

Restructuring and outsourcing of electricity distribution in EU

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1 Factors affecting the electricity distribution business

1.1 The European Union Electricity Directive

The European Union Electricity Directive¹ was signed in December 1996 and entered into force in February 1997. Under the Directive, Member States had to implement the Directive within two years by translating the provisions of the Directive into national law. Belgium and Ireland were given an additional year to implement the Directive, while Greece was given an extra two years.

The Directive had a number of aspects, most of which had a number of options the Member States could choose between. While the reforms required are radical, they do not (and cannot under EU law) impose any requirements as far as ownership goes. In practice however, given that the Directive requires the creation of competitive markets, in countries with dominant publicly owned companies, public ownership will inevitably be diluted by new private sector companies. The Directive and its implementation do have implications for international trade in electricity, but these are of limited significance to the distribution sector and are not discussed in detail.

1.1.1 Consumer competition

The Directive required that, from February 1999, at least about 27 per cent of the electricity market had to be open to competition. In February 2000, this was to be increased to 30 per cent and in February 2003 to 35 per cent. Experience would be reviewed in 2006 to determine whether competition would be extended further.¹

While 35 per cent is a significant proportion of the market, the number of large consumers that needed to be given choice was quite small (no more than a few thousand even in large countries). The vast majority of consumers would see no apparent difference in their service, still being required to buy from the distribution company that served their region. All countries expect to be able to comply with these requirements. Three countries (France, Greece, and Ireland) initially expected to do no more or little more than was necessary, while eight countries will have completely opened their retail electricity market by February 2003 (Austria, Denmark, Finland, Germany, Netherlands, Portugal, Spain, Sweden and UK). The Flanders region of Belgium will also open up fully in 2003 while the rest of Belgium will not be opened until 2007. Ireland now expects to open its market fully in 2007.

The European Commission claimed in October 2002, that 70 per cent of the electricity market was open to competition. However, the percentages of market opening can be somewhat misleading as in practice, consumers that theoretically have choice do not any real choice, because the incumbent companies still dominate the industry.

Table 1 Implementation of the Electricity Directive

	Declared market opening %	Full opening date	Unbundling transmission system operator/owner	Unbundling distribution system operator	Regulator	Overall network tariffs	Balancing conditions favourable to entry	Biggest three generators share of capacity
Austria	100	2001	Legal	Accounting	ex-ante	above average	moderate	45
Belgium	52	2003/7	Legal	Legal	ex-ante	average	unfavourable	96 (2)
Denmark	35	2003	Legal	Legal	ex-post	average	favourable	78

¹ EC Directive 96/92 'Concerning common rules for the internal market in electricity'.

Finland	100	1997	Ownership	Management	ex-post	average	favourable	45
France	30	-	Management	Accounting	ex-ante	average	moderate	92
Germany	100	1999	Legal	Accounting	NTPA	above average	moderate	64
Greece	34		Legal/Mgmt	Accounting	ex-ante	average	moderate	97 (1)
Ireland	40	2005	Legal/Mgmt	Management	ex-ante	average	moderate	97 (1)
Italy	45		Own/legal	Legal	ex-ante	average	moderate	69
Lux	57		Management	Accounts	ex-ante	above average	unfavourable	n.a
Neth	63	2003	Ownership	Management	ex-ante	average	moderate	59
Portugal	45	2003	Legal	Accounting	ex-ante	average	moderate	82
Spain	55	2003	Ownership	Legal	ex-ante	average	favourable	83
Sweden	100	1998	Ownership	Legal	ex-post	average	favourable	90
UK	100	1998	Ownership	Legal	ex-ante	average	favourable	36

Source: Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper

Table 1 shows that in about half the countries, the generation market is dominated (80% or more) by just three companies and in 4 countries one or two companies have more than 90% of the market. With such a concentrated market structure, a competitive wholesale market is highly unlikely to develop. In Germany and Austria, high network tariffs make it difficult for new entrants to compete with the incumbent suppliers.² Table 2 shows that in most countries, large consumers appear to be using the market to their advantage by either switching supplier or renegotiating their rates. However, for small consumers, only 5 countries had introduced competition by 2002 and only in the UK and, to a lesser extent, Sweden, were consumers taking advantage of the option of switching (it is not clear how domestic consumers could renegotiate their terms with their electricity supplier).

Table 2 Market shares in retail supply

	Number of licensed suppliers	No suppliers independent of DSOs	No with market share above 5% (2000)	Top 3 suppliers' share (all consumers 2000) %	Large eligible industrial users		Small commercial or domestic	
					switch (%)	switch or renege (%)	switch	switch or renege
Austria	40	6	7	67	20-30	Unknown	5-10	Unknown
Belgium	16	16	3	53	2-5	30-50	Not eligible	
Denmark	70	6	3	38	Unknown	>50	Not eligible	
Finland	80	9	3	33	Unknown	>50	5-10	10-20
France	225	41	1	90 (1)	10-20	Unknown	Not eligible	
Germany	c 1200	200	3	50	>50	>50	5-10	10-20
Greece	7	6	1	100 (1)	Nil	Nil	Not eligible	
Ireland	19	18	1	90+ (1)	10-20	Unknown	Not eligible	
Italy	170	135	2	72 (2)	>50	100	Not eligible	
Lux	2	0	2	100 (2)	10-20	>50	Not eligible	
Neth	33	15	7	48	20-30	100	Not eligible	
Portugal	11	10	1	99 (1)	5-10	Unknown	Not eligible	
Spain	149	Unknown	4	94	10-20	>50	Not eligible	
Sweden	120	20	3	47	Unknown	100	10-20	>50
UK	59	59	8	42	>50	100	30-50	n.a.

Source: Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper

1.1.2 Reciprocity

Under the Directive, Member States can refuse imports to eligible consumers that would not be considered eligible in the exporting country. Austria, Belgium, Germany, Italy, Luxembourg, Netherlands, Portugal and Spain have adopted this provision in their national law.³

1.1.3 Construction of generating capacity

There are two options included in the Directive for regulating the construction of generating capacity.⁴ One is the authorisation procedure which all countries have now chosen, under which basically any company can build new plant whenever and wherever they like subject to the normal procedures that any industrial facility would have to comply with. The other option was the tendering process under which the need for new plant is established by some form of planning process and companies compete to be allowed to build the required capacity. Only Portugal initially chose this option (for plant serving the captive market there), but it has now switched to authorisation.

1.1.4 Access to the transmission and distribution networks

There are three options under the Directive.⁵ Under the regulated Third Party Access (TPA) option, generators and retail suppliers are guaranteed access to the network at prices published by the System Operator (SO) and under non-discriminatory terms. Under the negotiated TPA option, indicative prices are published, but customers must negotiate the specific price and terms with the SO. The third option is the Single Buyer procedure. Under this procedure, all the electricity is bought by the SO (under open and fair procedures) or all the electricity for captive consumers is bought by the SO. While the provision for the SB option was negotiated by France, in the end, France did not choose it.

All the Member States chose regulated TPA, with the exception of Germany which chose negotiated TPA. Italy and Portugal, both initially chose the Single Buyer for captive consumers and regulated TPA for eligible consumers, but have now opted for regulated TPA for the whole industry. In theory, countries could choose different access provisions for distribution and transmission, but, in practice, all countries have chosen the same method of access for both transmission and distribution.

1.1.5 Unbundling of transmission

To ensure that non-discriminatory access to the transmission network, there are provisions that attempt to ensure the independence of the management of the transmission network.⁶ As a minimum, integrated companies must have separate management for the network activities and publish separate accounts for their network businesses. France, Luxembourg, and within the UK, Scotland and Northern Ireland have opted for this minimum level of compliance. Austria, Belgium, Denmark, Germany, Greece, Ireland and Portugal have opted for legal unbundling, under which a separate network company is set up, but still under the ownership of the integrated utilities. In Finland, Italy, Netherlands, Sweden, Spain and England & Wales, transmission is owned by entirely independent companies.

1.1.6 Unbundling of distribution and retail supply

With the introduction of competition for customers, it becomes possible (at least in theory) for companies other than the distributor to sell electricity to consumers (including households, where the market has been 100% opened). As the extent of retail competition for final consumers was extended, provisions for access to distribution networks became more important. The distribution company must make its physical network available for other companies to use to distribute electricity to customers, and to avoid conflicts of interest one possibility is to separate the distribution network itself from the retail supply business.⁷

In its first review of progress on implementing the Directive, in 2001, the European Commission contained little substantive discussion on unbundling of the distribution network.² No country has opted for ownership unbundling and only in Britain have there been any moves in this direction. Initially, the British regulator required only an accounting separation of distribution and retail supply, but from 2000 onwards, he has enforced a very strict legal separation. In other words, distribution and supply businesses can be under common ownership, but they must be run as entirely separate businesses. This has begun to lead to a separation in ownership and in six out of 14 regions of Britain, the distribution businesses are owned by companies with no interest in generation or retail supply.

In its 2002 review³, more emphasis was put on this area and the Commission claimed that in six countries (Belgium, Denmark, Italy, Spain, Sweden and UK), there was legal unbundling of the distribution system operator (DSO) from the retail supply business, in a further three countries (Finland, Ireland and the Netherlands) there is separate management and in six countries (Austria, France, Germany, Greece, Luxembourg and Portugal) there was accounting separation.

1.1.7 Regulation

The Directive requires that an independent dispute authority should be designated and that mechanisms be put in place to ensure transparency and to prevent abuses of dominant position.⁸ This is one of the least precise elements of the Directive. In most countries, a sector specific regulatory body has been set up. The most important exception is Germany which will have self-regulation with powers for the Federal Cartel Office to investigate abuses and to resolve disputes. It is not clear whether this arrangement will be acceptable.

In practice, regulatory bodies vary widely in their powers and capabilities. The UK regulator (who also covers gas) is fully independent with a staff of several hundred and has tariff setting powers. Some other regulators only have a handful of staff (Finland), some have only advisory powers on tariff setting (Spain), while some can be instructed by the relevant minister (the Netherlands).

1.1.8 Public service obligations

As with regulation, the provisions of the Directive are very vague in this area and in many respects, it is up to member states what measures are included. The Directive foresees three areas in which public service obligations might be imposed. These are in universal service and protection of consumers, protection of the environment and technical provisions intended to ensure the security of the supply.

The Directive itself does not impose any public service obligations. It accepts that the general duty of liberalisation may be limited by member states using public service obligations but this must be done explicitly.

Article 3, section 2 states:

“Having full regard to the relevant provisions of the Treaty, in particular Article 90, Member States may impose on undertakings operating in the electricity sector, in the general economic interest, public service obligations which may relate to security, including security of supply, regularity, quality and price of supplies and to environmental protection. Such obligations must be clearly defined, transparent, non-discriminatory and verifiable; they, and

² European Commission (2001) ‘First benchmarking report on the implementation of the internal electricity and gas market’, SEC (2001) 1957, 3 December 2001.

³ European Commission (2002) ‘Second benchmarking report on the implementation of the internal electricity and gas market’, SEC (2002) 1038, 1 October 2002.

any revision thereof, shall be published and notified to the Commission by Member States without delay. As a means of carrying out the above mentioned public service obligations, Member States which so wish may introduce the implementation of long-term planning.

This implies that electricity companies throughout the EU are free to operate as purely commercial entities, with no public service obligations except those explicitly applied in national law and notified to the European Commission.

1.1.9 Power exchanges

Perhaps the most important element of the EU reforms is the need to set up a market in which wholesale power can be traded. There is no explicit provision in the Directive requiring countries to set up a wholesale market but, if there is not competition in generation, retail competition and unbundling make little sense and new entrants to the generation sector would find it difficult to sell their power. Many Member States have markets, which vary from compulsory day-ahead markets, such as OMEL in Spain, through spot official spot market-clearing spot markets, such as the NordPool for the Nordic countries and NETA for England & Wales, to private power exchanges, for marginal trade in power, such as the Amsterdam Power Exchange. None of these is unequivocally successful. In some countries, mostly those dominated by just one generator (Belgium, Greece, Ireland, Luxembourg no wholesale market exists, while in Italy and Portugal, the wholesale market has yet to be introduced).

1.1.10 Concentration in generation

The Commission is now placing more emphasis on the structure of the generation sector, recognising that a market with only two or three generators is unlikely to be competitive. In eight countries (Belgium, Denmark, France, Greece, Ireland, Portugal, Spain, Sweden) the three largest generators have more than 75 per cent of the market. In Italy, the dominance of ENEL and in Germany, the regional dominance of the four largest generators means that there must be question marks about how competitive generation can be.

