

Overview of the legal and regulatory framework in Sweden

A. Electricity

A.1 Industry structure

The three largest power production companies in Sweden are Vattenfall, E.ON and Fortum which jointly account for approximately 87% of the total Swedish energy production.¹

The Swedish national grid is owned and operated by the Swedish state utility company Svenska Kraftnät. The 13 regional grids are owned by large power generators. The 200-odd local grids are owned by private, state and municipal companies or co-operative associations.

Concessions for national connections to the grid are granted by the Government but should be submitted to the Swedish Energy Agency,² which also issues, *inter alia*, various regulations in respect of grid connections.

As the network authority the Swedish Energy Agency is responsible for monitoring network operations. It monitors compliance by various market players with the requirements of the Electricity Act³, except for the requirements of electrical safety and system responsibility (see below).

Electricity is transmitted from power stations to consumers by the grid of power lines, consisting of three levels. The national grid consists of the high voltage systems and a majority of the links with other Nordic countries. The regional grids transmit electricity from the national grid to the local grids and sometimes to high consumption users.

Electricity transmission is a regulated activity which means that an entity wishing to engage in grid operations must have a grid concession for a particular transmission line or for all transmission lines within a certain territory. Concessions for national (but not international) connections are granted by the Government although all applications for concessions must be submitted to the Swedish Energy Agency. Concessions have a limited duration of 40 years for particular transmission lines and 25 years for all transmission lines within a certain territory. The Government also considers applications for grid concessions involving interconnecting links with other countries.

A concession may only be granted where an establishment is suitable from a general point of view and subject to certain conditions. Such conditions usually protect public interests and individual rights, such as security, health and environment.

Transmission of electricity (which in practice is a natural monopoly) is still regulated whereas competition is allowed in relation to electricity generation and electricity trade.

In order to transpose the Second Electricity Directive into Swedish legislation, substantial changes were required and entered into force in 2005.

The Electricity Act prohibits any legal person involved in the generation or electricity trading activities from being involved in grid operations. The accounts for grid operations shall be drawn up separately and shall always be kept separate from those in respect of other businesses pursued by a concession holder. The holder of a concession has to draw up an annual report, which shall be submitted to the Swedish Energy Authority. The report has to also be available to the public.

A.2 Electricity trading

Since the deregulation of the Swedish electricity market, electricity trading has taken place on a free competitive market open to any new participants. Trade takes place either through bilateral agreements or on the Nord Pool Nordic electricity exchange.

Generally speaking, trading companies do not generate electricity but instead purchase it from electricity generators.

Large generating companies do, however, have their own sales and supply companies.

Electricity trading is subject to legislative requirements as well as private regulations issued eg, by Nord Pool. Applicable legislation provides for consumer protection. Also, it requires that a party that enters into an electricity import or export contract for a period of at least six months must notify the Swedish Energy Agency. Currently, no permit for import or export is required in Sweden.

Nord Pool, the world's first international power exchange, has adopted its own rules and agreements for traders active on this exchange. Nord Pool has a vital role in facilitating electricity trade within the Nordic region. It consists of a physical spot market for power trading on an hourly basis and a financial futures market for trading in futures contracts for up to three years ahead, as well as a clearing service.

Contracts, such as electricity derivatives, are mainly used by electricity trading companies in order to protect themselves against volatile prices on the electricity market. Standard agreements, such as ISDA Master Agreements, are used by electricity trading companies.

Svenska Kraftnät is responsible for maintaining the balance between the production and consumption of electricity in Sweden. Svenska Kraftnät collaborates with approximately thirty players, known as balance providers, who have assumed the balance responsibility for one or more electricity consumers. Balance responsibility involves assuming financial responsibility for Sweden's electricity system, hour by hour, being supplied with the same amount of power that is being used by electricity consumers. The balance provider creates a balance between supply and consumption by planning its production (if the balance provider is a producer), and by buying and selling power by trading with other balance providers and on the Nord Pool power exchange. Deviations in frequency arising during the operating phase, due to the balance providers not being able to create a perfect balance, are corrected by Svenska Kraftnät's balance service during the hour of delivery (balance regulation).

Those balance providers capable of changing their production or consumption during an hour of delivery may submit bids to Svenska Kraftnät regarding upward or downward regulation. Normally, the bids must be submitted no later than 30 minutes before the relevant hour begins and should state the price and quantity.

