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INFORMATION PACKAGE 1: SCENARIO-BASED COSTS OF TRANSPORTATION AND UNIFORM TARIFF SIMULATIONS

All documents included in the Information Package are only intended to provide an initial and overall guidance to potentially interested shippers in the Baltic Pipe Project. Energinet advises shippers to also use other tools and seek other information for making calculations and evaluating a possible participation as shipper in the Baltic Pipe Project. Whereas Energinet has worked diligently to ensure that formulas, calculations, programming, etc. used and applied in the attached excel spread sheet and the other documents in the Information Package are correct, Energinet does not assume any liability for the content, calculations, use, completeness, etc. of the attached spread sheet or the other documents. In addition, Energinet has made assumptions on which the calculations are based. Such assumptions are Energinet's best estimate based on current market information. However, Energinet does not assume any liability for such assumptions.

1. Introduction

This Information Package is prepared by Energinet with the purpose of providing potential participants in the Open Season 2017 information regarding the Danish aspects of the Baltic Pipe Project.

The Information Package 1 consists of:

- This document "Information Package 1: Scenario-based Costs of Transportation and uniform tariff simulations",
- Economic model in Excel spreadsheet "Economic Model"
- Guidelines for the economic model "Guideline for the economic model related to the Danish part of the OS 2017". The guidelines should be read before using the Excel spread sheet.

In this Information Package the Costs of Transportation is calculated for the Danish part of the OS 2017. The Costs of Transportation is based on a volume scenario and the estimated total costs (OPEX and CAPEX), including existing cost base and estimated total volume in the Danish Transmission System, for a defined period of time.

Further, the Information Package includes a simulated uniform tariff, cf. chapter 2.

Please note, that Energinet has published an abstract of the Feasibility Study conducted by Ramboll Denmark, Gazoprojekt and EY Poland published 6th of June 2017. Some of the costs and calculations in this Information Package may differ from the costs and calculation published in the abstract of the Feasibility Study. However, the information in the Information Package indicates the view of Energinet on the economics related to the Danish part of the Open Season 2017 at the time of publication.

All years in the Information Package are stated in calendar years.

The calculations in the Information Package are solely based on costs related to potential Danish assets in the Baltic Pipe Project:

1. "Norwegian Tie-in"
2. "Expansion of the Danish Transmission System"
3. "CS Zealand"

It is expected that the costs of bullet points 1 and 2 will be included in the Danish cost base. Related to bullet point 3, it is expected that Energinet covers:

- 36 per cent of CAPEX up to 140 MEUR and all CAPEX above 140 MEUR (if any)
- 50 per cent of the fixed OPEX
- Variable OPEX related to flow above 7.5 BCM per calendar year
- If the sum of 50 per cent of fixed- plus variable OPEX related to a flow of 7.5 BCM or below exceeds 10 MEUR/year or 12 MEUR/year, depending on whether CS Zealand is connected to the transmission- or distribution grid respectively, Energinet covers the excessive amount. 30 per cent of the said limit (10 MEUR or 12 MEUR) is adjusted for change in electricity price in price area DK2 over time.

In this information package it is assumed that CS Zealand is connected to the distribution grid, i.e. a cap of 12 MEUR/year is assumed.

2. Assumptions regarding tariff methodology

The tariffs charged today in the Danish Transmission System are based on an entry-exit principle.

Currently, the tariffs are differentiated between the different points in the Transmission System. However, in relation to make the current tariff methodology compliant with the coming regulation on Harmonised Transmission Tariff Structure for Gas (TAR NC) Energinet will investigate the possibility of changing the tariff methodology to get a uniform tariff. A uniform tariff will mean that the same tariff will be used for all points in the Danish Transmission System.

Please note that all changes in the tariff methodology are subject to approval by Danish Energy Regulatory Authority (DERA). Nevertheless, in this Information Package, the calculation method of the uniform tariff is used. Any referral to the uniform tariff in this

Information Packages is therefore not in accordance with the currently approved tariff methodology.

