

**2010 National Report
to the European Commission
Denmark**



DANISH ENERGY REGULATORY AUTHORITY

www.dera.dk

Table of Contents

1. Foreword	1
2. Main developments in the gas and electricity markets.....	3
2.1. The Danish electricity market	3
2.2. The Danish gas market	5
3. Regulation and performance of the electricity market.....	8
3.1. Regulatory issues	8
3.1.1. Management and allocation of interconnection capacity and mechanisms to deal with congestion	8
3.1.2. The regulation of the task of transmission and distribution companies.....	11
3.1.3. Effective unbundling	18
3.2. Competition issues	20
3.2.1. Description of the wholesale market.....	20
3.2.2. Description of the retail market	22
3.2.3. Measures to avoid abuses of dominance	27
4. Regulation and performance of the gas market	28
4.1. Regulatory issues	28
4.1.1. Management and allocation of interconnection capacity and mechanisms to deal with congestion	28
4.1.2. The regulation of the task of transmission and distribution companies.....	33
4.1.3. Effective unbundling.....	36
4.2. Competition issues	38
4.2.1. Description of the wholesale market.....	38
4.2.2. Description of the retail market	43
4.2.3. Measures to avoid abuses of dominance.....	46
5. Security of supply	47
5.1. Electricity	47
5.2. Gas	49
6. Public service issues	51

1. Foreword

Danish electricity and gas wholesale markets are being increasingly integrated with neighbouring markets. In November 2009 the EMCC (European Market Coupling Company) market coupling solution with implicit auctions for electricity cross border trading between Denmark and Germany was launched. In June 2010 the Link4Hub system facilitating gas trading/transportation between Denmark, Germany and the Netherlands was launched. Also a strengthening of the gasinfrastructure between the Denmark and Germany was decided. This will allow physical flows also from south to north, opening an additional source of supply to the Danish gasmarket. A number of additional international interconnectors are planned too.

The EMCC market coupling solution has been quite successful coupling the Nordic region with Germany. After volume coupling was introduced only 0.3 % of the flows have gone in the “wrong direction” - i.e. from the high price to the low price area - compared to around 20 % during past explicit auctions.

In the neighbouring CWE region, a price coupling solution for implicit auctions between Germany, the Netherlands, Belgium, Luxembourg and France is about to be launched as well. The target launch date has been set to September 2010. This is from the overall perspective good news for the market integration in Europe. However, if the CWE solution were to be launched uncoordinated with the EMCC solution, this could lead to a situation with wrong calculation of prices and thus a setback to explicit auctions between the Nordic market area and Germany on the Danish-German border. This would result in significant welfare losses and loss of confidence among the market participants for the EMCC solution.

In order to avoid this situation to occur the German regulator BundesnetzAgentur gathered TSOs, PXes and regulators of the Nordic and CWE regions for a meeting in May 2010. The outcome was a Letter of Commitment under which all parties agree to work constructively towards a transitional tight volume coupling solution between EMCC and CWE, and thus secure a coordinated launch as close as possible to the original target date in September 2010. This will become the first coupling of two regions in Europe, and the subsequent step will be to transform it into a comprehensive price coupling as the enduring solution.

Fortunately wholesale market liquidity is still increasing. More than 75 % of Nordic electricity consumption is traded on Nord Pool Spot. The trading on the Nord Pool Gas exchange opened in March 2008. In 4th quarter 2009 the trading amounted to 3 % of Danish gasconsumption – in 1st quarter 2010 increasing to 10 %.

Wholesale electricity and gas prices fell sharply from the high level in 2008 to 2009. It was reflected in retail prices. The retail energy price for households in 2009 was around 25 % lower than in 2008 for both electricity and gas. Due to the high Danish energy tax level, however the decrease was much less for total end-user price. The total supply-obligation prices fell 12 % for gas and only 3 % for electricity. This difference reflects the Danish PSO (Public Service Obligation) component in the electricity price, primarily financing support to RES and other environmentally friendly electricity generation. The support generally increases with declining wholesale prices.

There was in 2009 a significant increase in the number of changes of supplier for household and small commercial electricity customers – 6.1 % compared to 2.8 % in 2008. This reflects a higher level of customer awareness, among other things due to a much improved version of the price-calculator www.elpristavlen.dk operated by Danish Energy Association and supported by Danish national TSO Energinet.dk and DERA. A similar improvement of the price-calculator for gas www.gasprisguiden.dk operated by Energinet.dk and supported by DERA as well was launched in spring 2010.

DERA benchmarking of electricity grid companies and gas distribution companies still reveals major variations in economic efficiency of individual companies – especially for electricity. DERA therefore for 2009 and even more for 2010 increased the efficiency-requirements of the revenue-cap economic regulation. In addition quality of supply is also benchmarked and subject to separate reductions in income-caps.

Until recently the focus of regulation was on promoting efficiency and non discriminatory access to the network infrastructure and thereby increasing the well-functioning of the competitive market. This in the future will remain the major regulatory task. However, the infrastructure and the market increasingly must be seen as the major vehicle for realizing the political goals related to climate change. Changes in technology and the need to realize climate goals give supplementary challenges to the energy set up. It is very important to secure that the energy legislation is up to date with the state of things.

Finn Dehlbæk
Danish Energy Regulator

2. Main Developments in the Gas and Electricity Markets

2.1. Electricity

Wholesale Market

Denmark has been a part of a well functioning cross border electricity wholesale market for ten years now. The Nordic countries coupled their markets with the power exchange Nord Pool Spot as the system provider which manages roughly 75% of the electricity traded in the northern region.

As an important step towards a further integration of the Nordic market to continental Europe, the Danish market was coupled to Germany via a tight volume coupling operated by EMCC (European market coupling company). After a first launch in 2008 did not deliver reliable results, the second launch in November 2009 worked out well and the coupling delivered good results since then.

The CWE region is on the way to couple their wholesale markets as well, which is another step towards an integrated European electricity market. The target date for this is September 2010. However, the fact that Germany then is coupled to different regions with different coupling systems could disturb the EMCC coupling, so that explicit auctions had to be reintroduced. In order to avoid the negative effects of an uncoordinated launch, the German regulator – Bundesnetzagentur – took the initiative to invite all stakeholders in the North and the CWE regions – TSO's, PX's and regulators – to a joint meeting in Bonn in May 2010. On this meeting a Letter of Commitment was formulated under which all parties agree to work constructively towards a tight volume coupling solution between EMCC and CWE, and thus secure a coordinated launch as close as possible to the original target date in September 2010.

2009 was a year of worldwide economic downturn, which had its effect on all industries and markets, also the electricity market. The financial crisis reduced demand for electricity, which led to a lower system price in the Nord Pool Spot area as well as the Danish price zones. Differences in prices between the NPS zones were smaller in 2009 than in 2008 and this trend is likely to continue as prices converge with the coupling of the NPS area to Germany through the EMCC by the end of 2009 and the expected coupling of EMCC to the CWE region in autumn 2010.

Retail Market

The activity of small customers in the market remains at low absolute levels. The supplier switching activity more than doubled in 2009 compared to the previous year, 6% is however still quite a low number in international comparison.

A key reason for the improvement is the re-launch of the price-information portal and price calculator for electricity www.elpristavlen.dk. It creates better insight in the market and makes switching easier. Hindering higher activity of households is that it is hard to distinguish between network company and supplier, which gives the companies with an “obligation to supply” an advantage. Furthermore the price differences in the market are not so decisive to convince small customers to switch. Possible improvements could be reached by establishing a “complete customer relationship” of the electricity supplier as suggested by the Danish competition authority. For increased incentives to switch, other European countries do not have regulation “obligation to supply” prices, which could be an option considered in the future.

Infrastructure and security of supply

The most important national infrastructure investment in recent year is the Great Belt connection which will be commercially operational from August 2010. For the first time the two Danish price zones will be physically connected. This will lead to increased competition, converging prices and increased security of supply. DERA just approved the TSO’s method of reserving some of the cables capacity in the intraday market in order to use manual reserves across the two Danish price zones in a socioeconomic optimal way.

There are several other improvements made and planned, both nationally and on interconnectors, which will increase security of supply, improve the wholesale market through increased capacity and will help integrate the growing amount of wind energy into the grid.

Regulation/unbundling

In 2009, DERA determined that relatively cost-inefficient network companies must catch up with the most cost-efficient network companies within a shorter period of time. This applies to both distribution network companies as well as regional transmission companies. Thus, the efficiency requirement for relatively inefficient distribution network companies became stricter during 2009.

In 2009, DERA decided on an aggregate level to reduce the distribution network companies’ and regional transmission companies’ revenue caps with DKK 128 million due to relatively low economic efficiency and DKK 5.5 million due to relatively low quality of supply.

Concerning unbundling, DERA tried focusing on issues that differentiate network companies from supply companies within a company group. DERA has issued guidelines with practical implications for DSO’s separate website and shared website. As small customers still have problems distinguishing those from each other, the topic has to stay high up on the agenda.

2.2. Gas

Wholesale market

The Danish wholesale market is somewhat isolated from the North West European gas market due to the technical restrictions on physical imports. Denmark exports gas to Sweden, Germany and the Netherlands but imports are only possible as commercial backhaul at Entry Ellund – the cross border Denmark/Germany interconnection point. However, 2009 revealed a market demand for physical gas inflow from Germany: Commercial flows at Entry Ellund were interrupted in a total of 55 gas days due to low physical flows at Exit Ellund. The interruptions amounted to 286 GWh gas. Congestion also occurred at Exit Ellund (4 gas days). In the first half of 2010 commercial imports continued at a high level, but so far only minor interruptions have been curtailed due to a higher level of exit nominations.

The lack of firm capacity at Entry Ellund is a structural barrier hindering the well-functioning of the Danish wholesale market as market participants only have access to competitive (import) prices – prevalent at the North West European gas hubs and gas exchanges – on an interruptible basis.

Measures have been taken in 2009 and 2010 to increase flexibility and market integration thereby reducing the inefficiencies in the wholesale market:

- June 2010 the Link4Hubs point – L4H – a virtual cross border transfer point located within the transmission systems of GUD, GTS and Energinet.dk was launched. It enables shippers via a virtual pipeline to transfer gas on a firm and day ahead basis between the three abovementioned transmission systems (and hence also the three hubs: Gaspool, TTF and GTF).
- In 2010 The Danish Minister for Climate and Energy approved the construction of a compressor station enabling gas inflow from Germany. Also, a looping of the Ellund-Egtved pipeline was decided. Both projects are to be operating as from October 2014 although also an earlier start day October 2013 is still in focus. However a parallel expansion of Gasunie Deutschland's pipeline still waits for approval. The resolution of the Ellund-construction was a consequence of an Open Season procedure.
- In dialogue with the transmission system operators in the North German DEUDAN system, Energinet.dk has been looking into the possibilities of increasing the pressure for shorter or longer periods of time on the German side of Ellund with existing German compressor facilities to enable physical gas imports from Germany. Energinet.dk expects to have finalized all operational and commercial agreements regarding the possibility to import up to 200.000 m³/h gas on an interruptible basis via Entry Ellund into the Danish system from October 2010.

- Energinet.dk joined the trac-x Transport Capacity Exchange in April 2010 and thereby enabling a secondary market for exchanges traded day ahead Ellund capacity in the Danish transmission system. Moreover, traders who hold capacities on both sides of the cross border point can now trade them on the platform as bundled capacities.
- In October 2009 the Danish gas exchange – Nord Pool Gas – introduced a swap contract with physical delivery in Denmark (NPTF) and the opposite position in Germany (Gaspool). The swap contract is tradable three days ahead.

Retail market

In November 2009 the merger between the two distribution companies – Naturgas Midt-Nord and HNG now HMN Naturgas – was approved by the Danish Competition Authority and effected 1 January 2010. HNG and Naturgas Midt-Nord have been cooperating closely since 2003 running their main areas of operation in a mutual collaboration called HNG Midt-Nord. Therefore, the merger was categorized as minor.

The Danish gas market has been fully liberalized since 1 January 2004, however only large scale consumers, especially heat and power generators and major industrial consumers, are active with respect to supplier switching. The competition in the household segment is low.

A maximum binding period of 6 months has recently been introduced into the Danish Consumer Contracts Act and applies to consumer contracts, which are entered into 1 January 2010 or later. At least one natural gas supplier has, due to the aforesaid amendments to the Danish Consumer Contracts Act, decided to remove their two year fixed-price contract in dealings with small consumers.

Upgraded biogas – bio natural gas

In 2010 a new entry point – Entry BNG – for upgraded biogas was introduced in the Danish transmission system. The injection of bio natural gas into the transmission network is based on the principle of commercial backhaul and is therefore 'virtual'. This means that the bio natural gas is not physically injected into the gas transmission network but stays in the distribution network.

When a shipper commercially or 'virtually' has injected bio natural gas into the transmission system via the BNG entry point, the shipper may trade the gas in all existing points on the same terms and conditions as apply to other types of natural gas.

Remark

June 2009 the European Commission sent Infringement Letters to Denmark (as well as to most other member states) on insufficient implementation of the 2003 electricity and gas markets directives and regulations. In the view of the Commission Denmark had not appropriately implemented:

- Certain requirements on transparency
- Certain competences of DERA to address non compliance with market rules
- Certain requirements of harmonising congestion management rules

However, since then the elaborations offered by the Danish state were all accepted by the Commission, and the June 2010 Reasoned Opinions did not include Denmark.

3. Regulation and Performance of the Electricity Market

3.1. Regulatory Issues

3.1.1. Management and Allocation of interconnection capacity and mechanisms to deal with congestion

National congestion

Like previous years there were practically no internal congestion problems in Denmark. The transmission lines are sufficiently strong to transport the requested power. On the national level the two price areas in Denmark are not physically connected so far. The connection across the Great Belt was however built in 2009 and is currently in the testing phase. Commercial operation is planned to start from August 20th 2010.

Energinet.dk estimates that the national interconnector with a capacity of 600MW will be congested around 1600 hours annually, that is around 18% of the time.

International congestion

In the Nordic countries implicit auctions have been used for more than a decade to secure optimal flows within the Nord Pool system and have been a cornerstone in the foundation of a well functioning wholesale market.

The interconnectors between the Nordic countries are operated by market splitting (Nord Pool Spot). The table below (from NordREG Nordic Market Report 2009) shows the shares of yearly hours, where area prices were different. It, thus, gives some indication of congestions on the interconnectors.

Table 3.1: Price differences between Nordic spot areas, 2009 updated

2008		NO1	NO2	NO3	SE	FI	DK1	DK2
		Less than						
NO1	Higher than		3 %	4 %	4 %	5 %	9 %	4 %
NO2		80 %		29 %	14 %	16 %	21 %	14 %
NO3		78 %	3 %		9 %	11 %	18 %	9 %
SE		74 %	9 %	23 %		2 %	13 %	2 %
FI		73 %	9 %	23 %	0 %		13 %	2 %
DK1		72 %	44 %	50 %	41 %	42 %		24 %
DK2		75 %	33 %	40 %	28 %	30 %	24 %	

The maximal capacity available on the interconnectors to neighbouring countries was unchanged during 2009.

