Deregulation of the Swedish Electricity Market
Contents:

1 Rules for the Swedish electricity market 6
2 Background 8
2.1 Following-up the electricity market 8
2.2 Deregulated markets - earlier experiences 8
3 Market structure 10
3.1 Electricity generation and generating companies 10
3.2 Electricity distribution - sales and transmission of electricity 11
4 Market development and competition conditions 13
4.1 Generating companies and foreign trade 14
4.2 Electricity distribution - sales and transmission companies 16
4.3 Competition between different systems for residential heating 20
5 Conclusions and summary of proposals 21
1 Rules for the Swedish electricity market

The Swedish Parliament decided in October 1995 to introduce new legislation in Sweden for the electricity market to take effect as of 1st January 1996. These regulations introduce competition on the electricity market in the generation and distribution of electricity. The aim is to provide consumers with greater freedom of choice and better opportunities for putting pressure on costs and prices in the supply of electricity. Transmission, and access to the networks will remain a monopoly and will be run in a special company separate from the distribution of electricity. Transmission will be subject to separate accounting procedures. When charging customers, the total cost of electricity should be separated into two components, the transmission price and the price of the electricity.

A new authority, the Electricity Network Authority has the task of determining whether transmission prices reflect efficient use of the national grid and the regional and local networks. Decisions of the Regulatory Authority may be appealed to the general administrative court. One of the aims of regulating transmission is to create better opportunities for identifying and preventing economic surplus from arising as a result of excessive transmission prices, which might then be used to reduce electricity prices through cross-subsidisation. Such subsidies run the risk of distorting competition between enterprises selling electricity, and may lead to higher electricity costs for customers.

Prior to 1st January 1996, both the transmission and distribution of electricity required an area concession. After the new regulations, concessions are required for transmission and supply. The concessions for the supply of electricity are given for a maximum period of 5 years and impose an obligation on the electricity company to supply electricity to customers covered by the earlier system of concessions. The aim is to strengthen the customer's position on the market. A supplier's obligations under the terms of the concession cease, if and when a customer changes supplier.

According to existing regulations, electricity consumers covered by the supplier's concession, households, small companies etc., must submit a written application to change electricity supplier six months before a new supplier arrangement comes into effect. This means that electricity customers were not able to change electricity supplier before July 1st 1996. The time at which other customers, including industrial companies, can change supplier is mainly connected with agreements between the customer and the supplier concerning the contract period, notice to terminate agreement etc.
If customers change suppliers to secure better terms on the free market, there are rules applicable for measuring electricity consumption per hour. Normally this requires the customer to install a new electricity meter. At the beginning of 1996, installation and cost of the meter, together amounting to an average of 8,000 Kronor is payable by the customer. For most small users of electricity, these costs are the most important factor, apart from the price of electricity when considering whether to change electricity supplier.
2 Background

2.1 Following-up the electricity market

The Competition Authority has been given the special task by the Government of following up the electricity market during the first half of 1996. The 24 regional administrative boards have assisted the Competition Authority in this work. In its report "The Electricity Market - Is it Working?", the Competition Authority presented its views. One of the aims of the report is to provide a basis for the authorities to determine what measures are needed to promote increased competition on the electricity market to the benefit of consumers/electricity customers. What follows is a summary of that report.

2.2 Deregulated markets - earlier experiences

The deregulation carried out in Sweden over the last 10 years with the aim of creating competition on different markets - e.g. domestic air transport, long distance freight transport by lorries, postal services and telecommunications - applies to such activities which in most cases require access to infrastructural facilities. The former rules, by regulating the conditions for establishment and price setting, determined the supply of goods and services on the market. Often it has proved difficult to transform regulated monopolies into well functioning competitive markets.

One reason may be that in most cases the former monopoly, or in certain cases a few companies who prior to deregulation were given exclusive rights by the state authorities, own the necessary infrastructural facilities (essential facilities). This provides an effective obstacle to the establishment of new companies, which in its turn has led to a situation where existing companies have not been subject to competition from new operators within major segments of the markets that have been deregulated. An additional reason in many cases is that a company protected from competition, by virtue of the requirements for setting up business or through its need to have exclusive rights to run a certain activity, has been able to build up a strong market position due to its financial strength, its investments and the knowledge it has acquired about the market.

