2
<b>Aggregated share</b>	<b>87.9</b>	<b>86.9</b>	<b>89.2</b>	<b>79.2</b>	<b>79.2</b>	<b>78.9</b>
Other generators	12.1	13.1	10.8	20.8	20.8	21.1

## 2. Retailing variables

### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>1</b>	<b>1</b>	<b>1</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>1</b>	<b>1</b>	<b>1</b>

### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>Supplier A</b>	<b>100</b>	<b>100</b>	<b>100</b>

## MALTA

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	1	1	1
Number of generating companies producing at least 5% of the national net electricity generation	1	1	1

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
<b>Enemalta</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	1	1	1
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	1	1	1

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
<b>Enemalta</b>	<b>100</b>	<b>100</b>	<b>100</b>

## POLAND

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>35</b>	<b>36</b>	<b>31</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>6</b>	<b>8</b>	<b>8</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	20.8	19.5	19.8	13.0	13.1	13.2
Company B	9.5	8.4	14.7	8.1	6.9	14.0
Company C	6.2	7.0	9.0	5.6	5.0	6.9
Company D	5.6	5.7	6.6	8.3	8.4	5.1
Company E	5.7	5.3	5.7	5.2	5.2	4.5
Company F	5.0	5.1	5.6	5.3	5.4	8.4
Company G (Only 2000 and 2001)		5.6	5.1		4.5	5.0
Company H (Only 2000 and 2001)		5.5	5.0		4.7	5.3
<b>Aggregated share</b>	<b>52.8</b>	<b>62.1</b>	<b>71.5</b>	<b>45.5</b>	<b>53.2</b>	<b>62.4</b>
Other generators	47.2	37.9	28.5	54.5	46.8	37.6

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>206</b>	<b>269</b>	<b>298</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>4</b>	<b>4</b>	<b>4</b>

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A	11.3	11.3	9.9
Supplier B	5.3	5.4	5.6
Supplier C	5.2	5.4	5.3
Supplier D	5.1	5.2	5.2
<b>Aggregated share</b>	<b>26.9</b>	<b>27.3</b>	<b>26.0</b>
Other suppliers	73.1	72.7	74.0

## ROMANIA

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>4</b>	<b>5</b>	<b>7</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>2</b>	<b>3</b>	<b>2</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A						
Company B						
Company C (Only in 1999 and 2000)						
<b>Aggregated share*</b>	<b>94.8</b>	<b>95.7</b>	<b>88.1</b>	<b>92.8</b>	<b>93.6</b>	<b>90.3</b>
Other generators	5.2	4.3	11.9	7.2	6.4	9.7

*Individual market shares are confidential.*

*\* In 1999 and 2000 aggregated share of the three top companies while in 2001 aggregated share of the top two companies.*

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>1</b>	<b>1</b>	<b>2</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>1</b>	<b>1</b>	<b>2</b>

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A	100	100	
Supplier B (Only in 2001)			
<b>Aggregated share</b>	<b>100</b>	<b>100</b>	<b>100</b>

*Individual market shares in 2001 are confidential.*

## SLOVAK REPUBLIC

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>6</b>	<b>5</b>	<b>6</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>1</b>	<b>1</b>	<b>1</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
<b>Company A</b>	<b>83.6</b>	<b>85.1</b>	<b>84.5</b>	<b>84.7</b>	<b>85.3</b>	<b>84.0</b>
Other generators	16.4	14.9	15.5	15.3	14.7	16.0

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>11</b>	<b>11</b>	<b>14</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>4</b>	<b>4</b>	<b>4</b>

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A	29.5	30.1	29.3
Supplier B	28.9	29.4	28.8
Supplier C	21.1	20.6	18.7
Supplier D	13.6	14.4	13.0
<b>Aggregated share</b>	<b>93.1</b>	<b>94.5</b>	<b>89.8</b>
Other suppliers	6.9	5.5	10.2

## SLOVENIA

### 1. Generation variables

#### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>6</b>	<b>6</b>	<b>6</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>3</b>	<b>3</b>	<b>3</b>

#### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A						
Company B						
Company C						
<b>Aggregated share</b>	<b>88</b>	<b>86</b>	<b>85</b>	<b>77</b>	<b>77</b>	<b>69</b>
Other generators	12	14	15	23	23	31

*Individual market shares are confidential.*

*There is another company with at least 5% of installed capacity (12% in 2001) but producing less than 5% of total generation.*

### 2. Retailing variables

#### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>6</b>	<b>6</b>	<b>6</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>6</b>	<b>6</b>	<b>6</b>

#### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Aggregated share of 3 top suppliers	65	65	64
Aggregated share of next 3 suppliers	35	35	36
<b>Aggregated share</b>	<b>100</b>	<b>100</b>	<b>100</b>

*Individual market shares are confidential.*



# TURKEY

## 1. Generation variables

### 1.1 Number of main generating companies

	1999	2000	2001
Number of generating companies representing at least 95% of the national net electricity generation	<b>38</b>	<b>41</b>	<b>39</b>
Number of generating companies producing at least 5% of the national net electricity generation	<b>7</b>	<b>5</b>	<b>5</b>

### 1.2 Percentages of total generation and capacity by generating company

Generating companies	Share in generation (%)			Share in capacity (%)		
	1999	2000	2001	1999	2000	2001
Company A	8.7	8.4	10.2	5.8	5.8	5.9
Company B	7.4	7.8	8.5	5.7	5.6	5.5
Company C	7.3	6.9	7.3	10.3	5.0	4.9
Company D	6.9	5.8	5.4	7.7	9.9	4.0
Company E	6.4	5.8	5.0	5.1	4.1	5.6
Company F (Only in 1999)	6.0			4.2		
Company G (Only in 1999)	5.5			5.7		
<b>Aggregated share</b>	<b>48.2</b>	<b>34.8</b>	<b>36.4</b>	<b>44.6</b>	<b>30.5</b>	<b>25.9</b>
Other generators	51.8	65.2	63.6	55.4	69.5	74.1

## 2. Retailing variables

### 2.1 Number of electricity suppliers to final customers

	1999	2000	2001
Total number of electricity suppliers to final customers	<b>75</b>	<b>75</b>	<b>75</b>
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	<b>5</b>	<b>4</b>	<b>4</b>

### 2.2.- Market shares of suppliers to final customers.

Electricity suppliers	Market share (%)		
	1999	2000	2001
Supplier A	14.5	14.5	14.3
Supplier B	8.7	9.1	9.2
Supplier C	6.3	6.7	6.6
Supplier D	6.1	6.2	6.1
Supplier E (Only in 1999)	5.0		
<b>Aggregated share</b>	<b>40.6</b>	<b>36.5</b>	<b>36.2</b>
Other suppliers	59.4	63.5	63.8

**ANNEX I**  
**QUESTIONNAIRES**



## Questionnaire on indicators to monitor the progress of competition in the electricity market

**REFERENCE YEAR: 2001**

**COUNTRY:**

### 1. Generation

#### 1.1 Number of main generating companies

Please, provide the following two figures:

Number of generating companies representing at least 95% of the national net electricity generation	
Number of generating companies producing at least 5% of the national net electricity generation	

#### 1.2 Percentages of total generation and capacity by generating company

Share of generation and installed capacity for generating companies with at least 5% of the national electricity generation/capacity. The calculation of the shares has to be based on net production and net capacity, that is, excluding own use by plants.

Identification of company names is desirable, although data can be presented anonymously if such names cannot be mentioned. If no individual percentages can be provided for reasons of confidentiality, some level of aggregation is requested, i.e. the aggregated share of three main companies, then the next three main companies, and so on.

In any case, please try to provide the aggregated share of companies with at least 5% of the national electricity generation/capacity.

	Share in Generation (%)	Share in installed capacity (%)
Generating company A		
Generating company B		
Generating company C		
Aggregated share of A+B+C		
...		
<b>Aggregated share of companies with <u>at least 5%</u> of the national electricity generation/capacity</b>		

### 1.3 Capacity by type of plant and maximum demand information

Information at national level about the net capacity (excluding power plants' own consumption of electricity) by type of technology on 31<sup>st</sup> December and the maximum electricity demand (peak load) during the period considered (year 2001). This information should be in line with the data provided in the annual electricity questionnaire.

	Installed capacity (MW)
Conventional thermal	
Nuclear	
Hydro	
Wind	
Geothermal	
Solar	
Other	
<b>TOTAL</b>	

Maximum load in year 2001 (MW)	
--------------------------------	--

### 1.4 Amount of new capacity connected and capacity decommissioned during the year

Please provide the following figures:

	MW
New capacity connected during the year	
Capacity decommissioned during the year	
Net capacity variation in 2001	

The difference between the new capacity connected and the capacity decommissioned should represent the net increase or decrease in installed capacity during the year 2001.

## 2. Transmission

### 2.1 Imports and exports by country of origin and destination

Annual flow of electricity (in GWh) imported from and exported to each Member State and non-EU countries. This information should be in line with the data provided in the annual electricity questionnaire.