A.3 Third party access regime

All holders of grid concessions are obliged to connect anyone who wishes to be connected to the holder's line on reasonable terms (subject to certain exemptions, mostly technical). This obligation to connect a third party is more comprehensive for a holder of a concession for all lines within a certain geographical area compared to that of a holder of a concession for a specific line. Exemptions from the obligation to connect others may be granted if there are special circumstances. One example of such a circumstance is capacity shortage.

The Electricity Act does not impose any specific obligations on third parties.

A.4 Use of system

The charges levied and other conditions imposed on the transmission of electricity and connection to a power line or to a power line grid are called grid tariffs. The payer of grid tariffs is entitled to access to the entire transmission system and is therefore entitled to buy and sell electricity through the electricity market area. Local grid charges include the regional and national grid charges. Grid tariffs must be reasonable and objectively justified.

For licence obligations, see A.1 above.

A.5 Market entry

See section A.1 above.

A.6 Cross-border interconnectors

The current interconnectors are Svenska Kraftnät in respect of Norway, Finland and Denmark (to the Swedish border), Baltic Cable AB in respect of Germany and SwePol Link AB in respect of Poland (a company partly owned by Svenska Kraftnät).

Applicable legislation requires that a party which enters into an electricity import or export contract for a period of at

least six months must notify the Swedish Energy Agency. Currently, no permit for import or export of electricity is required in Sweden.

B. Oil & gas

B.1 Industry structure

Nova Naturgas, Dong and E.ON control the majority of the Swedish transmission system.

The Swedish Energy Agency is responsible for monitoring the natural gas market according to the Natural Gas Act⁴ and issuing various regulations.

Svenska Kraftnät has the system responsibility for the national supply of natural gas.

The Natural Gas Act contains provisions regarding natural gas pipelines and storage of natural gas.

Generally, natural gas pipelines (or storage facilities) cannot be built or used without a concession from the Government. However, a concession is not required where, for example, a pipeline is situated after a metering and control station.

Concessions are granted by the Government but applications for such concessions must be submitted to the Swedish Energy Agency. In connection with an application for a concession, an environmental impact assessment (Sw. miljökonsekvensbeskrivning) and other materials must be provided in accordance with the Swedish Environmental Code⁵.

A concession has to state the principal route of the pipeline. The initial duration of a concession is normally 40 years. Concessions for a pipeline will only be granted if the route is deemed suitable and in the general public interest. Concessions may be granted subject to certain conditions. Such conditions usually protect general interests and individual rights, such as security, health and environment. An applicant for a concession must be suitable from the general public's viewpoint to conduct operations in respect of the concession.

Once the concession has been granted and the pipeline has been built, a separate operating permit must be obtained.

Owners of natural gas pipelines must pay a certain natural gas charge to the Swedish Energy Agency based on the quantity of natural gas being transported.

Since 1 July 2005, all companies have been able to choose their natural gas supplier. On 1 July 2007, the natural gas market has also been open to private consumers in accordance with the Second Gas Directive.

The transmission markets are still organised as local monopolies.

The Second Gas Directive has been implemented in Sweden through the revised Natural Gas Act.

B.2 Gas trading

The Natural Gas Act prohibits any company involved in natural gas transfer activities from being involved in gas trading activities. The accounts for natural gas transfer operations shall be drawn up separately and shall always be kept separate from those in respect of other operations.

Financial trading is not very common in Sweden. The majority of gas trading is physical. For physical gas trading, long-term contracts are used on the Swedish market.

Svenska Kraftnät has the system responsibility for the national supply of natural gas.

B.3 Third party access regime to gas transportation networks

An owner of a natural gas pipeline is obliged to connect other natural gas pipelines on reasonable terms. However, this obligation does not apply where a pipeline does not have the requisite capacity or if there are other special grounds. In

In addition, an owner of a natural gas pipeline is obliged to transport natural gas on reasonable terms. None of these obligations apply where the natural gas pipeline is used solely for the owner's own account.

B.4 Third party access to LNG terminals and storage facilities

Pursuant to the Natural Gas Act an owner of a natural gas pipeline is obliged to connect gas storage or LNG (Liquified Natural Gas) terminals on reasonable terms.

It can be noted that currently there are no known LNG terminals in Sweden.⁶

B.5 Use of system

As stated above, an owner of a natural gas pipeline is obliged to connect another natural gas pipeline on reasonable terms. In addition, an owner of a natural gas pipeline is obliged to transport natural gas on reasonable terms.

Owners of natural gas pipelines must pay the Swedish Energy Agency a certain natural gas charge which is based on the quantity of natural gas being transported.

