

VIK-Input

for the

**European Commission 2005 Report on the Functioning of the Electricity
Directive
(EU Benchmarking Report)**

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Introduction

VIK Verband der Industriellen Energie- und Kraftwirtschaft e.V. (German Association of Industrial Energy Users and Self-Generators) represents the interests of industrial energy users in Germany for whom energy is a significant component of production costs. VIK-members account for about 80% of industrial energy consumption and 90% of utility-independent electricity generation in Germany.

Energy prices are a key factor for the competitiveness of these enterprises. Despite the opening of the European electricity market in the wake of the EU-directive in 1996, experience has shown that there is no effective competition between multiple generators within the national markets, which are in fact still separated from each other. This leads to high and still increasing prices. The EU benchmarking report dated 5 January 2005 identifies a lack of effective competition even after the second liberalisation package from 2003. Until today not much has changed in terms of competition. Wholesale prices remain high and are increasing even faster than before, and grid access fees are still high and raise concerns about possible cross-subsidisation and discrimination. This is reflected in constantly rising energy costs for energy-intensive consumers severely hampering their international competitiveness. For example, in Germany just recently decisions were made to close down two of Germany's five aluminium smelters due to high energy costs and failure to renew supply contracts at reasonable terms.

1. Current and likely future developments of the electricity market

1.1. Current development of the electricity market

- **The regulatory framework in Germany is only recently beginning to change:** the EU directive 2003/54 has not been implemented into national law in due time. Only recently (13 July 2005) the new energy act has come into force, meaning a one-year delay. In the meantime the German electricity market has been governed by negotiated third-party access. The organisational details for grid access according to this negotiated approach have been laid down in several federations' agreements. The latest version, "VV II plus" expired 31 December 2003. So for 18 months there have been only the very weak and general regulations of the German energy act of 1998. With the pending amendment of the energy act, regulatory control by cartel authorities was in effect absent during this period.
- **Grid access fees in Germany are clearly above the average European level.** In contrast with the data given in the EU benchmarking report from January 2005 which estimates average grid charge (medium voltage) at 9 €/MWh, in fact these charges amount to 27,2 €/MWh according to VIK research based on a comparison scheme laid down in VV II plus and on the grid operators' published fees. For 2005, our current comparisons result in an average grid charge of 27,5 €/MWh on medium voltage level. In addition to this high price level there is a big spread between highest and lowest fees charged by the different grid operators, maximum charges being more than double the minimum charges (see **Annex 1**). Furthermore, especially for energy-intensive industries being connected to the high voltage level and using large

amounts of electricity, grid charges have risen by more than 30% since 2001 (see **Annex 1**).

- **Investment in grids has decreased significantly.** Since 1995, investments have dropped from 3.61 billion to a mere 1.65 billion in 2003 – less than half as much as 8 years ago. This is all the more striking because operating margin in the energy grid sector has been rising sharply during this period and is higher than in all other industry branches (see **Annex 2**). One of the major reasons for that, is that there exists a wide discrepancy between depreciation as calculated and used for fee determination on the one side and investment on the other side: Following the assumption of the German regulator RegTP that the depreciation volume used for fee determination amounts to about 25% of total grid charges, this equals 4-5 billion € a year. These depreciations are meant and expected to be re-invested in grid assets. Instead, however, investments are much lower. The resulting difference between depreciations and realised investments cumulates to about 10 billion € over the past 5 years. This money seems to have been extracted out of the grid and transferred into profits distributed to grid operators' shareholders.
- **Prices on the wholesale market have risen sharply.** This concerns forward prices as well as spot market prices (see **Annex 3**). Since the beginning of the year, spot prices have risen by 51% (baseload) and have reached 46.67 €/MWh (average June 2005). Forward prices also have undergone an immense increase. During the last 12 months, baseload year 2006 has increased by 20.2% and sells at well over 43 €/MWh (14 July 2006).

All this happens while trade at the European Energy Exchange (EEX) still suffers from insufficient liquidity. Only about 11% of German electricity consumption have been traded at the EEX in 2004. Figures about OTC-trading are not available.

Rises in fuel prices cannot fully explain the observed price increases. VIK identifies two main drivers for this price developments:

- **Market structure:** The wholesale market is dominated by four big producers controlling about 80% of generation capacity and their associated trading sister-companies. Most independent suppliers do not possess enough generation capacity so they are dependent on the wholesale market to buy the electricity needed. Imports from abroad - in the necessary amounts - are not feasible due to congestion problems at the cross-border interconnectors (see below). So the oligopolistic market structure may allow for market dominance by few producers/traders. At the same time spare generation capacity exists which is mothballed and not brought onto the market (e.g. E.on speaks of 1,500 MW of generation capacity which is currently not running but could be brought to the market in the short term). Such capacity withdrawal could be used to keep prices high.
- **The effect of CO₂-Emission trading is plain to see.** There is a very high correlation between price increases in the CO₂-market and the electricity market (see **Annex 3**). This parallel movement strongly suggests that CO₂-prices drive electricity prices upwards. Traders from big suppliers like RWE calculate that a 1 € increase per ton CO₂ leads to an increase in the electricity price of at least 0.49 €/MWh.

Despite free allocation of CO₂-certificates, certificates market values are priced into electricity prices. Due to the psychology of the market and the above mentioned correlation this effect leads to enormous windfall profits for utilities. As the CO₂-market is dominated by the same big players as the electricity market (since the overwhelming amount of certificates has been allocated to electricity producers), controlling the CO₂-price may be an option to indirectly control electricity prices.

