



Forsyningstilsynet

Market report 2019

The Danish wholesale gas market

ENGLISH SUMMARY OF *MARKEDSRAPPORT FOR
2019, ENGROSMARKEDET FOR GAS*

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IMPORTANT EVENTS IN 2019

TABLE 1 | IMPORTANT EVENTS FOR THE DANISH GAS MARKET, 2019

January/February 2019	FSTS 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	FSTS 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	FSTS 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% 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	FSTS 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	FSTS 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.

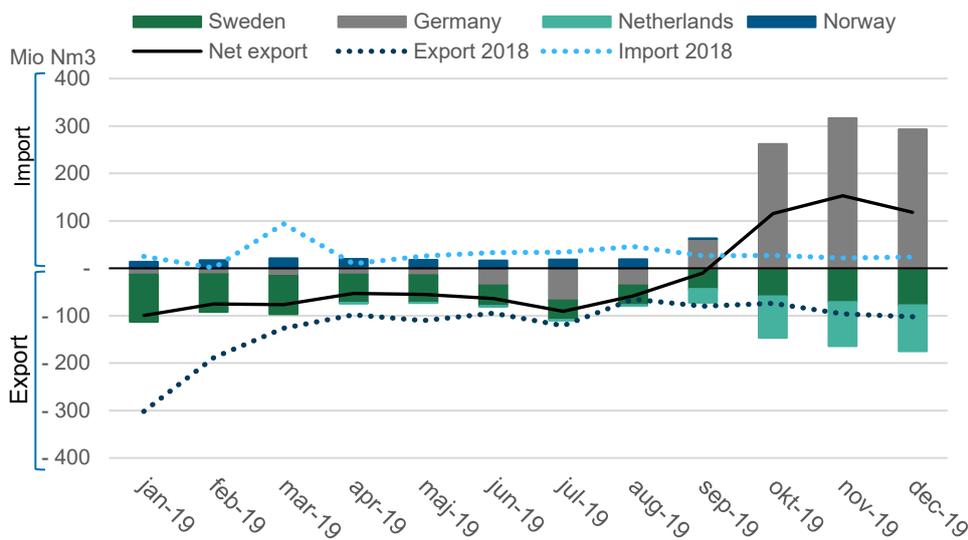
Sources: The Danish Utility Regulator (FSTS) based on its own decisions, The Danish Ministry of Climate, Energy and Utility, Energinet, Danish Energy Agency, PEGAS, gasmarketmessage.dk, Swedegas, Gasunie Deutschland.

SUMMARY¹

The Tyra platform, which usually processes approximately 90 percent of the gas production from the Danish North Sea, closed down for reconstruction from September 21, 2019 to July 1, 2022.

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 bio-methane 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 1.

FIGUR 1 | IMPORT AND EXPORT PER COUNTRY, 2019



Source: Danish Utility Regulator based on data from the Danish Energy Agency.

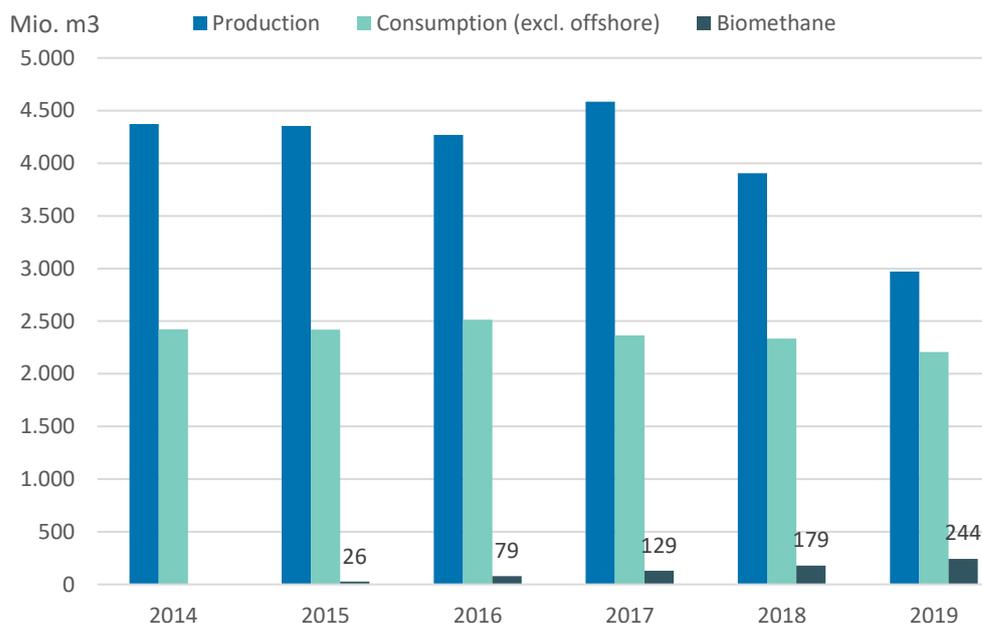
Note: Import from Norway constituted by production from the field Trym, which is only connected to the Danish system.

