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Profile

The Danish Energy Regulatory Authority:

• works to secure well-functioning electricity, natural gas and district heating sectors within the framework of Danish legislation within the energy area. The authority operates independently of the central administration.
• monitors and regulates prices as well as terms and conditions for customers in the “natural monopolies” within the electricity, natural gas and district heating sectors.
• lays down efficiency requirements every year for electricity grid companies and natural gas grid companies.
• monitors and regulates district heating companies so as to ensure that they only include necessary costs in their prices.
• monitors and regulates Energinet.dk so as to ensure that only necessary costs are included in the company’s prices.
• monitors the price for electricity and natural gas; the supply obligation and basic products.
• participates in international collaborations for a well-functioning European market for electricity and natural gas.
• monitors wholesale markets for electricity and natural gas.
• carries out specialised analyses of areas where mapping and innovative ideas are needed.

Mission

The Danish Energy Regulatory Authority works to secure well-functioning sectors within the areas of electricity, gas and heating.

This includes securing:

• Reasonable terms and conditions for customers and businesses
• Efficient solutions within the energy infrastructure
• The best possible framework conditions

Vision

To be known and recognised for expertise, efficiency, drive and courage to travel down new paths.
Foreword

The most important political event on the energy scene in 2012 was the new energy agreement entered into by the Danish Government and a majority of the Parliament in March. This agreement has set the political framework for the energy sector for the years to come. It provides customers, energy companies and investors, as well as an authority such as DERA, with a clear vision for the long term goals that a majority of the parties in the Danish Parliament wish to pursue.

Due to the ambitious nature of the energy agreement, several areas in Danish energy legislation need to be renewed and amended. Some areas have already been amended, and more will be amended in the near future. Quite specifically, for DERA this will undoubtedly mean that we will continue to receive a great many cases for ruling.

The Danish Parliament defines the overall political framework for the areas of the energy sector that DERA regulates. A great deal of regulation in the energy area is put forward as framework regulations. This kind of regulation requires that DERA and other authorities make a ruling about how to implement the intentions of the regulations in practice.

DERA aims to secure well-functioning electricity, natural gas and district heating sectors. This means that, when making a specific ruling, we give priority to securing reasonable terms and conditions for customers and businesses, to creating the foundation for efficient solutions with regard to energy supply within the three sectors, and as a whole to contribute to creating the best possible framework conditions for customers and energy companies.

Considering how important a role our work and rulings play in the energy sector, DERA will strive to be known and recognised for its expertise, efficiency, drive and courage to travel down new paths. DERA decisions often have significant financial consequences for the affected parties, and for just this reason our work must be based on in-depth knowledge spanning across the energy area. Moreover we also strive to secure efficiency in both our own Secretariat and in the three energy sectors.

The number of cases brought before DERA has increased over the past years, and the complexity and the societal consequences of these cases are also often greater than earlier.

Regarding the gas area, for example, DERA has passed a ruling in a matter concerning the price of transporting natural gas via DONG Naturgas’ offshore pipeline from the North Sea to the Danish market. DERA’s ruling is a principle ruling and will
therefore affect the price level in general for future agreements on the transport of natural gas to the Danish market. Prior to its ruling, DERA calculated and analysed prices and transport volumes in the Danish and other European transport systems in the North Sea. DERA’s ruling has been appealed to the Energy Board of Appeal.

Regarding the heating area, DERA has ruled in a case that has principle importance for the conversion of fossil energy production at large-scale CHP units to green energy production. In this case, DERA approved a financing model developed by the Aarhus-based heating company AffaldVarme in collaboration with DONG Energy. This model paves the way for an extensive and costly renovation of Block 3 of the Studstrup Power Station near Aarhus. This will secure heating at reasonable prices for customers in the Aarhus area.

Moreover, DERA has made a principle ruling in a case concerning how district heating plants pay interest on their subscribed capital. According to the law, owners can claim interest on their subscribed capital; DERA is responsible for approving this interest and the invested amounts. The ruling in this specific case concerned the interest payment for EnergiGruppen Jyllands Varme A/S and it is the first of several applications received by DERA from a number of district heating plants from across Denmark.

Regarding the electricity area, as in the past several years, DERA has imposed efficiency improvement requirements on electricity grid companies so as to save their customers money. DERA’s ruling in this area has reduced the revenue cap for Denmark’s 75 electricity grid companies by just over DKK 115 mill., corresponding to 5% of operating costs.

In the past year, DERA has turned a new corner in its efforts to secure a well-functioning energy sector. DERA has carried out an in-depth analysis of the electricity market for end customers. This analysis identified a number of obstacles to achieving real competition and thereby also to innovation, product development, better use of infrastructure and protection of customers. DERA recommended the Government and the Parliament to renew regulation of the supply obligation, while also taking into account that smaller customers cannot be expected to change their behaviour in the market significantly.

The analysis has now been sent to the committee established this summer by the Danish Minister for Climate, Energy and Building, Martin Lidegaard, with a view to examining regulation of the Danish electricity supply sector. This committee is also to present a proposal on how to create incentives for the electricity sector to secure a green conversion, cost-effectiveness, real competition and consumer protection.
Following the energy agreement, the Government and a majority in the Parliament have decided that analyses of the electricity, natural gas and district heating sectors are required. If relevant, DERA will of course make its experience and expertise available in this context. DERA recommends that the results of these analyses lead to simpler legislation and preferably more precise rules that are less open to interpretation. This will meet the needs of customers, energy companies and the authorities that administer the regulations.
Summary

Energy prices
Average consumer prices for electricity, natural gas and district heating have developed moderately in 2012 compared with the year before. The average price of natural gas has actually fallen, whereas there has been a relatively modest average increase in the price of electricity and district heating; by and large prices in these areas have followed the general development in consumer prices.

New statistics of all electricity prices for consumers
Customers have several different channels through which to purchase electricity. Just as banks provide different financial products, suppliers of electricity provide different electricity products. DERA has developed a new set of statistics that provide a statistical overview of electricity price trends. These statistics cover supply obligation electricity as well as the more than 100 other electricity products on the market.

The electricity bill - incomprehensible or informative?
Electricity bills contain numerous detailed elements and specified items. What is supposed to provide the customer with clear and precise information may actually be rather confusing. This is why DERA wants to examine whether electricity bills can be made more comprehensible.

Efficiency in the energy sectors
DERA has imposed efficiency improvement requirements totalling DKK 12 mill. from 2010 to 2013 on the grid companies in the natural gas sector. Efficiency improvement requirements totalling DKK 115 mill. have been imposed on the electricity grid companies in 2013. District heating companies are not covered by these efficiency regulations; they are regulated by a non-profit principle. Despite this, there are great differences in district heating prices. In this section DERA analyses how factors such as ownership, fuel, location and size may explain these price differences.

Interim status report for the common Nordic electricity retail market
Analyses from NordREG, the cooperative organisation for Nordic regulatory authorities, show that a common Nordic electricity retail market will benefit electricity customers, electricity companies and the Nordic countries. The Nordic ministers for energy have demonstrated their support for the project that is planned to lead to a common retail market in 2015. However, efforts to establish a common harmonised market have to take into account that regulations in the area are not being implemented at the same pace in the Nordic countries. DERA is actively involved in laying the foundation for the Nordic retail market.

Number of cases brought before DERA
An increasing number of cases are being brought before DERA. This has been the trend since 2010.
Energy prices

Electricity, natural gas and district heating prices have developed moderately in 2012 compared with the previous year. The average price of natural gas has actually fallen, whereas the average increase in the price of electricity and district heating has been relatively moderate and has been slightly less than the increase in consumer prices. DERA monitors electricity, district heating and natural gas prices. The following takes stock of the average prices for the three energy types, including taxes and fees for an average family. First there is a comparison with the general trends in consumer prices, then there is an overview of how the costs of electricity, district heating and natural gas have changed in 2012 compared with the previous year.

On average, trends in average consumer prices for electricity, natural gas and district heating have been advantageous for customers in 2012 compared with 2011. Average consumer prices for natural gas have fallen considerably, whereas prices for electricity and district heating have increased less than consumer prices in general (figure 1). Average prices of energy delivered to consumers have changed as follows from 2011 to 2012:

- Natural gas has fallen by approx. 5%
- District heating has increased by approx. 2%
- Electricity has increased by approx. 1%

In comparison, the general price development, calculated on the basis of the index of consumer prices, has increased by just under 3%.

Seen over a six-year period from 2007 to 2012, average prices have developed as below (figure 1):

- Natural gas has increased by approx. 13%
- District heating has increased by approx. 14%
- Electricity has increased by approx. 21%

In the same period the index of consumer prices has increased by approx. 13%.
Household spending on electricity and district heating

Calculated in DKK, average costs of electricity and district heating went up from around DKK 25,300 to approx. DKK 25,700 for an average family of four living in a standard 130 m² house. This corresponds to an increase of 1.7% (figure 2).

Source: DERA’s electricity price statistics and the Danish District Heating Association’s report on district heating prices in Denmark.

* An average family consists of 4 persons, who live in a standard 130 m² house, with electricity consumption of 4000 kWh and heating consumption of 18.1 MWh.
Household spending on electricity and natural gas
Calculated in DKK, from 2011 to 2012 average spending on electricity and heating based on natural gas fell from around DKK 25,500 to approx. DKK 24,850 for an average family of four living in a standard 130 m² house. This corresponds to a decrease of 2.7% (figure 3).

Figure 3: Costs of electricity and natural gas for an average family*, DKK in current prices

<table>
<thead>
<tr>
<th>Year</th>
<th>Natural gas</th>
<th>Electricity</th>
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<tbody>
<tr>
<td>2007</td>
<td>30,000</td>
<td>25,000</td>
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<td>2008</td>
<td>25,000</td>
<td>20,000</td>
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<td>2009</td>
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<td>15,000</td>
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<td>2010</td>
<td>15,000</td>
<td>10,000</td>
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<tr>
<td>2011</td>
<td>10,000</td>
<td>5,000</td>
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<tr>
<td>2012</td>
<td>5,000</td>
<td>0</td>
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</tbody>
</table>

Source: DERA's price statistics on electricity and natural gas
* An average family consists of 4 persons, who live in a 130 m² standard house, with electricity consumption of 4000 kWh and heating consumption of 18.1 MWh.
Historical developments in prices for natural gas, district heating and electricity

Despite moderate price developments in 2012, average expenditure on natural gas, district heating and electricity for an average family has increased over the past six years.

Natural gas price trends

The average consumer price of natural gas fell by around 5% from 2011 to 2012 (figure 4). This fall is mainly due to falling gas prices. By far the majority of natural gas customers buy natural gas from their supply obligation company, and the fall in gas prices is particularly due to a retrospective adjustment in prices by two of the three supply obligation companies in Denmark, and it is also due to natural gas companies having bought cheaper gas on the wholesale market.

Figure 4: Average consumer price of natural gas

Source: DERA’s price statistics for natural gas and own calculations.

FACTS

DERA and natural gas prices
DERA monitors the prices of supply obligation and basic products.
How the natural gas market works

**The natural gas market:** Has been liberalised since 2004. This means that gas customers can freely choose supplier. There are a total of 13 natural gas suppliers on the Danish end-customer market.

**The wholesale market:** Natural gas is traded on the wholesale market via the Danish gas exchange, NordPool Gas, and via bilateral agreements. These agreements cover transport of natural gas from gas fields in the North Sea or from trading platforms (i.e. the gas hubs in Germany and Holland) to the Danish market.

**Products on the natural gas market:** Customers have several options when buying natural gas. They can either choose to buy their gas at a fixed price for a fixed period from their regular supplier, or they can choose to buy at a variable price that follows the price of natural gas on the market. Natural gas customers can typically choose between variable prices that follow oil prices on the global market, or prices that follow prices on the gas exchange in Denmark (or Germany/Holland). The customers can actively opt to take a supply obligation product for which the price is monitored by DERA. If the customers do not take the supply obligation product, the customers will automatically receive a basic product for which the price is also monitored by DERA.

