Results and Challenges 2010
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Danish energy sectors are continuously changing in order to adapt to and address the challenges posed by environmental and climate objectives and the integration of European energy markets, but also in order to meet requirements for cost-effectiveness.

Change is evident, for example, in the ever greater complexity and interplay between the three energy sectors. What is the ‘main product’ of a CHP plant? Is it electricity or is it heating? This is not easy to determine. Natural gas is also used as a fuel in both electricity and heat production, and biomass is used for heating as well as for gas production. The district heating sector, which has just recently been given opportunity to expand into ‘old’ natural gas areas, is facing great challenges, if all plants are to cope with the challenges facing them as integrated energy suppliers.

Some energy companies are establishing group structures across the electricity, gas and district heating areas. However, Danish energy regulation is still based extensively on electricity, heating and natural gas as separate areas.

In the electricity sector, the grid companies (which are natural monopolies) are undergoing structural change. The number of grid companies has dropped, and this is a trend which seems to be continuing. Regulation has to take account of this.

The challenges facing the current regulation of the energy sectors are becoming ever clearer through recent DERA work. If the energy sectors are to meet the demands of the future, up-to-date regulation is vital.

In 2010, DERA therefore approached the Minister for Climate and Energy about the need for an overhaul of Danish energy regulation in order to determine whether the interplay and effect of current energy legislation are sufficient to meet the challenges. In Energy Strategy 2050, the government has announced it will carry out an in-depth review of electricity supply legislation and regulation in order to ensure that incentives and regulation support the transition to fossil fuel independence. In the long term, other areas of the energy supply will also be subject to review. The Minister for Climate and Energy has announced that DERA will be invited to join this work; an invitation which DERA is pleased to accept.

The European integration of the energy markets further stresses the need for such a regulatory review. The EU’s Third Energy Liberalisation Package introduces new requirements for the framework conditions for energy markets:
• Ownership unbundling (separation) of the overall grids in the electricity sector from production/trade, and the requirement for certification of the companies which operate these grids.
• A requirement for DERA and European regulators in general to perform more monitoring of markets and players.
• Changed frameworks and rules concerning the cross-border work of regulators, as well as the establishment of a European Agency for the Cooperation of Energy Regulators (ACER) to manage regulatory cooperation.
• In the heating area, which is not directly affected by the Third Energy Liberalisation Package, rules for more monitoring in the form of self-evaluation have been introduced.

DERA considers these new tasks as high-priority focus areas in 2011.

Amongst other things, Results and Challenges 2010 focus on the regulation of consumer prices of electricity in relation to the liberalised electricity market.

In a market economy, regulation of prices etc. is normally avoided. This is because, on the whole, an unregulated market with efficient and effective competition, and active and well-informed consumers, provides the best conditions for consumers as well as for the economy in general.

If changes to price regulation are desired, as part of the development of a more competitive market, a number of institutional and structural aspects will have to be carefully considered. However, there is still room to foster more competition through specific initiatives. In this context, DERA proposes better opportunities for combined invoicing/one-stop shop solutions and better management when customers move from one grid area to another.

The Third Energy Liberalisation Package introduces strengthened requirements to ensure the independence of regulators. This means that, after implementation of the Third Energy Liberalisation Package in Danish legislation, the DERA secretariat will no longer be placed with the Danish Competition and Consumer Authority, but will be established as an independent institution. Initiatives have been launched to safeguard professionalism and efficiency in the execution of tasks by DERA in this new setting.
Summary

• In 2010, compared with 2009, total household expenditure on electricity and heating increased by between around 1% and just under 8%, depending on the type of heating. The increase in 2010 originated in rising consumer prices of electricity and natural gas. The average district heating price was more or less the same as the price in 2009.

• Danish regulation of consumer prices of electricity (a supply obligation product) reflects a weighting of consumer consideration against consideration for the development of competition in the liberalised market. Therefore, a number of institutional and structural conditions have to be included in the assessment of the relationship between regulation and market. However, there is a continued need for specific initiatives which can bolster the framework for competition in the market. In this context, DERA proposes better opportunities for combined invoicing/one-stop shop solutions and better management when customers move from one grid area to another.

• The Danish gas exchange does not yet have sufficient liquidity to serve as a well-functioning price reference in the Danish gas market. Price formation in the Danish market is affected by bottlenecks in the connection to Germany (the Ellund point). Large positive price differences between the Danish gas exchange and the Dutch gas exchange, APX Gas NL, could be explained by bottlenecks in the import capacity to the Danish market via Ellund. Players in the market point at two barriers for a more competitive wholesale market for gas: lack of transparency about the flow in production in the upstream system and lack of import capacity within the existing physical framework.

• There is still efficiency improvement potential for grid companies in the electricity sector. In 2010, DERA introduced efficiency requirements which generally mean that grid companies can charge consumers around DKK 117 million less in 2011 compared with 2010.

• The Third Energy Liberalisation Package has been implemented in Danish legislation. The package’s main objective is reflected in the implementation in Danish legislation as a focus on separation of system responsibility (transmission system operators (TSOs)) from production and trade, as well as on increased regulatory monitoring of market developments, in the wholesale markets in particular.
**DERA and energy prices**

DERA is responsible for securing energy at fair and transparent prices and on reasonable terms for consumers, businesses and others.

The energy sector has natural monopolies (the entire district heating area and the "transport tasks" (transmission and distribution) in the electricity and natural gas areas). Here, regulation by DERA replaces the competition found in free, well functioning markets.

In the liberalised markets for electricity and natural gas, DERA aims for the best possible framework conditions to develop efficient energy markets with effective competition.

**Household expenditure on electricity and heating in 2010**

Consumer prices of natural gas and electricity rose in 2010 compared with 2009, while the average district heating price was unchanged. This is evident from DERA’s analysis of changes in consumer prices in 2010.

Total household energy expenditure on electricity and heating based on district heating went up from around DKK 23,450 in 2009 to around DKK 23,650 in 2010, calculated on the basis of average electricity consumption and a standard 130 m² house, see figure 1. This is equivalent to an increase of around 1%.

**Fig 1 Expenditure on electricity and heating for a standard family¹ in 2010**

<table>
<thead>
<tr>
<th>DKK</th>
<th>2007</th>
<th>2008</th>
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<th>2010</th>
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<tr>
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Source: DERA’s electricity price statistics and the Danish District Heating Association’s report on district heating prices in Denmark.

¹ Expenditure has been calculated on the basis of an average electricity consumption for a household of four people (4,500 kWh/year) and on the heating requirement for a standard house of 130 m².
For households with natural gas, average energy expenditure increased from just under DKK 22,000 in 2009 to around DKK 23,500 in 2010, corresponding to an increase of just under 8%, see figure 2.

![Figure 2 Expenditure on electricity and natural gas for a standard family in 2010](image)

Source: DERA’s electricity price statistics and natural gas price statistics.

For the entire period 2007-2010, total expenditure on electricity and heating for a family in a standard house and with average consumption grew by just under 8% for heating based on district heating and just over 10% for heating based on natural gas.

Price developments within the individual type of energy and the individual price elements etc. (energy price, grid payment, taxes, etc.) are described in more detail below.

The natural gas sector includes generation, transport and trading in natural gas. DERA regulates the tariffs of the three distribution companies as well as the prices for supplying gas charged by the three supply obligation gas companies. In addition, DERA regulates the transmission company Energinet.dk and the conditions and prices for use of the two natural gas storage facilities owned by DONG and Energinet.dk.

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2 Expenditure has been calculated on the basis of average electricity consumption for a household of four people and on an average natural gas consumption of DKK 1,708 m³/year.
Supply obligation natural gas

A number of natural gas companies have been granted a supply obligation licence which obligates them to supply natural gas to all customers in their licence area who have not changed natural gas supplier.

DERA regulates the price of supply obligation gas through efficiency regulation, where DERA approves a company’s operating costs as well as its profit, which should be reasonable when compared to turnover and efficiency in connection with gas purchases.

The average consumer price (supply obligation) increased by around 12% from 2009 to 2010 and is nearing the 2008 price level, see figure 3. This price increase is primarily due to increasing gas prices (around 11%), increasing distribution costs (around 15%) and a sharply increasing CO2 tax (more than 65%). However, the CO2 tax accounts for only a very modest share of the total consumer price.

Figure 3 Average prices for supply obligation natural gas, 2007-2010

Note: The figure shows the price of natural gas including energy taxes and VAT.

The price of natural gas closely follows the development in oil prices, while the increase in distribution payment is primarily due to an agreement to increase the annual energy saving target between the energy companies and the Minister for Climate and Energy in 2009. As regards the natural gas distribution companies, this new expenditure will
be financed through a temporary increase in their revenue caps. This temporary increase amounts to a savings obligation of DKK 0.50/kWh. From the turn of the year 2009/2010, all distribution companies therefore introduced a separate energy saving charge as a supplement to the existing distribution tariff. The charge varies slightly from company to company but, for example for HMN and DONG, makes up around 9% of the tariff.

The district heating sector comprises about 600 district heating suppliers, which together supply about 60% of Danish homes with district heating. The 55-60 largest companies supply 60% of district heating. About 75% of district heating production is at CHP plants. The remaining 25% is produced at, usually smaller, heating plants.

DERA regulates the full consumer price of district heating, apart from the VAT element. Consumers are not burdened by any tax specifically on district heating, however the fuels used in district heating production (e.g. natural gas) are subject to taxes.

In the heating season 2009/2010, the average price of heating for a standard house of 130 m² was similar to the price in the heating season 2008/2009, see figure 4.

**Figure 4 Average district heating costs in DKK including VAT, 2006/07-2009/10**

Source: The Danish District Heating Association report on district heating prices in Denmark.  
Note: The price has been calculated on the basis of the actual settlement prices during the season, including VAT, for a standard house of 130 m² with a consumption of 18.1 m³ per year. The actual price of heating includes taxes on the fuels used in the district heating production. The statistic does not make it possible to break down the price of heating into subcomponents such as grid payment, subscription, etc.
Prices from district heating plants are adjusted in accordance with the non-profit principle. Prices from district heating plants may therefore only reflect the necessary production and administration costs. The Heating Supply Act stipulates which necessary costs can be included in heating prices and DERA supervises these.

The price differences between the individual district heating plants therefore reflect the different levels of costs of the plants, for example differences in construction costs, type of plant, size etc. There are also differences in the framework conditions to which the individual plants are subject, e.g. choice of fuel and mandatory connection for customers, see figure 5.

There is no big difference between prices among the cheapest plants, however there is a substantial price spread between the most expensive plants. The largest spread is between natural gas fired plants. Within this group is the highest price for all types of plant. District heating plants firing with waste have the lowest maximum price and the least spread between the highest and lowest prices.

![Figure 5 Highest/lowest district heating costs by type of plant 2009/2010](image)

Source: The Danish District Heating Association’s report on district heating prices in Denmark (“Fjernvarmepriserne i Danmark i 2010”).