2.1 Definition of uniform tariff

The uniform tariff consists of three elements, a volume tariff, entry capacity tariff and exit capacity tariff, and is calculated based on following formulas:

$$\text{Uniform tariff} = \text{Volume tariff} + \text{Entry capacity tariff} + \text{Exit capacity tariff}$$

$$\text{Volume tariff} = \frac{\text{Total OPEX}}{\text{Total volume}}$$

$$\text{Entry capacity tariff} = \frac{0,5 * \text{Total CAPEX}}{\text{Total entry capacity booking}}$$

$$\text{Exit capacity tariff} = \frac{0,5 * \text{Total CAPEX}}{\text{Total exit capacity booking}}$$

3. Volume and capacity scenarios

The assumptions on volume and capacity bookings of the 0-reference users and OS 2017 contracts are described.

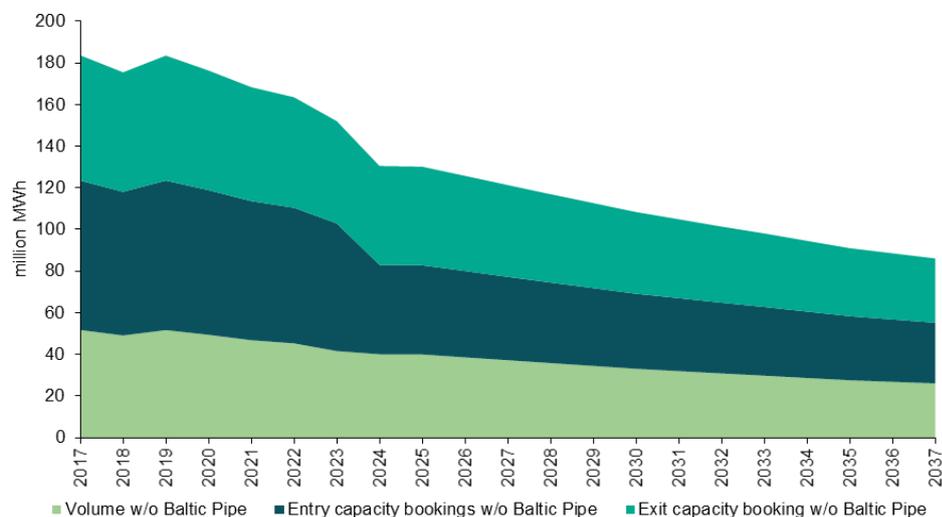
3.1 0-reference volume and -capacity bookings

Forecasts of the Danish gas transmission system's current volume and capacity bookings (referred to as the 0-reference) are essential for calculating the uniform tariff.

Energinet's "Analyseforudsætninger" ("Analysis assumptions") is a general set of assumptions, which Energinet always applies in budgets, forecasts and analyses. The assumptions can be found on www.energinet.dk. In this model, "Analyseforudsætningerne" from June 2016 provides the basis for the expected 0-reference volume. The forecast of the 0-reference capacity bookings is based on Energinet's best estimate based on current market knowledge and is split between entry- and exit capacity.

The illustration below shows the expected development in 0-reference volume and capacity booking from 2017 to 2037.

Fig. 1 Development in 0-reference volume and capacity bookings 2017-2037, million MWh



