



Danish
Utility Regulator

National Report 2020 for Denmark

Status for 2019

DANISH UTILITY REGULATOR, AUGUST 2020

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FOREWORD

The Danish Utility Regulator (DUR), which took over all the duties of the former Danish Energy Regulatory Authority (DERA) in 2018, has in 2019 continued to work for the interests of consumers in the Danish utility sectors, i.e. electricity, natural gas and district heating. As an institution, DUR has also undergone important changes.

In December 2019, DUR moved to its new premises in Frederiksværk, to the north of Copenhagen. DUR was also assigned increased funding, which will allow it to expand its full-time headcount to address, inter alia, increased workload in connection with the Clean energy for all Europeans package (CEP). Furthermore, in early 2020, DUR inaugurated two new centers. The Center for Analysis, which is responsible for developing a closer oversight of the natural monopolies under DUR's regulation, and the Center for District Heating, which is in charge of developing and implementing a new regulatory framework for the Danish district heating sector.

The present National Report summarizes the main developments in the Danish electricity and gas markets during 2019, both at the wholesale and retail levels, and describes the main areas on which DUR will focus its surveillance efforts in 2020.

With respect to wholesale electricity markets, DUR's market surveillance will continue to focus on the available trading capacity on the cross-border interconnectors. In what concerns available capacity for trade with Germany, Sweden, Norway and The Netherlands (after the operational start of COBRA cable), DUR will remain to be attentive to the compliance of the 70-pct. minimum capacity requirement, established in the new EU Electricity Regulation, after the adoption of the CEP. In what concerns the retail electricity market, DUR will focus on implementing the provisions established in the new EU Electricity Directive, which will allow end consumers becoming even better informed and more active.

With respect to natural gas at the wholesale level, DUR is particularly attentive to the developments surrounding the shutdown for reconstruction of the Tyra platform in the Danish part of the North Sea, between September 2019 and July 2022. In this period, it is fundamental to closely monitor Danish gas storage facilities, as its efficient and appropriate utilisation is central to the supply situation during the next three years. Furthermore, trade capacity at the Ellund interconnection, between Denmark and Germany, will also be closely monitored, given that it is the primary supply route of natural gas to the Danish - and thereby Swedish - market. With regards to the retail gas market, DUR will continue working for the implementation of a supplier-centric model, with combined mandatory billing and removal of the universal service obligation of licensed default suppliers

The present report also presents an overview of the current arrangements in network regulation and the technical functioning of the electricity and gas sectors in Denmark.

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1. NOTE ON THE STRUCTURE OF THIS REPORT

The structure of the present report has taken into consideration CEER's "Advice on the Structure of Future National Reports and Relevant Indicators" (Ref: C19-MRM-101-03), but there is not a one-to-one correspondence between this and the structure of the present report. As DUR has published comprehensive reports on the evolution of the Danish wholesale electricity and gas markets in Danish, its original structure and contents have been preserved in the preparation of Denmark's National Report.

The following table clarifies the correspondence:

Section/sub-section in CEER's Advice Document	Section/sub-section in this report
1. Foreword →	1. Foreword
2. Main developments in the gas and electricity markets →	Table 1: "Main events in the Danish electricity markets in 2019" Table 2: "Main events in the Danish gas market, 2019"
2.1. Evaluation of the market development and regulation →	Box 1: Wholesale electricity market surveillance: focus areas in 2020 Box 2: Retail electricity market surveillance: focus areas in 2020 Box 3: Wholesale gas market surveillance: focus areas in 2020 Box 4: Retail gas market surveillance: focus areas in 2020
2.2. Report on the implementation of the Clean Energy Package →	Sub-section 3.3.
3. The electricity market →	Sub-section 3.1.
3.1. Network regulation and technical functioning →	Sub-sections 4.1. and 4.3
3.2. Competition and Market Functioning →	Sub-section 3.1.
4. The Gas Market →	Sub-section 3.2.
4.1. Network regulation →	Sub-sections 4.2 and 4.3
4.2. Competition and market functioning →	Sub-section 3.2
4.3. Security of supply →	Sub-section 4.3

2. COMPETITION AND MARKET FUNCTIONING

2.1. ELECTRICITY

2.1.1. WHOLESale ELECTRICITY MARKET¹

Electricity generation in Denmark was 28.6 TWh in 2019, which is a stable development (a decrease of 1 pct.) compared to 2018. The four largest sources of generation in 2019 were wind (56 pct.), coal (13 pct.), biomass (13 pct.) and gas (9 pct.). The generation mix in Denmark is undergoing a major change, in which the production shares of wind, solar and biomass are growing at the expense of coal and gas.

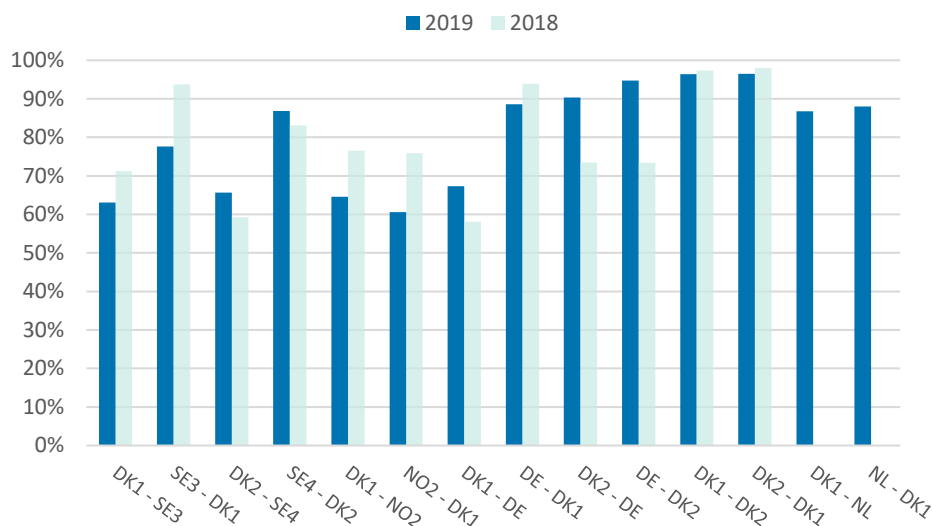
The Danish electricity consumption was 33.5 TWh in 2019, which is the same level as in 2018. Consumption of electricity has remained stable in the past few years. The largest consumption categories are commercial and public services (29 pct.), households (25 pct.), industry (14 pct.) as well as agriculture (6 pct.).

Denmark was a net importer of electricity with a total of 5.8 TWh in 2019 and has been a net importer since 2011. Net imports have increased considerably (12 pct.) in comparison to 2018. Denmark has imported most electricity from Germany (6.6 TWh) and exported most to Norway (3.3 TWh).

The available capacity for trade on the foreign transmission lines in 2019 was between 63 and 87 pct. of nominal capacity, in the export direction. In the import direction it was between 60 and 88 pct. See figure 1 for an overview of the available trading capacity, measured as a share of the nominal capacity in the cross-border interconnectors.

¹ This section is a summary in English of the annual market monitoring report of the Danish wholesale electricity market: *Markedsrapport for 2019, Engrosmarkedet for EI*, published by the Danish Utility Regulator. The report (in Danish) is available [here](#).

FIGURE 1 | AVAILABLE CAPACITY FOR TRADE, MEASURED AS A PERCENTAGE OF THE NOMINAL TRANSMISSION CAPACITY FOR 2019.



Source: Energinet and Nord Pool.

Note: The figure shows the average available capacity for trade as a percentage of the nominal capacity on the respective interconnectors.

The Cobra cable to the Netherlands opened with 700 MW in 6 September 2019 and in the last four months of 2019 has had an available trading capacity in both directions of 87 pct. (612 MW).

The available capacity or trade on the interconnector between West Denmark (D1) and Germany has increased from an average of 195 MW in 2016 (11 pct.) to 1200 MW in 2019 (68 pct.). This development is consistent with the joint declaration between the Danish Ministry of Climate, Energy and Utilities (KEFM) and the German Federal Ministry for Economic Affairs and Energy (BMWi), as well as the Danish and German regulators. The declaration was signed on 14 June 2017. In response to the European Commission’s concerns and, following the opening of an investigation on 19 March 2018, TenneT subsequently made a commitment to increase the capacity to 1300 MW from the start of June 2019. In response, the European Commission Competition Authority, DG COMP, imposed binding obligations on TenneT to increase electricity trading capacity between Denmark and Germany on 7 December 2018.

DUR, together with the German regulator, Bundesnetzagentur (BNetzA), have in 2019 evaluated the Danish (Energinet) and German (TenneT) Transmission System Operators’ (TSO’s) monitoring report for the 2018 calendar year on the compliance with the joint declaration for the minimum capacity between DK1 and Germany.² DUR and BNetzA have agreed that the TSOs’ reports and compliance with the declaration have been satisfactory. DUR and BNetzA have requested Energinet and TenneT to answer, inter alia, the following questions in the monitoring report for 2020:

² Energinet is an independent public enterprise owned by the Danish Ministry of Climate, Energy and Utilities (KEFM), which owns, operates and develops the transmission systems for electricity and natural gas in Denmark.

- Describe the effect of network development on the expected ability to transport physical electricity at the DK1-DE border.
- State how special regulation will be delivered in the light of the coming European platforms for balancing and the future model for counter-trade.³

Special down-regulation in DK1 amounted to 1.3 TWh in 2019, which is an increase of 0.2 TWh from 2018. TenneT uses special down-regulation to ensure system security, when they give a higher trading capacity than the physical capacity on the DK1-DE border.

The available capacity for trade from East Denmark (DK2) to Germany was 90 pct. in 2019. In the opposite direction, i.e. from Germany to East Denmark, trading capacity was 95 pct. of the nominal capacity.

Between West Denmark and Sweden, the available capacity for trade has decreased from 71 pct. in 2018 to 63 pct. in 2019. In the opposite direction, the available capacity for trade decreased from 93 pct. to 77 pct. Furthermore, available trading capacity from East Denmark to Sweden has increased to 66 pct. in 2019 from 59 pct. in 2018. In the opposite direction, trade capacity has increased to 87 pct. in 2019, from 83 pct. in 2018.

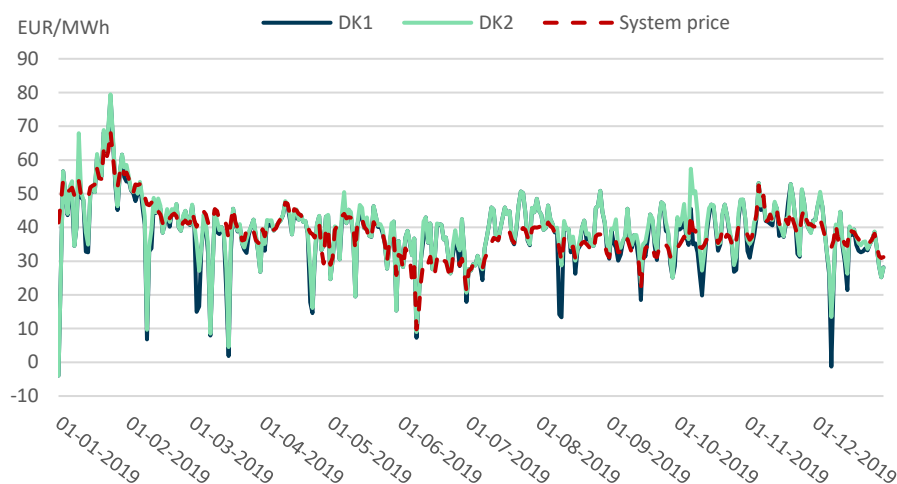
The Swedish TSO, Svenska Kraftnät, informed on the Nordic Energy Regulators (NordREG) stakeholder meeting held on June 12th 2019 that they will implement actions to reduce the effects of the West Coast Corridor on the interconnections to and from Sweden.

With the new electricity market regulation 2019/943, a minimum requirement of 70 pct. capacity for cross-border trade is imposed as of 1 January 2020. The regulation gives the possibility for derogation from the minimum requirement during the first two years, which is subject to the approval of the relevant national regulatory authority. Svenska Kraftnät applied on 25 November 2019 for a one-year derogation from the minimum requirement, and the application was approved by the Swedish Energy Market Inspectorate (Ei). According to Ei's decision, it is a requirement that Svenska Kraftnät must clarify the reasons underlying the non-fulfilment of the 70-pct. requirement. In this respect, DUR is continuously monitoring the development of available capacity for trade on the transmission lines to and from Denmark.