Note: The figure shows the highest/lowest price of heating a standard house of 130m², broken down by type of plant and fuel.
A more detailed study of the price spread between natural gas fired plants shows that relatively few plants have very high prices, see figure 6. For comparison, the figure shows the price of heating a standard house of 130 m² with natural gas and individual heating with oil, respectively. With regard to individual heating with natural gas, around 30 plants, corresponding to around 20% of all natural gas fired district-heating plants, have prices which are higher than the average price for individual heating with natural gas. With regard to individual heating with oil, there are around 11 plants, corresponding to around 7%, with prices that are higher than the average price for individual heating with oil. The plants with the highest prices include the ‘barmarksverker’ ³ which are relatively small and have relatively few consumers.

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³ Barmarksverker are small, locally based natural gas fired suppliers of heat and electricity. They are typically placed in small villages etc. and were established in the 1980s.
The district heating prices for the ‘barmarksværker’ are affected negatively by several aspects, including:

- large investments in installations which have to be paid by relatively few consumers;
- a distribution grid typically with long connections which have to be paid by the same, few consumers;
- the long connections also mean large pipeline losses.

These aspects are generally contributory factors to a higher price of district heating for consumers connected to the ‘barmarksværker’.

Special framework conditions and other aspects can therefore explain the price scenario, however, apart from this; the prices of a given plant are primarily determined by its operation and efficiency. It is therefore vital that the board and management of the individual heating plant are able to operate the plant with the greatest possible efficiency etc. within the framework set out.

DERA publishes consumer prices of district heating for residential flats and single-family houses on the DERA website at www.energitilsynet.dk, and here consumers can compare plants’ prices. The published prices are the prices (including VAT) most recently notified to DERA by the individual district heating suppliers.

These prices however do not show the actual price of heating a specific home. In order to calculate the actual price, the consumer must look at the actual consumption of the home (variable contribution) and the specific basis for calculating the fixed contribution (subscription and output contribution).

**Electricity**

The electricity sector can be divided into producers, trading companies (including trading companies granted a supply obligation licence), transmission companies, and distribution companies. DERA regulates the prices and terms of the 36 trading companies with a supply obligation licence, and the tariffs of the 10 regional transmission companies, the roughly 60 distribution companies and the roughly 20 transformer associations. Finally, DERA regulates the transmission company with system responsibility, i.e. Energinet.dk.
Supply obligation electricity
A number of companies have a supply obligation licence which obligates them to supply electricity to all customers within their area who have not changed electricity supplier.

There are two supply obligation products. One product is aimed at households and smaller businesses. For this supply obligation product, DERA regulates the price to ensure that the mark-up on supply obligation products is not higher than the mark-up on corresponding products in the free market.

The other supply obligation product is aimed at large businesses and hourly metered consumers. The price of this supply obligation product corresponds to the hourly spot price in the price area in which the consumer buys electricity, added to a balancing and administration contribution. The maximum balancing and administration contribution is determined by DERA.

In the following, focus will be on the market for households and private consumer prices etc.

The average consumer price of electricity for households etc. (the supply obligation product) increased by around 2% in 2010 relative to 2009, see figure 7. This increase is due primarily to an increase of just under 6% in the actual price of electricity and an increase of around 5% in the subscription price (which accounts for only a modest share of the total consumer price). On the other hand, the grid payment has gone down.

Figure 7 Changes in average supply obligation price for electricity for households etc. 2007-2010

DKK per kWh

Source: DERA’s electricity price statistics.
The grid payment is the price the consumer pays to have electricity transported to his or her address. The price comprises payment for transmission to Energinet.dk as well as payment to the local distribution companies. DERA regulates the prices of the distribution companies and Energinet.dk.

Energinet.dk is regulated according to non-profit regulation. This means that the company can only demand payment to cover necessary costs of efficient operation as well as modest interest on equity capital to secure the real value of its equity.

**Over/under coverage**

Energinet.dk tariffs are set on the basis of forecasts of costs for the following year and the volume of electricity transported in the company’s grid etc., so revenues and expenses balance in accordance with the non-profit principle. However, the forecasts cannot always be 100% accurate, and the company will therefore either charge too much (over coverage) or too little (under coverage). This over or under coverage is included in the tariffs for the subsequent year. Over coverage will mean lower tariffs in the following year, while under coverage leads to higher tariffs.

The distribution companies and the regional transmission companies are regulated according to revenue caps which put a cap on their revenues and therefore their tariffs. The regulation includes rules that the companies may include costs of necessary new investment in their tariffs. Necessary new investment in cable laying, where the companies replace aerial cables with underground cables, is a significant cost in current years.

**Composition of the price of electricity**

The total price of electricity for consumers includes various elements: energy price (electricity), subscription price (fixed contributions to the grid companies), grid payments (payment for transport, distribution and transmission), taxes (including payment for public service obligations) and VAT, see figure 8.
The energy price (the actual price of electricity) only makes up one-fifth of the total price paid by consumers, while taxes, PSO payments and VAT make up around 60%. The remainder of the price is for grid payment and subscription. Subscription primarily covers grid subscription. The subscription is the fixed charge which all consumers must pay to be linked to the grid. Subscription is the same for all consumers within the individual grids. The remainder of the payment to the grids is covered by the grid tariffs based on consumption.

The energy tax is a fixed tax per kWh. This means that even relatively large fluctuations in the price of energy itself only result in relatively small changes in the total price of electricity paid by consumers.

The wholesale/retail element of the consumer’s energy price (the actual price of electricity) is illustrated in figure 9.
Out of the roughly 20% of the total consumer price making up the electricity price, around 90% goes to wholesale, where the price is set on the Nordic Electricity Exchange. The companies at the retail stage in effect have to compete for the remainder. On the basis of DERA’s price statistics, which show an average electricity price of just under DKK 0.40/kWh, companies at the retail stage thus compete for the modest sum of around DKK 0.04/kWh out of a total average consumer price of DKK 2/kWh in 2010. Overall, however, the consumer market for retail companies represents somewhere between DKK 350-400 million, based on an estimated total electricity consumption by households of around 9,500 GWh in 2010.

Changes in energy prices compared with changes in general consumer prices

The prices of natural gas and electricity are increasing more than the general price development, while the price of district heating only increased slightly in 2010, see figure 10.

![Figure 10 Changes in energy prices and the consumer price index 2007-2010 (2007 = index 100)](image)

Source: DERA's price statistics, the Danish District Heating Association and Statistics Denmark.

Liberalisation of the Danish electricity market began in 1998, when large customers (with consumption above 100,000 kWh/year) were allowed a free choice of supplier. From 2003, the market was fully liberalised to also ensure a free choice of supplier for customers with consumption below 100,000 kWh/year (private households and smaller businesses).

Many large customers have since changed supplier and taken advantage of the free electricity market, however only a modest share of households...
have so far taken advantage of the new market opportunities, see table 1. 2009 saw the greatest number of supplier switches among households since the liberalisation in 2003, amongst other things, against the backdrop of great media focus on the electricity market and on the free choice of supplier for households through information campaigns and a re-launch of Elpristavlen.dk, an internet portal where consumers, amongst other things, can compare energy prices.

The electricity market was also under focus in 2010 with a nationwide information campaign run by Energinet.dk about the market and consumers’ free choice of supplier. However, these information efforts have not been enough to keep up the relatively high rate of supplier switches in 2009. However, in 2010 the number of supplier switches was still about 50% higher than the highest rates in the years 2003-2008.

| Table 1 Percentage of customers who changed supplier in the period 2003-2010 |
|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                   | 2003 %          | 2004 %          | 2005 %          | 2006 %          | 2007 %          | 2008 %          | 2009 %          | 2010 %          |
| Supply obligation customers | 2.25            | 0.97            | 1.09            | 1.25            | 2.88            | 2.80            | 6.12            | 4.22            |
| Large customers    | 31.4            | 20.93           | 19.36           | 11.94           | 21.29           | 13.94           | 16.53           | 11.44           |

* 2010 figures are for the first three quarters of the year.

Note: It is not possible to estimate the number of switches from supply obligation products to commercial electricity products by adding up the number of supplier switches since 2003. The switches could include customers who have also previously changed electricity supplier, and end consumers who have changed from a supply obligation product to commercial electricity products and back again; perhaps repeatedly.

Source: energy figures (“Energi i tal”) from the Danish Energy Association.

In conjunction with the free choice of supplier and opportunities to buy electricity products on the market, a price-regulated standard product was introduced to those consumers not using the market. The reasons for this included that liberalisation established a new market for electricity which was completely unknown to consumers. Before liberalisation, consumers were bound to the single supplier in their area, and therefore no market as such existed, nor was there any awareness among consumers of electricity as a commodity that could be freely traded.
Since 1 January 2005, the standard product has been supply obligation electricity, which is supplied by a number of electricity trading companies with supply obligation licences (supply obligation suppliers). More than 90% of households buy a price-regulated supply obligation product.

Electricity trading companies with a supply obligation licence are electricity trading companies with an obligation to supply electricity to all household customers in their licence area who have not chosen a supplier in the free market. The supply obligation licence, which is granted by DERA, covers a specific geographical area which typically corresponds to the grid areas of the distribution companies.

The price of the supply obligation product is set every quarter and is regulated by DERA.

**DERA’s regulation of prices**

The legal basis for DERA’s regulation of the supply obligation product is section 72 of the Danish Electricity Supply Act.

> “72.—(1) The price of electricity supplied from a company in its capacity as a supply obligation company to non-hourly metered commercial consumers and non-commercial consumers shall be notified by the supply obligation company, every quarter and no later than ten working days before the start of a new quarter. The price shall correspond to the market price level for equivalent consumer segments and supply conditions.”

The objective of price regulation of the supply obligation product is to ensure consumers who do not use the free market, electricity at prices which correspond with the prices the consumers can obtain on the free market. However, the regulation is *not* intended to give consumers, who buy the supply obligation product, better prices or terms than those obtainable on the free market. It is also important to stress that the regulation does not in itself protect consumers against price increases, since the price of the supply obligation product must correspond to the prices on the free market.

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4 *Part 5 on the retail market for electricity in the Competition Report 2008 by the Danish Competition and Consumer Authority, June 2008.*
DERA has developed a model for regulation of the price of the supply obligation product, see box 1.

**Box 1 Regulation of the supply obligation price**

**Supply obligation regulation**
The supply obligation product is a quarterly product for which the companies with supply obligation set a price for the coming quarter before the start of the quarter. Before the price set can enter into force, it has to be approved by DERA. In practice, this means DERA will intervene in the case of mark-ups from the supply obligation product that are higher than the mark-ups the companies can achieve in the free market. The regulation is outlined below.

**Regulation**
The regulation process is as follows:

1) DERA calculates the mark-up for similar products etc. on the free market. From these calculations a mark-up limit is calculated, which is used for price control using the median of observed prices/mark-ups as an expression of the market price level in accordance with the rules on price regulation. This median is the mark-up allowed for supply obligation suppliers.