One of the lessons learnt is that very often it takes a long time to transform a monopoly market into a well-functioning competitive market. Another
experience is that special measures must often be taken to promote competition. Distribution of electricity, as in the post and tele area, is distinguished by companies using a surplus gained from monopoly activities or from activities where they have a dominant position, to subsidise other areas exposed to competition. Another common characteristic of a number of these areas is that major industries or customers with large purchasing volumes take advantage of the opportunities offered by the new competition conditions.
3 Market structure

Essentially, the electricity market may be said to consist of three activities/sub areas, namely the generation, sale, and transmission of electricity. The first two areas are exposed to competition. The extent to which there is competition is related to market concentration and structural conditions in production and distribution, and there are rules governing electricity sales to the final consumer and transmission prices. Competition is also affected by rules and institutional conditions limiting the extent of foreign trade and the competition generators face from imports.

3.1 Electricity generation and generating companies

Generation of electricity in Sweden on an annual basis amounts in total to around 140 terrawatt hours, and exhibits high market concentration. The five largest generating companies ranked in terms of size are Vattenfall AB, Sydkraft AB, Stockholm Energi AB, Gullspångs Kraft AB and Stora Kraft AB. Vattenfall and Stockholm Energi are owned by the state and the city of Stockholm respectively. The five companies mentioned account for approximately 90% of the total production of electricity. The shares of Vattenfall and Sydkraft are 50 and 20% respectively. Other major generators that can be mentioned are Graningeverkens AB and the municipally owned Skellefteå Kraft AB with a total market share of around 4%. In recent years generating companies in Sweden have become part-owners in each other’s companies. Examples of this are Vattenfall and Graningeverken part owners in Gullspångs Kraft with Sydkraft having a similar interest in Graningeverken.

Until now Norway and Sweden are two of the few countries who have introduced new legislation on competition in the generation and distribution of electricity. In Finland and Denmark reforms were introduced on the electricity market during 1995 and 1996 respectively. Moves towards the promotion of greater competition in the Nordic area mean there will be a gradual increase in competition between Nordic electricity generators. It is against this background that the increase in ownership links between generating companies in Sweden and primarily their counterparts in the Nordic countries should be viewed. Joint ownership between competing companies always involves the risk that companies will co-operate in a way detrimental to competition. Such co-operation is made easier if a person in a management position in one company (e.g. a board representative) also plays a key role in a competitor.
A generator's most important customers are contract customers and customers covered by the supplier's concession, especially households and small companies. Contract customers are made up mainly of larger industrial customers and independent distributors of electricity. Agreements between generators and their customers are usually over a period of a year or more. Company supplies to household customers are in the majority of cases carried out by the company's own sales and trading company.

Amongst generators, it is usually the case that the major part of the company's power production is sold to contract customers, while sales to household customers account for a smaller part. In a smaller number of generators, especially municipal energy companies with their own power production e.g. Stockholm Energy, the relationship is the opposite concerning the share of production made up by these two customer groups.

3.2 Electricity distribution - sales and transmission of electricity

In 1989 there were approximately 290 local electricity distributors in Sweden, accounting for the majority of distribution to the country's electricity customers, principally households and small companies. By September 1996 the number of distributors had declined to around 250, with each company normally divided into transmission and sales entities. Municipal energy companies account for about half of all supplies to the electricity customers mentioned above. Usually these energy companies do not generate electricity but purchase it from generating companies. Remaining sales of electricity in this case are accounted for by the larger generating companies via their own sales and distribution.

Development towards a reduction in the number of distributors is mainly a result of generating companies, especially Vattenfall and Sydkraft, acquiring such companies (vertical integration). This undermines competition in the whole production-sales-distribution-final consumer chain. This conclusion can be looked at from the perspective of e.g. the rules currently applicable when electricity customers change suppliers and the high costs customers confront when buying and installing new electricity meters.

The Swedish electricity transmission network consists of not only the national grid, but also the regional and local transmission networks. A state-owned company, Svenska Kraftnät, administers and runs the national grid. The regional networks are owned to a large extent by the major generating companies. The local network is owned by transmission companies who as a rule are linked to a distributing company. These companies are primarily owned by municipalities and in a few cases by the larger electricity generators.
The high market concentration in the generation of electricity, reinforces the importance of foreign trade and the smooth running of the electricity exchange. At the beginning of 1996, the Swedish-Nordic electricity exchange was set up (Nord Pool ASA). The rules of the exchange were drawn up by the Norwegian authorities. Nord Pool is 50% owned by Svenska Kraftnät. In the middle of August 1996, the Finnish electricity exchange El-Ex (Electricity Exchange OY) was started. Until now only companies registered in Finland have been allowed to deal on this exchange, foreign companies are thus excluded. Nord Pool and El-Ex intend to start co-operating during 1997.
4 Market development and competition conditions

Market conditions and their effects that are totally or partially connected to deregulation of the electricity market, can be summarised as follows.

