



Danish  
Utility Regulator

# Market Report 2021 The Danish Wholesale Gas Market

---

ENGLISH SUMMARY OF "MARKEDSRAPPORT FOR  
2021 - ENGROSMARKEDET FOR GAS"

JUNE 2022

---

**DANISH UTILITY  
REGULATOR**  
Torvegade 10  
3300 Frederiksværk

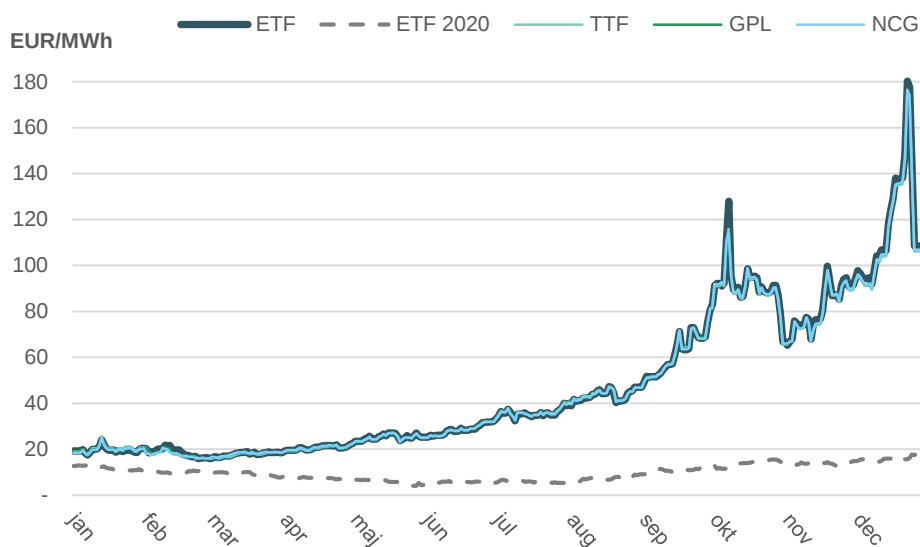
---

Tlf. 4171 5400  
post@forsyningstilsynet.dk  
www.forsyningstilsynet.dk

## EXECUTIVE SUMMARY<sup>1</sup>

During 2021 the price development on the Danish gas market was characterized by significant volatility and a historical high price level. The average spot price was 376 pct. higher than in 2020 with a price record on 24 December 2021 at 180.18 EUR/MWh, cf. figure 1.

**FIGURE 1 | PRICE DEVELOPMENT FOR DAY-AHEAD IN DENMARK, NETHERLANDS AND GERMANY FOR 2021**



Source: The Danish Utility Regulator based on data EEX.

Note: Spot prices on the day-ahead market is the European Gas Spot Index (EGSI) for the Danish Exchange Transfer Facility, the Dutch Title Transfer Facility, and the German Gaspool and NetConnect Germany. EGSI is calculated for each delivery day as a volume weighted average of day and weekend contracts with delivery the actual day.

Remark: On 1 October 2021 the two German markets, GPL and NCG was merged into THE, why the two price curves are identical after that date.

The gas market was especially characterised by significant volatility and price records during the last three months of 2021. The average price for Q4 2021 was over 550 pct. higher than the same period the year before. In December, the price volatility was especially unusual as the daily price fluctuations were between -36 and 32 EUR/MWh. In comparison, the daily price fluctuation in this period is normally between -1.5 and 1.5 EUR/MWh.