In order to analyse the operation of Danish foreign interconnectors in 2009 somewhat more in details, the maximal interconnector capacities as well as some operational characteristics of 2009 and observations are summarized in the table below.

In addition to maximal physical capacities in each direction the maximal capacities for commercial flows are indicated in brackets. All hours are broken down on hours with planned export respectively imports. In the remaining hours no flows were planned.

For hours with planned flows in each direction the availability of capacity and the degree of congestions are analysed. The availability of capacity is indicated by the share of hours with full capacity – and in brackets more than 50% capacity available. The degree of congestions is indicated by the share of hours with different prices on the two sides of the interconnector.

Table 3.2 Electricity Interconnectors 2009

Electricity Interconnectors 2009						
Interconnection	Direction	Max. Capacity MW 1)	Method of Congestion	Share of planned flows 2)	Availability of capacity 3)	Degree of Congestions 4)
DK west - Norway	- from Denmark	1000	Market Splitting	29%	90% (96%)	42%
	- to Denmark	1000 (950)		66%	66% (97%)	64%
DK west - Sweden	- from Denmark	740	Market Splitting	58%	50% (65%)	43%
	- to Denmark	680		25%	57% (65%)	41%
DK west - Germany	- from Denmark	1500	Market splitting and Explicit Auctions	65%	44% (85%)	17%
	- to Denmark	950		35%	85% (86%)	70%
DK east - Sweden	- from Denmark	1750 (1700)	Market Splitting	29%	76% (90%)	2%
	- to Denmark	1350 (1300)		63%	61% (84%)	23%
DK east - Germany	- from Denmark	600 (550)	Market Splitting	41%	84% (100%)	73%
	- to Denmark	600 (550)		51%	97% (99%)	49%

- 1) Physical maximal capacity (in brackets max. capacity for commercial flows)
- 2) The share of hours in 2009 with day-ahead planned imports and exports to/from Denmark respectively
- 3) The figures show the share of hours with day-ahead planned flows in that direction for which the maximal capacity (in brackets more than 50% capacity) was available for commercial flows
- 4) The figures show the share of hours with day-ahead planned flows in that direction for which spot prices (day-ahead Nord Pool Spot area prices) were different at the two ends of the interconnector – reflecting a day-ahead congestion. For Denmark west – Germany: Planned flows equalling/exceeding maximal available capacity.

In November 2009 European Market Coupling Company (EMCC) was re-launched after being suspended for since September 29 2008. Until November 2009 the flow on the Danish – German border were determined by explicit auctions. On explicit auctions the cross border flow are determined by market participants purchase of capacities from TSO's on day-ahead actions. From a welfare optimizing point of view the results were not adequate: For around 20 % of the traded quantities the flow went in the “wrong direction”, i.e. from the high price to the low price area. Since the relaunch only 0.3 % of the quantities have gone in the “wrong direction”.

However, some part of the capacity on the boarder of western Denmark and Germany is still traded via explicit auctions. The two TSOs that operate at the boarder (Energinet.dk and Transpower) make suggestions for the capacities of those auctions and send them to public consultation. Table 3.3 shows the capacities that were suggested and accepted for 2010:

Table 3.3: Capacities on the boarder Western Denmark – Germany / by auction type

	Denmark ==> Germany	Germany ==> Denmark
Normal maximal capacity	1500 MW	950 MW
Yearly auctions (explicit)	200 MW	200 MW
Monthly auctions (explicit)	200 MW	350 MW
EMCC Market coupling (implicit)	1100 MW	400 MW

In 2009 the TSOs of the North West Europe region have also committed themselves to improve the coupling such that it takes into account the CWE market coupling and avoid adverse flows. The current EMCC solution and the coupling of the EMCC area to the CWE region will be a tight volume coupling. That means that the chosen algorithm (for optimization of bids) will deliver volumes. Prices are then generated in the different regions (by the Power exchanges). Because of different currencies and rounding differences the prices can vary from the optimal solution.

The tight volume coupling will though just be an intermediate step towards a single European integrated electricity market. There is broad acceptance and commitment amongst TSOs, PXs and NRAs that the enduring solution in Europe has to be price coupling. This also means that all capacity is traded via implicit auctions.

3.1.2. The regulation of the tasks of transmission and distribution companies

By end 2009 the following companies deal with electricity network infrastructure and system operation:

- One TSO - state-owned Energinet.dk which covers both electricity and gas
- 13 operators of the regional transmissions networks (132/150 kV and some 60 kv)
- 81 distribution network companies.

Compared to last year, the number of distribution network companies has declined primarily due to acquisition/merger of very small companies.

The network

Total length of the network by end 2009 was 175,000 km, of which 155,000 km are cabled. The length of above 100 kV level is 6,300 km of which 1,150 km is cabled – 254 km being submarine cables. The above 100 kV network on shore consists of 400 kV and 132/150 kV lines.

During 2009, the most pronounced change was the continued cabling at lower voltage levels. Based on a 2008 electricity infrastructure report it has been politically decided that in principle all new lines must be established underground, including high voltage. The importance of the decision is stressed by the major efforts to strengthen the network – especially in order to integrate major shares of wind-energy. In addition to the ongoing undergrounding of existing overhead lines at lower voltage levels, all 132/150 kV lines must become undergrounded over the next 20 years. In addition, existing 400 kV overhead lines are made visually more attractive in the landscape and even undergrounded at certain especially sensitive traces. The major investments necessary are also reflected by a recent amendment to the legislation on economic regulation of regional transmission companies and distribution companies. The amendments among others more clearly define when an investment can cause an increase in revenue caps (and thereby in network tariffs).

Transmission tariffs – G and L 2009

DKK/kWh (cent/kWh)

	DK west	DK east
Load (L)		
Transmission network tariff	0.039 (0.52)	0.054 (0.72)
System tariff	0.029 (0.39)	0.030 (0.40)
Total – excl. PSO	0.068 (0.91)	0.084 (1.12)
PSO tariff average	0.129 (1.47)	0.116 (1.58)
<i>Variation of quarterly PSO-tariff</i>	0.052 - 0.193	0.054 – 0.188
Total – incl. PSO	0.198 (2.65)	0.202 (2.70)
Generation (G)		
Total	0.004 (0.05)	0.002 (0.03)

The transmission-, system and generation tariffs stayed constant during 2009. Only the PSO tariff changed quarterly. The PSO tariff covers Energinet.dk costs related to various public service obligations stipulated in the Electricity Supply Act. The major cost is various subsidies to “environmentally friendly” generation, where the majority of subsidies are linked to Nordic Spot prices. Changes in these prices make the PSO tariff vary a lot from one 3-month period to the next. In order to assist market participants in forecasting the PSO tariffs, Energinet.dk offers a kind of “tariff calculator” on its website. Certain “environmentally friendly” generation (for which legislation stipulates a TSO obligation to take) pay a lower or even no G tariff.

Congestion revenue

Reported congestion revenue of Energinet.dk for 2009 is DKK 882 million (Euros 118 million) compared to DKK 1,156 million (Euros 154 million) in 2008.

The fall of congestion revenue from 2008 to 2009 is partly due to both the decreased electricity price level and lower revenue from auctions.

The revenue is included in setting of network tariffs.

Network tariffs

DKK/kWh (cent/kWh)

	2007	2008	2009
<i>Household customer</i>			
Standing charge	0.142 (1.9)	0.146 (1.9)	0.149 (2.0)
Variable distribution tariff	0.129 (1.7)	0.131 (1.7)	0.138 (1.9)
Regional transmission tariff	0,007 (0.1)	0.007 (0.1)	0.007 (0.1)
TSO tariff – network and system	0.055 (0.7)	0.058 (0.8)	0.074 (1.0)
Total – excl. PSO	0.333 (4.4)	0.342 (4.5)	0.368 (4.9)

Network tariffs on the average increased slightly over the last years. Each distribution network company has its own network tariff. These tariffs vary a lot. The major differences in network charges among the distribution network companies are not only reflecting different income caps and cost differences of these companies. An important explanation is that a number of network companies (mainly cooperatives owned by local consumers) have tariffs far below income caps. These low distribution network tariffs allow the return of accumulated funds to the local consumers, who are also the owners of the local distribution company. The funds accumulated to some degree originate from before Danish electricity price regulation was introduced in 1977 and to some degree from selling off of ownership shares in generating companies/plants. A typical (average) household in Denmark has an annual electricity consumption of 3500 kWh.

Economic regulation of DSO

Annually, DERA determines a revenue cap for each of the Danish distribution network companies and regional transmission companies. For a given distribution company, the revenue cap is fixed yearly as a fixed “regulatory price” per kWh multiplied by kWh transported (ex ante forecasted ==> ex post actual). A similar model is applied for the regional transmission network companies. Energinet.dk is subject to a kind of cost plus regulation at an overall level (see National Report 2008).

Benchmarking of economic efficiency and quality of supply

During the period 2004-2007 the real value of the “regulatory price” for each company was “frozen” in real terms at the January 2004 level. In 2007, DERA performed a benchmarking of the distribution network companies’ and regional transmissions companies’ economic efficiency.

Based on the results from this benchmarking, DERA set individual efficiency requirements for the network companies and regional transmissions companies.

In 2008, DERA performed a benchmarking of both economic efficiency and quality of supply among the distribution companies and regional transmission companies. DERA measures quality of supply by the frequency and duration of power interruptions. Furthermore, DERA performs a benchmarking on aggregate level and also benchmark the companies' performance regarding worst served customers.

In 2009, DERA determined that a relatively cost-inefficient distribution network company must catch up with the most cost-efficient distribution companies within a five year period. Similarly, DERA determined that a relatively inefficient regional transmission company must catch up with the most efficient regional transmission companies within a 7 year period. Previously, a relatively inefficient distribution network company or regional transmission company had 18 years to catch up with the most efficient distribution network companies or regional transmission companies. Thus, the efficiency requirement for relatively inefficient distribution network companies became stricter during 2009.

In 2009, DERA decided on an aggregate level to reduce the distribution network companies' and regional transmission companies' revenue caps with DKK 128 millions due to relatively low economic efficiency and DKK 5.5 millions due to relatively low quality of supply.

Furthermore, in its annual report for 2009 – Results and Challenges 2009 – DERA analyses the economic efficiency of distribution network companies and regional transmission companies. The analysis reveals major differences in efficiency. These differences are larger than the ones that normally will be found in markets based on competition. This indicates that there are still potentials for increasing efficiency even though DERA has performed the benchmarking analysis of the companies' economic efficiency since 2007.

Other aspects of the revenue cap regulation

In order to cover "necessary investments" due to public requirements falling outside the general obligation of distribution network companies to maintain and develop the network, DERA can increase a company's revenue cap. An amendment of May 2009 to the Electricity Supply Act offers a better definition of these "necessary investments". During 2010, DERA has developed an economic model that is applied to regulate the economic relationship between a distribution company's necessary investments and the revenue cap.

The amendment also addresses the case where a distribution company exceeds the return on capital cap which is also part of the regulation. This cap is legally fixed as the long interest-rate for the

building sector plus 1% point. In case of excess in one year the revenue cap of the next year is reduced by 1/3 of the excess amount, 2/3 in the following year and subsequently – permanently – with the entire excess amount.

Furthermore, the amendment also gives the distribution network companies and regional transmission companies' an economic incentive to reduce their network losses of electricity. There are a number of factors that affect a company's loss of power. However, the distribution network companies' and regional transmission companies' loss of power has decreased with 11 percent from 2008 to 2009. This could indicate that this amendment could be working in the right direction.

Network tariffs

DERA approves the companies' tariff methodology. Accordingly, a distribution network company is free to set its tariffs as long as the company does not violate its maximum return on assets and revenue cap and furthermore does not discriminate among its customers.

Quality of supply

The electricity supply of an average Danish electricity customer during 2009 was interrupted for 21,4 minutes (SAIDI) compared to 22 minutes in 2008. 16% of the interruptions were planned, for example due to maintenance, another 16% was due to third parties. Around two thirds of the interrupted minutes were unplanned. The majority of minutes of interruption occurred at the voltage levels 1-25 kV.

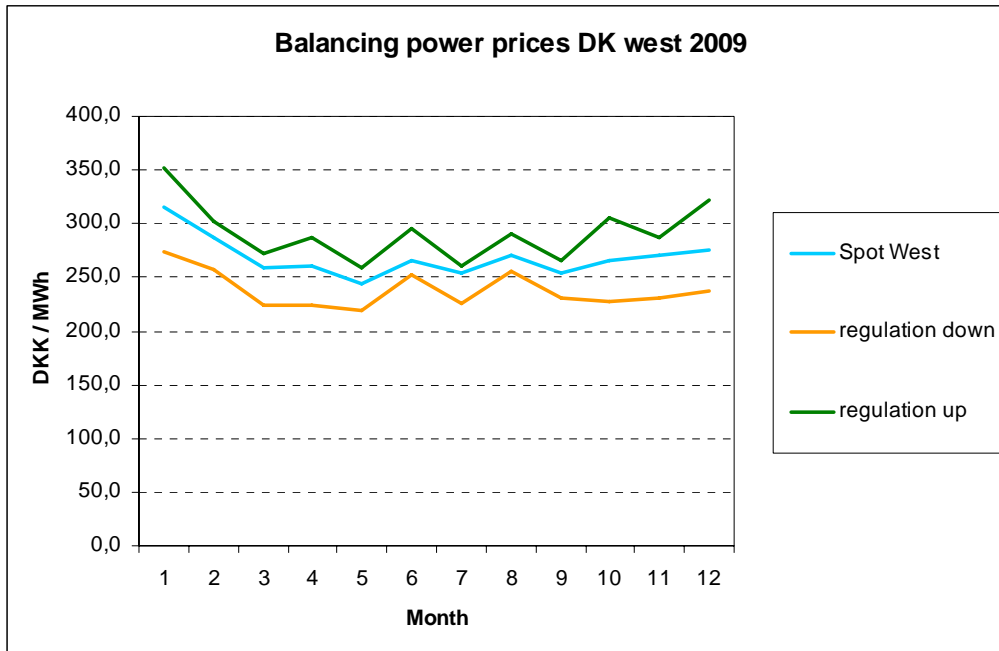
In an international comparison Denmark exhibits one of the lowest numbers of interrupted minutes per year. Amongst the reasons for that are the stable network, no extreme weather conditions and extra incentives in the revenue cap regulation.