The average hourly prices in the spot market in 2019 for DK1 and DK2 were 38.50 and 39.84 EUR/MWh, respectively (see figure 2). The system price, which is a fictive spot price that would have occurred if the Nordic countries were one bidding zone without any limits on its transmission capacity, was 38.94 EUR/MWh. As Denmark is located between the Nordic region's hydropower-based and the Central European thermal and renewable-based electricity generation, it effectively acts as a transit country between two different generation mixes.

³ According to Energinet's "[Regulation C2: The balancing market and balance settlement](#)", special regulation is applied when Energinet makes a specific selection of regulating-power bids for upward or downward regulation disregarding the usual price order. This may occur either as a consequence of bottlenecks in Energinet's grid, bottlenecks/restrictions in the transmission grids of neighbouring areas or in case of announced or unannounced testing of reserve plants. Regulating-power bids used for special regulation are settled at the bid price (pay-as-bid).

FIGURE 2 | DAILY PRICE DEVELOPMENT OF THE SPOT MARKET IN 2019



Source: Energinet

Note: The development in spot prices for West Denmark, East Denmark and the system price.

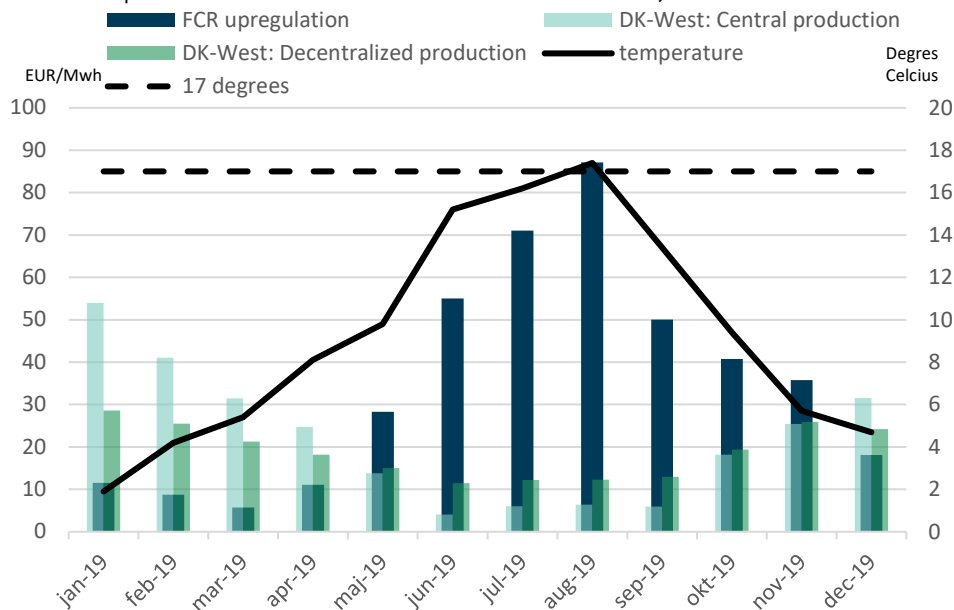
The lowest hourly price in 2019 was -48.29 EUR/MWh and the maximum price was 109.45 EUR/MWh. In total, there have been 227 hours with negative prices in 2019, which occur when there is too much electricity in comparison to demand.

The price of electricity in Denmark is affected by the prices of fuel and CO₂ and by the filling ratio of the Nordic hydro reservoirs. The filling ratio in the Nordic reservoirs was in 2019 about 1.3 percentage points under the average compared to the past five years.

The average price in the intraday market in DK1 was 35.1 EUR/MWh in 2019, while it was 36.7 EUR/MWh in DK2. Market participants use the intraday market to balance their consumption and generation portfolio, for instance when they experience an outage or if there is less wind than expected.

The Danish TSO, Energinet, purchases reserve capacity and reserve energy to balance the system before the operating hour. The average price for frequency-controlled reserves for up-regulating (FCR-up) in DK1 was 37 EUR/MWh (see figure 3). DUR observed that while the prices of FCR-up quickly rose until reaching a peak the summer, they did not return to the expected lower level in the autumn. DUR has not found any good explanation for this.

FIGURE 3 | PRICES FOR FCR UP-REGULATION FOR DK1, 2019



Source: Based on data from Energinet and Danish Energy Agency.

Note: FCR up-regulation reads from the left vertical axis in EUR/MWh. The generation of electricity from decentralized and centralized CHP plants has to be read from the right vertical axis and is given in 100 MW. The temperature reads from the right vertical axis and is given in Celsius degrees.

Prices on replacement purchases of manual frequency restoration reserves (mFRR) in DK2 have been lower than in the past few years (35 EUR/MWh). These replacement purchases happen only when there are outages on the plants that have a long-term agreement with Energinet on the delivery of mFRR. The prices of mFRR in DK1 were on average of 0.8 EUR/MWh.

Considering the recent developments in the Danish wholesale electricity market as well as ongoing regulatory changes, DUR will in 2020 focus its market surveillance efforts on specific areas (see Box 1 with DUR’s focus areas for surveillance of the Danish wholesale electricity market and Table 1 with main events in the Danish wholesale electricity market during 2019 and part of 2020).

One of such focus areas is the market for automatic frequency restoration reserves (aFRR) in West Denmark (DK1), which is relatively new, concentrated and immature. This market has been on a pause during the past five years, since Energinet had an agreement to purchase 100 MW aFRR reserves from Norway through a reservation on the Skagerrak interconnector. The agreement ended on 31 December 2019.

Another focus area for DUR in 2020 will be the evaluation of the Nordic financial market, to determine whether markets participants have sufficient possibilities to cover their risks. The evaluation will happen in pursuance of the Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (FCA GL).

Market participants hedge their generation and consumption to secure against unforeseen price changes in the market. Their risk coverage is composed by trade with financial transmission rights

(FTR), forward contracts and Power Purchasing Agreements (PPA). The supply of FTR on the Danish interconnectors increased in 2019 relative to 2018. Specifically, the supply of FTRs increased significantly between West Denmark (DK1) and Germany, and the purchase of FTRs between West Denmark (DK1) and the Netherlands is now also possible, after the operational start of the Cobra cable. Box 1 summarises the areas on which DUR will focus its market surveillance efforts within wholesale electricity markets, during 2020.

BOX 1 | **WHOLESALE ELECTRICITY MARKET SURVEILLANCE: FOCUS AREAS IN 2020**

DUR's focus areas for future market surveillance in wholesale electricity markets are the Danish **transmission lines, reserve markets and the Nordic financial market**.

DUR's market surveillance in 2020 will continue to have focus on the trading capacity on the interconnector between West Denmark and Germany. The declaration on **the minimum capacity** to the market must be respected. The market surveillance will also follow the development of **the available capacity to and from Sweden, Norway and Netherlands**, in relation to the 70-pct. requirement.

DUR will in 2020 make **an evaluation of the Nordic financial market**. Market participants must have sufficient possibilities to cover their risks.

DUR's market surveillance in 2020 will follow the new market for **automatic frequency restoration reserves (aFRR) in DK1**. DUR will have **an increased focus on this market** until Q3 in 2020.

In 2019, DUR has advanced an active work agenda on several fronts. Table 1 summarizes the main events and regulatory changes and developments in the Danish wholesale electricity markets, which have taken place between 2019 and part of 2020.

TABLE 1 | MAIN EVENTS IN THE DANISH WHOLESALE ELECTRICITY MARKET, 2019

January 14. 2019	DUR and the other Nordic energy regulators approve the TSOs' methods for coordinated redispatching and countertrading for capacity calculations and cost distribution in Capacity Calculation Region Nordic (CCR Nordic). The methods support the coordinated capacity calculation in CCR Nordic and ensure that transmission capacity is maximized while safeguarding security of supply in CCR Nordic. In the future, these methods will have a significant impact on countertrade between Denmark and Sweden. Read more here and here .
January 25. 2019	ACER decides on the method for pricing transmission capacity in the pan-European intraday market . The method implies that implicit auctions will be introduced in the intraday market, establishing a mechanism to price transmission capacity if there is congestion. Spare capacity after these auctions will continue to be given for free to the continuous intraday market. Read more here .
April 3. 2019	DUR, together with the other Nordic energy regulators note that there is a high risk that the Nordic TSOs will not be able to meet the legal deadline of 18 December 2020 for a 15-minute imbalance settlement . DUR urges the TSOs to avoid delays and to present an ambitious and realistic implementation plan as soon as possible. Read more here .
April 5. 2019	DUR, together with other regulatory authorities in the EU approve the TSOs' method for calculating scheduled exchanges in intraday market coupling. The method concerns exchange between bidding zones, countries, TSOs and NEMOs and supports the development of a pan-European market. Read more here .
April 5. 2019	ACER makes a decision on amendments to the division of EU into capacity calculation regions. The decision assigns a region to new interconnectors. The Cobra cable to the Netherlands and Denmark is assigned to the Hansa capacity calculation region . The decision simultaneously implies that TSOs must do an analysis about the future of Hansa and Channel capacity calculation regions within 18 months. The TSOs shall specifically analyse if it would be an advantage to merge the regions with the Core region. Read more here .
June 12. 2019	DUR hosts in collaboration with the other Nordic Energy Regulators a stakeholder meeting on the available capacity for cross-border trade capacity in wholesale electricity markets . The meeting dealt specifically with the limits in trading capacity, caused by the West Coast Corridor in Sweden. The stakeholder meeting was the second in a series of meetings; where the first one was held on 25 October 2018. Read more here .
July 1. 2019	DUR gave a reprimand (påtale) to Energinet for having published a report about prices for special regulation at such a detailed level that Energinet did not comply with the legal requirements on the confidentiality of commercially sensitive information . DUR assessed that the publication of prices for special regulation could have been done as average monthly values and within three months between submission of bids and publication, without disclosing commercially sensitive information and that this would have been sufficient to provide investment signals that benefit the market. A detailed publication of prices may limit competition or create risks for price coordination. Read more here .
July 2. 2019	DUR approved the market rules for Kriegers Flak , an offshore windfarm located in the Baltic Sea among Denmark, Germany and Sweden. The windfarm will, in addition, be an offshore cross-border interconnector between East Denmark (DK2) and Germany adding 400 MW nominal transmission capacity, as part of a hybrid solution, called "Kriegers Flak combined grid solution" project. The market rules secure that Kriegers Flak can be open for trade and transmission of electricity. Read more here .
July 5. 2019	Energinet publishes a report on the technical requirements for fast frequency reserves (FFR) prepared jointly by the Nordic transmission system operators who see FFR as a means to handle low inertia situations where the current reserve products alone are not sufficiently fast . Read more here .
July 24. 2019	Regulation 2019/943 comes partially into effect. Regulation 2019/943 is one out of 8 legal acts under the Clean Energy for all Europeans package. Regulation 2019/043 contains a series of requirements that came into legal effect on 1 January 2020. Regulation 2019/943 establishes, among other provisions, expanded market rules that secure flexibility, improve competition and clearer price signals for market participants. The regulation also provides extended framework conditions to promote a better utilization of the European transmission network, including a requirement that at least 70pct. transmission capacity be available on the interconnectors. The regulation also contains measures that aim at securing a sufficient level of generation capacity across the EU, and provisions to strengthen the regional collaboration among TSOs in regional coordination centres. Read more here .

