

---

## OPINION ON PRINCIPLES FOR MARKET ZONE AND THE METHODOLOGY FOR DETERMINING TARIFFS IN CONNECTION WITH THE BALTIC PIPE PROJECT

---

*At a meeting on Tuesday 31 January 2017, the Danish Energy Regulatory Authority considered the memorandum submitted by Energinet.dk concerning principles for market zone and the methodology for determining tariffs in connection with the Open Season process conducted for the Baltic Pipe Project. The enclosed opinion is the outcome of the Danish Energy Regulatory Authority's preliminary consideration.*

### **Summary**

*The Danish Energy Regulatory Authority supports the objective of creating a common Danish market zone in which shippers in the market are offered the opportunity to purchase transport capacity through the upstream and transmission systems as one product with one tariff. The Danish Energy Regulatory Authority finds that a common market zone can make access to total transport simpler and more transparent.*

*Upstream and transmission are regulated differently in Denmark. The Danish Energy Regulatory Authority bases its opinion on the fact that the regulation is being complied with in the market model that Energinet.dk is planning to prepare and present to the Danish Energy Regulatory Authority for formal approval.*

*In connection with the realization of the Baltic Pipe Project, the Danish Energy Regulatory Authority sees the advantages of reintroducing uniform tariffs in the Danish transmission system, which has had differentiated tariffs since 2013. A uniform tariff principle is thus transparent and may be designed in such a way that it facilitates the realisation of the project, while also giving existing shippers the possibility of benefiting in the form of generally lower transmission tariffs than they would otherwise be charged.*

*A future tariff methodology must comply with, and will be assessed according to, a number of principles and statutory provisions. The Danish Energy Regulatory Authority especially emphasises the new European Network Code on Harmonised Transmission Tariff Structures for Gas (NC TAR), which establishes, among other things, that a national tariff methodology must aim to ensure that significant volume risks – particularly in connection with transit – are not imposed on end-users in the transit country, which will be Denmark if the Baltic Pipe Project is realised.*

*The Danish Energy Regulatory Authority finds that there are uncertainties in the project with considerable impact on the future tariffing method and the exact future tariff level, for example as concerns the cost allocation of the compressor station to be constructed on the Danish side of the Baltic Sea. How the depreciation of the residual value of the project is to be handled if there is no transit gas after 2037, also remains to be clarified.*



*The Danish Energy Regulatory Authority is expressing its opinion solely on the basis of the memorandum on principles which Energinet.dk has presented to the Danish Energy Regulatory Authority. The Danish Energy Regulatory Authority's opinion is not based on a formal process and is therefore indicative only and not legally binding on the Danish Energy Regulatory Authority in respect of the formal decision on methodology to be made by the Danish Energy Regulatory Authority at a later point in time.*

## 1. OBJECTIVE AND BACKGROUND

### Objective

1. Energinet.dk and the Polish transmission system operator (Gaz-System) have launched an investigation into whether establishing new infrastructure to supply the Polish and Danish (Swedish) markets with gas from the Norwegian upstream infrastructure in the North Sea would be socio-economically beneficial. The project is called the Baltic Pipe Project and includes five subprojects, see figure 1.

---

FIGURE 1 | BALTIC PIPE PROJECT

### Main components of the Baltic Pipe Project

Transportation of Norwegian gas from Norway to Poland via Denmark consists of five major components:

- A. Connection to the Norwegian gas system
- B. Onshore enhancement of the Danish gas infrastructure
- C. Compressor station located on Danish shore
- D. Offshore pipeline between Denmark and Poland
- E. Expansion of Polish transmission system



Source: Energinet.dk/Gaz-System's joint presentation from December 2016

2. Energinet.dk and Gaz-System are planning to conduct a joint Open Season ('OS') process in spring 2017. The OS process gives market players the opportunity to provide Energinet.dk and Gaz-System with positive investment signals which are required for the project to be realised. In connection with the OS, the transmission system operators (TSOs) have issued a model paper which explains the OS process and provides an overall overview of the project. The model paper is appended to this memo as an appendix (Appendix 1).

3. One natural objective in connection with the OS process is to provide the OS participants with as much insight as at all possible into the terms and tariffs (tariff methodology) that will apply to the transport capacity they must undertake to purchase over a long contract term (generally 15 years).