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

¹ This 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 is available [here](#).

Natural gas production in 2019 was 3.0 billion m³, which is 24 per cent lower than 2018, and corresponds to a decrease of 35 percent compared to 2017. The production of biogas has increased tenfold between 2015 and 2019, corresponding to 11 percent 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 2.

FIGUR 2 | ANNUAL DANISH PRODUCTION AND CONSUMPTION, 2014-2019



Source: Danish Utility Regulator 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 percent 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 percent 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 1.

There is more uninterruptible (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 uninterruptible 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. The Danish Utility Regulator 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. The Danish Utility Regulator follows the process closely.

The Danish Utility Regulator made several significant decisions during the year:

- In March 2019, the Danish Utility Regulator 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, the Danish Utility Regulator 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 re-introduces uniform tariffs, as well as a new split between capacity and volume tariffs.
- In December 2019, the Danish Utility Regulator 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.

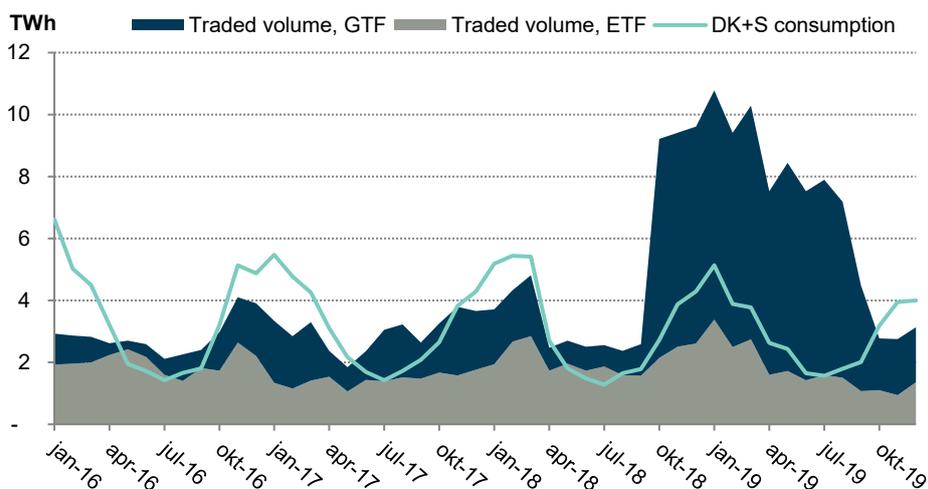
Gas Storage Denmark has had a total available storage capacity of 10,643 GWh in 2019. This is approximately 2 percent more than in 2018. Storage capacity was sold out at an average price of EUR 4.07 EUR/MWh in 2019, which was 183 percent higher than in

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 percent during the summer, and by the end of 2019, storages were 95% 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 percent lower in the fourth quarter of 2019, in comparison to the average volume in the fourth quarter of the previous 3 years. Significantly fewer volumes are thus traded on PEGAS ETF after the closure of the Tyra-platform, see figure 3.

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 3 | TRADED VOLUME ON THE DANISH WHOLE SALE GAS MARKET, 2016 - DECEMBER 2019



Source: Danish Utility Regulator based on data from PEGAS ETF and Energinet.

The average spot price in 2019 was 13.26 EUR/MWh, which is 40 percent 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.

FIGUR 4 | SPOT PRICE DEVELOPMENT IN DANMARK, NETHERLANDS OG GER-MANY, 2019



Source: Danish Utility Regulator 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.

The Danish Utility Regulator'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.

FOCUS AREAS FOR THE DANISH UTILITY REGULATOR'S MARKET SURVEILLANCE IN 2020

Danish Utility Regulator's (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. The 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.