• The question has been raised whether larger generating companies reduce the supply of electricity in order to raise spot prices on the Swedish-Norwegian electricity exchange, thereby increasing the costs of their competitors to purchase electricity. Another issue that has received much attention is owner links between generating companies.

• Larger generating companies, especially Vattenfall and Sydkraft, are acquiring to an increasing extent municipal distribution companies. From the middle of 1993 until September 1st 1996, generating companies have acquired at least 15 distributors. During the same period, they have also acquired around 15 district heating companies, often in connection with the acquisition of distributors. The poor finances of the municipalities have contributed to this development.

• Electricity companies have often organised their transmission activities in ways that would probably not have been compatible with the new rules for this activity. A large number of transmission companies, in addition to their transmission activities, are also active in the distribution of electricity and in the market for electrical installation, both areas exposed to competition.

• Prior to deregulation, probably the majority of customers with high electricity consumption e.g. larger industrial companies and players within the public sector, concluded long-term agreements for the supply of electricity with their earlier supplier without using procurement procedures.

• A number of electricity customers with high consumption have been able to reduce electricity costs. The reason is that such customers have used a tendering process. In some cases, this has been carried out through co-operation with other industrial purchasers, and sometimes this has resulted in a change in supplier.

• Distribution companies have co-operated over their purchases of electricity, sometimes via jointly owned purchasing companies. There are examples of such companies being jointly owned by distribution companies and individual industrial companies. It
also happens that purchasing companies sell electricity to customers other than their owners.

•• Distribution companies have not to any noteworthy extent tried to compete over prices for small consumers (households, small companies etc.). Instead the market strategy adopted has often been to offer better service.

•• The requirement for hourly metering of electricity consumption and new meters when changing suppliers has meant that the majority of electricity customers mentioned above, have not been able to take advantage of competition on the electricity market to obtain lower prices.

•• Total electricity costs (transmission plus electricity) for a household living in a flat increased on average by 8.1 % at the beginning of 1996. For houses with and without electric heating, the increase was on the average 5.5 and 8.8 % respectively. All three household categories received in most cases sharp increases from 15 to over 30 %. Increased taxes on electricity from the turn of the year 1995/96 accounted for 3 to 5 per cent of the price increases.

•• Difficulties with difficult-to-read and sometimes incomprehensible electricity bills to consumers appear to have worsened after deregulation.

4.1 Generating companies and foreign trade

A study carried out by the Stockholm School of Economics prior to deregulation, shows that high market concentration in the area of electricity generation will work against effective competition and lead to higher price levels. One proposal put forward is to divest the largest company on the market, Vattenfall, into several independent companies. An alternative proposal is to expand the Swedish market to cover all Nordic countries. This involves major obstacles and would require i.a. that transmission capacity in and between the largest Nordic countries be considerably expanded.

In recent years, a number of generating companies in Sweden have increasingly built up interlinking ownership connections between themselves and with generators in other Nordic countries. There are great risks that such co-operation between companies limits competition. And this is particularly so if there are persons in the management of one company or board occupying similar positions in other competing companies. Within the field of competition law, the term "interlocking directorates" is used for such arrangements. In highly concentrated markets, this issue is of particular importance from a competition perspective. The Competition
Authority has decided to support financially two research projects in this area. The aim of these studies is to provide a basis for determining what possible measures might be taken to prevent anti-competitive behaviour that may originate from personal and ownership links between competing companies.

With respect to the high market concentration in the generation of electricity, it is important to have a smoothly operating foreign trade and electricity exchange. Currently, Sweden's most important trading partner in the electricity area is Norway. An important function of foreign trade is the trade in contracts i.e. price guaranteed financial agreements for future supplies of electricity. The buyer's and seller's risk or profit and loss is normally linked to the Swedish-Norwegian spot price for electricity, determined on the basis of supply and demand for electrical power. For this reason, it is important that all the players on the market (generators, distributors, brokers, electricity customers and others) have equivalent information on the supply of power. In this context generators may well have an advantage in terms of information. Neither can the risk be disregarded of a player having information that should be available to all actors, conducting advantageous business on the electricity exchange i.e. insider dealing.