- **The rise in wholesale prices is reflected in individual supply contracts.** Not only energy customers buying directly from the wholesale market experience this price increases. Also customers closing individual supply contracts with suppliers face such prices. Almost all contract offers are linked to EEX-prices. This link is shown in the VIK-Index (see **Annex 4**) which reflects a price increase (including energy and grid, without taxes and surcharges) of almost 50% during the last 3 ½ years, and of 20% alone since January 2005.

The price structure for different types of consumers reveals the disturbing fact that the usual relation between high consumption and low price is no longer valid: Up to 2000/2001, the higher the consumption the lower the price. This was due to the fact that a large consumption by a customer is from the point of view of a supplier a guaranteed sale helping its power plant to operate at full capacity. Since 2001 however it can be observed that for high consumptions (more than 100 GWh), prices are higher than for a medium consumption (50-100 GWh) (see **Annex 4**). This may be explained by the fact that some new and independent suppliers without own generation capacities are reluctant to offer to large customers since such a high-consumption would account for the biggest part of the supplier's portfolio thus bringing about a significant risk. On the other hand, this again points to the problem of market structure: since there are four big players dominating generation and wholesale market there are not much alternatives for a big customer to choose from. Smaller customers may be able to find a somewhat higher number of potential suppliers.

Moreover, many energy users when conducting calls for tenders find that the offers received do not differ very much in terms of prices. Another observation is that some suppliers do not even place an offer to a customer located in the original area of a big competitor.

- **Cross border trade remains severely restricted.** At almost all German borders, existing interconnectors are congested. External generators who want to enter the market are to a great extent excluded due to high – and rising - prices in capacity auctions (see **Annex 5** for an example) and low capacities. Customers in Germany experience difficulties when trying to import electricity due to the procedure of explicit auctions which makes it necessary to bid for cross-border capacity without knowing the price for electricity. Therefore the option to decrease prices by importing electricity is not feasible. This in turn helps sustaining the dominant position of the big players in the German market. Furthermore, capacity auctioning is leading to high revenues for the TSO's. Up to now, despite the fact of the validity of the EU Regulation on cross-border trade, it is not transparent, how these revenues are used, i.e. whether they are used for one of the three allowed purposes. At least, no significant investment in weakening the bottleneck situation at the borders can be recognized.

- **Unbundling has been introduced legally, but de facto its implementation remains insufficient.** German TSOs for example have in general not published annual reports with information for the different elements of their value chain. Even if formal unbundling is implemented, it is not certain that communication between trading, generation and grid is effectively blocked. This gives rise to concerns that trading sisters of a grid operator / generator possess informational advantages, e.g. regarding temporary closures or breakdowns of power plants, compared to independent traders. Moreover, insufficient unbundling opens up the possibility for cross-subsidisation and offers incentives for discriminatory behaviour. When grid operator and trader are legally different firms, but are united under the umbrella of a common holding, shifting of profits between these two organisations becomes a viable method to increase overall profits and hamper competitors. A corporate group could e.g. generate profits by their grid operators contracting electricity, needed to balance fluctuating wind feed-ins, from a generation sister at high prices. The grid operator would be able to pass through these costs to its customers, but the generators profits would rise.

1.2. Likely future developments

The new German energy act came into force 13 July 2005. This act will install a regulatory authority thus marking a paradigm shift towards regulated third-party access. The act itself and some underlying regulations (four of them will enter into force in July 2005, others still have to be drafted) may improve conditions of grid access in the electricity sector thus presenting the possibility of effective competition in the market. Major improvements contained in this package include

- more competencies for the regulatory authorities meaning a stricter control of grid access conditions
- clearer and more binding regulations concerning special cases of grid access in general as well as calculation of access charges
- introduction of incentive-based regulation within two years
- abolishing barriers to entry within the balancing market creating scope for more competition between dominant producers

The effects of this new regulatory framework are not yet clear. Much depends on how the regulatory authorities on the federal and state level make use of their new tools. What can be said though is that since the energy act is purely about regulation of the grid, it affects only part of the electricity market and of the electricity bill of customers (grid charges amounting to about 20-30% of industrial users' total price). While one could expect grid charges to remain constant and even slightly to decrease in the medium term – depending on the details of incentive regulation -, effects on the wholesale electricity price are only to be expected in the longer term – if at all. Even if grid charges decrease and if the authorities can enforce non-discrimination as well as prevent cross-subsidisation, it will take some time for new players to build confidence in and enter the market. The new law therefore won't influence the price development in the wholesale market, at least not in the short to medium term. To bring about real competition, additional measures are necessary