Balancing

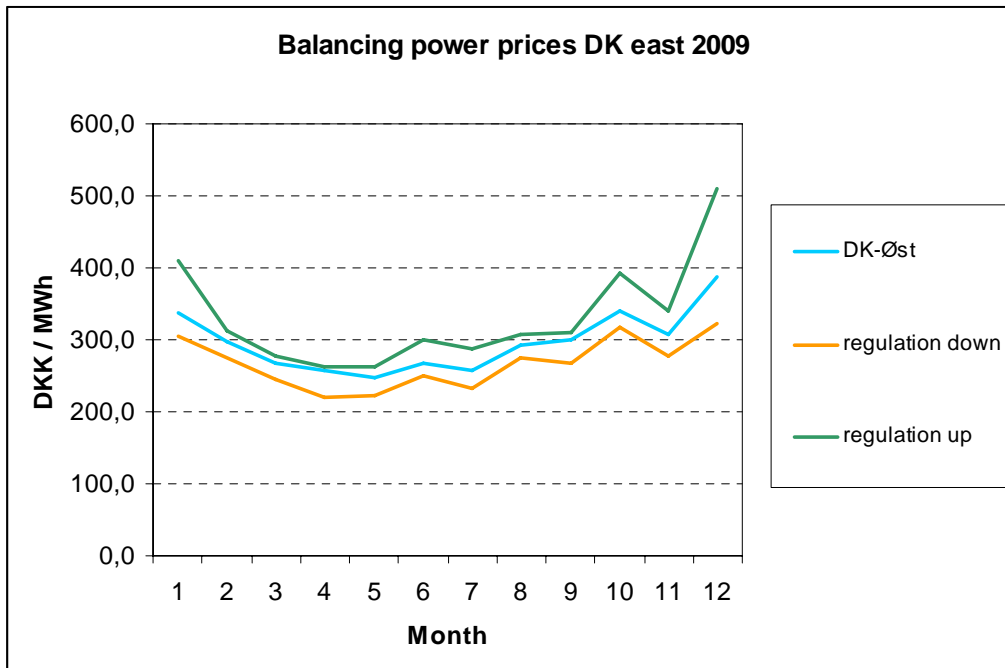
Fast manual reserves for balancing are procured by Energinet.dk in the common Nordic market for "regulation power".

Figure 3.1 and 3.2 show – for western and eastern Denmark respectively – the area prices of Nord Pool Spot and the balancing power prices for up and down regulation (monthly averages). Spot prices were on a lower level than in 2008 and follow the quite typical development of higher prices in the colder months, while prices decrease over summer. The prices for balancing power follow the spot prices quite closely. In general the differences are rather limited.

Figur 3.1 Balancing power prices in DK west 2009



Figur 3.2 Balancing power prices in DK east 2009



Imbalance settlement

From the beginning of 2009 the Nordic countries have implemented imbalance settlement systems which are to a high degree harmonized.

The cost base of imbalance settlement of Balance Responsible Parties (BRPs) covers

- Costs of procuring balancing power (from manually activated reserves)
- Administration costs
- Costs of Frequency Controlled Normal Operation reserves
- A share of costs of Frequency Controlled Disturbance Reserves
- A share of Manually activated Fast Disturbance Reserves

Other costs of balancing are allocated to the transmission network tariff. Denmark with its predominantly thermal generation has a system of capacity payments in balancing power procurement in order to compensate for the availability of units (including the fact that these units are precluded from trading on Nord Pool Spot during hours of availability).

The system consists of 2 types of imbalances of BRPs

- Imbalances of generation
- Imbalances of consumption

The two types of imbalances are calculated separately and cannot be netted out. This means that vertically integrated companies in this respect are treated in the same way as companies with only consumption or only production.

Any *generation* BRP is settled with a “two price system” according to the following principles on an hourly basis:

The settlement price for hours when the imbalance of the BRP is aggravating the system imbalance is the same as the price paid for activated regulation power bids (marginal pricing). If a BRP has a positive balance during an up-regulation hour or a negative balance during a down-regulation hour (an imbalance relieving the system imbalance), the elspot price is used instead of the regulation price.

Any *consumption* BRP is settled with a “one price system” according to the following principles on an hourly basis:

- Deficit consumption compared to scheduled – when total imbalance has a consumption deficit: Sales of balancing power at price of regulation power market
- Surplus consumption compared to scheduled – when total imbalance has a consumption deficit: Purchase of balancing power at price of regulation power market
- Deficit or surplus consumption – when total is in balance: Purchase or sales of balancing power at price of regulation power market – which in this case is the elspot price

In addition a flat rate fee is paid by BRPs for all consumption and generation. The fee is fixed at a level, so it will cover the TSO balancing costs (of the balancing cost base) not covered by the net revenue for exchanging balancing power.

3.1.3. Effective unbundling

As described in earlier National Reports it is a prerequisite for getting a license for distribution network (DSO) and regional transmission activities that the companies are also in compliance with the rules regarding legal, accounting and managing unbundling.

There are 81 Danish DSO's and 13 regional transmissions companies. Almost all Danish DSO's and regional transmissions companies are fully or partly vertically integrated with other companies (trading, production/generation, services etc.). This means that most of the DSO's are integrated in companies also carrying out competitive activities.

Vertically integrated companies (company-groups) may provide competitive problems for instance cross-subsidization, discriminating behaviour, large mark-ups, contracts not based on market terms etc. In 2005 a government order concerning compliance programmes was issued and this order is still one of the main focus areas of the regulation of DERA. The government order demands that the DSO must prepare a compliance program and annually submit a compliance report on the DSO's compliance activities to DERA.

In 2009 and early 2010 DERA has issued four guidelines in order to clarify which practical implications the different provisions entail for the DSO's. The guidelines cover separate website, shared website, annual report, and the minimum requirements of the compliance programmes respectively.

The state-owned national TSO Energinet.dk is fully ownership unbundled and its organisation as well as activities is regulated by specific primary and secondary legislation.

During 2009 DERA has visited 6 DSO's at the company premises and has taken out a random sample of 14 DSO's compliance programmes and annual compliance reports. The results of the compliance programmes and reports generally show an improvement in DSO's unbundling efforts. Nevertheless some errors and misunderstandings of for example the minimum requirements of compliance regulation still exist among the DSO's. Improvements are still needed and DERA will also in the future focus on effective unbundling. There are specific issues which will get increased attention in the future.

Issues yet to be solved

Competency to act

DERA is currently starting to focus on unbundling of the boardrooms and upper management of energy firms. This entails a focus on competency to act among board members and management personnel of the DSO. According to the Danish Electricity Act paragraph 45 for instance, the board member or manager in a commercial entity is not competent to act on the behalf of a DSO in the same entity.

Many of the board-members or managers are active in a commercial entity as well as a DSO. Consequently DERA finds that there is considerable risk of discriminatory conduct among these companies. Therefore DERA considers this to be an issue of great importance to the unbundling process and will work further with the matter in the future.

Transfer Pricing

In addition DERA has taken up the question of contracts entered into by the DSO. The main focus here will be the contracts between the DSO and other companies in the same entity. The purpose of this is primarily to hinder that the companies transfer costs into the DSO by internal contracting. Thereby making the consumer pay a higher price to the DSO and distorting competition on competitive markets.

To verify that this type of behaviour does not occur, the companies must provide sufficient documentation that the contracts among the firms of the same entity are entered into on market terms. However, comparable contracts are rarely available which means that DERA (and other authorities) in most cases must accept the conditions of a contract in accordance with arms length principles. In this context DERA has considered which principles may be acceptable in which situations. In the end however, it will always depend on an assessment of the specific terms of the contract. DERA will continue to work with this matter in 2010.

Unbundling of accounts

An additional issue relates to the unbundling of accounts. Initially this means that the DSO is required to have accounts separate from the rest of the company group. This of course, also requires separate annual reports and so forth for each of the companies in the group. If a DSO in addition to a distribution licence has a transmission licence then each of these activities must have separate accounts as well.

The separate accounts may also serve as documentation for the use of arms length principles in internal contracting within a group.

Definition of affiliated entities

For all of the above mentioned issues it will be essential to determine, which companies may be defined as affiliated entities to the DSO. It has been discussed which will be the decisive criteria: influence on the board or number of shares held and where to set the limits.

As a consequence of its decisive nature this problem will be in focus when DERA works with above mentioned matters in the future.

3.2. Competition Issues

3.2.1. Description of the wholesale market

The net generating capacity by the end of 2009 was 13.4 GW. 3.5 GW is wind power and almost all other is thermal – the majority coal- or gas fired CHP plants. The actually available capacity at any time is less than the 13.4 GW. For the 3.5 GW of wind turbines it especially depends on the wind speed and for CHP it depends to some extent on the heat-load.

Electricity generation in 2009 was 34.5 TWh.

In 2009 physical imports were 11.2 TWh and exports 10.9 TWh, net-imports amounting to 0,3 TWh. The imports and exports to the neighbouring countries are displayed in table 3.4. One can recognize the tendency of electricity flowing from Norway and Sweden to Denmark, as prices are in average cheaper in those countries. On the other hand Denmark net exports to Germany, a country with generally higher prices for electricity.

Table 3.4 Imports and exports from Denmark to bordering countries

Imports from / exports to TWh	Imports to Denmark	Exports from Denmark
Norway	3,8	1,4
Sweden	3,8	3,1
Germany	3,6	6,3
Total	11,2	10,9

Source: Energinet.dk's homepage

Within the Nordel area all NTC is put at the disposal of Nord Pool Spot for market-splitting. The interconnector Kontek linking eastern Denmark and Germany is operated by market splitting

(EMCC, since November 2009). On the Germany – west Denmark interconnector some capacity is given to market splitting while some capacity is allocated by yearly and monthly explicit auctions (see table 3.3).

In 2009 the consumption of electricity in Denmark amounted to a total of 34,2 TWh incl. gridloss. Total grid loss is app. 2 TWh which leaves 32,2 TWh for consumption (see also table 3.5).

Concerning participating companies in generation there are no significant changes compared to the earlier years. DONG Energy and Vattenfall are the major players when it comes to electricity generation. They account for almost 2/3 of the capacity, the remaining 1/3 being represented by a large number of smaller companies – including cooperatives and municipal companies – with various types of distributed generation.

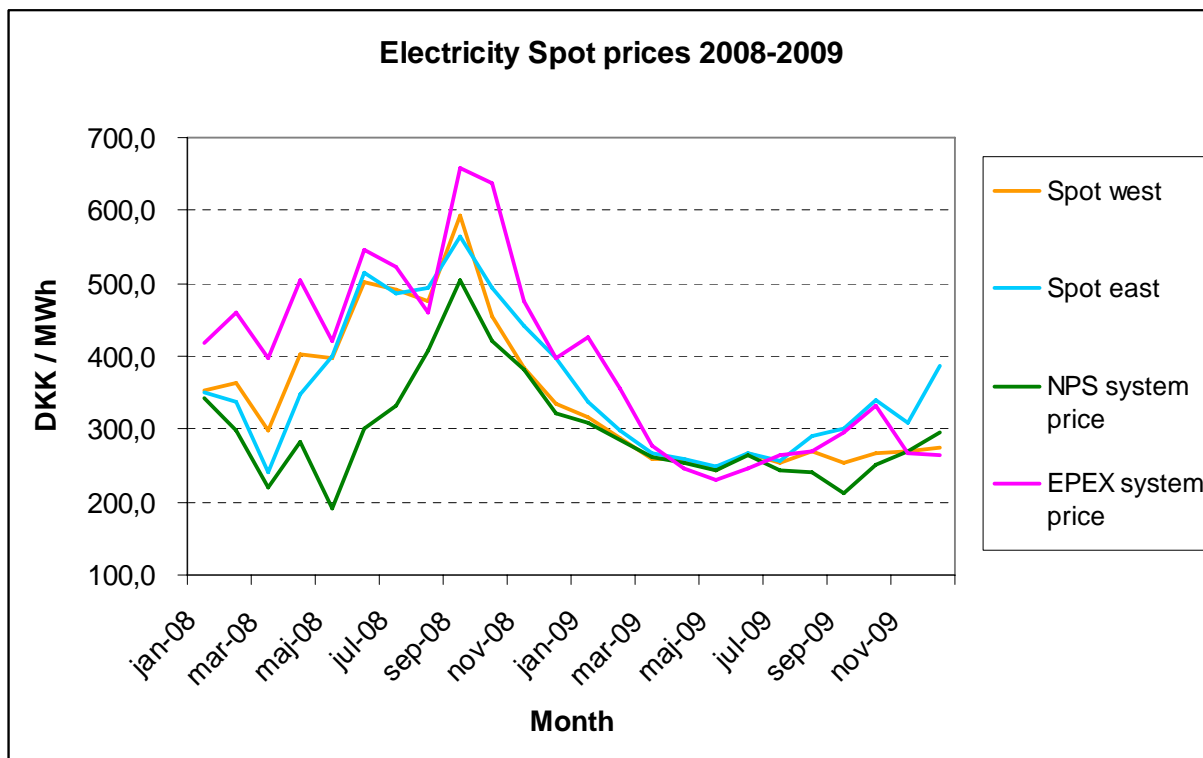
In order to give electricity producers an incentive to stop production in times where supply increases demand, Nord Pool Spot introduced negative spotprices for electricity in 2009. Negative prices are especially relevant in Denmark, where situations with high wind feed can occur. In the past this could have led to curtailment of sales bids at the price of 0€ This could lead to imbalance costs for sellers and creates a willingness to pay in order to deliver power to the market. This created a demand for negative prices.

There is a price floor of -200€ in the Northern region (varies slightly, depending on exchange rates). Price floors are not harmonized with other regions yet; this will be an issue that has to be solved especially with an increasingly integrated market.

Figure 3.3 shows spotprices in eastern and western Denmark as well as the system prices of NPS and EPEX (former EEX). In 2008 and 2009 the Nord Pool area has generally the lowest prices, based on cheaper generating methods (hydro and nuclear in Sweden, Norway and Finland). Continental Europe which is more dependent on thermal based methods of generation has the highest prices in this figure. Denmark swings somewhere in the middle of those prices, reflecting its geographical situation and the mix of marginally cheap wind generation as well as more expensive thermal generation.

One can see a sharp decline of all (system and spot) prices from the end of 2008. This is basically caused by the worldwide economic downturn and reduced demand for electricity (see consumption table 3.5).

Figure 3.3: Electricity spot prices 2008 - 2009



By the end of 2009 the Swedish TSO Svenska Kraftnet announced that Sweden will be divided into four different price areas by 2011. This will increase the functioning of the electricity market in the Northern region and will have an effect on the electricity prices especially in eastern Denmark.

3.2.2. Description of the retail market

Total end user consumption (i.e. after network losses) in the Danish electricity market in 2009 was 32,2 TWh – 5,1% down from 2008. Divided in user categories consumption in 2008 and 2009 looks like this:

Table 3.5: End user consumption in 2009

End user consumption			
	2008	2009	change
	TWh	TWh	%
Households	9,7	9,5	-1,7
Commerce and Services	11,3	11,0	-2,9
Manufacturing Industry	9,5	8,3	-12,6
Other (incl. Agriculture)	3,4	3,4	-0,7
Total	33,9	32,2	-5,1

Source: *Dansk Energi, Dansk elforsyningsstatistik 2009*

The distinctive decline in consumption from 2008 to 2009 is due to the economic downturn. 70 per cent of the decline can be attributed to the manufacturing industry. 20 per cent is due to a reduction in the commerce and services sector, 10 per cent of the reduced consumption took place in households.