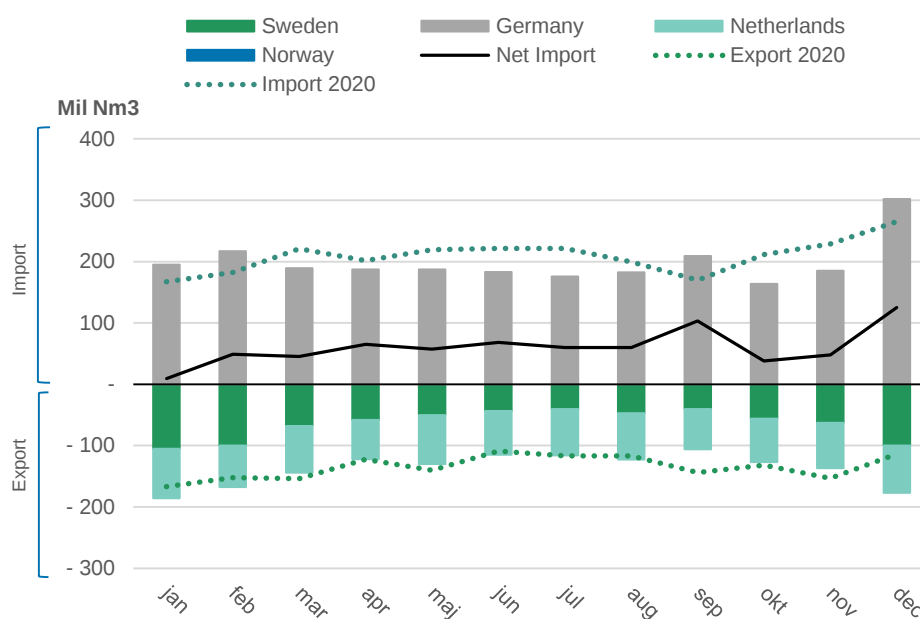
The lowest price in 2021 was observed in February. It is very unusual that the lowest price is in the winter period, where the demand on gas is at its highest.

<sup>1</sup> This is a summary in English of the annual market monitoring report of the Danish wholesale gas market: *Markedsrapport for 2021 - Engrosmarkedet for Gas* published by the Danish Utility Regulator. The full report is available [here](#).

**IMPORT AND EXPORT**

In 2021, Denmark was a net importer of gas. The Danish level of import was higher than the level of export due primarily to the temporary shutdown of the Tyra platform, cf. figure 2. The total level of import was 2.4 bcm, which was 5 pct. lower than in 2020. The Danish produced gas was primarily exported to the Netherlands. The import of natural gas was higher than the Danish gas consumption, which is due to the fact that a part of the import is transported to Sweden and injected into Danish gas storages.

**FIGURE 2 | IMPORT AND EXPORT PER COUNTRY FOR 2021**



Source: The Danish Utility Regulator based on data from the Danish Energy Agency.  
 Note: Import from Norway are from Trym field, which is connected to the Danish system and currently shutdown.

**PRODUCTION AND CONSUMPTION**

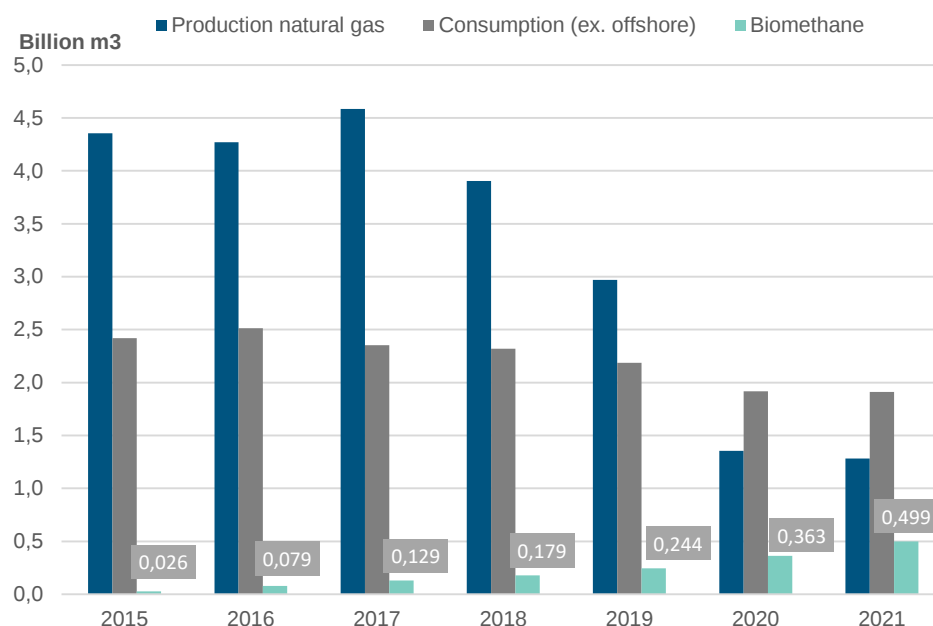
The production of natural gas was 1.3 bcm which was a decrease of 5 pct. compared to the previous year, and 57 pct. compared to 2019, cf. figure 3. Due to the temporary shutdown of Tyra, this production is exported to the Netherlands via the Tyra-Vest F3 and NOGAT pipelines. This means that Danish consumers currently do not benefit directly from the gas produced in the North Sea.