September 6. 2019	The Cobra cable between the Netherlands and West Denmark becomes operational and adds 700 MW transmission capacity.
October 8, 2019	DUR publishes the results of an investigation on the state of competition with particular focus on the internal transactions of vertically integrated undertakings. Read more here .
October 11. 2019	DUR appoints European Market Coupling Operator (EMCO) as NEMO in the Danish bidding areas, DK1 and DK2. EMCO is responsible for the day-ahead and intraday markets in Denmark and ensures that Denmark is part of the European market coupling. EMCO is obliged to make clearing and settlement and to publish market results. Furthermore, EMCO must cooperate with Energinet. Read more here .
October 17. 2019	DUR approves a change to Energinet's tender requirements for the purchase of replacement capacity of manual frequency restoration reserves (mFRR) in East Denmark in case of outage time on contracted plants. Read more here .
November 4. 2019	ACER makes a decision about harmonized allocation rules in EU. These are part of a set of rules that support the development of a market for long-term transmission rights. Read more here .
November 5. 2019	ACER makes a decision on the method for long-term calculation of capacity in CCR Nordic. The decision establishes that the calculation of transmission capacity one year before and one month before delivery shall be based on a flow-based method. The method shall help to ensure an optimal exploitation of transmission capacity, which simultaneously ensures security of supply. In the meantime, the method is part of a set of rules that supports a market for long-term transmission rights. Read more here .
November 12. 2019	DUR , together with the energy regulatory authorities of Sweden, Germany, Poland and the Netherlands (CCR Hansa) approve the TSOs' proposed amendment for the regional annex for the harmonized allocation rules in the region. The proposed amendment enables TSOs to sell long-term transmission rights on the Cobra cable between Denmark and Netherlands. Read more here .
December 3. 2019	DUR hosts, in collaboration with the rest of the Nordic energy regulators , a stakeholder meeting on cross-border trading capacity in the wholesale energy market . The meeting dealt specifically with the limits in trading capacity caused by the West Coast Corridor in Sweden. This stakeholder meeting was the third in a series of meetings. Read more here .
December 19. 2019	The Swedish energy regulator, Swedish Energy Markets Inspectorate , decides to approve a request from the Swedish TSO, Svenska Kraftnät, on an exemption from the requirement in regulation 2019/943 about minimum 70 pct.available capacity on transmission lines. Read more here .
December 20. 2019	DUR increases its surveillance focus on the market for automatic frequency restoration reserves (aFRR) in West Denmark . Read more here .
December 20. 2019	DUR approves using an implicit loss factor on the connection from West Denmark to Norway . This means that net loss is implicitly purchased in the day-ahead auction, and there will no longer be power transfers between Denmark and Norway, if the price difference is lower than the loss on the cables. Read more here .
January 24. 2020	ACER makes a decision about terms for the coming market platforms for automatic and manual frequency restoration reserves (aFRR and mFRR). The platforms must be set up by TSOs jointly in the EU. ACER makes a decision about a method for pricing of balancing energy . Read more here .
February 18. 2020	DUR and the other Nordic energy regulators reject three interrelated proposals from Nordics TSOs about one Nordic capacity market for automatic frequency restoration reserves (aFRR) after which the proposals go to ACER , which will instead adopt a decision. Read more here .
April 1. 2020	DUR prolongs the increased surveillance focus of the West Danish market for automatic frequency restoration reserves (aFRR) through Q3 2020. Read more here .

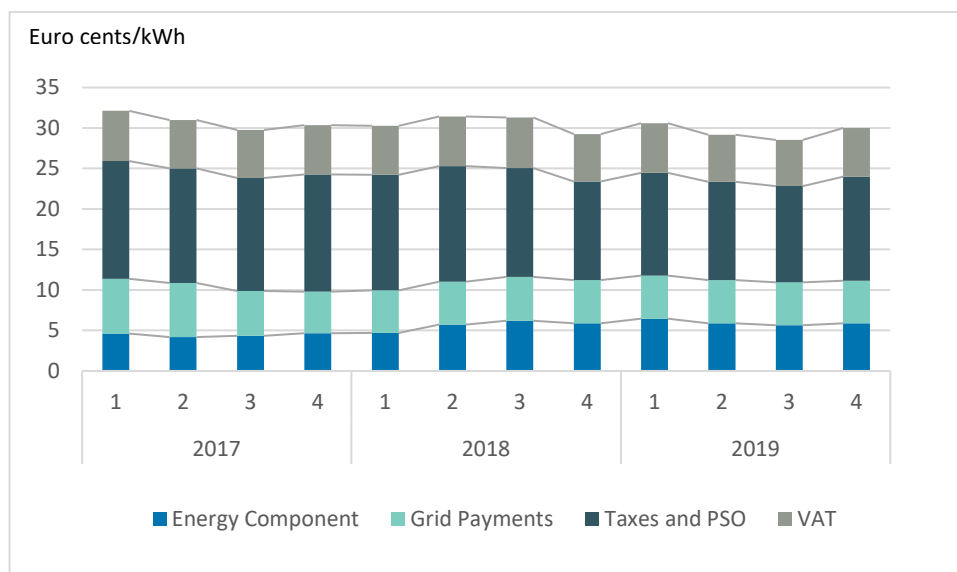
Source: DUR, based on its own decisions; Danish Ministry of Climate, Energy and Utilities; Energinet; Danish Energy Agency; Agency for the Cooperation of Energy Regulators (ACER); European Commission; European Council; Nasdaq.

2.1.2. RETAIL ELECTRICITY MARKET

Retail electricity prices

In 2019 the average total electricity price for Danish household customers was 29.58 cEUR/kWh, which is a decrease of 3.2 pct. compared to 2018, when the price was 30.56 cEUR/kWh, see figure 4.

FIGURE 4 | RETAIL ELECTRICITY PRICES FOR HOUSEHOLD CUSTOMERS (EURO CENTS/KWH), 2017-2019

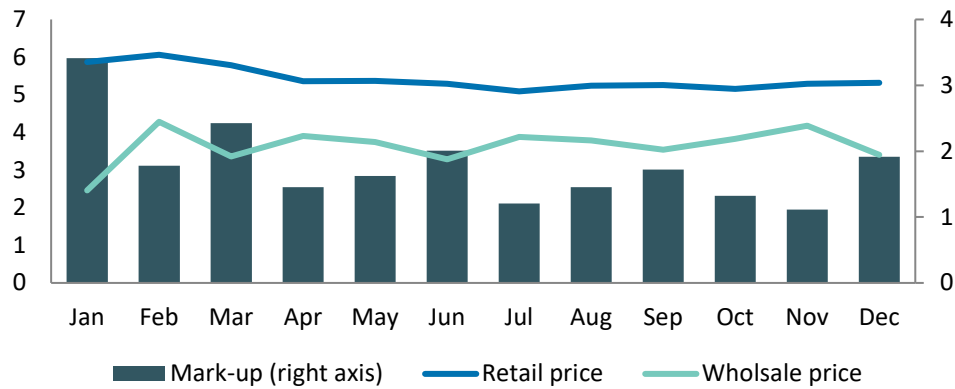


Source: DUR

Note: The calculations are based on an annual household consumption of 4,000 kWh.

Throughout 2019 there has been a close correlation between the retail price for variable electricity products and the wholesale price, see figure 5. The close correlation means that customers on variable products receive price signals that correspond to the price on the wholesale market.

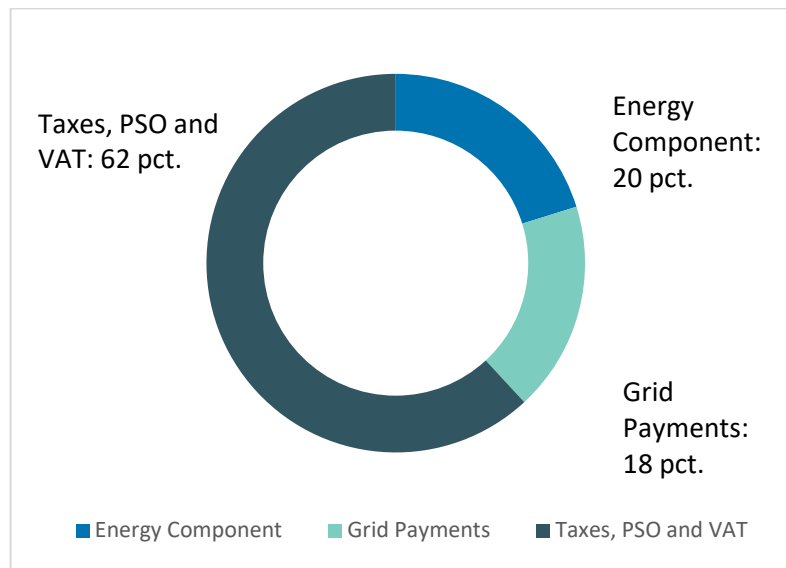
FIGURE 5 | CORRELATION BETWEEN RETAIL AND WHOLESALE ELECTRICITY PRICE (EURO CENTS/KWH), 2019



Source: DUR

In 2019, the average price that household customers paid for electricity was made up by 20 pct. in energy component payments, 18 pct. in grid payments⁴ and 62 pct. in taxes, Public Service Obligation (PSO)⁵ and value-added tax (VAT) payments, see figure 6. Taxes, PSO and VAT payments is by far the most predominant price element and it is not exposed to competition.

FIGURE 6 | COMPOSITION OF THE TOTAL PRICE FOR HOUSEHOLD CUSTOMERS, 2019



Source: DUR

Note: The calculations are based on an annual consumption of 4,000 kWh.

⁴ Grid payments cover DSO grid tariffs, DSO subscription fees, TSO grid and system tariffs.

⁵ PSO is an abbreviation for Public Service Obligation. PSO finances subsidies for renewable energy production and development. In 2017 the gradual phase out of PSO began. By 1 January 2022 PSO will be phased out completely.

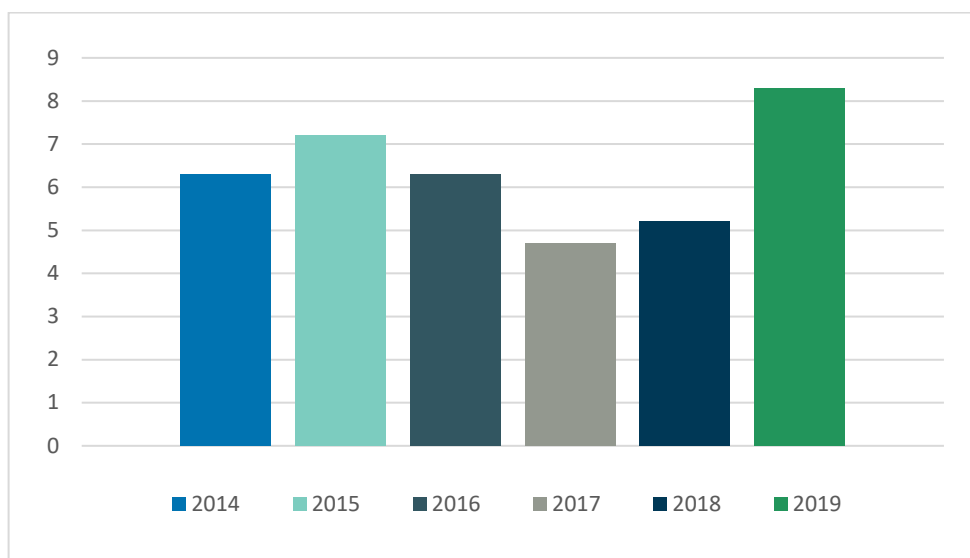
DUR publishes different types of electricity price statistics, including an annual report concerning retail prices for household and non-household customers with a consumption of up to 100,000 kWh/year. The purpose of this report is to increase transparency and customer awareness with regards to products and prices on the Danish retail market for electricity, thereby enabling customers to make an informed decision about which product to choose. The report for 2019 is expected to be published in autumn 2020.

In 2019, there were 39 electricity suppliers among which consumers could choose from.

Electricity supplier switching rates

Despite potential savings, the external switching rate (for household and non-household customers with an annual consumption up to 100,000 kWh) where customers switch to a different supplier, has remained rather constant and low since 2014, see figure 7. However, in 2019, the switching rate was 8.3 pct., which is an increase compared to 2018, when the switching rate was 5.2 pct.

FIGURE 7 | ELECTRICITY SUPPLIER SWITCHING RATES (PCT.), 2014-2019



Source: Energinet

In 2020, due to the implementation of CEP, DUR will focus on revising executive order no. 1400 of 2015. DUR will continue its work of improving the comparison tool elpris.dk. Overall, DUR's focus areas for market surveillance at the retail level in electricity markets are presented in Box 2.

BOX 2 | RETAIL ELECTRICITY MARKET SURVEILLANCE: FOCUS AREAS IN 2020

In 2020, DUR will work on **revising executive order no. 1400 of 2015 on electricity billing**, in order to ensure a timely and correct implementation of the new provisions in the recast Electricity Directive 2019/944 regarding billing information.

Furthermore, DUR will **continue the process of improving elpris.dk** with the involvement of relevant stakeholders. DUR hopes that the steps taken to improve elpris.dk will make it a **better comparison tool** that will **support the green transition** and **encourage customers to be active** in line with the recast Electricity Directive.