4. Energinet.dk has therefore prepared a memorandum on principles in which Energinet.dk describes which market model and tariff principles the company, as a starting point, intends to use for the Danish part of the Baltic Pipe Project. Energinet.dk conducted a public consultation on the memorandum on principles in the period 2 November to 15 November 2016. The Secretariat of the Danish Energy Regulatory Authority has been informed of all the consultation responses submitted to Energinet.dk. The memorandum on principles is appended to this memo as an appendix (Appendix 2).

5. Energinet.dk sent its memorandum on principles to the Secretariat of the Danish Energy Regulatory Authority on 17 November 2016. Subsequently, the Danish Energy Regulatory Authority conducted a supplementary consultation from 18 November to 2 December 2016 to give market participants the opportunity to submit supplementary consultation responses, if any.

6. The Danish Energy Regulatory Authority has asked Energinet.dk to provide a preliminary opinion based on the memorandum on principles submitted in connection with the implementation of the OS process. The Danish Energy Regulatory Authority's opinion is thus based on Energinet.dk's own considerations and preliminary results which, however, are expected to be supported by an EU-funded preliminary study (feasibility study), which Energinet.dk and Gaz-System are in the process of completing.

7. The purpose of the opinion is to account for the Danish approvals processes in general and to inform the market of the Danish Energy Regulatory Authority's immediate assessments such that a certain 'regulatory clarity' is provided regarding the process and the large and risky investments which the TSOs may be required to make and the long-term commercial commitments which the market participants must be prepared to undertake in order to make the investment feasible.

8. The Danish Energy Regulatory Authority can only take a general and theoretical position in respect of Energinet.dk's memorandum on principles. The Danish Energy Regulatory Authority cannot make a formal decision on market zone or tariff principles as this requires a formal notification of methodology from Energinet.dk, see section 36 a of the Danish Natural Gas Supply Act (*Naturgasforsyningsloven*). A new methodology for access terms or for determining tariffs can come into force only if it has been published and approved in advance (ex ante) by the Danish Energy Regulatory Authority.

## **Background**

9. The Baltic Pipe Project may create a new source of supply for the Danish (Swedish) and Polish markets; it allows for market development in Denmark and Poland; and it offers Poland an alternative to gas from Russia.

10. The project has an expected total annual transport capacity of 10 billion m<sup>3</sup>, with an expected total construction cost of DKK 11-12 billion. The cost of the Danish part of the project is expected to amount to DKK 5-6 billion. If the Baltic Pipe Project is realised, the vast majority of the gas volumes transported in the Danish system will be gas for transit.

11. Parts of the Baltic Pipe Project are included on the most recent European list of Projects of Common Interest (PCIs), which means that it is a cross-border project of strategic importance to Europe. The project thus has the chance of going through a quicker official approval procedure and potentially receiving funding from the EU's aid scheme for infrastructure projects, the Connecting Europe Facility.

12. In 2016, Energinet.dk and Gaz-System conducted a market survey to determine the transport capacity which the market participants initially are willing to reserve in the Baltic Pipe Project. The survey forms part of the feasibility study, which is also to contribute to defining the technical solutions for the project and the socio-economic advantages (disadvantages) of the project.

13. The market survey indicates that there is commercial interest in the project, and that the interest is sufficient to ensure that the project can be realised with major socio-economic benefits for Poland in particular, but also for Denmark. The survey also shows that the primary interest is on transport from Norway to Poland with Denmark as transit country.

### **Initial considerations**

14. The Danish Energy Regulatory Authority is working to develop the Danish and regional gas markets, and the Danish Energy Regulatory Authority will therefore cooperate constructively on realising a project that may contribute to market development, increased security of supply and lower tariffs going forward compared with a scenario without the Baltic Pipe Project.

15. Initially, the Danish Energy Regulatory Authority notes that the Danish market participants, in their consultation responses to Energinet.dk's memorandum on principles, are basically positive about the Baltic Pipe Project and the opportunities inherent the project. However, the market participants point out a number of ambiguities in the memorandum on principles as well as potential risks.

16. The Danish Energy Regulatory Authority agrees that the expected transit of gas through Denmark could mean that the increase in the Danish transmission tariffs which would otherwise take place as a result of the decreasing Danish consumption can be avoided, and that the tariffs may even decrease significantly in the coming years. The lower tariffs represent a value which benefits existing shippers using the Danish transmission system.

17. However, the Danish Energy Regulatory Authority points out that the Danish infrastructure is already well developed, that the Danish/Swedish market is an integrated part of the northwestern European market and that the current transmission capacity is sufficient to cover the future demand for gas in Denmark and Sweden – no matter that an extra supply route from the North Sea with Norwegian gas will increase the security of supply.