**What should customers choose?** Because the market prices for natural gas vary from day to day, it is impossible to determine in advance the price difference between fixed and variable prices. What to choose depends on expectations for price developments.

**Overview:** The website gasprisguiden.dk provides customers with a daily update of gas prices and what options and products are available on the retail market.
District heating price trends
The average price of district heating for consumers increased by approx. 2% from 2010/2011 to 2011/2012 (figure 5). This increase is in particular due to increasing fuel costs.

Figure 5: Average consumer price of district heating

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The price has been calculated on the basis of the actual settlement prices during the season, incl. VAT, for a standard house of 130 m². The actual price of district heating includes taxes on the fuels used in 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.

Source: Danish District Heating Association and own calculations

The costs of district heating plants vary significantly and these differences are reflected in the prices charged by the individual plants. Natural-gas-fired plants have the highest average prices of heating, while the large-scale plants have the lowest average prices. Differences between the lowest and highest prices are also greatest for the natural-gas-fired plants.
Figure 6: Lowest, highest and average price of heating analysed by type of plant

<table>
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<th>Total price incl. VAT</th>
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<tr>
<td>40000</td>
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<tr>
<td>35000</td>
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<td>30000</td>
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<td>25000</td>
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<td>20000</td>
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<tr>
<td>15000</td>
</tr>
<tr>
<td>10000</td>
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<tr>
<td>5000</td>
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<tr>
<td>0</td>
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</tbody>
</table>

Prices are calculated for a standard 130 m² house.

Several conditions affect prices, e.g. differences in initial construction costs, type, size, number of consumers, etc. Plants are also subject to different framework conditions, e.g. choice of fuel and different connection rules for customers.

Source: Danish District Heating Association and own calculations

Statistical comparison of the prices of the natural-gas-fired plants with the price of individual heating with oil shows that eight plants, i.e. around 5% of all natural-gas-fired plants, have higher prices than the average price for individual heating with oil (figure 7).

The statistics also show that 73 plants (around 42% of all natural-gas-fired plants) have higher prices than the average price for individual heating with natural gas (figure 7).
The most expensive natural-gas-fired district heating plants include the open-field plants. Several factors affect the prices of these plants negatively, e.g.:

- Large investments in installations which have to be paid by relatively few consumers;
- Usually a distribution grid with long transmission distances which has to be paid for by the same, few consumers;
- Long transmission distances lead to substantial transmission losses.

In addition to special framework conditions as well as other factors, the prices of a plant are primarily determined by the individual heating plant’s expenditure on fuel and operations as well as how efficient it is. It is therefore vital that the board and management of the individual heating plant are able to operate the plant at the greatest possible efficiency etc. within its framework conditions.

DERA has looked more closely at the price differences between district heating plants. The results of this analysis can be found in this report in the section “Major differences in heating prices - why?”.
DERA and district heating prices
DERA supervises and regulates district heating plant prices based on the non-profit principle. This principle means that the price of district heating may only reflect necessary production and administration costs.

Supply obligation electricity price trends
The average price of electricity for households, here calculated as the average price of supply obligation electricity, increased slightly by around 1% from 2011 to 2012 (figure 8).

Figure 8: Average consumer prices of supply obligation electricity for households 2007 - 2012

This moderate increase is due to the fact that even though the price of electricity has fallen, transmission and connection prices for customers as well as taxes and PSO payments have increased. The price of electricity has fallen by almost 18%, reflecting price developments on the Nordic electricity exchange, NordPool Spot, however grid payments have increased by almost 6%, corresponding to DKK 0.013/kWh, and taxes and PSO have increased by almost 11%. This increase in grid payments is primarily due to increasing distribution costs that in turn may be linked to the following three factors: that revenue caps are price-adjusted; that companies may have exploited the revenue caps to a greater extent than previously; and that grid companies may have had necessary new investments approved.
Composition of the price of electricity
The price of electricity for consumers is composed of several elements (figure 9). The energy price, that is the price of electricity excluding taxes, transmission, delivery and subscription, constitutes almost 20% of the price of electricity. Taxes and VAT constitute approx. 60% of the price. The remaining 20% goes toward grid payments and subscription.

Figure 9: Composition of the price of electricity 2012

![Pie chart showing the composition of the price of electricity in 2012]

Source: DERA electricity price statistics for supply obligation electricity.

The price of electricity – the energy price – is made up of a wholesale and a retail element (figure 10).

Figure 10: Composition of the price of electricity wholesale – retail 2012

![Pie chart showing the composition of the price of electricity wholesale and retail in 2012]

Source: DERA
Approximately 90% of the price of electricity goes to companies at the wholesale stage; the price these companies charge is set by the Nordic Electricity Exchange. The final 10% is where companies at the retail stage can actually compete on the price. According to DERA’s price statistics the average energy price in 2012 was almost DKK 0.39/kWh. Thus companies at the retail stage compete for the modest sum of around DKK 0.04/kWh out of a total average consumer price of DKK 2.22/kWh in 2012. In other words, energy retail companies have relatively modest revenues from sales to the individual consumer.

Total expenditure of consumers on electricity is approximately DKK 21 bn. This estimate is based on the total electricity consumption of households of about 9,500 GWh in 2012.

**FACTS**

**DERA and electricity prices**
DERA monitors the prices of the special quarterly products; supply obligation and basic products.

DERA also regulates the methods that the grid companies (transmission and distribution) use to set their prices.

**FACTS**

**How the electricity market works**

**The electricity market:** has been liberalised in Denmark since 2003. This means that electricity customers can freely choose between electricity suppliers.

**The electricity market:** The Danish electricity market is an integrated part of the Nordic electricity market. Trading on the wholesale market is via the common Nordic electricity exchange NordPool. Here producers and electricity traders/suppliers of electricity trade with one another with a view to onward sale to retail customers.

**Electricity prices:** Electricity prices depend on the electricity prices on the Nordic Electricity Exchange, NordPool. Prices on the Exchange vary from hour to hour and may be affected by e.g. rainfall in the Nordic countries, the price of oil, coal and natural gas, customer demand, failure in the transmission network.

**Products on the electricity market:** Electricity customers have several different channels through which to purchase electricity. Just as the financial sector sells a number of different financial products, electricity companies also sell several different electricity products.
Prices for customers: The main product groups are products that have a fixed price (customers agree on a fixed price for electricity with their supplier for a shorter or longer period), variable/spot price (the electricity price follows the fluctuations on the market, typically on NordPool, and prices may vary from day to day or from week to week, depending on what the customer has agreed with the supplier). The customer can actively opt to take a supply obligation product for which the price is monitored by DERA. If the customer does not take the supply obligation product, the customer will automatically receive a basic product for which the price is monitored by DERA.

What should customers choose? As market prices can vary from hour to hour, it is impossible to calculate in advance the price difference for products with variable and fixed prices. What to choose depends on several factors, e.g. the customer’s expectations for how electricity prices will develop.

Overview: The website elpristavlen.dk provides customers with an overview of electricity prices and the various products available on the retail market.

Changing supplier on the electricity market
Since 2003 consumers have been able to freely choose their electricity supplier. The number of times customers have switched supplier indicates how the market and competition are working.

Table 1. Changes of supplier 2005 – 2012 for households and smaller businesses (template customers), %

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<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>Percentage of households and small businesses that have changed supplier *</td>
<td>1.25</td>
<td>2.87**</td>
<td>2.8</td>
<td>6.13***</td>
<td>4.22***</td>
<td>3.52</td>
<td>6.7</td>
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</table>

* Households and small businesses with a consumption of less than 100,000 kWh
** The change rate was affected by the fact that an electricity supplier ceased trading in Q1 2007
*** Years with information campaigns about the possibility to change electricity supplier

Source: Danish Energy Association

The percentage of households and small businesses that have taken advantage of the free electricity market increased in 2012 compared with the most recent years. However, seen over a longer period, consumers are not very interested in taking advantage of the free market.
The Danish Energy Regulatory Authority is developing new electricity price statistics for consumers

Customers have several different channels through which to purchase electricity. Just as banks provide different financial products, suppliers of electricity provide different electricity products. Until now, there have been very many statistics available that provide customers with a historical overview of the prices of the just over 100 different electricity products that suppliers of electricity sell to customers on the liberalised market. In order to provide customers with the opportunity to compare ‘a good deal’ from one electricity supplier with the prices on the market for the past few months, since February 2012 DERA has published new statistics that provide an overview of the prices of free commercial electricity products available on the market. This allows customers to compare ‘a good deal’ for electricity with the historical prices of supply obligation electricity and free commercial electricity products. DERA intends to publish these new statistics every quarter in future. In this section DERA presents these new statistics that will contribute to increasing transparency in the market.

Since the market was liberalised in 2003, consumers have been able to freely choose electricity supplier and have thus been able to buy several different electricity products at different prices. However, so far consumers have only had access to one set of statistics that show the historical prices for supply obligation electricity, the price of which is set by DERA. Prices for the just over 100 other electricity products that electricity trading companies offer customers on the free market have not been available in a collated statistical overview. This means that consumers have so far not been able to obtain a historical overview of how prices have developed for the various electricity products over time.

DERA’s electricity price statistics
A new initiative by DERA increases transparency and allows consumers to compare the prices of different electricity products. Since February 2012 DERA has published electricity price statistics covering the prices of commercial electricity products on the free market. In future these statistics will be published every quarter.

In order to make it as easy as possible to compare prices and products, DERA collects prices for the more than 100 electricity products on the market, analyses these prices and products into three main categories for East Denmark and West Denmark, respectively (the two ‘electricity exchange areas’ in Denmark), and calculates the average price for the past quarter for each product category (figures 11 and 12).
The three groups with prices of electricity products are:

- **Electricity products with variable prices:** These statistics show the average price of all electricity products, where the price follows the market’s day-to-day fluctuations.
- **Electricity products with fixed prices:** These statistics show the average price for all electricity products with fixed prices in the supply period.
- **Electricity products with a contract period of max. six months:** These statistics show the average price for all electricity products with fixed prices for a supply period of max. six months.
- **Supply obligation prices for comparison**

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**Figure 11. Supply obligation prices and electricity price statistics for commercial electricity products for the period January 2011 - December 2012, West Denmark**

Prices for West Denmark

<table>
<thead>
<tr>
<th>DKK/kWh</th>
<th>0.6</th>
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<td>NOV</td>
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<td>JAN</td>
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<td>MAR</td>
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<td>MAY</td>
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<td>JUL</td>
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<td>SEP</td>
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<tr>
<td>NOV</td>
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<tr>
<td>2011</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The figure shows the listed price including subscription. The website Elpristavlen.dk states the subscription for a quarter. The subscription is a 4,000 kWh standard consumption for a single household and is added to the list price. The supply obligation price is taken from the electricity price statistics that calculate a volume-weighted electricity price on the basis of the approved supply obligation prices.
Figure 12. Supply obligation prices and electricity price statistics for commercial electricity products for the period January 2011 - December 2012, East Denmark

Prices for East Denmark

The figure shows the list price including subscription. The website Elpristaven.dk lists the subscription for a quarter. The subscription is a 4,000 kWh standard consumption for a single household and is added to the list price. The supply obligation price is taken from the electricity price statistics that calculate a volume-weighted electricity price on the basis of the approved supply obligation prices.

Electricity price trends for East and West Denmark more or less follow the same pattern for the four average prices. This is because price fluctuations on the electricity exchange are passed on simultaneously to prices for both pricing areas, as the retail market is greatly influenced by price formation on the electricity exchange.

Figures 11 and 12 show that the supply obligation electricity price in some quarters deviates from the prices of commercial electricity products. When viewing the period as a whole, however, the electricity supply obligation price is almost the same as the price of the commercial electricity products. This is also the intention of DERA’s regulation of the price of supply obligation electricity. This demonstrates that DERA’s regulation of the price of supply obligation electricity is doing what is designed to do.

Moreover, DERA’s new price statistics provide consumers with a better foundation for choosing the electricity product that best matches their needs.
The electricity bill – incomprehensible or informative?