There have been claims that on a number of occasions in 1996, larger generators in Sweden and Norway have consciously acted in order to raise spot prices by e.g. reducing the supply of electricity. One consequence is that smaller companies competing with generators with either little or no generation of their own, and buying a large proportion of their power supplies via contracts incur higher costs for their purchases of electricity. There should be rules with the aim of preventing actors from distorting prices on the electricity exchange to their own advantage. This is connected to the scope and focus of the information regarding the supply of power on the market. In such cases, rules should be introduced on information concerning factors affecting spot prices either immediately or within a week. Such factors are review periods for nuclear power, information on the level of water reservoirs as well as plans for expanding and repairing hydro-electric power stations.

Trade in electricity between Sweden and Norway is subject to barriers which counteract efficient trade and competition between Norwegian and Swedish generating companies. This is connected to the practice of granting licences in Norway for export supplies lasting for more than six months. The intention is that this system should be abolished from January 1st 1998. In addition a system is applied on the electricity exchange of different price areas and supplementary or "bottle-neck" fees for import and export trades that are expected to create capacity problems on the grid, the aim being to discourage buyers and sellers from taking their planned supplies of electricity.
From a competition viewpoint this system is of dubious merit. In principle, it is not possible for actors to forecast when the grid will be subject to capacity shortfalls, and even less possible to foresee what extra fees will apply to supplies. Such a system increases uncertainty over the price of electricity that would prevail at the time of physical delivery. The system also works against an efficient exchange and a working market for electricity between Sweden and Norway. The approach of applying a specific price supplement under these conditions is especially disadvantageous to small purchasers and resellers of electricity.

A better arrangement from the competition viewpoint for solving "balance" problems on the grid would be a system where the company responsible for the national grid buys up surplus power. The costs of this power would be financed by all the actors using the grid, i.e. all actors would pay a lower price supplement, determined in advance, for transmission over the grid. Such a "Pool Model" would not restrict trade and thus competition between electricity companies in comparison with the present system of different price areas and the imposition of a comparatively high supplementary fee when taking delivery of agreed electricity supplies.

The different principles for determining prices of national transmission in Sweden and Norway lead to different prices for buyers and sellers of electricity and could influence competition between electricity companies in the different countries. In the Nordic countries, different tax systems and tax levels are applied in the production chain, leading to different competition conditions for the companies concerned.

4.2 Electricity distribution - sales and transmission companies

In addition to high market concentration in generation, two conditions are regarded as being especially important in creating well-functioning competition in the sale and distribution of electricity to the final consumer. The first is that the generating companies would to a much greater extent acquire distribution and sales entities, and transmission companies i.e. vertical integration. This is closely connected with the present requirement for hourly metering of electricity consumption when changing suppliers, and connected with customers normally having to buy a new electricity meter. The other condition concerns price determination on the transmission grid, which is a monopoly.

Vertical integration and metering requirements

In the competition legislation, restrictions on competition between companies in a vertical relationship are often regarded less seriously than links between companies at the same production level (horizontal restrictions).
Regarding vertical relationships, for competition to work, it is important that none of the actors has a substantial part of the market and that consumers are free to choose between different suppliers of goods and services. When companies at the same level of production have links restricting competition, this may mean, depending on the share of the market affected, that competition is either completely or partially non-existent for buyers.

By means of vertical ownership in different "chains" of generators and distributors of electricity, competition is restricted when generators sell electricity to distributors and to the final consumer. The cost of changing meters and installation greatly exceeds in many cases the savings that can be made over a long period by electricity customers when changing supplier. What makes the vertical links between generators and distributors/ generators serious from a competition viewpoint is the "metering requirement". In practice, households and small company owners do not in reality have any real opportunity or freedom to choose between different suppliers of electricity. "The metering requirement " may thus be regarded as having contributed in many cases to a significant increase in electricity costs for different types of households during the first few months of 1996.

Under present circumstances, electricity prices for households may in the future increase to an extent that probably would not have been possible, if these customers had in fact had a real opportunity to choose between different distribution companies. Industrial companies and other major users of electricity should thus in comparison with households experience a "moderate" change in prices as current agreements expire. There is also a risk that the rationalisation resulting or that may result from structural changes in the market as a consequence of the deregulation where generators acquire trading companies including their transmission operations, will not be sufficiently beneficial to smaller electricity consumers. Over time the result may be that these customers in effect subsidise industrial customers and other major consumers of electricity.