The production of biomethane continued its significant increase, and reached a record-high level of production in 2021 at 0.5 bcm. In 2021, the biomethane share of Danish gas consumption was 26 pct., compared to only 1 pct. in 2015.

The Danish gas consumption has been decreasing since 2016, but was 1.9 bcm in 2021. This is the same level as in 2020. The gas consumption is especially influenced by the weather and

temperature. The first quarter of 2021 was colder than a normal period, which means that the consumption in this period was higher than on average.

FIGURE 3 | ANNUAL PRODUCTION AND CONSUMPTION, 2015-2021



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

Note: Biomethane gas is upgraded biogas that may be injected into the gas grid and traded at the gas market.

In 2021, there has been sufficient available northbound capacity on both sides of the Danish/German border. In the coldest winter months bottleneck situations at the Ellund interconnection point may occur, as the import capacity may not be sufficient to fully supply the Danish-Swedish market. If so, the Danish gas storage must secure the remaining demand.

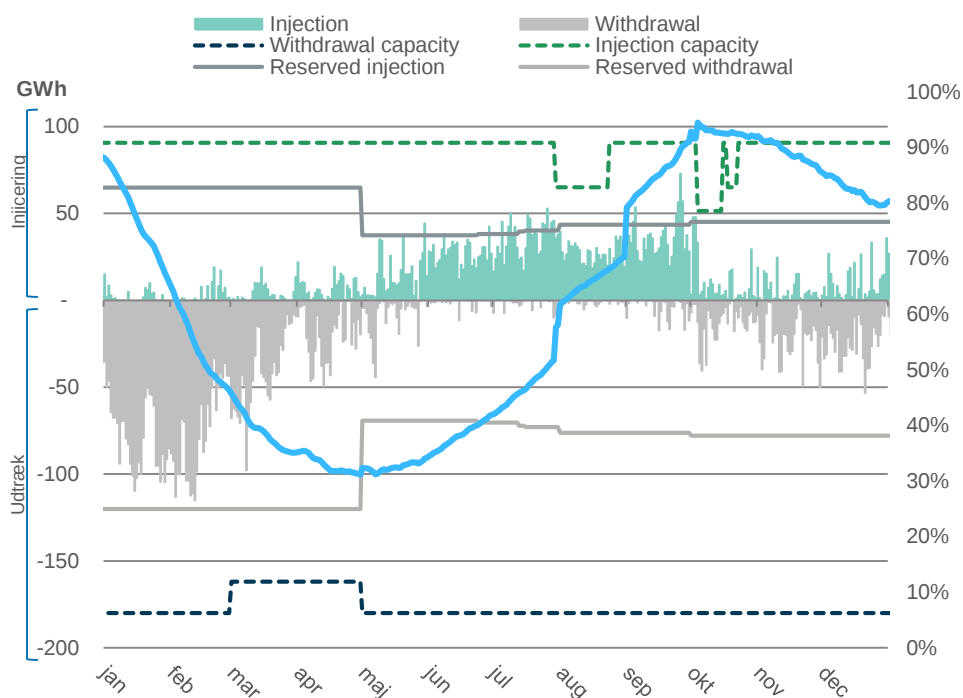
#### UTILISATION OF THE GAS STORAGES

Gas Storage Denmark's two storage facilities had a total available storage capacity of 9.4 TWh in 2021, which is a decrease of 10 pct. compared to 2020. The decrease is mainly driven by imports of German natural gas throughout 2021, because German gas has a lower calorific value than natural gas from the North Sea. The storage capacity also decreased because Gas Storage Denmark introduced an inverse storage product whereby storage capacity including physical gas is made available to the buyer at the beginning of the contract with an obligation to return the gas at the end of the contract.

The storage capacity was not sold out in 2021. The capacity was sold at an average price of 6.16 EUR/MWh, which is 20 pct. higher than in 2020 and 328 pct. higher than in 2018.

The gas storage capacity utilisation was at a very low level throughout the year and was close to 30 pct. in May, cf. figure 4. There was a concern throughout the year that the gas storage could be insufficiently filled for the winter season. The Danish Utility Regulator therefore strengthened the monitoring of the storage filling during spring and summer in order to be able to anticipate possible supply issues over the winter.