Country of origin/destination	Imports (GWh)	Exports (GWh)
Country X		
Country Y		
Country Z		
....		
<b>TOTAL</b>		

## 2.2 Interconnection capacity and load factor

The interconnection capacity is requested at national connections level (by country). Please provide the connected country, the transmission capacity (in MW) and the overall load factor over the year (in %). If the transmission capacity and load factor are different for imported and exported electricity flows, both figures should be provided.

The transmission capacity requested is the technical capacity defined as the maximum electricity flow permissible through the interconnector. The concept of Net Transfer Capacity (NTC) defined by UCTE is equivalent to this definition.

Regarding the load factor, it is affected by the fact that not all technical capacity is available for commercial use. However, it can still provide an estimate of the average usage of the interconnectors.

INTERCONNECTED COUNTRIES	Transmission capacity (MW)		Load factor (%)	
	From Country A	To Country A	From Country A	To Country A
Country A - Country X				
Country A - Country Y				
Country A - Country Z				
....				

## 3. Retailing

### 3.1 Number of electricity suppliers to final customers

Please provide the following two figures:

Total number of electricity suppliers to final customers	
Number of electricity suppliers selling <u>at least 5%</u> of total electricity consumed by final customers	

Due to the different ways in which liberalisation has taking place, some Member States have electricity suppliers who are both distributors (i.e. they transport electricity in the

low and medium voltage networks) and retailers (i.e. they sell electricity to final consumers) while in other countries traders sell electricity to final consumers through the « pure » distribution companies network. It is also possible to find generators who sell electricity directly to final consumers.

The whole section on retailing is aimed at analysing how competition works in the market (or markets) where final consumers buy the electricity they need. Therefore, final electricity consumption in the country is a key figure in this section.

Consequently, the term electricity supplier can be defined in a broad sense, as a company selling to final consumers a part (or a kWh) of the final electricity consumption of the country.

### 3.2 Market shares of suppliers to final customers

Market shares of electricity suppliers selling at least 5% of total electricity consumed by final customers. As above explained, the calculation of the shares has to be based on the final electricity consumption of the country.

Identification of company names is desirable, although data can be presented anonymously if such names cannot be mentioned. If no individual percentages can be provided for reasons of confidentiality, some level of aggregation is requested, i.e. the aggregated share of three main companies, then the next three main companies, and so on.

In any case, please try to provide the aggregated share of companies selling at least 5% of total electricity consumed.

	Market share (%)
Supplier company A	
Supplier company B	
Supplier company C	
Aggregated share of A+B+C	
...	
<b>Aggregated share of companies with <u>at least 5%</u> of total electricity consumed</b>	

### 3.3 Prices to final customers

Prices charged to final customers, both domestic and industrial, including those purchasing electricity directly from the generating companies, defined according to load profiles (following the structure introduced by Directive 90/377/EEC).

*On this point, Eurostat will use the prices for domestic and industrial consumers already reported in accordance with Directive 90/377/EEC. Therefore, no data provision is required.*

### 3.4 Final customers switching their supplier or renegotiating contracts

For this indicator, two groups of figures are requested:

- Percentage of final customers switching from one supplier to another during the year and volume of consumption represented by those customers (in GWh).
- Percentage of final customers renegotiating contracts with their supplier during the year and volume of consumption represented by those customers (in GWh).

If possible, these figures should be broken down by domestic and non-domestic customers.

	Non-domestic customers		Domestic customers	
	Percentage (%)	Volume (GWh)	Percentage (%)	Volume (GWh)
Customer switching				
Customer renegotiating				

## ANNEX I.B QUESTIONNAIRE FOR CANDIDATE COUNTRIES

### DATA REQUEST ON MARKET STRUCTURE IN THE ELECTRICITY MARKET: GENERATION AND SUPPLY

#### REFERENCE YEAR: 2001

#### 1.- Electricity generation

##### 1.1.- Number of main generating companies.

Two figures are requested:

Number of generating companies representing together at least 95% of total net generation	
Number of generating companies producing at least 5% of total net generation	

##### 1.3 Percentages of total generation and capacity by generating company

Share of generation and installed capacity for generating companies with at least 5% of the national electricity generation/capacity. The calculation of the shares has to be based on net production and net capacity, that is, excluding own use by plants.

Identification of company names is desirable, although data can be presented anonymously if such names cannot be mentioned. If no individual percentages can be provided for reasons of confidentiality, some level of aggregation is requested, i.e. the aggregated share of three main companies, then the next three main companies, and so on.

In any case, please try to provide the aggregated share of companies with at least 5% of the national electricity generation/capacity.