2. Which improvements to the market opening should be explored either at national or Community level?

2.1. EU-level

- **Facilitate cross border trade and expand interconnectors.** Cross-border trade is a very important means to integrate different national markets, to bring about effective competition and thus putting pressure on the price level. To facilitate cross-border trade, mechanisms of congestion management which efficiently allocate existing capacity in the short run and help to overcome shortage of capacity in the medium term are of utmost importance. The EU regulation 1228/2003 provides for market-based mechanisms such as implicit or explicit auctions. While auctions can be regarded as a mechanism to efficiently allocate scarce capacity in the short run, the problem of structural congestion remains. Therefore the most important requirement is a prescription on the use of revenues from congestion management. These should be solely assigned to reinforce existing interconnectors or to build new ones. This is a very important issue since a monopolistic owner of an interconnector has no incentive at all to invest in new capacity so as to overcome the congestion problem and simultaneously foregoing its monopolistic congestion rent. Only such an obligation to invest the money generated from congestion management will be able in the long run to solve the congestions problem and lead to a better integration of national or regional energy markets. This calls for an amendment of EU regulation 1228/2003, which allows an additional usage option of the revenues, namely to use them for lowering internal grid access charges. This latter option is to be cancelled, or at least there should be given clear priority to investing the revenues in expanded interconnectors.
- **To enhance competition, measures are needed to improve market structure.** A more alert competition policy is needed so that proposed horizontal and vertical mergers are carefully scrutinised and only very reluctantly approved. This is especially important for big players willing to buy suppliers in a different EU member state. While clearly today there exists no common EU market and the relevant markets are still the national ones, with the prospect of more market integration via enhancement of cross-border capacity, it would be too late if in a few years the existing cross-border bottlenecks would be overcome only to find that the few dominant players are dominant on both sides of the border.

While such a focused competition policy approach may help stopping the increasing concentration, it would, in addition, be extremely helpful to decrease the existing degree of concentration. Measures and mechanisms to do this and to increase the number of market participants on the supply side have to be developed on the national as well as on the EU-level. Possible measures worth exploring include e.g. power release programs or an obligation to offer planned closures of power plants to the market.

- With regard to integrating markets, a level playing field should be created. This also calls for **harmonisation of fiscal and environmental surcharges**. Today, different measures to reach environmental targets or to support renewable energies are in place in different member states, leading to extremely differing levels of surcharges

for the electricity customer. This leads to unequal competitiveness of energy intensive industries within the EU which in turn provokes calls for special rules and regulations on national level with regard to energy prices thus disturbing market forces again. Therefore a co-ordinated European approach may be needed to harmonise indirect surcharges so as to be consistent with an EU-wide competitive electricity market.

2.2. National level

- **On the national level, it is important to strictly enforce the rules laid down in the new energy act and the regulations.** This concerns rigid control of access charges as well as broad implementation of unbundling prescriptions. Quick decisions of the regulator should bring about more legal security.
- **To enhance competition, measures are needed to improve market structure also on a national level.** A more alert competition policy is needed so that proposed horizontal and vertical mergers are carefully scrutinised and only very reluctantly approved. While such an approach may help stopping the increasing concentration, it would be extremely helpful to decrease the degree of concentration. Measures and mechanisms to do this and to increase the number of market participants on the supply side have to be developed on the national as well as on the EU-level. Possible measures worth exploring include e.g. power release programs or an obligation to offer planned closures of power plants to the market.

3. Which measures to protect the interest of customers need to be considered?

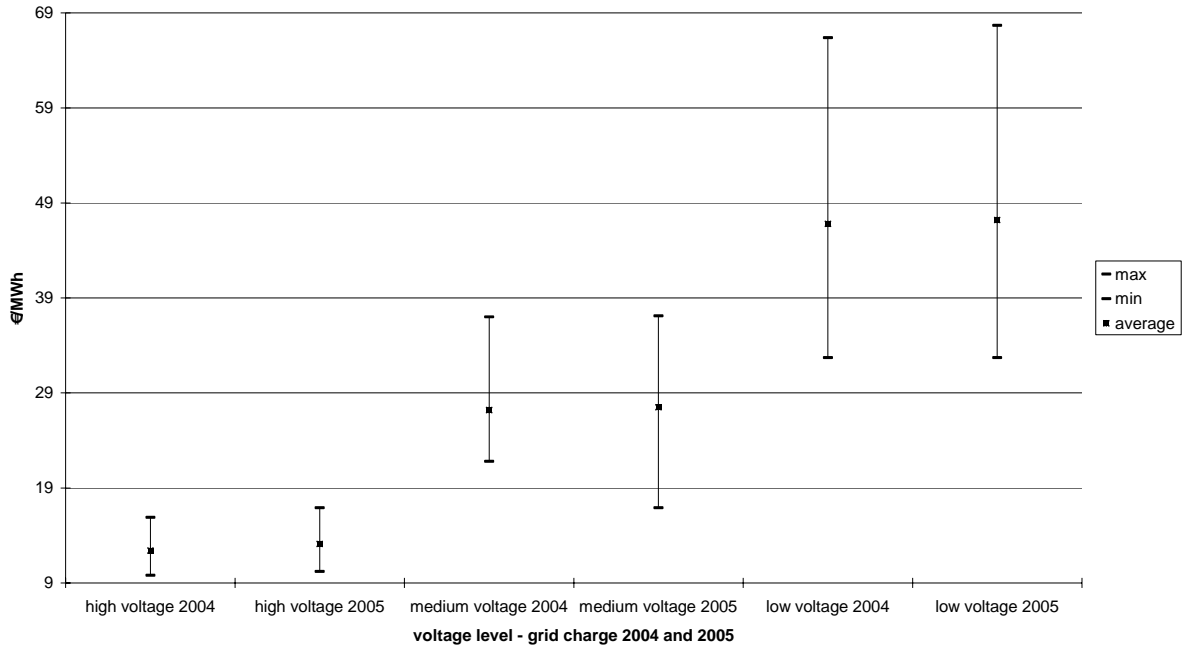
Bearing in mind the overall aim of creating real competition in the electricity sector, the most important measure to protect the interests of the customers – apart from safeguarding non-discriminatory access to the grids – is introducing effective competition to the wholesale market. Non-discriminatory grid access can have such effects only in the long run. With regard to the high and still increasing electricity prices, short-term measures are needed.