1.1.11 Updated proposals

Proposals were published by the European Commission in July 2002 to accelerate the timetable and extend competition. The main proposals were:

- Retail competition should be extended to all non-residential consumers by January 2003 and to all consumers by January 2005;
- Transmission system operators should be legally unbundled (a legally and functionally separate company);
- Distribution system operators should be legally separated by 2003;
- TPA via published and regulated tariffs should be the norm for network access; and
- Independent regulatory bodies should be established to set and/or approve tariffs and conditions for access to gas and electricity transmission and distribution networks.

As no countries had opted for the tendering process for new generation and for the Single Buyer option for system access, it was proposed that these options be deleted. As full consumer competition was proposed by 2005, the reciprocity clause would have no applicability after then.

Clearly the countries potentially most affected by these proposals are those that had no plans to extend retail competition to all final consumers (Italy, France, Greece and Luxembourg) and Germany, which has no plans to establish a sector regulatory body and which has opted for negotiated TPA for access to the network. These proposals are to be discussed at a European

Energy Council meeting in December 2002 with a view to bringing the draft to the European Parliament in spring 2003.

In response to these proposals, a number of countries have changed their plans. Portugal expects now to open retail competition to all commercial consumers in January 2004 and to all consumers by June 2004. It also expected to join a single Iberian power pool around mid-2003 to open up wholesale competition.

1.2 The Italian electricity industry

1.2.1 Structure

The Ente Nazionale per l'Elettrica (ENEL) was created as a nationalised electricity company in 1962. It dominated generation, transmission and distribution over the whole of Italy. The main exceptions to this monopoly were auto-producers who generate and supply electricity mainly to themselves and a few municipal companies, who distribute and, in some cases, generate electricity. Since the mid-80s, imports of electricity mostly from France (directly or indirectly via Switzerland) have met up to 15 per cent of Italian electricity demand. ENEL's monopoly in generation of electricity for public supply was broken in 1991, but independent power producers were required to sell output for public supply to ENEL.

Auto-producers must consume at least 70 per cent of the electricity they produce and, typically, they account for about 15 per cent of the electricity generated in Italy. Municipal companies generate about 4 per cent of Italy's power, but prior to the current reforms, they accounted for about 7 per cent of electricity sales. There about 45 municipal companies, most of which are in the North or Central part of the country. Only seven serve more than 200,000 customers, with the companies for Roma, Milano, Bologna and Torino much the largest. There are also important companies in Genoa, Brescia, Verona and Cremona. In cities with municipal utilities, the network was usually split between ENEL and the municipal company.

1.2.2 Recent changes to ENEL

A number of changes are taking place to allow Italy to comply with the EU Electricity Directive. Operation of the transmission sector was separated off as Gestore della Rete di Trasmissione Nazionale (GRTN). Ownership of the transmission assets is through Terna, which in December 2002 was still owned by ENEL. It is expected that Terna will merge with GRTN and that the company will eventually be floated on the stock exchange. ENEL will be compensated by government for the loss of the transmission assets. There has also been speculation that the electricity transmission network would merge with its equivalent company in the gas sector. Some shares in ENEL were sold in November 1999, when 34.5 per cent of the shares were sold raising about €15bn. The government still owns the remaining shares and it is not clear if and when further sales of shares will take place.

Under the reforms, ENEL was required by the Bersani Decree to negotiate sale of the network in cities where ownership was split so that only one distributor operated the network. This process had to be completed by March 31, 2001 and if this deadline was not met, the deal had to go to arbitration.

To reduce ENEL's dominance of generation so that it held no more than 50 per cent of capacity, ENEL was required to sell 15,000MW of its capacity. The government placed limits on the extent to which municipal utilities could own this capacity, so that publicly owned companies could only take a minority stake. This capacity was split into three parts. The first, Elettrogen, with 5418MW, was sold in July 2001 to a consortium led by the Spanish utility Endesa (45%) that included AEM

Brescia (15%), the municipal utility, with the balance being held by the largest Spanish bank, Santander Central Hispano. The sale price was €2.63bn. Subsequently, Endesa raised its stake to a controlling 51 per cent, buying 5.7 per cent of the shares from the Spanish bank and changed the name to Endesa Italia.

A second tranche of 7008MW, known as Eurogen, was sold to a consortium, Edipower (a failed bidder for Elettrogen), dominated by Edison (Italy) and EDF (France) in March 2002 for €2.98bn. The consortium was a complex one. Edison had the largest share with 40 per cent. Other members were AEM Milano (13.4%), AEM Torino (13.3%), the Swiss utility Atel (13.3%), Unicredit (10%), Royal Bank of Scotland (5%) and Interbanca (5%). Under the consortium agreement, the banking partners will not have rights to the capacity. Therefore, Edison will get direct control of 3,500MW, while the Milano and Torino groups and Atel (in which EDF holds 20%) will gain control of another 1,150MW each. Edison, then the second largest generator in Italy with a controlling interest in over 10,000MW of capacity had been acquired in 2001 by Italcenergia, a partnership of Fiat (38.6%) and EDF (18%). However, the Italian government invoked the reciprocity clause of the Electricity Directive to limit EDF's voting rights in Edison to 2 per cent. EDF already supplies about 15 per cent of Italy's power through imports.

The final tranche, Interpower, comprising 2611MW of plant was sold in November 2002 for €874m to the only bidder. Ownership of the new company was split equally between Energia Italia and a consortium of Electrabel and ACEA. The main shareholder in Energia Italia is the de Benedetti family's Cir holding. Energia Italia is 62 per cent controlled by Energia, which in turn is 74 per cent controlled by Cir with the largest Austrian electricity company, the Verbund, holding the balance. The municipal companies based in Genoa (Amga SpA) and Bologna (Hera SpA) own much of the 38 per cent balance of Energia Italia. The Electrabel ACEA joint venture is 70 per cent owned by Electrabel and 30 per cent by ACEA, but for the purchase of Interpower, the ownership will be split 50-50. Electrabel, in other consortia, had also bid for the other two companies.

Prior to the sale of Interpower, in February 2002, the government had announced that ENEL would have to reduce its share of generation to less than 50 per cent by the end of October 2002, perhaps by increasing the capacity of plants to be included in Interpower, but in June, the industry minister reversed this position and ENEL will not now be forced to sell further capacity.

1.2.3 The municipal companies

Several of the municipal companies also began to convert to public companies with Milano (AEM, 1998) and Roma (ACEA, 1999) both selling 49 per cent of the shares. However, in all the municipal companies, the public still has a majority stake. Under the current reforms, municipal utilities that do not go public by the end of 2003 will have to transfer ownership of networks and assets to their local authorities, so there is heavy pressure on municipal companies to privatise, and also to merge with other municipal companies to form viable private companies.

1.2.3.1 ACEA

ACEA is the largest municipal utility in Italy and now has 1.5 million electricity customers and 3.5 million water customers. It sold 49 per cent of its shares in July 1999. After arbitration, ACEA took control of ENEL's part of the Roma network in April 2001 for €570m. ACEA's most important strategic move recently was the joint venture with Electrabel, the Belgian utility controlled by the French group, Suez. This was announced in May 2002 with the expectation the company, which would be 60 per cent ACEA and 40 per cent Electrabel would be created by the end of 2002. The new company would also create a number of subsidiaries including generation, trading and marketing companies. The generation company, which would be 50-50 owned by Electrabel and the new joint venture, was part of the consortium that successfully bid for Interpower.

1.2.3.2 AEM Milano

AEM (Azienda Energetica Municipalizzata) Milano now has about 0.8 million consumers and is the third largest municipal utility in Italy. It sold 49 per cent of stock in the company in July 1998. In November 2002, it had about 1150MW of generation. The price for taking over ENEL's part of the grid was finally agreed in September 2002 at €423m. It was part of the consortium led by Edison that took over Eurogen giving it control of 1150MW of generating capacity. AEM Milano took a 5.2% share in the Swiss power company, Atel, which, in turn, already held 5.1% of AEM Milano.

1.2.3.3 AEM Torino

AEM Torino supplies heat and power to about 0.5 million consumers. It is currently 69 per cent owned by the city after a sale of shares in November 2000. In September 2002, there was speculation that further shares would be sold to finance expansion in power generation. It was part of the consortium that purchased Eurogen giving it, like Milano, control of 1150MW of capacity. In September 2002, AEM Torino announced the construction of a 340MW power plant to add to the 170MW unit already on site. Apart from its Eurogen holding, it had about 500MW of capacity in 2002 which it expects to increase to 1500MW.

1.2.3.4 ASM Brescia

ASM Brescia is the fourth largest municipal utility in Italy and was first listed on the stock exchange in July 2002 after 20 per cent of the stock was sold. It holds 15 per cent of the shares in Endesa Italia, the company that bought 7000MW of plant from ENEL (as Elettrogen). It supplies electricity, gas, heating as well as water and waste services

1.2.3.5 Hera

Hera is now Italy's second largest municipal utility, based in Bologna, but serving 135 towns and cities in the Emilia Romagna area. It was created in September 2002 merging 11 municipal utilities. Bologna is the largest member of the group with 38 per cent of the shares with Faenza, Imola, Rimini, Ravenna, Cesenatico and Forli as the next largest members. In November 2002, there were plans to sell up to 49 per cent of the stock. Through stakes in Energia Italia, it took part of the Interpower company sold off by ENEL in November 2002.

1.2.3.6 Amga

Amga, based in Genoa, was the first Italian municipal utility, in October 1996, to sell shares, with 49 per cent of the stock being sold. In January 2003, Amga agreed to buy 35 percent of its counterpart in the northern Italian city of Vercelli to expand into a neighbouring territory. The €19m purchase of the Atena SpA stake will give Amga access to about 100,000 customers in the Vercelli area. Atena supplies power, gas, water and waste management. Amga joined with Acam, the power company of the city of La Spezia, which has a 20 percent stake in the purchase.

1.2.4 Compliance with the Directive

Like other countries with former nationalised monopoly utilities (France, Greece, Ireland and Portugal), Italy has tended not to adopt the more liberal options available under the Electricity Directive. Its response was the so-called Bersani Decree (named after PierLuigi Bersani, the then Industry Minister) passed in March 1999. The main provisions of the Bersani Decree were:

1.2.4.1 Generation

From January 1 2003, the Decree states that no generator will be allowed to produce more than 50 per cent of the electricity produced in Italy. This resulted in the sale by ENEL of three tranches of generation capacity amounting to about 15,000MW.

1.2.4.2 Break-up of ENEL

The Decree required ENEL to split itself up into separate generation, transmission/distribution and sales companies as well as a separate company to deal with the decommissioning of the nuclear power plants (closed since 1989).

1.2.4.3 Eligible and captive consumers

The Decree foresaw two classes of consumer, captive and eligible. Eligible consumers, those whose annual consumption exceeds the specified limit, are able to buy power from any generator, distributor or wholesaler. Captive consumers would buy from their local distributor at standard national tariff rates.

1.2.4.4 Transmission

A new company, the transmission system operator (TSO) would be set up to manage the transmission network, coordinating dispatch and ensuring non-discriminatory access to the network. The TSO would be required to set up a new company in which it held at least 50.1 per cent, to be the Single Buyer for captive consumers

1.2.4.5 Creation of a market

A new joint stock company would be created to manage a wholesale electricity market to be introduced no later than January 1, 2001.

1.2.4.6 Distribution

In some ways, the most significant changes were those required to the distribution sector. It required that in any municipality, only one distribution company would be licensed. Previously, most Italian cities were served by a local independent distribution company and by a company controlled by ENEL. All non-ENEL distribution companies serving more than 300,000 end users were given 180 days to create joint stock companies into which the distribution assets would be transferred. In cities where a non-ENEL distributor served more than 20 per cent of consumers, ENEL was required to transfer its distribution assets and personnel by March 31, 2001

There has been a varying degree of success in the implementation of the Bersani Decree.

Consumer competition. Italy opened 35 per cent of its market by 2000 and will have increased this proportion to 70 per cent by February 2003. However, like France, Greece, Luxembourg and Portugal, Italy has no plans to open up further.

Reciprocity. Italy has taken advantage of the clause that allows it to refuse imports to eligible consumers that would not be considered eligible in the exporting country. In practice, this could be used only to limit imports from France.

Construction of generating capacity. Italy like most other countries has opted for the authorisation procedure.

Access to the network. Italy initially chose the Single Buyer option for captive consumers and regulated TPA for eligible consumers, but has now changed to regulated TPA for all.

Unbundling. The network assets in Italy, Terna, are still owned by ENEL, but the operator, GRTN is fully independent of ENEL.