	Share in Generation (%)	Share in installed capacity (%)
Generating company A		
Generating company B		
Generating company C		
Aggregated share of A+B+C		
...		
<b>Aggregated share of companies with <u>at least 5%</u> of the national electricity generation/capacity</b>		



## **2.- Electricity supply**

### **2.1.- Number of electricity suppliers to final customers.**

Two figures are requested:

Total number of electricity suppliers to final customers	
Number of electricity suppliers selling at least 5% of total electricity consumed by final customers	

### **2.2.- Market shares of suppliers to final customers.**

Market shares of electricity suppliers selling at least 5% of total electricity consumed by final customers. As above explained, the calculation of the shares has to be based on the final electricity consumption of the country.

Identification of company names is desirable, although data can be presented anonymously if such names cannot be mentioned. If no individual percentages can be provided for reasons of confidentiality, some level of aggregation is requested, i.e. the aggregated share of three main companies, then the next three main companies, and so on.

In any case, please try to provide the aggregated share of companies selling at least 5% of total electricity consumed.

	Market share (%)
Supplier company A	
Supplier company B	
Supplier company C	
Aggregated share of A+B+C	
...	
<b>Aggregated share of companies with <u>at least 5%</u> of total electricity consumed</b>	

## **ANNEX II**

### **POWER EXCHANGE MARKET PRICES**

## Power exchange market prices

### Nord Pool

Monthly average prices during year 2001 in Elspot market (physical day ahead spot market) expressed in EUR/MWh.

	Oslo (Norway)	Sweden	Finland	Denmark West	Denmark East	<b>SYSTEM</b>
January	20.47	20.47	20.46	20.64	22.85	<b>20.46</b>
February	26.90	27.13	27.13	25.93	27.13	<b>27.06</b>
March	25.84	25.80	25.78	24.98	25.80	<b>25.86</b>
April	26.55	26.36	26.10	26.03	26.35	<b>26.46</b>
May	23.95	21.77	21.77	24.09	21.77	<b>24.07</b>
June	25.27	25.23	25.16	26.06	25.50	<b>25.28</b>
July	22.34	22.32	22.32	23.17	23.26	<b>22.63</b>
August	21.17	21.13	21.14	23.45	21.16	<b>21.36</b>
September	21.67	19.35	19.44	23.13	20.60	<b>20.88</b>
October	18.83	18.87	18.87	21.63	19.32	<b>19.10</b>
November	21.27	21.59	21.59	21.50	22.28	<b>21.41</b>
December	23.14	24.72	24.72	24.51	26.89	<b>23.61</b>
<b>All year</b>	<b>23.08</b>	<b>22.86</b>	<b>22.83</b>	<b>23.74</b>	<b>23.54</b>	<b>23.15</b>

Source: Nord Pool

### APX

Monthly average base prices during year 2001 in the APX day ahead spot market expressed in EUR/MWh.

	Average Base Price
January	33.29
February	27.01
March	27.24
April	25.46
May	28.70
June	32.17
July	50.00
August	31.34
September	34.83
October	26.53
November	34.71
December	49.44

Source: APX

## **OMEL**

Monthly weighted average price in the daily market and monthly weighted average final hourly price during year 2001 expressed in EUR/MWh.

	Daily market price	Final hourly price
January	21.84	30.00
February	20.45	28.20
March	18.25	25.88
April	20.84	26.81
May	27.31	33.24
June	36.85	43.32
July	36.03	42.68
August	29.91	37.51
September	37.91	44.21
October	40.47	46.52
November	36.46	43.06
December	48.92	57.46
<b>All year</b>	<b>31.50</b>	<b>38.59</b>

Source: OMEL

Note: Final hourly prices are the result of adding the daily market price plus the costs of the technical management and balancing of the market plus the reserved capacity costs

Source: Electricity Pool. Statistical Digests

## **LPX (EEX from 1.01.2002)**

Monthly weighted average price of the Phelix base (hourly weighted average price) during year 2001 expressed in EUR/MWh.

	Phelix Base price
January	23.57
February	23.04
March	21.58
April	23.66
May	21.17
June	20.53
July	19.29
August	20.74
September	22.97
October	22.67
November	30.29
December	41.12

Source: LPX

## **ANNEX III**

### **Final consumer prices**

## Final consumer prices

Electricity prices charged to final customers, both domestic and industrial, are regularly collected by Eurostat using principles and methodology laid down in Directive 90/377/EEC.

Data collection takes place every six months for prices in force on 1<sup>st</sup> January and 1<sup>st</sup> July. The prices are provided for several groups of standard consumers defined according to annual consumption and load profiles. The following two tables present the standard consumer groups and their characteristics.

