



Market Consultation

Draft: Reintroduction of seasonal factors in the tariff structure during the Tyra redevelopment period

Energinet Gas TSO finds it necessary to strengthen the incentive to make more efficient use of the capacity in the gas system in order to safeguard security of supply during the upcoming redevelopment of the Tyra platform. Therefore Energinet Gas TSO finds it necessary to reintroduce seasonal factors in the tariff structure as a temporary measure during the Tyra redevelopment period, starting October 1st 2019.

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1. Background for the reintroduction of seasonal factors in the tariff structure

The main supply source to the Danish gas market – the Tyra field – is about to go through a complete redevelopment from September 2019 to July 2022¹. In that period gas flow from the Tyra field will be completely shut down. During the Tyra redevelopment period the Danish gas market will go from being supplied from two main entry-points (Nybro and Ellund) to only having one main supply source (Ellund).

Today, the majority of gas (approx. 90%) is delivered from the Tyra field. During the Tyra redevelopment period the lack of gas flow from the Tyra field will be substituted with increased import from Germany via the Ellund connection.

However, the capacity in Ellund is smaller than the gas flow from the Tyra field through Nybro. The capacity in Ellund is insufficient to fully cover the Danish and Swedish demand in cold periods. Therefore the Tyra redevelopment creates a new situation in the Danish gas market, where the entry capacity in Ellund is a scarce resource.

During the Tyra redevelopment period, the situation on the Danish gas market reminds of the situation before the expansion of physical import capacity through Ellund in 2013. Before 2013 the Danish gas market was supplied by mainly one source of supply (domestic gas fields in the North Sea). Up until year 2016, the Danish gas market had seasonal tariffs. Back then, the seasonal tariffs was applied to ensure an efficient utilisation of the capacity in the Danish gas system. Before the expansion of the Ellund connection, the capacity of the Danish gas system were a scarce resource in the cold periods, as will also be the situation during the Tyra redevelopment period.

The seasonal factors (and the resulting multipliers) up until 2016 are shown in Table 1 below:

Table 1 – Seasonal factors and levels of multipliers applied prior to year 2016

Firm capacity charge/reservation prices (short term)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Price in % of the annual capacity charge/reservation price											
Quarter	38,50%	38,50%	38,50%	70,00%	70,00%	70,00%	21,70%	21,70%	21,70%	16,80%	16,80%	16,80%
Month	7,00%	10,50%	21,00%	24,50%	24,50%	21,00%	10,50%	5,60%	5,60%	5,60%	5,60%	5,60%
Day	0,29%	0,40%	0,80%	0,99%	0,99%	0,80%	0,40%	0,26%	0,26%	0,26%	0,26%	0,26%
	Multiplier											
Quarter	1,54	1,54	1,54	2,80	2,80	2,80	0,87	0,87	0,87	0,67	0,67	0,67
Month	0,84	1,26	2,52	2,94	2,94	2,52	1,26	0,67	0,67	0,67	0,67	0,67
Day	1,06	1,46	2,92	3,61	3,61	2,92	1,46	0,95	0,95	0,95	0,95	0,95

Up to year 2016, the purpose of seasonal factors was to make the short products (quarter, month, day) more expensive during cold periods and cheaper during the warmer periods. This creates an economic incentive to flow more gas during the warmer periods, where it can be stored in the Danish gas storages until there is a higher demand for gas in the cold periods. Thereby, the shippers can save cost of transporting gas and capacity is utilised more effective-

¹ According to the latest Gas Market Message on the subject number 2805 dated 28 December 2018.

ly. This market mechanism incentivises a more efficient use of the gas system when capacity is a scarce resource during cold periods and reduces the need for incremental capacity.

Energinet Gas TSO finds it necessary to strengthen the incentive to make optimal use of the capacity in the system in order to safeguard security of supply during the upcoming redevelopment of the Tyra platform and therefore finds it necessary to reintroduce seasonal factors.