Regulation. A sector specific regulator, l'Autorità per l'energia elettrica e il gas (AEEG) was set up under a law passed in 1995. The authority is made up of three commissioners. Its main duties are to set tariffs, enforce quality standards and to comment on structural and competition issues.

Power exchange. Plans to introduce a wholesale market in Italy, originally scheduled for the beginning of 2001 have long been delayed and in December 2002, the market was scheduled to open in January 2003. The market manager will be Gestore Mercato Elettrico (GME), a wholly owned subsidiary of GRTN.

1.2.4.7 Public service obligations.

The public service obligations that Italy has chosen to implement were quite detailed and fell into three areas.

1.2.4.8 Managing of the network

- The transmission system operator has the obligation to ensure the security, continuity and development of the network.
- The transmission system operator has the obligation to connect to the network all those that so request.
- Priority ensured by the transmission system operator to the electricity produced on the basis of domestic energy sources (criteria to be defined by the Regulatory Authority).

1.2.4.9 Supply to captive customers

- The Single Buyer is obliged to guarantee the security, continuity and efficiency of supply to captive customers.
- The Single Buyer is obliged to apply a unique tariff for captive customers.
- A special reduced tariff for low income customers' basic needs is going to be introduced.
- A Code of practice for electricity supply has been introduced by the Regulator, regarding customers' disconnections for debt, complaints management, meters reading, billing, payments, non-payments handling.

1.2.4.10 Environment

- Priority ensured by the transmission system operator to the electricity produced with renewable and CHP plants (criteria to be defined by the Regulatory Authority).
- Operators which produce and import more than 100 GWh are obliged, from 2002, to feed into the network at least 2% of the electricity produced and imported in the previous year (net of cogen, export and self-consumption) on the basis of renewable plants built or re-powered after the entry into force of the Decree.
- Other incentives for renewables are envisaged and will be determined with further provisions (capital grants assigned by Regions on the basis of competitive procedures).

Now that the Single Buyer has been abandoned, it is not clear what the implications for supply to captive consumers are.

1.3 Conclusions

The Electricity Directive was criticised when it was passed for the vagueness in its terms and the weakness implied by the multiple options. In fact, countries have generally opted for the more liberal provisions leaving options, such as the Single Buyer and unbundling only at an accounting level much less chosen than was expected. With retail competition countries have also generally moved much more rapidly to open up their markets. As a result, new proposals were being debated at the end of 2002, which, if adopted, will see a much more open European electricity market than was envisaged in 1996.

However, the two major countries in mainland Europe, France and Germany, are reluctant to adopt these proposals leading to doubts about their real commitment to competition in electricity. In

France, there seems little commitment to break up EDF, the nationally-owned company that dominates all aspects of the industry. In Germany, the government is fighting against the proposal to introduce a sector regulator preferring the option of self-regulation. Its choice of negotiated TPA may leave the four private companies that dominate the electricity industry in Germany with strong market power in their home regions.

Unlike France, Italy used the Electricity Directive to institute major reforms to the electricity system, breaking up ENEL, a company that had previously had a comparable position in the Italian market to EDF. At the distribution company level, municipal companies were required to increase their market share in distribution, to privatise and to increase their presence in generation. The initial proposals would have given them substantial protection, leaving the residential market as a monopoly and allowing the distribution and retail supply businesses to remain integrated. However, the latest Commission proposals, if adopted, will mean they will lose their remaining retail monopoly by 2005 and would encourage the de-integration of distribution and retail supply.

2 Structures in electricity industries in EU

This section describes the electricity industries of 7 EU countries. They include the largest 4 countries outside Italy – France, Germany, UK and Spain – together with Belgium, Sweden, and Ireland, selected for interesting features including the continued presence of a dominant state-owned or private dominant company.

2.1 France

2.1.1 EDF

The dominant company in France is Electricite de France (EDF). EDF was founded in 1946 as a nationally-owned, fully integrated electric utility with monopoly powers in generation, transmission and distribution. The new Chirac government announced in May 2002 that it would sell a minority holding shares in EDF by November 2003. It may prove difficult to meet this timescale because of worker opposition to reforms of the pension scheme, a necessary condition for part-privatisation.

There were a number of exceptions to this monopoly. In generation, the national coal company, CDF, and the national rail company, SNCF, own some capacity (about 2600MW and 600MW respectively). There is also a long-established (1933) company, CNR, owned by local authorities, created to exploit the resources of the Rhone River, including about 3000MW of capacity. In distribution, a number of municipal companies continued after nationalisation and today, there are 170 municipal companies that distribute electricity to about 1.5 million consumers. The most important companies are in Strasbourg, Metz and Grenoble. Historically, these companies have had little discretion over their wholesale electricity purchasing and retail pricing, and they are not allowed to extend their activities to other sectors.⁹

In June 2002, Electrabel (Suez) bought an 11% stake in CNR and now handles its output and sales. SNET, the company set up to handle power sales from CDF is now 51% owned by CDF, 30% by Endesa and 19% by EDF. Suez has signed a 5-year contract to take all the power from the SNCF generation plant (SHEM) and has options to buy two tranches of 40% of the company.

In return for allowing the take-over of the German utility, EnBW, the European Commission required that EDF auction the equivalent output (virtual capacity) of 6000MW of capacity, 42TWh or about a third of the French market that is open to competition. This is taking place via a series of auctions of which six had taken place by the end of 2002. The auctions are for varying 'parcels' of capacity for between three months and three years, some base-load, some peaking etc. It is hoped that this will release power to allow new retailers into the market and, for example, BP has purchased some of this virtual power to market to large consumers in France.

2.1.2 Compliance with the Directive¹⁰

Generation. France was instrumental in negotiating the Single Buyer option in the Directive, but chose not to opt for it, adopting the authorisation procedure

Access to the network. France has chosen regulated TPA for transmission and distribution.

Unbundling. The transmission network is owned and operated by a division of EDF, Réseau de Transport d'Electricite RTE. RTE, the designated transmission system operator was created in July 2000 and is owned (TSO) by EDF and is independently managed, but not legally unbundled. The distribution networks are only unbundled at an accounting level, but no separate accounts had been published by October 2002.

Regulation. The regulatory body, Commission de Régulation d'Electricité (CRE), was created in 2000. It has a staff of about 80 and a budget of about €m

Consumer competition. France has remained the slowest country in the Union to open its market to competition, committing to no more than the required minimum and, at the end of 2002, only 30% (1300 sites) of the market was open to competition. In 2003, the market opening will increase to 34.5% (3000 sites) as required by the Directive. In November 2002, the French government agreed to meet the latest proposals on competition from the Commission that require that all commercial consumers will be able to choose by 2004 and all consumers by 2007.

Wholesale market. A voluntary power exchange, Powernext, has been in operation since July 2002.

2.1.3 The distribution sector

EDF is the dominant retailer and distributor. For distribution, there are a number of independent municipal companies, but these are generally small and only account for about 5% of consumers. Similarly for retail supply, EDF dominates except in areas served by municipal companies. Amongst large consumers (30% of the market is open), only about 10-20% have switched from their local retailer, presumably mostly to suppliers that have purchased power in the EDF auctions.

2.2 The German electricity industry

2.2.1 E.ON and RWE

The dominant companies in Germany have always been the regional companies that dominate generation and that own the regional transmission grids. In 1990, at the time of unification, there were 8 network companies in the West and the network in the East was merged into one company, VEAG, owned by the network companies from the West. In the past 6 years, there has been considerable merger activity amongst these companies and they are now controlled by just four companies. The two largest companies are E.ON and RWE, which are about equal in size. E.ON was created by the merger of Preussenelektra and Bayernwerk, then the second and third largest companies, in 1999, while at about the same time, RWE (then the largest company) merged with VEW, another of the network companies. Two more network companies, Badenwerk and EVS, merged in 1997 to form EnBW and this company is now controlled by EDF. The Swedish company, Vattenfall now controls the other three network companies, BEWAG, HEW and VEAG in Vattenfall Europe. The two largest companies control about 60% of the generation market and about 60% of retail supply to final consumers. There are a large number of other companies, including about 900 distribution companies.

2.2.2 Compliance with the Directive¹¹

Generation. Germany has adopted the authorisation procedure.

Access to the network. Germany is the only country to have chosen negotiated (as opposed to regulated) TPA for both transmission and distribution.

Unbundling. The four network companies have legally unbundled their transmission networks but there are no plans to separate them totally. The distribution companies have an accounting separation and some had published separate accounts by October 2002.

Regulation. Germany is the only country in the European Union with no sector regulator for electricity or gas. Regulation is voluntary, but with the oversight of the Federal Cartel Office

Consumer competition. Germany introduced retail competition for all consumers in 1999.

Wholesale market. EEX was formed in 2002 from the merger of the Leipzig Power Exchange and Frankfurt-based rival EEX because the two German exchanges had struggled to compete on their own.

2.2.3 The distribution sector

The distribution sector is highly complex, with some sources suggesting there are about 1200 distribution companies. There are about 900 distribution system operators (DSOs). In the retail market, only RWE has a direct market share of more than 5% (with about 14%). However, in a report produced for the European

Commission, Oxera¹² estimates that the market share of RWE is about 30% and even higher if the market shares of the former VEW and RWE controlled municipal companies are taken into account (see Tables 1 and 2). E.ON sells electricity to only a few large industrial customers, but it also owns shares in many regional suppliers. On this basis, the Oxera report estimates E.ON's share of the national market is about 32% not taking account of E.ON-owned municipal utilities (see Tables 3 and 4).

Since competition was introduced, the pre-tax price of electricity has come down by about 15%, but only about 5% of small consumers have switched supplier. There is concern in the Cartel Office about over-charging for network access. In January 2003, it criticised the charges levied by Thüringer Energie (TEAG) which is controlled by E.ON. A report by industrial consumers also criticised the charges set by TEAG, Mainova (Frankfurt), MEAG (controlled by RWE) and GEW Rhein Energie. The high network charges are blamed for the lack of switching amongst small consumers. It is suggested that network charges are cross-subsidising the retail supply business, leaving the retail supply margin too small to allow competitors to compete against the incumbent companies. These problems are likely to increase pressure on the government to appoint an independent sector regulator.

Table 1 RWE stakes in the capital of regional electricity suppliers

Regional supplier	RWE/RWE Energie stake	Electricity sales to end customers (GWh 1999)	Total electricity sales (GWh 1999)
Envia Energie Sachsen Brandenburg AG, Chemnitz	63	9,508	12,890
Koblenzer Elektrizitätswerk und Verkehrs AG	57	2,012	2,066
Kraftwerk Altwürttemberg AG, Ludwigsburg	80	1,379	1,661
Lech-Elektrizitätswerke AG, Augsburg	90	6,204	9,218
Main-Kraftwerke AG, Frankfurt/Main	72	3,327	4,308
Niederrheinische Versorgung und Verkehr AG	50	1,581	2,037
Elektromark Kommunales Elektrizitätswerk Mark	10	2,479	4,357
VSE AG	41	1,044	4,480
OIE AG	100	467	467
Pfalzwerke AG	27	2,802	7,197
Elektrizitätswerk Rheinhessen AG	50	1,628	1,712
Kraftversorgung Rhein-Wied AG	70	786	1,009
Überlandwerk Gross-Gerau GmbH	50	906	950

Notes: This table includes stakes held by former RWE, RWE Energie (100% owned by RWE) and VEW Energie. VEW Energie holds only one stake in a regional company (10% of Elektromark Kommunales Elektrizitätswerk Mark AG).
Source: Oxera 'Electricity liberalisation indicators in Europe', Report to the European Commission, DG TREN, 2001

Table 2 Estimation of RWE's market share in the supply market (%)

RWE's direct sales to	
private and commercial customers	7.07
business customers	6.06
industrial customers	9.27
Direct sales of regional companies controlled by RWE and VEW	7.45

Notes: These figures do not include the electricity sales of former VEW, which is now part of RWE Group, and do not include the supply activities of RWE-owned municipal utilities.

