



ENERGINET

Gas TSO

Green Gas Lolland-Falster Project

OPEN SEASON

2020

MODEL PAPER



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1. Invitation to the Open Season process for the Green gas Lolland-Falster project

Energinet Gas TSO hereby invites all potential shippers to take part in this Open Season 2020, that will allow shippers to bid for capacity for the potential new gas pipeline from southern Zealand to Lolland-Falster. The purpose of the process is to collect long-term investment signals for the Green gas Lolland-Falster project before an investment decision is taken. The Open Season process will take place in a transparent and non-discriminatory way in accordance with current EU regulation.

The Green gas Lolland-Falster project is an infrastructure project that will enable shippers to transport gas from the existing gas system in southern Zealand to a new gas grid on Lolland-Falster for consumption. Moreover, the project will allow Biomethane produced on Lolland-Falster to reach the current gas system.

The project aims to achieve the following goals;

- Connecting Lolland-Falster to the Danish natural gas grid and thereby support larger energy consumers in the green transition.
- Support utilization of biomethane potential (production).

The Open Season process is designed to enable shippers to provide Energinet Gas TSO with positive investment signals that are required for realization of the Green gas Lolland-Falster project. The process will run

from January 2020, starting with a market consultation of the rules, until March 2020 by signing of the capacity agreements, which will be subject to conditions precedent.

The realization of the Green gas Lolland-Falster project will be subject to final conclusion of the development study being conducted by Energinet Gas TSO, as well as approval by relevant authorities.

The aim of this model paper is to introduce the Open Season 2020 in the context of the Green Gas Lolland-Falster project and to outline the process of Open Season 2020. Please note that additional changes may occur.



2. Introduction of the Green gas Lolland-Falster project

2.1 Introduction and purpose

In accordance with the incremental capacity process described in the network code on capacity allocation mechanisms in gas transmission systems (CAM NC 2017/459/EU), Energinet Gas TSO (hereinafter referred to as “Energinet”) has collected non-binding demand indications between 2 July and 26 August 2019. As described in the document “User Involvement in Network

Planning” from 5 April 2019, Energinet has not only collected non-binding demand indications on the relevant interconnection point Ellund, but has broadened the scope to include all relevant entry-exit points in the Danish gas transmission system.

During this non-binding phase, Energinet have received non-binding demand indications for expanding the Danish gas transmission system towards the islands of Lolland and Falster, where there is no gas system today.

The non-binding indications show a demand for both exit capacity towards the potential end-consumer market on Lolland and Falster, and demand for connecting new biogas plants to the potential new gas infrastructure.

The establishment of a gas grid on Lolland and Falster will require expansions both at transmission and distribution level, and thus will require a close cooperation between Energinet Gas TSO and the Danish distribution grid operator Evida.

Establishing a gas network towards Lolland and Falster will require firm and binding commitment by market players, as significant investments are required. Energinet Gas TSO and the Danish gas transmission system

The current Danish transmission system is commercially configured as an entry-exit system comprising of:

- Two entry points (Nybro and Ellund) where the natural gas can enter Denmark
- One entry point for upgraded Biomethane – RES Entry point – where shippers can virtually inject biomethane into the transmission system
- One Joint Exit Zone where Danish and Swedish consumers are supplied with natural gas by the gas suppliers via distribution network.
- Two transit exit points at Nybro and Ellund where the natural gas can be exported out of Denmark
- Two virtual trading points for natural gas: Gas Transfer Facility (GTF) and Exchange Transfer Facility (ETF) where shippers can trade in natural gas.
- One collective storage point covering the storage facilities at Stenlille and Lille Torup where storage customers can inject and withdraw gas.

The Joint Exit Zone consist of six distributions areas in Denmark, owned by distribution company Evida, together with several distributions areas in Sweden. There are also three large power stations in the Joint Exit Zone (Avedøre 2, H.C. Ørsted and Skærbæk power stations), which are directly connected to the transmission grid.