Other current consultations at the Danish Utility Regulator

Currently, Energinet Gas TSO has submitted a supplementary method application on tariffs for the Danish Utility Regulator's approval. The other method application on tariffs is the "Final Tariff Methodology"² which is the overall cost allocation methodology for the future tariff setting. The "Final Tariff Methodology" has been in public hearing during autumn 2018, and now awaits the Danish Utility Regulator's decision.

This methodology for approval of seasonal tariffs does not change anything in the main methodology on tariffs described in the "Final Tariff Methodology". In the Final Tariff Methodology document it is the intention to introduce uniform tariffs for the Danish gas market together with a long-term multiplier in the range 0.95 - 0.90 for long-term bookings depending on duration. This methodology for approval on seasonal tariffs should be seen as a supplement to the main methodology of the future tariffs and is a temporary measure to be applied during the Tyra redevelopment period.

1.1 Legal framework

National legal framework

According to Section 11(1) of the Danish Act on Natural Gas Supply, and as the gas transmission system operator (TSO) in Denmark, Energinet shall ensure a sufficient and an efficient transport of natural gas, including the task of preserving and maintaining of the physical balance in the gas network. As transmission system operator Energinet shall also provide the security of gas supply in Denmark, cf. Section 12(3).

According to Section 7(5) and Section 38(1) tariffs shall be based on an objective, transparent and non-discriminatory criteria.

Energinet can include necessary costs in the prices for its activities under Act on Energinet Section 2(2) and (3), including gas transmission activities, cf. Section 37 d of the Danish Act on Natural Gas Supply and Section 2 of Executive Order No 816 of 27 June 2016.

European legal framework

Article 13 concerns level of multipliers and seasonal factors. The level of multipliers shall fall within certain ranges. For quarterly standard capacity products and for monthly standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 1,5, and for daily standard capacity products and for within-day standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 3. In duly justi-

² See the Final Tariff Methodology here: <https://en.energinet.dk/Gas/Tariffs-and-Fees#Consultation>

fied cases, the level of the respective multipliers may be less than 1, but higher than 0, or higher than 3, cf. Article 13(1)(a) and (b). Where seasonal factors are applied, the arithmetic mean over the gas year of the product of the multiplier applicable for the respective standard capacity product and the relevant seasonal factors shall be within the same range as for the level of the respective multipliers set out in paragraph, cf. Article 13(2).

2. Proposed changes to the methodology

2.1 Current tariff methodology – no seasonal factors

Table 2 below shows the current tariff structure. There are currently no seasonal factors in the tariff structure as the multiplier does not change throughout the year.

Table 2 – Current level of multipliers for short products

Firm capacity charge/reservation prices (short term)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Price in % of the annual capacity charge/reservation price											
Quarter	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
Month	10,40%	10,40%	10,40%	10,40%	10,40%	10,40%	10,40%	10,40%	10,40%	10,40%	10,40%	10,40%
Day	0,38%	0,38%	0,38%	0,38%	0,38%	0,38%	0,38%	0,38%	0,38%	0,38%	0,38%	0,38%
	Multiplier											
Quarter	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10
Month	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25
Day	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40	1,40

A tariff structure without seasonal factors and a relatively low multiplier for short products has been fair and reasonable the last couple of years where there has been no scarce resource of capacity in the Danish gas system. In a gas system with an abundance of capacity, seasonal factors and high multipliers would not give any incentive for the shippers to use the gas system more efficiently.

During the Tyra redevelopment period the situation on the Danish gas market changes. Figure 1 and 2 below shows that the Danish gas market is very dependent on the Ellund connection.

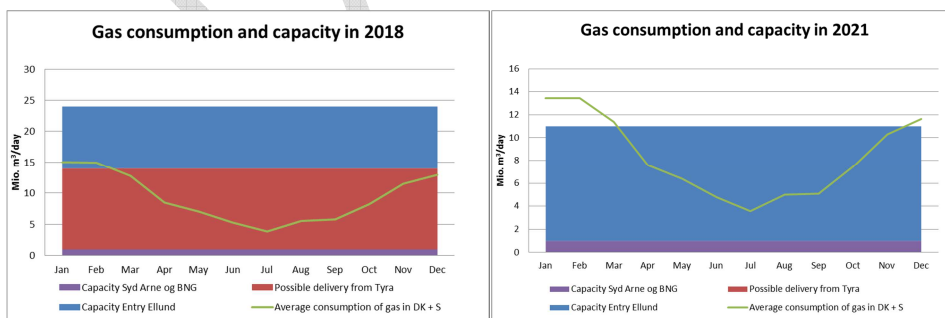


Figure 1 – Consumption and capacity 2018 Figure 2 – Consumption and capacity 2021