3.2 Volume and capacity bookings assumptions related to the OS 2017 Capacity Agreements

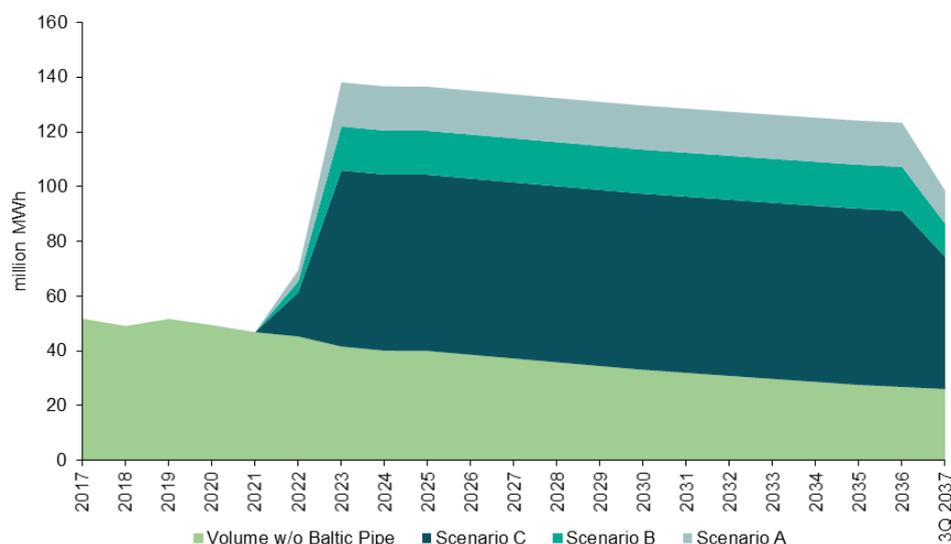
It is expected that the Baltic Pipe Project, if realized, will increase the total volume and capacity bookings in the Danish Transmission System. In order to simulate the future Costs of Transportation and uniform tariff, Energinet has made three scenarios, Scenario A, B and C, with different volume and capacity booking assumptions. Please note that only volume assumptions are applied in the Costs of Transportation calculation.

Scenario A reflects Energinet's current best guess, based on a market screening from 2016, on future capacity bookings and volumes related to the period of the OS 2017 Capacity offered for the Danish part of the OS 2017. However, at this point in time the estimate is subject to a high level of uncertainty:

Main scenario assumption during OS 2017 contract period			
	Capacity build (bcm)	Average entry/exit capacity booking (bcm/y)	Average volume (bcm/y)
Scenario A	10.1	9.3	8.0
Scenario B	10.1	7.8	6.6
Scenario C	10.1	6.2	5.3

In all scenarios, it is assumed that the load factor is 0.85 and it is assumed that only few short-term products are sold beside the OS 2017 contracts. The development in total volume, if the Baltic Pipe Project is realized, is illustrated below. The volume of the OS 2017 Capacity Agreements is assumed to start primo 4Q 2022 and end ultimo 3Q 2037:

Fig. 2 Development in total volume pr. scenario, million MWh



4. Costs of Transportation in different CAPEX and OPEX¹ assumptions

In this section, a scenario of an increase in CAPEX and OPEX is described.

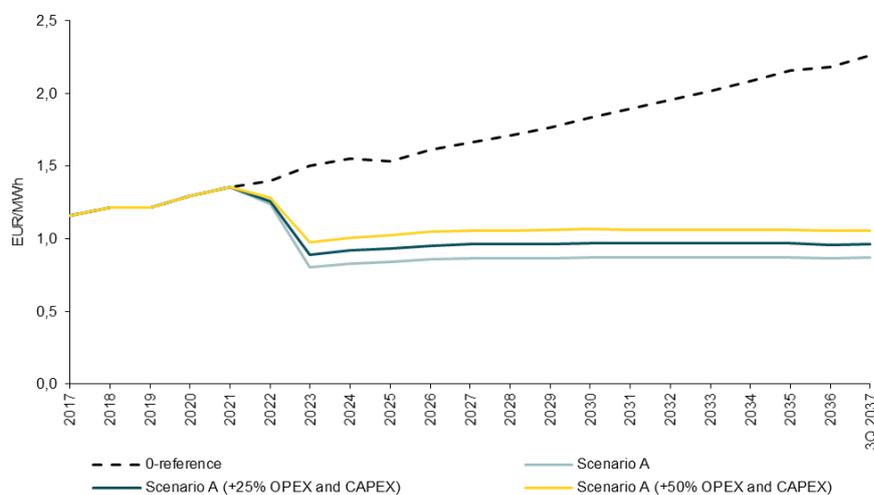
4.1 Development of the Costs of Transportation in different CAPEX and OPEX scenarios

At this stage of the Baltic Pipe Project, there is a high level of uncertainty related to the CAPEX and OPEX estimates. To illustrate the potential impact of higher CAPEX and OPEX than expected, the Costs of Transportation is calculated for scenarios with respectively 25 and 50 per cent increase in CAPEX and OPEX, including some of the costs related to CS Zealand which are expected to be covered by Energinet. Please note that the Costs of Transportation is a unit cost expressed as CAPEX and OPEX divided by volume.