- The only feasible possibility to bring new players and new generation capacity to the market is to increase cross-border interconnector capacity. In this respect it may be necessary to amend EU regulation 1228/2003 in such a way that priority is given to the assignment of revenues from congestion management to network investments into maintaining or increasing interconnector capacity.
- In addition, a more focused competition policy is needed to stop increasing market concentration.
- New measures have to be developed to reduce the degree of market concentration, such as power release programs or – wherever feasible – divestiture of generation capacity.
- In order to create a level playing field for competing generators and traders as well as enabling customers to be informed and choose freely among different suppliers, more transparency is needed. This concerns harmonized European procedures and regulations about which market-relevant data (e.g. volume traded by the biggest players, plants undergoing maintenance ...) have to be published by whom in which way.

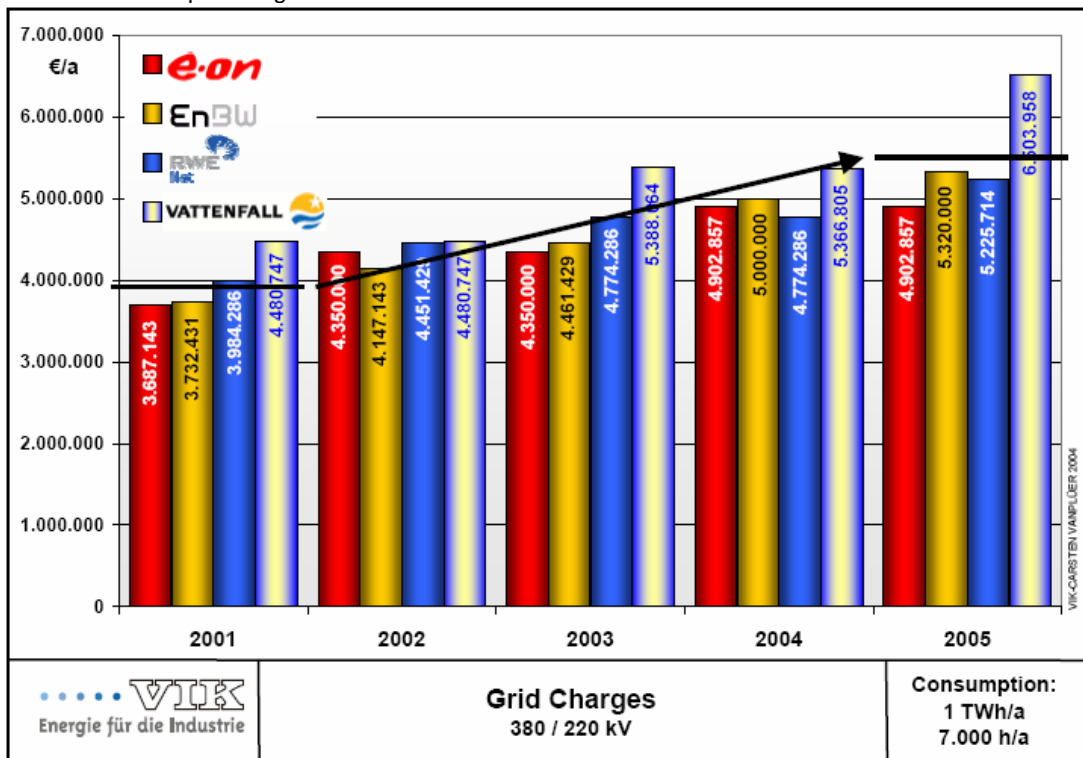
Annex 1: Average German grid charges

€/MWh	high voltage			medium voltage			low voltage		
	average	min	max	average	min	max	average	min	max
2004	12,4	9,8	15,9	27,2	21,8	37,0	46,8	32,7	66,4
2005	13,1	10,2	16,9	27,5	16,9	37,1	47,2	32,7	67,7
rise (%)	5,65%	4,08%	6,29%	1,10%	-22,48%	0,27%	0,85%	0,00%	1,96%
spread max/min (%)	65,69%			119,53%			107,03%		

average grid access charges (sample of 39 german grid operators)