As it can be seen from Figure 2, during the Tyra redevelopment period the capacity at the Ellund connection is lower than the expected consumption of gas in Denmark and Sweden during January to March. The average consumption of gas in Denmark and Sweden displayed in figure 1 and 2 is the expected gas consumption in a normal year with mean temperatures. In a

cold year with lower temperatures than normal, the expected gas consumption can reach 17-19 million m³ per day during winter months. As illustrated in figure 2 the entry capacity to Denmark is a scarce resource during the cold period in the Tyra redevelopment period.

This situation makes it necessary to reintroduce seasonal factors to the Danish gas market to encourage high utilisation of the import capacity and give shippers the incentive to use the gas system more efficiently.

2.2 Proposed tariff methodology – seasonal factors

The proposed new tariff structure for short products is shown below in Table 3.

Table 3

Firm capacity charge/reservation prices (short term)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Price in % of the annual capacity charge/reservation price											
Quarter	27,50%	27,50%	27,50%	28,50%	28,50%	28,50%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
Month	9,00%	9,00%	10,00%	15,00%	15,00%	10,00%	9,00%	8,33%	8,33%	8,33%	8,33%	8,33%
Day	0,40%	0,40%	0,50%	0,65%	0,65%	0,50%	0,40%	0,27%	0,27%	0,27%	0,27%	0,27%
	Multiplier											
Quarter	1,10	1,10	1,10	1,14	1,14	1,14	1,00	1,00	1,00	1,00	1,00	1,00
Month	1,08	1,08	1,20	1,80	1,80	1,20	1,08	1,00	1,00	1,00	1,00	1,00
Day	1,46	1,46	1,83	2,37	2,37	1,83	1,46	1,00	1,00	1,00	1,00	1,00

The new price structure will apply for all entry- and exit points in the Danish gas system. This will sustain the principle of uniform tariffs proposed in the Final Tariff Methodology.

The new tariff structure reintroduces seasonal factors, which gives the shippers an incentive to use the gas system more efficiently, as it becomes less expensive to buy short products during the warm periods and consequently more expensive during the cold periods.

The arithmetic mean of the multiplier over the gas year of the products is:

- Quarter: 1.06
- Month: 1.19
- Day: 1.48

As mentioned earlier in the document, the reintroduction of seasonal factors is a temporary measure, which applies during the Tyra redevelopment period where the capacity is a scarce resource in the Danish gas system.

It is the intention of Energinet Gas TSO to set the level of multipliers in the seasonal profile to a reasonable level throughout the year. The multiplier for all short products has been reduced to 1.00 in the storage filling season (May – September). This makes shorter products as cheap as the yearly products during the time period where injection to gas storage is important for the security of gas supply. At the same time a multiplier at 1.00 do not disfavour shippers with yearly products. Additionally shippers with capacity contracts lasting more than one year are favoured with a long-term multiplier in the range 0.95– 0.90 if this proposal is approved by DUR.

For January and February (expectedly the coldest months) the multiplier is set at the highest level:

- Quarter: 1,14
- Month: 1,80
- Day: 2,37

The level of increase in the price for short products in the coldest period is set to give an incentive to use the capacity during the warm periods. The highest increase in price is set on day products, then month and quarter to ensure the efficient use of the gas system and long-term planning in the shippers booking strategy.

The level of the multipliers in the months between January/February and the gas filling season is set as a stepwise increase/decrease to give a modest effect on the price for short products.

It is not expected that the reintroduction of seasonal factors will have any effect on yearly income of Energinet Gas TSO. It is the intention that the decrease of the multiplier in the warm period and the increase of the multiplier in the cold period will be neutral to the revenue of Energinet Gas TSO.