2.2. GAS

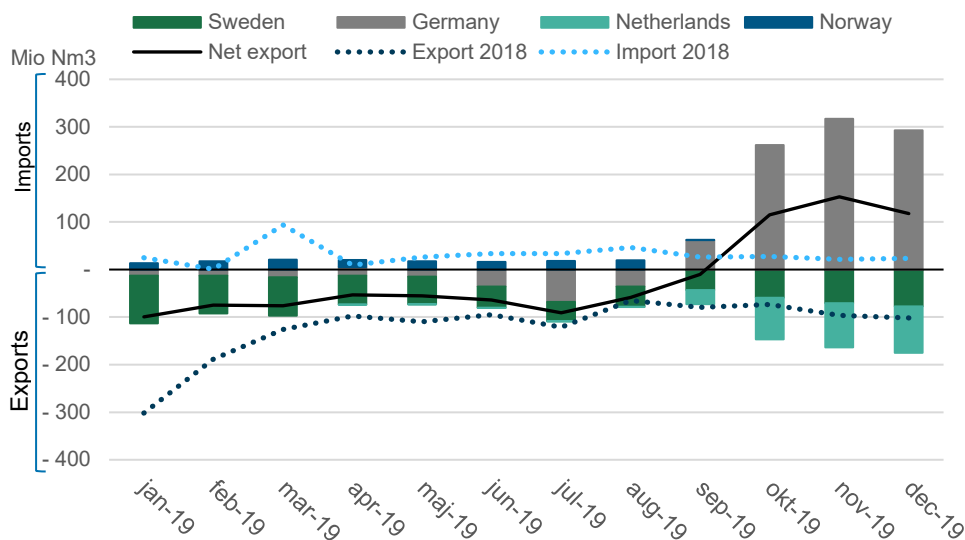
2.2.1. WHOLESALE GAS MARKET⁶

The Tyra platform, which usually processes approximately 90 pct. of the gas production from the Danish North Sea, closed down for reconstruction from 21 September, 2019 to 1 July, 2022 (see Box 3 with DUR's focus areas for surveillance of the Danish wholesale Gas market and Table 2 with main events in the Danish wholesale gas market during 2019 and part of 2020).

The reconstruction has significant impact for the functioning of the Danish gas market. During the Tyra shutdown, the Danish gas market will primarily be supplied with gas from Germany, as well as from minor sources, such as the South Arne field and biomethane production. The shutdown changed the supply situation in Denmark, as the country went from being a self-sufficient exporting nation to having to import nearly all of its domestic gas consumption, see figure 8.

⁶ This section is a summary in English of the annual market monitoring report of the Danish wholesale gas market: *Markedsrapport for 2019, Engrosmarkedet for Gas* published by the Danish Utility Regulator. The report (in Danish) is available [here](#).

FIGURE 8 | NATURAL GAS: IMPORTS AND EXPORTS PER COUNTRY, 2019



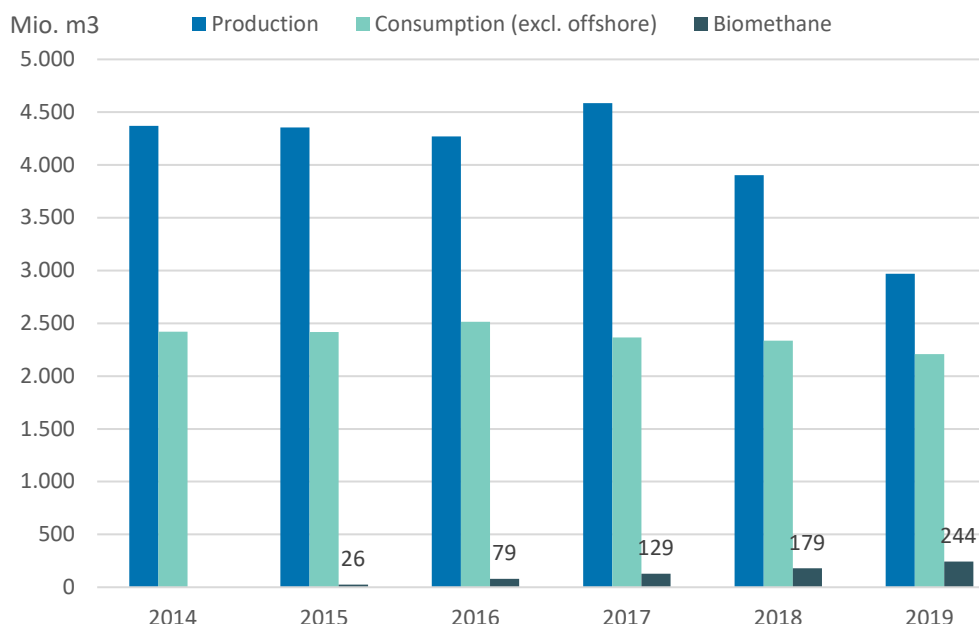
Source: DUR based on data from the Danish Energy Agency.

Note: Import from Norway constituted by production from the field Trym, which is only connected to the Danish system.

The Baltic Pipe, which will connect Denmark with the Norwegian offshore gas system and with the Polish gas market, is expected to open on 1 October, 2022. The new connection will have a capacity of 10 billion m³ per year, which amounts to 4-5 times the Danish consumption. Denmark will have sufficient supply sources when both the Baltic Pipe and the Tyra platform are in operation.

Natural gas production in 2019 was 3.0 billion m³, which is 24 pct. lower than 2018, and corresponds to a decrease of 35 pct. compared to 2017. The production of methanised biogas has increased tenfold between 2015 and 2019, corresponding to 11 pct. of the total Danish consumption in 2019. At the end of 2019, there were 35 producing biogas plants, and 15 plants were under construction, see figure 9.

FIGURE 9 | PRODUCTION AND CONSUMPTION OF GAS IN DENMARK, 2014-2019



Source: DUR based on data from the Danish Energy Agency and Energinet

Note: Biomethane is biogas upgraded to meet the specification for injection into the transmission and distribution systems.

In 2019, Danish gas consumption reached the lowest level in 20 years at around 2.2 billion m³. The Danish consumption is affected by temperatures, as more than half of the gas consumption is used for electricity and district heating production and by households for individual heating. In September 2019, the Danish Energy Agency estimated that consumption would fall by 19 pct. over the next 10 years, due to an expected decline in consumption by households and in consumption for electricity and heat production. The Danish Energy Agency expects that gas consumption for transport will more than double over the next 10 years, due to increased use for heavy transport, where gas can act as a transition technology to electrification of the sector.

During the first nine months of 2019, Denmark was a net exporter of gas. Total exports in 2019 were 1,274 million m³, which were 13 pct. lower than in 2018. The fall in exports is due to the closure of the Tyra platform and to limited exports to the Netherlands, due to maintenance on the Tyra West-F3 pipeline. Since the shutdown of the Tyra platform, 934 million m³ natural gas were imported to Denmark, see figure 8.

There is more uninterrupted (firm) capacity for both exports and imports on the Danish side, than on the German side of the Ellund point. However, there is unlimited interruptible capacity on the German side. For most of 2019, there was sufficient import and export capacity on both the Danish and German sides compared to the actual gas flow. In the year preceding the shutdown of Tyra, 3.1 GWh/h of Danish import capacity, out of 7.7 GWh/h, was reserved for uninterrupted capacity. Following the closure of

the Tyra platform, reservation of Danish import capacity was between 4 and 6 GWh/h. Exit capacity on the German side (Danish imports) is not sufficient to supply the Danish and Swedish markets during the coldest winter months. DUR is therefore paying close attention to bottleneck situations, which may arise because of the need for large imports to Denmark.

In spring, the German gas transmission operator Gasunie Deutschland reduced export capacity from Denmark to Germany. The uninterruptible capacity on the German side was set to zero from January 1, 2020. However, Gasunie Deutschland is still offering interruptible capacity.

During the autumn, the gas transmission operators at the Ellund interconnection point launched a process in accordance with EU network codes to clarify whether market players' demand for new capacity can justify new investments in uninterruptible capacity. The non-binding bids received in the process indicate a high demand for export capacity from Denmark to Germany from October 2022, when the Tyra platform reopens and the Baltic Pipe comes into operation. DUR follows the process closely.

DUR made several significant decisions during the year:

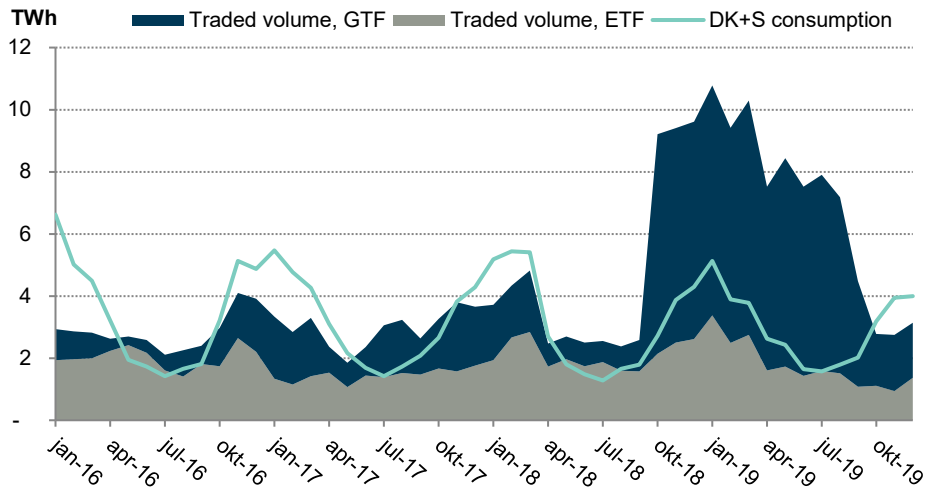
- In March 2019, DUR together with the Swedish energy regulator, approved a joint balancing model for Denmark and Sweden, which came into force on April 1, 2019. The Danish exit point towards Sweden was closed, and a new Danish-Swedish exit zone was created with common balancing.
- In May 2019, DUR approved Energinet's method for tariff determination, which is valid from October 1, 2020 and the three following years. The approval of this method ensures compliance with EU rules on harmonization of tariff structures (NC TAR). Furthermore, the new method reintroduces uniform tariffs, as well as a new split between capacity and volume tariffs.
- In December 2019, DUR approved that Energinet reintroduces seasonal tariffs in Ellund from October 1, 2020 until October 1, 2022. The decision supports security of supply during Tyra's shutdown.

Gas Storage Denmark had a total available storage capacity of 10,643 GWh in 2019. This is approximately 2 pct. more than in 2018. Storage capacity was sold out at an average price of EUR 4.07 EUR/MWh in 2019, which was approximately 183 pct. higher than in 2018. The year was unusual for the Danish gas storages, due to warm weather and low gas prices. Gas storage capacity utilisation reached a level of over 90 pct. during the summer, and by the end of 2019, storages were 95 pct. full, which is the highest utilisation rate for that time of the year, since 2011.

In 2019, 21 TWh were traded on the Danish gas exchange PEGAS ETF and 61 TWh on GTF. GTF is the delivery point for bilateral contracts, and the traded volume was at a historical high. However, trading on PEGAS ETF was approximately 45 pct. lower in the fourth quarter of 2019, in comparison to the average volume in the fourth quarter of the previous three years. Significantly fewer volumes are thus traded on PEGAS ETF after the closure of the Tyra-platform, see figure 10.

Spot products, such as day-head and weekend products, are the products primarily traded on the Danish gas exchange. There were no trades in longer term contracts, such as the month-ahead forward, during 2019.