Electricity bills contain numerous detailed elements and specified items. When electricity companies break-down the electricity bill for customers, they give long explanations and use a lot of words. This may lead to incomprehensible and non-transparent bills, and maybe even put consumers off using the liberalised electricity market. The electricity bill is one way of providing customers with transparency in the market. This is why, in the following, DERA will examine whether electricity bills are good enough in this area. The conclusion is that DERA will take action to make electricity bills more comprehensible and more simple before the wholesale model is introduced on 1 October 2014. On this date, the electricity trading companies will be responsible for the total bill for consumers.

Consumers have often criticised their electricity bill. Their criticism is aimed at the bill being incomprehensible and that it includes too many specified items and difficult words.

One of DERA’s tasks is to ensure that there is transparency with regard to prices, tariffs, discounts and terms and conditions in the electricity area. One way of putting this requirement into practice is to inform consumers about prices and tariffs, taxes and energy consumption in an easily comprehensible manner on the electricity bill.

On the basis of this, DERA has issued an Executive Order that stipulates how electricity companies should design their electricity bill. This Executive Order is known as the Executive Order on invoicing (you can read more about this in the fact box at the end of this section).

The current Executive Order is from 2008. Representatives from the energy sector and consumer representatives contributed to the making of the Order. The intention was to provide consumers with simple, comprehensible and comparable electricity bills, while at the same time ensuring that bills included all the necessary information and items.

In practice this was achieved by ensuring that electricity bills include about the many items included in the price of electricity, thereby informing consumers about what they are paying for. However, the objective to make an electricity bill easy for consumers to understand does not seem to have been met.

The suppliers of electricity will become the primary contact point for consumers from 1 October 2014, when the so-called wholesale model is launched. This is why the invoicing regulations as they are today may need to be changed, and it serves as added grounds to readdress these regulations.
**Items on an electricity bill**

Today an electricity bill consists of a number of items.

Overall it consists of payments to an electricity supplier and payments to the grid company. The consumer pays for electricity and a subscription to the electricity supplier. The consumer pays an additional subscription and for use of the electricity grid (distribution and transmission) to the grid company. Grid companies also charge for public obligations such as funding for renewable energy and research into environmentally friendly energy production. Finally, grid companies also collect taxes and VAT for the state.

These items are all specified on the bill as a number of sub-items that are described in difficult language that requires long explanations if the consumer contacts the electricity company for clarification. The fact box toward the end of this article includes a glossary of the many items and sub-items on an electricity bill.

In addition to each amount listed, the bill also includes information about electricity consumption trends and information about the energy sources with which the electricity was produced.

These many items of information lead to a long bill, see Figure 13 for an example. The first page of the bill informs the consumer about the total payment (balance of actual annual consumption plus a fixed payment on account). In the following pages the electricity company informs about how the actual annual consumption and the fixed payment on account were calculated. The fixed payment on account consists of the same items as the actual annual consumption, the only difference being that the information is an estimate for the coming quarter.
Figure 13. Example of annual statement from NETBY NET A/S (a fictional company)

<table>
<thead>
<tr>
<th>NETBY NET AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Hans Hansen</td>
</tr>
<tr>
<td>Distributionsvej</td>
</tr>
<tr>
<td>9999 Netby</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer no.</th>
<th>346784</th>
<th>Meter no.</th>
<th>764320</th>
<th>Invoice date</th>
<th>15.04.2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metering point</td>
<td>306478457744</td>
<td>Invoice no.</td>
<td>9673459576</td>
<td>Payment date</td>
<td>15.05.2012</td>
</tr>
</tbody>
</table>

**Annual statement for the period 01.04.2011 – 31.03.2012**

<table>
<thead>
<tr>
<th>Total incl. VAT</th>
<th>Total electricity consumption 2,764 kWh</th>
<th>DKK 5,739.79</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid on account</td>
<td>2,366 kWh</td>
<td>DKK 5,265.67</td>
</tr>
</tbody>
</table>

**Balance payable for the period**

| 474.12 |

**Payment on account for the period 01.04.2012 – 30.06.2012**

| Instalment 1 of 4 |
| Total incl. VAT |
| Expected electricity consumption for the period 600 kWh | DKK 1,439.38 |

**Total amount due on 15.05.2012**

| DKK 1,913.50 |

This amount is the total on the annual statement plus the 1st payment on account. The calculation of the annual statement and the on account payment are detailed overleaf.
This is how the annual statement for the period 01.04.2011 – 31.03.2012 (A fictional company) is made up:

<table>
<thead>
<tr>
<th>Meter no.:</th>
<th>Date of reading:</th>
<th>Meter reading:</th>
</tr>
</thead>
<tbody>
<tr>
<td>764320</td>
<td>10.03.2012</td>
<td>58.792</td>
</tr>
<tr>
<td></td>
<td>09.03.2011</td>
<td>56.426</td>
</tr>
</tbody>
</table>

Consumption kWh: 2,366

**Netby Net A/S, Business reg. no.: 35 82 50 72**  
– payment for transport of electricity in the grid and taxes

<table>
<thead>
<tr>
<th>Description</th>
<th>DKK</th>
<th>DKK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid payment 0.4 kW, Netby Net A/S</td>
<td>2,366</td>
<td>0.0585</td>
</tr>
<tr>
<td>Grid payment 60/20 kW Netby Net A/S</td>
<td>2,366</td>
<td>0.1467</td>
</tr>
<tr>
<td>System and grid payment, Energinet.dk</td>
<td>2,366</td>
<td>0.0740</td>
</tr>
<tr>
<td>Public obligations, Energinet.dk</td>
<td>2,366</td>
<td>0.0755</td>
</tr>
<tr>
<td>Electricity tax, the state</td>
<td>2,366</td>
<td>0.6350</td>
</tr>
<tr>
<td>Energy savings tax, the state</td>
<td>2,366</td>
<td>0.0640</td>
</tr>
<tr>
<td>Distribution cont., the state</td>
<td>2,366</td>
<td>0.0400</td>
</tr>
<tr>
<td>Supplementary tax, the state</td>
<td>2,366</td>
<td>0.0610</td>
</tr>
<tr>
<td>Subscription, Netby Net A/S</td>
<td></td>
<td>675.00</td>
</tr>
<tr>
<td>VAT 25 %</td>
<td></td>
<td>855.30</td>
</tr>
<tr>
<td><strong>Total due to Netby Net A/S</strong></td>
<td></td>
<td>4,276.51</td>
</tr>
</tbody>
</table>

Average price excl. subscription DKK 1.45/kWh incl. VAT

**Netby Forsyningspligt A/S, Business reg. no.: 30 42 80 01**  
– payment for electricity from supply obligation company

<table>
<thead>
<tr>
<th>Description</th>
<th>DKK</th>
<th>DKK 4325</th>
<th>DKK 1,070.62</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market electricity</td>
<td>2,366</td>
<td>0.4325</td>
<td></td>
</tr>
<tr>
<td>Subscription</td>
<td></td>
<td>DKK 100.00</td>
<td></td>
</tr>
<tr>
<td>VAT 25 %</td>
<td></td>
<td>DKK 292.66</td>
<td></td>
</tr>
<tr>
<td><strong>Total due to Netby Forsyningspligt A/S</strong></td>
<td></td>
<td>1,463.28</td>
<td></td>
</tr>
</tbody>
</table>

Average price excl. subscription DKK 0.56/kWh incl. VAT

**Total payment for electricity**  
DKK 5,739.79

---

**Simplified on-account bill**

Consumers can ask their grid company for a simplified on-account bill. A simplified on-account bill must as a minimum include information about the price as DKK per kWh for the transmission and energy service, respectively, and information about the estimated consumption in kWh. In addition to this, the bill must also state the name of the electricity company, as well as whether the consumer pays a fixed price or a variable price (see the example figure 14).
Figure 14. Example of a simplified on-account bill from NETBY NET (a fictional company)

**NETBY NET AS**

**Payment on account for the period 01.04.2012 – 30.06.2012**

Expected electricity consumption for the period: 600 kWh

<table>
<thead>
<tr>
<th>Description</th>
<th>kWh</th>
<th>DKK</th>
<th>DKK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Netby Net A/S – payment for electricity</strong></td>
<td>600</td>
<td>1,461</td>
<td>878.50</td>
</tr>
<tr>
<td>in the grid, subscription and taxes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAT 25%</td>
<td></td>
<td></td>
<td>219.63</td>
</tr>
<tr>
<td><strong>Total due to Netby Net A/S</strong></td>
<td></td>
<td></td>
<td>1,098.13</td>
</tr>
<tr>
<td><strong>Netby Forsyningspligt A/S - payment for electricity and subscription</strong></td>
<td>600</td>
<td>0.455</td>
<td>273.00</td>
</tr>
<tr>
<td>- fixed price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAT 25%</td>
<td></td>
<td></td>
<td>68.25</td>
</tr>
<tr>
<td><strong>Total due to Netby Forsyningspligt A/S</strong></td>
<td></td>
<td></td>
<td>341.25</td>
</tr>
<tr>
<td><strong>Total on account</strong></td>
<td></td>
<td></td>
<td>1,439.38</td>
</tr>
</tbody>
</table>

If you would like more detailed information, go to www.netbynet.dk, or ring us on 99 99 99 99.

Random samples taken by DERA show than neither companies nor consumers appear to be very interested in the simplified on-account bill. This may be because customers are unaware of this option and because they have to ask for it themselves.

In connection with the drafting of the current invoicing regulations, electricity companies have previously expressed that customers want their bills to be simple and easy to understand. Moreover, customers place more importance on being able to see the total payment due for the period, rather than being able to see all the items broken down.

According to the Danish Consumer Council, consumers should receive a bill that is easy to understand and easy to use. All the necessary information should be included in the electricity companies’ communication with their customers, however how this information is presented in the bill itself can be greatly improved. The Danish Consumer Council has seen some very good examples of covering letters...
for very detailed bills, where the most important information is summed up in the covering letter and reference is made to the following pages for more detailed reading. Thus the Danish Consumer Council finds that there is no contradiction between informing consumers efficiently and correctly, while also including a specified breakdown of billing items.

**Change is needed**

The level of detail of electricity bills, consumers not being able to understand their bills, and the fact that consumers do not use the simplified on-account bill option indicates that change is needed. In addition to this, the so-called wholesale model will be implemented in the electricity market on 1 October 2014, not to mention that an increasing number of grid companies are installing remote and hourly-read meters.

With the wholesale model, suppliers of electricity will become the primary contact for consumers with regard to electricity. This means that in future consumers will only receive one overall bill from their electricity supplier, and this bill will cover both the cost of their energy consumption as well as transmission costs.

The wholesale model allows suppliers of electricity to include grid and system tariffs (transmission payments) unchanged in one single overall tariff together with the energy price. This means that the consumer is given one price for ‘electricity supplied’. Introduction of this model means that the current invoicing regulations must be amended so as to no longer include a requirement that the bill includes specification of what the customer is paying for energy and transmission, respectively. The installation of remote and hourly-read electricity meters also indicates that the invoicing regulations need to be changed. Consumers who have remote and hourly-read meters are billed on a monthly basis for their actual consumption. This means that they no longer need an on-account bill.

Moreover, it cannot be ruled out that a more simple and more comprehensible electricity bill that only includes e.g. information on prices and consumption may actually encourage consumers to become more active and likely to use the liberalised market and react to price changes.

**Changing invoicing regulations**

There are several factors that point toward the need to amend the Executive Order on invoicing. With current requirements, electricity bills are not simple and easy to read for consumers. New legislation following the introduction of the wholesale model, and new electricity meters in consumers’ homes, also give rise to a demand for revision of the current regulations.
It seems feasible that the information stated on the bill can be limited or simplified without jeopardising statutory requirements for transparency. One possibility could be to base future electricity bills on a more simple period statement (yearly/quarterly or monthly). Consumers will then receive a very basic electricity bill, in which the total payment for the period as well as consumption in the period and price are the central elements.