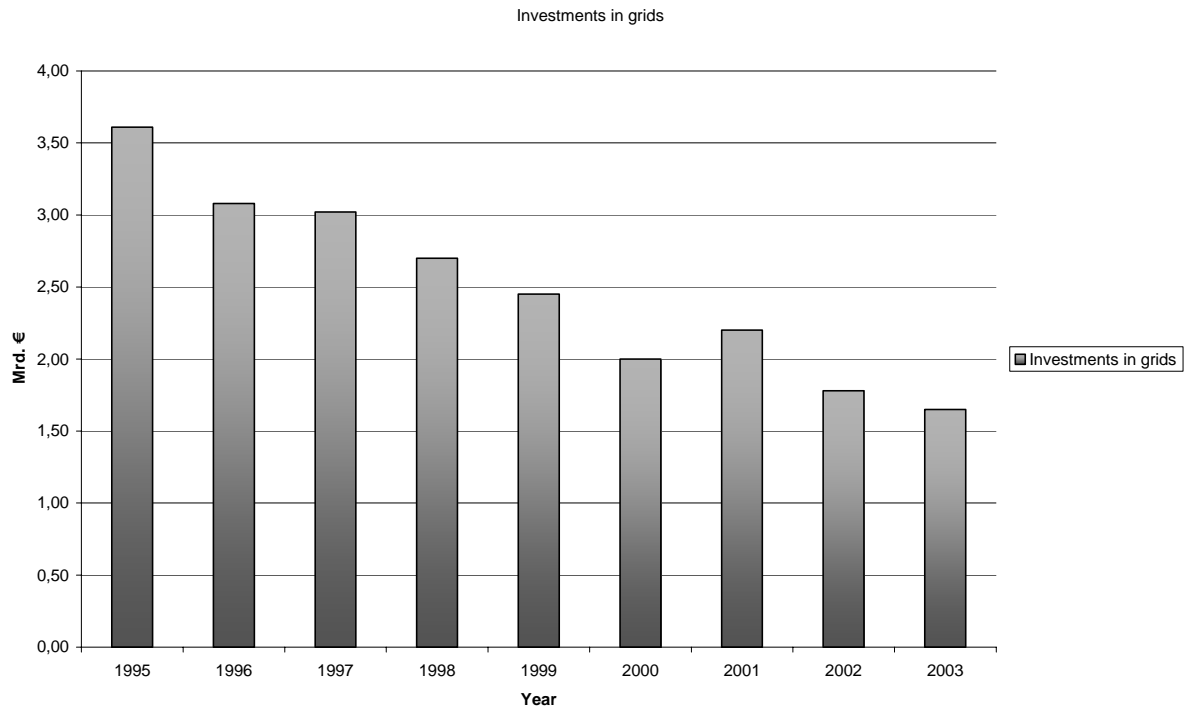


Source: VIK-Netzpreisvergleiche 1-2004 and 1-2005.