18. It is therefore crucial to the Danish Energy Regulatory Authority that the project is deemed to be profitable from a market perspective and to provide a satisfactory guarantee of the future gas flow (income) so that consumers/users in the Danish system will not incur an unreasonable risk in respect of the socio-economic benefits generated by increased transit through Denmark.

19. Irrespective of the fact that the Danish Energy Regulatory Authority acknowledges the market's need for a certain regulatory clarity, the Danish Energy Regulatory Authority initially notes that the memorandum on principles submitted only presents the result of the preliminary calculations and is thus indicative only. Consequently, there are several ambiguities in the memorandum with considerable impact on the determination of the indicative tariffs and thus on the possibility of initially assessing the expediency of using the proposed tariff methodology. It is, for example, uncertain how the costs in respect of the compressor will be allocated, and how the residual value of the investment is to be treated if no transit gas is transported after the expiry of the initial 15-year contract term. It is clear, however, that a compressor station must be constructed for supplying gas to Poland, and that it will be sited on Danish soil.

20. The Danish Energy Regulatory Authority also points out that the Danish Energy Regulatory Authority must make a new decision on methodology regarding tariff principles for Denmark in accordance with the new European Network Code on Harmonised Transmission Tariff Structures for Gas (NC TAR). NC TAR is expected to come into force in spring 2017. The Danish Energy Regulatory Authority attaches great importance to the coming notification of methodology process in relation to the implementation of NC TAR, including Energinet.dk's dialogue with the market participants, which will form part of this process.

21. In the following, the Danish Energy Regulatory Authority reviews and comments on two elements in Energinet.dk's memorandum on principles – the common market zone and the envisaged tariff principle.

## **2. A COMMON DANISH MARKET ZONE?**

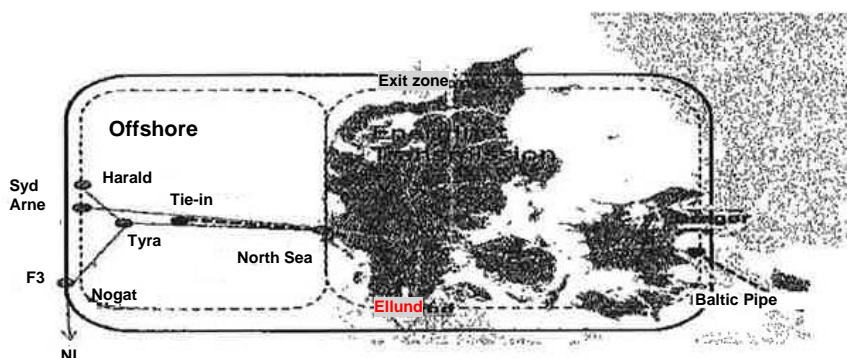
22. As described initially, the Baltic Pipe Project consists of several subprojects, some of which are cross-border projects and have several entry/exit systems with different regulation. From the outset of the Baltic Pipe Project, the TSOs have therefore emphasised that it is both expedient and necessary to avoid too many individual entry and exit points on the route between Norway and Poland.

23. The higher the number of entry/exit points, the more tariffs shippers will be required to pay for a total transport. If too many individual tariffs are charged, there is a risk of tariff accumulation (tariff pancaking) and of high tariffs overall, which may make the Baltic Pipe Project unprofitable for shippers. This is especially true for shippers which are to transport gas across the entire route from Norway to Poland, where the transport route is in competition with alternative routes from Germany to Poland.

24. Today, shippers are required to pay entry/exit/volume tariffs for transport through the Danish upstream system as well as entry/exit/volume tariffs for transport through the Danish transmission system.

25. In Energinet.dk's proposed model for a new market zone, the entry point to the Danish transmission network offshore is moved to the transition between the Norwegian and Danish infrastructure in the North Sea (NO/DK tie-in). This means that a shipper is only required to pay one entry tariff at the entry point from the Norwegian infrastructure (North Sea Entry Point) and one exit tariff when the gas is transported out of Denmark through the pipeline beneath the Baltic Sea (Interconnection Point Baltic Pipe), see figure 2. It should be noted that the existing upstream pipeline from the Tyra field to Nybro is not covered by the proposal for a new market zone.