### Domestic consumers

Standard Consumer	Annual consumption in kWh		Approx. subscribed demand in kW	Standard dwelling
	Total	of which night		
Da	600	-	3	50 m <sup>2</sup> 2 rooms + kitchen
Db	1 200	-	3-4	70 m <sup>2</sup> 3 rooms + kitchen
Dc	3 500	(1 300)	4-9	90 m <sup>2</sup> 4 rooms + kitchen
Dd	7 500	(2 500)	6-9	100 m <sup>2</sup> 4-5 rooms + kitchen
De	20 000	(15 000)	9	120 m <sup>2</sup> 5 rooms + kitchen

### Industrial consumers

Standard consumer	Annual consumption (kWh)	Maximum demand (kW)	Annual utilisation (Hours)
la	30 000	30	1 000
lb	50 000	50	1 000
lc	160 000	100	1 600
ld	1 250 000	500	2 500
le	2 000 000	500	4 000
lf	10 000 000	2 500	4 000
lg	24 000 000	4 000	6 000
lh	50 000 000	10 000	5 000
li	70 000 000	10 000	7 000

The following pages show the electricity prices recorded in the EU countries and Norway from January 1999 until July 2001.

## Domestic electricity prices without taxes from 1999 to 2001 - Euro cents per kWh

	Da						Db					
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01
<b>Belgium</b>	17.18	17.11	16.64	14.94	15.20	14.77	16.18	16.12	15.20	14.53	14.76	14.52
<b>Denmark</b>	15.06	15.03	15.71	15.76	15.64	15.86	10.08	10.05	10.55	10.55	10.84	11.14
<b>Germany*</b>	19.67	20.00	18.95	18.65	18.80	18.41	16.15	16.41	14.87	14.79	14.94	14.86
<b>Greece</b>	7.78	7.76	7.05	6.93	7.05	7.30	7.30	7.29	6.62	6.50	6.62	6.85
<b>Spain</b>	11.88	11.70	11.45	11.45	10.99	10.99	11.88	11.70	11.45	11.45	10.99	10.99
<b>France</b>	13.10	12.85	12.85	12.78	12.78	12.76	11.46	11.21	11.21	11.14	11.14	11.13
<b>Ireland</b>	13.76	13.76	13.76	13.76	13.76	13.76	11.37	11.37	11.37	11.37	11.37	11.37
<b>Italy</b>	4.58	4.78	6.28	6.92	8.07	7.40	5.28	5.48	6.62	7.26	8.39	7.72
<b>Luxembourg</b>	21.55	21.46	21.14	20.98	20.45	20.75	16.14	16.07	15.82	15.70	15.22	15.42
<b>Netherlands*</b>	13.27	13.14	14.63	16.00	16.19	15.93	10.81	10.48	11.58	12.94	11.44	11.18
<b>Austria</b>	12.21	12.21	11.82	11.85	11.77	11.79	11.74	11.74	11.34	11.34	11.34	11.32
<b>Portugal</b>	12.08	12.08	12.01	12.01	12.16	12.16	13.91	13.91	13.83	13.83	14.01	14.01
<b>Finland</b>	11.98	11.63	11.61	11.60	11.86	12.55	8.56	8.37	8.34	8.35	8.44	8.81
<b>Sweden</b>	16.59	15.86	16.19	16.55	15.96	17.36	10.52	10.05	10.23	10.50	10.12	11.01
<b>UK</b>	18.19	18.49	20.35	19.05	18.26	18.91	13.62	14.15	15.23	14.77	14.32	14.86