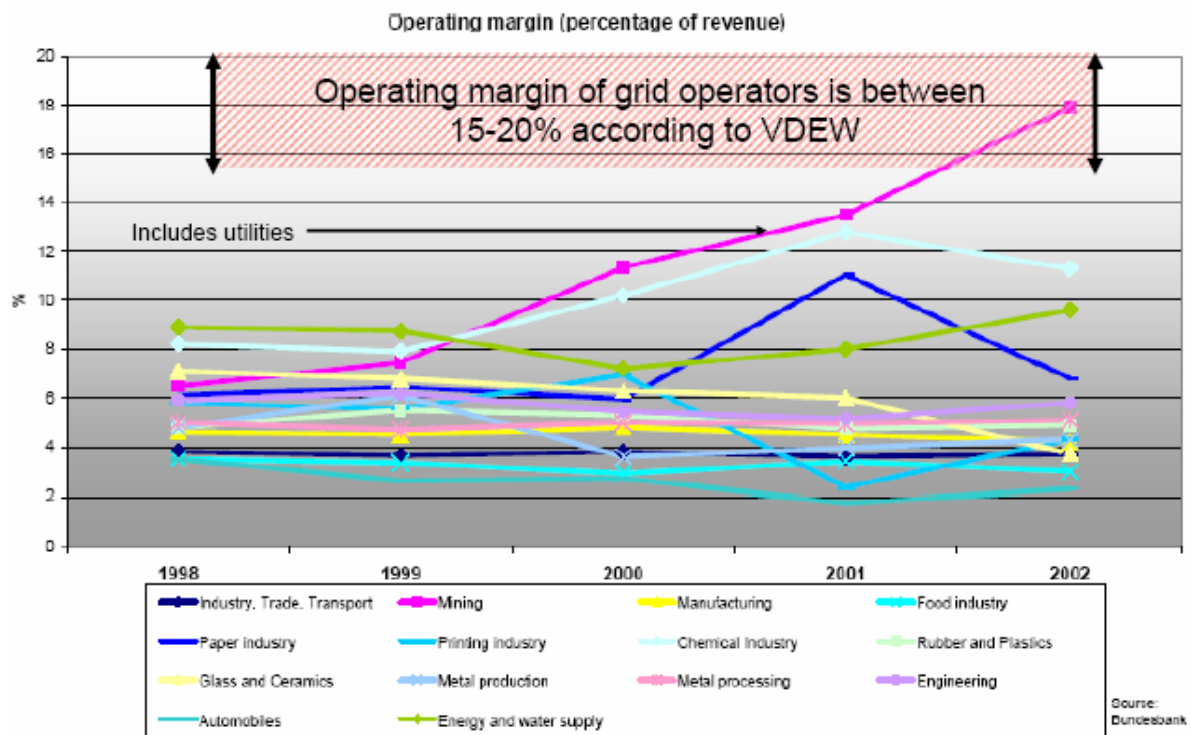


Source: published grid tariffs, own calculations

Annex 2: Investment in grids



Source: VDEW

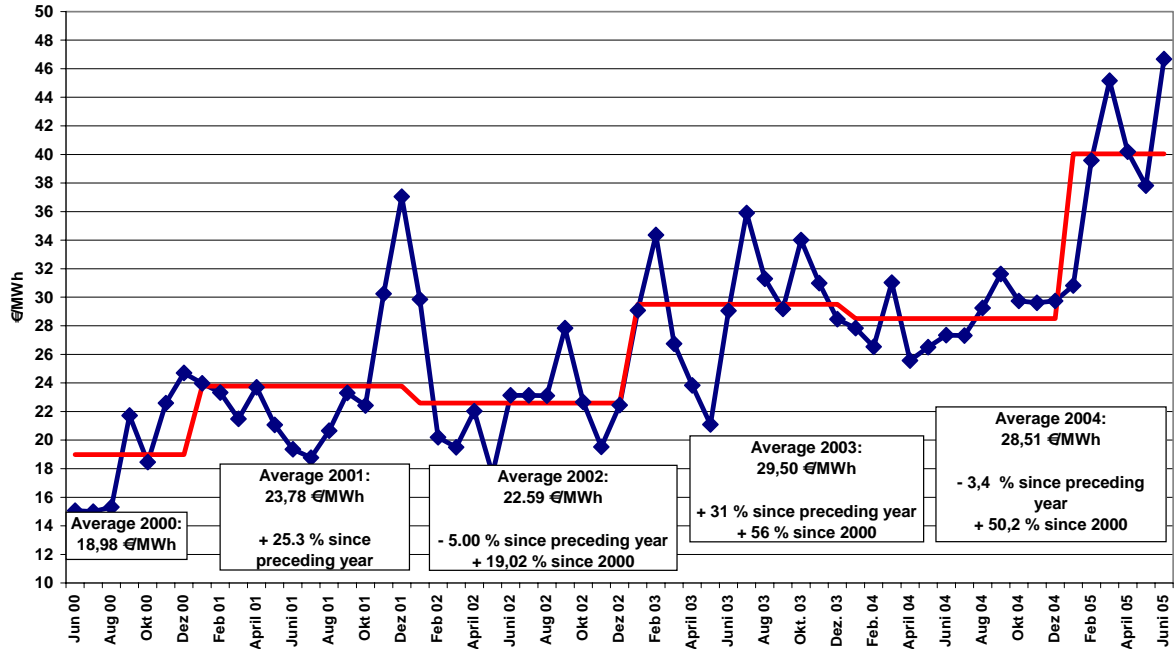


Source: VDEW, Bundesbank

Annex 3: Price increases in the wholesale market

EEX spot prices (baseload)

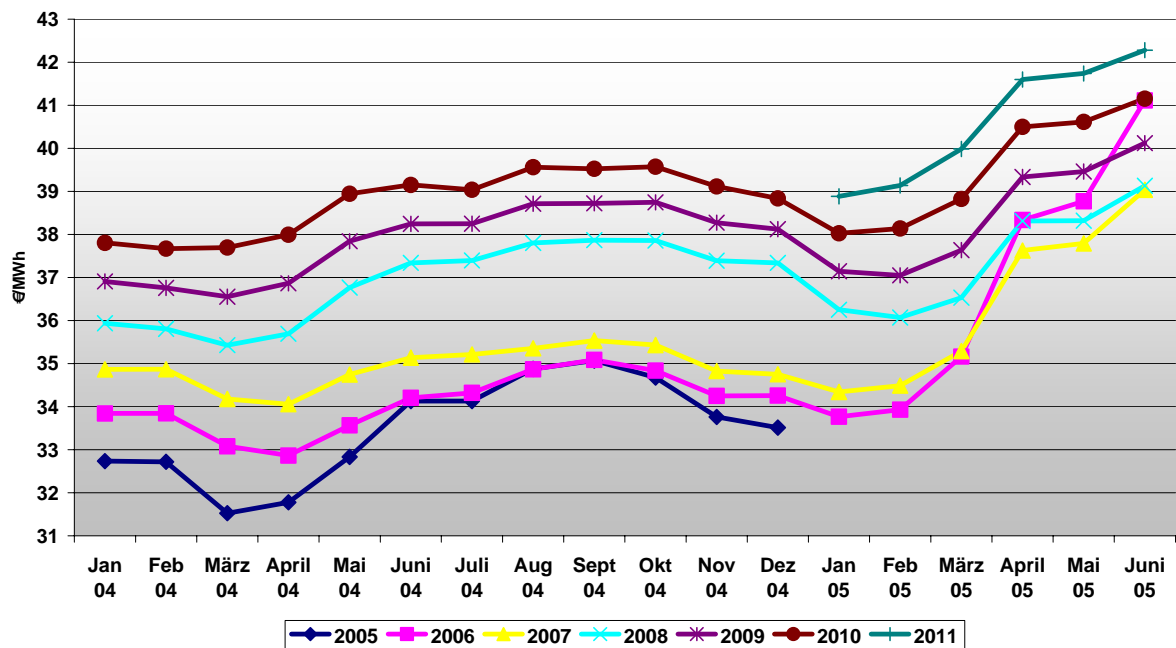
EEX spot market - Phelix Base



Source: EEX

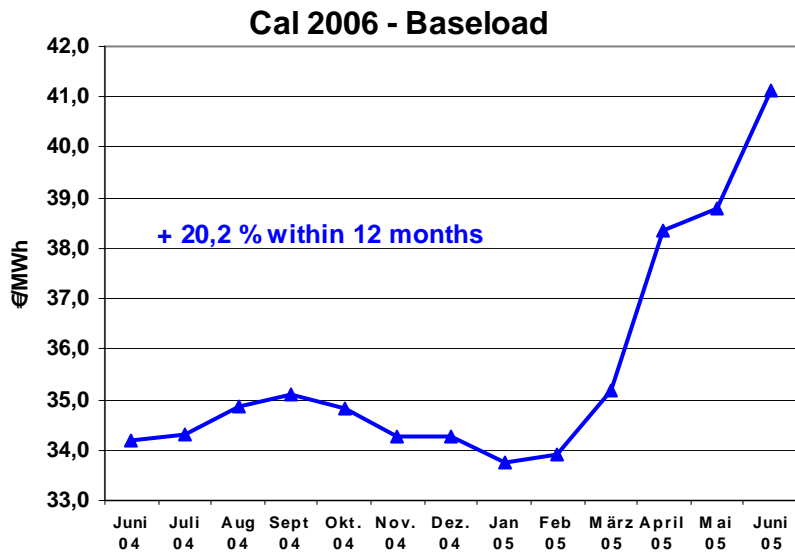
EEX yearly forwards

EEX Price development (year products baseload)