**FIGURE 2 | THE COMMON DANISH MARKET ZONE**



Source: Energinet.dk

26. The Danish Energy Regulatory Authority acknowledges that it may be an obstacle for the transport of gas if shippers are to transport the gas through many separate entry/exit points with many individual entry tariffs and exit tariffs (tariff pancaking). This may especially constitute a problem in connection with transit across several national borders and/or several entry/exit zones.

27. The Danish Energy Regulatory Authority notes that the preliminary market survey (part of the feasibility study) shows that primarily the transit route (Norway to Poland) is to underpin the project commercially and that there will therefore be a great risk of tariff pancaking preventing the project from becoming competitive for certain shippers compared with alternative supply routes to Poland. The Danish Energy Regulatory Authority points out, however, that the costs of the project are the same regardless of whether there are many or few tariff points.

28. The Danish Energy Regulatory Authority notes that several individual and different tariffs for upstream and transmission on what constitutes a total transport route also entail a risk of creating a non-transparent and administratively cumbersome tariff structure. In connection with a competition analysis (2015), the Secretariat of the Danish Energy Regulatory Authority held a round of dialogue with shippers using the upstream system, and in this dialogue the shippers expressed the general point of view that there is a need for more transparency and a transparent tariff structure with a one-stop-shop model for the transport of gas from the North Sea.

29. The Danish Energy Regulatory Authority finds that it will be more transparent and attractive to shippers to be required to make only one entry booking/payment (North Sea entry) and one exit booking/payment (Interconnection Point Baltic Pipe) for supplying gas from Norway to Poland (Denmark).

30. The Danish Energy Regulatory Authority agrees that, seen in isolation, a common market zone is very likely to make the Baltic Pipe Project more competitive compared with other alternative routes. The Danish Energy Regulatory Authority notes in this connection that the feasibility study analyses alternative sources of supply to Poland (via Germany) and that the route for the Baltic Pipe Project must be held up against these alternatives in respect of terms and tariffs.

31. On the basis of the information provided by Energinet.dk in the memorandum on principles, the Danish Energy Regulatory Authority deems it likely that there will be synergies in having one market zone in which the operation of the upstream and transmission systems is coordinated and based on integrated IT solutions for balancing, invoicing etc. Synergies will make operations cheaper, also contributing to making the project competitive.

32. Seen in isolation, the Danish Energy Regulatory Authority therefore agrees with the objective of simplifying the access to transport from the Norwegian offshore system to Denmark (Sweden) and to Poland by letting the entry point to the Danish market start at the access point from the Norwegian infrastructure in the North Sea.

33. The Danish Energy Regulatory Authority points out that neither the Danish Natural Gas Supply Act nor the European Gas Regulation (with network codes) contains provisions on the concept of 'market zones' or 'market areas'. Basically, anyone has the right, against payment, to use transmission networks, and transmission capacity must be made available on transparent and non-discriminatory terms, see section 38(1) of the Danish Natural Gas Supply Act and article 16(2) of the Gas Regulation.

34. Similar provisions apply to access to the upstream system.

35. There are therefore no obstacles to merging markets or market zones with a view, for instance, to creating more accessible, competitive and transparent markets.

36. Moreover, the Danish Energy Regulatory Authority notes that zone mergers and market mergers are taking place in several European countries. The German gas market, for example, consisted of seven market zones in 2010, but the market has since been reduced to two market areas for capacity booking.

37. With the Gas Target Model (GTM), the European Agency for the Cooperation of Energy Regulators, ACER, also supports a development where the individual countries' gas markets are continuously evaluated to ensure continued market development – for example via market mergers.

38. The Danish Energy Regulatory Authority therefore finds that simplifying market access, merging adjacent systems where possible as well as creating improved supply diversification and security of gas supply in future are solidly underpinned by the general market development and the EU's stated objectives.

39. The Danish Energy Regulatory Authority notes, however, that Energinet.dk takes its point of departure in the creation of a new capacity product consisting of both an upstream element (transport through the upstream system, ie the Norwegian tie-in and connection to a treatment plant) and a transmission element (transport through the Danish transmission network). This means that shippers which are to pay one overall tariff for transport from Norway to Denmark/Poland pay both for transport through the



upstream system, to which access is negotiated, and for transport through the transmission system, to which access is regulated. The payment goes to Energinet.dk as transmission company.

40. In such case, it is crucial that the two activities are separated financially, due to the two different regulations, so that costs/income from the upstream system and the transmission system, respectively, can be identified and treated separately in relation to accounting etc. The separation for accounting purposes must also ensure that cross-subsidisation, distortion of competition and discrimination are avoided, see the Danish Act on Energinet.dk (*Lov om Energinet.dk*) (section 12(1)).