When this simplified statement period has become the norm, consumers who want their electricity bill to be more detailed must actively ask their supplier to specify their bill or alternatively find this information themselves on the supplier’s website. A solution such as this will meet the requirements for simplicity as well as the need for specification of items on the electricity bill, without jeopardising statutory requirements for transparency.

As the Executive Order on invoicing is to be revised anyway, DERA will discuss with the affected stakeholders whether the rules can be changed in favour of creating a more simple bill that is easy to understand without jeopardising clarity and precision.
FACTS: What’s what on your electricity bill?

The individual items on the bill are:

**Grid payment 0.4 kV, Netby Net A/S**
**Grid payment 60/20 kV, Netby Net A/S**
The grid payment is payment for transmission of electricity from the producer to the end user’s property. This payment covers the costs for operation and maintenance of the electricity grid. Payment is made for transmission of electricity through the different voltage levels (0.4 kV and 60/20 kV) in the electricity distribution grid.

**System and grid payment, Energinet.dk**
The customer also makes a system and grid payment to Energinet.dk, who is responsible for the overall administration of the electricity system and the security of supply in Denmark.

**Public obligations**
All electricity consumers contribute to paying for environmentally friendly electricity production through the item on the electricity bill called ‘public obligations’. This amount covers funding for wind turbines and other installations that produce environmentally friendly energy, research and development in environmentally friendly electricity production as well as efficient use of energy and security of supply. These public obligation payments are collected by the grid company on behalf of the state.

**Taxes**
The electricity tax was introduced on 1 April 1977 and is paid to the state.

The electricity savings tax is a green tax paid to the state, regardless of what electricity product you buy.

The electricity savings contribution is a tax collected by the grid companies in accordance with an agreement with the state to strengthen energy saving initiatives. The electricity distribution contribution is a tax paid to the state.

The supplementary tax is a tax paid to the state.

**Subscription**
Both the grid company and the electricity supplier charge a subscription price that is a fixed payment regardless of consumption. The subscription payment covers the fixed costs of the companies’ customer administration. For grid companies these costs are costs for meters and meter equipment, billing, energy guidance, emergency services and administration. For the electricity supplier these costs cover costs for billing and administration.
VAT
All of the above billing items are added together and subsequently a VAT payment to the state is added to the final amount.

Miscellaneous
In addition to the above items, the electricity bill also includes an overview of the customer’s electricity consumption for the past three years. This information enables consumers to assess whether their consumption is at a reasonable level. It also includes information about the energy sources used to generate the electricity used. This information is not provided on the electricity bill due to requirements in the Executive Order, but due to other regulations.

FACTS: Invoicing regulations for the electricity area
Pursuant to the Electricity Supply Act, one of DERAs tasks is to ensure that there is transparency with regard to prices, tariffs, discounts and terms in the electricity area. Pursuant to this Act, DERA lays down the regulations about how these conditions are to be made public by the companies as well as regulations concerning invoicing.

Regulations are aimed at electricity companies that settle accounts directly with the electricity customer, that is the collective electricity supply companies with a licence, supply obligation companies and electricity-trading companies. The regulations are to be followed for invoicing of energy services when annual energy procurement is less than 100,000 kWh and when the customer is not in the electricity sector. Furthermore the regulations must be followed when buying transmission services (transmission and distribution) from the collective electricity supply grid regardless of size of consumption.

The invoicing regulations include a number of minimum requirements regarding what information must be included on the customer’s bill. However the provisions are slightly flexible in that, according to the consumer’s wishes, the bill can be simplified or more specified items can be added. Thus consumers can request that their supplier provide them with a simplified on-account bill, and they can ask their grid company to specify taxes and payments for public obligations.
DERA monitors compliance with these regulations and since they entered into force on 1 January 2008, DERA has conducted three random sample surveys to check compliance. These surveys included a total of 46 companies (grid and electricity trading companies and supply obligation companies). The random sample surveys showed that all the companies were within the boundaries of the regulation. The few breaches that were revealed were reported to the companies in question, and subsequently the failings were corrected so as to ensure that the bills complied with the current regulations. The surveys also showed that neither companies nor customers were very interested in the simplified on-account bill. Similarly, by far the majority of companies specified taxes on the individual items, even though this is not required.
Efficiency in the energy sectors

DERA regulates efficiency in the “natural monopolies” within the electricity, natural gas and district heating sectors. DERA has imposed efficiency improvement requirements totalling DKK 12 mill. from 2010 to 2013 on the grid companies in the natural gas sector. Electricity grid companies are subject to efficiency requirements totalling DKK 115 million for 2013. The difference between the efficiency requirements for the two sectors is because there are significantly more electricity grid companies and there are greater efficiency differences between the electricity grid companies. The district heating companies are not subject to efficiency regulations; they are regulated by a non-profit principle. However, there are large differences in prices of district heating, and DERA has analysed a number of factors which help explain why prices are so different.

Efficiency in the natural gas sector

There are only three grid distribution companies in the natural gas sector and this is too few to get an adequate basis for analysing the spread in efficiency (table 2 shows the net revenues of the three companies). However, the benchmarking by DERA in 2009 showed differences in efficiency, measured as different operating cost items within each company, and this is an indication that the companies could be more efficient.

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DONG Gasdistribution A/S</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Net revenues</td>
<td>771.2</td>
<td>701.8</td>
</tr>
<tr>
<td><strong>HMN Naturgas I/S</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Net revenues</td>
<td>1,223.1</td>
<td>854.7</td>
</tr>
<tr>
<td><strong>Naturgas Fyn Distribution A/S</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Net revenues</td>
<td>214.7</td>
<td>191.8</td>
</tr>
</tbody>
</table>

On this basis, in 2009 DERA issued efficiency requirements to the companies of between 0.6% and 1.2% per annum of their costs budgets (operating costs and impairments on investments made after 1 January 2005) for the period 2010-2013. This corresponds to an overall efficiency improvement requirement for the companies of just over DKK 12 mill. for the period.
The efficiency improvement requirement was determined on the basis that companies must achieve a productivity increase corresponding to the competition-exposed economy as a whole. In addition to this, the two least efficient companies must make further efficiency improvements so that they come up to the level of the most efficient company.

In 2013, DERA will calculate new efficiency requirements for the companies. The new efficiency requirements will apply from 2014 to 2017.

### FACTS

**DERA and efficiency requirements for the natural gas sector**

The grid companies in the natural gas sector - the natural monopolies - are subject to efficiency regulation administered by DERA. As far as possible, the regulation is to create the same dynamics in efficiency, market and structural developments as competition creates in commercial markets.

Efficiency regulation of natural gas companies places a cap on the revenues of the individual grid company (revenue cap) and imposes financial requirements on the companies in order to make the companies more efficient every year.

### Efficiency in the electricity grid companies

By the end of 2011 a total of 75 grid distribution companies own and operate the electricity grid with a voltage level of 60-0.4 kV. These grid distribution companies receive a licence from Danish Energy Agency which gives them a monopoly to transport electricity to consumers within the licence area, measure consumption at the individual consumer and collect taxes and charges.

Transformer associations are the smallest players among grid distribution companies and they are also the most non-homogeneous with regard to size, number of employees, etc.

By the end of 2011 a total of 14 regional transmission companies own the grid of 150-50 kV and lead the electricity from the overall transmission grid, operated by Energinet.dk, to the grid distribution companies. The regional transmission companies have now been taken over by Energinet.dk, and this means that the regional grid has been transferred to non-profit regulation with effect from 1 January 2012 and from that date it will no longer be subject to revenue caps and efficiency regulation.
Each year DERA benchmarks the grid companies which are subject to revenue caps and efficiency regulation, i.e. regional transmission companies (up to and including 2011), distribution companies and transformer associations. On the basis of this benchmarking, DERA sets efficiency requirements for the companies.

**Benchmark 2012**

DERA’s benchmark for 2012 indicates that there are still large efficiency differences between the grid companies, both internally within the different groups of companies, and between the groups (figure 15). The benchmarking was conducted using a net-volume model on the basis of accounting figures for 2011. Therefore these are model-calculated efficiency differences between the grid companies.

*Figure 15. Difference in the calculated efficiency of electricity grid companies in 2011*

The figure shows the index for the cost efficiency of the electricity grid companies; a high index means high efficiency and a low index means low efficiency. The average is set equal to index 100 and expresses the averagely efficient grid company within each category of company. The regional transmission companies have been transferred to Energinet.dk and to non-profit regulation with effect from 1 January 2012, but the companies have been included in the DERA benchmark in 2012 as this is calculated on the basis of accounting figures for 2011.

*Source: Own calculations on the basis of efficiency analyses.*
In competitive markets, the competition between companies means that the least efficient companies are forced to become either more efficient or to leave the market. This implies that differences in the efficiency of companies in competitive markets tend to be small.

Transformer associations demonstrate the greatest differences in efficiency. At the same time, according to model calculations, transformer associations include some of the most efficient and least efficient companies. This reflects that transformer associations make up a very mixed group of companies with large differences in size, number of employees, etc.

With regard to the other grid companies, the regional transmission companies and the distribution companies have approximately the same differences between the most and the least efficient companies.

On the basis of benchmarking of the financial efficiency and quality of supply of the grid companies, DERA has stipulated efficiency requirements for the grid companies. Overall, the requirements involve a reduction in the companies' 2013 revenue cap of approximately DKK 115 mill., or 5% of the companies' costs of salaries, administration and maintenance etc. The requirements on electricity grid companies placed by DERA include permanent efficiency requirements because of low financial efficiency and one-year efficiency requirements resulting from relatively poor quality of supply. The permanent efficiency requirement is about DKK 110 mill. and the one-year requirement amounts to DKK 5 mill.

**Total efficiency requirements and cost structure**

This is the sixth time that DERA has imposed increased efficiency requirements on the electricity grid companies. This means that Danish electricity grid companies have been ordered to reduce their total costs by almost DKK 600 mill. since 2007. Most of this amount, DKK 572 mill., is a permanent reduction requirement which the electricity grid companies can no longer demand from their customers (table 3).
Table 3. Efficiency requirements for electricity grid companies

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency requirement (DKK mill.)</td>
<td>41</td>
<td>70</td>
<td>128</td>
<td>119</td>
<td>104</td>
<td>110</td>
</tr>
<tr>
<td>Efficiency requirements according to the revenue cap for the year (%)</td>
<td>0.6</td>
<td>0.9</td>
<td>1.7</td>
<td>1.6</td>
<td>1.4</td>
<td>–</td>
</tr>
<tr>
<td>Accumulated efficiency requirements (current prices, DKK mill.)</td>
<td>41</td>
<td>110</td>
<td>239</td>
<td>358</td>
<td>462</td>
<td>572</td>
</tr>
<tr>
<td>Accumulated efficiency requirements according to 2008 revenue cap (%)</td>
<td>0.5</td>
<td>1.5</td>
<td>3.2</td>
<td>4.8</td>
<td>6.2</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Note that the revenue caps for 2008-2012 have not been finalised. Note also that the benchmarking of companies is conducted in advance of the regulation year in which the revenue caps are reduced. The reduction in the revenue caps in 2008 is therefore based on benchmarking by DERA in 2007 and so on.

Source: The DERA Secretariat

The revenue caps in current prices have been relatively constant since 2008. This means that the revenue caps have fallen in terms of fixed prices. The changes in the revenue caps are due to a combination of declining amounts of electricity supplied, sluggish developments in prices, a reduction in the energy-savings costs in 2012, and more stringent efficiency.

However, the revenue caps only show the electricity grid companies’ maximum permissible revenues and therefore they do not necessarily reflect their actual revenues or costs. This means the companies can freely choose to exploit the entire revenue cap or they can demand less from their customers than allowed for by the revenue cap. Some companies, usually cooperative societies, choose to keep revenues down and therefore they do not fully exploit their revenue cap. Other companies cannot utilise their revenue cap because of the rule about revenue caps for the capital in the grid. There are also large differences between the revenue caps of the individual companies because of the earnings conditions in the 2004 base year, when the current regulations were introduced.

Overall, the electricity grid companies utilise about 90% of their total revenue caps. In the period 2006-2011, the operating costs of the electricity grid companies fell by about DKK 860 mill. (figure 16).