2) If a company’s mark-up for the coming quarter is higher than the mark-up limit which DERA has identified in the free market, the difference will be deducted from the notified prices. This is how final approved prices are set.

3) If a company’s mark-up for the coming quarter is lower than or equal to the identified mark-up limit, DERA will approve the prices notified by the company.

Fluctuations in approved prices are due to changes in base load (i.e. changes in the price of the electricity which the supply obligation company buys from an electricity producer) and the costs linked to consumption profile (i.e. the supplier’s costs associated with the fact that electricity consumption by customers is unevenly distributed across a day, month, quarter or year, and the fact that the price of electricity fluctuates on an hourly basis throughout the year).
The model is therefore based on the prices applying for equivalent consumption segments, products and supply conditions in the free electricity market. These prices (in the form of the mark-up on these products, see the description of the regulation model above) constitute the yardstick against which DERA evaluates the prices set by the supply obligation suppliers. Therefore it is the prices in the free market which set the cap for the prices of the supply obligation product.

The regulation therefore takes account of consumer protection, i.e. ensuring consumers fair prices, and the principle of least intervention, i.e. intervening as little as possible in the free market and in pricing, which in this case would have a negative effect on the well functioning market.

Price regulation of the supply obligation product therefore closely follows the free market and pricing in the free market. If there is strong and effective competition in the market, pushing down prices and mark-ups, this will result in lower prices and mark-ups for the supply obligation product as well. On the other hand, weak competition with high prices and mark-ups will also affect prices and mark-ups for the supply obligation product.

However, regulation of the price of the supply obligation product also affects competition in the free market. The existence of a supply obligation product subject to price regulation, limits the benefits of changing supplier and will, all things being equal, reduce consumers’ financial incentives to act in the market. Regulating the price of the supply obligation product ensures that consumers do not pay more than the general market price level, although there will be prices in the market which are lower than the regulated price of the supply obligation product.

The supply obligation regulation entails regulating the future quarterly price in advance. It has been argued\(^5\) that it would be appropriate to change regulation procedures, so that the quarterly notified supply obligation price is not regulated. During 2011, DERA will carry out a review of the supply obligation regulation, including advantages and disadvantages of regulating prices for price stability and a review of the method which DERA applies in its calculation of financial price regulation.

Danish regulation of supply obligation prices is therefore an expression of a specific balancing of consumer considerations and considerations

for the effective competition of the free market. In a market economy, specific regulation of e.g. prices etc. is normally avoided. This is because an unregulated market with efficient and effective competition, and active and well-informed consumers, on the whole, provides the best conditions for consumers (in the form of low prices and a varied product supply) as well as for the economy in general (in the form of efficiency in the production and allocation of products/services and innovation). In a market economy such as Denmark, the ultimate objective is to ensure the establishment of market terms which render regulation of prices and similar unnecessary.

It is therefore essential to see the current price regulation of the supply obligation product in the electricity market in the context of the development of competition in the retail market for electricity for private households/smaller businesses. Naturally, it is difficult to determine when a market is sufficiently mature and well-functioning to allow price regulation to be abandoned without harming consumers. In the final analysis, this will depend on a specific political assessment.

**Characteristics of the competition in 2010**

Examples of characteristics of a well-functioning market include free and open access to the market, efficient competition for customers, access for customers to good market information and customers actually using this information to act in the market.

- **An adequate number of suppliers and free and equal access** mean that there are an adequate number of suppliers to support competition in the market, and that no formal or other barriers exist which can prevent new businesses from establishing. Special group or market structures, as well as other institutional and structural aspects that benefit existing businesses in the market can also serve as barriers for new entries.

- **Transparency for consumers and good market information** help ensure that consumers can act appropriately in the market and on an informed basis. This means that consumers can easily and cheaply obtain relevant and transparent information on prices and products, supply conditions, etc. It also means that transparency and good market information reach consumers so that they can make the right choice to match their consumption profile etc.

- **Efficient competition** helps ensure that businesses market themselves actively to customers in the market. Pressure from competition en-
courages businesses to develop new products, services and production processes at the lowest possible cost.

**Number of suppliers and access to the market**

The Danish electricity market contains a relatively large number of suppliers. Most suppliers with supply obligation also sell electricity products in the free market, or are a part of a group which does so. In 2010, a total of 33 trading companies had a supply obligation licence.

In addition to these, a number of companies exist which only offer products in the free market to private customers and which do not have a supply obligation licence, see table 2. However, only four companies, i.e. Aktant Energi, OK A.m.b.a., Natur Energi A/S and Switch.dk, are not group-affiliated with supply obligation companies and grid companies. Furthermore, there are a number of trading companies which solely sell electricity to businesses.

<table>
<thead>
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<th>Table 2 Companies which solely offer commercial products</th>
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<tr>
<td>Aktant Energi (Modstrøm)</td>
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<tr>
<td>OK A.m.b.a.</td>
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<tr>
<td>Switch.dk</td>
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<tr>
<td>ELRO Handel A/S</td>
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<tr>
<td>Energi Fyn Handel A/S</td>
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<td>EnergiMidt Handel</td>
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<td>Lokalenergi Handel</td>
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<tr>
<td>Midtjysk Elhandel A/S</td>
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<td>Natur Energi</td>
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<td>Nordjysk Elhandel A/S</td>
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Source: www.elpristavlen.dk

On the face of it, the number of companies seems to be large enough to sustain competition in the market. However, it is striking that only four suppliers in the market do not have any group affiliation to grid companies and suppliers with a supply obligation licence.

**Bundling**

The tightly bundled structure, in which by far the majority of suppliers are group-affiliated with grid companies and trading companies with a supply obligation licence can be an entry barrier for new, non-group-
affiliated suppliers; partly in terms of branding and marketing, and partly in terms of administration and financial aspects.

The group-affiliated suppliers are typically closely linked with the grid company, and perhaps also a supply obligation trading company, through having a similar name, graphical profile, logo, image etc. This gives the group-affiliated suppliers a clear advantage in terms of recognisability, branding, etc. with customers.

New, non-group-affiliated companies aiming to serve all regions of Denmark will typically have contact/agreements with about 80 grid companies. This is an administrative burden in itself.

Furthermore, new suppliers have to win over customers from existing suppliers through active marketing and competition. These are cost-intensive processes in themselves. Not to mention that the customer segment is a cost-intensive segment with relatively high costs for administration systems and customer management. All in all, this means that potential new suppliers will often assess the costs of penetrating the market (marketing costs, customer administration initial costs, etc.) to be too high in the light of the likelihood of building a customer base in the short term which is large enough to make entry into the market commercially attractive.

In this context, another factor to be taken into account is that the wholesale price of electricity usually accounts for around 90% of the actual electricity price payable by customers. The final 10% of the electricity price covers the costs and mark-up in the retail sector and therefore just this constitutes the competition parameter for retailers. This is a relatively small margin for new suppliers to compete for against existing suppliers.

**Range of products**

Since 2008, there has been a major increase in the range of commercial products, see table 3. For example, electricity products with a special green or climate-friendly profile, or products such as ‘pool electricity’ and ‘spot electricity’. On the electricity prices portal, Elpristavlen.dk, and on the companies’ respective websites, it is possible to see the individual company’s product range and current prices etc.
Table 3 Commercial products in 2008 and in 2010

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<thead>
<tr>
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<th>2008</th>
<th>2010</th>
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<tbody>
<tr>
<td>Commercial products</td>
<td>101</td>
<td>175</td>
</tr>
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</table>

Source: The count is from Elpristavlen.dk, from 3 June 2008 and 17 November 2010, respectively.
Note: The count was performed by selecting all commercial products for the two selected dates and then dividing the result into western and eastern Denmark. For the result from 17 November 2010, the grid areas were filtered by western Denmark and eastern Denmark.

Overall, there are two types of electricity products in the free market: 1) fixed-price products, for which the price is fixed for an agreed period, and 2) products where the price is variable throughout the duration of the contract. The products can be combined with special terms or profiles, such as supply of electricity from environmentally friendly production etc.

It should however be noted that since 2008 commercial products have become more and more differentiated in terms of just what they are called, so that there are several names for the same product. For example a product with a fixed price for the same agreed period, or a variable product, see text box. Different names for otherwise identical products can make it difficult for consumers to make informed choices in the market. Transparent information is therefore something else and more than many different products/product names from many different suppliers.

**Transparency for consumers and good market information**

Good and easy opportunities for consumers to become well-informed about prices and products are an important prerequisite for a well-functioning retail market for private households etc.

DERA has set out rules for how e.g. electricity trading companies are to publish their prices, tariffs, discounts and terms and conditions. Amongst other things, this information must be made available at the companies’ websites and at certain consumer portals selected by DERA. Amongst other things, these publication rules are to ensure consumers opportunity to review thoroughly products and prices in the free electricity market. However, DERA cannot determine or interfere with companies’ naming of their products, see the description above of the lack of transparency due to the many existing names for the same type of product.

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**Examples of different names for the same type of electricity product in Elpristavlen.dk (February 2011) (in translation)**

Product with a fixed price for an agreed period:
- homes fixed price
- electricity consumption fixed price
- fixed price

Product with variable price:
- variable price homes
- spot
- spot monthly
- electricity of the month
- stable electricity
- ideaElectricity
- market price
DERA has designated Elpristavlen.dk, run by the Danish Energy Association, as the portal electricity trading companies must use to publish their prices etc.

The electricity prices etc. portal, Elpristavlen.dk
On Elpristavlen.dk consumers have online access to an overview of electricity products and their prices. Consumers can compare the different products and prices, and they can change supplier via the portal. The portal also includes links to the various suppliers’ own websites with further information about products, terms of delivery/supply conditions etc. From here, or via phone to the relevant supplier, consumers can make a request to change supplier and enter into an agreement with the new supplier. Once a new agreement has been entered into, the new supplier will administrate the change, including notifying the previous supplier, notifying the grid company, etc. Thus, in practice, changing supplier is a simple and easy process for the consumer.

Prices in the portal are prices of the day. Both the price of fixed-price products and variable products vary somewhat, and Elpristavlen.dk only provides a snapshot of products and prices at the given point in time.

Price transparency and market price signals
Another important element of transparency for consumers and good market information is to ensure that market price signals reach the consumers so that they can react and make the right choice to match their consumption profile on the basis of the price information. In this respect, the current price and tax system for electricity may constitute a barrier for consumer-driven competition in the electricity market.

The part of the total consumer price (the actual price of electricity) which is exposed to competition constitutes only a very modest share of the total consumer price of electricity, i.e. in 2010 around 20%, see figure 8 in the section on the composition of the electricity price. The remaining 80% of the consumer price comprises grid payment and, not least, taxes and VAT etc.

As a consequence, fluctuations in the actual electricity price are only reflected very slightly in the total consumer price. For example, a drop in the actual price of electricity of 25% in 2010 would only have resulted in a drop in the total consumer price of only about 5%. This weakens the transparency about market price signals and restricts consumer-driven competition in the market.
The majority of consumers need a financial incentive to change supplier, and if market price signals fail to reach the consumers, their incentive to use the free market is also reduced.