41. The Danish Energy Regulatory Authority points out that the negotiated access to the upstream system is regulated separately, see section 21 of the Danish Natural Gas Supply Act, see section 5(1) of the Danish executive order on access to the upstream pipeline network (executive order no. 1090 of 6 December 2000). The executive order stipulates that access to the Danish upstream pipeline network is granted, against payment, to gas companies domiciled in an EU country, see section 1 of the executive order.

42. The executive order does not distinguish between existing and new upstream pipelines, and it contains no derogations or transitional provisions. Neither does the executive order distinguish between different ownership structures, and it therefore applies fully to a new Danish upstream pipeline, if any. Prices and terms and conditions are thus determined through negotiations between the owners/operator and applicants, and the prices and terms and conditions must be determined such that there is no discrimination between applicants, see section 5(2) of the executive order. The Danish Energy Regulatory Authority supervises whether prices and terms and conditions for access are reasonable, see section 6(2) of the executive order.

43. The Danish Energy Regulatory Authority finally points out that this concerns a fundamental change of the access to and the conditions for using the Danish transmission network which requires formal notification and formal approval from the Danish Energy Regulatory Authority.

44. The Danish Energy Regulatory Authority expects that it will be clearly stated in the final tender documents for the OS process that the proposed changes in the Danish market model require the approval of the Danish Energy Regulatory Authority before they can come into force.

### **3. A NEW TARIFF PRINCIPLE?**

#### **General information about tariff methodologies**

45. Any new tariff methodology requires approval of methodology from the Danish Energy Regulatory Authority before it can come into force. The opinions voiced by the Danish Energy Regulatory Authority in the following are therefore of a theoretical and general nature only, and the Danish Energy Regulatory Authority's opinions are without prejudice in relation to a future formal approval of a new tariff principle, if any.

46. The new European Network Code on Harmonised Transmission Tariff Structures for Gas (NC TAR) does not require the use of a particular tariff methodology, and the tariff methodology is therefore still determined at national level. NC TAR (article 7) emphasises, however, that the national tariff methodology must comply with certain fundamental requirements for tariffs/tariff methodologies as specified in the European Gas Regulation (Regulation (EC) No 715/2009).

47. The Gas Regulation (article 13(1)) lays down basic requirements stipulating that tariffs/tariff methodologies must be transparent, take into account the need for system integrity and reflect the actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator. Tariffs, or the methodologies used to calculate them, must facilitate efficient gas trade and competition, while at the same time avoiding cross-subsidies between network users and providing incentives for investment and maintaining or creating interoperability for transmission networks.

48. According to NC TAR (article 6(1) and (3), see article 27), the regulatory authority must on or before 31 May 2019 have approved a national reference price methodology (tariff methodology) based on a public process with market consultation, and the same methodology must be applied to all entry and exit points in a given entry-exit system.

49. The national regulatory authority may however apply ‘adjustments’ in relation to this principle, for example to achieve a competitive tariff level between different entry/exit points in the system (‘benchmarking’), or to ensure that the same reference price is applied to some or all points within a homogeneous group of points (‘equalisation’), see article 6(4).

50. NC TAR (article 7(d)) specifically mentions that a national tariff methodology is aimed at “ensuring that significant volume risk related particularly to transports across an entry-exit system is not assigned to final customers within that entry-exit system”.

51. NC TAR (article 27(1)) also introduces a requirement for the national regulatory authority (or the TSO) to forward the proposed tariff methodology (‘consultation documents’) to ACER, which then reviews the documents in relation to certain formal requirements and content requirements. Within two months, ACER must publish and send its analysis of the national methodology to the national regulatory authority (or the TSO).

52. Within five months after the end of the consultation regarding the proposed methodology, the Danish Energy Regulatory Authority must make a final decision on the tariff methodology, and the approval of methodology must be sent to ACER and the Commission (article 27(4)).

53. The Danish Energy Regulatory Authority will consider a coming tariff methodology case in accordance with the Gas Regulation, NC TAR and national legislation. The Danish Energy Regulatory Authority points out that the Danish Energy Regulatory Authority always considers cases concerning methodology in a public and transparent process. The Danish Energy Regulatory Authority thus always conducts a public consultation in respect of both the formal notification of methodology from Energinet.dk and the Danish Energy Regulatory Authority’s draft decision. The Danish Energy Regulatory Authority’s final decision takes account of

the comments and points of view which the Danish Energy Regulatory Authority finds relevant.