In the same period depreciation increased by about DKK 500 mill. so the percentage of total costs made up by depreciation has increased from 28% to 37%.
The costs of energy-saving activities have previously been part of the operating costs, but from 2010 they have been separated for accounting purposes. In 2011 costs amounted to about DKK 360 mill. and cover the electricity grid companies’ costs to achieve energy-savings obligations totalling 854.7 GWh.

The total costs have been relatively stable (in current prices) over the period, meaning that, all else being equal, the electricity grid companies have been able to improve efficiency at the same rate as prices have increased. However, it should be emphasised that this development is based on electricity grid companies as a whole, and changes for the individual company may well deviate significantly from this.
DERA and efficiency requirements for the electricity sector

The grid companies in the electricity sector - the natural monopolies - are subject to efficiency regulation administered by DERA. As far as possible, the regulation is to create the same dynamics in efficiency, market and structural developments as competition creates in commercial markets.

Efficiency regulation of grid companies places a cap on the revenues of the individual grid company (revenue cap) and imposes financial requirements on the companies in order to make the companies more efficient every year, if they are to preserve their mark-ups.

Energinet.dk, the system operator transmission company, is regulated in accordance with a non-profit principle under which the tariffs charged by companies may only cover their necessary costs for efficient operation as well as interest to secure the real value of their basic capital as at 1 January 2005. DERA does not, therefore stipulate the overall efficiency requirement for Energinet.dk, but DERA can determine that a specific cost, or the size of this, does not represent a necessary cost for efficient operation and therefore all or part of the cost cannot be included in Energinet.dk’s tariffs. In 2012, Energinet.dk took over the remaining regional electricity transmission companies. The takeover took effect from 1 January 2012. This means the regional transmission grids are no longer subject to efficiency regulation, but they are subject to the non-profit principle.

Efficiency in the district heating sector

DERA does not stipulate efficiency requirements for the approximately 600 district heating companies as it does for grid companies in the natural gas and electricity areas. The district heating companies are regulated according to the non-profit principle, which means that district heating must be sold at cost of production and distribution. DERA decides which costs are necessary and can be included in the price.

Non-profit regulation means that the benefits of efficiency improvements by companies must be directly reflected in the prices paid by consumers. The requirement for efficient operation with resultant low prices can therefore come from the consumers, either as a consequence of direct influence at general meetings or indirectly through elections to the municipal council.

There is a large spread between the heating prices of individual district heating plants. DERA has analysed how choice of fuel, location in relation to customers, size and ownership can contribute to explaining these differences in prices. This analysis is described in the next section.
Major differences in heating prices – why?

There are large price differences for district heating in different areas of Denmark. In this section DERA has analysed how choice of fuel, location in relation to customers, size and ownership can contribute to explaining the differences in prices. The analysis does not include all factors, but it can explain two-thirds of the price differences and among other things it indicates that district heating based on natural gas is more expensive than district heating based on other fuels, that district heating suppliers owned by consumers is cheaper than other forms of ownership, and that there seem to be economies of scale. The analysis also shows that fully explaining the price differences will require further work.

There are large price differences between district heating suppliers. Heating from the cheapest supplier costs less than DKK 8,000 per year for a detached house of 130 m² with an annual heating consumption of 18.1 MWh. In the most expensive supply areas, heating costs DKK 37,000 for the same house with the same heating consumption.

The large differences in prices and the high prices for some district heating plants are, and have been, the subject of much debate. Among other things, it has been highlighted that the type of fuel, the location of the heating plant, the type of ownership and economies of scale have an impact on the price of district heating. Other factors are that there are differences in efficiency between similar suppliers and that there is considerable unexploited potential for efficiency improvements in the district heating sector (e.g. the report from Ea Energianalyse "Regulerings-modeller for fjernvarmen", February 2012).

This analysis seeks to identify significant reasons for the large price differences. Other analyses and surveys have tried to identify the reasons by comparing average district heating prices across different groupings of district heating plants. These surveys often provide useful results, but they have their limitations. For example they do not address the size of the price differences which can be exclusively attributed to type of fuel, type of ownership, location, economies of scale, etc.

Therefore, this study is based on another method, a statistical model, which can isolate the effect of each factor such as the significance of choice of fuel, location, etc.
This study – methodology and limitations
This study focuses on the factors deemed to be most appropriate to explain the majority of the price differences and for which it is relatively easy to obtain data. The factors are: fuel, location of supply (urban/rural), ownership and size.

It is important to note that while some factors influence the individual district heating plant, others do not. For example, a district heating plant cannot influence the density of population in an area, and in many cases neither can a district heating plant choose the fuel it uses, for example because the area has been designated for natural gas. In contrast, there are aspects which the district heating plant can influence, for example improve the efficiency of operation and/or establish partnerships with other suppliers or merge in order to achieve economies of scale. Although the statistical model provides good explanations, it does have its limitations. The most important are:

- The results from the statistical model cannot stand alone as the foundation for an assessment of any potential for efficiency improvements in the district heating sector, but they can contribute to explaining why there are such large price differences.
- On the basis of the analysis, it is not possible to determine whether the factors directly influence district heating prices, or whether they are merely an indicator of the conditions which influence district heating prices.
- The factors express average perspectives. That is, the price differences calculated in the model express how the factors influence district heating prices on average.

Even with these reservations, the analysis can contribute new knowledge and provide a more many-faceted picture of what may explain the large differences in district heating prices.

Statistical analysis
Table 4 shows the results of the statistical model examining how much individual factors such as "primary source of fuel", "urban/rural location", "ownership", and "size" can explain the differences in district heating prices. District heating prices are stated as the annual cost of heating a "standard" detached house of 130 m² and an annual heating consumption of 18.1 MWh.
Table 4: Results of the statistical analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Difference in prices of heating compared with the reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary source of fuel (reference biofuel)</strong></td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>DKK 607</td>
</tr>
<tr>
<td>Coal</td>
<td>DKK 628</td>
</tr>
<tr>
<td>Other fuel</td>
<td>DKK 962</td>
</tr>
<tr>
<td>Natural gas</td>
<td>DKK 3,049</td>
</tr>
<tr>
<td><strong>Urban/rural location (reference: other areas)</strong></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>DKK 138</td>
</tr>
<tr>
<td>Open-field plant</td>
<td>DKK 3,948</td>
</tr>
<tr>
<td><strong>Ownership (reference: consumer-owned)</strong></td>
<td></td>
</tr>
<tr>
<td>Housing association</td>
<td>DKK 1,130</td>
</tr>
<tr>
<td>Municipal</td>
<td>DKK 1,167</td>
</tr>
<tr>
<td>Commercial company</td>
<td>DKK 5,719</td>
</tr>
<tr>
<td><strong>Size (reference: budgeted annual sales of 5,000 MWh)</strong></td>
<td></td>
</tr>
<tr>
<td>Budgeted annual sales of 10,000 MWh</td>
<td>DKK -1,038</td>
</tr>
<tr>
<td>Budgeted annual sales of 50,000 MWh</td>
<td>DKK -3,164</td>
</tr>
<tr>
<td>Budgeted annual sales of 500,000 MWh</td>
<td>DKK -5,621</td>
</tr>
<tr>
<td>Budgeted annual sales of 1,000,000 MWh</td>
<td>DKK -6,246</td>
</tr>
</tbody>
</table>

Technical notes: A linear regression model has been estimated with the price of district heating for a standard detached house as the dependent variable and with primary source of fuel, urban/rural location, ownership and size as the explaining variable. The three first variables were included as dummy variables. Size was included as a transformed continuous variable with the form, as this functional form is statistically the best to describe the relationship between size and price. In addition to this, the functional form is otherwise useful to describe the occurrence of any economies of scale. The model has an adjusted degree of explanation of 62%, and this is relatively good for this type of statistical model. The regression is based on 431 observations of Danish district heating plants in 2011/12.

Primary source of fuel

"Primary source of fuel" is included in the analysis as the fuel used is often mentioned as an important reason for price differences in the district heating sector. In particular, natural gas has been mentioned as a relatively expensive fuel for district heating production.
Table 4 is based on an average (hypothetical) consumer-owned plant powered by biofuel and which is neither an open-field plant nor located in a large city. This means that the DKK 3,049 stated for natural gas represents the difference compared with a plant which in all other respects is identical\(^1\), but which is powered by natural gas instead of biofuel. So, all else being equal\(^2\) it is DKK 3,049 a year more expensive on average to heat a detached house with district heating based on natural gas than with district heating from an identical plant based on biofuel.

If the supply primarily uses coal or waste, then according to the analysis model it would be DKK 628 and DKK 607, respectively, more expensive than if it were primarily powered by biofuel. The suppliers who have stated that they primarily use "other fuels" than coal and waste are DKK 962 a year more expensive than if they had used biofuel.

District heating produced from coal, waste and other fuel is on average marginally more expensive than district heating produced using biofuel, but the difference is not sufficient to be statistically significant. Heating production using coal, like natural gas, is subject to higher taxes. The fact that despite this coal is relatively cheap anyway is partly because coal prices are low and because the analysis only accounts for the size of the district heating plant and not the size of any heating supplier. District heating produced using coal is often produced at large-scale CHP units, which have good opportunities to exploit economies of scale. In contrast, many heating plants using biofuel are considerably smaller, local district heating plants.

On the basis of the results in table 4, it is understandable that natural-gas-fired district heating suppliers in particular want to change to biofuel, for example. The situation that many district heating suppliers use natural gas despite this being a relatively expensive fuel arises because many areas have been designated for natural gas and therefore may not use other fuels. Coal and natural gas used for heating production are subject to high taxes, while biofuel is not subject to the same level of taxation. Therefore, the observed differences in district heating prices, which according to the statistical model are attributable to type of fuel, are partly attributable to the tax structure.

\(^1\) Here and in the rest of this article, "identical supply" means that the district heating plant is identical in all other respects covered by the model: urban/rural location, ownership and size.

\(^2\) Here and in the rest of this article the expression "all else being equal" means that the price differences calculated are based on averages in which all the other factors in the model are kept unchanged and only one factor at a time is changed.
Urban/rural location

The location of district heating suppliers is examined in the statistical model because district heating suppliers in thinly populated areas (including "open-field plants") are often considered as relatively more expensive than district heating suppliers in more urban areas. On the other hand it has also been argued that it is more expensive to supply district heating in very densely populated areas as laying district heating pipes under roads and pavements is very expensive.

The results in table 4 indicate, however, that it has no great significance whether a district heating supplier is situated in a large or small town. The district heating suppliers in large cities and towns (defined as the 20 largest Danish towns in terms of number of inhabitants or towns in the capital region) are DKK 138 a year more expensive than suppliers which in all other respects are identical, but which are not situated in a large town and are not open-field plants.

On the other hand, an open-field plant is significantly more expensive than a district heating supplier which in all other respects is identical, but which is more urban. On average, a district heating consumer pays about DKK 3,900 a year more to heat a detached house from an open-field plant than from a similar plant (with the same fuel, ownership and size) in a more urban area. It is important to stress that the calculations show the isolated effect on the cost of heating of an open-field plant’s location.

Although open-field plants are more expensive, this does not necessarily imply that open-field plants are not run efficiently. The high cost of district heating may be because the district heating consumers are spread over a large area and therefore large investments are needed in the distribution grid, with high subsequent maintenance costs. If district heating is transported relatively long distances before reaching the consumers, there will also be considerable heat losses in the grid.

Ownership

The analysis also includes "ownership", as in many contexts ownership has been mentioned as a factor. Therefore it is relevant to examine whether ownership can explain part of the price differences in the district heating sector.

The amounts under ownership in table 4 state how the price of district heating is affected by whether ownership is municipal, a commercial company, a housing association or some other ownership form with controlling influence on the district heating supplier rather than an in all other respects identical consumer-owned company (reference district heating plant).
District heating consumers connected to a commercial company must on average pay about DKK 5,700 a year more to heat a detached house than an in all other respects identical consumer-owned supply. This is a significant price difference compared with the average price of district heating (weighted by amount of district heating according to notifications to DERA) of about DKK 13,500 per year for a detached house in 2011/12.