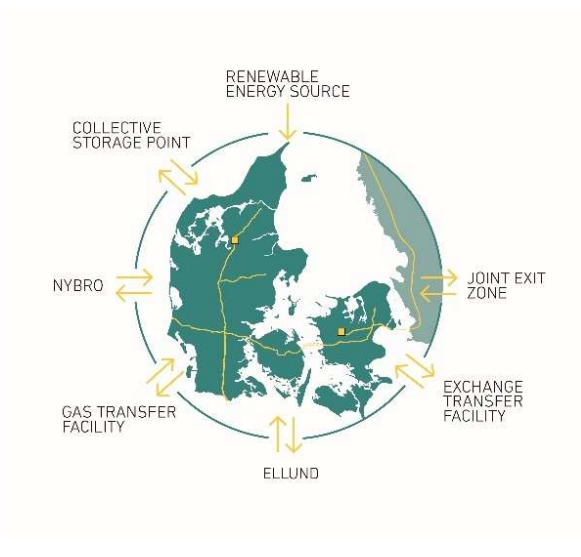
Energinet Gas TSO is the Danish TSO, transmission system operator, of the gas transmission system. Planning and implementation of all gas utility services must consider security of supply, socio-economics, environment and protection of consumers. Our main task is to maintain the overall short-term and long-term security of gas supply. Moreover, some of our tasks are to develop the main Danish gas transmission infrastructure together with creating objective and transparent conditions for competition on the gas market and to monitor that competition works. The company is a part of the Energinet Group, an independent public enterprise owned solely by the Danish Ministry of Climate, Energy and Utilities.

2.2 The Danish Market Model

The Danish (and Swedish) entry-exit model with one Joint Exit Zone requires aggregated data for each gas supplier at each allocation area level (via the consumer portfolios). The individual metering and consumer data below the supplier level is therefore not known to Energinet Gas TSO. However, the distribution companies must provide such data, if relevant for Energinet Gas TSO, for instance in relation to emergency interruptions.

Capacity (measured in gross calorific value per hour) is purchased via one or more capacity agreements (overlapping in time):

- Entry capacity is booked for each entry point (Nybro or Ellund).
- Joint Exit Zone capacity is in principle unlimited, and is booked for the entire zone (Denmark and Sweden) covering transmission to:
 - all six distributions areas and all consumer portfolios in Denmark, and
 - the three directly connected sites, and
 - Consumption Sweden
- Renewable Energy Sources (RES) entry capacity is in principle unlimited, and is booked at the virtual RES entry point
- Exit capacity is booked for each exit point (Nybro or Ellund).



Shippers are responsible for transport, balancing and trading in the transmission system, whereas gas suppliers are responsible for consumer management in the distribution network. A gas supplier can have one or more shippers supplying one consumer portfolio. Likewise, the end-consumer at a direct site can have more

than one shipper. The end-consumer supplied directly at the direct sites are their own gas supplier, and can have more than one supplier, cf. the regional rules. Finally, a Biomethane seller is responsible for the delivery of gas from a biomethane upgrading plant connected to the Danish gas system to a shipper.

Only direct consumers pay a fee directly to Energinet Gas TSO for security of the supply.

Energinet Gas TSO plans to enter into the construction phase of the Green gas Lolland-Falster Project in autumn 2020. In parallel with the Green gas Lolland-Falster Project, Energinet Gas TSO are also conducting the Baltic Pipe project, which will commence towards October 2022, and will include changes to the gas market model, namely introducing a new entry point from Norway to Denmark and from Denmark to Poland. For further information on the Baltic Pipe project please visit our website: <https://en.energinet.dk/Infrastruktur-Projects/Projektliste/BalticPipe>

3. Preliminary description of the prospective expansion

Transportation of gas from Zealand to Lolland-Falster consists of two components:

1. Transmission of gas to and from Lolland-Falster
2. Distribution of gas on Lolland-Falster

During the pre-development phase in 2019 Energinet Gas TSO and Evida identified two preferred options to connect Lolland-Falster to the existing Danish gas grid described in section 3.1.

Overview of the project



3.1 Transmission of gas to and from Lolland-Falster

The new transmission system to Lolland-Falster is expected to start close to the coming compressor station in Everdrup. The project has two preferred options to transport gas from Everdrup to Falster:

1. Upgrading of the existing distribution pipeline from Tappernøje to Ørslev supplied by new connections from Everdrup to Tappernøje and a new pipeline extension from Ørslev to Falster; or
2. Establishing a new gas pipeline from Everdrup to Falster.

The transmission system will end on Falster; currently expected to be near Nykøbing Falster.

For handling future biogas production, a reverse flow, re-compression and de-odorization facility station will be placed allowing gas to be transported from Lolland-Falster to Zealand.

The pipeline routing from Everdrup to Ørslev, the routing across Storstrømmen and the location of reverse flow facility units will be decided based on technical possibilities, costs, impact on existing buildings, other infrastructure, and nature protection.

4. The Open Season process in the context of the project

4.1 What is an Open Season?

“Open Season” is a well-known procedure by which an infrastructure provider, e.g. a transmission system operator (TSO) such as Energinet Gas TSO, asks the market, if:

- New/added capacity is needed by the shippers; and
- The shippers will commit themselves contractually to the relevant business case, if the infrastructure provider undertakes the construction.