B.6 Market entry

In a separate investigation⁷ in 2004 it was questioned whether the Swedish natural gas market is sufficiently open to competition. The Swedish natural gas market is relatively small and has mainly only one line of supply, ie, there is principally only one natural gas exporter to Sweden. Also, most contracts are entered into on a long-term basis, which makes it difficult for a new participant to enter the market.

For legal barriers to enter the market (licence requirements) see B.1 above.

B.7 Cross-border interconnectors

Natural gas is currently only imported to Sweden from Denmark. The current cross border interconnectors are Dong and Nova Naturgas.

C. Climate change and sustainability

C.1 Climate change initiatives

A carbon dioxide tax was introduced in 1991. Although certain sectors pay a lower carbon dioxide tax, and even if special rules for the reduction of the tax for energy-intensive industries remain applicable, the tax rate has been increased from SEK 0.25/kg in 1991 to SEK 0.93/kg in 2007. Some sectors are exempt from the carbon dioxide tax altogether.

In 2006 the Parliament approved a bill⁸ setting out the direction of work on wind power over the coming five years. The measures adopted included a reduction of real estate tax for wind power plants and the allocation of an additional SEK 350 million to support the market introduction of wind power. Temporary financial support was also introduced for municipalities that take active measures in their planning to accelerate the expansion of wind power. In order to facilitate the development of wind power, the threshold between the notification requirement and the permit requirement for wind turbines has been raised from 1 to 25MW.

C.2 Emission trading

Relevant legislative framework

In early March 2005 trade of emission allowances (Sw. utsläppsrätter) under the EU Emissions Trading Scheme governed by the Emissions Trading Directive (2003/87/EC)⁹ began in Sweden. The regulations have been implemented by way of the Emissions Trading Act¹⁰ and the Emissions Trading Ordinance¹¹.

Since 1 January 2005, according to the Emissions Trading Act all companies covered by the emissions system must have a specific permit to emit carbon dioxide. This permit is required in order to obtain emission allowances. Operators covered by the emissions trading scheme cannot conduct their activity without a permit. To qualify for a permit, the operator must monitor and report the level of emissions. An application must be submitted to the local County Administrative Board (Sw. länsstyrelsen).

The basis for the trading of emission allowances is a cap on maximum level of emissions per year and for each period of trading. Each plant will receive a number of tradable emission allowances. Two companies can enter into purchase contracts between themselves or through brokers. In Sweden the registry for trading in emission allowances, the Swedish Emissions Trading Registry (Sw. Svenskt utsläppsrättssystem, SUS, the "ETR"), was established by the Swedish Energy Agency. All Swedish transactions are registered in this register, which is linked to the Community transaction log operated by the European Commission.

The ETR itself is not a marketplace for emissions trading. The ETR simply notes completed transactions between two parties¹². Trading takes place via an emissions trading exchange, broker or between companies. Trading is currently conducted at the Nordic energy exchange Nord Pool.

Since 1 November 2007, following the implementation of the Markets in Financial Instruments Directive 2004/39/EC (the "MiFID")¹³ by means of the new Securities Market Act¹⁴, trading of emission allowances no longer triggers a licensing requirement under Swedish law and, as a result, the rules and regulations applicable to financial trading no longer apply to trading of emission allowances.

Other national schemes

There are no other emissions trading schemes that operate nationally.

C.3 Carbon capture and storage

Relevant legislative framework

The legislative framework relevant to carbon capture and storage consists mainly of the Emissions Trading Act (described above) and the Energy Tax Act¹⁵. The Energy Tax Act contains provisions about the payment of an energy tax and a particular carbon dioxide tax. The Swedish Environmental Code should also be considered part of the most relevant legislative framework.

Existing carbon capture/storage projects

The Swedish Vattenfall group announced in May 2005 that it wished to build a coal-based power plant equipped with CO₂ cleansing technologies. Their so-called "CO₂ free coal burning plant" will at first be a pilot project and will be built next to the existing Schwarze Pumpe south of Berlin in Germany. Vattenfall projects that it will be up and running sometime during 2008.

C.4 Renewable energy

Relevant legislative and regulatory regime

In 2003, the Electricity Certificates Act¹⁶ was adopted to encourage consumption of electricity generated from renewable energy sources. This, in turn, launched the concept of electricity certificate trading on the Swedish market. Under the provisions of the Electricity Certificates Act, the State provides generators with electricity certificates in relation to electricity which they produce from certain renewable sources. Electricity suppliers (and certain electricity users) are obliged to hold electricity certificates proportionate to their total sale (or consumption) of electricity over the year.