54. The Danish Energy Regulatory Authority deems it expedient if the approval of tariff methodology – in respect of which the Danish Energy Regulatory Authority in any case, according to NC TAR, must make a decision before the end of May 2019 – as far as possible could cover all tariff-related aspects of the Baltic Pipe Project as well as taking the use and development of the overall Danish transmission system into account. This could ensure a strong and durable tariff model, offering the market a certain regulatory stability. The Secretariat of the Danish Energy Regulatory Authority will discuss the timing of the approval process with Energinet.dk.

### **Tariff principles in relation to the Baltic Pipe Project**

55. Initially, the Danish Energy Regulatory Authority points out that the Secretariat has reviewed the draft OS rules and that the Secretariat in this connection has emphasised vis-à-vis Energinet.dk that a new tariff principle for the Baltic Pipe Project cannot be ‘introduced’ or ‘guaranteed’ in these rules. The Danish Energy Regulatory Authority notes that the draft OS rules state that the cost allocation (via tariff principles) to be determined as a consequence of the Baltic Pipe Project will follow the tariff model applicable at any time. The applicable tariff model is the model approved by the Danish Energy Regulatory Authority prior to coming into force.

56. As Danish transmission system operator, Energinet.dk is regulated according to a so-called ‘break-even’ principle, as stipulated in the Danish Natural Gas Supply Act (section 37 d(1)) and in the Danish executive order on the financial regulation of Energinet.dk (executive order no. 816 of 27 June 2016).

57. According to the executive order (sections 3 and 4), Energinet.dk is only allowed, via the company’s tariffs, to have the ‘necessary costs’ covered and to obtain a ‘necessary return’ on the invested capital. As a rule, the necessary return is the return required to maintain the actual value of the net assets. The actual value is the value at which the net assets are included in the opening balance sheet for Energinet.dk at 1 January 2005. However, the net assets are subject to price-index regulation.

58. This provides ‘regulatory stability’ in that Energinet.dk cannot obtain a higher return than the ‘necessary return’ by establishing and operating new infrastructure, and Energinet.dk is also not allowed to earn an unreasonable profit at the expense of the users of the system. Furthermore, Energinet.dk may not distribute profits or equity to the Danish State, see section 13(3) of the Danish Act on Energinet.dk.

59. Differences between income and necessary costs plus the actual value of the contributed capital (ie deficit or excess revenue) must be returned to the consumers by way of inclusion in the tariffs as soon as possible and no later than in the subsequent financial year; however, the Danish Energy Regulatory Authority may authorise a longer settlement period with a view to ensuring a smooth price development, see section 7(1) and (2) of the executive order. Basically, this entails that Energinet.dk is not allowed to accumulate profit which can be used to level out tariffs over a long period of time.

60. Each year, the Danish Energy Regulatory Authority must approve Energinet.dk’s financial statements, including how differences are calculated and settled, see section 11(4) of the executive order.

61. Overall – regardless of the tariff principle applied – shippers will only pay the lowest possible tariff, ie a tariff based on the pure costs and a return which is merely to maintain the actual value of the invested capital.

62. The Danish Energy Regulatory Authority is, however, aware that the current government has presented a new overall supply strategy for the energy area, and that the current regulation of Energinet.dk may therefore become the subject of political debate and may see possible changes in the future.

### Previous tariff decisions

63. The Danish Energy Regulatory Authority's decision on methodology from September 2013 introduced differentiated capacity tariffs in Denmark, with the costs of the investment in the Ellund-Egtved expansion being allocated to the shippers which were deemed to benefit from the extension. The Ellund-Egtved expansion was established to ensure security of supply via imports from Germany. The differentiated tariffs were added to a uniform tariff for the existing transmission system. Tariffs in Denmark were uniform before the expansion – and thus also for transport of significant volumes of transit gas from the North Sea to Germany and Sweden.

64. In its decision, the Danish Energy Regulatory Authority placed emphasis on the fact that costs of capital should be allocated to the shippers using and deriving benefit from the system. The methodology with differentiated tariffs was also to ensure that cross-subsidisation between the various types of shippers in the transmission system was avoided.