<b>Norway</b>	27.95	25.24	26.29	25.45	27.36	29.27	15.70	14.18	15.01	14.25	15.60	16.90
	Dc						Dd					
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01
<b>Belgium</b>	11.82	11.77	11.71	11.68	11.84	11.84	10.77	10.72	10.77	10.93	11.08	11.18
<b>Denmark</b>	6.81	6.78	7.18	7.16	7.81	8.15	5.84	5.81	6.17	6.14	6.82	7.18
<b>Germany*</b>	12.77	12.94	11.91	12.00	12.20	12.27	11.96	12.16	10.85	10.87	11.20	11.14
<b>Greece</b>	6.22	6.21	5.64	5.54	5.64	5.84	7.00	6.99	6.35	6.24	6.35	6.62
<b>Spain</b>	9.29	9.14	8.95	8.95	8.59	8.59	8.52	8.39	8.21	8.21	7.88	7.88
<b>France</b>	9.49	9.28	9.28	9.14	9.14	9.14	9.19	8.99	8.99	8.86	8.86	8.85
<b>Ireland</b>	7.95	7.95	7.95	7.95	7.95	7.95	7.63	7.63	7.63	7.63	7.63	7.63
<b>Italy</b>	15.70	15.78	15.00	16.02	15.68	14.62	14.25	14.32	13.62	14.63	15.23	14.18
<b>Luxembourg</b>	10.76	10.72	10.56	10.48	11.21	11.38	10.45	10.41	10.24	10.16	10.19	10.36
<b>Netherlands*</b>	8.83	8.17	9.38	10.75	9.78	8.87	8.29	7.46	8.77	10.13	9.04	8.12
<b>Austria</b>	9.79	9.79	9.49	9.52	9.45	9.47	9.88	9.88	9.57	9.59	9.52	9.52
<b>Portugal</b>	12.01	12.01	11.94	11.94	12.00	12.00	10.66	10.66	10.60	10.60	10.65	10.65
<b>Finland</b>	6.56	6.46	6.45	6.44	6.37	6.67	5.48	5.46	5.43	5.42	5.34	5.52
<b>Sweden</b>	6.53	6.24	6.37	6.52	6.29	6.83	6.28	6.01	5.83	6.06	5.81	6.29
<b>UK</b>	9.67	10.05	10.56	10.21	9.96	10.48	8.75	9.18	9.64	9.29	9.09	9.51
<b>Norway</b>	7.65	6.91	7.20	6.58	7.88	8.78	5.42	4.88	5.53	4.83	5.73	6.52
	De											
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01						
<b>Belgium</b>	6.77	6.73	6.81	7.02	7.10	7.28						
<b>Denmark</b>	5.09	5.05	5.55	5.45	6.20	6.55						
<b>Germany*</b>	6.94	7.16	6.59	6.33	6.72	6.40						
<b>Greece</b>	5.35	5.34	4.85	4.77	4.85	5.04						
<b>Spain</b>	6.09	5.99	5.87	5.87	5.63	5.63						
<b>France</b>	7.61	7.45	7.45	7.34	7.34	7.33						
<b>Ireland</b>	5.09	5.09	5.09	5.09	5.09	5.09						
<b>Italy</b>	-	-	-	-	-	-						
<b>Luxembourg</b>	7.07	7.04	6.92	6.87	6.69	6.82						
<b>Netherlands*</b>	5.78	4.95	6.51	7.87	6.45	5.70						
<b>Austria</b>	7.62	7.62	7.42	7.27	7.27	7.25						
<b>Portugal</b>	7.94	7.94	7.90	7.90	7.80	7.80						
<b>Finland</b>	3.78	3.72	3.73	3.71	3.68	3.82						
<b>Sweden</b>	5.48	5.19	4.98	5.04	4.78	5.41						
<b>UK</b>	5.60	5.96	6.29	6.13	5.99	6.26						
<b>Norway</b>	4.20	3.78	4.40	3.72	4.55	5.28						