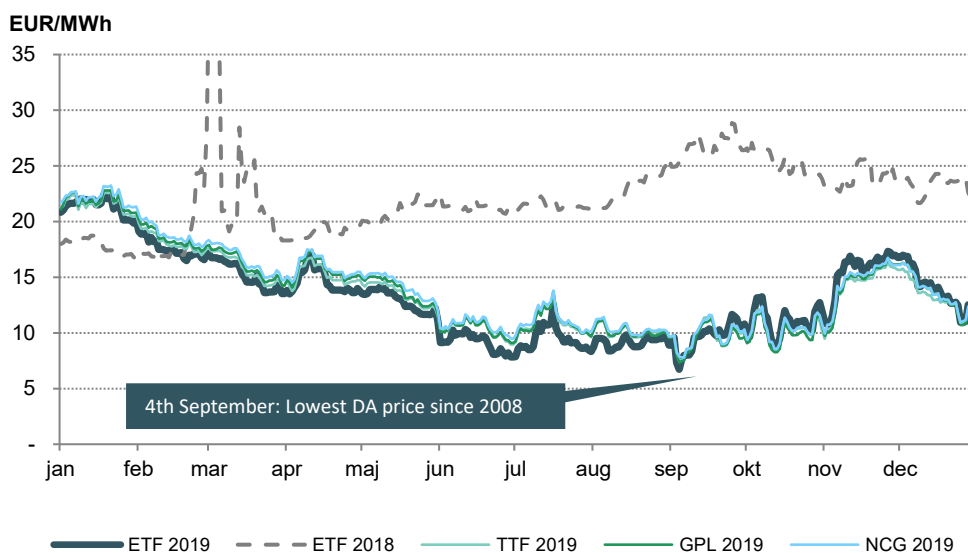
FIGURE 10 | TRADED VOLUME ON THE DANISH WHOLESALE GAS MARKET, 2016 – DECEMBER 2019



Source: DUR based on data from PEGAS ETF and Energinet.

The average spot price in 2019 was 13.26 EUR/MWh, which is 40 pct. lower than in 2018. The prices fell through the beginning of the year and the lowest daily price (6.73 EUR/MWh) since 2008 was observed on September 4, 2019. Thereafter, prices rose until December but the day-ahead price in 2019 nonetheless ended at 7.32 EUR/MWh, below the price at the beginning of the year, see figure 11.

FIGURE 11 | SPOT PRICE DEVELOPMENT IN DENMARK, NETHERLANDS AND GERMANY, 2019



Source: DUR based on data from PEGAS ETF og EEX.

Note: Spot prices on day-ahead-markets are the European Gas Spot Indices (EGSI) for the Danish Exchange Transfer Facility (ETF), the Dutch Title Transfer Facility (TTF), and the German Gaspool (GPL) og NetConnect Germany (NCG).

Spot prices in Denmark were generally lower than prices in Germany during the period up to the closure of the Tyra platform, with an average price spread of -1.09 EUR/MWh. However, since August Danish prices increased in comparison to prices in the German gas markets and have been above these since the closure of the Tyra platform with an average price spread of 0.70 EUR/MWh.

DUR's analysis on transported gas in relation to market price signals shows that, overall, there has not been any major or systematic transportation of natural gas against price signals during 2019.

On the other hand, there have been several instances where market participants have not taken advantage of the arbitrage opportunities between the Danish and German gas markets. Box 3 summarises the focus areas on which DUR will focus its surveillance efforts in relation to wholesale gas markets in the course of 2020.

BOX 3 | WHOLESALE GAS MARKET SURVEILLANCE: FOCUS AREAS IN 2020

DUR's market monitoring for 2020 and the coming years will be closely focussed on the **shutdown of the Tyra platform**, from September 2019 to July 2022.

The market monitoring will especially focus on the **Ellund connection**, between Denmark and Germany. Denmark became an import country with only one primary supply route from the fall of 2019. DUR will continue to analyse and monitor **whether significant or systematic transport of gas against price signals is occurring and whether capacity at the Ellund connection is utilised efficiently**.

In addition, DUR will closely follow the development of **the process to re-establish German import capacity at Ellund** after the Tyra platform is rebuilt.

DUR's market monitoring will follow **price developments** in the Danish gas market. In addition, it will focus on **market dynamics, trade behaviour and market concentration**, during the 2019-2022 period.

The utilisation of the Danish **gas storage facilities** will be monitored, as its efficient and appropriate utilisation is central to the supply situation during the next three years. DUR is responsible for the oversight of the terms for access to storage capacity, as well as other obligations according to the European gas regulation.

Table 2 summarizes the main events and regulatory changes and developments in the Danish wholesale gas markets, which have taken place between 2019 and part of 2020.

TABLE 2 | MAIN EVENTS IN THE DANISH WHOLESALE GAS MARKET, 2019

January/February 2019	DUR approves the removal of price caps and repeals the role of market makers in Energinet's market based gas balance model , read more here and here .
January 9. – May 8. 2019	Energinet announces that tie-in to the Norwegian upstream gas network in connection with the construction of Baltic Pipe is expected to open on January 1, 2022 and later postpone to October 1, 2022, read more here .
March 28. 2019	DUR and the Swedish energy regulator approve a joint balance model for Denmark and Sweden (Joint Balancing Zone) to be implemented April 1 st . This removes the Danish exit point towards Sweden, Dragør, and creates a joint Danish-Swedish exit zone with joint balancing based on the existing Danish balance model, read more here .
April 4. 2019	The Danish Parliament adjusts parts of the exemption criteria that must be met in order to receive support for biogas plants after January 1, 2020. Support for new plants for electricity generation based on biogas and support for plants for upgrading biogas is abolished from January 1, 2020. Also, no new commitments are given for support for plants using biogas for transport, industrial processes and heat, read more here .
May 1. 2019	The Swedish TSO, Swedegas, reopens the Swedish 10 million. m³ gas storage Skallen in Halland for commercial operation after being closed since May 2018, read more here .
May 31. 2019	DUR decides a new uniform tariff method for Energinet, which comes into force on 1 October 2019 and is valid until 30 September 2022. The decision implies that the capacity element in the tariff is increased considerably and the volume tariff is reduced, read more here .
July 1. 2019	All annual capacity in Ellund from GUD to Denmark for the gas years 2019 and 2020 was sold out at the annual capacity auction , which represented 80 pct. of the total capacity from Germany to Denmark. However, GOD released additional capacity for the year 2020 in the middle of the last quarter of 2019.
September 4. 2019	The lowest price on PEGAS ETF since 2008 : 6.73 EUR/MWh.
July 2018 – September 2019	The gas pipeline, Tyra West-F3 , which connects the Danish upstream system to the Dutch platform F3, and then on to the Dutch gas market, reopened in September after shutdown to connect more Danish gas fields to the export route.
September 21. 2019	The Tyra platform closes at 01:20 for export and production due to reconstruction , and is expected to reopen on July 1, 2022. Until then, Denmark/Sweden is supplied predominantly via Ellund from Germany, and to a lesser extent from the South Arne field and biomethane production, read more here .
September 30. 2019	DUR approves Energinet's pricing of interruptible day-ahead and within-day entry capacity in Ellund , which Energinet offers from October 1, but only in periods when all uninterruptible entry capacity is sold out, read more here .
October 1. 2019	Danish Gas Distribution and HMN Gasnet are merged into Evida , which consists of three local distribution companies: Evida Nord, Evida Syd and Evida Fyn, read more here and here .
October 30. 2019	The Danish Energy Agency grants permission to establish the Nordstream 2 gas pipeline on the Danish continental shelf southeast of Bornholm, read more, here .
December 5. 2019	Amendment of the natural gas supply act is adopted. In combination with the Gas Supply Security Regulation, the act clarifies the joint responsibility of Energinet and market participants for security of supply in their respective fields of activity and competence, read more here .
December 18. 2019	DUR approves the introduction of seasonal factors for capacity in Ellund for a fixed period during the Tyra shutdown for two gas years from October 2020.

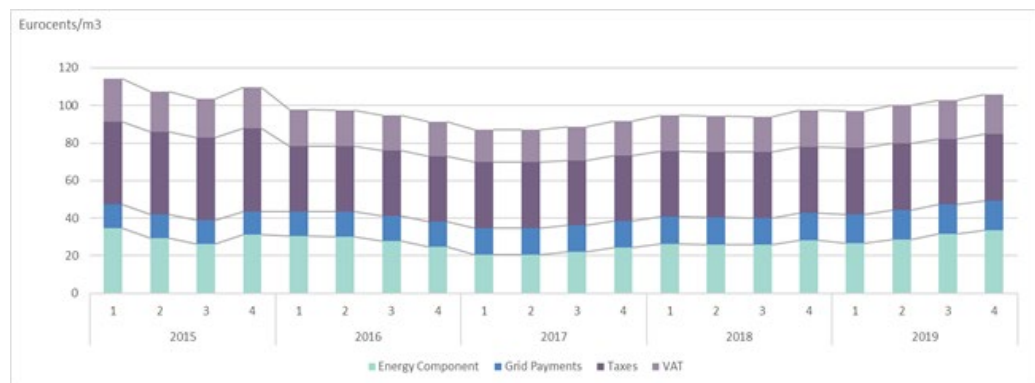
Sources: DUR based on its own decisions, The Danish Ministry of Climate, Energy and Utility, Energinet, Danish Energy Agency, PEGAS, gasmarketmessage.dk, Swedegas, Gasunie Deutschland.

2.2.2. RETAIL GAS MARKET

Retail gas prices

In 2019, the average total gas price for retail customers (both household and non-household) was 94,43 cEUR/m³, which is a decrease of 6,8 pct. compared to 2018, when the price was 101,35 cEUR/m³, see figure 12. This decrease is mainly due to a decrease of the energy component price as well as a decrease of the grid payments, since there were almost no changes in the remaining price elements (taxes and VAT).⁷

FIGURE 12 | RETAIL GAS PRICES FOR CUSTOMERS (EURO CENTS/M³), 2014-2019



Source: DUR

In 2019, there were 14 suppliers offering natural gas products to the approximately 400,000 gas retail customers in Denmark. Two of the 14 suppliers were licensed as default suppliers. These are obliged to supply gas to customers, who have not actively chosen a supplier. The Danish Energy Agency grants the default supplier licenses on the basis of a tender process, and the licenses are granted for a 3-year period with the possibility of an extension. In 2019, a tender process was carried out by the Danish Energy Agency and, as of April 2020, there is only one licensed default gas supplier.

Customers can choose among three types of gas products, i.e. universal service obligation products, basic products⁸ and market-based products.

DUR monitors, among other things, that the price of universal service obligation products does not exceed the sum of the wholesale gas price, the cost of transmitting gas and an additional fixed charge for the default supplier's total mark-up. The fixed additional charge is determined in the tender process for obtaining the default supplier license.

⁷ Data on retail gas prices in 2019 is currently pending.

⁸ Customers supplied with a universal service obligation product by a licensed default supplier will after expiration of the license receive a so-called basic product, if they do not choose a different supplier/product.

Most retail customers (approximately 94 pct.) in Denmark are on a market-based product.⁹

The consolidation of the gas distribution companies has led to changes in the basic conditions of the gas sector which encourages an update of existing legislation, including the regulation of the retail market within the gas market. Box 4 summarizes the focus areas on which DUR its surveillance efforts within retail gas markets in 2020.

BOX 4 | RETAIL GAS MARKET SURVEILLANCE: FOCUS AREAS IN 2020

The Danish Energy Agency is currently looking into the **possibilities of implementing a new gas retail market design** that mirrors the current electricity retail market design, i.e. a supplier-centric model with combined mandatory billing and **removal of the universal service obligation of licensed default suppliers**. DUR will participate in this work as much as possible and it will be DUR's main focus in terms of the gas retail market in the years to come.

2.3. IMPLEMENTATION OF THE CLEAN ENERGY PACKAGE

Since the adoption of the last Clean Energy Package (CEP) acts in early summer 2019, DUR has been working on the implementation of the package in accordance with the Danish institutional setup, i.e. the specific division of competencies between DUR, the Danish Energy Agency and the Danish ministry of Climate, Energy and Utilities.

One of the main points of focus has been to identify the specific areas where a coordinated implementation of the new rules within the Nordics would be beneficial. Throughout 2019, the organization for the Danish, Swedish, Finnish, Norwegian and Icelandic energy regulators (NordREG), under the Danish presidency, has produced several reports or working papers on three important harmonization areas. The first one relates to several provisions in the new electricity directive that strengthen consumers' contractual rights. The second area is aggregation, and more precisely the requirements in the new electricity directive that ensure aggregators' general access to the market for electricity. Aggregators are a new type of market participant who group distinct actors' energy consumption or production, resulting in an enhanced flexibility and increasing competition.¹⁰ The establishment of a Regional Coordination Center (RCC) for the Nordics in accordance with the new electricity regulation is the third area where coordinating between Nordic regulators is vital. The RCC will, among other actions, facilitate a more effective use of grid connections within the Nordics and the regional procurement of balancing capacity.

⁹ Data is for the year 2017, since the data is no longer being compiled by DUR.