65. The Danish Energy Regulatory Authority's decision on methodology from June 2016 approved the notification of methodology which Energinet.dk was obliged to submit according to the decision made in 2013. The allocation methodology was adjusted to take account of the fact that a wider group of shippers benefited from the new investments than initially assumed, as the expansion led to increased market integration and reduced emergency supply costs. Energinet.dk's costs for handling the security of gas supply are charged via an emergency supply tariff. The emergency supply tariff is collected in the Danish exit zone only and is thus paid solely by the end-users in the Danish system which have been guaranteed gas supply if an emergency situation ('Emergency') is declared for the Danish gas market.

66. With the 2016 decision, the differentiating tariff element was thus reduced relative to the 2013 decision, as a larger part of the asset base was distributed broadly on all shippers and end-users. Thus, the 2016 decision entailed a step towards a more uniform tariff system compared with the allocation methodology approved in 2013.

67. In its 2016 decision, the Danish Energy Regulatory Authority placed emphasis on the fact that the shippers actually deriving benefit from an investment must also bear the costs. Furthermore, it was assessed that the relatively large difference in tariffs between Ellund Entry and the other points in the Danish transmission system might constitute a trade barrier at the Danish-German border.

### Tariff principles proposed by Energinet.dk

68. The Baltic Pipe Project will transform the Danish transmission system from exclusively supplying gas to the Danish and Swedish markets into a system with very large transit volumes.

69. The Baltic Pipe Project consists of five subprojects as shown in figure 1: Norwegian tie-in, expansion of the Danish transmission network, a compressor station to increase transit capacity to Poland, a Danish-Polish offshore transmission pipeline and an expansion of the Polish transmission network. In Energinet.dk's proposal for tariff principles, the asset base to be paid via the Danish transmission tariffs includes only the Norwegian tie-in and the expansion of the Danish transmission network.

70. The Danish Energy Regulatory Authority is aware that the compressor station constitutes a significant fixed asset investment (approx. DKK 1 billion) and also significant annual operating expenses (estimated at more than DKK 200 million at a transit volume of 9 m<sup>3</sup>/year), attributable to the compression of gas for transport from Zealand to Poland via Baltic Pipe across the Baltic Sea. If the compressor station (costs of capital and/or operating expenses) is fully or partially included in the Danish asset base, this will – all else being equal – entail a significant increase in tariffs.

71. The Danish Energy Regulatory Authority also notes that a possible CBCA (Cross Border Cost Allocation) decision with investment expenses being distributed between countries with a net gain from the project could potentially add additional costs to the asset base and thus increase the tariffs. In connection with a CBCA decision, the Danish Energy Regulatory Authority and the Polish regulatory authority together make a decision on the allocation of costs between Denmark and Poland regarding the elements on the European PCI list (the Danish-Polish offshore transmission pipeline and the compressor station). The regulatory authorities must refer the case to ACER if the regulatory authorities are unable to agree on a CBCA decision.

72. The project is different from the Ellund-Egtved expansion. The Baltic Pipe Project will entail considerable costs, but will also lead to significantly increased transport volumes through the Danish transmission system for consumption in Poland. Overall, this will reduce the tariffs for all shippers in the Danish transmission system and thus counter the tariff increases expected without transit gas via the Baltic Pipe Project. Shippers in the Danish system may therefore benefit from the project in the form of lower tariffs.

73. The value of the lower tariffs for shippers in the Danish system may be calculated as a contribution margin determined as the difference between the shippers' future average transport costs without the Baltic Pipe Project and their average transport costs with the Baltic Pipe Project. The contribution margin for the shippers in the Danish system will decrease upon full or partial recognition of the costs of the compressor station in the asset base. The contribution margin per year can be seen as the difference between the reference scenario (0-ref) and the respective transit volume scenarios, see figure 3. The contribution margins for each year are discounted<sup>1</sup> to present value in 2016.