According to the statistical model, district heating prices for municipal supply and supply run by housing associations were about DKK 1,150 and DKK 1,100 more expensive respectively than an in all other respects identical consumer-owned supply. According to the statistical model, the alternatives to consumer ownership are more expensive than consumer-owned supply and this indicates that consumer-owned supply has the lowest prices, after the significance for district heating prices of the other factors in table 4 has been taken into account.

The results provide a possible explanation for why district heating customers in some supply areas in which district heating is supplied by a commercially owned district heating company want to buy their own district heating supply. Even though the general picture supports consumer-owned district heating plants supplying cheaper district heating, it is far from certain that in all cases it is worth consumers taking over a supply; a lot depends on the specific situation.

Size
The size of district heating suppliers is included in the statistical model because there is general agreement in the industry that considerable economies of scale can be achieved (e.g. see the 2011 annual statistics from the Danish District Heating Association, p. 4-5).

The statistical model confirms that there are economies of scale, as the size of the budgeted annual sales of a plant is significant for the price of district heating. The higher the budgeted annual sales, the cheaper the district heating, all else being equal.

The relationship between the price of district heating and the size of a district heating plant can be illustrated by comparing the price predicted by the model for a district heating plant with annual sales of, for example 5,000 MWh with the price the model predicts for the same plant, just with higher annual sales. This comparison can be seen in table 4.

According to the model, district heating consumers supplied from a large plant with annual sales of 500,000 MWh pay about DKK 5,600 a year less for heating a detached house than consumers supplied from a plant with annual sales of 5,000
MWh, but who are otherwise identical. The advantages of a larger plant are not proportional, however; doubling the annual sales from 5,000 MWh to 10,000 MWh gives savings of around DKK 1,000, while increasing annual sales by a factor of 100 (from 5,000 MWh to 500,000 MWh) leads to savings of just DKK 5,600 per year.

The relationship between district heating prices and the size of district heating supplier indicates that economies of scale can be achieved by suppliers establishing partnerships or merging to reduce costs of administration, for example, or fuel procurement etc.

**How robust is the analysis?**

If the statistical model perfectly predicted the price of supply, all the plants in figure 17 would lie on the black line. However, the model is not perfect, but just explains two-thirds of the price differences between district heating suppliers, and this is relatively good for this type of statistical model. One-third of the price differences cannot be explained by the model.

**Figure 17. Actual prices compared with the predicted prices in the analysis model**

The points above the red line are district heating suppliers which are more expensive than predicted by the model (figure 17). The points below the line are cheaper than predicted. The points furthest from the line are plants for which the model has been worst at predicting. For this reason these district heating suppliers are interesting as they are either doing considerably better than the model can explain, or much worse.
The results in figure 17 may indicate that there are some district heating suppliers for which the statistical model cannot explain why prices are higher. This may be because of factors the statistical model does not take into account, or that there is potential for the district heating suppliers to reduce costs. Not only plants with higher prices than predicted by the model can have possibilities to optimise returns. If a district heating supplier is on the black line, this just shows that the prices of the district heating supplier correspond to what the statistical model predicts for prices with the given size, primary type of fuel, location and ownership. However, the district heating supplier cannot influence all these factors, as mentioned above.

It is important to be cautious before concluding the size of the potential for efficiency improvements in the district heating sector on the basis of the predictions by the model. There is a number of factors affecting district heating prices which are not included in this analysis. For example, no account is taken of whether the supplier buys district heating from a large-scale plant, a waste incineration plant or transmission companies. These supply companies may be very small, but they achieve economies of scale in any case. If the statistical model could take account of this, it could change the size of the difference calculated in table 4, but it is unlikely to change the most important conclusions of the analysis.

In addition to this type of limitation in the analysis, there are other factors that influence the price of district heating, but which are not included in the analysis (see the fact box). Therefore, it should be stressed that the results should be interpreted with caution.

In general there are only a limited number of analyses of the internal as well as external aspects that impact district heating prices from district heating suppliers. This is partly due to a lack of quality data. Therefore more analyses should be made of the district heating sector in order to better understand what factors are important for district heating prices.

Summary
This is not a complete analysis of the price differences in district heating supply. The analysis does not include all factors that influence district heating prices, although it does explain two-thirds of the price differences. Overall, the results of the analysis point to the following conclusions:

- District heating based on natural gas is statistically much more expensive than district heating based on other fuels. On the other hand, whether coal, biomass, waste, or some other fuel is used has almost no effect on the price of district heating.
• Statistically whether the supply is in a small or large town has no influence on district heating prices. Only open-field plants are significantly different, with much higher heating prices.
• Statistically, ownership does impact the price of heating. Consumer-owned supply tends to have lower prices and supply owned by commercial companies tends to mean higher heating costs.
• There seem to be economies of scale in district heating production.
• There is a need for further analyses to explain the differences in heating prices.

<table>
<thead>
<tr>
<th>FACTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples of factors affecting district heating prices, but not included in the analysis:</td>
</tr>
<tr>
<td>• Depreciation policy</td>
</tr>
<tr>
<td>• Age of district heating supply</td>
</tr>
<tr>
<td>• Recognition of under/over coverage</td>
</tr>
<tr>
<td>• Consumer payment for connection to the district heating grid</td>
</tr>
<tr>
<td>• Size of the grid and density of consumers</td>
</tr>
<tr>
<td>• The analysis only examines district heating suppliers, not where the heat is produced</td>
</tr>
<tr>
<td>• Efficiency of operation</td>
</tr>
</tbody>
</table>

Examples of sources of technical errors in the analysis:
• The analysis only covers one period; 2011/12
• The model could be broken down differently
• Only primary fuel was taken into account, not the actual fuel mix.
The work of DERA

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

DERA was established in 2000 as a regulator acting without powers of direction from the Minister and acting independently of sector interests and authorities. DERA is an independent committee, the members of which are nominated by the Minister for Climate, Energy and Building.

The DERA Secretariat is an independent government authority which supervises the energy sector and provides secretarial services for DERA.

DERA can address issues and cases at its own initiative or 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.

Rulings by DERA are published regularly on the DERA website www.energitilsynet.dk.

Decisions made by DERA can be brought before the Energy Board of Appeal by stakeholders with a significant and individual interest in the decision.

In 2012 DERA stipulated a mission and vision for its work:

**Mission**
The purpose of the Danish Energy Regulatory Authority is to secure well-functioning sectors within electricity, gas and heating.

This includes securing:
- reasonable terms and conditions for customers and businesses
- efficient solutions within the energy infrastructure
- the best possible framework conditions

**Vision**
To be known and recognised for expertise, efficiency, drive and courage to travel down new paths.

**Regulation by DERA**
DERA realises its mission and vision in the following regulation practice:
In the liberalised energy markets for electricity and natural gas, DERA aims in general for the best possible framework conditions to develop efficient energy markets with effective competition and consumer protection. Among other things, this means that DERA monitors the wholesale markets for electricity and natural gas.

**The electricity sector**
DERA’s tasks in the electricity sector focus on the natural monopolies; the electricity grid companies, as well as on the supply obligation companies. The regulation covers companies’ prices and terms for customers. Through revenue-cap regulation and benchmarking the electricity grid companies, DERA puts an efficiency pressure on the companies which replaces the pressure of competition on free and well-functioning markets. DERA also sets the price of electricity for the supply obligation electricity companies. Furthermore, DERA takes part in preparing legislation by issuing replies to consultations and DERA also takes part in international collaboration etc.

**The natural gas sector**
DERA’s tasks in the natural gas sector focus on the natural monopolies, that is the grid companies, as well as on the supply obligation companies. The regulation covers companies’ prices and terms for customers. Through revenue-cap regulation and benchmarking the grid companies, DERA puts an efficiency pressure on the companies which replaces the pressure of competition on free and well-functioning markets. DERA also sets the consumer price of natural gas for the supply obligation natural gas companies. DERA also regulates terms of use of the two Danish natural gas storage facilities. Furthermore, DERA takes part in preparing legislation by issuing replies to consultations and DERA also takes part in international partnerships etc.

**The district heating sector**
DERA regulates the full consumer price of district heating. 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 for district heating companies, but the requirement that a cost must be necessary includes both the nature of the cost and its size. This allows DERA to make demands on cost developments in companies.

**The system operator company, Energinet.dk**
Energinet.dk is regulated in accordance with a non-profit principle, under which the tariffs charged by the company may only cover its necessary costs for efficient operation as well as interest to secure the real value of its basic capital as at 1 January 2005. The regulation does not allow for setting an overall efficiency requirement for Energinet.dk, but DERA can determine that a specific cost, or the size of this, does not represent a necessary cost for efficient operation and therefore all or part of the cost cannot be included in Energinet.dk’s tariffs.
New Legislation

A number of amendments to the energy acts have been made in the past year. The most significant changes for DERA are:

**The electricity and natural gas areas**

*Act to amend the Electricity Supply Act and the Natural Gas Supply Act (issuance of supply obligation licences)*

The Act stipulates a new scheme for issuing supply obligation licences for the electricity and natural gas areas. The Act contains regulations for tendering of licences for supply-obligation activity based on price competition as well as regulations for the position of consumers in connection with tendering.

*Act to amend the Electricity Supply Act, the Natural Gas Supply Act and the Energinet.dk Act (promotion of competition on the electricity market etc.)*

The Act stipulates a new scheme (the wholesale market model) which makes electricity-trading companies the primary contacts for customers. The amendment means that consumers will only receive one overall invoice from the electricity trading company, no matter whether or not they buy from a group-dependent trading company, and that Energinet.dk will develop the data hub in accordance with the wholesale-market model. The amendments to the Natural Gas Supply Act are parallel provisions to the Electricity Supply Act. The amendments will enter into force from 1 October 2014 in order to allow companies time to reorganise their IT systems etc.

**The district heating area**

*Act to amend the Heating Supply Act, the Electricity Supply Act and the Building Act*

The Act stipulates that the price provisions only apply for supply by heating supply companies of heated water, steam or gas, except for natural gas, to heat buildings and supply them with hot water. If a heating supply company also supplies for other purposes, for example for process purposes, or supplies a completely different service, for example electricity or waste disposal, these supplies will not be subject to the price regulation. However, the legislators have decided to have supply by the large-scale CHP plants of heated water for other purposes subject to the price regulation.

The amendment to the Act makes it possible under certain circumstances to split the tax advantage obtained by buyers who purchase bioheat from a large-scale CHP plant instead of the taxed fossil-based heat between the heating supplier and the heating buyer.
The amendment also makes it possible for municipally owned heat-transport installations to start activities to extract geothermal energy, without obtaining a permit from the Minister for Climate, Energy and Building.

**Executive Order on self-evaluation of compliance with Parts 4 and 4b of the Heating Supply Act**

The Executive Order contains regulations stipulating that heating supply companies are to prepare an evaluation of their compliance with the regulations in, or issued pursuant to, Parts 4 and 4b of the Heating Supply Act concerning prices and consumer influence. To start with, the companies have only had to conduct self-evaluation once, and submit this to DERA by no later than 1 December 2012.

**Executive Order on fixing price caps and maximum prices for district heating from waste incineration plants**

In addition to the principle of cost-determined prices, waste incineration plants are also subject to a price cap. This means that, for supplying heated water or steam produced by waste incineration, a waste incineration plant may only demand the lowest of either the cost-determined price or the price cap.

The Executive Order contains regulations for how DERA is to calculate this price cap.

The price cap for supplying heated water is usually set as the weighted average price of heated water produced at the central CHP plants, including any later changes in taxes. The price cap for supplying steam is set at an amount corresponding to the price cap for supplying heated water, plus the documented or likely extra cost of producing steam instead of heated water.
Members of DERA

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

DERA held 10 meetings in 2012. DERA also held a strategy seminar and visited companies subject to the regulations administered by DERA. Furthermore, in 2012 DERA held an Energy Forum, with companies and organisations from the sector, as well as an event called "Energiting", organised as an after work meeting for authorities and stakeholders in the energy sector.