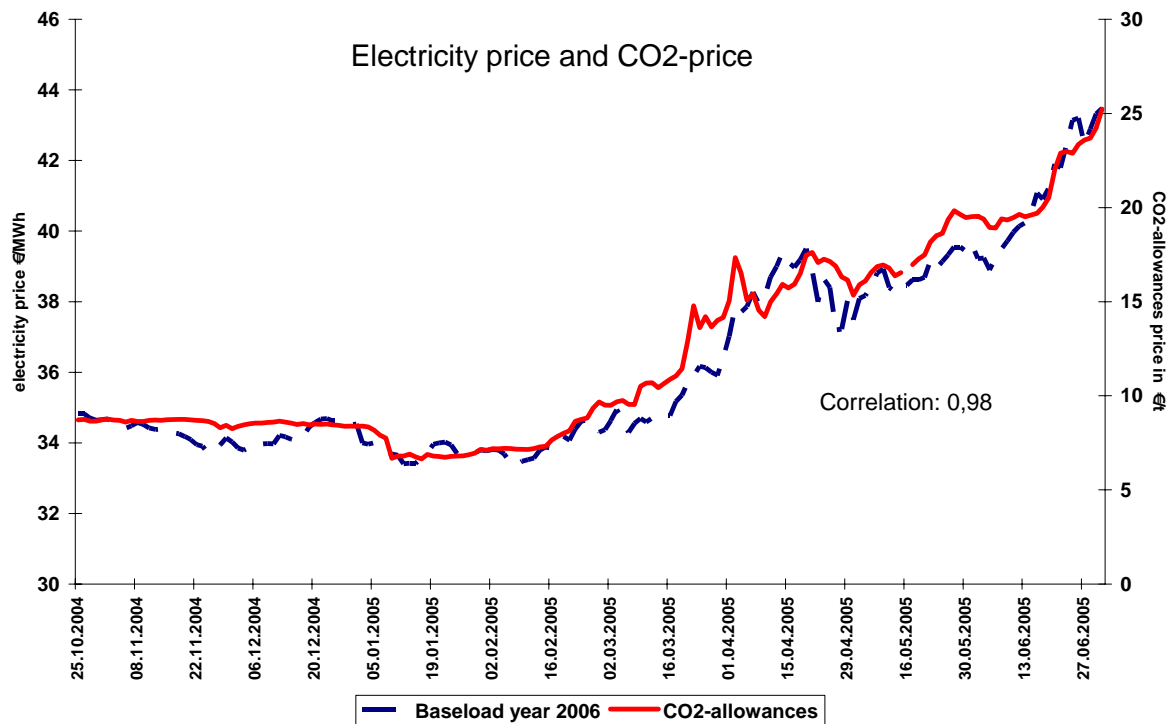
Source: EEX

EEX-forward price cal 06 (average monthly price)



Source: EEX

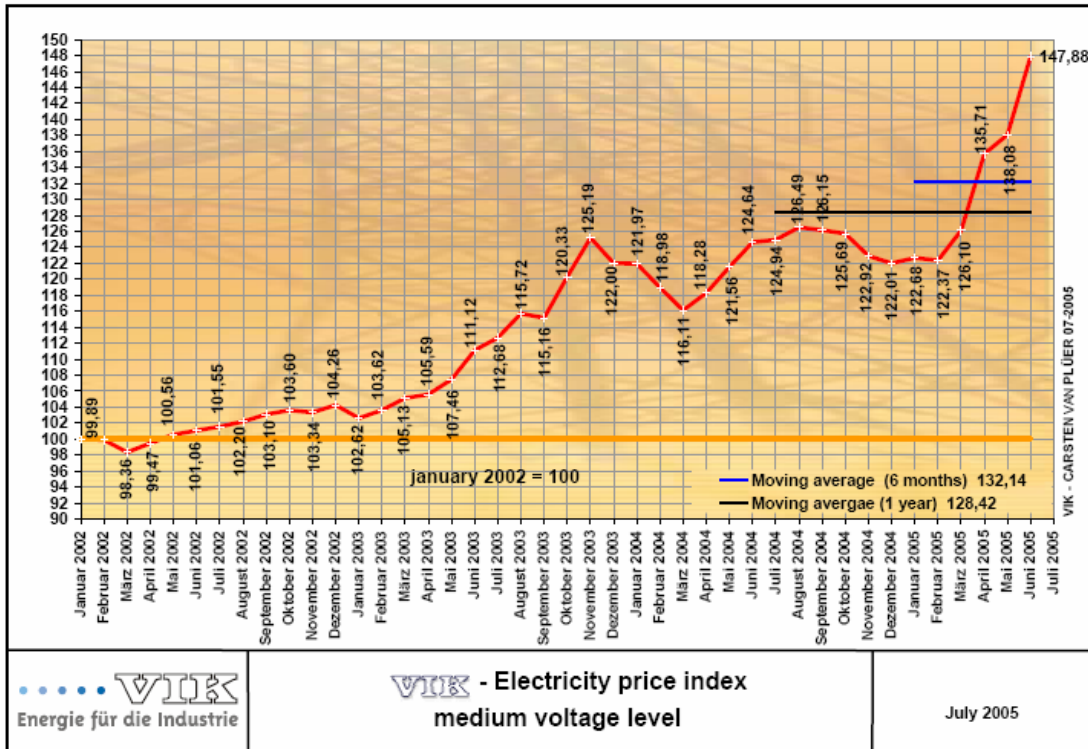
Correlation between CO2-price and electricity price