The majority of small users of electricity should thus be exempted from the rules on hourly metering of electricity consumption and the requirement for installing new electricity meters when changing supplier. Instead a system of standard metering should be introduced. Such a proposal has been put forward by the regulatory authority. If electricity customers have more freedom in choosing supplier, there will be greater competitive pressure on the market. This in itself could have a price reducing effect without customers actually using the opportunity to change supplier. This conclusion is supported by experiences gained in Norway. Standard metering of electricity consumption would counteract the restriction on competition arising from the importance of vertical integration on the electricity market.
Transmission - organisation, costs and price setting

Well-functioning competition in the generation and distribution of electricity presupposes that prices of transmission services reflect efficient operations. The regulatory authority's report on the differentiation of actual electricity prices and transmission tariffs at the beginning of 1996, the reason for price setting etc. supports their conclusion that prices of transmission are in many cases too high in relation to actual costs or costs at efficient operations. If the price of transmission services exceeds costs, the surplus can then be used to subsidise electricity prices thereby leading to a distortion of competition.

After the deregulation, electricity distributors have applied two organisational models. The first model involves transmission activities remaining in the parent company while a special subsidiary is formed for the generation and distribution of electricity. The subsidiary often has no employees apart from the managing director. To-day there are probably almost 100 companies using this model. The second model means that electricity activities remain in the parent company while a subsidiary is established for the transmission activities. In this model there have also been cases where all personnel have been employed in the parent company. The organisation of distributors' activities is currently being investigated by the regulatory authority.

Present rules on the organisation of electricity and transmission create the opportunity for companies to exercise greater choice in how transmission may be organised in practice. Organisational solutions arising from deregulation may formally fulfil the rules involved. In practise, however, transmission activities can be performed in conjunction with distribution. This, however, leads to competition problems arising from the difficulties in identifying and accounting for all the costs of the transmission activity.

Experience from markets that were earlier deregulated in Sweden, e.g. post and tele area, shows that the problems in cross-subsidisation between monopolistic and competitive activities are one of the most important issues that need to be solved in order to create well-functioning competition. The Competition Authority's examination of alleged predatory pricing under the Swedish Competition Act shows that it is difficult and demanding in terms of resources to identify and correctly relate all costs for a specific activity run in conjunction with other activities. This is also borne out by other international experiences.

Developments in Norway regarding price setting of distribution companies' supplies of electricity to the final consumer are also of interest. Deregulation of the Norwegian market in electricity started at the beginning of 1991. According to the Norwegian Competition Authority, a dual price system has been developed on the market. The prices of the distribution companies' own customers (households and others) are lower than prices for customers "belonging" to a different distribution company. In this way
customers are "locked in" and the result is that competition in distribution is restricted. In Norway there has been no requirement that there should be different legal entities for transmission and distribution activities. Price fixing used in Norway shows what the consequence would be if the two activities are performed in a single company.

The organisational structures resulting from deregulation mean that it is difficult for the regulator to monitor the costs of transmissions, efficiency and prices. The aim of the regulation on separating transmission and distribution activities was not the formation of a large number of "shell companies" i.e. with one or a few employees, or that transmission should be operated together with distribution or other activities exposed to competition. In this case, it is important to supplement the legal rules and as far as possible prevent transmission from being operated together with other activities.

The present regulation that transmission should be accounted separately, provides companies with great freedom to tailor the focus and precision of their accounting. This in combination with the fact that transmission activities are often run jointly with one or more other activities, means that it is difficult to correctly identify and account for all the relevant costs. Based on current conditions, examination of prices for transmission will often be a difficult and demanding process in terms of resources. This applies not least to those cases where the court has to give its ruling on prices. It would also be difficult to determine prices for transmission services throughout the country that would reflect efficiency.

For this reason, special rules should be introduced that would inter alia clarify the costs relating to transmission as well as the accounting principles and cost verification requirements that should apply. In addition to clarifying transmission costs, this would create better opportunities for the operators involved - the regulatory authority, the courts, and electricity companies - to cut down on resources used for examining prices of transmission. In addition, exemptions from the above mentioned rules might also be considered for companies with marginal transmission activities in cases where applying these rules would lead to effects that are not consistent with the original aims of the rules.

Information on price setting

A principal requirement for effective competition is that customers are well-informed on the company's supply of products with respect to quality and price of goods or services. Distribution companies' bills or invoices to households are very often difficult to interpret. This problem appears to have worsened after deregulation. Very often, it is not apparent from the electricity bill how total costs have been divided between consumption of electricity (price of electricity) transmission services (tariffs), and taxes. This makes it difficult for customers to compare electricity prices between
different distributors of electricity. If conditions are created for effective competition over the sale of electricity to households, companies would in many cases become more motivated to base their invoices on the customer's needs.