## Industrial electricity prices without taxes from 1999 to 2001 - Euro cents per kWh

	la						lb					
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01
<b>Belgium</b>	14.64	14.55	14.08	14.40	12.59	12.84	14.84	14.79	14.30	14.64	12.54	12.79
<b>Denmark</b>	5.33	5.28	5.66	5.62	6.46	6.59	5.29	5.25	5.58	5.55	6.43	6.51
<b>Germany*</b>	16.36	15.81	14.21	13.62	13.62	13.74	16.20	15.76	13.89	13.38	13.31	13.26
<b>Greece</b>	8.60	8.58	8.42	8.28	8.43	8.72	8.56	8.55	8.39	8.25	8.40	8.69
<b>Spain</b>	9.77	9.77	9.77	9.77	9.77	9.77	9.77	9.77	9.77	9.77	9.77	9.77
<b>France</b>	8.94	8.72	8.72	8.54	8.54	8.53	8.94	8.72	8.72	8.54	8.54	8.53
<b>Ireland</b>	12.77	12.77	12.77	12.77	12.77	12.77	12.62	12.62	12.62	12.62	12.62	12.62
<b>Italy</b>	14.31	14.46	13.47	13.62	12.99	12.00	11.27	11.37	11.81	12.68	8.61	7.70
<b>Luxembourg</b>	13.66	13.55	13.17	12.91	12.05	12.22	13.85	13.73	13.34	13.07	11.90	12.05
<b>Netherlands*</b>	9.15	9.29	12.44	11.75	11.50	11.87	9.24	9.40	11.04	10.14	10.35	10.64
<b>Austria</b>	14.91	14.85	14.43	12.65	11.19	10.26	16.24	16.24	15.67	12.65	11.19	10.15
<b>Portugal</b>	10.65	10.65	10.60	10.60	10.73	10.73	10.45	10.45	10.39	10.39	10.52	10.52
<b>Finland</b>	5.50	5.44	5.39	5.37	5.28	5.35	5.57	5.52	5.48	5.44	5.35	5.43
<b>Sweden</b>	6.21	5.95	5.57	5.36	4.01	4.06	6.30	5.89	5.59	5.32	4.03	4.08
<b>UK</b>	10.61	10.76	10.87	10.99	10.87	10.60	10.04	10.75	11.37	11.48	11.44	11.22
<b>Norway</b>	5.07	5.12	5.31	4.87	5.17	5.97	4.83	4.87	5.04	4.60	4.89	5.68
	lc						ld					
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01
<b>Belgium</b>	11.66	11.62	11.41	11.73	10.82	11.06	8.73	8.70	8.61	8.89	8.76	8.92
<b>Denmark</b>	5.15	5.04	5.34	5.26	6.10	6.15	4.87	4.75	5.06	4.98	5.64	5.68
<b>Germany*</b>	12.64	12.45	10.26	10.70	10.80	10.74	9.58	9.78	7.73	8.10	8.12	8.28
<b>Greece</b>	7.90	7.89	7.75	7.61	7.75	8.02	6.30	6.29	6.17	6.07	6.18	6.45
<b>Spain</b>	7.37	7.37	7.53	7.53	6.89	6.89	6.78	6.78	6.91	6.91	6.08	6.08
<b>France</b>	8.23	8.02	8.02	7.85	7.85	7.84	6.83	6.63	6.63	6.50	6.50	6.44
<b>Ireland</b>	10.88	10.88	10.88	10.88	10.88	10.88	8.06	8.06	8.06	8.06	8.06	8.06
<b>Italy</b>	8.80	8.90	9.56	10.43	10.39	9.48	7.89	7.99	8.07	8.94	9.77	8.85
<b>Luxembourg</b>	10.65	10.56	10.27	10.06	9.17	9.30	8.68	8.61	8.36	8.20	7.54	7.64
<b>Netherlands*</b>	9.61	9.65	8.97	8.23	8.66	8.43	6.91	6.96	8.32	7.68	6.95	6.74
<b>Austria</b>	11.62	11.40	11.18	10.39	9.96	9.46	9.48	9.31	-	-	-	-
<b>Portugal</b>	8.56	8.56	8.52	8.52	8.62	8.62	7.31	7.31	7.27	7.27	7.36	7.36
<b>Finland</b>	5.13	5.09	5.02	4.98	4.96	5.06	4.41	4.33	4.30	4.27	4.24	4.31
<b>Sweden</b>	5.46	5.26	5.16	4.91	3.73	3.88	4.44	4.55	4.59	4.52	3.71	4.21
<b>UK</b>	8.65	8.42	9.88	10.06	10.48	10.35	7.09	6.67	7.52	7.39	7.17	7.04
<b>Norway</b>	5.07	5.12	5.41	4.99	5.31	6.10	3.99	3.99	4.15	3.76	4.04	4.79
	le						lf					
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01
<b>Belgium</b>	7.39	7.36	7.34	7.61	7.52	7.68	6.77	6.75	6.73	7.00	6.89	7.05
<b>Denmark</b>	4.85	4.73	5.04	4.96	5.58	5.66	4.71	4.62	-	-	-	-
<b>Germany*</b>	7.91	7.93	6.40	6.73	6.69	6.83	7.70	7.74	6.04	6.32	6.31	6.35
<b>Greece</b>	5.83	5.82	5.71	5.61	5.71	5.91	5.83	5.82	5.71	5.61	5.71	5.91
<b>Spain</b>	6.24	6.24	6.36	6.36	5.50	5.50	5.84	5.84	5.96	5.96	5.15	5.15
<b>France</b>	5.83	5.67	5.67	5.47	5.57	5.53	5.83	5.67	5.67	5.47	5.57	5.53
<b>Ireland</b>	6.62	6.62	6.62	6.62	6.62	6.62	6.18	6.18	6.18	6.18	6.17	6.18
<b>Italy</b>	6.46	6.56	6.93	7.80	9.19	8.28	6.46	6.56	6.93	7.80	9.00	8.13
<b>Luxembourg</b>	7.36	7.30	7.09	6.95	6.32	6.40	5.75	5.68	5.42	5.23	4.34	4.39
<b>Netherlands*</b>	5.76	5.78	6.69	6.11	6.40	6.21	5.62	5.68	-	-	-	-
<b>Austria</b>	7.65	7.50	-	-	-	-	7.23	-	-	-	-	-
<b>Portugal</b>	6.46	6.46	6.43	6.43	6.51	6.51	6.46	6.46	6.43	6.43	6.50	6.50
<b>Finland</b>	3.89	3.82	3.77	3.75	3.72	3.81	3.83	3.74	3.73	3.71	3.68	3.78
<b>Sweden</b>	3.48	3.52	3.75	3.88	3.13	3.75	3.17	3.18	3.20	3.34	2.71	3.33
<b>UK</b>	6.19	5.92	6.64	7.01	6.61	6.37	5.77	5.08	6.01	6.24	5.72	5.72
<b>Norway</b>	3.45	3.41	3.56	3.17	3.44	4.17	2.94	2.96	3.05	2.78	2.97	3.54