Historically, Open Season has been used to in a variety of forms as a method of providing new gas infrastructure in European countries.

The instrument to commit the shippers (both present and potential) to support the relevant business case of the new capacity project under an Open Season process, are long-term capacity agreements. If such agreements are consistent with the market’s needs, the EU regulation, and all shippers have received the same information on the analysed project, the Open Season can determine the appropriate dimensions of new infrastructure in an open and non-discriminatory way.

3.2 Distribution of gas on Lolland-Falster

A gas distribution network will be established on Lolland-Falster. It is expected to run from Nykøbing Falster in East, to Nakskov in west, passing by Maribo. The gas distribution network is expected to be connected to the transmission network at Nykøbing Falster.

The pipeline routing will be optimized with respect to existing buildings and nature protection.

The full expansion of the Danish gas grid will include approximately 90-115 km new pipeline located on Zealand, Falster and Lolland.

4.2 The structure of the Open Season process

The figure below shows, the process of Open Season 2020 and its milestones.



4.2.1 The preparation phase

In this phase, Energinet Gas TSO as well as the market prepares for the Open Season 2020.

4.2.1.1 Incremental Capacity demand assessment and market analysis

In the Incremental Capacity process 2019, the market players submitted indications that can be categorised as non-binding demand indications for capacity towards the islands of Lolland and Falster:

- RES Entry (a total of 440,000 MWh/year)

- Joint Exit Zone “New Denmark” (a total of 828,000 MWh/year)

These non-binding demand indications have been presented in the “Demand assessment report for the incremental capacity process starting 2019 for Energinet Gas TSO” and is to be considered as the market analysis for the Green gas Lolland-Falster project.

More information on the Incremental Capacity process 2019 and related reports is available on Energinet’s website: <https://en.energinet.dk/Gas/Shippers/Incremental-capacity>

4.2.1.2 Market consultation

To ensure a transparent Open Season process and to enable the market to get involved in the process, a market consultation of the Open Season 2020 Rules takes place from 17 January 2020 to 6 February 2020.

All interested parties in the market are invited to participate in the market consultation. After the consultation, Energinet Gas TSO will evaluate the responses received during the consultation, and adjust the Open Season 2020 Rules, if necessary. Energinet Gas TSO will consult the Danish Utility Regulator about the market consultation, the outcome thereof and the final version of the Open Season 2020 Rules. Parts of the Green Gas Lolland-Falster Project, such as changes to the market model may be subject to later official approval by the Danish Utility Regulator.

4.2.1.3 Publication of the final Open Season 2020 rules

Energinet Gas TSO expect to publish the final Open Season 2020 Rules on 21 February 2020.

Simultaneously the Open Season 2020 auction will open. As the non-binding demand indication submitted in the incremental capacity process is considered as bidding round 1, this round of bidding is to be considered as round 2 and thereby the final round of bidding. It is not a precondition for bidding in round 2, to have participated in round 1.

Interested shippers shall participate in an auction by submit binding commitments in the form of binding price bids for capacity. The deadline for shippers to submit bids in the Open Season 2020 auction is two weeks after the publication of the final Open Season 2020 rules (deadline is expected to be 6 March 2020).

4.2.1.4 Information updates

During the Open Season process, it is expected that the market will get information updates when new information is available. Moreover, a general information meeting is planned in connection with the launch of the market consultation to inform the market about the Open Season 2020. The meeting will take place on 23 January 2020 at our office in Ballerup. To get more information on the meeting, please follow this link to our website:

[Information meeting on the Open Season 2020](https://en.energinet.dk/Gas/Shippers/Information-meeting-on-the-Open-Season-2020)

Relevant information will continuously be published on:

<https://en.energinet.dk/Gas/Shippers/Green-gas-Lolland-Falster>

4.2.2 The allocation phase

Once the Open Season 2020 auction reaches its deadline for submission of bids and thereby is closed, Energinet Gas TSO will assess whether or not the submitted bids in the auction meet capacity and economic thresholds. Provided thresholds are met, the allocation process will commence, with the signing of capacity contracts.

4.2.2.1 Allocation

The Green Gas Lolland-Falster Project will require a significant Financial Contribution in addition to the general capacity and commodity tariffs. To collect shippers’ willingness to add their financial contribution towards the project, Energinet Gas TSO will collect bids and allocate capacity via an auction.