Source: Oxera 'Electricity liberalisation indicators in Europe', Report to the European Commission, DG TREN, 2001

Table 3 E.ON stakes in regional electricity suppliers

Regional supplier	E.ON stake (%)	Electricity sales to end customers (GWh 1999)	Total electricity sales (GWh, 1999)
e.dis Energie Nord AG	70.0	10,386	11,862
EVO Energiversorgung Oberfranken AG	90.7	3,248	7,401
Isar-Amperwerke AG	98.5	7,164	11,346

OBAG AG	97.6	8,070	12,253
Schleswig AG	65.3	6,551	9,288
TEAG Thüringer Energie AG	74.9	5,114	8,138
Avacon AG	54.3	8,584	14,392
EWE AG	27.4	10,442	12,983
PESAG AG	54.7	2,193	2,256
Energie-AG Mitteldeutschland	46.0	7,195	9,771
Überlandwerk Unterfranken AG	54.4	1,820	4,414
Stromversorgung Ostthannover GmbH	Avacon holds 26	746	838
Landelektrizität GmbH	PREVAG holds 88.9	479	963
Fränkisches Überlandwerk AG	Thüga holds 61.23	2,296	4,543

Notes: The table includes stakes held by former Bayernwerk and PreussenElektra. PREVAG is owned by Contigas (25%) and by former PreussenElektra (25%). In turn, Contigas is owned by former Bayernwerk (98.5%). Thüga is owned by former PreussenElektra (56.47%).

Source: Oxera 'Electricity liberalisation indicators in Europe', Report to the European Commission, DG TREN, October 2001

Table 4 Estimation of E.ON's market share in the supply market (1999)

	% of total electricity sales in Germany
Direct sales to industrial customers	11
Direct sales to tariff customers	6
Direct sales of regional companies controlled by E.ON	16

Source: Oxera 'Electricity liberalisation indicators in Europe', Report to the European Commission, DG TREN, October 2001.

2.3 The British electricity industry

2.3.1 The major companies

Since its privatisation in 1990, the British electricity sector has seen a huge amount of restructuring, especially in the distribution and retail supply sectors. In 1990, there were three main generators, National Power, Powergen and Nuclear Electric; 12 regional distribution/retail supply companies; two fully integrated Scottish companies, Scottish Power and Scottish Hydro; and a transmission company covering England and Wales. The latter three companies are the only ones to have survived as independent companies in anything like their 1990 form. The industry is now dominated by 5 companies with strong generation and retail supply businesses. These are: Innogy, a daughter company of National Power owned by RWE (Germany), Powergen (owned by E.ON of Germany), EDF (France) and the two Scottish companies.

2.3.2 The electricity industry in Britain

There have been three major trends in the British electricity industry since 1990:

- Take-over of the companies by foreign companies. Initially, US companies were the main purchasers, but most have left again and most are now European companies;
- A split of the regional companies into separate distribution and retail supply companies; and
- Integration of retail supply companies into generation companies;

Of the 12 regional companies in England and Wales privatised in 1990, in 7 cases, the distribution and retail businesses are under entirely separate ownership. British regulation requires that owners of distribution and retail businesses make a full split between the two businesses in all aspects except ownership.

Innogy has taken over three retail supply businesses, Powergen has taken over three retail suppliers and one distributor and EDF has taken over three retail suppliers and three distributors. The two Scottish companies remain fully integrated in Scotland, but are likely to have to divest their transmission businesses. Scottish

Power owns an English distribution/retail supply company, while Scottish Hydro has merged with an English distribution/supply company and has taken over a retail supply business.

2.3.3 Compliance with the Directive¹³

Britain has already more than fulfilled all requirements of the Directive, original and latest, through the liberalisation of its market in 1990.

Generation. Britain has chosen the authorisation option for new generation.

Access to the network. Britain has chosen regulated TPA for transmission and distribution.

Unbundling. The transmission network is operated by the privately-owned and independent National Grid Co, which is the transmission system operator (TSO). As noted above, the distribution sector is legally unbundled and in many cases is unbundled at an ownership level and the distribution companies are the distribution network operators (DNOs).

Regulation. An independent regulator, the Gas and Electricity Markets Authority, assisted by the Office of Gas and Electricity Markets (Ofgem) is the regulator for the electricity (and gas) markets. It has about 330 staff and an annual budget of about €8m

Consumer competition. All consumers have been able to choose their electricity supplier since 1998/99

Wholesale market. The wholesale market for England and Wales is the New Electricity Trading Arrangements (NETA). No wholesale market exists yet for Scotland, but preparations are now underway to integrate Scotland into the England and Wales market in the British Electricity Trading and Transmission Arrangements (BETTA), although this is unlikely to be before the end of 2004.¹⁴

2.3.4 The distribution sector

As described above, the distribution and retail supply sector in Britain have become largely disconnected and there has been substantial concentration. For distribution, the 14 separate regions at the time of privatization are now owned by only eight companies (see Table 1). It is widely expected that Aquila will sell the Midlands region to one of the seven other owners, and there is speculation that the two Scottish companies will merge. This would leave the distribution sector in the hands of just six companies. At present, despite these mergers, there remain 14 separate DNO organisations.

For retail supply, the 14 privatised businesses are in the hands of just five companies – four if the two Scottish companies were to merge (see Table 2). The only significant new entrant to the sector has been Centrica, which has a market share of about 25% in the residential part of the market.

Table 1 The distribution sector: 1990 and 2003

1990	2003
1. London	1. EDF
2. Eastern	2. PPL (USA)
3. Seeboard	3. Scottish Power
4. SWEB	4. Scottish and Southern
5. SWALEC	5. North West Water
6. South Scotland (Scottish Power)	6. Mid-American Energy Holdings
7. Manweb	7. Powergen (E.ON)
8. North Scotland	8. Aquila (USA)
9. Southern Electric	
10. Norweb	
11. Yorkshire	
12. Northern	
13. East Midlands	
14. Midlands	

Note: The Midlands distribution company was put up for sale by Aquila on August 7, 2002 but by end-January, 2003, a buyer had not been found

Table 2 The retail supply sector: 1990 and 2003

1990	2003
1. London	
2. SWEB	
3. Seeboard	*1. EDF
4. Eastern	
5. Norweb	
6. East Midlands	*2. Powergen (E.ON)
7. South Scotland (Scottish Power)	
8. Manweb	*3. Scottish Power
9. North Scotland	
10. SWALEC	
11. Southern Electric	*4 Scottish & Southern
12. Yorkshire	
13. Midlands	
14. Northern	*5. Innogy (RWE)

Note: Companies marked * have large electricity generation businesses.

2.4 The Spanish electricity industry

2.4.1 Endesa and Iberdrola

The largest company in Spain is Endesa. It was created in 1983 from the merger of several companies and in 1988, the Spanish government began to sell off stock, 24.4% in 1988, 8.7% in 1994, 25% in 1997 and 33% in 1998. In 2001, it had 42% of the generation capacity in Spain and supplied 36% of the electricity in Spain. The other major company, Iberdrola is privately owned and had 34% of generation and 41% of retail supply.

Other important companies in Spain are Union Fenosa (11% of generation and 15% of retail supply), Hidrocantabrico (5% of generation and retail supply) and Electra de Viesgo (5% of generation and 3% of retail supply). The first three companies are independent. A merger between Endesa and Iberdrola was proposed in 2000, but the conditions the government would have imposed to allow the merger were not acceptable to the two companies and in February 2001, the merger was abandoned. Electra de Viesgo was sold by Endesa in 2001 and is now controlled by ENEL. EDF did try to take over Hidrocantabrico in 2001, but was blocked by the Spanish government. EDF does indirectly own 35% of the company through its German subsidiary, EnBW, while the largest shareholder is the dominant Portuguese electric utility, EDP, with 40%. Union Fenosa is seen as a potential takeover target and in 2002, E.ON and ENEL were identified as possible bidders.

The network is owned by a long-established (since 1985) company, Red Electrica Espana (REE). The largest generators (Endesa, Iberdrola, Union Fenosa and Hidrocantabrico each own 10% of the shares, the government owns 31.5% and the rest are traded on the stock market. REE is in the process of buying the transmission assets from the 5 main companies. At the end of 2002 the company bought the networks of Endesa and Union Fenosa for 1.345bn euros. REE has also taken a 25 per cent stake in Redalta (owned by CVC Capital Partners) in which the power lines sold by Iberdrola were deposited. It plans to negotiate with Hidrocantabrico and Viesgo to buy their electricity transport assets.

2.4.2 Compliance with the Directive¹⁵

Spain has broadly fulfilled the requirements of the Directive.

Generation. Spain has chosen the authorisation option for new generation.

Access to the network. Spain has chosen regulated TPA for transmission and distribution.

Unbundling. The transmission network is owned and operated by REE, the transmission system operator, while the distribution companies are legally unbundled.

Regulation. The regulatory body, Comision Nacional de la Energia (CNE), was created in 1998 from the merger of the gas and electricity bodies but it is only an advisory body with ultimate decisions being taken by the Ministry of Industry and Energy. The CNE has a staff of about 150 and an annual budget of about €9m.

Consumer competition. The Spanish government has accelerated the opening of the market significantly and from January 1 2003, all consumers have been free to choose their electricity supplier.

Wholesale market. A Pool-type wholesale market, Omel, has been in operation since 1999.

2.4.3 The distribution sector

The Electric Sector Act 54/1997 set the date of December 31, 2000, as the deadline to proceed to the judicial separation between regulated and non-regulated activities.

Endesa has 10.2 million consumers in Spain. In 2002, it had increased its market share in Spain (including the islands) to 42.4%. Endesa conducts the business through its subsidiary Endesa Distribución, which comprises 5 regional distributors: Sevillana, Fecsa-Enher, ERZ, Unelco, and Gesa (see Table 1). It is expected that these five companies will be integrated into two companies: Endesa Distribucion Electrica and Endesa Operaciones y Servicios Comerciales, which will make up Endesa Red. Endesa Distribucion Electrica will be responsible for the transport and distribution of electricity, while Endesa Operaciones y Servicios Comerciales will provide commercial support, such as billing and providing a telephone service.

Table 1 **Endesa distribution companies**

Company	Customers (th)	Sales (GWh)
Sevillana	3,761	22,782
Erz	703	1,442
Fecsa-Enher	3,513	27,204
Gesa	541	3,701
Unelco	845	5,329
Total	9363	60,458

Iberdrola's distribution network covers 10 regions, which are integrated into Iberdrola Redes SAU. It had 8.9 million customers and sold 73.9Twh of power in 2001. Union Fenosa supplies power to 3 million consumers in the regions of Madrid, Galicia, Castilla y Leon and Castilla-La Mancha and sold 27,027GWh in 2001.

Hidrocantabrico Distribución Eléctrica, S.A, was established on January 1, 2000. It supplies power to about 525,000 customers in the Asturias region. Viesgo has about 500,000 electricity customers in Northern Spain.

2.5 The Belgian electricity industry

2.5.1 Electrabel

The dominant company in Belgium is Electrabel. The ownership of this company is complex, but the largest shareholder, with 44% of shares is Tractebel, the energy division of the Suez Lyonnaise (98% owned by Suez Lyonnaise). 4.7% of the shares are owned by municipalities and the rest of Electrabel's shares are traded on the stock market. Suez acquired its stake by taking over 60% of Societe Generale Belgique in 1998. Electrabel is currently attempting to takeover all energy activities of Suez in Europe. It already has interests in Italy through its joint venture with the Rome municipal company, ACEA, and through its share in a generation company, Interpower, spun off from ENEL in 2002, in France, Spain and Portugal through interests in generation plants. It is attempting to take over Tractebel's shares in the Belgian gas company Distrigas and the gas network company, Fluxys.

2.5.2 The electricity industry in Belgium

Electrabel owns over 85% of the generation capacity in Belgium. Much of the rest (8.5%) is held by the publicly owned company Société de Production d'Electricité (SPE). This company is controlled by a consortium of municipal companies. In October 2001, EDF took a 10% stake in the company with an option to buy up to 49% of the shares.

The transmission system is owned and operated by Elia, which is designated as the Belgian transmission system operator (TSO). This company was created in 2001 and was then owned by CPTE, a joint venture between Electrabel (91.5%) and SPE (8.5%). In 2002, 30% of this company was bought by a consortium of municipalities, Publi-T. It is planned that CPTE will sell a further 40% of the shares to the market, leaving 30% with CPTE and Publi-T.

The distribution sector is controlled by about 30 local companies that are either 'pure' public companies, or 'mixed' companies jointly owned by municipalities and Electrabel. In 1999, there were 34 companies. There are no government plans to impose an overall restructuring of the industry or its ownership.

2.5.3 Compliance with the Directive¹⁶

Belgium was given an extra year to comply with the Directive because of the small size of the system (production in 1999 was 81TWh).¹⁷ The law incorporating the Directive was passed in May 1999, 9 months ahead of the required date of February 2000. However, it failed to appoint a TSO by February 2000 and it was until October 2002 that Elia was appointed as TSO.