¹⁰ The new Electricity Directive 2019/944, art. 2(18) defines aggregation as "a function performed by a natural or legal person who combines multiple customer loads or generated electricity for sale, purchase or auction in any electricity market"

At the national level, the Danish Energy Agency has the responsibility of preparing the law proposal for the transposition of the new electricity directive into Danish law. In October 2019, DUR initiated a specific CEP implementation project for the purpose of providing regulatory expertise and conveying key regulatory messages to the Danish Energy Agency with regard to the new electricity directive. Within the limits of its independence, DUR is contributing to the CEP implementation process both at steering and working case levels, in provisions relating to consumers' protection and empowerment, aggregators, citizen energy communities, energy storage activities for DSOs and TSOs, fully integrated network components, closed distribution systems and the Nordic RCC. To deliver on the new tasks stemming from the CEP, DUR has been granted additional budget.

The law implementing the new electricity directive will enter into force by 1 January 2021, after being subject to approval by the Danish Parliament in October.¹¹

3. NETWORK REGULATION AND TECHNICAL FUNCTIONING

This section discusses a range of relevant topics for the network regulation and the technical functioning of energy markets in Denmark. The section is divided into three sub-sections: 4.1 focuses on electricity markets, 4.2 focuses on gas markets, while 4.3 focuses on issues common to both electricity and gas markets. In general, the legal basis for each area is, respectively, the Electricity Directive (2019/944) and the Gas Directive (2009/73). When necessary, explicit reference to other EU regulations and directives, is also made.

3.1. ELECTRICITY

- **Unbundling of distribution system operators (DSOs). Legal basis: articles 35 and 59, no. 1 (j)**

The requirements in the Electricity Directive regarding legal and functional unbundling of vertically integrated DSOs are transposed into provisions in the Danish Electricity Supply Act and in executive orders issued pursuant to this act.

In Denmark, the unbundling requirements apply to vertically integrated DSOs with more than 100,000 connected customers¹².

¹¹ A public consultation on the law implementing the new Electricity Directive into Danish law has been open until 24 August 2020. Further details can be found [here](#).

¹² In accordance with the exemption rule in article 26 (4) in the Electricity Directive 2009/72 and article 35 (4) in the recast Electricity Directive 2019/944.

The DSOs are obliged to turn in a compliance program annually to DUR as well as a report describing the measures carried out to ensure their fulfilment of the un-bundling requirements cf. art. 26 (2) (d), whereby DUR monitors DSOs' compliance with the rules.

Stricter rules on communication and branding of vertically integrated DSOs, than prescribed in art. 26 (3), was adopted by the Danish Parliament in mid-2017. From the 1 July 2018, the DSO's name and logo, must be clearly distinct from the group of companies, with which the DSO is vertically integrated. The DSO must also ensure that service companies carrying out work on behalf of the DSO, apply an identity that differs from the identities applied by companies that are vertically integrated with the DSO.

- **Transmission and distribution tariffs, including connection and access to networks. Legal basis: article 59, no. 1, no. 7.**

Common to transmission and distribution:

There has been no new regulation on tariffs for access or connection fees in 2019 nor has the methodology for the TSO setting tariffs or connection fees been changed in 2019.

To prevent cross subsidization between transmission and supply activities, the companies must comply with the rules regarding entity unbundling, accounting unbundling and management unbundling.

Specific to transmission:

DUR approves Energinets' (TSO) tariff methodology and the methodology for setting connection fees. The methodologies must, according to the Electricity Supply Act, ensure that tariffs and other payments are set in a fair, objective and non-discriminatory manner and that they are based on necessary costs, where every group of customers pay the costs that they give rise to.

Energinet charges tariffs for operation and transport of electricity (network and system services) in transmission networks following a "cost-of-service" principle.

In spring 2019, the Danish Ministry of Climate, Energy and Utilities initiated an analysis of the electricity tariffs in order to ensure that the electricity tariffs will support an efficient use of the electricity grid and strengthen the climate friendly electrification of the Danish society. DUR is participating in the work.

Specific to distribution:

DUR approves the companies' tariff methodology and the methodology of connection fees based, as the main rule, on an industry wide tariff model developed by the Danish Energy Association on behalf of the DSOs. The methodologies must, according to the electricity act, ensure that tariffs and other payments are

set in a fair, objective and non-discriminatory manner and that they are based on necessary costs where every group of costumers pay the costs that they give rise to.

The DSOs' cost data are checked annually in connection with the determination of the revenue caps (necessary costs). The revenue caps are based on the DSOs' annual accounts as audited by a certified accountant and subsequently submitted to DUR.

A new regulation came into effect on 2018. It is based five-year regulation periods with a revenue cap, built on a cost cap with efficiency regulation, a cap for returns on historical investment and on a return on future investment set as a market based WACC and finally on a reduction of the revenue cap in case of inadequate quality of supply.

The new regulation includes as well yearly general efficiency requirements as individual efficiency requirements.

- **Implementation of network codes and guidelines, including cross-border issues. Legal basis: article 59, no. 7, no. 10.**

(i) In relation to electricity balancing (article 59, no. 7 (b)):

The basic principles of recovery of balancing costs and the principles for settlement of imbalances used by the Danish TSO were approved by DUR in 2012.

In parallel with the implementation of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (EB GL) the Nordic TSOs are developing a Nordic balancing model (NBM) for exchange of balancing capacity and energy and for imbalance netting . An element in NBM is to merge the Nordic balancing market for energy with the future European platforms for balancing energy.

Electricity producers hold balance responsibility for the electricity produced at their own plants and are required to assign the balance responsibility to a Balance Responsible Party (BRP) if they wish for another party to hold this responsibility.

Balancing costs are basically recovered from the market participant causing the cost/imbalance, depending on whether the market participant is consumption-balance responsible or production-balance responsible. Consumption balance settlement applies a one-price settlement, while production balance settlement applies a two-price principle, reflecting whether the production imbalance supports the system or not. The pricing principles incentivise the balance responsible to be in balance. An element in NBM is to move towards single pricing. The Nordic TSOs are coordinating their efforts in preparing terms and conditions for regulatory approval.

Being a state-owned, non-profit company, the primary aim of the Danish TSO (Energinet) is to ensure an open and effective operation and development of the overall infrastructure for power and gas and to ensure an open and equal access for all users of the network.

Key actions under EB GL:

In 2019, DUR has made the following decisions pursuant to Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (EBGL):

- On 17 October, DUR as well as the other Nordic NRAs requested the Nordic TSOs, including Energinet, to amend their proposals for a Nordic capacity market for frequency restoration reserves with automatic activation (aFRR) submitted for regulatory approval at regional level.
- On 18 December, DUR approved the terms and conditions for balancing service providers and for balance responsible parties submitted by Energinet for regulatory approval with DUR.
- On 18 December, and following a joint position agreed among the Nordic NRAs, DUR requested Energinet to, in cooperation with the other Nordic TSOs, amend their proposal for common settlement rules applicable to all intended and unintended exchanges of energy between the TSOs of the Nordic synchronous area.
- On 20 December, DUR, sent a request for amendments, jointly approved by all the other concerned NRAs, to Energinet, requesting to amend, jointly with the other concerned TSOs of the synchronous area of continental Europe, a proposal for common settlement rules applicable to intended exchanges of energy, as a result of the frequency containment process or ramping restrictions.
- On 20 December, DUR, send a request for amendment drafted with the other concerned NRAs, to Energinet, requesting Energinet to amend, jointly with the other concerned TSOs, a proposal for common settlement rules applicable to intended and unintended exchanges of energy.

Moreover, DUR participated in discussions with ACER, other NRAs and TSOs on proposals for terms and conditions which had been submitted for regulatory approval and which the NRAs could not approve. This lack of approval was due to, either NRA disagreement on whether to approve the proposals or to request amendments from the TSOs, or that the competence to decide on terms on conditions submitted for regulatory approval by all TSOs has shifted from NRAs to ACER as a result of the recast ACER Regulation (Regulation 2019/942). ACER's decisions on these proposals are published by ACER.

(ii) In relation to access to cross-border infrastructures, including the procedures for the allocation of capacity and congestion management (article 59, no. 7 (c)):

Denmark is a member of two capacity calculation regions (CCR): Nordic and Hansa.

CCR Nordic comprises the electricity transmission lines between:

- Jutland/Funen (DK1) and Sealand (DK2)
- Jutland/Funen (DK1) and Sweden (SE3)
- Sealand (DK2) and Sweden (SE4)
- Internal Swedish bidding zones
- Finland and Sweden

CCR Hansa comprises the electricity transmission lines between:

- Denmark (DK1) and Germany (DE)
- Denmark (DK2) and Germany (DE)
- Sweden (SE4) and Poland

Allocation of all day-ahead cross-border capacity follows the implementation of the Single Day-Ahead Coupling (SDAC) pursuant to terms and conditions or methodologies developed in accordance with Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (CACM GL). Flows and prices in 2017 were determined through implicit auctions. Residual capacity that was not used in the day-ahead market was given to the intraday market.

On both Danish bidding zone borders to Germany (DK1-DE and DK2-DE) as well as the on the internal border (DK1-DK2), physical transmission rights (PTRs) were issued through monthly and in regards to the German borders also yearly auctions. The capacity was used entirely financially through the Use-It-Or-Sell-It (UIOSI) option, so capacity was given back to the day-ahead market.

Key actions under CACM GL during 2019:

Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management (CACM GL) entered into force on 15 August 2015.

On 21 February 2018 Energinet submitted the following proposals:

- Methodology for calculating scheduled exchanges resulting from single day-ahead coupling, which was approved by DUR on 24 January 2019 following a request for amendment process.
- Methodology for calculating scheduled exchanges resulting from single intraday coupling, which was approved by DUR on 13 March 2019 following a request for amendment process.

On 16 March 2018 Energinet submitted the following proposals:

- Methodology for coordinated redispatching and countertrading in CCR Nordic, which was approved by DUR on 14 January 2019 following a request for amendment process.
- Methodology for redispatching and countertrading cost sharing in CCR Nordic, which was approved by DUR on 14 January 2019 following a request for amendment process.
- Methodology for coordinated redispatching and countertrading in CCR Hansa, which was approved by DUR on 20 February 2019 following a request for amendment process.
- Methodology for redispatching and countertrading cost sharing in CCR Hansa, which was approved by DUR on 20 February 2019 following a request for amendment process.

On 26 July 2019 European Market Coupling Operator (EMCO) submitted a proposal:

- Designation as Nominated Electricity Market Operator (NEMO) in the Danish bidding zones, which was approved by DUR on 11 October 2019.

Key actions under FCA GL during 2019:

On 23 September 2019 Energinet submitted a proposal:

- Amendment of annex for CCR Hansa to the Harmonised Allocation Rules for long-term transmission rights, which was approved by DUR on 12 November 2019.

(iii) In relation to connection and access to national networks (article 59, no. 7 (a)):

Key actions in relation to network code development:

- Establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules:

COMMISSION REGULATION (EU) 2016/1447 of 26 August 2016 “establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules”, aims to provide a common set of provisions on grid connection of High-Voltage Direct Current (HVDC) systems and direct current-connected power park modules (DC-connected power park modules).

A common set of rules for grid connection of HVDC-systems and DC-connected power park modules is crucial to maintaining security of energy supply, increasing competitiveness and ensuring that all consumers can purchase energy at affordable prices.

The Danish TSO Energinet submitted for approval on 28 of September 2018, a proposal for general technical requirements for grid connection of HVDC systems and DC connected power park modules under Regulation (EU) 2016/1447 (HVDC) article 11-54, cf. Art. 5, 4.

The submitted proposal aims at implementing the common requirements for grid connections of high-voltage direct current (HVDC) systems and DC-connected power park modules.

The submitted proposal consists of technical rules establishing minimum requirements for technical design and operational properties for the grid connection of HVDC-systems and DC-connected power park modules.

DUR has applied the HVDC-regulation article 5(3) in the approval process, and has in general assessed whether the submitted proposal is objective, non-discriminatory and supportive of the system security in the electrical grid.

DUR approved the submitted proposal on 14 October 2019.

– Establishing a Network Code on Demand Connection:

COMMISSION REGULATION (EU) 2016/1388 of 17 August 2016 “establishing a Network Code on Demand Connection” (DCC), establishes requirements of general application for grid connection of:

- new transmission-connected demand facilities;
- new transmission-connected distribution facilities;
- new distribution systems, including new closed distribution systems;
- new demand units used by a demand facility or a closed distribution system

to provide demand response services to relevant system operators and relevant TSOs.