There is very little energy intensive manufacturing industry. Average consumption of households is only around 3500 kWh/year. Electric heating is rare – only 5% of households.

All consumers have access to free choice of supplier. Customers with a consumption of more than 100,000 kWh/year (46 thousand customers) must have hourly metering. Smaller customers are “load profile customers”. Some distribution network companies, however, introduce “smart meters” also for smaller customers, which will pave the way for hourly metering, two way communication and other services.

The installation of smart meters is also an important element in increasing the flexibility (incl. price responsiveness) of electricity demand, which is important in order to cope with major shares of RES, intermittent generation and in order to limit the need for peak load generation capacity.

Supplier switching

In Denmark, the Association of the Danish Energy Companies collects information on switching activity on a quarterly basis. In 2009 approximately 16.5 % of the large consumers and all time high of 6.1% of the small consumers changed their electricity supplier in 2009. For the small customers that are more than double the switching rate of previous years. The switching rate for the large customers is also higher having risen from 13.8 % in 2008.

Table 3.6 Changes of supplier 2005 – 2009 (households)

	2005 Percent	2006 Percent	2007 Percent	2008 Percent	2009 Percent
Percentage of template customers* who have changed supplier	1,10	1,25	2,87**	2,8	6,13

* Template customers are households and small enterprises with a consumption of less than 100,000 kWh/yr.

** The change rate in 2007 was affected by the fact that an electricity supplier ceased trading in Q1 2007.

Source: Association of Danish Energy Companies

The increase in consumer interest could in part be due to a general increase in media coverage of the possibility to change supplier. In addition to this, the Elpristavlen, the consumer portal on the internet on which the electricity companies have to publish their prices, was relaunched in a new and improved format which in itself also fed media coverage. Committee work carried out prior to the relaunch included participation by DERA, the National Consumer Agency of Denmark, the Danish Consumer Council, the Danish Energy Agency, Danish Corporate, Energinet.dk and the Association of Danish Energy Companies.

The main philosophy behind the relaunch was to create a more manageable and user-friendly price portal for consumers in order to ensure consumers the best possible basis for choosing electricity supplier and to help stimulate consumer interest in the electricity market.

Elpristavlen shows all the alternatives to the supply obligation product. There are basically two types of product. Firstly there are products with a variable price where the consumer electricity price follows developments in the wholesale market. Secondly there are fixed price products where the consumer electricity price is fixed for an agreed period (up to a maximum of six months).

Even though switching rates increased distinctively, the absolute level of supplier switching still is low, especially for households. Around 90 % of consumers still have the “obligation to supply” product. On the competition side one has to mention that 90% of the suppliers have a market share of less than 5% each. On February 15th 2010 the Danish Competition authority delivered a report to the Danish parliament, where they describe the retail markets situation for electricity and give some reasons for the low switching activity.

In 2008 75% of consumers knew that they can switch their electricity supplier, there is however still lacking insight in the market. Another problem is that consumers cannot distinguish between distribution network- and supplying- / trading companies, as they do not sufficiently distinguish themselves through their branding.

A suggestion to solve that problem is to establish a “complete customer relation” for the supplying company. Today the customer is still in contact with the network company even though he switched supplier. In such a case the consumer still pays for example the standing charge and other tariffs to the network company. A solution to this would be a common billing by the supplier, which is currently discussed. In addition to this the so called datahub will be established in 2011. It will allow all suppliers to have access to information on equal terms and to conduct supplier switching as well as movements, load imbalance settlement etc. The “datahub” will reduce some important elements of lack of functional unbundling between distribution network companies and suppliers of the same company group.

Another step that will improve competition in the retail market and customers awareness is a common retail market in the Northern countries. NordREG recently presented an “Implementation Plan for a Common Nordic Retail market”. The outlook is that this market should be operational in 2015.

Electricity retail prices

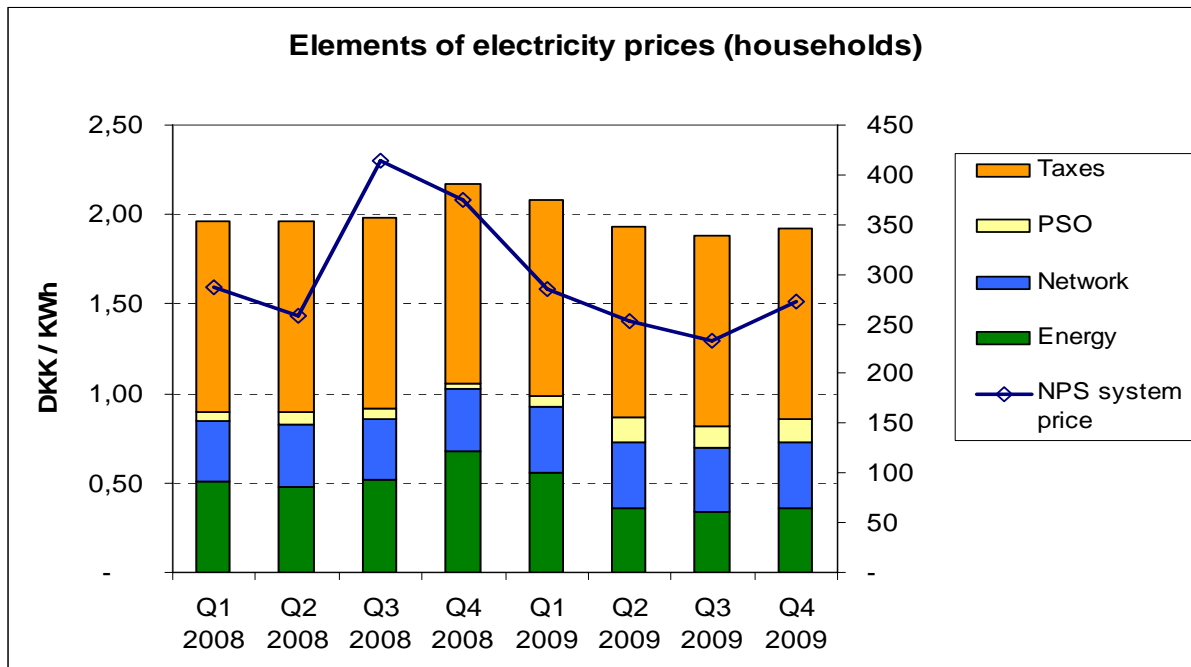
Table 3.7: Electricity retail prices 2009

Electricity prices including taxes, households								
DKK/kWh	Q1 2008	Q2 2008	Q3 2008	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009
Energy	0.512	0.479	0.518	0.677	0.558	0.363	0.334	0.361
Network	0.336	0.343	0.343	0.344	0.371	0.368	0.367	0.369
PSO	0.047	0.07	0.051	0.039	0.53	0.132	0.117	0.123
Taxes	1.068	1.067	1.072	1.109	1.102	1.072	1.061	1.070
Total	1.963	1.959	1.984	2.169	2.083	1.935	1.878	1.923

Electricity prices including taxes, small industry								
	Q1 2008	Q2 2008	Q3 2008	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009
Energy	0.489	0.456	0.495	0.654	0.533	0.339	0.309	0.337
Network	0.167	0.174	0.174	0.175	0.233	0.229	0.227	0.227
PSO	0.047	0.07	0.051	0.039	0.53	0.132	0.117	0.123
Taxes	0.095	0.097	0.097	0.097	0.98	0.113	0.98	0.98
Total	0.798	0.797	0.817	0.965	0.916	0.813	0.751	0.785

Electricity prices including taxes, larger industry								
	Q1 2008	Q2 2008	Q3 2008	Q4 2008	Q1 2009	Q2 2009	Q3 2009	Q4 2009
Energy	0.366	0.395	0.516	0.483	0.300	0.265	0.281	0.316
Network	0.094	0.095	0.095	0.095	0.120	0.119	0.119	0.119
PSO	0.047	0.07	0.051	0.039	0.53	0.132	0.117	0.123
Taxes	0.071	0.076	0.076	0.076	0.77	0.83	0.77	0.77
Total	0.578	0.636	0.738	0.693	0.549	0.599	0.593	0.635

Figur 3.4 Elements of households' electricity prices



The composition of Danish electricity retail prices are characterized by the high taxes – more than 50% of total price and of the PSO element which varies over time reflecting changes in Nord Pool

Spot prices. The last mentioned element which mostly covers RES subsidy costs is further explained in section 3.1.

The energy-prices have been fluctuating, mostly due to fluctuations in Nord Pool Spot prices. The timing of price changes is lagged, mostly due to the methodology of capping regulated “obligation to supply prices”.

Consumer complaints and inquiries

The Energy Supplies Complaint Board deals with complaints (inquiries resulting in formal cases) arising from the contractual relationship between household energy consumers and a natural gas supply undertaking (also electricity and district heating). It is established in cooperation between the Consumer Council and the Danish Energy Association DONG Energy, Greater Copenhagen Natural Gas/Natural Gas Middle-North, Natural Gas Funen and Danish District Heating Association.

The Board is composed of a neutral chairperson and four members. The chairperson is a city court judge. The Consumer Council appoints two members, and two members are appointed to represent the respectively energy trade area. The Danish Competition Authority serves as secretariat to the Board. The secretariat also deals with inquiries from consumers (any contact for information or expressing discontent, which does not result in a formal case).

In 2009, 171 complaints on electricity were settled and 617 inquiries were answered. The figures for 2008 were 143 and 651, respectively. There is no statistics available on the nature of the complaint/inquiry.

3.2.3. Measures to avoid abuses of dominance

There have not been any concrete competition policy actions taken in 2009-2010 in regards to avoiding abuse of dominance in the electricity sector.

However the competition Authority published a report about the retail market for electricity in early 2010, where recommendations are given to increase competition in the market (see supplier switching).

4. Regulation and Performance of the Natural Gas Market

4.1. Regulatory Issues [Article 25(1)]

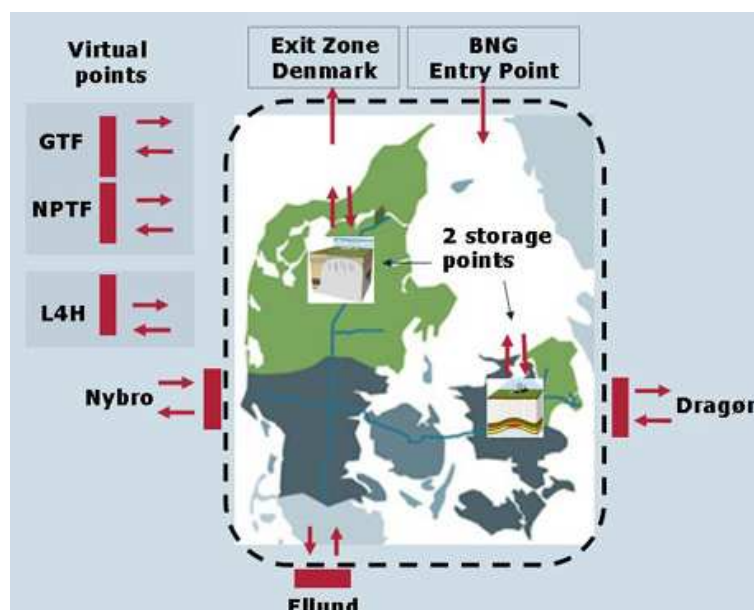
4.1.1. Management and allocation of interconnection capacity and mechanisms to deal with congestion

The Danish market model for gas

The Danish transmission system is constructed as an entry-exit model which contains:

- Three entry points at Nybro, Ellund and Dragør
- One BNG entry point for upgraded biogas
- One exit zone consisting of six distribution areas
- Three transit exit points at Nybro, Ellund and Dragør
- Two virtual trading points: GTF (Gas Transfer Facility) and NPTF (Nord Pool Gas Transfer Facility)
- One virtual transfer point – L4H (Link4Hubs) supporting the cross border reservation and nomination of capacity between Denmark, Germany and the Netherlands
- Two physical storage points covering the storage facilities at Stenlille and Lille Torup

The BNG entry point and L4H virtual transfer point were introduced in the second quarter of 2010.



Congestion and allocation of capacity

Capacity is allocated via the first come-first served principle. In special circumstances the TSO, Energinet.dk, can deviate from the first come-first served principle and instead apply pro rata allocations or capacity auctions. The capacity contracts are available for yearly, monthly, weekly and daily periods. Shippers, which are only trading at the storage points, GTF or NPTF, are not required to buy capacity in the transmission system.

Interruptible capacity is only available to shippers if sufficient firm capacity is not available. Interruptible capacity is offered at two probability levels: Interruptible level 1 capacity and interruptible level 2 capacity. Interruptible level 1 capacity equals Energinet.dk's expectations to the probability of interruptible capacity becoming available due to backhaul. Interruptible level 1 capacity can also become available to shippers if firm capacity acquired by other shippers is not used. Interruptible level 2 capacity equals Energinet.dk's expectations to the probability of interruptible capacity available in excess of interruptible level 1 capacity. Interruptible level 2 capacity is only offered when no interruptible level 1 capacity is available.

The following table compares capacities at the entry-exit points of the transmission grid with maximum actual daily quantities during the past four winters.

