

Danish Utility Regulator

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Gas TSO

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# LEVEL OF MULTIPLIERS, SEASONAL FACTORS AND DISCOUNTS

## 1. Introduction

According to EU Regulation 2017/460 (NC TAR) Article 28(1), the national regulatory authority (NRA) shall conduct a separate consultation with the NRAs of all directly connected Member States and the relevant stakeholders on the level of multipliers, seasonal factors, if any, and on the level of discounts in relation to LNG points and standard interruptible capacity products, cf. Article 9(2) and Article 16 of NC TAR.

The Danish NRA, Danish Utility Regulator (DUR), has therefore asked Energinet to prepare a separate note (this note) on the levels of multipliers and seasonal factors, if any, with a specific presentation of the present level of multipliers and seasonal factors and the proposed future level of multipliers, seasonal factors, if any, and the discount on standard interruptible capacity products. LNG is not relevant for Denmark.

The note supplements chapter 3.5 on multipliers and seasonal factors in the public consultation document of 31 August 2018, and it will be used by DUR to conduct its hearing in accordance with Article 28 of NC TAR and for making a motivated decision on the proposed levels of multipliers and discounts.

The current level of multipliers for yearly, quarterly, monthly and daily capacity and seasonal factors were approved by the Danish NRA<sup>1</sup> and adopted by the Danish TSO Energinet in 2016.

The 2016 level of multipliers and seasonal factors is retained in the public consultation document of 31 August 2018 on a new reference price methodology for the implementation of NC TAR in the Danish gas market.

This note describes the reasoning behind the introduction of multipliers and season factors and why they are retained in the proposal for new tariff methodology for the Danish transmission system.

<sup>1</sup> Method approval, 16/01111, 1 July 2016: [http://forsyningstilsynet.dk/fileadmin/Filer/0\\_-\\_Nyt\\_site/GAS/Sekretariatsafoerelser/2016/Justering\\_af\\_multiplikatorer\\_og\\_saesonprofilafgoerelse.pdf](http://forsyningstilsynet.dk/fileadmin/Filer/0_-_Nyt_site/GAS/Sekretariatsafoerelser/2016/Justering_af_multiplikatorer_og_saesonprofilafgoerelse.pdf)

## 2. Level of multipliers

The present level of multipliers for yearly, quarterly, monthly and daily capacity and seasonal factors is shown in the table below (screenshot from the tariffs for 2018/19 published on Energinet homepage <https://en.energinet.dk/Gas/Tariffs-and-Fees>):

<b>Firm capacity charge/reservation prices (short term)</b>												
<b>- Price in % of the annual capacity charge/reservation price</b>												
	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>Qua</b>	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%
<b>Mth</b>	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%
<b>Day</b>	0.38%	0.38%	0.38%	0.38%	0.38%	0.38%	0.38%	0.38%	0.38%	0.38%	0.38%	0.38%

For illustrative purposes the seasonal factors have been removed from the tariff structure and the multipliers are as shown in the table below:

<i>Capacity product</i>	<i>Multiplier</i>
Year	1.00
Quarter	1.10
Month	1.25
Day	1.40

The main reasons for the introduction of the multipliers in 2016 were

- To increase wholesale market efficiency and liquidity in short term gas trading on the Danish Gas Exchange by lowering the multiplier for short term capacity products vis-a-vis the yearly capacity product.
- To enhance cross border trade and flow by harmonizing the level of multipliers with neighboring (German) TSO's.

In order to secure stability and predictability in the tariff system, the multipliers were not lowered further ( The argument was the impact on transmission services revenues, where no multipliers would make the transmission revenues more insecure (due to the foreseen absence/decrease yearly capacity bookings) and hence the tariff development more unstable (the Danish regulation stipulates that over/under recovery of tariff revenues are to be calculated in to the tariffs for the following gas year unless the over/under recovery is very high in which cases the NRA can allow for a longer period for settling the over/under recovery via the tariffs.

The above arguments are still valid for maintaining the present level of multipliers in the new tariff methodology proposal:

- Facilitation of short term trade while maintaining long term price signals

- Modest impact on transmission services revenues and maintaining stability in tariff development
- Fair and balanced distribution of costs between various types of network users (shippers), i.e. short term traders vs. North Sea producers vs. gas suppliers with a customer portfolio in the exit zone
- No physical congestion in the Danish system that requires more short term booking incentives
- Enhancement of cross border flows through a harmonized structure towards German neighboring TSO's.

### 3. Seasonal factors

As mentioned above, the seasonal factors were removed from the tariff structure in 2016 – and the new reference price methodology proposal proposes to continue with a tariff system with no seasonal factors.

The main reason is that there is no physical congestion or scarcity of capacity in the Danish gas transmission system at the current level of demand and domestic production in the North Sea. Hence the argument for having seasonal factors in order to secure correct price signals for scarce capacity in the transmission system (i.e. high tariffs when demand is close to capacity limit in winter) is no longer relevant.

Furthermore, the absence of seasonal factors harmonizes the tariff structure towards the neighboring German TSO's and hence gives a more coherent tariff structure for bundled capacities at the border point. It also encourages enhanced cross border trade when the tariff differences between the market areas are not too high during the winter months where activity at the gas hubs is peaking.