A common set of rules for grid connection of demand-side resources is crucial to maintaining security of energy supply, increasing competitiveness and ensuring that all consumers can purchase energy at affordable prices.

The Danish TSO Energinet submitted for approval on 7 September 2018, national general technical requirements for grid connection under the DCC-regulation. The requirements were submitted pursuant to the regulation (EU) 2016/1388 (DCC) Articles 12-29.

The submitted proposal aims at implementing the common rules for grid connection under the DCC-regulation.

The submitted proposal consisted among others of requirements for general frequency response, short circuit requirements, reactive power requirements, protection and control requirements and requirement for new transmission connected load-shedding in case of low frequency.

DUR has applied the DCC-regulation article 6(3) in the approval process, and has in general assessed whether the submitted proposal is objective, non-discriminatory and supportive of the system security in the electrical grid.

DUR approved the submitted proposal on 27 May 2019.

(iv) In relation to Emergency and Restoration:

COMMISSION REGULATION (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration serves the purpose of safeguarding operational security, preventing the propagation or deterioration of an incident to avoid a widespread disturbance and the blackout state as well to allow for the efficient and rapid restoration of the electricity system from the emergency or blackout states, this Regulation establishes a network code which lays down the requirements on:

- (a) The management by TSOs of the emergency, blackout and restoration states;
- (b) The coordination of system operation across the Union in the emergency, blackout and restoration states;
- (c) The simulations and tests to guarantee a reliable, efficient and fast restoration of the interconnected transmission systems to the normal state from the emergency or blackout states;
- (d) The tools and facilities needed to guarantee a reliable, efficient and fast restoration of the interconnected transmission systems to the normal state from the emergency or blackout states

The Danish TSO, Energinet, has on the 17 December 2019 submitted a proposal for a test plan pursuant to (EU) Regulation 2017/2196 (ER) article 43(2). The test plan shall identify the equipment and capabilities relevant for the system defence plan and the restoration plan that have to be tested.

The approval process is still ongoing, and DUR has not issued an approval yet.

- **Electricity smart meters. Legal basis: Annex II**

Pursuant to executive order no. 1358 of 2013 on smart meters and metering of end-consumption of electricity, DSOs are obligated to install smart meters in the

homes and businesses of all (100 pct.) consumers in Denmark by no later than the end of 2020. The roll-out of smart meters has almost been completed, since smart meters have been installed at 99.9 pct. of all customers in Denmark.

The legal requirements of smart meter functionalities are, among others, registration of metering data every 15 minutes, data storage and transmission of the data to the DSO. The DSO will send the metering data to the Danish DataHub for billing purposes.

3.2. GAS

- **Unbundling of distribution system operators. Legal unbundling: art. 26**

The unbundling requirements in article 26 of the Gas Directive 2009/73¹³ regarding vertically integrated gas DSOs are transposed into provisions in the Danish Natural Gas Supply Act and in executive order No. 979 of 2011.

These legal acts define a number of obligations the DSOs have to fulfil to ensure that they act without being affected by commercial interests of other vertically integrated associated companies.

The DSOs are also required to ensure that their communication and identity strategies do not create confusion about the own distinct identity.

DSOs are obliged to submit a compliance program annually to DUR as well as a report describing the measures carried out to ensure their fulfilment of the unbundling requirements cf. art. 26 (2) (d), whereby DUR monitors DSOs' compliance with the rules.

In addition to the unbundling requirements, the DSO license itself provides certain limitations in terms of which activities the DSO can engage in.

In 2019, there is one gas DSOs in Denmark Evida A/S.¹⁴ The gas DSO is unbundled and owned by the Danish TSO Energinet.

- **Balancing services. Legal basis: art. 41, nr. 6. (b), nr. (8)**

The European network code on balancing (NC BAL) required national implementation by 1 November 2015.

¹³ Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC

¹⁴ Strictly speaking, there are actually three DSOs in Denmark: Evida Nord, Evida Syd and Evida Fyn. All of them are, however, owned by Evida A/S. See Table 2.

The code was implemented in Denmark on 1 October 2014 (early implementation) introducing market based balancing. The gas exchange, EEX (previously PEGAS), serves as trading platform for the trading of the within-day product (title product) for daily balancing.

In January and February 2019 DUR approved several small adjustments to the market based balancing model, including the removal of caps for the neutral gas price and the requirement for a market maker in the exchange market for within-day products on which the neutral gas price is based. The purpose of the changes is to improve the incentives of users to efficiently balance the transmission system in both normal and emergency situations.

In March 2019 DUR and the Swedish energy regulator approved a joint balance model for Denmark and Sweden (Joint Balancing Zone) which was implemented April 1st. This removed the Danish exit point towards Sweden, Dragør, and created a joint Danish-Swedish exit zone with joint balancing based on the existing Danish balance model.

The balancing model has full end-of-day cash-out and incentive-based balancing based on a helper/causer model.

The main purpose of a Joint Balancing Zone is to enhance the efficiency of cross-border trade between the Swedish and Danish markets and to harmonize balancing procedures. Establishing a borderless Danish-Swedish balancing zone is expected to improve competition in the region as a whole. The creation of one joint balancing zone for Sweden and Denmark will simplify balancing, increase security of supply and possibly attract more gas traders to the joint market.

As a result of the Joint Balancing Zone, the current gas deliveries and offtakes in Sweden and Denmark will take place in one merged Balancing Zone. The Joint Balancing Zone does not include harmonization of network tariffs.

- **Monitoring and reviewing the access conditions to storage, linepack and other ancillary services. Legal basis: art. 41, nr. 6.**

According to the Danish Natural Gas Act, there is negotiated access to storage and linepack in Denmark. There is no price regulation under the Danish Natural Gas Act, but DUR still has a legal obligation to ensure that third party access to storage is provided in a manner that is transparent, non-discriminatory and objective – including the way in which tariffs are set.

The Danish storage company, Gas Storage Denmark, is a wholly owned subsidiary of the Energinet Group and operates the two Danish physical storage facilities with a combined storage capacity of approximately 10.6 TWh in 2019.

The two storages are operated as one virtual commercial storage point, and Gas Storage Denmark sells its storage capacities on a first-come-first-served basis and via auctioning.

After several years of relatively low market based storage fees, storage capacity was sold out at an average price of EUR 4.07 EUR/MWh in 2019, which was approximately 183 pct. higher than in 2018. The improvement was a result of increased summer/winter spreads in the NW European gas markets.

- **Monitoring correct application of criteria that determined model of access to storage. Legal basis: art. 41, nr. 1. (t)**

Gas Storage Denmark is a monopolist in the Danish storage market. However, the negotiated access regime to storage has so far been maintained as there is no indication that the monopoly situation in the Danish storage market can be abused in a very competitive flexibility market with flexible import pipeline capacity from Germany and increased short-term trading opportunities for market participants.

Under the Tyra platform rebuild (September 2019 – July 2022), where the volumes from the North Sea are reduced considerably and thus making Denmark totally dependent on imports from Germany, the storages will have a critical role in supporting the Danish gas market.

DUR monitors the criteria supporting the choice of negotiated access. If competition, access conditions or product choices/prices should develop in a way that do not reflect expected market behavior but rather seem to reflect the monopoly situation in the Danish storage market, DUR will approach the legislator to discuss if the access regime should continue to be negotiated or whether it should be changed to a regulated access regime.

- **Network and tariffs for connection and access. Legal basis: art. 41, nr. 1.**

In relation to transmission:

Denmark has no LNG (Liquefied Natural Gas) terminals and consequently, the following applies only to gas transmission.

On May 31, 2019, DUR approved Energinet's method for tariff determination, which is valid from October 1, 2020 and the three following years. The approval of this method ensures compliance with (EU) 2017/460 of 16 March 2017 establishing a network code on harmonized transmission tariff structures for gas (NC TAR). Furthermore, the new method re-introduces uniform tariffs, as well as a new split between capacity and volume tariffs.

On December 18, 2019, DUR approved that Energinet reintroduces seasonal tariffs in Ellund from October 1, 2020 until October 1, 2022. The decision supports security of supply during Tyra's shutdown.

DUR approves Energinet's (TSO) tariff methodology and the methodology of connection fees. The methodologies must, according to the Danish Gas Supply Act, ensure that tariffs and other payments are set in a fair, objective and non-discriminatory manner and that they are based on necessary costs where every group of costumers pays the costs that they give rise to.

In relation to distribution:

There has been no new regulation on tariffs for access or connection fees in 2019 nor has the methodology for the DSOs' setting tariffs or connection fees been changed in 2019.

To prevent cross-subsidization between distribution and supply activities, the companies must comply with the rules regarding entity unbundling, accounting unbundling and management unbundling.

DUR approves the companies' tariff methodology and the methodology of connection fees. The methodologies must, according to the Natural Gas Supply ACT, ensure that tariffs and other payments are set in a fair, objective and non-discriminatory manner and that they are based on necessary costs where every group of costumers pays the costs that they give rise to.

According to the approved methodology, the distribution tariffs are set as volume charges and independent of distance. The methodology ensures that all customers pay a high tariff for the first cubic meters delivered and a lower tariff for volumes that exceed certain intervals.

The methodology was approved in 2005 and has developed on a continuous basis, sometimes independently for each DSO.

The DSOs' cost data are checked annually in connection with the determination of the revenue caps (necessary costs). The revenue caps are based on the DSOs' annual accounts as audited by a certified accountant and subsequently submitted to DUR.

The applied benchmarking model used by DUR has been unchanged since the introduction of revenue cap regulation in 2005. The benchmarking model calculates sector specific marginal cost (OPEX) for predefined output. The model then compares realized OPEX for each regulated company with a calculated OPEX for the same company, using the sector specific marginal costs.

The model has been applied for setting efficiency requirements for the current regulatory period 2018-2021.

- **Access to cross-border infrastructure, allocation and congestion management. Legal basis: Gas Directive, articles 41 nr. 6 (c), nr. 8, nr. 9, nr. 10, nr. 12**

No congestion was experienced in the Danish transmission system in 2019, and the Danish Congestion Management Procedures (CMP) instruments have not been used. During the closedown of the Tyra-platform from September 2019 to July 2022, where Denmark and Sweden are supplied almost entirely from Germany the interconnection point at Ellund may become a bottleneck during cold winter months. But as the import capacity at the Danish side exceeds the export capacity at the German side it is unlikely that CMP instruments will be activated on the Danish side. Longer term with the expected future fall in the Danish gas consumption and the improved capacity situation, it is very unlikely that congestion will occur in the future in the Danish gas transmission system.

3.3. COMMON ISSUES IN ELECTRICITY AND GAS

- **Designation and certification of transmission system operators. Legal basis: Electricity Directive article 52; Gas Directive article 10.**

DUR certified the Danish TSO for electricity and Gas (Energinet) as ownership unbundled in February 2012.

Energinet has during 2017 and early 2018 been divided into subsidiaries, including TO EL, SO EL, TSO GAS, Datahub, Gas Storage Denmark and Danish Gas Distribution. The new organization of the company has not impacted the certification of the company.

Presently, a new economic regulation of Energinet is being developed together with a new process for approval of Energinet's grid planning and actual grid investments. A bill on the economic regulation for electricity and gas TSO was sent for public consultation in 2019 and subsequently in 2020 submitted to the Danish parliament. The bill was not finalized/passed and a new public consultation is expected in 2020. The new economic regulation is expected to apply from 2023 onwards.

- **Security and reliability standards. Legal basis: Electricity Directive article 59, no. 1 (m); Gas Directive article 41, no. 1 (h)**

Energinet provides information on its activities relating to:

- Performance of scheduled maintenance works,
- Revision of maintenance systems or procedures,
- Report of incidents on the transmission network due to third party interference,
- Provision of data to ENTSO-E for preparation of e.g. ENTSO-E Winter and Summer Outlook Reports,
- Monthly reports for operations and projects,
- Provision of plant maintenance reports created in SAP, the ERP system used by Energinet Asset Management system at Energinet in accordance with the PAS55 standard.

- **Monitoring time it takes to connect and repair. Legal basis: Electricity Directive article 59, no. 1 (q); Gas Directive article 41, no. 1 (m)**

DUR has quarterly meetings with Energinet on regulatory issues, including monitoring tasks. DUR also requests annual written reports from Energinet on connect and repair.

DUR monitors the time taken by the DSOs' to make connections and repairs based on annual reports from the Danish Energy Association. The annual benchmarking of DSOs includes the duration and frequency of interruptions.