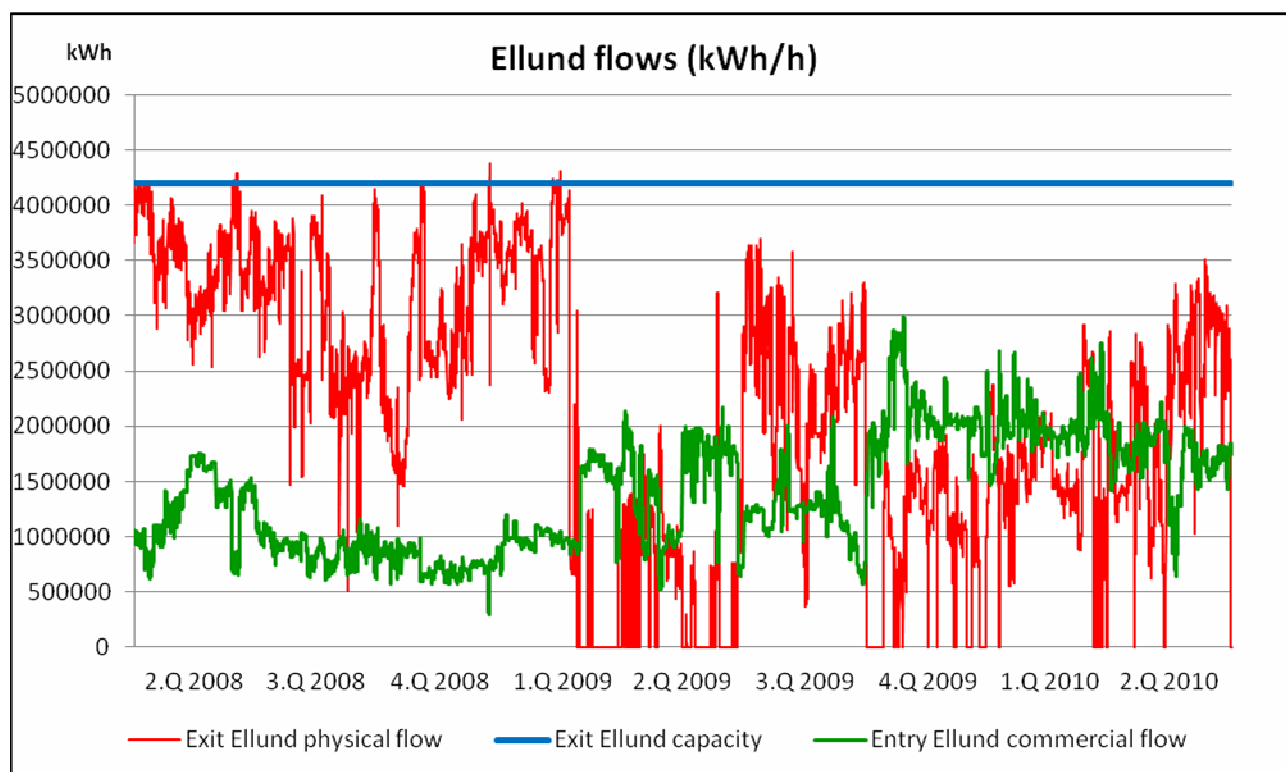
Point		Capacity mio. Nm ₃ /day	Max. flow 2005/2006 mio. Nm ₃ /day	Max. flow 2006/2007 mio. Nm ₃ /day	Max. flow 2007/2008 mio. Nm ₃ /day	Max. flow 2008/2009 mio. Nm ₃ /day
Nybro	Entry/Exit	32.4/0	24.9/0	23.8/0	24.8/0	24.1/0
Ellund	Entry/Exit	0/8.3	0/7.2	0/8.2	0/8.3	0/8.3
Dragør	Entry/Exit	0/8.6	0/4.9	0/4.9	0/5.6	0/5.0
Exit zone Denmark	Exit	25.5	20.8	20.0	19.5	19.1
Lille Torup storage facility	Withdrawal	8.0	5.3	5.7	5.5	4.0
Stenlille storage facility	Withdrawal	9.5	6.3	5.2	6.3	3.0

With the exception of Ellund – the cross border Denmark/Germany interconnection point – there are no congestion problems in the Danish transmission system. In 2009 congestion occurred both at Entry Ellund (entry to the Danish transmission system) and Exit Ellund (exit from the Danish transmission system). Congestion at Ellund in both directions has never previously been coexisting – in 2007 congestion only occurred at Entry Ellund.

The congestion at Entry Ellund is physical. At Entry Ellund only interruptible capacity can be booked and therefore import of gas from Germany is only possible as commercial backhaul, but 2009 revealed that the market demands physical deliveries from Germany.

The congestion at Exit Ellund is physical and contractual.

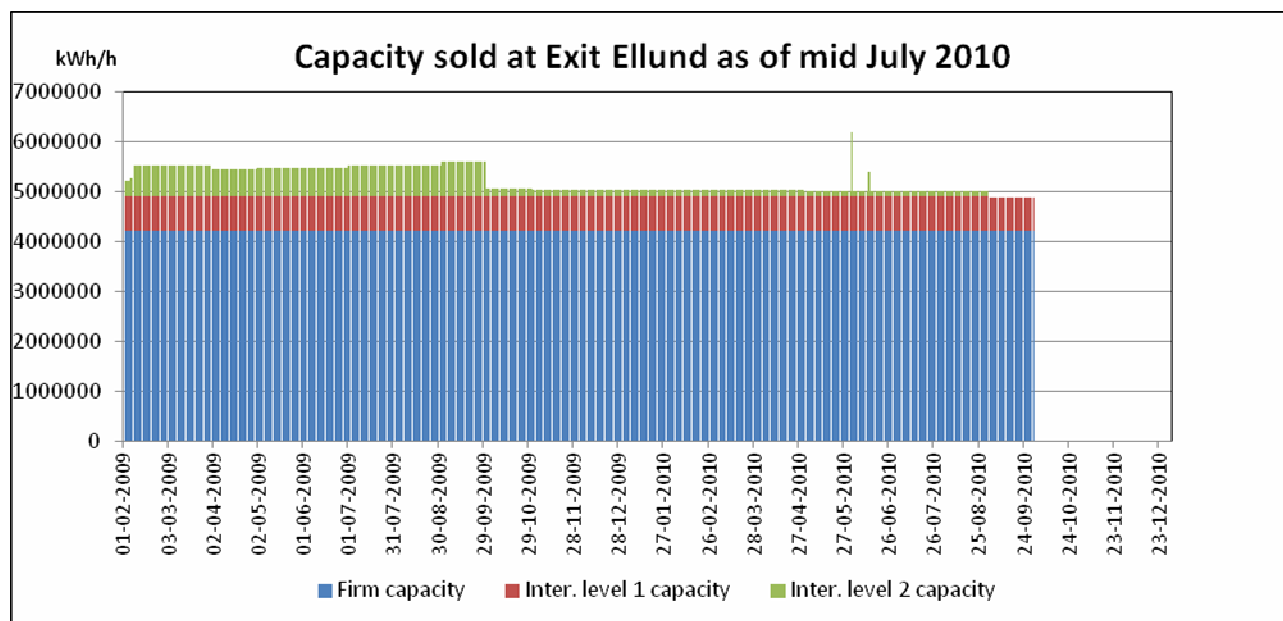
The figure below illustrates the physical congestion at Entry and Exit Ellund. It plots the physical flow at Exit Ellund and the commercial flow at Entry Ellund from April 2008 to June 2010.



In mid February 2009 commercial backhaul export to Germany were interrupted at Exit Ellund for 4 days, but only interruptible level 2 capacity were affected. At the end of February the situation reversed – going from a maximum physical flow to zero flow in just two weeks – and cutbacks in Entry Ellund nominations were realized at the same time as backhaul import was increasing. During the remaining part of 2009 there were long periods with low or zero physical flow to Germany. This resulted in a total of 55 gas days in 2009 where commercial backhaul import from Germany was interrupted. The costs of the bottleneck amounted to 286 GWh gas. Most of the cutbacks occurred at interruptible level 2 capacity but for the first time also interruptible level 1 capacity were reduced.

In the first half of 2010 commercial imports continued at a high level but so far only minor interruptions have been curtailed due to a higher level of exit nominations.

The next figure illustrates the contractual congestion at Exit Ellund. It plots the capacity sold at Exit Ellund from 1 February 2009 to 31 December 2010 as of mid July 2010. For the past three years both firm and interruptible level 1 capacity at Exit Ellund have been sold out, and this has caused a constantly positive demand for interruptible level 2 capacity most of the gas year 2009/2010. However, the contractual congestion cannot be categorized as long term – i.e. no capacity sold as of 1 October 2010 onwards – this is due to the particular procedure applied by Energinet.dk for handling orders for yearly and monthly firm capacity.



Physical and contractual congestion management

Below follows a description of different measures and initiatives taken to manage physical and contractual congestion in the Danish transmission system:

- Energinet.dk joined the trac-x Transport Capacity Exchange in April 2010 thereby enabling a secondary market for exchange traded day ahead Ellund-capacity in the Danish transmission system. Moreover, traders who hold capacities on both sides of the cross border point can now trade them on the exchange as bundled capacities.
- Energinet.dk facilitates secondary bilateral trade of capacity in the Danish transmission system via the Capacity Transfer Facility, CTF. The CTF applies to daily and weekly capacity rights; all contracts can be divided into daily parts and be transferred as such.
- A use it or lose it principle for unused capacity is laid down in the Danish network code and Energinet.dk may execute this in cases where one shipper's request for firm capacity has been denied due to another shipper's hoarding of capacity. However, the use it or lose it principle has de facto never been applied by Energinet.dk.
- Energinet.dk supplies interruptible capacity if the requested firm capacities are not physically available.

- In dialogue with the transmission system operators in the North German DEUDAN system, Energinet.dk has been looking into the possibilities of increasing the pressure for shorter or longer periods of time on the German side of Ellund with existing German compressor facilities to enable physical gas import from Germany. Energinet.dk expects to have finalized all operational and commercial agreements, regarding the possibility to import up to 200.000 m³/h gas on interruptible basis via Entry Ellund into the Danish system from October 2010.
- Provision of a bundled firm capacity cross border service – Link4Hubs – was launched 30 June 2010 by Gasunie Deutschland (GUD), Gas Transport Services (GTS) and Energinet.dk. The Link4Hubs point – L4H – is a virtual transfer point located within the transmission system of GUD, GTS and Energinet.dk. It enables shippers via a virtual pipeline to transfer gas on a firm and day ahead basis between the three abovementioned transmission systems (and hence also the three hubs: Gaspool, TTF and GTF) by use of an internet-based platform. The Link4Hubs is durable because of a daily optimization of cross border firm capacity, also therefore the capacity is sold day ahead. Firm capacity will only be provided in case the three TSOs expect that firm capacity is available in the gas transmission systems.
- October 2009 the Danish gas exchange – Nord Pool Gas – introduced a swap contract with physical delivery in Denmark (NPTF) and the opposite position in Germany (Gaspool). The swap contract is tradable three days ahead.
- The two-way action in DONGs Gas Release Programme implies gas deliveries by DONG Energy at the GTF will be swapped for equivalent deliveries at NBP, ZBT, TTF, NCG or Gaspool.
- In 2010 The Danish Minister for Climate and Energy approved the construction of a compressor station enabling gas inflow from Germany. Also a looping of the Ellund-Egtved pipeline was decided. Both projects are to be operating as from October 2014 although also an earlier start day October 2013 is still in focus. However a parallel expansion of Gasunie Deutschland's pipeline still waits for approval. The resolution of the Ellund-construction was a consequence of the Open Season procedure explained below.

In 2008 Energinet.dk announced an Open Season, Open Season 2009. The Open Season process is a two-phased bidding process, recommended by ERGEG, under which market players can submit bids for long-term transport contracts concerning newly established transmission capacity.

Open Season 2009 identified four potential border points to the Danish transmission system:

- Entry in Sæby from Skanled and the Norwegian gas fields
- Entry and exit in Avedøre to Baltic Pipe and the Polish gas market
- Exit in Dragør to the Swedish gas market
- Entry (and additional exit) in Ellund from the German gas market

Results of Open Season 2009 phase 1 – submission of non-binding capacity bids, ending 30 April 2009: Only Ellund qualified for inclusion in phase 2. As the Skanled project was suspended immediately before the first bidding round, the point in Sæby became irrelevant. The same applied to the Avedøre point to Baltic Pipe, which was based on transit volumes from Skanled.

Results of Open Season 2009 phase 2 – submission of binding capacity bids, ending 7 September 2009: Ellund again qualified with respect to a new compressor station which is to enable gas inflow from Germany and a looping of the Ellund-Egtved pipeline from 2013 or earlier. The construction of the compressor station was approved by The Danish Minister for Climate and Energy January 2010. The looping of the gas pipeline was approved May 2010.

4.1.2. The regulation of the tasks of transmission and distribution companies

Denmark has one transmission system operator: Energinet.dk. In addition to this there are three Danish distribution companies which operate the distribution system in the five distribution areas. The three Danish DSOs are: Naturgas Fyn Distribution, DONG Gas Distribution and HMN Naturgas.

HMN Naturgas is a merger between two distribution companies: Naturgas Midt-Nord and HNG. The merger was approved by the Danish Competition Authority in November 2009 and effected as per 1 January 2010. HNG and Naturgas Midt-Nord have been cooperating closely since 2003 running their main areas of operation in a mutual collaboration called HNG Midt-Nord. Therefore, the merger was categorized as minor.

Economic regulation

The distribution companies are all subjects to the revenue cap regulation. The length of the regulatory period is four years. In 2009 DERA established revenue caps for the companies applicable for the period 2010–2013. Efficiency requirements of between 0.6 percent and 1.2 percent p.a. in the period have been incorporated into the revenue caps. This corresponds to an overall efficiency requirement of more than 12 million DKK in the period.

Energinet.dk is subject to cost-plus regulation. The ‘National Report 2008’ by DERA contains a more comprehensive explanation of the regulation in the Danish gas sector.

Network tariffs

The transmission tariffs charged in the transmission system are based on an entry-exit model. The same tariffs apply to all entry and exit points and accordingly, the transmission costs are independent of where the gas is transported to in Denmark.

The transmission tariffs are comprised of a capacity charge, a commodity charge and an emergency supply tariff. The shippers pay for the right to transport a certain volume of gas and, in addition, for the volume actually transported. Finally, the emergency supply tariff covers the security of supply provided by Energinet.dk to the Danish end-users.

The commodity tariff is charged at the exit zone and at the transit exit points - not at the entry points. The payment for emergency supply is charged only for volumes transported to the exit zone.

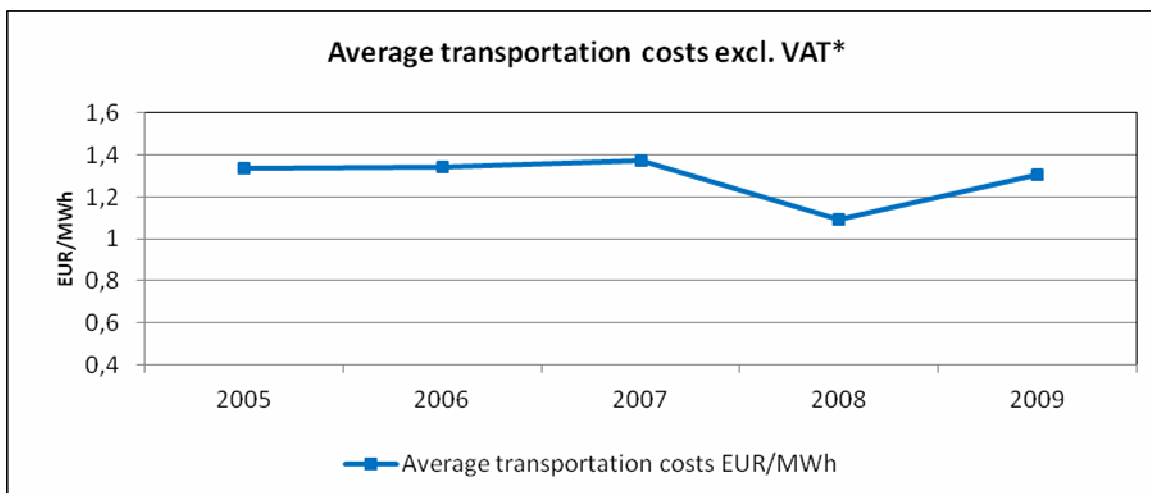
The capacity payment amounts to 75 percent of the total transmission costs and consequently, the commodity charge amounts to approximately 25 percent.