FIGURE 4 | STORAGE FILLING, INJECTION AND WITHDRAWAL FOR 2021

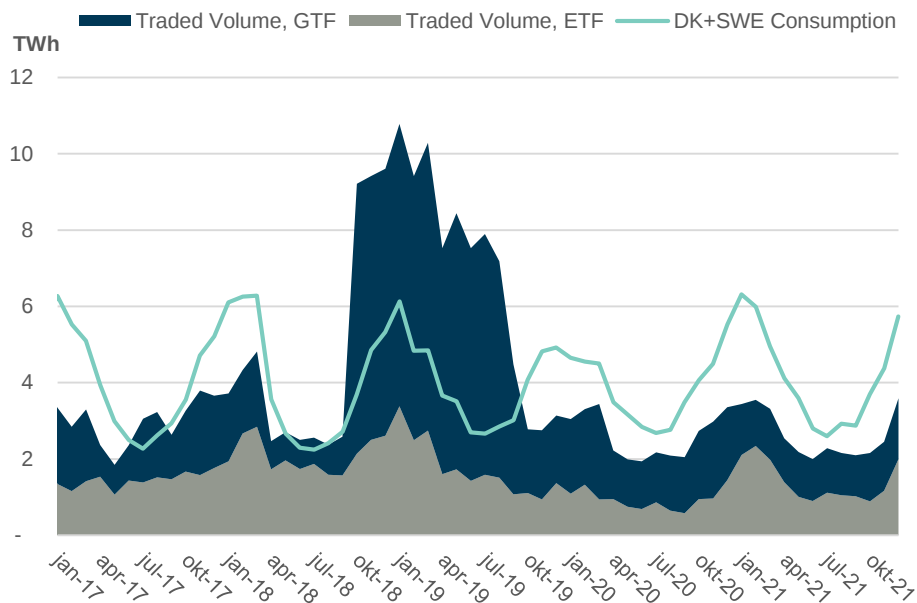


Source: The Danish Utility Regulator based on data from Gas Storage Denmark.

**TRADING AND MARKET**

In 2021, 17 TWh was delivered at ETF, which is the delivery point for gas traded at the exchange EEX, while 15 TWh was delivered at GTF, which is the delivery point for bilateral gas contracts, cf. figure 5. This is the opposite of the year before, where GTF was the primary delivery point in Denmark.

FIGURE 5 | TRADED VOLUME AT ETF AND GTF FOR 2017-2021



Source: The Danish Utility Regulator based on data from EEX and Energinet.

The Danish Utility Regulator also examines the development in market concentration on the Danish gas market. This development is estimated by the Herfindahl-Hirschman Index (HHI) and is used as an indicator of the competitive situation on a specific market. An HHI at 10,000 corresponds to a status of monopoly, while an HHI at 0 corresponds to perfect competition. The market concentration for the wholesale market at GTF has significantly decreased on both the buyer and seller-side in 2021. On the other hand, the market concentration on ETF is increasing, where the level on the seller-side is on an undesirable level with risks of distortion of prices.