Generation. Belgium has chosen the authorisation option for new generation capacity but with the background of a 10-year indicative planning framework provided by the Regulatory body, CREG. This identifies the amount of new capacity needed and also the preferred generation sources.

Access to the network. Ireland has chosen regulated TPA for transmission and distribution.

Unbundling. Elia is the TSO and the distribution companies will be legally unbundled, but there are no plans to completely unbundle Elia's ownership from Electrabel, nor are there any plans to unbundle the ownership of the distribution network from the retail and generation sector.

Regulation. An independent regulator, La Commission de Régulation de l'Electricité et du Gaz (CREG) was set up to regulate the electricity and gas industries. In 2002, CREG had a staff of about 70 and a budget of about €15m.

Consumer competition. Belgium's original proposal was that a third of the market (consumers using more than 100GWh per year) would be open to competition from the passing of the Directive into Belgian law. All consumers, including distributors, connected to the transmission network were to be open to competition by 2007. The targets have been made progressively more ambitious. The Flanders region of Belgium will now open fully to competition in 2004 with the rest of the country opening to competition in 2007. By the end of 2002, 52% of the market was open to competition.

Wholesale market. No wholesale market exists yet and given the dominance of Electrabel in generation and the existence of long-term contracts between Electrabel and the distribution companies, it is hard to see how such a market could be set up. The dominance of nuclear power (about 60% of generation) would also make a wholesale market difficult to set up.

2.5.4 The distribution sector¹⁸

Electrabel supplies the largest consumers directly and this accounts for 41% of the market, most of the market that was open to competition at the start of 2003. In practice, only 2-5% of such consumers had switched away from Electrabel. The rest of the market (59%) is supplied largely by municipal companies.

In 2001, there were 8 independent municipally owned utilities 'intercommunales pures,' 16 utilities partially owned by Electrabel, 'intercommunales mixtes,' 8 'regies,' run directly by the relevant local authority and

three private companies (see Tables 1 and 2). Generally these companies supply gas and cable television in their franchise areas as well as electricity. The largest companies are the mixed companies, which supply about 85% of the market not directly supplied by Electrabel. The mixed companies also supply 85% of the gas, 53% of the cable television and 10% of the water.

Table 1 Electric utilities and customers in Belgium (December 2000)

Utilities	No	Number of customers	
		Low voltage	High voltage
Private	3	394	287
Municipal 'regies'	8	48,755	803
Intercommunales mixte	16	3,859,385	36,665
Municipal pure	8	982,623	8,311

Source: <http://www.bfe-fpe.be/statistics/index.htm>

The distribution sector has begun to restructure and consolidate in the face of the accelerated programme of consumer competition, particularly in Flanders. One particularly important development was the creation of a new 50:50 joint venture, Luminus, between the British energy retail company, Centrica, and the five pure 'intercommunales' in Flanders to sell gas and electricity. The largest of these accounting for about 59% of the group's sales is Interelectra, while WVEM has 17%. Overall, the Luminus group accounts for about 12% of the Belgian market. The network assets will continue to be managed by the original companies and are not part of the joint venture.

In January 2003, Electrabel was attempting to buy part of the electricity and gas retail supply businesses of 5 out of the 6 'mixed' distributors in Flanders: Imewo, Gaselwest, Iveka, Intergem and Iverlek. This move was being investigated by the European Commission with a decision due on February 13. It was also attempting to buy part of the supply business of IEH and in January 2003, this was under investigation by the Belgian anti-trust authorities.

Under the Directive, the distribution system operators must be independent, both legally and in terms of management, from generators and retail suppliers. The municipalities will be majority shareholders in these distribution system operators (51% to 70%). However, Electrabel will continue to be responsible for network management. The distribution system operators must be independent from Electrabel. This activity will therefore be integrated into three separate regional subsidiaries. Three legal structures Electrabel Netmanagement Flanders, Electrabel Netmanagement Wallonia and Electrabel Netmanagement Brussels are being set into place to this end.

Table 2 Belgian electricity distribution companies

Company	Base	Type
Flanders		
WVEM	Bruges	Pure
Interelectra	Hasselt	Pure
PBE	Linden	Pure
IVEG	Hoboken	Pure
VEM	Hoboken	Pure
Gaselwest	Roeselare	Mixed
IMEA	Antwerp	Mixed
Imewo	Eeklo	Mixed
Intergem	Dendermonde	Mixed
Iveka	Malle	Mixed
Iverlek	Mechelen	Mixed
GE Essen	Essen	Regie
GH Antwerpen	Antwerp	Regie
EG Merksplas	Merksplas	Regie
E Vorselaar	Vorselaar	Regie

ETIZ	Izegem	Regie
Wallonia		
ALE	Liege	Pure
AIEG	Viroinval	Pure
AIESH	Rance	Pure
IDEG	Namur	Mixed
IEH	Charleroi	Mixed
IGEHO	Tournoi	Mixed
Interest	Eupen	Mixed
Interlux	Arlen	Mixed
Intermosane	Liege	Mixed
Sedilec	Nivelles	Mixed
Simogel	Mouscron	Mixed
RE de Rochefort	Rochefort	Regie
Stadtwerke St Vith	St Vith	Regie
RE de Wavre	Wavre	Regie
Brussels		
Sibelgaz	Brussels	Mixed
Sibelgaz/Interelec	Brussels	Mixed

Source: <http://www.bfe-fpe.be/publications/index.htm>

2.6 The Swedish electricity industry

2.6.1 Vattenfall, Sydkraft and Fortum

The largest company in Sweden is Vattenfall, which is fully owned by the Swedish state and owns 50% of the generation capacity as well as much of the distribution network. The second largest company is Sydkraft, which was owned mainly by municipalities, but in 2001, the German company increased its stake to 65% of voting rights. 30% of the voting rights are held by the Norwegian nationally owned company, Statkraft and the company is no longer listed on the Swedish stock exchange. Birka, the third largest company, was formed from the merger of Gullspang (owned by the Finnish utility, Fortum) and Stockholm Energi (municipally-owned) in 1998. In 2001, Fortum bought out Stockholm City and in September 2002, renamed the company Fortum Sweden. Between them, these three companies account for 86% of generation. They are also the dominant retail suppliers.

2.6.2 The electricity industry in Sweden

There are ten main generation companies in Sweden, but only the top three have market shares above 5%. The other important company is Gräninge. Electricite de France (EDF) entered Gräninge as a share holder in May 1998. EDF holds around 36 per cent of the shares, but controls the company together with the families Nordin and Rudbeck, under an agreement between them. This grouping represents a total of 53 per cent. E.ON and Sydkraft have a combined share position amounting to 36.3 per cent. Gräninge has 600MW of generation and 200,000 customers.

In 1996, there were about 250 distribution companies, but by 2002, this number had fallen to about 130 and the three largest companies, Vattenfall, Sydkraft and Fortum Sweden, have a market share in distribution of about 60%

2.6.3 Compliance with the Directive¹⁹

Sweden has already more than fulfilled all requirements of the Directive, in its original and its latest form, through the liberalisation of its market in 1996 by joining NordPool.

Generation. Sweden has chosen the authorisation option for new generation.

Access to the network. Sweden has chosen regulated TPA for transmission and distribution.

Unbundling. The transmission network is operated by the government owned, independent Svenska Kraftnat. The distribution sector is legally unbundled.

Regulation. An independent regulator, the Network Authority (Nätmyndigheten vid Statens Energimyndighet) which forms a part of the Swedish National Energy Administration is the general regulator of the electricity market. It has about 30 staff and an annual budget of about €3m

Consumer competition. All consumers have been able to choose their electricity supplier since 1996

Wholesale market. Sweden became part of the NordPool on January 1 1996, a market that now covers Finland, Norway, Sweden and part of Denmark.

2.6.4 The distribution sector

According to European Commission reports, there were more than 200 distribution networks and more than 250 retail suppliers in Sweden in 1999. The retail market has been open to competition since 1996 and the percentage of small consumers switching or renegotiating their rates was more than 50% in the period 1998-2001. Vattenfall has about 1.5 million consumers.

2.7 The Irish electricity industry

2.7.1 Structure

The Electricity Supply Board (ESB) was founded in 1927 and was the first major nationalised electric utility in the world. It is a fully vertically integrated company which has had an effective monopoly in generation, transmission, distribution and retail supply. It has about 4700MW of power plants, with the majority of generation based on coal, gas and oil. There are small amounts of hydro (220MW) and peat (300MW).

The transmission network is linked via a 1200MW interconnector to the network of Northern Ireland. There have been investigations into a DC link to Wales, but no substantive progress has been made on this yet.

2.7.2 Changes to ESB

Ireland was given a 1 year extension to implement the Directive²⁰, because it is a small, largely isolated system and while Ireland has more than fulfilled its obligations to open up the retail market, little restructuring of ESB has taken place yet. It is planned that a transmission company will be set up as a legally separate company, wholly owned by ESB operated by an independent, public-owned transmission system operator (TSO). ESB will continue to own the distribution network and will be the distribution system operator (DSO), but with separate management. ESB is not selling any generation capacity, but by October 2002, there had been three auctions of 'virtual' generating capacity to allow independent retail suppliers to supply eligible consumers. This is intended to be an interim measure until new entrants can access capacity built by companies other than ESB.

Companies buying power from these auctions and selling it on to final consumers include the nationally-owned gas company, Bord Gais, the privatised former Northern Ireland monopoly Viridian, US group Duke Energy, and an ESB subsidiary, ESB Independent Energy. Independent suppliers can also buy power from Northern Ireland supplied through an interconnector.

In a submission to the Department of Communications, Marine and Natural Resources on the draft Electricity Bill 2002, Ireland's Competition Authority recommended into separate generation and transmission companies and forced to sell off some of its power plants. It claimed existing policy had failed to deliver competition.

2.7.3 Compliance with the Directive²¹

Generation. Ireland has adopted the authorisation procedure.

Access to the network. Ireland has chosen regulated TPA for transmission and distribution.

Unbundling. An independent TSO will be set up but otherwise, but in October 2002, it was expected that all other unbundling would go no further than the management level.

Regulation. An independent regulator, the Commission for Energy Regulation (CER) was set up in 1999 to regulate the electricity and gas industries. In 2002, CER had a staff of about 30 and a budget of about €6m.

Consumer competition. In 2002, 40% of the market (about 1600 large consumers) were given choice and by 2005, it is planned that all final consumers be given choice.

Wholesale market. No wholesale market exists yet and in late 2002, investigations were beginning on the basic structure of the market with no final timetable yet in place for its introduction.

Public service obligations. The Irish government has introduced measures that will allow power generated from peat and renewables to be given preferential treatment.

2.7.4 The distribution sector

The ESB still has a monopoly of distribution and is the dominant retail supplier. Even in the market for large electricity consumers (40% of the market is open for competition), only about 10-20% of consumers have switched away from ESB.

3 Outsourcing: background

3.1 Outsourcing – definition and scope

Outsourcing of work occurs where functions such as maintenance, metering or billing are sub-contracted to other firms, instead of being done by direct employees of the company itself. In the electricity industry has been observed in a number of EU countries, including Sweden, Italy and the UK (Ecotec, 2001; EPSU 2000; Business Solutions 2002).

The most common form is by simple sub-contracting of work to other firms, which are usually small contractors, but in other cases may be large companies or even multinationals. The meter-reading in Eastern Electric's area in the UK, for example, was sub-contracted to a subsidiary of Siemens (Hall 2000). The central objective of subcontracting is to reduce costs, and/or increase flexibility in the use of resources, especially labour.

Subcontracting is also the effective result of commercial separation of a function. This can happen internally, when a particular function, such as customer billing, is separated into a separate company, but within the same group. This company's work may be relocated and grow or shrink – an example from the UK is the case of the distribution company Norweb, whose parent, United Utilities, created a separate billing company called Vertex, to which Norweb, and now other companies, sub-contracted their billing. Or it can happen externally, when the function is separated and then sold. For example, in the UK, East Midlands distribution company separated and sold their contracting and maintenance division to a subsidiary of ABB.

This results in the fragmentation of employment in the sector, with groups of employees being transferred to new employers. It also results in the fragmentation of responsibilities, so that the company which has statutory responsibility for running the distribution system in a particular region may depend on a number of others to carry out what are regarded as quite essential functions.

Unlike the unbundling of the industry, which is required by the EC Electricity directive, outsourcing has been developed voluntarily by the companies. The objective of sub-contracting is to increase flexibility and reduce overheads (Ecotec 2001) and also simply to reduce costs by the contractors' offering lower pay and conditions packages. The pressure to do this can be attributed in general to the prioritization of financial targets as a result of commercialization or privatization, and in some cases to regulatory pressure on prices, requiring companies to seek cost-cutting and greater operational efficiencies (Business Strategies, 2002), or competitive pressure resulting from liberalization.