The transmission tariffs as of 1 June 2010:

- Capacity charge: 1.41 EUR/ kWh / hour /year
- Commodity charge: 0.00016 EUR/kWh
- Emergency supply commodity charge: 0.0011 EUR/ kWh

For capacity contracts with a duration of less than one year, capacity payments vary according to the month of the year with the highest payments realized during winter time. The tariffs are quoted as a percentage of the annual payment mentioned above.

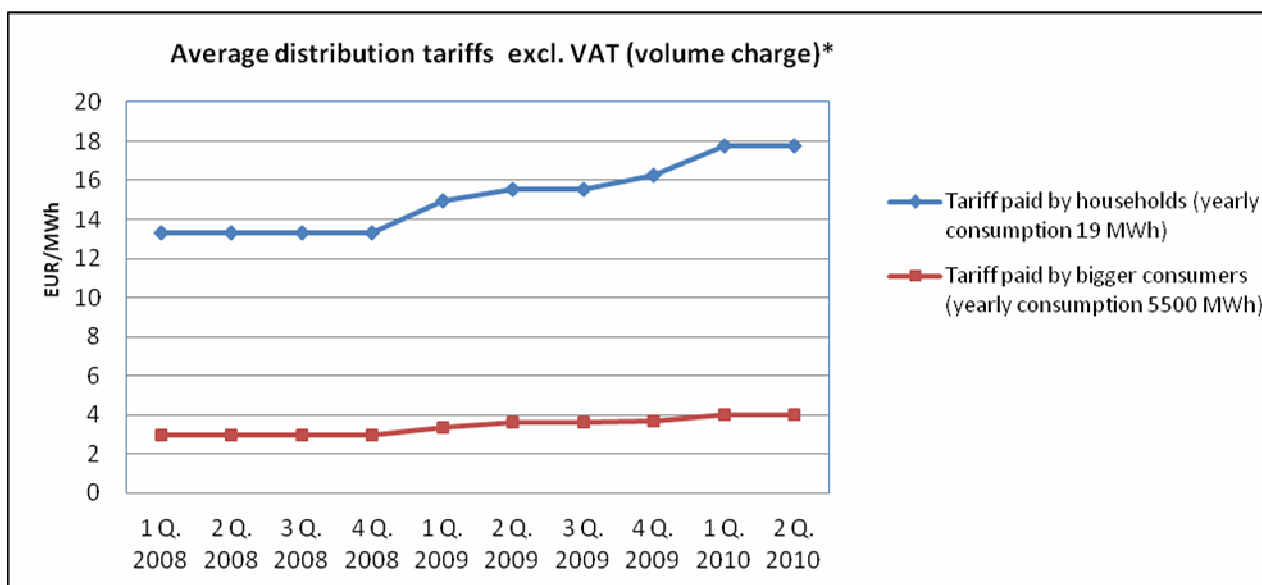
The following graph shows the average transportation costs in the Danish transmission system. The costs include payments to capacity, volume, emergency supply, balancing and different fees.



*Energinet.dk's total revenue from the gas transmission segment was 805 million DKK (108 million EUR) in 2009, whilst 83 million MWh of gas were transported in the Danish gas transmission grid. This amounts to an average transportation cost of 1.30 EUR/MWh for the year of 2009.

The distribution tariffs are distance-independent volume charges. Larger volumes consumed imply lower unit-payments for transportation due to the “block-tariff” employed, which offers declining tariffs for increasing intervals of gas consumption. Standing charges in the gas distribution sector are negligible.

Below follows the historical development in the Danish gas distribution tariffs.



*The average distribution tariffs are calculated as the arithmetic mean of the distribution tariffs offered by the three DSOs.

Balancing

Energinet.dk uses several tools to ensure system balance. These include the use of line pack and the use of two Danish storages. In addition, Energinet.dk can always procure or sell gas to DONG Energy via contract.

The balancing area corresponds to Energinet.dk’s transmission system. Interactions from other balancing areas are not possible in the Danish system. Balancing is on a daily basis – no hourly restrictions or constraints apply. The shipper may pool imbalances of his portfolio between deliveries and offtake for the entire Danish transmission system

When purchasing capacity for the exit zone, the shipper will be allocated a balancing margin free of charge corresponding to 5 percent of the maximum daily quantity in the shipper's aggregate exit zone capacity. With regard to the BNG entry point, a free balancing margin is granted corresponding to 15 percent of the maximum daily quantity in the shipper's BNG entry point capacity. For other points (entry/exit/storage) the allocated free balancing margin is 0.

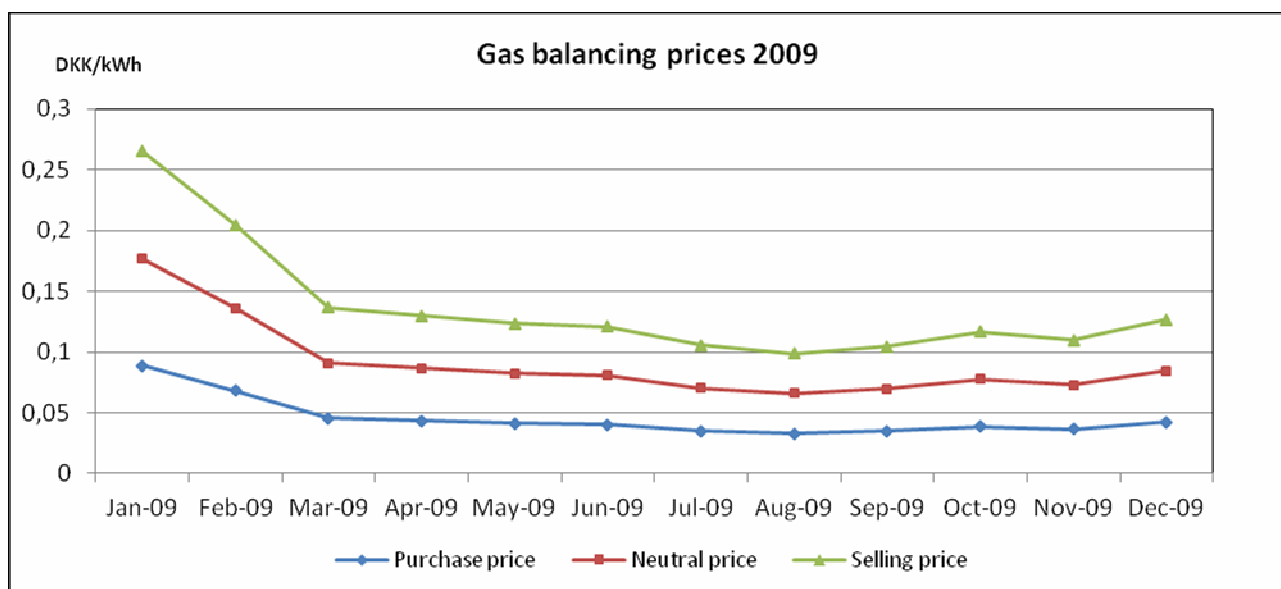
In case the shipper wishes the flexibility to be extended beyond the allocated balancing margin, he can do so by entering into a Balancing Service Agreement. A Balancing Service Agreement means

that the Shipper is allowed to increase his Balancing Margin within the quantity limits specified in the Balancing Service Agreement.

An alternative to enter into a balancing service agreement is to use Energinet.dk's Balance Transfer Facility (BTF). This entails trading of balancing margins on the secondary market.

Energinet.dk's total purchase of balancing gas for 2009: 116GWh (2008:138GWh; 2007:213GWh).
Energinet.dk's total sale of balancing gas for 2009: 90GWh (2008:83GWh; 2007:262GWh).

Energinet.dk's neutral purchase and selling price for balancing gas is the TTF Price. Energinet.dk's purchase and selling price for balancing gas is a function of the TTF price. Below the development of balancing prices during 2009:



4.1.3. Effective unbundling

The state-owned TSO, Energinet.dk, has been ownership-unbundled since 1 January 2005. The state-ownership is represented by the Minister of Climate and Energy.

The three Danish DSOs are Naturgas Fyn Distribution, DONG Gas Distribution, and HMN Naturgas. DONG Gas Distribution is an integrated part of DONG Energy which is state-owned and represented by the Minister of Finance. Each of the two other distribution companies are also part of integrated undertakings which are owned by municipalities. None of the three Danish distribution companies are ownership unbundled, but all of them have been legally unbundled since 1 January

2003. Denmark does not apply the 100.000 customer exemption neither for legal unbundling, nor for compliance programs or functional/management unbundling.

As with legal unbundling, account unbundling and management unbundling are also prerequisites for obtaining a license for distribution activities. The focus of DERA, therefore, is to ensure and develop functional unbundling of the DSOs. This is effected through compliance programs, annual reports on compliance programs, control visits every second year, and guidelines issued by DERA. In 2008 DERA issued guidelines regarding the DSO websites and regarding how the DSOs should send out information materials.

The specific guidelines regarding the DSO websites states as follows:

- If a company group has a joint website, then it is not allowed to advertise for commercial goods and services at the entrance of the website.
- On the website area for the DSO it is not allowed to advertise for commercial goods and services from other group companies. This website area should only contain information regarding DSO related issues in a non-discriminating way.
- If there is a separate website for the DSO then it has to be easy accessible and easy to find for the consumer.

The specific guidelines on sending out information materials states as follows:

- Information activities from DSOs cannot be included in a group magazine.
- DSOs are obliged to send out letters separately, as communications from a DSO must not be combined with commercial group materials in a joint letter.
- The DSO has to be easily identifiable as the sender of the material.

It is the view of DERA that an “unbundling culture” is developing within the gas companies. As of 2008 all DSOs comply with the Danish rules on unbundling and compliance programs. DERA however, will still have focus on functional unbundling to make sure that the DSOs continue to improve their compliance work.

4.2. Competition Issues [Article 25(1)(h)]

4.2.1. Description of the wholesale market

Structure of the Danish wholesale market

From the Danish production fields in the North Sea gas can be transported to onshore Denmark at Nybro or exported to the Netherlands through a link with the NOGAT system, which comes ashore at Den Helder. Imports from the Netherlands are not possible. DONG Energy owns the offshore pipelines, from the fields in the North Sea to onshore Denmark, and Energinet.dk owns the onshore pipelines. From onshore Denmark gas can be exported to Germany; the interconnection between Denmark and Germany at Ellund is linked with the DEUDAN transmission system. Capacity at Entry Ellund is zero thereby making a physical inflow from Germany impossible. The Danish transmission system is also connected to Sweden at Dragør. Sweden is neither a gas producer nor connected to other gas-producing countries. Thus, the Danish wholesale market for natural gas is somewhat isolated with respect to the technical restrictions on physical imports.

Shown below is the historical distribution of Danish gas production across consumption, import and export:

TWh	2007	2008	2009
Indigenous production**	88,4	97,5	80,6
Consumption**	39,8	40,1	38,7
Import*	0,0	0,0	0,0
Export*	47,1	57,5	41,8
Export to the Netherlands*	23,8	22,4	17,2
Export to Sweden*	10,5	9,5	12,7
Export to Germany*	12,8	25,6	11,9

* Excl. backhaul.

** Excl. offshore consumption.

The majority of Denmark's gas supplies are sourced from the Danish North Sea fields operated by the Danish Underground Consortium (DUC) owned by A.P. Møller-Mærsk, Shell and Chevron. DONG Energy disposes of about 80 % of the Danish gas production, either by purchasing from DUC on long-term contracts or by own production. To promote competition in the Danish wholesale market DUC has been required to sell 17% to other companies than DONG Energy. Also, the DUC members are obliged to negotiate individually with consumers rather than through the consortium.

LNG plays no role in the Danish wholesale market.

24 companies are registered as shippers by Energinet.dk. However, it is estimated that the number of companies actually active on the wholesale market is a lot smaller.

Storage

Denmark has two gas storage facilities – Lille Torup and Stenlille owned by Energinet.dk and DONG Storage, respectively, with a total capacity of around 1,000 million m³. Storage capacity is sold partly on long-term contracts that are negotiated between storage owner and storage customer, and partly by auctioning on short-term contracts (1 to 5 years) reducing bids via pro rata in case of excess demand. In 2010 Energinet.dk introduced a monthly product sold on first come first served.

In the storage year 2009/2010, around 30 percent of storage capacity was sold in 1-year contracts and 20 percent is reserved by Energinet.dk for emergency supply. 4 and 8 percent of the capacity was sold on 5 and 3-year contracts, respectively. These lengths of contract were not seen in the storage year 2008/2009, and the result is less capacity available for 1-year contracts. The intention is to continue the use of multi year products. Just over 1/3 of the storage capacity had already been booked before the beginning of 2010 because of existing contracts which run until 2011/2012.

Danish storage capacity can be traded at the secondary market in the Danish transmission system.

Contracts and gas trading facilities

Bilateral trading and (long-term) contracts for gas with prices depending on the value of an oil index are still predominant in the Danish wholesale market. However, shippers have several facilities available to enable trade via non-indexed gas contacts.

Gas can be traded bilaterally at the Danish virtual gas hub – Gas Transfer Facility (GTF) – operated by Energinet.dk. GTF enables on-the-day transfers of gas from one shipper to another and of course also trade in gas for delivery at a future date is facilitated.

GTF is the delivery point at the DONG Gas Release Programme. The 400 million m³ gas (10 percent of the Danish gas consumption) offered at the Gas Release Programme 2010 (April 2010) were all sold out as in the four previous auctions. Nine bidders were signed up for the 2010 auction – the same amount as in GRP2008 and GRP2009. The ten lots of 40 million m³ gas which are to be delivered at the GTF as of 1 October 2010 and two years onwards will be swapped for five lots at Gaspool and five lots at NCG. At GRP2009 the lots were redelivered at NBP (two lots), Gaspool (five lots) and NCG (three lots).