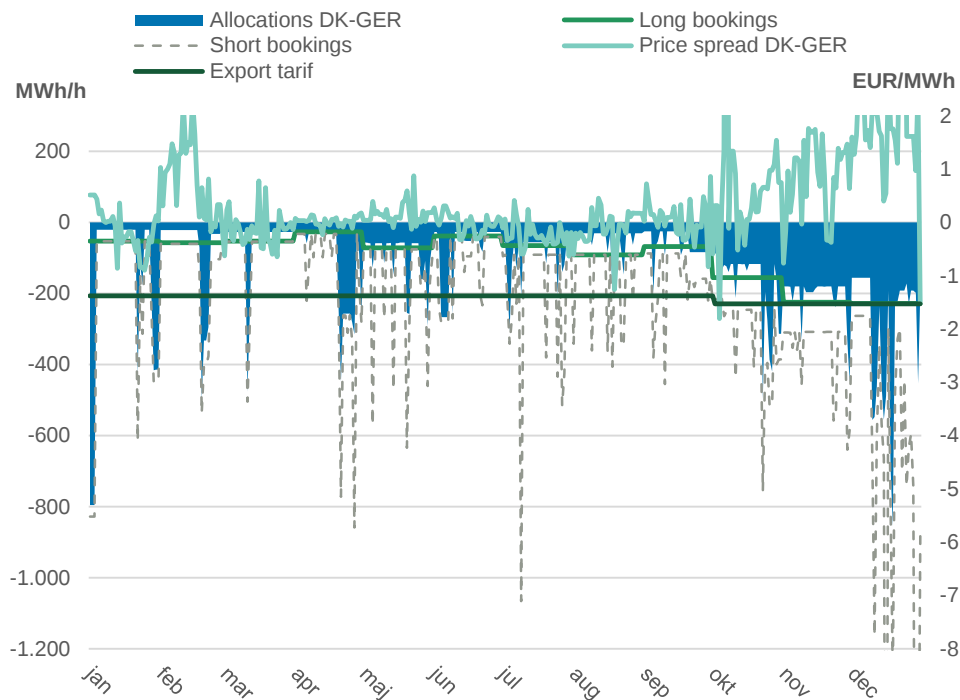
**UTILISATION OF ELLUND**

Due to the restoration of the Tyra platform, the Danish Utility Regulator has an increased focus on the Ellund interconnection point between Denmark and Germany.

In 2021, the ongoing market monitoring and analysis shows that there has been a partly systematic behaviour resulting in an increased degree of gas transportation against price signals, cf. figure 6. This behaviour results in shippers exporting gas from Denmark to Germany even though the price was lower in Germany. Shippers could instead have profited from selling the gas in Denmark and buying it in Germany. Also, during several f 2021, there has been un-utilised import capacity at Ellund, which indicates that shippers have not taken advantage of the difference in prices between the Danish and German markets.

Since such behaviour may be considered as irregular market behaviour which potentially may affect the price level on the Danish gas market, the Danish Utility Regulator is monitoring the development closely.

FIGURE 6 | ALLOCATIONS AND EXPORTBOOKINGS AT ELLUND, 2021



Source: The Danish Utility Regulator based on data from Energinet, Gasunie Deutschland, and Open Grid Europe.

## REGULATORY DEVELOPMENT

The Danish Utility Regulator published two major decisions during the year. In April, the Danish Utility Regulator and the German Bundesnetzagentur approved in coordination the joint proposal from Energinet, Gasunie Deutschland and Open Grid Europe regarding incremental firm capacity at the Ellund interconnection point. In December, the Danish Utility Regulator approved the methodology from Energinet regarding changes to the balancing market. Due to the approval, within-day obligations will be implemented in Denmark from October 2022.

Additionally, the Danish Utility Regulator is considering a number of complaints regarding the tariff level in the Danish offshore system. In April 2020, the Danish Western High Court ruled on a case regarding the setting of tariffs for transportation in the Danish offshore system in the period from July 2011 to October 2012. The High Court invalidated the previous decisions by the Danish Utility Regulator and the Danish Energy Board of Appeal. The Danish Utility Regulator is re-examining the original complaint and additional complaints regarding the tariff level in the Danish offshore system. The complaints are expected to be considered simultaneously. The Danish Utility Regulator expects to publish decisions on the complaints within the first six months of 2023.

### **FOCUS AREAS FOR 2022**

The Danish Utility Regulator has a number of new focus areas for the wholesale gas market in 2022. The Baltic Pipe is expected to be commissioned on 1 October 2022. The Danish Utility Regulator will thus monitor how the pipeline will affect the Danish gas market. Due to the temporary shutdown of the Tyra platform, the Danish Utility Regulator still has an increased focus on the efficient and appropriate utilisation of the Ellund interconnection point, cf. box 1.

The focus areas are expected to change in 2023 when both the Baltic Pipe and Tyra-platforms are in full operational status.

---

#### **BOX 1 | FOCUS AREAS FOR 2022**

The Danish Utility Regulator's market monitoring for the first 9 months of 2022 is largely related to the temporary shutdown of the Tyra platform in the period from September 2019 to June 2023. The market monitoring will especially focus on the Ellund interconnection point between Denmark and Germany. Denmark has until 1 October 2022 only one primary supply route. The Danish Utility Regulator will continue to monitor and analyse whether significant and/or systematic transportation of gas against price signals is occurring and whether capacity at the Ellund connection is utilised efficiently.

The Danish Utility Regulator will closely monitor the effect on the Danish gas market of the commissioning of the Baltic Pipe in October 2022.

In 2021, the gas market has been affected by unusual high wholesale prices and significant volatility. The Danish Utility Regulator's market monitoring will follow the price developments on both the Danish and the European gas market including the supply situation due to the Russian invasion of Ukraine.

In addition, the Danish Utility Regulator will focus on market dynamics, trade behaviour and market concentration during 2022.