Electricity certificates are traded on the Nord Pool exchange. If an insufficient number of certificates has been bought in any given year, the electricity supplier (and certain electricity users) must pay a penalty to the Swedish Energy Agency for every outstanding certificate. As of 1 November 2007, following the implementation of the MiFID by means of the new Securities Market Act, trading of electricity certificates (like emission allowances) no longer triggers a licensing requirement under Swedish law and, as a result, the rules and regulations applicable to financial trading no longer apply to trading of electricity certificates.

Under eg, the Swedish Environmental Code several permits are required for construction and operation of renewable energy production plants.

Legal obligations or commercial incentives to invest to service renewable plants

There is a legal obligation for all holders of grid concessions to connect anyone who wishes to be connected to the holder's line on reasonable terms subject to certain exemptions, mostly technical, eg, capacity shortage. There is no obligation for holders of grid concessions to invest in further capacity to service renewable (or other) energy plants.¹⁷

In 2007 the Swedish Government commenced an inquiry regarding the facilities for renewable electricity production to the electricity grid. The main task of the inquiry is to evaluate whether the present regulations constitute obstacles to a

future large-scale development and expansion of renewable electricity production. If the inquiry comes to the conclusion that regulations need to be amended, some proposals will be made.¹⁸

D. Nuclear energy

Nuclear energy generation in Sweden

There are three nuclear power plants in Sweden today - Forsmark, Oskarshamn and Ringhals - comprising in all ten operative reactors.

The former nuclear power plant Barsebäck was shut down in 2005. The plant used to have two reactors. One reactor was closed already in 1999 and the other was closed in May 2005 due to political decisions.

Relevant legislative framework

The construction, possession and operation of nuclear plants and dealings with nuclear material and nuclear waste are governed mainly by the Nuclear Activities Act¹⁹. The Act contains provisions on eg, permit requirements, final storage of nuclear waste, safe shutting down and demolishing of plants in which activities are no longer to be conducted and on safety in general. Provisions aiming to protect people, animals and the environment against harmful effects of radiation are also contained in the Radiation Protection Act²⁰.

The Act on the Financing of Future Charges for Spent Nuclear Fuel Etc.²¹ contains provisions regarding obligations for holders of permits to possess or operate a nuclear reactor to pay charges to finance the disposal of spent nuclear fuel and other radioactive waste from nuclear reactors, and certain other expenses.

The payment of damages in the event of damage connected to nuclear activities or material are governed by the Nuclear Liability Act²². Pursuant to the Act the operator of a nuclear plant is obliged to insure his liability for such damage. The insurance should be approved by the Swedish Financial Supervisory Authority.

footnotes

1. *The Swedish Energy Markets Inspectorate's (Sw. Energimarknadsinspektionens) Annual Report 2006.*
2. *Sw. Energimyndigheten*
3. *Sw. Ellag (1997:857)*
4. *Sw. Naturgaslag (2005:403)*
5. *Sw. Miljöbalken (1998:808)*
6. *Several parties are currently planning to construct an LNG terminal, eg, the City of Stockholm together with Fortum Värme and also AGA, Fortum and Nynäs Refining in Nynäshamn.*
7. *Sw. SOU 2004:129, El- och naturgasmarknaderna – Energimarknader i utveckling*
8. *Government Bill 2005/2006:143.*
9. *As amended by Directive 2004/101/EC (the Linking Directive)*
10. *Sw. (Lag 2004:1199) om handel med utsläppsrätter*
11. *Sw. Förordning (2004:1205) om handel med utsläppsrätter*
12. *Like the companies covered by the Emissions Trading Directive individuals and organisations can also open personal holding accounts with the ETR and trade in emissions allowances.*
13. *Government Bill 2005/2006:143.*
14. *Sw. Lag (2007:528) om värdepappersmarknaden*
15. *Sw. Lag (1994:1776) om skatt på energi*
16. *Sw. Lag (2003:113) om elcertifikat*
17. *Karnov; comment to Chapter 3 Section 7*
18. *Report M2007.25 from the Swedish Ministry of the Environment.*
19. *Sw. Lag (1984:3) om kärnteknisk verksamhet*
20. *Sw. Strålskyddslag (1988:220)*
21. *Sw. Lag (1992:1537) om finansiering av framtida utgifter för använt kärnbränsle m.m.*
22. *Atomansvarighetslag (1968:45)*