Members of DERA

Uffe Bundgaard-Jørgensen, MSc (Econ.), PhD, director
Chairman
Appointed for the period 1/1 2012 - 31/12 2016.

Jacob Erik Holmblad MSc (Econ.), director
Vice-Chairman
Appointed for the period 1/1 2012 - 31/12 2014.

Mogens Arndt, BSc (Engineering)
Member
Appointed for the period 1/1 2012 - 31/12 2014.

Ella Maria Bischop-Larsen, MSc, president
Member
Appointed for the period 1/1 2012 - 31/12 2016.

Anita Rønne, associate professor in energy law
Member
Appointed for the period 1/1 2012 - 31/12 2014.

Lis Holst, BSc (econ)
Member
Appointed for the period 1/1 2012 - 31/12 2014.

Jørgen G. Jørgensen, MSc (econ), executive officer
Member
Appointed for the period 1/1 2012 - 31/12 2016.

MSc (econ) Peter Skak-Iversen
Deputy
Appointed for the period 1/1 2012 - 31/12 2014.

Niels Erik Andersen, MSc, PhD
Deputy
Appointed for the period 1/1 2012 - 31/12 2016.
Uffe Bundgaard-Jørgensen
Chairman

Jacob Erik Holmblad
Vice-Chairman

Mogens Arndt
Member

Ella Maria Bisschop-Larsen
Member

Anita Ronne
Member

Lis Holst
Member

Jørgen G. Jørgensen
Member

Peter Skak-Iversen
Deputy

Niels Erik Andersen
Deputy
The DERA Secretariat

The Secretariat prepares cases for processing by DERA and makes decisions in accordance with the practices and guidelines stipulated by DERA.

The management of the Secretariat comprises Finn Dehlbæk, director general, the head of division for Law and Administration (vacant), Rune Moesgaard, head of division for Retail and Distribution, Martin Windelin, head of division for District Heating, and the head of division for Wholesale and Transmission (vacant).

Larger cases for DERA in the electricity area
In the past year, DERA revitalised its pressure for efficiency from the electricity grid companies. Rulings by DERA mean that 75 electricity grid companies must reduce costs by almost DKK 115 mill. or 5% of the companies’ costs of salaries, administration and maintenance. Pressure from DERA to improve efficiency has helped curb increases in the price customers pay to transport electricity.
DERA has conducted an extensive analysis of the retail electricity market. The analysis was published in a report in Danish entitled "Analysis of Competition on the Retail Electricity Market", and it demonstrates that the special legislation on supply obligation obstructs competition. About 85% of customers are supply obligation customers, while only 15% have chosen their electricity supplier themselves.

The analysis shows that the legislation on supply obligation:
• inhibits competition and weakens an important instrument in electricity legislation
• inhibits the desire of new commercial players to enter the electricity market and enhance competition
• inhibits efficiency, product development and innovation at supplier level
• inhibits product development and innovation in the industry which is to supply intelligent electrical appliances for homes and intelligent equipment for offices and manufacturing industries
• could make the transition to independence of fossil energy sources more expensive and inhibit greater flexibility in customers’ consumption patterns.

DERA concludes:
• that the primary challenge is to activate both consumers and suppliers and that the analysis reveals that the current regulation on supply obligation is not sufficient to stimulate use of the liberalised market and reactions to price signals
• that the less energy-consuming customers among households are unlikely to be significantly influenced to change behaviour as their consumption is not flexible.

Larger cases in the natural gas area
In the past year DERA has ordered three natural gas companies to adjust their prices of natural gas for supply-obligation customers for natural gas supplied in 2007, 2008, 2009, 2010 and 2011.

The ruling means that, up to the end of 2011, DONG Energy Gasforsyning A/S has demanded about DKK 850 too little from each of the company’s supply obligation customers, that HMN Gassalg A/S has demanded around DKK 130 too much from each of its supply obligation customers, and that Naturgas Fyn Forsyning A/S has demanded about DKK 400 too much from each of its supply obligation customers.

The ruling was made after a decision by DERA on companies’ supply obligation prices had previously been overruled by the Energy Board of Appeal. The new ruling was made on the basis of an estimate based on companies’ costs of buying gas, gas contracts, administration, financing, depreciation and tax in order to determine whether companies’ surpluses on supply obligation activities are reasonable.
DERA has made a principle ruling on the price of transporting natural gas from the natural gas fields in the North Sea to the gas processing plant in Nybro on the west coast of Jutland (the special upstream system). The ruling means that DONG Naturgas A/S has to reduce the transport price from the current DKK 0.1 per cubic metre to around DKK 0.05 - 0.07 per cubic metre of natural gas. The ruling covers agreements established with Maersk Energy Marketing A/S in the period from July 2011 to October 2012.

The ruling by DERA will make it more attractive to transport gas from the production fields in the North Sea to the Danish market, and this will enhance competition on the Danish gas market. The ruling does not only affect the transport agreements between DONG Naturgas and Maersk Energy Marketing, it will also influence price levels for future agreements on transport of natural gas to the Danish market, as other energy companies can demand the same reasonable price level when establishing agreements on transporting natural gas to the Danish market. With a total transport of around 5 bn. cubic metres (this was the amount in 2011), the ruling enables lower costs for natural gas vendors of DKK 150-250 mill. a year.
**Larger cases in the district heating sector**

Since 1 October 2006, the Secretariat has calculated and notified price caps for production by waste incineration plants of hot water supplied for district heating, but DERA has not previously notified price caps for steam. This changed in 2012, when DERA set a price cap for steam from AffaldPlus.

In the past year DERA approved a financing model submitted by AffaldVarme Aarhus and DONG Energy. This approval by DERA means that the parties have come much closer to an agreement on a billion-DKK modernisation of the large-scale CHP plant at Studstrupværkets Blok 3 near Aarhus and to replace coal with wood pellets in production of electricity and district heating. Approval by DERA also means that customers in Aarhus are secured reasonable prices for district heating for years to come, provided a new agreement between AffaldVarme Aarhus and DONG Energy is finalised.

DERA has made a principle ruling in a case concerning how district heating plants provide returns on the investments made by their owners. The specific case involves interest on EnergiGruppen Jyllands Varme A/S' subscribed capital. In the ruling, DERA ordered that the interest requested by the owners be reduced for the period 2003-2010 from DKK 460 mill. to DKK 282 mill. This ruling is now final, as last year the parties decided to accept the DERA ruling without appeal. The ruling will be a precedent for subsequent cases. DERA currently has about 45 applications for interest payments from district heating plants in Copenhagen, Aarhus and a number of other towns.

In the middle of the year, DERA addressed the issue of whether the intra-group cooperation agreements between E.ON Danmark A/S and its subsidiaries E.ON Produktion Danmark A/S and E.ON Varme Danmark ApS led to unreasonable price effects, or whether prices conflict with the price provisions in the Heating Supply Act. The cooperation agreements involve purchases of administrative and customer-related services. DERA found that the settlement bases for the administrative and customer-related services in the cooperation agreements between E.ON Danmark and E.ON Produktion/E.ON Varme are not adequately documented and therefore neither is the fixed price paid by E.ON Produktion and E.ON Varme to E.ON Danmark adequately documented. On this basis, DERA decided that the costs of purchasing administrative and customer-related services should be reduced by 50%, corresponding to figures for 2010 for E.ON Produktion of DKK 10,300,000, and for E.ON Varme DKK 3,600,000.
**Larger cases in the wholesale markets**

DERA has strengthened supervision and monitoring of the wholesale markets for electricity and natural gas. Every quarter, DERA publishes a report which monitors developments in the wholesale markets.

DERA is the national regulatory authority for the REMIT Regulation which introduces a ban on insider dealing and market manipulation on the wholesale markets for electricity and gas in the EU. DERA works with ACER, the European Agency for the Cooperation of Energy Regulators, which is responsible for coordinating monitoring of the wholesale markets. Moreover, DERA has also commenced collaboration with the Danish gas exchange, NordPool Gas, and the Nordic electricity exchange, NordPool on monitoring markets in relation to the provisions of the REMIT Regulation.

**Larger cases in international cooperation**

In the past year, DERA has set a strategy for international activities; a strategy containing overall objectives, specific sub-targets, success criteria and a detailed action plan. DERA is involved in international cooperation in order to contribute to meeting the national and international energy policy goals and to support economic growth and consumer benefits in Denmark.

In the past year, international cooperation has concentrated on three themes:

- Completion of the EU single market for energy in 2014, as decided by heads of government in 2011. The European regulators plays an important role in the design of common market rules and terms
- Common Nordic end-user market in 2015 to which the Nordic Council of Ministers has asked the Nordic regulators to contribute
- Increased mutual European dependency. As the national markets in the EU become increasingly integrated, the need is growing to find cohesive European solutions.

The results in 2012 were:

The DERA Secretariat has been involved in drawing up the Framework Guidelines which set the overall guidelines for the common European energy market for electricity and natural gas. In the past year, the Framework Guidelines were finalised on balancing electricity transmission systems and exchange regulations for gas transmission systems (interoperability and data exchange rules). ACER, the European Agency for the Cooperation of Energy Regulators, coordinated this work.
The DERA Secretariat took part in preparation of ACER’s guidance paper on interpreting the REMIT Regulation banning insider trading and market manipulation. Amongst other things, this has resulted in the Danish transparency platform for market-relevant information on the gas market being highlighted as best practice for similar platforms in other European countries.

The DERA Secretariat and the German regulator, Bundesnetzagentur, have been responsible for coordinating regional implementation of price coupling in north-western Europe (the Nordic countries, Benelux, France, Germany and the UK), and launch of price coupling in north-western Europe is expected in November 2013, after which the solution can be rolled out for other regions in Europe. Price coupling ensures socio-economically optimal exchange of electricity through transmission connections, and it is a cornerstone in the work to complete the EU single energy market.

The Nordic end-user market has also been the subject of significant activity in 2012, and the status of this work is described in the next section.
Interim status report for the common Nordic electricity retail market

Analyses from energy regulatory authorities in the Nordic countries show that a common Nordic retail market for electricity would be beneficial for electricity customers, electricity companies and Nordic societies. The Nordic energy ministers have given their support to the project, which is planned to lead to a common retail market as far as possible by 2015. Work on establishing a common harmonised market will be affected by the Nordic countries implementing the regulations at different speeds. The DERA Secretariat is taking an active part in preparing the Nordic retail market.

Since 2010, the association of Nordic energy regulators, NordREG, of which the DERA Secretariat is a member, has been working to establish a harmonised Nordic retail market for electricity. The retail market is to include Denmark, Finland, Norway and Sweden.

A harmonised Nordic retail market has significant advantages for customers, electricity companies and Nordic societies. According to analyses by NordREG in 2006, 2008 and 2009, a common Nordic retail market, with 14 mill. consumers, up to 400 electricity suppliers and almost 500 grid companies, means primarily more competition and thus better protection of customers against unreasonable prices. However, this is just one of the benefits of common and automated procedures for customers changing electricity supplier as well as a stable and uniform regulatory framework in the four Nordic countries. Other benefits are:

- customers have a greater choice of electricity supplier and better opportunities to change to a new supplier and/or new product
- new electricity suppliers will have more incentive to establish themselves on the market
- electricity suppliers will have more incentive to develop products and new types of contract as well as specialist products
- automated and simple procedures for customers changing supplier will enable greater efficiency and reductions in suppliers’ costs
- greater cohesion between pricing on the wholesale and retail markets and thus possibilities for better exploitation of energy.

Process and organisation

In 2009 the Nordic energy ministers offered their support to the common Nordic retail and end-user markets, if possible from 2015. In 2010, NordREG and the rest of the various stakeholders in the electricity sector drew up an implementation plan which was approved by the Nordic energy ministers later in the same year. They also noted that the plan would require great efforts from all the parties involved.
With a 2015 deadline, the project was organised in four working groups and an overall steering group. These groups include grid companies, electricity suppliers, sector organisations, system operators, IT suppliers and datahubs, etc. with representatives from all four countries.