4.3 Competition between different systems for residential heating

The distribution of residential district heating has traditionally been provided by municipalities, but in recent years larger electricity generating companies have begun to acquire municipal district heating utilities. This form of heating, which assumes access to i.a. piping systems for the distribution of hot water, was regarded prior to deregulation of the electricity market as a natural monopoly. Relatively large costs for customers (house owners, property owners etc.) are involved in changing from district heating to a new electricity supply system etc. A transfer from district heating to oil powered heating would involve higher costs and is thus normally not a realistic alternative. This leads to a lack of competition between different heating systems.

Deregulation was expected to lead to greater competition in district heating in relation to electric powered heating. Mainly for this reason, it was decided that district heating under certain circumstances should not be covered by the cost charge principle generally applied by municipalities. This is a form of price regulation and means that the price of a service provided by the municipality should not exceed costs incurred. With the exception of a few municipalities, there is no restriction on prices for district heating. Deregulation of the electricity market as mentioned above has not led to any real change in competition over the sale of electricity to households. This has led to amongst other things upward pressure on household costs for electric powered heating. This provides scope for increasing prices of district heating, and serves to underline the need for increasing competition in the supply of electricity to households.
5 Conclusions and summary of proposals

In overall terms, one of the aims of the deregulation of the electricity market in Sweden, was to introduce competition on the market to the benefit of consumers. Generally speaking, it is difficult to predict all the consequences that can arise from introducing competition in a market which for very long has been a regulated monopoly. Often, it is difficult to assess how rapidly deregulation should be implemented. Excessive deregulation all at the same time can lead to undesired effects due to the market operators not having enough time to adjust to the new situation. Final evaluation of the effects of deregulation can normally not be made until after a relatively long period has elapsed. Another observation is that after deregulation, special measures are often required to stimulate competition.

The time between Parliament’s decision on deregulation and its implementation on the electricity market has probably been experienced by many electricity companies and customers as being insufficient for them to prepare themselves for the new market situation. This could explain some of the effects on the market. There are, however, strong arguments for implementing certain measures that in the long-term would create effective competition on the electricity market and thus better ensure that the aims of deregulation are fulfilled.

In its report "The Electricity Market - Is it Working?", the Competition Authority proposes the following.

1 Exempt households, small companies and others from the rules on hourly metering of electricity consumption and from the requirement to install a new meter when changing suppliers. Introduce instead, as is the case in Norway and elsewhere, a system based on standard metering.

2 Supplement the rules on transmission organisations in order to prevent as far as possible companies running transmission activities together with distribution activities or other activities exposed to competition.

3 Introduce special accounting rules for transmission, which would inter alia clarify the costs related to transmission, as well as define the accounting principles and cost verification requirements that should apply.

4 Reduce Vattenfall’s ability to dominate the electricity market by creating a working market in electricity covering the whole of the
Nordic area and examine the possibility of divesting Vattenfall into a number of independent companies.

5 Introduce rules that would prevent insider dealing.

6 Introduce rules concerning independent information on the factors influencing the supply of electric power in order to create more equivalent conditions for the operators distributing electricity through contract agreements. This information should be provided by an independent body.

In addition, the Competition Authority is of the view that Sweden should work towards:

7 Replacing the system on the electricity exchange involving division into areas and "bottleneck" fees for supplies between Norway and Sweden when transmission is stretched to capacity, by a "pool" or counter trading system to create balance in the system.

8 Introducing similar principles for price determination of national grid services in Sweden and Norway in order to secure better conditions for a functioning market in electricity between the countries.

9 Harmonising the tax system and tax levels for generating companies in the Nordic area.

Proposals covering points 4 to 9 should be considered against the backdrop of the high market concentration of generation in Sweden. This would increase the need to open the electricity market in Sweden as far as possible to competition from generators in other countries. Equivalent competition between generators assumes that the countries affected have opened their national markets to competition. Two important conditions for trade in electricity to function smoothly are that there should be an effective electricity exchange and trade in contracts. For the foreseeable future, the Norwegian electricity market through the foreign trade mechanism seems to offer the best possibility for increasing competition between generators in Sweden.

When markets are deregulated with the aim of creating competition, there are often high expectations that changes in the rules will almost automatically lead to greater efficiency and lower prices for consumers. These expectations are often neither based on market considerations nor the conditions necessary for competition to function effectively. In this respect, the market in electricity cannot be regarded as constituting an exception.