Finally, no market participants have voiced a demand for re-introducing seasonal factors in the Danish transmission system.

### 4. Interruptible capacity

TAR NC Art. 16 defines the calculation of reserve prices for standard capacity products for interruptible capacity. The reserve prices for standard capacity products for interruptible capacity shall be calculated by multiplying the reserve prices for the respective standard capacity products for firm capacity by the difference between 100 % and the level of an ex-ante discount. The ex ante discount expresses the probability of interruption.

Interruptible capacity products will continue to be offered at the two interconnection points to/from Energinet's transmission system, Ellund and Dragør (see below). Interruptible capacity products pricing contains a discount compared to firm capacity products based the historical probability of interruption.

Energinet will recalculate the ex ante discounts based on a reassessment of the future likelihood of interruptions within the coming 1-3 years during the shut-down period of the major domestic Tyra production field that will curb supplies from the Danish North Sea. The recalculation will be performed as part of calculating tariffs for the gas year 2019-2020 and according to the formulae stated in Art. 16.

The Annex 1 below describes the expected near-future development of these products.

## 5. Annex 1 Interruptible capacity products at Interconnection Points

### 5.1 Ellund

Ellund is a physical bi-directional interconnection point to and from Germany, connecting Energinet's grid to the grids of both Gasunie Deutschland and Open Grid Europe (pipe-in-pipe system on the German side of Ellund).

In the following, the current interruptible capacity products at the Ellund interconnection point are described. In general, the interruptible capacity products at Ellund will be reassessed, due to the shut-down of the major Danish production field, Tyra, from October 2019 and until spring 2022 (2 ½ years). In this period Denmark will be almost fully dependent upon gas from Germany, which will significantly change the flow patterns in the Danish grid, and therefore also the interruptible products at the Ellund interconnection point.

#### 5.1.1 Ellund exit

In the southbound flow direction -from Denmark to Germany - Energinet offers an interruptible capacity of approximately 684 MWh/h, on top of a firm capacity of 10,000 MWh/h. The capacity level offered is based on historical data on the gas flow in the opposite direction (northbound flow), setting a level which in most cases will be available. No interruptions have occurred after 2010, and only a few small interruptions occurred in the period 2006-2008.

The discount level is currently 10 per cent, reflecting the probability of interruption, due to lower backhaul flows than 684 MWh/h. The interruptible capacity level and the discount level at Ellund exit will be reassessed towards October 2019, when the Danish Tyra production field is shut down for maintenance for 2 ½ years (until spring 2022).

#### 5.1.2 Ellund entry

Currently no interruptible capacity is offered at Ellund in the northbound direction. This is due to the fact that since October 2013 (when firm capacity was established northbound based on Energinet's Open Season 2009) there has been more firm capacity available on the Danish side than on the German side (a firm total of 7,700 MWh/h on the Danish side). Also, flow predictions indicate that the firm capacity on the Danish side will not be sold out based on the current supply/demand assessment.

Energinet proposes to re-introduce an interruptible capacity product at Ellund entry from October 2019, when the Tyra field is shut down. The product level and discount level for this re-introduction has been discussed with market participants during the Tyra market development project. The final capacity level and discount level will be announced to the market in due time before October 2019.

## 5.2 Dragør

Dragør is a physical uni-directional interconnection point, from Denmark to Sweden, connecting Energinet's grid with the grid of Swedegas. Thus, firm is only offered in the exit direction towards Sweden, but interruptible capacity is offered in both directions.

In the following, the current interruptible capacity products at Dragør are described.

The Dragør point is expected to cease to be an independent interconnection point in the beginning of 2019, as a result of the Joint Balancing Zone project between Energinet and Swedegas, creating one joint balancing zone for both Denmark and Sweden.

In this process it is expected that the border point Dragør will change from being an interconnection point between 2 countries (market zones), to being an internal point for Swedish consumption, as Energinet and Swedegas plan to form a Joint Balancing Zone.

### 5.2.1 Dragør exit

In the direction from Denmark to Sweden, Energinet offers an interruptible capacity of approximately 733 MWh/h, on top of a firm capacity of 3,660 MWh/h. Interruptible capacity is based on an assessment of possible flow scenarios in the Danish grid. Energinet will be able to flow gas above the firm level in most flow scenarios at Dragør exit, but the capacity above can be interrupted in some rare flow scenario cases, and can therefore not be characterized as firm.

The discount level is currently 5 per cent, reflecting the probability of interruption, based on rare flow scenario cases. In practice, capacity has never been interrupted towards Sweden.

It is expected that interruptible capacity will no longer be offered, when the Joint Balancing Zone is introduced in early 2019.

### 5.2.2 Dragør entry

In the direction from Sweden to Denmark, Energinet offers an interruptible capacity of 600 MWh/h, which is the only capacity available in this direction, as no physical flow is possible from Sweden to Denmark.

The capacity level offered is based on historical data on the gas flow in the opposite direction (based on summer demand in Sweden), setting a level which in most cases will be available. The rebate level is currently 5 per cent, reflecting the probability of interruption, due to lower gas flows than 600 MWh/h.

It is expected that interruptible capacity will also be offered under the Joint Balancing Zone.