Seasonal factors in other countries

Other Gas TSO's in Europe do also use seasonal factors to ensure an efficient use of the gas system. Table 2 below shows the level of seasonal factors in Holland, Belgium and Poland.

Table 4

Firm capacity charge/reservation prices in other countries (short term)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	Multiplier											
GTS (Dutch Gas-TSO)	1,80	1,80	3,60	3,60	3,60	1,80	1,80	0,90	0,90	0,90	0,90	0,90
Fluxys (Belgian Gas-TSO)	1,50	2,00	2,40	2,60	2,50	2,00	1,70	1,20	1,00	0,70	0,70	0,90
Gaz-System (Polish Gas-TSO)	1,40	1,60	1,70	1,70	1,70	1,60	1,40	1,30	1,30	1,30	1,30	1,30
Gasunie (German Gas-TSO)	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25

Holland, Belgium and Poland all have higher tariffs on the short product during the cold periods and lower tariffs during the warm periods – which give the shippers an economic incentive to use the gas system more efficiently. The participants on the European gas market (shippers and TSO's) are therefore used to act in a structure with seasonal factors. The German TSO Gasunie has no seasonal factors.

3. Consequences of the method

By reintroducing seasonal factors in the tariff structure, the tariff method will temporarily go against harmonisation of price structures towards Germany (the adjacent German TSO's has no seasonal factors), which is otherwise desirable and was one of the reasons behind the removal of seasonal tariffs in 2016³. That is also the reason behind delimiting the proposal to the Tyra redevelopment period.

³ Methodology for approval "Anmeldelse af multiplikatorer og sæsonprofil", 12 January 2016.

The implementation of seasonal factors is expected to cause a change in the shippers' booking behaviour. Specifically, the implementation of seasonal factors is expected to cause an increase in bookings primarily of the short term capacity products applicable in the warm period and secondarily in bookings of the long term capacity product (yearly). The reasoning behind this is the fact that short term products will become cheaper during the warm months and consequently the short term products during the cold months will become more expensive. Additionally, a multiplier equal to 1.00 makes the short term products more flexible than long term capacity products favouring the short term products to the long term products.

The change in booking behaviour is expected to be significant in Ellund and the exit points, Exit Zone Denmark and Dragør⁴, as they vary with gas consumption.

This proposal is especially targeted towards an optimal use of the Ellund Entry capacity as this will be the main supply source during the Tyra redevelopment period. Shippers who have not booked long term capacity in Ellund Entry will benefit from the less expensive short term capacity products applicable during the warm period. Contrary, shippers with long term capacity in Ellund Entry will not be worse off, as the multiplier of 1.00 during the warm period place the annual capacity product on an equal footing with the short term capacity products. Shippers with booking lasting several years will benefit from the long-term multiplier in the range of 0.95-0.90.

Seasonal factors give shippers an economic incentive to make efficient use of capacity in the gas system which is needed during the Tyra redevelopment period⁵. This will expectedly incentivise gas inflow from Ellund during summer to be injected into storage and saved for winter when the demand for gas is high. Consequently, an improved use of gas storage for seasonal purposes in Denmark is expected.

Additionally, the high price for short term winter products will reflect the increased demand for capacity in the winter period.

The effect on consumers depend on their offtake as well as how the shippers booking behaviour may change as well as how transmission costs are passed on in the value chain. Shippers who have a portfolio characterised by consumers with a stable and predictable offtake will typically make greater use of long term capacity products and benefit from the long-term multiplier (0.95-0.90). Contrary to this is a portfolio characterised by a fluctuating offtake where a shipper will benefit from the low multiplier (1.00) during the warm period, and can make use of short term products which are more cost-efficient. These seasonal factors will therefore incentivise an efficient use of the gas system including the use of gas storage.

⁴ Given a method approval (pending) on a joint balancing zone between Denmark and Sweden, the two points *Exit Zone Denmark* and *Dragør* will cease to exist as of 1 April 2019 as they will be replaced with the point *Virtual Exit Zone*.

⁵ See Energinet Gas TSO's memo "Supply and demand 2019-2022" published by Energinet Gas TSO 21 December 2018.