A study of consumers’ propensity to change supplier\(^6\) shows that the prospect of a financial benefit of around DKK 750 a year is required before up to 30\% of consumers will consider changing supplier. The price difference between the highest and the lowest price in the market can be up to DKK 700-1000, but, firstly, these are extremes and, secondly, in many cases the price difference is less than this. For many consumers, the benefit of changing supplier may be so small as to be unattractive.

In this context, it should also be considered that Danish consumers’ average electricity consumption is significantly lower than average consumption in other Nordic countries, because in Denmark electricity is not as widespread as a source of energy for heating. The lower average consumption in itself limits the financial benefits of changing supplier.

The energy taxes on electricity are fixed taxes, and they are an essential part of the explanation for the blurred price signals in the market. In order to sustain the market and consumer-driven competition, an energy tax structure which takes better account of market price signals would be appropriate.

The number of changes of supplier by households can be indicative of the competitive situation in the retail market for electricity for households etc. From this indicator, it appears that the market situation has improved, especially over the last couple of years. The reasons are to be found in the initiatives that have been carried out to bolster competition and improve consumer awareness of the market.

**Initiatives to encourage competition**

With regard to better market information and transparency for consumers, there have been several *information campaigns* aimed at households, informing about the free electricity market and opportunities to change supplier. Energinet.dk performed a nationwide campaign just recently in spring 2010. The campaigns help increase consumer awareness about the free electricity market and the opportunities offered by the market. This can help encourage more consumer-driven competition in the electricity market.

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The electricity prices portal Elpristavlen.dk, aimed at consumers, has existed since 2005, but it was re-launched in a new and improved version in 2009 following committee work with participation of 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 of the re-launch was to create a more comprehensible and user-friendly prices portal for consumers in order to create greater consumer interest in the electricity market and ensure consumers the best possible basis for choosing electricity supplier.

As regards the electricity trading companies, Energinet.dk is currently developing a *data hub* which is to facilitate and ease the exchange of information between electricity trading companies and distribution and transmission companies. The data hub is expected to be in full operation by spring 2012.

A data hub is a technical solution which makes it possible for different IT systems (the IT systems of electricity trading companies and grid companies) to communicate and exchange information, e.g. metering data etc. The data hub will also help ensure more efficient exchange of and access to settlement and invoicing data and improved administration of changes of address and changes of supplier.

*Continued need for more competition in the market*

Despite the initiatives to encourage more competition, there is still need to bolster consumer-driven competition in the market, which can help ensure a broader range of services and products at the lowest possible costs. This means that there is continued need for initiatives to enhance competition in the market.

The review of competitive conditions in the electricity market reveals that a series of institutional and structural elements need to be incorporated and taken into account when developing the market, including the continued regulation of the field. Any amendments have to be seen in the context of the current competition in the market and the competitive potential in the longer term.

Furthermore, DERA assesses that there is also a need for specific initiatives which within the short term can help reinforce the framework conditions for competition in the electricity market.
**DERA recommendations for initiatives to encourage competition**

Based on its experience and contact to market players, DERA has identified a need for initiatives to enhance free and equal access to the market for independent electricity trading companies, as well as their opportunities to compete in practice. More specifically, independent players’ opportunities to establish combined invoicing/one-stop shop solutions must be enhanced.

**Better opportunities for combined invoicing/one-stop shop solutions**

The name of a vertically integrated electricity trading company is often similar to that of the grid company to which it is linked, and the electricity trading company often also both maintains the supply obligation within the grid area and is active in the free market. In general, this means there is also a high degree of uniformity in the graphical profile, logo, image etc. of the electricity trading company and the grid company.

As the system works today, when a customer changes to a new supplier, the customer will continue in a customer-supplier relationship with the grid company (payment for distribution, taxes, etc.) of the same, or roughly the same, name, graphical profile and image etc. as the customer’s previous supply obligation supplier.

Therefore, change of supplier is not experienced as a particularly transparent process by consumers, because they remain customers with the same grid company and receive bills etc. from this company. This contributes to limiting new and independent suppliers’ opportunities to position and make themselves known through branding and marketing activities, even as with regard to their own customers.

With the current structure and division of responsibilities in the electricity sector, a majority of household customers and smaller businesses in reality only feel they have contact with the grid company. This is illustrated by the responsibilities which the two players, the grid company and the electricity trading company, have towards the customers:

**The grid company**

- Transport/connection to the delivery address
- Ensuring the quality of supply (i.e. the customer must contact the grid company in the event of power failure)
- Information about electricity saving measures etc.
- Consumption reading/electricity meters
Charges and receives payment for transport of electricity (including subscription and transmission payment), energy taxes and PSO payment, which altogether accounts for 80% of the consumer’s total electricity bill.

**The electricity trading company**

- Delivery of electricity (kWh) in accordance with the agreement with the customer (the grid company manages the actual “transport” of electricity to the customer).
- Collection of payment for the total kWh supplied; a payment which accounts for 20% of the consumer’s total electricity bill.

As is evident, in by far the majority of situations, the customers will be in direct contact with the grid company concerning their electricity consumption, whereas contact with the electricity trading company will be minimal after the initial contract.

The establishment of a customer relationship where the player exposed to competition, i.e. the electricity trading company, has the main customer contact, would therefore help bolster competition. This would 1) promote transparency for consumers, and 2) direct the attention of consumers towards the competitive market, rather than, as is the case today, directing their attention towards the natural monopoly part of the market.

The possibility to establish a customer relationship based on combined invoicing/one-stop shop is today regulated by a voluntary sector agreement which makes it possible for an electricity trading company to demand combined invoicing with the grid company, so that customers receive only one combined invoice from the electricity trading company for their purchase of electricity and grid services etc. The Danish Energy Association has prepared a model for a contract for combined invoicing which can be entered into by the grid company and the electricity trading company.

In the current situation, however, both administrative and financial barriers exist which inhibit the use of combined invoicing/one-stop shop solutions.

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7 According to the current provisions of section 22(4) of the Danish Electricity Supply Act, rules may be determined for combined invoicing of customer services.
Administratively, an independent supplier that wants widespread use of combined invoicing, must make agreements about this with up to 80 grid companies. This is administratively burdensome for newcomers as well as more established companies in the market, and it makes managing combined invoicing a cost-intensive activity.

Financially, an electricity trading company which wants to have combined invoicing with the grid companies has to provide collateral/guarantee to the grid company for customer payment of distribution costs, settlement of energy taxes, PSO payment, etc. The grid company is liable to the Danish tax authorities for tax payments etc., and will therefore demand security for these amounts in the form of a financial guarantee from the supplier.

DERA therefore believes that there should be initiatives to examine whether the barriers for greater use of combined invoicing/one-stop shop solutions can be removed.

Managing change of address by consumers between grid areas

Another barrier facing independent electricity trading companies is the issue arising when consumers move house. The problem is that when a consumer, who has changed electricity supplier, subsequently moves to another grid area, he will automatically become a supply obligation customer at his or her new address. In other words, the customer has to actively change supplier again after moving in order to maintain the customer relationship established prior to moving.

For many consumers this seems confusing and can therefore act as a barrier preventing them from making use of the free electricity market. At the same time, this clearly also constitutes a barrier for electricity trading companies in the free market.

DERA recommends that this issue be resolved so that a consumer can have his chosen electricity supplier transferred with him when he moves to another district.

Background

DERA’s Results and Challenges 2009 uncovered a range of challenges in the market for natural gas in Denmark.

• The consumer price scores second highest in Europe in an international comparison in 2007 (second after Sweden). This is due partly to high
taxes, and partly due to the fact that the price of gas in itself is one of the highest in the EU.

- Trade on the Danish gas exchange accounts for only a low percentage share of total gas consumption in Denmark, in Q4 2009 just under 3.5%.

Furthermore, the Danish natural gas market is characterised by a number of well known issues which have been described in e.g. National Report 2010 from the European regulators Group for Electricity and Gas (ERGEG) and in DERA’s own report on expansion of the infrastructure for natural gas in Denmark.

- Until the capacity of the Ellund-Egtved line is expanded in 2013, the capacity for imports of gas to Denmark will be very limited, and the Danish natural gas market is therefore currently not adequately integrated with the other markets in north west Europe
- Concentration in the market is still very high. DONG Energy’s market share of the Danish wholesale market is estimated at around 80%.

A well-functioning wholesale market for natural gas is of great significance, because a non-well-functioning wholesale market could be the explanation for high prices and low competition intensity in the retail market.

Therefore in 2010 the DERA secretariat carried out an analysis of the Danish wholesale market for natural gas. The objective was to uncover whether there is a well-functioning price reference in the Danish wholesale market for natural gas.

The analysis was limited to players which, in addition to activities in the wholesale market, have a portfolio of end customers in the Danish market. The DERA secretariat collected detailed information from these players from their purchase and sales agreements in the wholesale market in the period October 2008 to June 2010.

Main conclusions of the analysis

*The Danish gas exchange is not yet a well-functioning price reference*

A comparison of liquidity in the north west European gas hubs, reveals that the Danish gas hub does not yet have sufficient liquidity to serve as a well functioning price reference in the Danish gas market.
By far most of the natural gas on the Danish market is traded via bilateral long-term contracts. The players in the Danish wholesale market thus meet only 10% of their gas demand on gas exchanges or exchange-like markets in Denmark and north west Europe, and the following pages will be focus on this area.

Despite this, activities on the Danish gas hub are continuing to show an upward trend, in terms of both volume and number of active players. The trading volume on the Danish gas exchange, Nord Pool Gas, increased from around 3% of total natural gas consumption in Denmark in 2009, to around 10% in 2010, see figure 11. Moreover, the number of transactions on Nord Pool Gas increased from 962 in 2009 to 5123 in 2010.

Figure 11 Trade on Nord Pool Gas, January 2009 - December 2010

Source: Nord Pool Gas.
Determining liquidity
There is no clear definition of the concept of liquidity. The term is generally used to describe the ease with which securities can be bought and sold without causing a significant movement in the price. The degree to which a security is liquid depends on four dimensions:

- **Depth** refers to the size of the transaction amount that can be traded without affecting the price.
- **Width** refers to the difference between the bid price and the ask price (the bid-ask spread).
- **Immediacy** refers to how quickly a counterpart for the desired trade/transaction can be found.
- **Resiliency** refers to how fast prices revert to former levels after they have changed in response to changes in supply and demand not based on new information.

A liquid market is characterised by large depth, small width, high immediacy and high resiliency. However, it is difficult to calculate these four dimensions independently, since they are not independent of each other and can be mutually conflicting. For example, ensuring a market with high immediacy and large depth, and/or small width is difficult.

The trading volume and the number of transactions are indicators of depth and immediacy in the market. The increase in both trading volume and number of transactions is therefore an indication of greater liquidity on the gas exchange.