NordREG does not have a secretariat itself, but since March 2011 it has been provided with a project coordinator as well as supplementary resources from the Nordic Council of Ministers such that NordREG can obtain consultant assistance to support and elucidate the large number of complex issues.

The actual harmonisation work will take place in the four working groups, while the steering group will carry out final monitoring and balancing of the opinions of the various stakeholders on the elucidations and recommendations of the working groups. The report will be submitted to the board of NordREG and on to the Nordic Council of Ministers.

**Recommendations**

Now, at more or less the mid point of the work by NordREG on establishing the Nordic retail market, a number of important recommendations and conclusions have already been presented:

- NordREG recommends implementation of a Supplier Centric Model. In this model, as a general rule the supplier is the hub for all contact with the customer, but such that all purely grid-related aspects, such as physical connection of customers to the grid, continue in general to be the responsibility of the grid company.
- NordREG recommends introduction of mandatory combined invoicing. This means that the invoice from the supplier will in future cover both the cost of the electricity consumed and costs of transporting the electricity in the electricity grid.
- NordREG concludes that a central facility for data storage will make communication and standardisation of regulations and protocols easier than having a local facility based on bilateral communication. Furthermore, the neutrality of grid companies will be improved with a central solution. A central facility could be a data hub, for example.

**Status of work**

Denmark has decided to introduce a data hub in March 2013 in order to facilitate easier communication of meter and master data between grid companies and suppliers. Furthermore, it has been decided to introduce a wholesale model from October 2014. The wholesale model involves combined invoicing by which the customer receives an overall invoice for both electricity consumption and the associated transport of the current. At the same time, the wholesale model also means that customers will usually only have to contact their supplier.
Note that with regard to work on having common, harmonised regulations in the Nordic countries, corresponding decisions have not been made in the other Nordic countries. Therefore regulations or proposals for these areas in the other Nordic countries have not been prepared. It is not unlikely that ultimate common harmonised rules could involve changes to the Danish rules.

**Future work**

In the years to come, NordREG will focus in particular on work on harmonising countries’ different and complex processes before ultimate simultaneous implementation of one or several datahub(s). Another important focus area is to outline insurance schemes and invoicing methods which could be utilised if, in the future, the supplier is to take over collection from the customer of grid payments on behalf of the grid company as well as taxes and duties, which will mean a significantly greater financial risk for the suppliers. The pivot of future work is to ensure that the common Nordic retail market is attractive for both suppliers and consumers. NordREG will continue its work according to a plan to establish a common, harmonised retail market in the Nordic countries in 2015, but there is little doubt that this will be a difficult task to realise.

**FACTS**

**Working groups**

The NordREG board has set up a steering group and four working groups to carry out work on implementing the Nordic retail market. The working groups will be responsible for the following tasks:

- **Market Rules**: The working group will analyse and define rights and obligations for suppliers and the grid companies in the Supplier Centric Model agreed by NordREG. The group will also analyse and establish invoicing and risk factors.

- **Business Processes**: This working group will focus on harmonising the countries’ market regulations (business processes) such as moving, change of supplier etc. The group will also examine how common methods could be established to communicate data between countries, for example in datahubs.

- **Customer Empowerment**: The working group will examine contract conditions, e.g. whether in future customers should have one or two contracts with grid companies and suppliers. The working group will also examine whether the regulations on consumer protection and supply obligation should be harmonised further and how this influences competition in the retail market.

- **Metering**: The working group will look at the existing national plans to introduce intelligent metering, including the national requirements and whether more harmonisation should be established in the area.
Case processing times

DERA places high priority on efficient case processing. This is done in part through setting and evaluating specific goals for case processing times. The Secretariat is constantly improving and optimising procedures, case processing times, etc.

The primary task of DERA is to decide important, principle cases which determine a practice for the area. The DERA Secretariat processes and decides cases on the basis of the practice set by DERA.

The number of new cases is rising (table 5). This has been the trend since 2010.

The number of cases decided rose in 2012 compared with the previous year (table 5). However there is only a weak connection between the complexity of cases and the number of both decided cases and cases being heard. The number of cases being heard is also affected by the time of year at which the cases were received by DERA.

<table>
<thead>
<tr>
<th>Table 5. Number of cases received and heard by DERA 2008-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>New cases</td>
</tr>
<tr>
<td>Decides cases</td>
</tr>
<tr>
<td>Cases being heard</td>
</tr>
</tbody>
</table>

In 2012 DERA processed 53 cases (table 6). This is a significant increase compared with the previous year.

<table>
<thead>
<tr>
<th>Table 6. Cases processed at DERA meetings 2011 and 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Electricity</td>
</tr>
<tr>
<td>Natural gas</td>
</tr>
<tr>
<td>District heating</td>
</tr>
<tr>
<td>Cross sectorial</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
The average case processing time for cases processed by DERA was 8.6 months in 2012 (table 7).

The average case processing time for cases processed by the DERA Secretariat was 5.2 months in 2012.

Table 7. Average case processing times, months

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>DERA</td>
<td>15.3</td>
<td>7.5</td>
<td>9.4</td>
<td>8.6</td>
</tr>
<tr>
<td>Secretariat*</td>
<td>3.4</td>
<td>3.1</td>
<td>4.3</td>
<td>5.2</td>
</tr>
</tbody>
</table>

* The bases for the figures for 2011 and 2012 are different and therefore the figures are not comparable. The figures for 2012 have been calculated on the basis of the number of cases closed in 2012, i.e. in which a decision or declaration was made against one or more recipients.

Source: Danish Competition and Consumer Authority up to and including 2011; after and including 2012, DERA Secretariat

Case processing times for cases decided by DERA and decided by the Secretariat depend in particular on the nature of the individual case, and complexity and consultation rounds influence when a case can be brought before DERA.
The Energy Board of Appeal

Amongst other things, the Energy Board of Appeal processes appeals against decisions by DERA and figures for 2012 show that the Energy Board of Appeal has decided significantly fewer cases from DERA than in previous years. The actual figures show that the number of cases decided by the Energy Board of Appeal arising from decisions by DERA or the DERA Secretariat has almost halved (table 8).

Table 8. Energy Board of Appeal cases arising from DERA

<table>
<thead>
<tr>
<th>Number of cases</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decided by the Board of Appeal</td>
<td>44</td>
<td>29</td>
<td>29</td>
<td>15</td>
</tr>
</tbody>
</table>

Of these:

- upheld
  - 2009: 36
  - 2010: 13
  - 2011: 17
  - 2012: 6

- annulled/amended/remitted
  - 2009: 5
  - 2010: 11
  - 2011: 7
  - 2012: 3**

- dismissed by the Board of Appeal
  - 2009: 3
  - 2010: 4
  - 2011: 1
  - 2012: 2

- concluded without decision
  - 2009: 0
  - 2010: 1
  - 2011: 4
  - 2012: 0

Rate of cases reversed*

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of cases reversed*</td>
<td>12</td>
<td>46</td>
<td>29</td>
<td>30</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 or concluded without a decision.

** A total of seven cases were annulled by the Energy Board of Appeal. Five of the seven cases are from the same decision by DERA.

The halving is also reflected in the number of cases upheld and concluded without decision by the Energy Board of Appeal. Both areas show a drop.

The rate of cases reversed varies from year to year. The differences are related to the fact that DERA is the first instance and therefore deals with cases where practice is to be established for the first time. The differences may also be because DERA makes errors in its case processing.

The number of cases decided by the Energy Board of Appeal should be compared with the total number of cases decided by either DERA or the DERA Secretariat, amounting to around 1100 cases a year. Only a small fraction of decided cases are brought before the Energy Board of Appeal.

At the end of 2012, the Energy Board of Appeal had 13 appeals against decisions by DERA under processing.
Financial aspects

Work by DERA is financed pursuant to the electricity, natural gas and heating supply legislation by the enterprises that are supervised. The detailed regulations are included in executive orders on payment for the individual areas.

<table>
<thead>
<tr>
<th>Table 9. Costs</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payroll costs</td>
<td>24.9</td>
<td>27.8</td>
</tr>
<tr>
<td>Operating costs</td>
<td>11.6</td>
<td>13.7</td>
</tr>
<tr>
<td>Total costs</td>
<td>36.5</td>
<td>41.5</td>
</tr>
<tr>
<td>Number of full-time years</td>
<td>45.5</td>
<td>50.4</td>
</tr>
</tbody>
</table>

Payroll costs include pay for Secretariat employees who carry out secretariat services for DERA and remuneration for DERA members. The total costs for remuneration were DKK 0.5 mill. in 2012.

Operating costs primarily include rent, services supplied by the Danish Competition and Consumer Authority, system operating costs, consultancy, the Legal Advisor to the Danish Government, training and travel.

Payroll costs increased by DKK 2.9 mill. from 2011 to 2012. This increase is primarily due to more employees in 2012 resulting from separation of the Secretariat from the Competition and Consumer Authority, which previously conducted all administrative tasks for the Secretariat. The positions were not fully occupied until 2012.

Operating costs similarly increased by DKK 2.1 mill. from 2011 to 2012. This increase is partly due to the costs of replacing larger IT systems such as the time-registration system, filing system and accounts system, and partly due to purchases of furniture etc.

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3 Executive Order no. 693 of 29 June 2012 on payment for processing by authorities in accordance with the Electricity Supply Act, Executive Order no. 694 of 29 June 2012 on payment for processing by authorities in accordance with the Heating Supply Act and Executive Order no. 695 of 29 June 2012 on payment for processing by authorities in accordance with the Natural Gas Supply Act.

4 Calculations have been completed on the basis of registered employees in 2012, less vacant periods.
Energy fees used for financing DERA tasks are given in table 9.

Table 9. Fees 2012

<table>
<thead>
<tr>
<th>Fees 2012, DKK mill.</th>
<th>Electricity</th>
<th>Gas</th>
<th>Heating</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated brought forward end 2011</td>
<td>12.4</td>
<td>3.8</td>
<td>8.4</td>
<td>24.6</td>
</tr>
<tr>
<td>Total fee revenues 2012</td>
<td>24.8</td>
<td>8.9</td>
<td>14.0</td>
<td>47.7</td>
</tr>
<tr>
<td>Total fees available in 2012</td>
<td>37.2</td>
<td>12.6</td>
<td>22.4</td>
<td>72.3</td>
</tr>
<tr>
<td>Costs in 2012</td>
<td>17.9</td>
<td>8.7</td>
<td>14.9</td>
<td>41.5</td>
</tr>
<tr>
<td><strong>Accumulated carried forward end 2012</strong></td>
<td><strong>19.3</strong></td>
<td><strong>3.9</strong></td>
<td><strong>7.6</strong></td>
<td><strong>30.8</strong></td>
</tr>
</tbody>
</table>

In 2012 the DERA Secretariat repaid almost DKK 5 mill. to the energy companies. This amount is equally distributed between the electricity and heating areas. The repayment was made as an offset against on-account payments from the energy companies.

Furthermore, DERA had a excess coverage of DKK 6.9 mill. for the electricity area and DKK 0.2 mill. for the gas area. There was an under coverage for the heating area of DKK 0.9 mill. due to the repayment to energy companies. A balance between fees demanded and the costs of the DERA Secretariat is not required for the individual year, but every effort is made to even out fees and costs over a four-year period.
Other authorities in the energy area

The work of DERA borders up to other authorities which also have competence in the energy area: The Minister for Climate, Energy and Building, 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, the Competition Council and Energinet.dk which is also responsible for a number of authority tasks in the electricity and natural gas sectors.

The Department of the Ministry of Climate, Energy and Building 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.

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 the electricity and gas areas 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 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 personal complaints about purchase and supply of services from energy supply companies. The Complaint Board was set up on 1 November 2004 as a personal complaint board under the Consumer Complaints Act. The secretariat is managed by the Danish Competition and Consumer Authority.

The Danish Competition and Consumer Authority monitors that the liberalised companies are complying with competition legislation.
The Danish Energy Regulatory Authority (DERA): Results and Challenges 2012

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