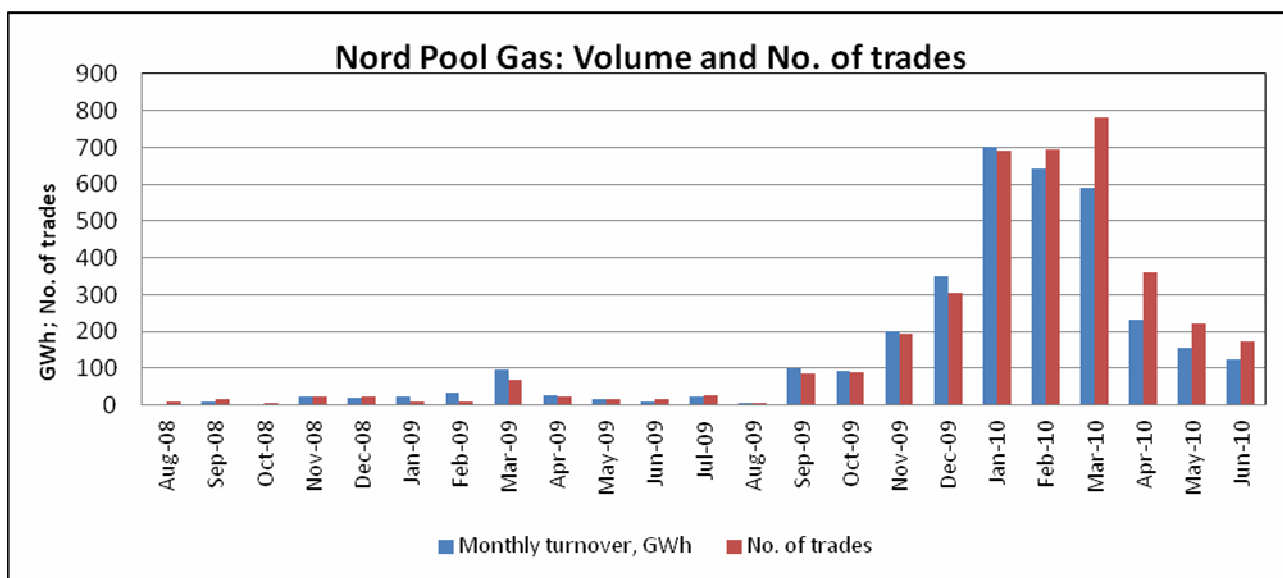
Turnover at GTF 2009 amounts to 57% of the Danish gas consumption. The turnover was 9% and 50% in 2007 and 2008 respectively.

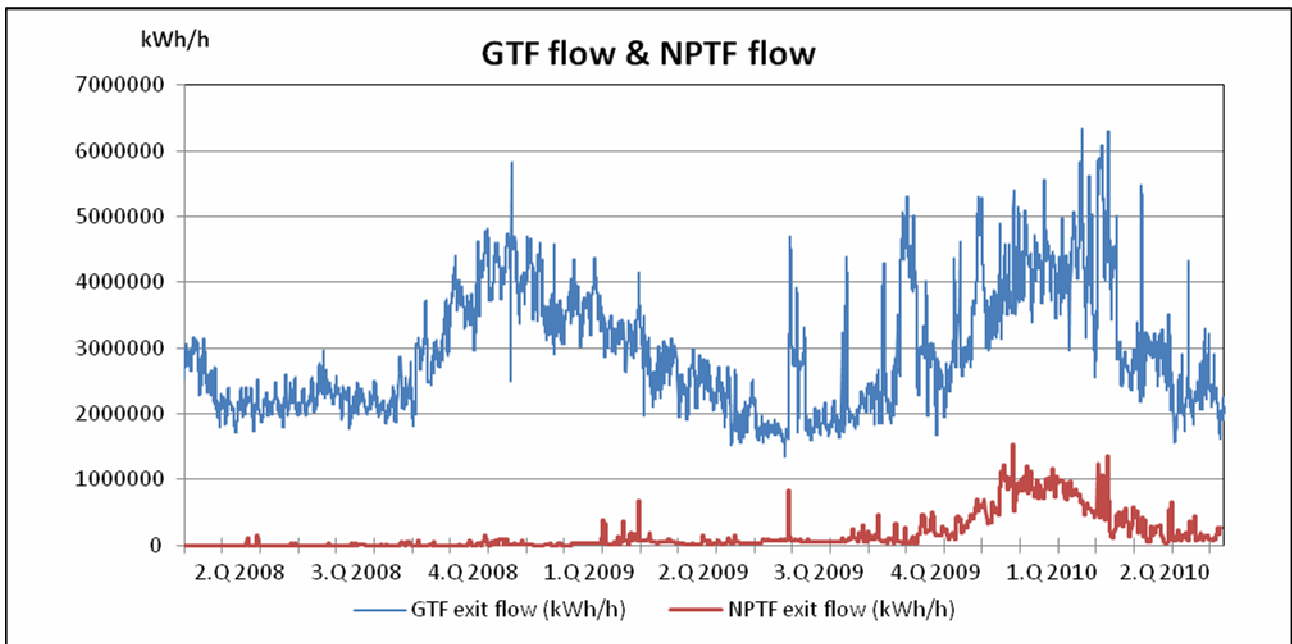
Gas can be exchange traded at the Danish gas exchange – Nord Pool Gas (NPG) – established in March 2008 by Energinet.dk and Nord Pool Spot who both own a share of 50 percent. 14 companies are registered as participants at NPG or, to put it more descriptively: 58 percent of shippers registered in the Danish transmission system are participants at NPG or 50 percent of the commercial gas suppliers in Denmark (i.e. gas suppliers without a supply obligation selling gas to Danish end-users) are participants at NPG.

Contrary to GTF, the shippers cannot trade on-the-day products at NPG; instead, four other products with delivery points at NPTF are offered, two of these were launched in October 2009:

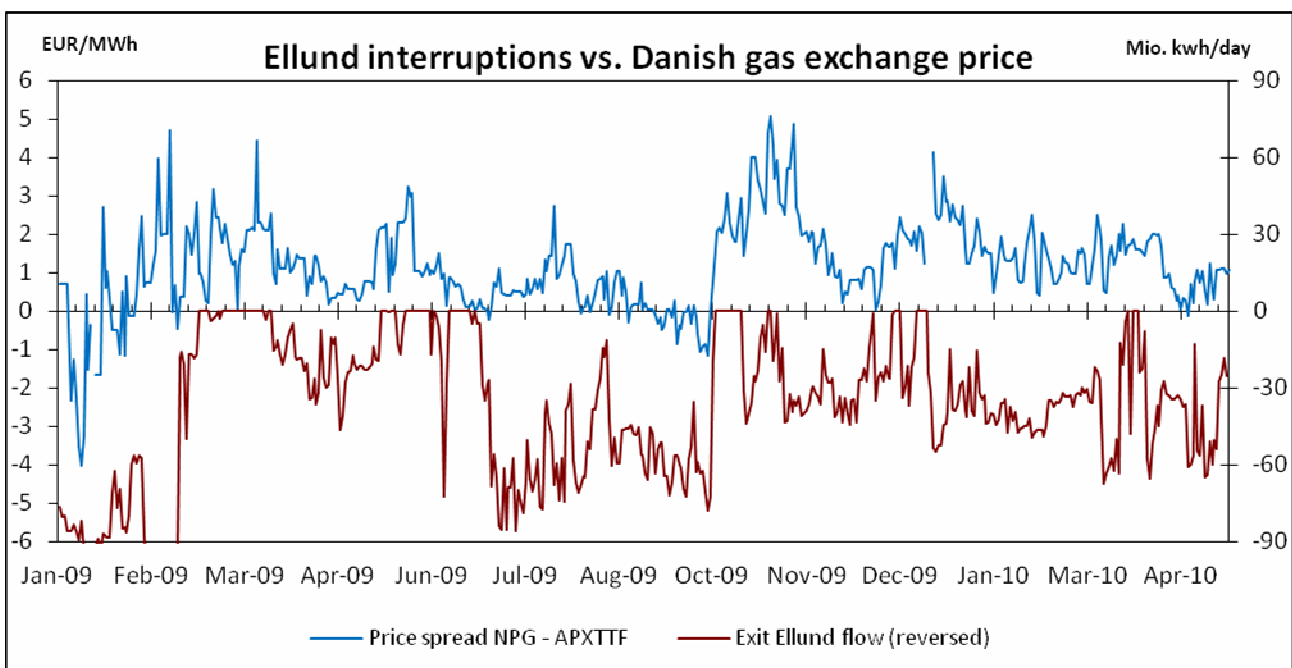
- Day contracts: Trade in gas with delivery on the following gas day. Day contracts can be traded three days ahead.
- Month contracts: Trade in gas with deliveries on each gas day for the entire month ahead.
- Balance of Month contracts, *introduced October 2009*: Trade in gas with physical deliveries on each gas day for the rest of the present month.
- Swap contracts Denmark/Germany *introduced October 2009*: Trade in gas with physical delivery in Denmark (NPTF) and the opposite position in Germany (Gaspool). Swap contracts are tradable three days ahead.

The two graphs below show monthly turnover and number of trades at NPG from August 2008 to June 2010 and hourly turnover at GTF and NPG from 1 April 2008 to 30 June 2010 respectively.



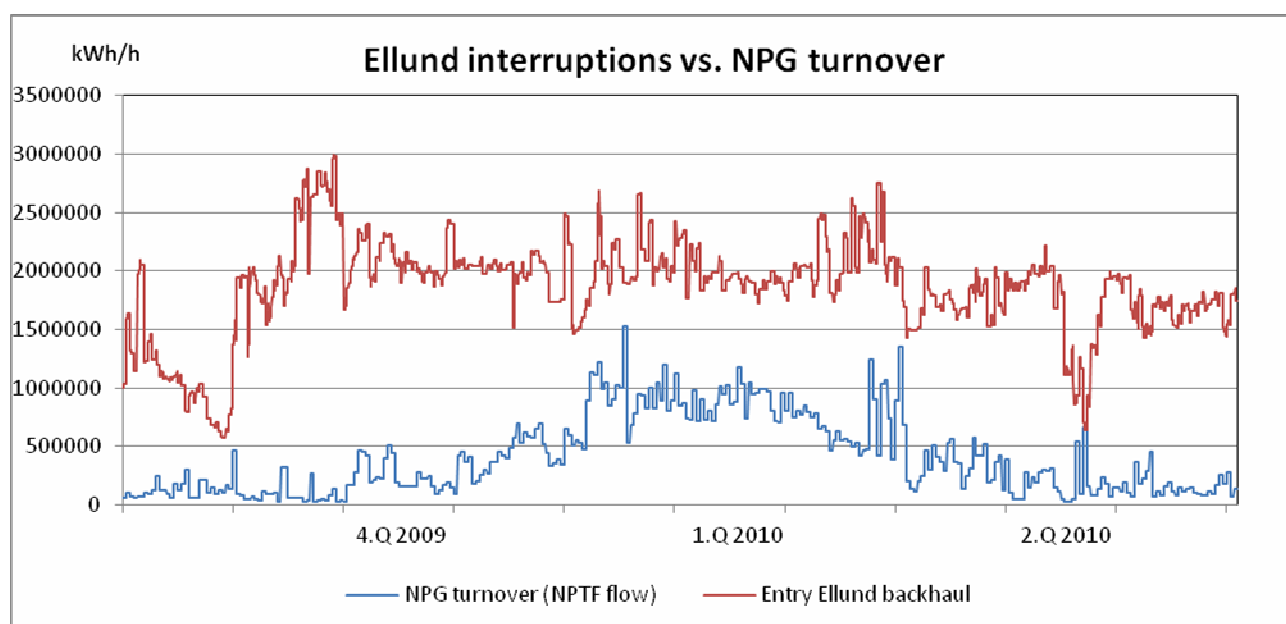


Turnover and the number of trades at NPG have increased markedly since 2008. In 2009, 2.57 percent of the Danish consumption was traded at NPG – an increase in 1515 percent compared to the 2008 turnover. The turnover for the first half of 2010 amounts to 5.3 percent of the total Danish consumption in 2009. The number of trades rose from less than 100 in 2008 to around 950 in 2009 going up to above 2900 in the first six months of 2010. The increase in volume though, is not enough to qualify NPG as a liquid gas exchange.



One of the reasons for the increase in NPG volume is the European gas bubble: Low gas prices at the hubs and exchanges in Europe caused Danish gas suppliers to exercise the option for volume flexibility in their oil indexed contracts and thereby lowering the demand for North Sea gas and increasing the demand for commercial imports from Germany. Foreign demand for Danish North Sea gas fell as well reducing the physical export at Ellund. As a result, bottlenecks arose at Entry Ellund creating an excess gas demand in the Danish transmission system. Some of this excess demand was settled at NPG sending up NPG prices. The relation between Ellund interruptions and isolated price increases in the Danish transmission system is sensed at the figure above plotting Exit Ellund physical flows and the spot price spread between NPG and APXTTF (APX exchange traded gas deliveries at TTF).

The relation between Ellund bottlenecks and NPG can also be observed in the next figure plotting NPG turnover and Entry Ellund backhaul: High commercial import and high NPG turnover is somewhat simultaneously prevalent.



Integration with the European gas market

Clearly the spread in TTF and NPG prices reveals the incomplete integration between the Danish and the European gas markets due to constraints on import, however, market integration is underway.

As of being the integration is mainly virtual, trying to overcome the cross border bottleneck:

- Backhaul import of European gas
- Exchange traded swaps at NPG vs. Gaspool
- Hub traded swaps at GTF vs. NBP, TTF, ZBT, NCG and Gaspool
- A virtual pipeline connecting the GTF, TTF and Gaspool via L4H
- Exchange traded cross border capacity at trac-x

In a couple of years also physical integration will improve with a reverse of flows at Ellund and a looping of the Egtved-Ellund pipeline.

Secondary markets for capacity and balance

CTF and BTF, both operated by Energinet.dk, facilitate secondary bilateral trade of capacity and balancing gas in the Danish transmission system. Exchange traded day ahead Ellund capacity both sides of the cross border point can be traded at trac-x.

4.2.2. Description of the retail market

Suppliers and products

The Danish gas market has been fully liberalized since 1 January 2004 and accordingly, any gas consumer in Denmark is free to choose any gas supplier. However, the regulation of “obligation to supply” prices for gas continued in 2009 – and is continuing in 2010.

13 companies are registered as gas suppliers in the Danish transmission system; 3 of these are suppliers with an obligation to supply (DONG Energy Gasforsyning, NGF Gazelle Gasforsyning and HNG Midt-Nord Salg), and 6 companies have affiliated connections to the DSOs (the three supply obligation companies and also DONG Naturgas, HNG Midt-Nord Handel and NGF Gazelle). Of the 7 remaining companies it seems that most of them focus primarily on large scale consumers as only 2 of the remaining companies (Shell and OK a.m.b.a.) offer products to smaller customers at the price portal www.gasprisguiden.dk – apart from the supply obligation companies also DONG Naturgas, HNG Midt-Nord Handel and NGF Gazelle are registered at the price portal.

The figure below reveals the above supposition showing the supplier switching distributed at different customer segments:

		2007	2008	2009
Switching of customers (percent)	0 - 5.000 m ³ (households)	0.5	0.3	0.3
	5.001 - 300.000 m ³	0.3	0.2	0.2
	> 300.000 m ³	0.1	0.1	0.6
	Total switching of customers	0.9	0.6	1.1
Switching of volumens (percent)	1 - 5.000 m ³ (households)	0.1	0.1	0.01
	5.001 - 300.000 m ³	1.1	0.8	0.8
	> 300.000 m ³	28.0	15.5	13.5
	Total switching of volumes	29.9	16.5	14.4

Only external switching is disclosed – i.e. for example a switch from the supply obligation company DONG Energy Gasforsyning to DONG Naturgas is not included in the figure. From the figure it is evident that the market for large scale consumers, especially heat and power generators and major industrial consumers, is much more active than the household segment.