*Price formation affected by bottlenecks in the connection to Germany (Ellund)*
If there are perfect transport opportunities between the gas exchanges of two countries, so that all players can transport any given amount of gas through the transmission system between the two exchanges at any given time, arbitrage will ensure that the price difference between the exchanges reflects the cost of the transportation. Price differences greater than the transport costs can be explained by physical limitations in the infrastructure between the two exchanges.
Large positive price differences between the Danish gas exchange and the Dutch gas exchange, APX Gas NL (APXTTF), cannot be explained by transport costs between the two exchanges. Rather, the explanation seems to be bottlenecks in import capacity at the Ellund point. Ellund is where the Danish transmission system links up to the German transmission system. Interruptions at the Ellund entry point, i.e. cancellations of planned gas deliveries to Denmark due to bottlenecks at the Ellund point, where the gas is imported from Germany to Denmark, are concurrent with large positive price differences between the Danish and the Dutch gas exchanges, see figure 12.

Figure 12 Correlation between the price of Nord Pool Gas and bottlenecks at the Ellund point

Source: Nord Pool Gas, Energinet.dk and APX Gas NL
Interruptions at the Ellund entry point

In Figure 12 interruptions at the Ellund entry point at the Danish-German border have been “mirrored” to illustrate the temporal concurrence between interruptions and price increases on the Danish gas exchange relative to the Dutch gas exchange.

Interruptions in January 2010, illustrated at the -10 GWh line, thus indicate that around 10GWh of the desired import amount was interrupted, and that during the same time there was a price difference between the Danish and Dutch gas exchanges of just under EUR 15/MWh (~ DKK 1.2/m³).

Barriers: Lack of transparency about upstream and lack of import capacity

The players (traders and suppliers of natural gas) were asked to identify what they believe are significant barriers to a well functioning market. They identified lack of transparency about flow and production and about the tariff level in the upstream system. Furthermore, the players identified a lack of import capacity at Ellund as an important barrier, which however is expected to be removed by 2013.

In spring 2011, DERA was given certain powers to monitor the wholesale market for electricity and gas in Denmark, and on this basis it will be working for greater transparency and for an improvement in the import capacity within the existing physical framework conditions for the market.

The two Danish gas storage facilities play a key role in the Danish gas market, because they offer flexibility for players in the gas market and because they contribute to ensuring the security of supply in Denmark.

According to the Natural Gas Supply Act, DERA is to supervise the fairness of prices and terms of access to natural gas storage facilities. This means that DERA may impose demands on the terms for auctions of stored gas and the prices obtained at them, if they fail to meet the requirements of the Natural Gas Supply Act.

The two Danish storage companies, DONG Storage A/S and Energinet. dk Gaslager A/S, together have storage capacity of just over 1 billion m³, and both companies today sell their storage capacity via a series of auctions where Danish and foreign storage customers can make bids for...
capacity with contracts of various durations from 1-5 years, and from the storage year 2012 and ten years thereafter. The capacity is typically sold in standard capacity units called SBUs (Standard Bundled Units that include injection and withdrawal rights), but the companies also hold separate auctions for withdrawal and injection respectively.

The storage companies sold between them a total of around 3,500GWh commercial storage capacity at auctions in the storage year 2010-2011. More than 60% of the capacity is bound up in previous reservations and just under 35% is sold in one-year contracts. The remaining capacity is sold in five-year contracts, see figure 13.

In addition to the commercial storage customers who take part in the auctions, Energinet.dk (the state-owned transmission company) is also a customer with the storage companies and this company buys a certain amount of capacity outside the auctions and with preferential right. This is because Energinet.dk has overall responsibility for the security of supply in Denmark. Energinet.dk therefore has to have access to storage capacity so that it can ensure a quick supply of gas to the market in situations when supplies from the North Sea are cut off.
That Danish storage companies have started selling their capacity at auctions is fairly new. It is extremely satisfactory that the storage companies, in just a few years, have gone from selling all their storage capacity on a first-come, first-served basis, on a pro-rata basis, and as exclusively one-year products, to offering several different auction products with varying flexibility and duration. On the other hand, it is important that the new and much longer storage contracts (up to 10 years) in the Danish storage market do not end up closing the market for potential new storage customers. Therefore the companies will have to continuously reserve a significant amount of capacity for short-term contracts of one year or less.

The implementation of the EU’s Third Energy Liberalisation Package has also meant changes to the storage market, repealing the provision about storage in the Danish Natural Gas Supply Act. The reason is partly that the Third Energy Liberalisation Package does not allow for combining so-called negotiated access to storage (i.e. the buyer and the seller negotiate terms of access/prices without supervisory control) with subsequent supervisory control of storage prices (i.e. control of costs and interest rates), and partly that the storage market has evolved from being a national market to being an open, regional and competitive gas market where new and different flexibility tools are available.
DERA and efficiency in the energy sectors

DERA helps promote efficiency among grid companies (natural monopolies) in the electricity and natural gas sectors.

DERA caps the companies’ revenues (determines revenue caps) and also establishes companies’ efficiency requirements. More specifically this means that each year companies must become more efficient, if they want to maintain their rate of return, because DERA will cut their revenue caps. This regulation by DERA serves to replace the efficiency-improvement pressure that enterprises meet in competitive markets.

In the district heating sector, the prices of companies are only allowed to reflect the costs necessary for production and distribution (non-profit regulation). DERA does not determine efficiency targets directly, but the requirement that a cost must be necessary includes both the type of the cost and its size. This allows DERA to make demands on cost developments in companies.

Efficiency in the heating sector

The district heating sector is regulated according to the non-profit principle, which means that district heating must be sold at cost of production and distribution. DERA determines which necessary costs can be included in the price. At present, no explicit efficiency requirements have been laid down nor a revenue cap for heating enterprises, and therefore regulation of heating enterprises differs from the efficiency and revenue cap regulation of grid companies in the electricity and natural gas sectors.

Non-profit regulation is primarily based on the fact that the efficiency gain of the enterprise is reflected directly in the consumer price. The consumer should therefore benefit immediately from an optimisation or notice directly a price increase. The requirement for efficient operation with resultant low prices is therefore assumed in the legislation to come from the consumers, either as a consequence of direct influence at general meetings or indirectly through elections to the municipal council.

The Heating Supply Act is thus very much based on local anchorage by assuming consumer ownership or municipal ownership.

DERA’s impression is that the assumptions of the Act have been met, if the board of directors of an enterprise is an integrated part of the local community, and if the price of heating is higher than the immediate alternative or is suddenly changed, e.g. increases significantly.
If these conditions are present, buyers of heating are active consumers, who attend the general meetings or the municipal council meetings and express their opinion to an extent that influences management and owners of the enterprise and has an impact on their efforts to optimise operation. The result is generally that the heating enterprise becomes more aware of financial operation and investigates and initiates optimisation potentials, including entry into constructive dialogue with DERA. Examples of such dialogue could be possibilities for joint administration, structural rationalisation etc.

On the other hand, according to DERA’s information, in supply areas where consumers generally consider the price to be low and stable, consumers are less active. Therefore, a consumer-driven requirement for further efficiency improvements cannot be assumed in such enterprises.

A high price of heating is not automatically an indicator that the enterprise has a greater potential for saving, just as a low price of heating is not automatically an indicator that the enterprise is efficient. Assessment of this requires detailed insight into the enterprise and its specific framework conditions.

The section about district heating under “Energy prices” shows the large differences in district heating prices – both between district heating plants with different types of fuel, and between district heating plants with the same type of fuel. This section also states that the differences may be due to many factors. However, it seems natural to ask whether the spread indicates the difference in how efficiently the individual enterprises are being operated. Not least considering that the enterprises are natural monopolies and therefore not subject to pressure from competing enterprises.

Although the intention of the Act to make efficiency improvements through consumer demands has been met in many cases, the fact that the district heating sector is undergoing structural changes which could increase the need for more explicit efficiency improvements in the sector cannot be disregarded. These changes mean that there is a number of heating enterprises with no cohesion or any connection between the owners of the enterprise and the supply area, and that several heating enterprises enter into groups with a commercial aim.

DERA assesses that this development gives rise to concerns of principal as to whether there is a need for different regulation depending on the type of heating enterprise, and which enterprises should be assessed together for efficiency.
Grid companies own and operate the electricity grid on the basis of a licence from the Danish Energy Agency, which gives the licence holder a monopoly to supply electricity within the licence area.

The main transmission grid of 400 kV is owned and operated by Energinet.dk. This grid has a total length of about 6,000 km.

The regional transmission companies own grids with a voltage level of 150-50 kV, which conduct electricity from the main transmission grid to the distribution grids. These grids have a total length of about 9,000 km.

The distribution companies own and operate grids with a voltage level of 60 to 0.4 kV. These companies - together with transformer associations - are responsible for conducting electricity all the way to consumers, metering the use by each consumer as well as collecting taxes and duties.

Transformer associations are the smallest players among grid companies and they are also the most non-homogeneous with regard to size etc. They have the same functions as the distribution companies.

The total length of grids operated by distribution companies and transformer associations is about 150,000 km.

Each year DERA benchmarks the grid companies in the electricity sector, which are subject to revenue caps and efficiency regulation, i.e. regional transmission companies, distribution companies and transformer associations.

**Benchmark 2010**

The DERA benchmark for transmission and distribution companies in the electricity sector in 2010 shows that there is still a large difference between the cost efficiency of the various companies, cf. figure 14. Note that the benchmark is set on the basis of the companies’ accounting figures for 2009.

Efficiency differences are greatest between transformer associations and regional transmission companies. However, transformer associations are a very non-homogeneous group, with large differences in size, and number of employees etc. (e.g. small transformer associations without employees), and this affects the material.
In competitive markets, competition forces companies to be more efficient, and the less efficient companies will either be forced to increase efficiency or be forced out of business. This implies that the difference in efficiency of companies in competitive markets tends to be small.

DERA calculations (see box on standard deviation below) show that the differences in the efficiency of grid companies are still significantly greater than the differences in competitive markets. In other words, efficiency pressure is substantially higher in competitive markets.

This is the reason for the efficiency improvement requirements imposed on the companies by DERA. The efficiency requirements are thus to replace the efficiency pressure that competition puts on enterprises in competitive markets.
In 2010 DERA imposed permanent efficiency requirements on electricity grid companies of about DKK 117 million. This corresponds to a reduction in the companies’ total revenue caps of about 2% and is now on a par with the efficiency requirements in 2009. In addition, there is a one-year reduction in the total revenue caps of companies of DKK 4.5 million, as a consequence of the lack of quality in supply.