¹ Definition of CAPEX and OPEX is:

- **"CAPEX"** shall mean any capital expenditure by Energinet used to acquire physical assets forming part of or related to the Baltic Pipe Project. Abandonment costs are included.
- **"OPEX"** shall mean operating expenditures

Fig. 3 Development in the Costs of Transportation assuming Scenario A volume and a respectively 25 and 50 per cent increase in CAPEX and OPEX

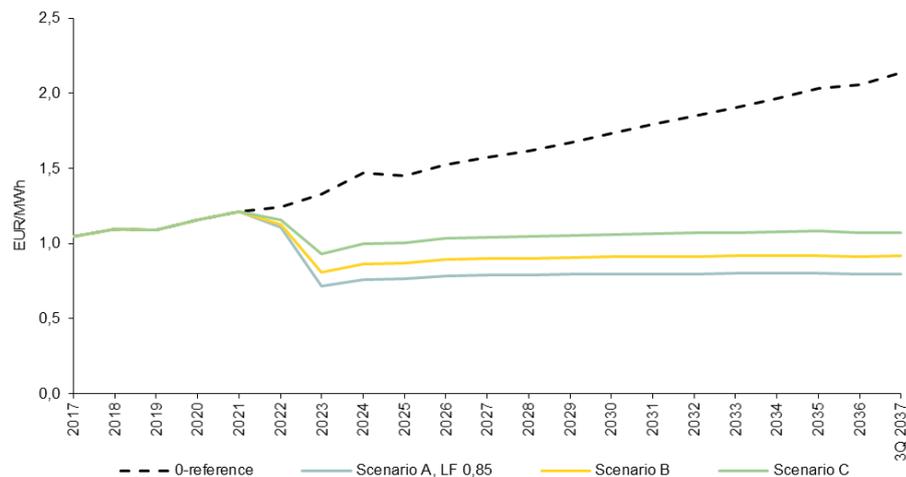


With a 25 per cent increase in CAPEX and OPEX, the Costs of Transportation will increase by 11 per cent on average from 2023 to 2036, while a 50 per cent increase in CAPEX and OPEX will increase the Costs of Transportation by 22 per cent on average during the same period. In the current OPEX and CAPEX estimate, contingencies are included to mitigate the effect of non-expected events and unforeseen expenditures.

5. Tariff simulation for the OS 2017 period

In the calculations of the uniform tariff simulation, it is assumed that all costs related to the Norwegian Tie-in, Expansion of the Danish Transmission System and existing 0-reference cost base as well as the cost of CS Zealand to be included in Energinet's cost base, as described in section 1, can be split among all users of the Danish gas system. The uniform tariff simulations for different scenarios in relation to the above-mentioned Scenarios A, B and C are calculated below.

Fig. 5 Development in the uniform tariff simulation under different volume and capacity scenarios



Development in the uniform tariff in different scenarios				
		2025	2030	2035
0-reference	EUR/MWh	1.45	1.73	2.03
Scenario A, LF 0.85	EUR/MWh	0.77	0.80	0.80
Scenario B, LF 0.85	EUR/MWh	0.87	0.91	0.92
Scenario C, LF 0.85	EUR/MWh	1.00	1.06	1.08

The average uniform tariff simulation in Scenario A with a load factor of 0.85 is 0.78 EUR/MWh in the period 2023-2036. If Scenario B volume and capacity assumptions are applied, the average uniform tariff simulation increase is 14 per cent, while Scenario C case assumptions increase the uniform tariff simulation by 33 per cent on average.