The utilisation of the Danish gas storage facilities will be monitored as their efficient and appropriate utilisation is central to the supply situation. The Danish Utility Regulator is responsible for the oversight of the terms for access to storage capacity, as well as other obligations according to the European gas regulation

---



## IMPORTANT EVENTS IN 2021

The temporary shutdown of the Tyra platform has great impact on the Danish wholesale gas market. This year was exceptionally eventful where prices broke records several times.

TABLE 1 | IMPORTANT EVENTS FOR THE DANISH GAS MARKET IN 2021

<b>7 January 2021</b>	Green gas certificates shall state if the gas is produced at production plants established with or without state aid. It follows from a new EU directive. Read more <a href="#">here</a> .
<b>29 March 2021</b>	The Danish gas storages are quickly emptied, and is on this date at the lowest filling level since 2018 according to the Energy Data Service.
<b>1 April 2021</b>	A political majority approves the establishment of a new gas pipeline to Lolland and Falster. The pipeline is intended to supply Nordic Sugar with gas. The pipeline should further contribute to an increase in the production of biomethane. Read more <a href="#">here</a> .
<b>26 April 2021</b>	The Danish Utility Regulator and the German BNetzA approves the joint proposal from Energinet, GUD, and OGE regarding incremental firm capacity at the IP Ellund. Read more <a href="#">here</a> .
<b>8 July 2021</b>	The construction of the Baltic Pipe is temporarily paused due to a repeal by the DEFAB of the environmental permit issued by the DEPA. The appeals board did not find it sufficiently documented how the construction would affect different animal species. Read more <a href="#">here</a> .
<b>14 July 2021</b>	The Climate Package "Fit-for-55" is presented by the European Commission. The purpose is to amend regulation so it is in accordance with the goal of a 55 percent reduction in emissions. Read more <a href="#">here</a> .
<b>25 August 2021</b>	The commissioning of the pipeline Nord Stream II is expected to be postponed. A German Regional Higher Court has rejected an appeal from Nord Stream 2 AG, and demands that the pipeline has to fulfil EU Regulation regarding i.e. third party access. Read more <a href="#">here</a> .
<b>31 August 2021</b>	The Danish Utility Regulator publishes the annual National Report. The report includes the market monitoring of the wholesale gas market and describes the regulatory development. Read more <a href="#">here</a> .
<b>24 September 2021</b>	The Danish Utility Regulator and the Swedish Energy Market Inspectorate receive an evaluation of the Joint Balancing Zone from Energinet and Swedegas. The Danish Utility Regulator initiates a public consultation of the evaluation. Read more <a href="#">here</a> .
<b>1 October 2021</b>	The two German market zones, Gaspool (GPL) og NetConnect Germany (NCG), are merged to the joint market zone Trading Hub Europe (THE). Read more <a href="#">here</a> .
<b>1 November 2021</b>	Total E&P Danmark A/S announces in a REMIT message that the recommissioning of the Tyra platform is postponed from July 2022 to 1 June 2023 due to COVID-19.
<b>17 November 2021</b>	The German process for approval of the pipeline Nord Stream II is suspended due to doubts about the corporate structure. Read more <a href="#">here</a> .
<b>4 December 2021</b>	A political majority decides to cancel the 8th tender process for the extraction of hydrocarbons in the North Sea, and implements a full stop for Danish production in 2050. Read more <a href="#">here</a> .
<b>6 December 2021</b>	The Danish Utility Regulator approves the methodology from Energinet regarding changes to the balancing market. Due to the approval, within-day obligations will be implemented. Read more <a href="#">here</a> .
<b>12 December 2021</b>	The German Government announces that in case of any escalation of the conflict between Ukraine and Russia the pipeline Nord Stream II will not be commissioned. Read more <a href="#">here</a> .
<b>15 December 2021</b>	The Danish Government presents "Grøn Gasstrategi" and "Fremtidens Grønne Brændstoffer" which describe the role of gas during the green transition. Read more <a href="#">here</a> .
<b>15 December 2021</b>	The European Commission presents its Hydrogen and Decarbonisation Package, which introduces regulation for a hydrogen market and how to reduce emissions from the gas sector. Read more <a href="#">here</a> .
<b>23 December 2021</b>	An agreement is in place for a new model for tenders for biomethane. It has the intention of lowering the need for state aid while also contributing to the reduction of emissions. Read more <a href="#">here</a> .
<b>24 December 2021</b>	The Danish wholesale gas price breaks a historical record on the EEX Exchange. The price increased to 180.18 EUR/MWh. For comparison, the price was 17.49 EUR/MWh the year before.