The range of products supplied by the gas companies varies from fixed-price products (two years) to hub or exchange indexed products where the gas price, for instance, follows the TTF-price or the NPG-price. The hub/exchange dependent products are also supplied to households, but they nevertheless prefer the traditional oil-price indexed products where the gas price is set every month due to variations in an oil index. Larger gas consumers have, contrary to the households, increased the demand for hub indexed products because of the recent low gas hub prices.

A maximum binding period of 6 months has recently been introduced into the Danish Consumer Contracts Act and applies to consumer contracts, which are entered into 1 January 2010 or later.

The length of the contract period is an important parameter in retail gas contracts. Obviously, very long contracts are not beneficial to the market. However, a maximum binding period of 6 months might seem quite short and could be restricting to the range products supplied to consumers in the natural gas retail market. At least one natural gas supplier has, due to the aforesaid amendments to the Danish Consumer Contracts Act, decided to remove their two year fixed-price contract in dealings with small consumers.

Prices and transparency

It is the dedicated task of DERA, in accordance with the Natural Gas Supply Act, to promote transparency in the retail market. Each quarter DERA publishes a natural gas price statistic for a representative Danish household (19 MWh or 1700 m³). The statistic is a weighted average of private consumer prices where the weights correspond to suppliers' market shares. The historical development in the statistic is shown below:

	1.Q 2009	2.Q 2009	3.Q 2009	4.Q 2009	1.Q 2010
Gas price	1.93	2.07	2.26	2.32	2.42
Storage and transmission*	0.3	0.3	0.3	0.3	0.3
Distribution**	1.22	1.22	1.22	1.22	1.34
CO2-tax	0.21	0.21	0.21	0.21	0.35
Energi-tax	2.12	2.12	2.12	2.12	2.27
VAT	1.44	1.47	1.52	1.54	1.67
Total price (m3/DKK)	7.22	7.38	7.62	7.73	8.35

* Estimateret price.

** Incl. standing charge.

Gas suppliers must report their prices to the Danish TSO, Energinet.dk, who will then publish these prices at www.gasprisguiden.dk. The portal is primarily addressed to private consumers.

Consumer complaints and inquiries

The Energy Supplies Complaint Board deals with complaints (inquiries resulting in a formal case) arising from the contractual relationship between household energy consumers and a natural gas supplier (also electricity and district heating).

It was established in cooperation between the Danish Consumer Council and the Danish Energy Association, DONG Energy, HMN Naturgas, Natural Gas Fyn and the Danish District Heating Association. The Board is composed of a neutral chairperson and four members. The chairman is a city court judge. The Danish Consumer Council appoints two members, and two members are appointed to represent the energy trade area in question.

The Danish Competition Authority serves as a secretariat to the Board. The secretariat also deals with inquiries from consumers (any request for information or an expression of discontent, which does not result in a formal case). In 2009, 10 complaints on gas were settled and 47 inquiries were answered; in 2008, 9 complaints were settled and 41 inquiries answered and in 2007 the figures were 13 and 42 respectively. There are no statistics available on the nature of the complaint/inquiry.

4.2.3. Measures to avoid abuses of dominance

No new initiatives were taken during 2009. The Danish Competition Authority is continuously monitoring the market by having an ongoing dialogue with the stakeholders.

5. Security of Supply

5.1. Electricity

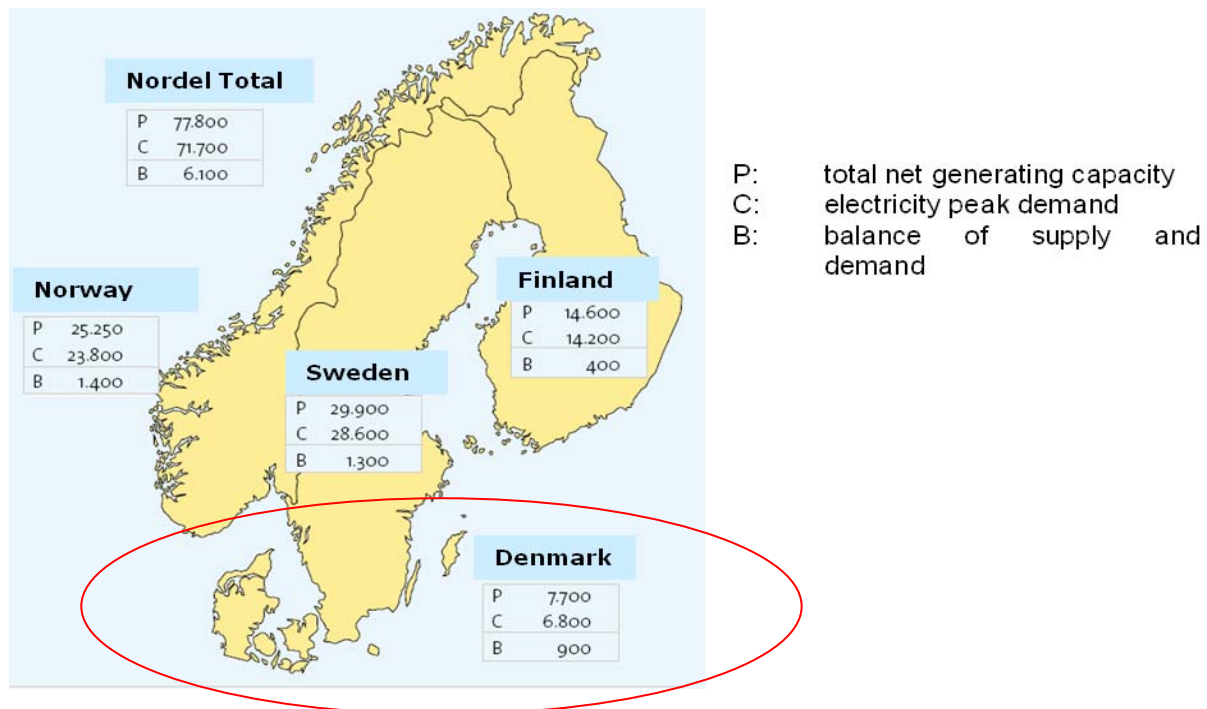
The Danish Energy Authority is responsible for regulatory tasks relating to security of supply, including monitoring network planning and approving new grids of more than 100 kV. The following information is based on Energinet.dk’s *Systemplan 2009*, which is a part of their annual reporting to support the Danish Energy Authorities supervision of security of supply.

The supply system in Denmark is historically robust, exhibits only very few system failures and has the lowest number of interrupted minutes in Europe (SAIDI). Nevertheless this is a focus area also in the future as electricity production will change substantially in the future. The goal of 30% RES in 2020 will lead to increasing wind power. This issue has to be tackled and Energinet.dk has started an internal ‘security of supply project’ to analyse future developments, like for example the effects of large offshore wind generation on security of supply.

Electricity balance

In 2009 the Nordic TSO cooperation *Nordel* projected power balances for Denmark and the whole Northern region for the winter 2012/2013. Figure 5.1 shows the electricity peak demand on a cold winter day (10 year minimum temperature), the total net generating capacity and the power balance.

Figur 5.1 Electricity balance Northern countries, winter 2012/2013 (MW)



Transmissions net

The increasing wind generation is demands a robust transmission net in order to guarantee a secure supply system. Energinet.dk has started several projects and investments to also have a secure transmission net in the future:

Great Belt

The construction of the connection with a 600MW capacity (both ways) was finished in 2009. Tests are currently finalized and commercial operation will start in August 2010. With the operation, West and East Denmark will be physically connected by an electricity line for the first time. The connection will make the transmission grid in Denmark more flexible and secure.

Kassø – Tjele connection

The existing 170 km, 400Kv connection is upgraded to a new two-system connection. This is done to tackle the future challenges of more wind generation. 2009 the general planning started, as well as an impact assessment study on the environment. Energinet.dk's board approved the project in early 2010 and it is at the moment waiting for approval from the climate and energy ministry.

Building is scheduled to start 2011 and be finished by 2015.

Kassø – German boarder

The 30km connection is upgraded from a 220Kv to 400Kv.

Cross boarder interconnectors

The European electricity markets are getting more and more connected. Therefore security of supply is not only dependent on the national transmission net but also cross boarder connections.

Western Denmark – Germany connection

The current connection has a capacity of 950MW (GE→DK) and 1500MW (DK→GE). The capacity will be increased to 1500MW/2000MW respectively by 2012. Further plans are to establish a capacity of 2500MW in both directions by 2017.

Skagerrak 4 (Denmark – Norway)

The Danish and Norwegian TSO agreed to add a new cable between the countries with a capacity of 700 MW in both directions. The cable is planned to be operational by 2014. Furthermore Energinet.dk and the Norwegian TSO Statnet bought two backup-transformers in 2009. One is placed at each end of the connection and can be used in case of a breakdown of existing transformers. Therby the connection to Norway is secured even more.

Kontek Cable (Denmark East – Germany)

To increase security of supply a project started in 2009 to replace the existing sea cable between Denmark East and Germany. The reason for this was several operational problems with the old cable in the past. The new cable is expected to be operational by autumn 2010, after which the old cable will be removed.

5.2. Gas

The Danish Energy Authority is responsible for regulatory tasks relating to security of supply, including monitoring network planning and approving major pipe-line investments as well as gas storages etc.

In response to the article 5 requirements on information the Danish Energy Authority has submitted Energinet.dks “Plan for security of natural gas supply – 2009” of December 2009 to the Commission. The plan gives a comprehensive overview for the security of short and long term supply aspects of the Danish gas system.

Security of supply over the next year

Over the coming year, Danish natural gas consumption is expected to continue its slightly downward trend. The same is the case with supplies from the North Sea as the incipient fall in production is likely to gather momentum. It is uncertain how steep the decline in supplies to the Danish gas transmission system will be as this depends on whether exports are made to Germany via the Danish gas transmission system or directly to the Netherlands via the NOGAT upstream pipeline from the North Sea fields.

Energinet.dk assesses: The transmission and distribution systems fulfil the Danish requirements for emergency supply in the event of full or partial interruption of the supply from the North Sea.

Security of supply ten years ahead

The production of natural gas in the Danish part of the North Sea will fall sharply within a 10–15 years period, and will, according to the Danish Energy Agency, be more or less phased out by 2030. As the North Sea is currently the only physical possibility of supplying gas to Denmark and

Sweden, there is a risk of supply problems within a relatively few years if Energinet.dk does not invest in new infrastructure that enables supplies to Denmark and Sweden from sources other than the Danish part of the North Sea.

As a result of Open Season 2009 The Danish Minister for Climate and Energy approved the construction of a compressor station enabling gas inflow from Germany. Also a looping of the Ellund-Egtved pipeline was decided. Both projects are to be operating as from October 2014 although also an earlier start day October 2013 is still in focus. However the final solution is not ready since a parallel expansion of Gasunie Deutschland's pipeline still waits for approval. The resolution of the Ellund-construction was a consequence of the Open Season procedure explained below.

2010 a new entry point – Entry BNG – for upgraded biogas (bio natural gas) was introduced in the Danish transmission system. The production of biogas in Denmark is expected to increase in the coming years to a level in 2020 corresponding to 10% of current natural gas consumption.

The injection of bio natural gas into the transmission network is based on the principle of commercial backhaul and is therefore 'virtual'. This means that the bio natural gas is not physically injected into the gas transmission network but stays in the distribution network. As such, the production and consumption of the physical bio natural gas take place in the distribution network.

When a shipper commercially or 'virtually' has injected bio natural gas into the transmission system via the BNG entry point, the shipper may trade the gas in all existing points on the same terms and conditions as apply to other types of natural gas. And thus sell bio natural gas in the entire system.

6. Public Service Issues [Articles 3(9) electricity and 3(6) gas]

Some parts of Annex A of the European Electricity and Gas Market Directives have been implemented in the Danish Consumer Contracts Act – which itself implements the EU Directives on Consumer Protection – and accordingly, these parts are not contained in the statutory orders of the Electricity and Natural Gas Supply Acts. This applies, for instance, to the provision set out in *litra d*, which states that the consumers should be protected against unfair and misleading selling methods, and that terms and conditions shall be fair and transparent.

A maximum binding period of 6 months has recently been introduced into the Danish Consumer Contracts Act and applies to consumer contracts, which are entered into 1 January 2010 or later. As a general principle of Danish law (the *lex specialis* principle) rules contained in special legislation takes precedence over rules contained in general legislation. However, at present, the Danish energy legislation contains no specific rules on binding periods in consumer contracts.

The length of the contract period is an important parameter in retail energy contracts. Obviously very long contracts are not beneficial to the market. However, a maximum binding period of 6 months might seem quite short and could be restricting the range of energy products supplied to private consumers in the energy retail market. At least one natural gas supplier has, due to the aforesaid amendments to the Danish Consumer Contracts Act, decided to remove their two year fixed-price contract in dealings with private consumers.

Danish energy legislation contains no specific provisions on “vulnerable consumers”; i.e. consumers that are below a certain income threshold or otherwise unable to pay their energy bills and therefore covered by the general social security legislation.

End-user price regulation

Danish consumers of electricity and gas have access to the competitive market – without any price regulation. However, the consumers must actively choose a supplier and accept a supply contract to enter this market. Passive consumers, suppliers of last resort consumers, and consumers actively deciding to return to “obligation to supply” are supplied by the energy supplier holding the license for “obligation to supply” in a specific geographical region.

The regulation of “obligation to supply” prices for electricity and gas continued in 2009 – and is continuing in 2010 – within the framework of the legal basis of primary and secondary legislation. DERA regulates the “obligation to supply” gas price through efficiency regulation, where efficiency is benchmarked with respect to gas purchases. DERA regulates the “obligation to supply” electricity price to ensure that the mark-up on supply obligation products is no higher than the mark-up on corresponding products in the free market.

Consumer protection rules apply in relation to contracts for the supply of energy from both suppliers with and without a supply obligation. The Energy Supplies Complaint Board has been established to deal with complaints arising from the contractual relationship between household energy consumers and energy suppliers (natural gas, electricity and also district heating).

Transparency

It is the dedicated task of DERA in accordance with the energy supply acts to promote transparency in the retail market. Three aspects concerning transparency in the retail market should be mentioned:

- It is required that electricity and gas supply companies publish their standard terms and prices on their own websites. Electricity suppliers must also report their prices to the Danish Energy Association, who will then publish these prices at www.elpristavlen.dk. Gas suppliers must report their prices to the Danish TSO, Energinet.dk, who will then publish these prices at www.gasprisguiden.dk. These portals are primarily addressed to private consumers.
- Each quarter DERA publishes an electricity price statistic and a natural gas price statistic for a representative Danish household. These price statistics are available at www.dera.dk.
- In spring 2009 steps were taken to set up a central register for the Danish electricity companies' consumer and supplier data. The register is called DataHub and aims at making it easier for consumers to change their electricity supplier and thus promoting and increasing transparency and competition in the electricity market. The plan is to launch the first version of the central register at the end of 2011.