3.2 Outsourcing issues

The issues arising with outsourcing fall into 4 categories.

3.2.1 Quality of service

The assumption in outsourcing is that the contractor will deliver the level of service specified in the contract. In practice, downward pressure on prices is exerted through competitive tendering, and so contractors may develop a corresponding incentive to minimize the service delivered. "However, in some cases, detrimental effects are seen to have resulted from contracting out, leading to the in-sourcing of a number of these functions" (Ecotec 2001). For example, companies have been concerned with call-centres, in particular, performing worse because of inadequate inside knowledge by contractors: "as a result of recent surveys showing low levels of customer satisfaction as a result of long waiting times, many companies are now opting to provide these services in-house again... customer requirements often covered a wide range of questions, which required a better knowledge of the business and the ability to link up with in-house personnel to answer certain queries and concerns." (Ecotec 2001).

3.2.2 Accountability and responsibility for service

The statutory or contractual responsibility for service provision lies with the main company: in the case of electricity distribution, it is clear that this is the company responsible for running the network. (the same company may also remain the principal retail supplier of electricity to the domestic consumers). Where maintenance is contracted out, however, a very significant element in this service is transferred to another company, which has its own commercial agenda without the direct discipline of the statutory (or contractual, or regulated) responsibility for the service.

The difficulty of enforcing this obligation can be illustrated from the UK. In 2002, the energy regulator Ofgem did not impose any fines on the distribution companies' for their failures to protect the network from storm damage in October 2002, despite calls from a government minister to do so.²² The problem is worsened by sub-contracting, as shown by the fatal rail crash at Potters Bar in May 2002 – a year later, neither Railtrack – the company responsible for the rail network – nor Jarvis, the company to which it sub-contracted maintenance work on the relevant stretch of line – have accepted responsibility: *“Fragmentation of rail undertakings has been accompanied by fission in responsibility for safety: no less than seven entities were involved at the last count. Privatisation brought a host of adversarial legalities to the system; the only beneficiaries have been lawyers.”*²³

3.2.3 Training

Sub-contracting changes the training environment. The process of sub-contracting means that the electricity company expects contractors to be cheaper, and training costs are one obvious target for the contractors to reduce: the incentive to do this is greater because a contractor on short-term contracts has no incentive to build and maintain a stable workforce, or to train workers who may then be poached by a competitor. A recent report on the UK observed that: *“In their bids to be cost competitive, the contracting companies that are taking on the non-core activities hived off by Utilities companies are not investing in skills to the extent of the pre-liberalised Utilities, and the sustainability of the industries is threatened.”* (Business Strategies, 2002). This problem is made more acute by electricity companies reducing the workforce by cutting recruitment: the remaining workforce is ageing and not being replaced or renewed by younger workers.

3.2.4 Employment conditions

When existing work is contracted out, or sold, the existing employees are normally transferred to the new employer. This is covered by EC law - the Acquired Rights Directive (77/187 EEC, as amended by 98/50 EC – summary information at <http://europa.eu.int/scadplus/leg/en/cha/c10809.htm>) requires that when there is a change of ownership (or transfer) of any undertaking, workers' employment contracts and conditions, and the collective agreements under which they are determined, must be transferred to the new owner/employer. This protection should apply in cases of contracting-out as well as sale. The protection is not permanent, however, and the contractor, or new employer, can introduce new workers on different conditions: “contracting out in the long term often led to a deterioration of employment, pay or promotion prospects as the new companies often fell outside the scope of collective bargaining arrangements covering workers in the sector and therefore allowed employers to “shop” for collective agreements more beneficial to them.” (Ecotec 2001)

3.3 Outsourcing by country

This section looks at the evidence of outsourcing in a number of EU countries. In some countries, little outsourcing has been introduced so far eg in France or Ireland. This section concentrates on Sweden and the UK, where outsourcing experience is most extensive. This is set in the context of examples from Germany, France and Italy. In Belgium, there were strikes over cutbacks by Electrabel (Suez group) in 2001, which included the introduction of outsourcing of maintenance and other work.²⁴ In Netherlands, outsourcing of work by distribution companies has been legally restrained.²⁵ Outsourcing is being used in accession countries too, eg by RWE's Hungarian subsidiary Elmu, which has outsourced street lighting in Budapest²⁶; and MOL Hungarian oil/gas company, outsourced its accountancy work to Accenture²⁷

3.3.1 Italy

A number of different functions are being outsourced by distribution companies in Italy: the following table shows these functions, together with parallel data on Sweden and the UK.

Table: Functions outsourced by electricity companies in Italy, UK, Sweden

	Italy	UK	Sweden
Maintenance of network	x	x	x
Meter- reading	x	x	x
Cleaning of offices	x	x	x
Customer contact points, showrooms	x	x	x
IT, billing		x	
Call centres	x	x	x
Payroll	x		
Training	x		
Asset management	x	x	

Source: FLAEI; Ecotec; BPI; SEKO

The 2001 Ecotec report identified outsourcing in both Enel and Acea. In Enel the objective was reported as cost reduction: “Outsourcing is increasingly applied in the company in order to substitute fixed costs (represented by the employees) with variable costs to be sub-contracted to contractors, who often provide services at a lower cost. FLAEI has argued that such contracting out is often at the expense of quality...”. One result was a net decline in the employment of technicians because of the gradual out-sourcing of this work.²⁸

In ACEA, Ecotec noted both restructuring and staff reduction through agreed early retirement schemes, more part-time working, retraining of staff to enhance flexibility, and “contracting out/outsourcing of specific functions especially in non-traditional and new fields, such as the foreseen entry in the telecom sector.”²⁹

3.3.2 Restructuring and expansion of IT services – private and municipal examples from UK, France and Germany

The process of outsourcing, or internal ‘outsourcing’ by creating separate business units, also enables the creation of units which can carry out similar business for other utilities. This creates extra business for the original company, at the expense of outsourcing others’ functions, but creates a new form of concentration, as opposed to fragmentation amongst multiple sub-contractors. It may incorporate work covering more than one sector, for example other utilities such as water or telecoms. This process can be observed in IT and billing services especially, and also call-centres, with examples of expansion by both private and municipal companies in UK, France, and Germany.

3.3.2.1 UK: United Utilities - growth from outsourcing

United Utilities (UU) – a merged private water and electricity company covering the North-west of England – has built up a substantial business by creating their own internal business units which have then taken on outsourced business from other utilities, public authorities and private companies. By 2001, this part of the company employed almost half the total workforce.

Table: Employees of United Utilities, 2001

	Number of employees, 2001
Licensed multi-utility operations (water, electricity distribution)	4,764
Asset management services (outsourcing)	407
Customer management outsourcing (outsourcing - Vertex)	5,015
Telecommunications	618
Other activities	109
Divestments:	

Energy supply	114
Other	25
Average number of persons employed by the group	11,052

Source: United Utilities interim report 2002-2003

The asset management includes operation of privatised water services in Wales, Estonia, and Bulgaria. UU also gained a contract in March 2003 with British Gas for the installation and maintenance of meters in the north of England, with a call centre service for customers: the installation work has been sub-contracted to a construction company, McAlpine Utility Services, while meter reading remains the responsibility of electricity suppliers (but almost certainly sub-contracted).

The main outsourced business comes from its IT, billing and call-centre company, Vertex, which now has customer billing contracts with other UK electricity companies – nPower (owned by RWE) and Eastern (now owned by E.ON); call centre services for a large local authority (Westminster Council) and for a government agency (Companies House).³⁰ The Vertex business with eastern was obtained when UU sold its supply business in north-west England (i.e. the customers) to TXU, which then owned eastern Electricity; as part of the same deal, TXU then contracted Vertex to do all customer services for its customers in both Eastern and North Western areas, including billing, call centres and debt collection.³¹ In March 2003, Vertex expanded its call-centre business by takeover of another company, 7C, which runs call-centre services in India: Vertex thus has the capacity to outsource work overseas.³²

UU has however also outsourced some of its own IT work to an Indian company, Tata Consultancy Services (TCS), under a 3-year £30m contract in March 2002.³³ TCS set up an office in Manchester, its tenth office in the UK, where it now employs a total of 900 professional staff. The UU contract will be serviced by TCS staff in Manchester and by its offshore delivery centre in Kolkata, India. The contract covers a range of work: *“TCS will provide services covering general IT requirements and intelligence gathering, application development and integration, support and maintenance across a range of platforms. Specific areas of operation include, enterprise application integration, management information system, data warehousing and development”*. TCS also works for Indian electricity companies.

3.3.2.2 Cologne, Germany

The municipal utility of Cologne has introduced comprehensive internal restructuring of its utility companies which has created a number of autonomous business units which are encouraged to expand and take on business for other companies. In 1995 a new telecommunications company was formed (NetCologne), which employed 500 staff by 2001; the utility bought a company which manufactures equipment to allow the calculation of heating costs in shared apartment blocks; the IT department now provides IT services to other external companies.³⁴

3.3.2.3 Metz, France

The municipally owned Usine d'Electricite de Metz (UEM) has outsourced its IT billing services to the USA company CGI Group Inc. under a US\$9 million 30-month contract for the upgrading of UEM's customer relations management (CRM) statement and billing system, from meter reading to collection. UEM and CGI hope to sell this system to other utilities wanting to outsource their billing arrangements: *“CGI and UEM will jointly market the future solution. Designed for energy distributors and suppliers to the European market, the information system will provide multi-fluid (electricity, gas, district heating, etc.) and multi-activity (cable television, service contracts, Internet) management capabilities.”*³⁵

3.3.3 Sweden: technicians jobs and training cut, outsourcing of call-centres reversed

In Sweden the electricity market was liberalised in 1996 as part of the Nordic electricity market, in advance of the EU directive. An assessment by Swedish union SEKO, published in February 2003³⁶, states that the electricity companies retained their old structures for 2 years after liberalisation, but then created new internal divisions, with separate group companies for maintenance and service, for example: this was done by all companies, private and public - Vattenfall, Sydkraft, and Fortum. Most union members were in these groups. The next step was to create internal and external contracting and competition, so the groups

purchased the services of either internal service companies or of external contractors. This creates competition which puts pressure on pay, jobs and training.

The pressure on pay came through the service companies' management, who say that they cannot compete because collective agreements are too expensive. The reduction in jobs especially affected technicians in operation and maintenance, while sales and marketing staff have increased - SEKO estimates that one third of electricians has been eliminated, and the ratio of administrative personnel to field personnel has changed from 30/70 to 70/30. Specialist training has been abandoned by the state colleges, and the electricity groups: the only training now provided by the service companies is statutory safety training (although fatal accidents increased in 2001). Constant restructuring also means constant change of companies which mitigates against training and the development of a skilled and stable workforce.

An academic study of Vattenfall, points out that even internal restructuring and flexible working has the effect of disrupting the former stable, permanent jobs and working relationships, and replacing them with a series of internal project assignments, expecting generalised skills rather than one specialty, and constant mobility instead of long-term position in the same division.³⁷

The privately owned energy company Sydkraft introduced restructuring with the effect of reducing the workforce by 20%. Most jobs were lost in administration and electrical maintenance. At first, there were increased jobs in marketing and sales (including call centres), but these have been reduced more recently partly as a result of the limited interest in switching suppliers by private customers. The other growth was in 'consultancy' within the company: by 2001 there were around 6000 employees in Sydkraft, with 900 of these employees in consulting. Outsourcing has been a central part of Sydkraft's strategy, but it has faced two problems. Firstly, contracting-out call centres has been reversed: the company "is now increasingly moving towards insourcing again because of negative experiences with clients reporting long waiting times in answering enquiries". Secondly, concerns about loss of competence and skills: "There is among some circles in the company a concern that skills will be lost among in house staff if the trend towards outsourcing continues.... not enough young people are now receiving training for technical functions".³⁸

3.3.4 UK: Complexity of outsourcing and restructuring

The UK industry has developed a complex web of outsourcing since privatisation in 1990 and the full liberalisation that took place in 1998. The industry has been sold, split, sub-contracted and restructured in a variety of ways. The split of distribution 'wires' companies from the retail supply business has caused further complications. Since 1998 there has been rapid concentration of ownership and vertical reintegration – generating companies have bought distribution/supply companies in order to secure a customer base, thus re-establishing vertical integration that the original restructuring was supposed to have ended.