Overall, DERA has reduced grid companies’ revenue caps by DKK 359 million in the period 2008-2010, in addition to one-year reductions totaling about DKK 15 million.
Standard deviation

Not only the difference between the most efficient and least efficient is of interest. It is also important to see whether there is generally a great difference between companies’ efficiency within the group. This can be done by examining how much each company’s efficiency deviates from the group average (e.g. distribution companies). This can be measured by calculating the standard deviation of the spread in the cost efficiency of the companies. Standard deviation is a statistical measure that shows how much individual companies deviate from the average. A high standard deviation shows that there is generally a great difference between companies’ efficiency, whereas a low standard deviation shows that in general there is no significant difference in efficiency. The Danish Competition and Consumer Authority uses a threshold of 9.6 for standard deviation of the spread as an indicator of competition intensity (corresponding to the average spread for all industries in Denmark plus 25%). If the spread exceeds this threshold, this is seen as an indication of competition problems.

The standard deviation of the spread in the cost efficiency of grid companies based on the DERA benchmark from 2010 lies between 14 (distribution companies) and 25 (regional transmission) and is therefore substantially higher than the Danish Competition and Consumer Authority threshold. Compared with 2009, the standard deviation has dropped for distribution companies and, to a lesser extent, for transformer associations. All else being equal, this means that differences in the efficiency of companies have become smaller. On the other hand, differences in efficiency among the regional transmission companies have increased, however the fact that only 10 companies are included in the material should be taken into consideration.

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8 Standard deviation is the square root of the variance. The variance shows by how much individual observations vary in relation to the average. A high variance and therefore high standard deviation means that the observations are very spread.
There are only three distribution companies in the natural gas sector - DONG Distribution A/S, HNG/Midt-Nord I/S and Naturgas Fyn A/S. This is too few for an adequate basis for analysing the spread in efficiency.

However, DERA’s benchmark of the companies in 2009 showed that within each company there are differences in efficiency measured in terms of different operating cost items. This suggests that companies within the sector could become more efficient.

Therefore in 2009 DERA imposed efficiency improvement requirements on the companies for the period 2010-2013 of between 0.6% and 1.2% annually over four years. This corresponds to an overall efficiency improvement requirement of just over DKK 12 million in the period.

The efficiency improvement requirement was determined on the basis that companies must achieve a productivity increase, which corresponds to the competitive economy as a whole. Furthermore, the less efficient companies must be made more efficient on the basis of the result of the benchmarking of the companies.
On the first of December 2010 the minister for Climate- and Energy proposed a bill amending the Electricity Supply Act and others. A great number of the provisions in the new amending act implement the Third Energy Liberalisation Package. The amendments were not approved by the Parliament when Results & Challenges 2010 was finished, but if the amendments are approved by Parliament in the proposed form the main changes and consequences will be as described briefly below.

Transmission companies
The ownership unbundling of TSOs (Transmission System Operators, also called system operators) from supply and production is one of the cornerstones in the implementation of the Third Energy Liberalisation Package. However, the package allows exemption from the requirement for ownership segregation/unbundling.

In Denmark, Energinet.dk complies with the requirement for ownership unbundling, however there are a number of regional transmission companies in the electricity sector which do not comply with the requirement for ownership unbundling. This means that the proposed amendment gives the vertically integrated regional transmission companies with grids between 100 and 200 kV the following three options:

1. ownership unbundling,
2. choosing an ISO (Independent System Operator)
3. or utilising an exemption provision, which enables status quo, if the scheme that exists in the Member State as at 3 September 2009 ensures the TSO’s independence more effectively than the ITO model (Independent Transmission Operator). The ITO model has not been implemented in Danish law.

Transmission enterprises not vertically integrated on 3 September 2009, like Energinet.dk, will only have the option of ownership unbundling.

In principle, the provisions on ownership unbundling also apply to regional transmission companies with grids of 50 or 60 kV. However, according to the proposal, these companies will not be able to replace their transmission authorisation with a grid authorisation.

Certification of system operators (TSOs)
According to the proposal, Transmission companies must undergo a certification procedure to ensure correct unbundling between production/trade on the one hand and transmission on the other. Time limits are linked to the certification procedure, and the European Commission
must be involved in the certification procedure in that DERA must notify its decisions in this regard to the European Commission.

**Internal monitoring**

The rules for internal monitoring are proposed tightened, as an independent person responsible for monitoring must be appointed in the individual company (distribution, storage or regional transmission). The requirement for an independent person responsible for monitoring does not apply to unbundled transmission companies, which however are still obligated to develop a programme for internal monitoring.

Moreover, the proposal set requirements that grid and distribution companies must ensure that their communication and identity strategies do not blur the separate identity of the grid (distribution) company. This is more strict than the current regulations.

**Ban on exclusive rights clauses for corporate customers**

The proposal also introduces new provisions which state that corporate customers have a right to enter into contracts with several suppliers at the same time. In this way, the ban in the Energy Liberalisation Package against exclusive rights clauses for (large) corporate customers is being implemented. These provisions impose a role on DERA in relation to contracts for the electricity market as well as the natural gas market.

**Market monitoring**

The Third Energy Liberalisation Package also imposes national regulators with an explicit duty to monitor price transparency on both electricity and gas wholesale markets. The proposal implement this in the Electricity Supply Act as well as in the Natural Gas Supply Act.

**Consumer protection**

The directives in the Package include a number of consumer protection requirements, which have primarily been implemented at Executive Order level.

**Changed regulation of storage**

The amendment also includes changes in the regulation of natural gas storage facilities, so that access to storage facilities is offered as negotiated access, including at auctions. The previous regulation has been a combination of negotiated and regulated access, however this is not allowed by the directives in the Third Energy Liberalisation Package. Member states must choose between negotiated and regulated access.
**ACER**

The Third Energy Liberalisation Package includes the establishment of the European Agency for the Cooperation of Energy Regulators (ACER). ACER can make decisions in certain areas. The implementation states that DERA must observe decisions by ACER and by the European Commission.

**Independent regulator**

A consequence of the Third Energy Liberalisation Package is that the national regulator must be legally separated from and functionally independent of any other private or public entity, just as the regulator must have autonomy with regard to budget. The current scheme, in which the Danish Competition and Consumer Authority provides secretariat assistance for DERA, can therefore not continue.

Hence, in the future DERA will be served by a secretariat which is an independent state entity/institution according to the proposal. The tightened independence requirements also apply to members of DERA, and the Minister for Climate and Energy has been authorised to lay down regulations on the independence and impartiality of members. The preliminary provisions assume that perhaps members will have to make solemn declarations in relation to their other activities.

Another consequence of the requirement for independence is that the secretariat service of the Energy Supplies Complaint Board can no longer be carried out by the DERA secretariat in the new independent institution. Secretariat services for the Energy Supplies Complaint Board will therefore still be carried out by the Danish Competition and Consumer Authority.

**Exchange of information**

In the new European cooperation, national regulators will need to exchange information with each other, and the legislative amendment enables DERA to do so.
DERA’s cooperation with energy regulatory authorities in other European countries takes place within NordREG as well as the CEER and the ERGEG. The DERA secretariat takes part in this work in order to influence Nordic and European frameworks for the energy sectors, under which Danish energy enterprises must also function. At the same time, participation in international work is an opportunity to gain more information and knowledge that DERA can apply and disseminate in its contact with Danish enterprises, organisations and authorities.

NordREG is a cooperative body between the Nordic energy regulatory authorities. The need for a special Nordic body arises primarily from the traditional close cooperation on energy between the Nordic countries. Secondly, Nordic energy ministers have adopted very ambitious plans on realising one common Nordic energy market; not only in the wholesale market, but also in the retail market.

CEER - the Council of European Energy Regulators - is an association established by the European regulatory authorities in the energy area.

ERGEG - the European Regulators Group for Electricity and Gas - is an advisory body established by the European Commission. In addition to the European Commission, the regulatory authorities of the EU countries also take part.

ACER - As a consequence of implementation of the Third Energy Liberalisation Package, work in the new Agency for the Cooperation of Energy Regulators in Europe (ACER) started in Ljubljana, Slovenia on 3 March 2011. In this connection, the ERGEG will be closed down and replaced by a Board of Regulators which is part of the organisational set-up for ACER. ACER will be headed by a director, who must have approval from the Board of Regulators in order to make his/her decisions.

ACER will complement work carried out by the individual national regulators, and ACER will have more comprehensive tasks than the national regulators. ACER had power to act from 3 March 2011, and in 2010 the national regulators had to apply many resources to cover ACER’s role (the interim period), e.g. by addressing the extensive task of preparing a number of overall guidelines (framework guidelines), which in future will be prepared by ACER in a number of areas (e.g. allocation, balancing, tariff principles etc.), and which subsequently must serve as a framework for the more detailed network codes to be prepared by the new European network of transmission companies (ENTSO-G).
As a consequence of the EU’s Third Energy Liberalisation Package, regulators will also have new tasks and competences, e.g. in relation to monitoring the market, market function, consumer protection as well as international cooperation.

**NordREG**

In terms of wholesale, the electricity market has seen significant progress towards a common market during the past years, particularly in the Nordic countries. In 2010, the Nordic energy ministers, in the Nordic Council of Ministers, and the Nordic energy regulators, in NordREG, focussed on work towards creating a common retail market in the Nordic countries. A project plan was prepared, which is to result in a common end-user market in the Nordic countries by 2015.

Another result from the NordREG cooperation in 2010 was a report for the Electricity Market Group (Nordic government official group, which prepares the Nordic energy ministers’ annual meeting under the Nordic Council), which describes reasons for some price peaks during winter 2009/2010. During this period, prices exceeded EUR 1,000/MWH several times. As a consequence of this, the Nordic energy ministers called upon NordReg to investigate why prices developed in such a way.

The DERA secretariat holds chairmanship of NordREG in 2011.

**CEER / ERGEG**

In 2010, the large European cooperation between energy regulators in the Council of European Energy Regulators (CEER) focused particularly on the following:

- Implementation of the “3rd Liberalisation Package”
- Security of supply
- Consumer issues
- Interaction between climate considerations and energy market/grid regulation
- Financial aspects of the energy market
- Regional market integration based on the “regional initiatives”
- Relations to energy regulators outside the EU

The following describes selected topics in more detail.
The regional initiative in the electricity area and market coupling

On 9 November 2010, the Nord Pool Spot area was coupled with the CWE region (Germany, France, Belgium, the Netherlands, and Luxembourg) through volume coupling. Exactly one year before, on 9 November 2009, the European Market Coupling Company (EMCC) launched market coupling, and the Nordic countries were coupled to Germany. Now this area has been expanded, and bids to buy and sell from Finland and France are being included in price formation in the wholesale market.

Establishing this market coupling has been a priority for the regional cooperation for northern Europe. The purpose of the regional cooperation is to pave the way for cooperation, harmonisation of regulations and development of markets for electricity in northern Europe as a step towards a common single electricity market throughout the EU. Market coupling will lead to a more efficient use of the electricity grid and a better national economy. In addition, consumers in Europe will benefit from convergent prices in the two areas and from increased security of supply.

The market-coupled regions constitute a day-ahead market of 1,816 Terrawatt-hours. This makes it the largest in the world and it covers about 60% of Europe’s electricity supply.