- **Coordination and cooperation. Legal basis: Electricity Directive article 59, no. 1 (f); Gas Directive article 41, no. 1 (c)**

In accordance with article 59 (1) (f), DUR cooperates with ACER and other NRAs on cross-border issues. Particularly through participation in the work of ACER's Board of Regulators pursuant to Article 21 of Regulation (EU) 2019/942. Furthermore, DUR cooperates with the other Nordic regulators within NordREG.

In 2016, the Copenhagen-based Nordic Regional Security Coordinator (RSC) was established. The Nordic RSC is the joint office for the four electricity TSOs in the Nordic Region (Fingrid, Statnett, Svenska Kraftnät and Energinet).

DUR has a continuous cross-border co-operation with Sweden as Sweden has no indigenous gas production and no gas storage or LNG facilities. Sweden therefore depends entirely on Danish gas supplies for its national market with an annual consumption of approximately 1 billion m³ per year. Security of supply is therefore a subject that requires continuous cooperation between the Danish and Swedish authorities and system operators.

- **Monitoring TSO investment plans in view of TYNDP and Projects of Common Interest (PCI). Legal basis: Electricity Directive article 59, no. 1 (k); Gas Directive article 41, no. 1 (g)**

The regulatory authority regarding the Danish TSO's (Energinet) investments is divided between the Danish Energy Agency (DEA) and DUR. On the one hand, the DEA is responsible for the approval of Energinet's investment plans and of approval of actual investments.

On the other hand, DUR is responsible for the monitoring of Energinet's investment plans in the context of compliance with the community-wide TYNDP which comprises projects of common interest (PCI projects) as well as other cross border investment projects by Energinet. The monitoring process has revealed no discrepancies between Energinet's plans and the community-wide TYNDP.

Energinet is responsible for preparing investment plans (transmission) and to submit the plans to the Danish Ministry of Climate, Energy and Utilities (owner

of Energinet) for approval and to DUR for monitoring compliance and compatibility with the European TYNDP.

- **Security of supply.**

The Danish Energy Agency (DEA), not DUR, is responsible for regulatory tasks relating to security of supply, including monitoring, planning and approving new grids of more than 100 kV.

In general, Denmark has a high degree of security of supply in the electricity sector. In 2018, the average consumer had 22 minutes of interruptions, which is a decrease of 3 minutes from 2017.

The Danish Energy Agency (DEA) is the competent authority for security of supply, including the monitoring of national network, planning and approval of major infrastructure investments etc.

In 2019, there have been no disruptions in the physical supply of natural gas to the Danish (and Swedish) gas market and therefore no national declarations of early warning, alert or emergency.

The Tyra platform in the Danish North Sea was closed down 21st September 2019 for a substantial rebuild programme. Until the platform reopens July 2022, almost all gas for the Danish and Swedish markets will have to be imported from Germany via the Ellund interconnection point. Together with the total Danish storage capacity this will be sufficient to cover also shorter periods of extremely high demand or extreme temperatures. Only in case of prolonged cold winter spells should the Danish and Swedish supply situation be endangered by the platform shutdown. The Danish gas TSO has therefore increased its reservations for emergency volumes and withdrawal capacity in the Danish gas storages accordingly during the period.

- **Consumer protection and dispute settlement. Legal basis: Electricity Directive article 10, 14, 18 and annex 1; Gas Directive article 3, 41, no. 1 and annex 1**

Contract information (Electricity and Gas):

The minimum requirements regarding information that must be provided in an electricity or gas supply contract are:

- The identity, address and contact information of the supplier.
- The arrangements for payment, delivery, performance and the time by which the supplier undertakes to deliver the services.
- The duration of the contract, where applicable, or, if the contract is of indefinite duration or is to be extended automatically, the conditions for terminating the contract.
- Where information about up-to-date applicable prices and fees can be obtained.

- If the consumer can continue the contractual relationship with the supplier at a different delivery address, and the terms for this.
- The supplier's deadline for final settlement.
- Information about where compensation and other remedies for defective performance can be claimed, if the contractual terms are not met, including inaccurate and delayed billing.
- Information on complaint handling and how to complain.
- The terms of the supply contract must be fair, transparent, and easily understandable and provided to the consumer before conclusion of the contract.

The requirements regarding information in an electricity supply contract in the Electricity Directive 2009/72¹⁶ are implemented in executive order no. 1233 of 2015 on electricity supply. Likewise, the requirements regarding information in a gas supply contract in annex I of the Gas Directive 2009/73 are implemented in executive order no. 1354 of 2014 on gas supply. Both executive orders, which are issued by the Danish Energy Agency, explicitly reference information requirements set in the Danish Consumer Contracts Act no. 1457 of 2013.¹⁶

Executive order no. 1233 of 2015 is to be revised by the Danish Energy Agency in 2020 in order for the new contractual rights in the new electricity directive to be transposed into national law in a timely manner.

It currently lies outside the scope of DUR's competence to monitor electricity or gas suppliers' compliance with the contractual minimum requirements. However, it is expected that DUR will be given this competence effective from 2021, when the new Electricity Directive 2019/944 has been transposed into national law.

Billing information (Electricity only)

Following the implementation of the supplier-centric model in the Danish electricity market, suppliers are responsible for all communication with the consumers, including billing.

The minimum legal requirements regarding information in the electricity bill are among others:

- The total payment and consumption (kWh) in the billing period.
- Type of price (e.g. fixed or variable price).
- Subscription fee to the supplier and the DSO.

Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC

¹⁶ The Danish Consumer Contracts Act No. 1457 of 2013 is non-energy specific legislation, where i.a. the minimum requirements regarding a trader's duty to disclose information before conclusion of a contract with a consumer are regulated. Pursuant to executive orders no. 1233 of 2015 on electricity supply and no. 1354 of 2014 on gas supply, these requirements also apply to information that must be provided to a consumer in an electricity or gas supply contract.

- The total price in øre/kWh covering payment for electricity, grid and system services, PSO, taxes including VAT, supplied in the billing period¹⁷.
- The consumer's right to receive a specified bill free of charge.

The simplified bill is intended to increase consumer awareness, without overloading consumers with information, by giving an overview of the most significant price information, and thereby facilitating consumers to participate actively in the retail market.

The requirements regarding billing information in the Electricity Directive 2009/72 are implemented in executive order no. 1400 of 2015 on electricity billing issued by the regulator.

DUR will revise executive 1400 of 2015 order in 2020, such that the new billing information requirements in article 18 and annex I of the electricity Directive (EU) 2019/944 are transposed into national law in a timely fashion.

Billing information (Gas)

The requirements concerning gas billing information in annex I of the Gas Directive 2009/73 are implemented in executive order no. 937 of 2006 on gas billing.

Combined gas billing is not mandatory. In consequence, customers will either receive one combined bill or a bill from both the gas supplier and the gas distribution system operator.

Billing information (Electricity and Gas)

Suppliers are required to provide a specified bill free of charge to the consumer, upon the consumer's request.

DUR monitor suppliers' compliance with the legal requirements concerning billing information.

Furthermore, executive order no. 1395 of 2016 on energy companies' duty of disclosure to end-consumers also applies to electricity and gas billing.

Customers' access to consumption data (Electricity)

The DataHub is an IT platform, established and operated by the Danish TSO Energinet, that handles data communication and business processes between market participants in the Danish electricity market.

¹⁷ One øre is equal to DKK 0.01.

Overall, there are three types of data collected in the DataHub, which directly relate to customers:

- Customer-related master data (e.g. the customer's name and address)
- Metering point-related master data (location address of the metering point, meter reading characteristic, meter reading frequency, settlement type and metering point ID)
- Metering data (consumption data)

Customers can access their data (i.e. customer-related master data, metering point-related master data and metered data) in the DataHub free of charge. Customers can access the data by using either the NemID¹⁸ log-in function on the supplier's website or on the public website *Eloverblik.dk*, operated by Energinet. The data can be downloaded from *Eloverblik.dk* in an Excel file.

When a customer enters into a supply contract, the supplier obtains access to the customer's data in the DataHub, i.e. only the data relevant to the supplier.

A supplier with whom the customer does not have a contractual relationship with (i.e. a potential supplier)/a third party can be authorised with access to the customer's data. The authorisation is part of the customer-controlled access to data in the DataHub, whereby a customer can give data authorisation by using the NemID function on the website *Eloverblik.dk*. The customer may at any time withdraw the granted authorisation.

Customers access to consumption data (Gas)

Gas consumers' data is not collected in the DataHub, since the DataHub only covers the electricity market. Gas consumers can typically access their consumption data etc. by using the NemID login function on the gas supplier's website.

Electricity comparison tool

Pursuant to the Danish Electricity Supply Act¹⁹, it is DUR's responsibility to establish and operate an online comparison tool for electricity products offered to customers with an annual consumption up to 100,000 kWh.

The public website and comparison tool *elpris.dk* was established by DUR in 2016. The overall purpose of *elpris.dk* is to increase transparency and customer awareness with regards to products and prices on the Danish retail market for electricity, thereby enabling customers to make an informed decision about which product to choose.

¹⁸ NemID is a common secure log-in solution to the internet, used in Denmark by all residents in the country.

¹⁹ Section 82 b, subsection 1, of the Danish Electricity Supply Act.

DUR started the process of improving *elpris.dk* in 2018, in order for it to become a better and more active comparison tool for customers in line with the green transition and the new requirements in the recast Electricity Directive.

In 2019, DUR has identified the following focus areas in terms of how *elpris.dk* can become a better comparison tool:

- Improvement of how prices are shown and can be compared in particular in terms of dynamic price products. The comparison is to include the hourly prices on the power exchange NordPool and time differentiated grid tariffs.
- Enabling comparison of products based on the products' share of renewables.
- Integration between *elpris.dk* and the Danish datahub enabling customers to compare products based on their own individual consumption data.
- Enabling customers to compare products based on their own electricity bills. This comparison is to be made based on actual historical prices that is stored in the comparison tool. The comparison is intended to give the customer a good indication of whether he or she generally pays too much for electricity compared with other products that are available.

Gas comparison tool

Information on all gas products and prices is available and comparable on the comparison tool *gasprisguiden.dk*. DUR has regulatory oversight of the comparison tool, which is operated by the Danish TSO Energinet.

Electricity disconnection rates

DUR monitors the electricity disconnection rates in Denmark. In 2019, there were 0.53 pct. electricity disconnections due to household customers' non-payment of collateral i.e. not non-payment of consumed electricity.

In Denmark, electricity suppliers cannot disconnect household customers due to non-payment of consumed electricity. If the supplier has justified reasons to expect non-payment, the supplier can require security for the continued supply of electricity. The legal requirements regarding the minimum time between notification to provide security and disconnection depends on whether or not the household customer is in arrears with the supplier.

Consumer complaint handling

DUR does not handle complaint about disputes that arise from the contractual relationship between a consumer and supplier. As a public authority, DUR has a duty to provide guidance regarding matters that fall within the scope of our competence, to anyone who contacts us. DUR has a specific hotline for questions regarding our comparison tool *elpris.dk*.

Consumer complaints can be submitted to the Energy Supplies Complaint Board. The Energy Supplies Complaint Board handles all complaints from

household consumers regarding the purchase and delivery of electricity, heating and/or gas.

Before submitting the complaint, the consumer must have attempted to contact the supplier and tried to resolve the dispute bilaterally. Otherwise, it constitutes a ground for refusal for the Board to take the case.

When submitting a complaint to the Board, the consumer must pay a fee of DKK 160 (approximately EUR 22). The fee is refunded, if the Board upholds the consumer's contention. The energy company has to pay a fee of DKK 8.500 (approximately EUR 1,140) if the case ends in favour of the consumer. However, if the case ends in a settlement facilitated by the Secretariat of the Energy Supplies Complaint Board (the Secretariat), the company shall pay DKK 3.800 (approximately EUR 510).

The average complaint processing time was approximately three months in 2019.

When the Board has reached a decision, it will be possible for either party to bring the matter to court. Decisions of the Board are not binding or enforceable. Nevertheless, there is a high compliance percentage in cases decided by the Board. In 2019, energy companies complied with the decisions of the Board in 83 pct. of the cases according to the 2019 Annual Report from the Energy Supplies Complaint Board.²⁰

²⁰ More information regarding the Energy Supplies Complaint Board is available on can be found on the Board's website (in Danish only) www.energianke.dk