Various operations have been contracted-out to specially created subsidiaries of the main electricity companies themselves, or to other private companies. These operations include meter-reading, network maintenance and billing services. Sales work has also been sub-contracted, which has been the subject of complaints and problems about bad practices.

The impact of these different restructurings has led to some very complex changes of employer and responsibility. An extreme example is Eastern Electricity, which was taken over in 1995 by the Hanson group,; was then sold to The Energy group (TEG), which in turn sold it to the US group TXU in 1998. The retail supply part of the business has now been sold to E.ON, in 2002, and the distribution network sold to London Electricity, itself owned by EDF. The meter-reading in Eastern has been contracted-out to a subsidiary of Siemens, the German electricity multinational. The billing services, issuing invoices etc, is contracted-out to Vertex, part of United Utilities. As can be seen from these examples, the outsourced work does not necessarily go to small businesses, but may be issued to large multinational companies (another example was in East Midlands, owned by Powergen, which in 2000 sold the contracting and maintenance division, EMEC, to multinational ABB).³⁹

3.3.4.1 UK: Skills needs and outsourcing

A report in July 2002 on skills needs in utilities in the UK identified a number of issues in relation to outsourcing.⁴⁰ It noted that there had been a huge shift in employment from the utilities themselves to contractors, and that the actual numbers employed in each sub-sector needed to be identified to establish training needs. The majority of network construction, for example, in water, gas and electricity, is now carried out by a number of contractors who typically work across all the utilities.

The report stated that contractors, under pressure to cut costs: *“are not investing in skills to the extent of the pre-liberalised Utilities, and the sustainability of the industries is threatened”*. The utilities themselves had also been so concerned with cutting their labour force that they are only now realising that *“their remaining workforce has been steadily moving towards retirement. This pool of skilled and industry-knowledgeable workers will soon be lost to the Utilities, with no stream of young people to take their place.”*

3.3.4.2 UK: 24-seven an outsourced distribution company

24-seven was created as a joint venture 50% owned by TXU Eastern, and 50% owned by the neighbouring London Electricity. In 2002 London bought out Eastern Distribution from TXU, and at the same time TXU's shareholding in 24-seven: so London Electricity (itself owned by EDF) now owns the company 100%. 24-seven operates and maintains the distribution networks of both Eastern and London, and now Seeboard, which has also been bought by London-EDF.

The 24-seven contracts with London Electricity Group are for five years fixed plus a one-year option to extend. 24seven provides each company with infrastructure investment planning, project management, network control, construction and maintenance, and a range of other services including dealing with loss of supply calls from customers. It receives part of its income from fixed fees for providing the above services, and a larger part from completing network projects such as new substations and connections. 24seven reports on nearly 30 key performance indicators, and is financially rewarded or penalized based on these indicators. Its contracts include an overall guaranteed cost saving for its network customers.

24-seven was initially expected to win contracts to run other distribution networks, but did not obtain any, and by late 2002 the policy of expansion was dropped: *“London's new chief executive Vincent de Rivaz has turned that outlook on its head and all-but questioned the sanity of outsourced operation of rivals' assets. He has criticised the approach as creating an obvious conflict of interests and compromise of priorities. As 24seven is now wholly owned by London it will no longer seek to manage other assets outside those of its parent company.”*⁴¹

The distribution networks of London Electricity and Eastern Electricity are subject to regulation by OFGEM. 24-seven is not itself regulated, but its targets and duties are set out in its contract with London Electricity.⁴² In 2001 the former regulator, Littlechild, argued that the outsourcing of network management and maintenance was compatible with the regulatory system.⁴³ *“Contracting out does not mean the end of duties and responsibilities for the utility during the course of the contract. In each case the utility is required to manage its side of the contract. This includes monitoring performance and enforcing the contract provisions. The contracts require notifications of changes in plans on both sides, and periodic discussions and approvals of forward plans. ...The consequence is that the utility needs to retain a core of experienced staff. It does not need to be able to carry out all the functions itself that it used to do. However, it does need to be able to appraise and challenge the proposals and arguments put forward by the contractor, and by rival bidders at the time of contract award.”*

3.3.4.3 The storm of October 2002

In October 2002 an unusual storm hit England, causing major damage to distribution company networks. The worst damage was in Eastern, part of the area covered by 24-seven. The official report by British Power International (BPI)⁴⁴, and trade union evidence to BPI, identify a number of problems connected to the structure and responsibilities of distributors, and the role of the regulator. The BPI report included separate sections on each distribution company's performance, except that in Eastern and London the report did not

focus on the licensed distributors – which are the regulated companies statutorily responsible for the networks – but on 24-seven, the sub-contractor.⁴⁵

BPI's official report suggests that the storm had worse effects in Eastern region partly because of 24-seven's failure to carry out routine tree cutting work. It also shows that 24-seven performed relatively poorly compared to the other distribution companies, with *"relatively poor utilisation of resources requested and then supplied ... lower restoration rates of faults per team than elsewhere, [and] geographic availability of materials [were] said to be an issue on occasion. Teams stood down whilst customers were still without service..."*. 24-seven's handling of communications was also poor, though this was worsened by a telephone system problem: *"24seven had major problems with its call handling and messaging and this is reviewed in more detail in section 5.7 below. A key effect of this poor performance resulted in customers receiving inaccurate information about restoration times. The company was also unable to effectively call customers with updates or to obtain more information."* 24-seven complained that the media coverage was both negative and biased in nature, and claimed that *"The style of coverage contrasted strongly with that in 1987 when the media was then both sympathetic and helpful in terms of communication."* In 1987 the electricity industry was still in the public sector.

The evidence from trade union Prospect⁴⁶ is more direct and critical.

The union had warned after a previous storm that *"The regulator appears to be indifferent to this increased hazard and there appears to have been no attempt to build this into any analysis of risk or specifically into the last distribution regulatory review"*. The evidence went on to warn of the huge reduction in trained and experienced staff to deal with any problem and of the failure to evaluate the frequency, probability or scale of such incidents. In evidence to the regulator's Distribution Price Review in 1999 the trade unions on the Electricity Supply Trade Unions Council (ESTUC) had warned of the risks of failure of services in distribution as a result of cutbacks. *"In our judgement the level of risk in generation is small in comparison with the risks that could well be built up in the distribution and transmission systems if regulation follows this pattern"* [i.e. of expecting companies to cut costs without ensuring that there are no adverse effects on capacity]. Of particular interest with regard to the recent storms, was ESTUC's warning that judgements about Eastern Electricity's efficiency appeared to be based wholly on low costs achieved by previous cost cutting, which would increase risks to the system.

The union pointed out that BPI, in an earlier report on the capacity of the distribution system, had noted that there had been a substantial shift towards using contractors in place of directly employed staff, and expressed reservations about staff cuts and training:⁴⁷ *"Resource constraints may be reached at an earlier phase in emergency situations 'because of the lower levels of trained people directly employed (or available) than during the pre-privatisation period'. Changes to the structure and internal organisation of companies mean that there is an increasing reliance on contractual arrangements for the delivery of services, which may be critical during emergencies... Overall, a recurring theme was concern about the future supply of engineers and craft trained staff"*.

In addition to the problems with sub-contract staff and the decline in skilled personnel in the companies, the unions pointed out that structural changes made it harder to resource emergencies such as storms: *"the enforced separation of distribution and supply... means, for example, that staff can no longer be diverted from dealing with account queries to dealing with the larger number of customer calls during emergencies. Similarly, meter readers are now contracted out and therefore unavailable to use their local knowledge to collect information on damage or to guide resources imported from other areas."*

Prospect also claimed that commercial pressures to finish connecting new houses meant that *"a number of technical staff in 24 Seven who were available to respond to the recent problems were never called out, and around 400 staff employed in contract services continued their routine work of connecting electricity supplies to new unoccupied properties (thereby avoiding payment of penalties to builders) despite the major loss of power supply to existing customers. At the same time, staff had to be drafted in from Seeboard to act as scouts for fallen trees"*.

3.4 Some lessons from general experience with outsourcing in other sectors

There is now extensive experience with outsourcing in other sectors, some of which has lessons for the electricity industry. The following section summarises some of this evidence, focusing on three key issues:

- Failed expectations
- Inadequate capacity to monitor and enforce contracts
- Loss of core competence

3.4.1 Reducing labour costs and competitive advantage

The core objective with outsourcing is increased profit by lower costs – crucially labour costs. A study by Japanese economists argues that vertical integration and unionisation of workers create obstacles for companies wishing to maximize profits, and so these companies will seek to escape vertical integration by outsourcing and internationalization: *“the negotiated wage decreases and firm profits increase with outsourcing”*.⁴⁸

In competitive industries, these cost reductions and flexibilities enable a company to be less expensive than their competitors, and respond more flexibly to changes in demand for their product: *“using independent contractors allows a firm to offer a wide range of products without risking a large fixed investment in labour.”*⁴⁹ It is used by manufacturing industry, for example car manufacturers, who concentrate on their own ‘core competence’ of design and marketing, and outsource the manufacture of components to other firms whose contracts can be changed in response to demand; and also by the public sector, in the belief that competition between private contractors will lead to lower costs.⁵⁰ A survey of UK industry found that employers were using flexible working and short-term contracts to meet fluctuations in production, to reduce fixed labour costs or to access services which were difficult at some particular time to secure through a permanent employment contract.⁵¹

3.4.2 Failed expectations

Actual experience with outsourcing has been less rewarding than companies expect. A recent review of private companies who had outsourced services found that targeted savings (often of 15% or more), were rarely achieved, and often no savings were achieved at all by outsourcing: *“it is not uncommon for companies to experience a deterioration in cost and other aspects of performance as a result of outsourcing”*.⁵² The review concluded that *“the decision to supply an activity in-house or by outsourcing must be assessed by its implications for competitive advantage.”*

Other surveys show significant levels of dissatisfaction amongst managers with the results of outsourcing. A recent survey by Cranfield Institute of Technology found that 44% were dissatisfied or had ‘mixed feelings’ (though Cranfield emphasise that 56% were satisfied); other studies found that nearly 70% of companies are unhappy with some aspect of outsourcing; only half of IT outsourcing contracts deliver the promised savings; and managers had complaints concerning problems in specifying objectives, unsatisfactory delivery, underestimation of time and skills needed for managing outsourcing contracts.⁵³

3.4.3 Inadequate capacity to monitor and negotiate contracts

Inadequate resources for monitoring and managing outsourced contracts is a recurrent theme. The costs of effective management of IT outsourcing have been estimated at 3-5% of cost for a conventional contract, and 10% for a looser ‘partnership’, but companies rarely devote these levels of resources to the management of the contract.⁵⁴ A review of the workings of PPPs in the UK public sector found that the public authorities tend to underestimate the time and resources needed to negotiate and manage the terms and conditions of the partnership contract. It concluded that the markets and quasi-market mechanisms supposed to underpin most such partnerships don’t work, and that this undermines the whole rationale of PPPs.⁵⁵ The problem of management extends to loss of the ability to terminate a contract. KPMG told a conference in 1998 that while 59% of IT outsourcing contracts were due for renewal in the next two years, 41% had no provision for any transfer of assets if they decided to place their contract with another supplier, and so felt trapped into a continuing relationship with their supplier.⁵⁶

3.4.4 Loss of core expertise

The other major problem is that companies fail to evaluate a significant risk of contracting-out – the loss of ability to reconstruct in-house provision of service. A recent article by an accountant argued that this needs to be full evaluated as an exchange transaction: *“It is risky to outsource just because the contractor’s costs are somewhat lower on present expectations than those of the in-house provider.”*⁵⁷

An article in Marketing in 2001 referred to surveys showing that outsourcing is often a mistake in business terms because of loss of core asset of expertise, lack of satisfaction, suppliers non-understanding, and the difficulty of reversing the decision: a survey by Dun & Bradstreet reported that *“up to a quarter of all outsourcing relationships fail within two years, and half within five. Almost three-quarters of those that responded said their suppliers didn’t understand what they were supposed to do, the cost was too high and they provided poor service.... Even worse, it can be very hard to reverse.”*⁵⁸

An ironic example of a loss of core skills as a result of outsourcing comes from the electricity distribution business in Delhi India. Maintenance of the distribution network was 90% outsourced to private contractors, but then the contractors went on strike because the authority was not paying their bills on time. The distribution companies were unable to do anything: *“These contractors do the bulk of our routine work. In their absence, there is hardly any manpower to handle the situation, officials admitted.”*⁵⁹

4 Discussion

4.1 Restructuring and EU directive

In many respects the EU Electricity Directive should not have fundamentally changed much of the electricity industry. The parts which are skill- and labour-intensive, distribution and transmission, will inevitably remain regulated monopolies and will be required to carry out all the functions they did under the previous industry structure. Generation has also required high skills and an emphasis on reliability, although new technologies, such as gas-fired plants have much lower skill and labour requirements than traditional technologies such as nuclear power and large coal-fired plants. The pressures of liberalisation and environmental policies, have accelerated the trend away from labour and skill-intensive generation technologies. Retail supply is a small activity in a monopoly industry and the Directive will lead to substantially increased employment and skills needs to allow companies to compete with each other.