The best way to couple two or more markets is through price coupling, but this requires an extremely high degree of harmonisation of market regulations in all countries and regions. The volume coupling so far implemented is therefore considered as a preliminary solution, which is easier and quicker to implement. However, volume coupling does not lead to optimal price formation, as adverse flows may occur, in which electricity runs from a high-priced area to low-priced area. TSOs and exchanges work on implementing price coupling; expected to start in 2012.

European transparency regulations

In January 2010, the European Commission asked the ERGEG to prepare a proposal for transparency regulations. The ERGEG proposal was sent to the European Commission in December 2010. The proposal is based on four cornerstones:

1) data about load on national systems
2) data about transmission and cross-border connections
3) data about production
4) data about balancing.
In addition, there are requirements for when such data must be available for market players, and whether they need to be updated. Finally, the proposal includes a threshold value of 100 MW for publication, as well as special requirements for renewable energy and hydro production.

The DERA secretariat chaired the work.

**Baltic Energy Market Interconnection Plan**

The DERA secretariat has also participated in the strategic work initiated by the European Commission for natural gas in the Baltic area (known as BEMIP). Developing the west Baltic area is an important initiative in the BEMIP, and here Denmark has a central position between Norway/ Sweden and continental Europe, with Germany and Poland as important markets in relation to security of supply for the future. Security of supply is a major challenge for the region because of falling production in the North Sea, and this requires new supply routes (investments). In this context, Denmark will play an important role and this will be a major challenge. Energinet.dk has also been very active in this work, as Energinet.dk currently holds the chairmanship for Baltic Gas; a cooperation organisation coordinating work in the West Baltic Task Force on behalf of the European Commission.

**The regional initiative in the gas area**

National regulators cooperate on specific regional projects, which can pave the way for and/or inspire projects and policies with a common European dimension. However, in the future, regional initiatives will increasingly concentrate on implementing regional aspects of current legislation, which particularly means the regional requirements in the EU’s Third Energy Liberalisation Package.
The work of DERA

DERA’s competences and main tasks are laid down in the three energy supply acts - the Electricity Supply Act, the Natural Gas Supply Act and the District Heating Supply Act - as well as the Act on Energinet.dk.

DERA’s decisions are published regularly on its website, www.energitilsynet.dk, and in addition to this, large cases and cases involving matters of principle are mentioned in the newsletter EnergiNyt, which is also available on the website (in Danish).

DERA can choose to address issues at its own initiative. It can also address an issue on the basis of an enquiry by an enterprise or consumer etc. DERA will act in such matters if it assesses that the enquiry gives reason to suspect that there has been a violation of the law. If this is the case, the matter will be processed, irrespective of whether or not there is a formal complaint. Decisions made by DERA can be brought before the Energy Board of Appeal if the appellant has a significant and individual interest in the decision.
The most important changes in energy legislation in 2010 with significance for the work and tasks of DERA are:

**Amendment to the Electricity Supply Act on 11 June 2010 by Act no. 622**

This amendment was part of legislative measures comprising amendments to the electricity, natural gas and heating supply acts, the Act on Energinet.dk, the Promotion of Renewable Energy Act as well as the Act on compulsory stocks of crude oil and petroleum products (Lov om pligtige lagre af mineralolie og mineralolieprodukter - not available in English).

Energinet.dk was authorised to establish and operate a data hub, i.e. a central register, from which stakeholders in the electricity market can collect all relevant meter data for settlement purposes and to manage changes of supplier. Stakeholders etc. will have access to data without special payment and the data hub will be able to handle combined invoicing.

Authorisation was introduced to lay down more detailed requirements for electricity metering and dissemination of meter data in end-consumption.

Energy savings imposed by authorities on the end-users must be covered by increasing the tariffs of enterprises on the basis of an increase in the revenue cap.

Regulations on additional interest earned in the regulation year 2008 and calculated in financial reporting in 2009 were adjusted. Companies will be able to avoid a reduction of their revenue caps as a consequence of additional interest earned in 2008, by paying back the amount that has been overcharged to consumers. Repayment must be made by the end of 2010, and amounts not repaid will carry interest from and including 1 January 2010.

Finally, uniform tariffs were introduced for Energinet.dk as a consequence of establishing the Great Belt electricity connection.

**Executive Order no. 1063 of 7 September 2010**

The Executive Order on grid connection of wind turbines and price supplement for electricity produced on wind turbines etc. (Bekendtgørelse om nettilslutning af vindmøller og pristillæg for vindmølleproduceret elektricitet - not available in English) has been revised. The revision mainly concerns change of provisions on distribution of expenses between owners of wind turbines and grid/transmission companies.
Executive Order no. 1085 of 20 September 2010

The Executive Order on methods for laying down tariffs etc. for grid companies, regional transmission companies and Energinet.dk (Bekendtgørelse om netværksomheders, regionale transmissionsvirksomheders og Energinet.dk’s metoder for fastsættelse af tariffer m.m. - not available in English) was issued. The regulations for method approval have been clarified with this Executive Order.

Executive Order no. 1294 of 24 November 2010

The Executive Order on revenue caps for grid companies and regional transmission companies (Bekendtgørelse om indtægtsrammer for netværksomheders og regionale transmissionsvirksomheders - not available in English) was adjusted as a consequence of the above amendments.

Amendment to the Natural Gas Supply Act etc. (Act no. 622 of 11 June 2010)

The amendment means that the Natural Gas Supply Act (section 37) now grants clear authorisation to set the interest rate of subscribed capital for distribution companies at 0.

The amendment is motivated by a decision from the Energy Board of Appeal from October 2009, in which the Energy Board of Appeal found that the Executive Order on revenue caps for gas distribution (section10(8)) did not have adequate authorisation in the Natural Gas Supply Act. This provision stated that subscribed capital for distribution companies should not carry interest in the period from 1 January 2005 to 31 December 2014. DERA had made a decision in accordance with the Executive Order on revenue caps for gas distribution.

Executive Order on energy-saving services in grid and distribution companies (Bekendtgørelse om energispareydelser i net- og distributionsvirksomheder - not available in English) (Executive Order no. 677 of 21 June 2010)

This Executive Order states that grid and distribution companies must contribute to promoting the realisation of energy savings for the benefit of consumers and society. This should be done by giving all consumers in the supply area information about the changes in their consumption of energy from the distribution company and by preparing information material, websites and teaching. Costs for this will be included in the companies’ revenue caps.
Act no. 622 of 11 June 2010 amending the Electricity Supply Act, the Natural Gas Supply Act, the Heating Supply Act as well as several other acts, and on revoking the Act on utilisation of renewable energy etc. (amending provisions on objects and inspection etc. of the Heating Supply Act)

The objects provision has been amended so it clarifies that environmental and supply conditions are included as part of the socio-economic assessment of heating projects, as was intended in the preliminary work for the previous objects provision.

This Act grants the Minister for Climate and Energy authorisation to lay down regulations on e.g. expenses for compensation when changing the delineation of areas between natural gas and district heating, scrapping costs and tax payments, determination of price cap regulation of heat from waste incineration plants, which can be based on other models than the substitution model previously used, as well as explicit authorisation to prescribe electronic notification of tariffs, distribution of expenses and other conditions for DERA.

The Minister has not yet utilised this authorisation.

Furthermore, the Act allows DERA to collect information from a company which is in the same group as a company that owns plants covered by this Act, provided that one or more transactions have been carried out between the two companies.

Executive Order no. 1332 of 2 December 2010 on exemption of biogas plants and block heating stations from chapter 4 of the Heating Supply Act (Bekendtgørelse nr. 1332 af 02/12/2010 om undtagelse af biogasanlæg og blokvarmecentraler fra kapitel 4 i lov om varmeaenkøying - not available in English)

This Executive Order exempts certain block heating stations and biogas plants from the Act’s provisions on prices and notification of these.
DERA was established in 2000 as a regulator acting without instruction from the Minister and independent of sector interests and authorities.

DERA comprises a chairman, six members, and two deputies appointed by the Minister for Climate and Energy for a period of four years. The members represent expertise in legal, economic, technical, environmental, business and consumer matters.

On 1 January 2008, the Minister for Climate and Energy appointed members of DERA for the next four-year tenure. Lone Johnsen, MA, director general of DERA, resigned as of 31 December 2009. Her successor is Ella Maria Bisschop-Larsen, MSc, who took over from 1 March 2010.

DERA held 9 meetings in 2010. Strategy and theme seminars have also been held for DERA’s members, including visits to enterprises that are covered by the regulations and legislation administered by DERA. Finally, DERA also hosted ‘Energiforum’ with enterprises organisations from the sector taking part.

**Members of DERA as at 1 January 2010**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Degree</th>
<th>Title</th>
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<tbody>
<tr>
<td>Uffe Bundgaard-Jørgensen,</td>
<td>Chairman</td>
<td>MSc (Econ.), Ph.D., director</td>
<td></td>
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<tr>
<td>Jacob Erik Holmblad,</td>
<td>Vice chairman</td>
<td>MSc (Econ.)</td>
<td></td>
</tr>
<tr>
<td>Ella Maria Bisschop-Larsen,</td>
<td>Member</td>
<td>MSc, president</td>
<td></td>
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<tr>
<td>Anders Larsen,</td>
<td>Member</td>
<td>MSc (Econ.), associate professor</td>
<td></td>
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<tr>
<td>Jens Sejer Sørensen,</td>
<td>Member</td>
<td>MSc (Econ.), director</td>
<td></td>
</tr>
<tr>
<td>Ulla Neergaard,</td>
<td>Member</td>
<td>Ph.D., professor</td>
<td></td>
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<tr>
<td>Jens Roesgaard,</td>
<td>Member</td>
<td>operator</td>
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<tr>
<td>Torben Riber,</td>
<td>Deputy</td>
<td>MSc (Eng.), director</td>
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<tr>
<td>Mogens Arndt,</td>
<td>Deputy</td>
<td>BSc (Engineering), director</td>
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</table>
The DERA Secretariat

The DERA secretariat prepares cases for processing by DERA and makes decisions in accordance with the practices and guidelines stipulated by DERA. The secretariat’s organisation is available on DERA’s website at www.energitilsynet.dk.

**The electricity sector**
DERA’s tasks in connection with the electricity sector include supervision of revenue cap regulation and preparation of benchmarking for regional transmission companies and distribution companies, supervision of price regulation of supply obligation electricity, issuing replies to hearings etc.

One of the specific cases in 2010 is benchmarking and efficiency regulation of grid companies in the electricity sector, mentioned in previous sections about efficiency in the energy sectors.

In addition, tasks include updating the financial model used by DERA to regulate the finances of grid companies in conjunction with necessary new investments. In connection with necessary new investments a company’s revenue cap will be increased by the annual write-down (depreciation) and the annual interest on the necessary new investment as well as the new operating and maintenance costs the company will incur as a result of the necessary new investments. As in the previous legislation, DERA must deduct the operation and maintenance costs saved, and as something new saved costs for renewal, from the annual increase the grid companies receive in connection with necessary new investment. DERA’s decision means that in the future the financial situation of companies in connection with necessary new investments will be regulated using the updated model for necessary new investments.