	lg						lh					
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01
<b>Belgium</b>	5.54	5.52	5.53	5.79	5.72	5.88	4.86	4.84	4.85	5.10	5.05	5.20
<b>Denmark</b>	4.45	4.33	-	-	-	-	4.28	4.16	-	-	-	-
<b>Germany*</b>	6.29	6.32	5.02	5.15	5.24	5.28	6.73	6.74	5.31	5.50	5.54	5.61
<b>Greece</b>	4.90	4.89	4.80	4.72	4.80	4.97	4.58	4.57	4.49	4.41	4.49	4.65
<b>Spain</b>	5.25	5.25	5.36	5.36	4.89	4.89	5.27	5.27	5.37	5.37	4.81	4.81
<b>France</b>	5.04	4.91	4.91	4.71	4.82	4.79	4.65	4.51	4.51	-	-	-
<b>Ireland</b>	5.30	5.30	5.30	5.30	5.31	5.30	5.34	5.34	5.34	5.34	5.33	5.34
<b>Italy</b>	5.25	5.35	5.96	6.83	7.94	7.08	4.93	5.03	5.40	6.17	7.08	6.27
<b>Luxembourg</b>	4.73	4.68	4.46	4.30	3.77	3.82	4.92	4.86	4.35	4.38	3.99	4.04
<b>Netherlands*</b>	4.82	4.85	-	-	-	-	5.08	5.10	-	-	-	-
<b>Austria</b>	5.98	-	-	-	-	-	5.63	-	-	-	-	-
<b>Portugal</b>	5.27	5.27	5.25	5.25	5.30	5.30	4.72	4.72	4.70	4.70	4.75	4.75
<b>Finland</b>	3.46	3.39	3.37	3.35	3.34	3.42	2.80	2.72	2.67	2.67	2.65	2.72
<b>Sweden</b>	2.76	2.79	2.83	3.02	2.43	3.11	2.74	2.83	2.89	3.08	2.49	3.14
<b>UK</b>	5.51	4.86	5.76	5.75	5.32	5.23	5.15	4.75	5.12	5.34	5.20	5.03
<b>Norway</b>	2.38	2.37	2.48	2.18	2.39	2.96	2.25	2.24	2.34	2.06	2.27	2.82

	li					
	Ja 99	Ju 99	Ja 00	Ju 00	Ja 01	Ju 01
<b>Belgium</b>	4.15	4.14	4.16	4.40	4.37	4.51
<b>Denmark</b>	4.22	4.10	-	-	-	-
<b>Germany*</b>	5.73	5.62	4.69	4.75	4.88	4.91
<b>Greece</b>	4.02	4.01	3.94	3.87	3.94	4.07
<b>Spain</b>	4.86	4.86	4.95	4.95	4.68	4.68
<b>France</b>	4.19	4.06	4.07	-	-	-
<b>Ireland</b>	4.85	4.85	4.85	4.85	4.85	4.85
<b>Italy</b>	4.13	4.23	4.76	5.53	6.91	6.10
<b>Luxembourg</b>	4.34	4.28	3.84	3.86	3.59	3.62
<b>Netherlands*</b>	4.56	4.62	-	-	-	-
<b>Austria</b>	5.11	-	-	-	-	-
<b>Portugal</b>	4.34	4.34	4.32	4.32	4.36	4.36
<b>Finland</b>	2.69	2.61	2.55	2.56	2.54	2.61
<b>Sweden</b>	2.57	2.64	2.69	2.88	2.32	3.00
<b>UK</b>	5.00	3.90	5.02	4.95	4.93	4.68
<b>Norway</b>	2.20	2.16	2.28	1.98	2.20	2.75

\* National price calculated like the arithmetic average of the prices recorded in each location (The Netherlands only for 1999).