Capacity will be allocated via a single-round Pay-As-Bid auction, where shippers should indicate their willingness-to-pay, besides the expected capacity and commodity tariffs. If a shipper only wants to indicate a willingness-to-pay that is equal to the expected tariffs, the bid(s) should be filled in with zero. Each point (RES Entry Lolland-Falster and Exit Lolland-Falster) is allocated separately from each other. Energinet will rank all Bids, according to the Unit Bid Price of the Financial Contribution the highest Unit Bid Price ranking first.

In case of over-demand at either at RES Entry Point Lolland-Falster or at Exit Lolland-Falster, also taking into account capacity reserved for short-term contracts, Energinet is entitled to reduce one or more Bids, based on the following principles:

- Following the ranking of Bids, OS 2020 Capacity shall be allocated to the Bids based on of their price ranking, highest Unit Bid Price ranked first
- Where the amount of OS 2020 Capacity Bid by a Participant exceeds the remaining unallocated OS 2020 Capacity (after OS 2020 Capacity has been allocated to other Participants placing higher bids), this Participant shall be allocated OS 2020 Capacity equal to the remaining unallocated OS 2020 Capacity. In case that this particular Bid is specified as all-or-nothing, this Bid is disregarded, and the next Bid(s) in the price rank is considered, until either the OS 2020 Capacity is allocated, or no price Bid(s) are left.
- Where each of two or more Bids specifies the same Unit Bid Price, and the aggregated OS 2020 Capacity for those Bids exceeds the remaining unallocated amount of OS 2020 Capacity, the remaining unallocated OS 2020 Capacity shall be allocated based on the capacity requested for the relevant Bids, the highest capacity request ranked first.
- Where the remaining OS 2020 Capacity to be allocated is less than the minimum OS 2020 Capacity requested by the Participant, the Bid

shall be considered unsuccessful, and a revised allocation shall be made between all remaining price Bid(s).

4.2.2.2 Capacity agreement and conditions precedent

Energinet will enter into conditional capacity agreements with the shippers, which have been allocated capacity in the auction, if the Green gas Lolland-Falster Project is financially and socio-economically viable for the TSO.

The capacity agreements will be subject to conditions precedent.

4.2.3 Overview of main parameters

4.2.3.1 Relevant Entry and Exit Points

The points relevant for the Open Season 2020 are listed below:

- Exit Zone Lolland-Falster – a temporary exit point in the Danish gas market model towards consumption on Lolland and Falster. The booking and allocation of short-term capacity at the Exit Zone Lolland-Falster point will follow the same terms and conditions as the Joint Exit Zone. The Exit Zone Lolland-Falster capacity can only be utilized towards consumption on Lolland and Falster, and thus cannot be used for consumption in the rest of the Joint Exit Zone.
- RES entry Lolland-Falster – a temporary entry point for renewable gasses on Lolland and Falster. The booking and allocation of short-term capacity at the RES entry Lolland-Falster point will follow the same terms and conditions as the regular RES entry point. The RES entry Lolland-Falster capacity can only be utilized for renewable gasses produced on Lolland and Falster, and thus cannot be used for renewable gasses in the rest of Denmark

4.2.3.2 Type of Capacity

At the Exit Zone Lolland-Falster point, the OS 2020 Capacity will be offered in Open Season 2020 as firm capacity. Likewise, at the RES entry Lolland-Falster point, the OS 2020 Capacity will be offered in the Open Season 2020 as firm capacity.

4.2.3.3 Capacity offered in the Open Season 2020

During the Open Season 2020, up to 90 per cent of the maximum capacity for the relevant points will be offered for long term contracts. The long-term contracts will have a duration of 15 gas years.

A minimum of 10 per cent of the maximum capacity will be reserved for short term contracts. This capacity is expected to be offered at Energinet Online after the First Come First Served principal as applied for all other Joint Exit Zone capacity and RES entry capacity.

4.2.3.4 Project approval

The Green gas Lolland Falster project is subject of approval by the supervisory board of Energinet SOV, and by the Danish Ministry of Climate, Energy and Utilities. The investment decision is expected before 1 December 2020.

4.2.3.5 Start of the service

Energinet Gas TSO aims at starting the transmission service to Lolland-Falster in the gas year 2023, which means that the first gas can be transported on 1 October 2023.

4.2.4 Time schedule for launching of the Open Season



5. Communication with Energinet Gas TSO

For the consultation phase, potential participants should forward their questions and comments to gasinfo@energinet.dk.

Shippers and other stakeholder may also contact Energinet Gas TSO regarding the Open Season process as follows:

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For more information, please see our website using the following link, where questions and answers from shippers regarding the Open Season will be published:

<https://en.energinet.dk/Gas/Shippers/Green-gas-Lolland-Falster>