The above is explained in more detail on the DERA website and in the DERA newsletter (in Danish).

**The natural gas sector**
DERA’s tasks in connection with the natural gas sector include e.g. regulation of revenue caps and benchmarking distribution companies, regulation of supply-obligation natural gas supply companies, regulation of Energinet.dk (both electricity and gas), regulation of Danish natural gas storage facilities as well as participation in international work.

One of the larger tasks in 2010 was processing and approval by DERA of the Energinet.dk annual report. Energinet.dk is subject to non-profit regulation, in which income and expenses must equalise on the basis of the principle that only necessary costs for efficient operation can be included in the transmission tariffs. DERA handles financial regulation of Energinet.dk by reviewing and approving the company’s annual report.
DERA has also approved a change in the market model for natural gas. This change opens the natural gas market for the new product, bio-natural gas, and ensures the product market access on equal terms with other types of natural gas. In the future, it will be possible to trade bio-natural gas at all the existing trading points in the market; i.e. for consumption in Denmark or for exports. DERA has also approved tariffs on bio-natural gas in the transmission system and the terms to which bio-natural gas will be subject.

Bio-natural gas is biogas which has been upgraded, so it fits in the existing natural gas system. Total production of biogas corresponds to about 0.5% of Denmark’s total energy consumption and about 2.5% of total natural gas consumption, but the ground has been prepared for an increase in production in the years to come.

Finally, DERA has approved a new transport product; the Link4Hubs. This product is a cross-border service, which means that transport customers can have their gas transported (virtually) from one point of delivery in e.g. the Netherlands to another point of delivery in e.g. Denmark in just one order on a new joint online booking system - the Link4Hubs. The system, developed by the Danish transmission company Energinet.dk collaboratively with the north German transmission company (Gasunie Deutschland) and the Dutch transmission company (GTS), enables small and/or new players, in particular, to enter the gas market, and generally contributes to a more competitive and coherent gas market.

The above is explained in more detail on the DERA website and in the DERA newsletter (in Danish).

DERA's tasks in connection with the district heating sector include administration of the Heating Supply Act.

One of the larger tasks in 2010 was DERA’s decision that heating companies now have the opportunity to offer a price guarantee to customers who want to change from natural gas to district heating. This requires that the price guarantee is obtained using the tools for financial management laid down in the Heating Supply Act. In the specific enquiry, the price guarantee entailed that the consumer will never have to pay more for district heating than what corresponds to 90% of the consumer’s calculated costs for natural gas in the previous year.

Another event was DERA’s declaration on the basis for assessing performance criteria for, and calculation of, withdrawal compensation. In some cases withdrawal compensation can be charged, if the consumer
wants to terminate a supply contract, and the heating company is not financially well-managed. DERA declared that the company’s overall financial situation must form the basis for the evaluation of whether the company is financially well-managed and thereby an assessment of whether the criteria for charging are present. However, if the criterion has been fulfilled, it would be unfair in connection with calculation of the specific compensation, if a heating supply company, which owns several technical installations and which had differences in pricing between consumers from the individual technical installation, did not also use the differentiated price in the calculation of the compensation for the individual consumer.

- Finally, on the basis of experience from review of the financial statements in Mid-Jutland, DERA has proposed that future supervision of financial reporting in the heating area be based on:
  - the audit report of enterprises’ annual financial reporting to DERA,
  - self-evaluation (up to now this has been carried out every three years of financial reporting), and
  - 20 annual company visits by DERA’s accounting unit.

In this way, responsibility for correct financial reporting remains with the enterprises, and efficient supervision can be carried out with reasonable use of public resources. The model for supervision is supplemented by information initiatives.

The above is explained in more detail on the DERA website and in the DERA newsletter (in Danish).
DERA places high priority on efficient case processing, for example through setting and evaluating specific goals for case processing times. In 2010 the secretariat conducted an operational management project in order to improve and optimise case procedures, case processing times etc.

DERA’s main task today is primarily to decide in large matters of principle and in cases involving setting practice, whereas the secretariat mainly processes and determines specific cases on the basis of the practice laid down by DERA. This is reflected in the case processing times for the two types of case.

In 2010, DERA processed 37 cases. In 2010, the average case processing time for decision cases was about 7.5 months, while in 2009 it was 15.3 months. Case processing times for decision cases show large fluctuations from one year to the next, in part depending on the complexity of the matter. Furthermore, case processing times are influenced by the scope of the consultation rounds through which a case must pass before being brought before DERA. Similarly the number of decision cases may vary significantly.

### Cases processed at DERA meetings 2009 and 2010

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
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<tbody>
<tr>
<td>Decision Briefing</td>
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<td></td>
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<tr>
<td>Electricity</td>
<td>12</td>
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<tr>
<td>Natural gas</td>
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<tr>
<td>District heating</td>
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<td>Total</td>
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Below is the total number of cases received and decided/processed. In addition to the cases dealt with specifically by DERA, many enquiries and appeals etc. are made for which DERA is not the appropriate authority, e.g. private consumers complaining about energy bills etc. These enquiries are forwarded to the correct authority, for example the Energy Supplies Complaint Board.

In 2010, both the number of new cases received and the number of decided cases were above the 2009 level. The number of cases being heard at the end of the year was similar to 2009.

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
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<tbody>
<tr>
<td>New cases</td>
<td>982</td>
<td>1183</td>
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<tr>
<td>Decided cases</td>
<td>1073</td>
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<tr>
<td>Cases being heard</td>
<td>618</td>
<td>621</td>
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</tbody>
</table>
The average processing time for cases dealt with by the Secretariat was 3.1 months in 2010. In 2009 the average was 3.4 months. The shorter case processing time in decision cases in DERA reflects simpler case procedures etc. based on the fact that DERA’s previous decisions have determined practice and position on principle matters.
Among other things, the Energy Board of Appeal processes appeals against decisions made by DERA. The parties to a decision have four weeks from the decision to bring an appeal before the Energy Board of Appeal.

The table shows processing of appeals against DERA’s decisions by the Energy Board of Appeal. In 2010, a total of 15 cases were brought before the Energy Board of Appeal with appeals against decisions by DERA or the DERA secretariat.

At the end of 2010, the Energy Board of Appeal had 15 appeals against the decisions of DERA under processing.

<table>
<thead>
<tr>
<th>Number of cases</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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<tbody>
<tr>
<td>Brought before the Board of Appeal</td>
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<td>15</td>
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<tr>
<td>Decided by the Board of Appeal</td>
<td>112</td>
<td>44</td>
<td>29</td>
</tr>
<tr>
<td>Of these:</td>
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<tr>
<td>upheld</td>
<td>30</td>
<td>36</td>
<td>13</td>
</tr>
<tr>
<td>annulled/amended/remitted</td>
<td>17</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>dismissed by the Board of Appeal</td>
<td>59</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>concluded without decision</td>
<td>6</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Rate of cases reversed*</td>
<td>36%</td>
<td>12%</td>
<td>46%</td>
</tr>
</tbody>
</table>

*The rate of cases reversed is calculated as the total number of cases annulled/amended/remitted divided by the total number of cases decided less cases dismissed.
In accordance with the Danish Electricity Supply Act, Natural Gas Supply Act, and Heating Supply Act, the costs of DERA’s work are paid by the enterprises subject to supervision. The detailed regulations are in the executive orders for the individual sectors. See costs for the DERA Secretariat below:

<table>
<thead>
<tr>
<th>Amount DKK ’000</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage costs</td>
<td>22,962</td>
<td>21,672</td>
</tr>
<tr>
<td>Costs for other operations</td>
<td>10,208</td>
<td>9,332</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>33,170</strong></td>
<td><strong>31,004</strong></td>
</tr>
</tbody>
</table>

In 2009 the DERA secretariat had 35 full-time employees⁹. Wage costs are comprised of wages for employees of the DERA Secretariat, the DERA Secretariat’s share of wages to administrative staff; management etc. and remuneration to DERA’s members totalling DKK 455,000.

The decline in wage costs can be attributed to declines in DERA’s share of overhead wage costs to administrative staff etc., among other things due to the establishment of Forsyningssekretariatet (Regulator for water and waste water), which contributes to financing shared overhead costs to administration etc. In addition to this there has also been a decline in direct wage costs, mainly due to time-lacks between staff wastage and new recruitment.

Costs for other operations primarily include percentage of the Competition Authority’s overhead costs for rent, office expenses, etc. In 2010 the DERA Secretariat’s percentage of overhead costs amounted to 24.2 percent. Furthermore, the DERA Secretariat has separate costs for travelling, consultancy fees, etc. The decline in costs for other operations can be attributed to a decline in the DERA Secretariat’s share of overhead costs within the Danish Competition and Consumer Authority. In 2010 the DERA Secretariat’s share of overhead costs where 29.4 percent as compared to the 24.2 percent I 2010. This can also to a large extent be attributed to the establishment of Forsyningssekretariatet

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⁹ Calculation based on records of staff hours.
Especially in electricity fees exceed costs. This is due to rise of fees in 2010 in order to even out deficits from previous years. Fees collected and the DERA Secretariat’s expenditure do not have to balance for the individual years, as they should even out over in the following years.
The work of DERA borders up to other authorities which also have competence in the energy area: The Minister for Climate and Energy, who is ultimately responsible for the energy area, the Danish Energy Agency, the Energy Board of Appeal, the Danish Competition Council and the Energy Supplies Complaint Board, Energinet.dk which is also responsible for a number of authority tasks in the electricity and natural gas sectors, as well as the Competition Council.

The Department of the Ministry of Climate and Energy is responsible for contact with the Danish Parliament, including the Parliament’s Standing Committee on Energy, and it is responsible for legislation for the area etc.

The Danish Energy Agency is responsible for establishing the correct framework and tools for the energy area, ensuring security of supply of energy, and making sure that developments are appropriate in an economic, environmental and security context.

The Energy Board of Appeal processes appeals against decisions by the authorities in individual cases and appeals regarding misinterpretation of the legislation.

The Energy Supplies Complaint Board deals with private complaints about purchase and supply of services from energy supply companies. The Complaint Board was set up on 1 November 2004 as a private complaint board under the Consumer Complaints Act (forbrugerklagenævnsloven). The secretariat is managed by the Danish Competition and Consumer Authority.

Energinet.dk owns the transmission grids for electricity and natural gas, however the company is also responsible for a number of other tasks, including upholding the overall security of supply in electricity and gas area in the short term as well as the long term, extending the overall Danish infrastructure in the electricity and gas areas, creating objective and transparent conditions for competition in the energy markets and monitoring that competition works, and implementing cohesive and holistic planning which includes future needs for transmission capacity and the long term security of supply etc.

The Competition Council is responsible for ensuring that liberalised enterprises comply with the rules in competition legislation. If these rules are not being complied with, the Danish Competition and Consumer Authority will act as a secretariat for the Competition Council.
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