The need to accommodate competition will place additional requirements on the distribution and transmission activities. The capacity of transmission grids may need to be higher than under a centrally planned and coordinated system because of the need, in a competitive market, to be able to accommodate all the unpredictable needs of those using the network. New dispatching techniques will also be needed to allow for the introduction of a wholesale electricity market.

For the distribution network, decentralised generation (which, for practical reasons, is dispatched into local rather than national networks) is likely to become a larger element of the supply mix because of environmental pressures. This will lead to a need for new, highly complex procedures for dispatching generation at a distribution network level, presumably through some competitive mechanism. The consequences of this change have barely begun to be thought through.

So, on the face of it, it would seem that liberalisation (and other factors such as increased environmental standards) should, on balance, expand the labour and skills needs of the sector.

Large, publicly owned electric utilities were often 'centres of excellence' in a number of respects, such as, conditions of employment; skills and training; and technology development. Under a tacit 'regulatory bargain', such utilities could provide a good electricity service to consumers as well as providing these additional, broader benefits, whilst still making fair, but not excessive profits for their owners (public or private). Under this regime, the ownership of utilities was remarkably stable with few take-overs and mergers and this stability encouraged company owners to focus decision-making on long-term optimisation rather than short-term profit.

The liberalisation and often privatisation of electric utilities breaks this previous 'regulatory bargain'. Liberalisation has also fundamentally changed the ethos of the sector from one of public service to one of short-term profit-maximisation. In addition, while the Directive imposes no restrictions on the extent of public ownership, in practice, the need to allow competition makes it difficult for nationally-owned companies to survive, while there is also a trend for locally-owned companies to be privatised because in a free market, local authorities cannot use their utilities to achieve broader social and economic objectives. If local authorities cannot use their ownership of utilities to achieve policy objectives, there may be little incentive to retain ownership. Loss of public ownership will tend to reduce the scope for democratic accountability of the sector.

Companies that operate in parts of the business that have been open to competition (generation and retail supply) are now free to make whatever profits they can from the business, while in the sectors that remain monopolies (distribution and transmission) under the now widely adopted incentive regulation, reductions in costs can be kept as additional profits.

Liberalisation has also changed the way in which companies interact with each other from one of co-operation to rivalry and competition, even between companies that are operating monopoly services. In the past, co-operative arrangements through, for example, trade associations were often used to fulfil training and research obligations. In times of exceptional need, for example, storm damage or exceptional demand, companies could be expected to work together to solve the problems. Such co-operative arrangements are crumbling as liberalisation is imposed.

The result of this change in ethos is that the owners of electric utilities no longer see ownership as a long-term commitment. Ownership in the electricity industry has become unstable, for example, the distribution business of the Eastern company in the UK has been under five different owners in only seven years, while some power stations have changed hands three times in only five years. Development of skills and technologies and the retention of a skilled and motivated workforce have little value to such transient owners.

Regulators and politicians, eager to be able to present evidence of the success of their policies are too ready to turn a blind eye to the adverse side of liberalisation, particularly destructive cost-cutting measures. Regulators have tried to prevent the deterioration of networks by imposing performance standards, but there is a lag between neglect of the system and reduced reliability. Poorer performance may only be apparent after serious damage has been done to the system and when those responsible have moved on. Regulators, quite properly do not have responsibility for strategic issues such as developing and retaining a skilled workforce and carrying out appropriate R&D programmes, and responsibility for this must fall on the government. It is probably not feasible to imagine the industry reverting to its old structure, but regulation needs to be changed so that balance between cost reductions and the long-term requirements of the industry is shifted away from cost-cutting. This will require more rigorous regulation and a more realistic view of what competition can achieve.

Over its history, and despite its apparently comfortable monopoly status, the industry has continuously evolved taking on technological innovations and improving efficiency resulting in substantial reductions in the real price of power. Liberalisation was intended to increase the pace of innovation through the impact of competition and tougher regulation forcing companies to innovate to maintain their profitability. In practice, liberalisation, may do the reverse of this because of a lack of incentive to invest in skills or new technology.

4.2 Outsourcing

The outsourcing activities of the electricity distribution companies risk incurring the problems of outsourcing without the prospect of benefit to the business. The main benefits from outsourcing are in sectors which are competitive, and where there are unpredictable fluctuations in demand – then outsourcing allows a company to undercut its competitors and respond rapidly to falls or rises in demand by adjusting its contracts. But electricity distribution has neither of these features. The distribution business itself is a monopoly, and overall levels of demand are very stable and predictable. In these circumstances the reduction in labour costs is simply a way of boosting monopoly profits.

Despite little benefit, outsourcing in electricity distribution does risk the negative effects on the public service, responsibility for the core business, training of skilled workers etc – and the cases in the previous section gave evidence of this happening. Some of the areas of work commonly outsourced - the maintenance of the network itself, customer service call-centres - are central competences of an electricity distribution company; inadequate monitoring of contractors means that public service obligations cannot be effectively transmitted to the outsourced contractor. The recognition by Sydkraft that call-centre outsourcing had to be abandoned and an in-house service restored, is an important warning.

The complexity of restructuring needs to be noted, however. The consequences is not always fragmentation, but also sometimes the creation of new centres of concentration of employment, such as the customer service company Vertex in the UK. The employment practices of such companies should be subject to collective

bargaining, and public service standards need to be enforced, but the challenges of these operations are different from the dangers of fragmentation to a lot of small contractors.

5 Recommendations

- The restructuring of the electricity industry should be subject to public interest considerations. There needs to be regulatory machinery which can limit market forces and commercial considerations by reference to public interest issues (i.e. not just competition policy). The EU's liberalisation regime allows such conditions to be imposed. The regulator should enforce these conditions, even though it involves limiting the management of the companies.
- The regulator should impose three conditions on distribution companies as part of their license:
 - the obligation to employ and train a skilled workforce to carry out the work
 - prohibition on contracting-out of core functions, including network maintenance and customer service
 - liability cannot be devolved to sub-contractors.
- Fines for poor performance are a poor substitute for proper management of the network. Regulators need to take a more proactive approach not only monitoring the performance of the network, but also requiring companies to demonstrate how their future investment and maintenance plans will assure reliability, and monitoring these programmes to ensure the companies' compliance.
- Training should be explicitly addressed by the companies and unions at sectoral level, and reach agreement on training provision and standards which is then becomes a standard condition of all energy distribution licences, and any sub-contracts. The regulator could be a party to such an agreement, or simply agree to implement the agreements reached.
- Cost reductions gained simply by worsening the terms and conditions of employment should not be allowed. Companies operating in the electricity sector, particularly those brought in through outsourcing should be required to match the terms of employment offered by the incumbent utilities - not only at the point of transfer, as required under the EC Acquired Rights Directive, but for the duration of any contract.

Notes

¹ Under the Article 26 of the Directive: 'The Commission shall review the application of this Directive and submit a report on the experience gained on the functioning of the internal market in electricity and the implementation of the general rules mentioned in Article 3 in order to allow the European Parliament and the Council, in the light of experience gained, to consider, in due time, the possibility of a further opening of the market which would be effective nine years after the entry into force of the Directive taking into account the coexistence of systems referred to in Articles 17 and 18.'

² Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper

³ Electricity Directive, article 19.

⁴ Electricity Directive, articles 4-6.

⁵ Electricity Directive, articles 16-18.

⁶ Electricity Directive, articles 7-9 and 13-15.

⁷ Electricity Directive, articles 10-15.

⁸ Electricity Directive, article 20.

⁹ Dominique Finon (2001) 'Organisation and regulation of the electricity supply industry in France' in 'The electricity industry in transition: Organisation, regulation and ownership in EU member states' ed Luigi De Paoli, FrancoAngelli, Milan.

¹⁰ Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper and 'The Internal market for Electricity. Implementation by the Member States: France' 2000.

¹¹ Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper and 'The Internal market for Electricity. Implementation by the Member States: Germany' 2000.

¹² Oxera 'Electricity liberalisation indicators in Europe' Report for the European Commission, DG TREN, October 2001

¹³ Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper and 'The Internal market for Electricity. Implementation by the Member States: United Kingdom' 2000.

¹⁴ For the latest status of BETTA, see the Regulator's web site http://www.ofgem.gov.uk/newprojects/betta_index.htm

¹⁵ Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper and 'The Internal market for Electricity. Implementation by the Member States: Spain' 2000

¹⁶ Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper and 'The Internal market for Electricity. Implementation by the Member States: Belgium' 2000.

¹⁷ Electricity Directive, article 27.

¹⁸ See the web site of the Federation of the Electricity Companies in Belgium for more details on the companies. See also Centrica Press Release 'Centrica enters Continental European energy market' 29th June, 2001

¹⁹ Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper and 'The Internal market for Electricity. Implementation by the Member States: Sweden' 2000

²⁰ Electricity Directive, article 27.

²¹ Commission of the European Communities, 'Second benchmarking report on the implementation of the internal electricity and gas market' Brussels, 01/10/2002 SEC (2002) 1038 Commission Staff Working Paper and 'The Internal market for Electricity. Implementation by the Member States: Ireland' 2000

²² The Guardian December 20, 2002 'Penalise power cut firms, says energy minister'

²³ The Independent (London) May 8, 2003, Thursday Letter: We Have Not Learnt The Lessons Of The Potters Bar Rail Crash - Professor George Huxley

²⁴ La Libre Belgique, February 2, 2001, Pg. 15, 141 Words, Electrabel: The Road Is Long And Full Of Difficulty (Electrabel: La Route S'annonce Longue Et Semee D'embuches)

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- ³² United Utilities Interim report 2002-2003 Chief Executive's Review
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- ⁵² Strategic sourcing: benefits, problems and a contextual model David Jennings Nottingham Business School, Nottingham Trent University, Nottingham. Management Decision 40/1 [2002] 26-34
- ⁵³ European Management Journal April, 2002 Vol. 20, No. 2 Trends in Outsourcing:: Contrasting USA and Europe Andrew Kakabadse And Nada Kakabadse Cranfield School Of Management UK : " Recently conducted surveys report high levels of dissatisfaction with outsourcing. One study indicated that nearly 70% of companies who have undergone outsourcing are unhappy with one or more aspects of their relationships with suppliers (Lacity et al., 1995). Additional studies show that only about half of IT outsourcing contracts deliver the promised 20-30% cost savings (Kessler et al., 1999). The majority opinion in the academic literature and popular press is of a senior management that is increasingly recognising that the disadvantages of outsourcing outweigh the advantages, even after agreements have been signed (Forst, 1999). The areas of complaint are that either the wrong provider has been contacted and, or the levels of

service, the guarantees and the service purchaser/service provider relationship, have been ill-defined. Equally, numerous cases have been cited of too ambitious goals being agreed between the host organization and the suppliers or that service purchasers have expressed dissatisfaction with their contractual agreement(s) concerning the underestimation of time and the skills needed for effectively managing outsourcing contracts (Quinn, 1999). Additional complaints include unsatisfactory delivery of services, unco-operative vendor behaviour, the cost of the service being too high, and/or, the competitive advantage to be gained from outsourcing no longer exists (Moran, 1999.....our survey [found that] the majority of US and European respondents indicate that they are satisfied with their agreed outsourcing arrangements. Thirty eight per cent and under indicate they have mixed feelings as to the value they have gained from outsourcing and less than 6% report dissatisfaction with their experience of outsourcing.”

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⁵⁵ Public Administration Vol 80 No 3 2002 pp 475-502 Going privately: partnership and outsourcing in UK public services. Damian Grimshaw, Steve Vincent and Hugh Willmott

⁵⁶ Outsourcing deals not delivering what the customer expects? Management Accounting (British), June 1998 v76 n6 p7(1)

⁵⁷ Abacus Vol 38 No 2 2002 David Johnstone. Univ of Wollongong. Public Sector Outsourcing as an Exchange Option

⁵⁸ Marketing, Nov 8, 2001 p16(1) Outsourcing can carry a fatal cost for your business. Laura Mazur.

⁵⁹ The Economic Times of India, August 24, 2002 Contractors Set To Cause Powercuts