Source: EEX

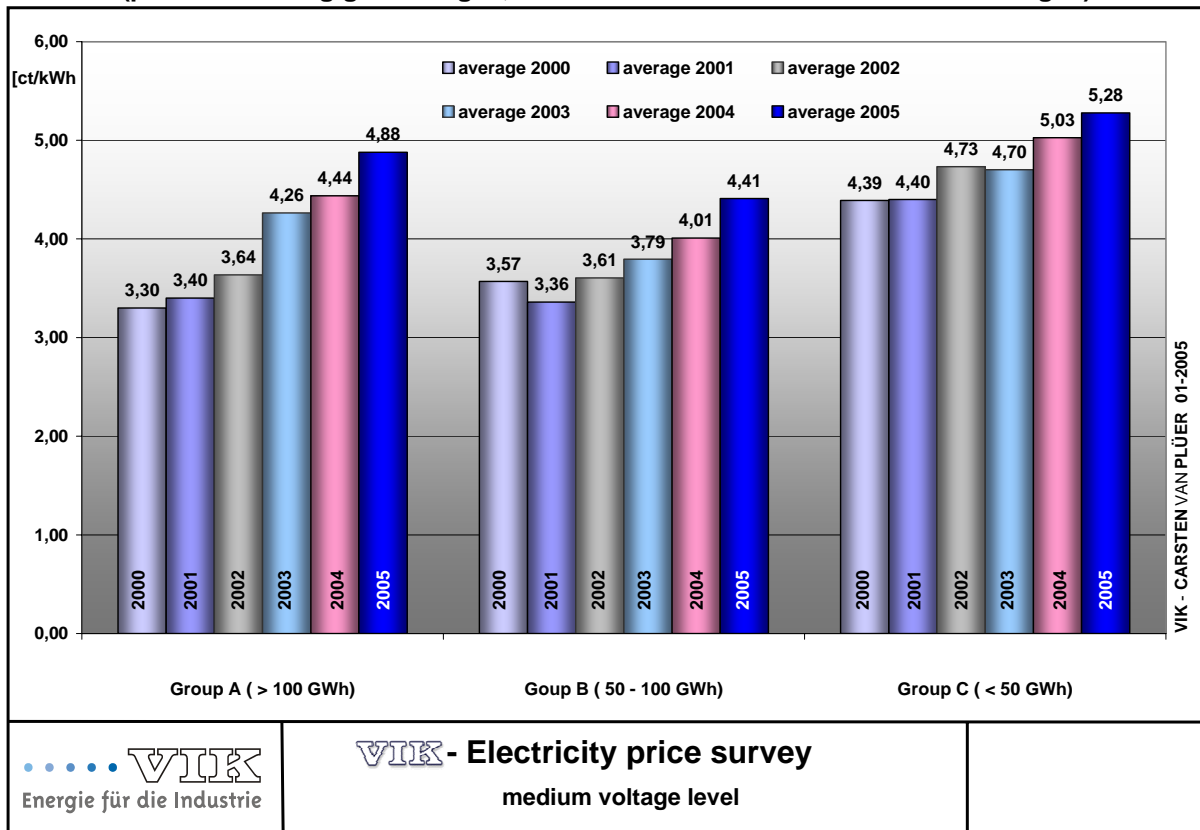
Annex 4: Individual prices

VIK electricity price-index
(comprises EEX forward prices and representative grid charges, without taxes and environmental surcharges)



Source: VIK

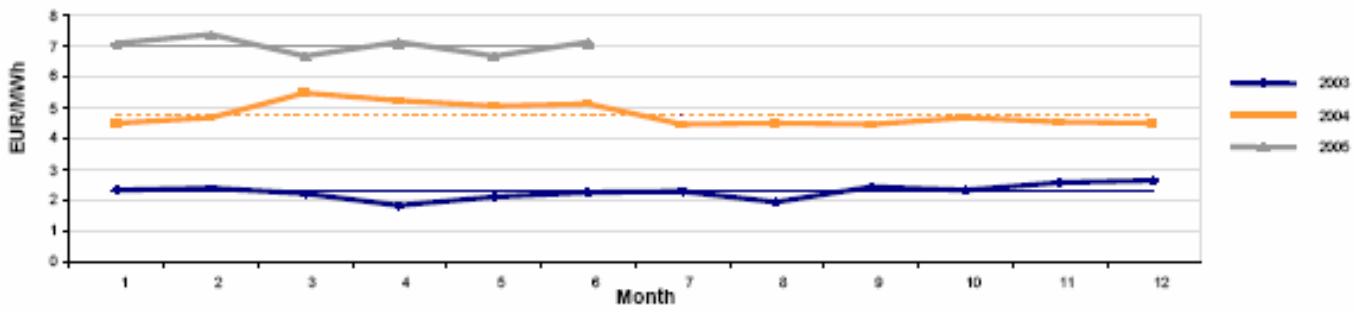
VIK – anonymous electricity price survey
(prices including grid charges, without taxes and environmental surcharges)



Source: VIK

Annex 5: Cross-border capacity auctions

Auction Prices (from CEPS to EON) - Weighted Average of Annual and Relevant Monthly Price



Source: E.ON, VET, CEZ