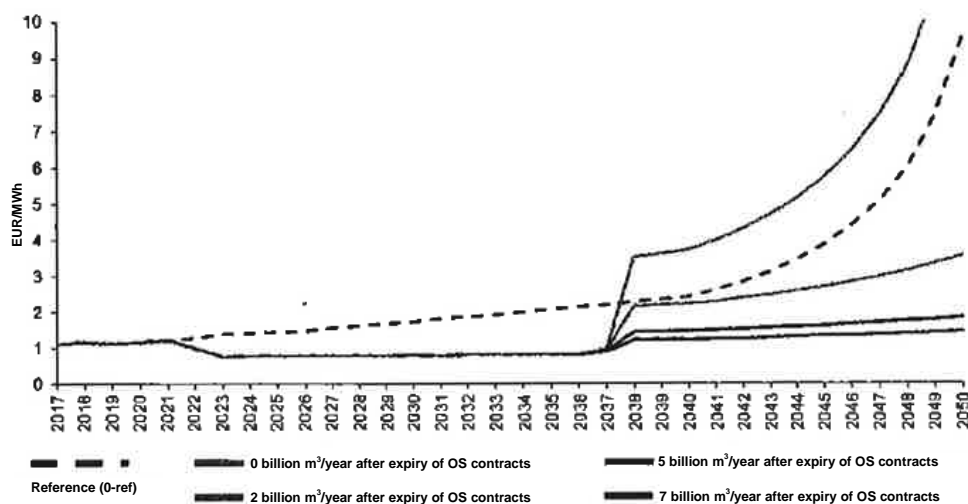
---

<sup>1</sup> A discount rate of 4 per cent is used, which follows Energinet.dk's general analysis assumptions based on recommendations from the Ministry of Finance and the Danish Energy Agency.

74. Different transit volumes after the expiry of the OS contracts in 2037 result in different contribution margins, which, however, are all positive, see table 1. If, from 2038 onwards, 2 billion m<sup>3</sup>/year or more are transported via the Baltic Pipe Project, the project will create value in the form of lower transport costs each year throughout the life of the project. On the other hand, if there are no transit volumes from 2038 onwards, the project will result in extra transport costs during this period and thereby create a negative contribution margin.

75. According to Energinet.dk, the long-term contracts from the OS will limit a large portion of the financial risk involved in the project, while the risk after the expiry of the long-term OS contracts must be borne by future shippers in the system and/or the system owner.

**FIGURE 3 | DEVELOPMENT IN AVERAGE TRANSPORT COSTS PER UNIT BASED ON VARIOUS TRANSIT VOLUMES, EUR/MWH**



Source: Energinet.dk, Tariff principles and market design in the Baltic Pipe Project Open Season for public consultation (November 2016)

Note: 0-reference (0-ref) is a scenario in which the Baltic Pipe Project is not realised. The graphs are based on an assumption of 15-year OS contracts expiring in 2037.

**TABLE 1 | DISCOUNTED CONTRIBUTION MARGIN FOR DIFFERENT TRANSIT SCENARIOS, EUR MILLION IN 2016 PRICES**

Transit volume scenarios	Present value for the period 2017-2050	
	EUR million	
0 billion m <sup>3</sup> /year after expiry of OS contracts		149
2 billion m <sup>3</sup> /year after expiry of OS contracts		340
5 billion m <sup>3</sup> /year after expiry of OS contracts		410
7 billion m <sup>3</sup> /year after expiry of OS contracts		431

Source: Energinet.dk

Note: The figures are based on an assumption of 15-year OS contracts expiring in 2037.

76. The Danish Energy Regulatory Authority notes that the project without costs for the compressor station, in accordance with Energinet.dk's memorandum on principles, overall creates a positive contribution margin up to 2050, regardless of the size of the transit volumes after the expiry of the 15-year OS contracts in 2037. The Danish Energy Regulatory Authority further notes that the contribution margin in the scenarios with 2 billion m<sup>3</sup>/year or more is higher than the estimated residual value of the Baltic Pipe Project assets of EUR 154 million<sup>2</sup> (2016 prices). As concerns the scenario without transit volumes after 2037, the contribution margin is on a par with, but lower than, the estimated residual value.

77. Moreover, the Danish Energy Regulatory Authority notes that a difference is expected between the value of the contribution margin in the first 15 years (during the term of the OS contracts) and in the subsequent years. In the first 15 years, the existing shippers in the Danish system will have a positive contribution margin, while shippers (and not necessarily the same shippers) after 2037 risk having a smaller contribution margin or even a negative contribution margin due to an increase in the tariffs relative to the 0-reference scenario. This depends on the size of the volumes transported after 2037.

78. Energinet.dk has calculated the tariff for 2025 based on different tariff methodologies, see figure 4.

79. The tariff with the current differentiated tariff methodology will on average be EUR 1.44 per MWh for existing shippers in 2025 if the Baltic Pipe Project is not realised. If the current differentiated tariff methodology is applied as the basis for determining the tariffs in a scenario with the Baltic Pipe Project, the tariff for shippers in the Baltic Pipe Project (transit customers) will be EUR 0.86 per MWh. The tariffs will, however, be somewhat lower for the existing shippers in the Danish system.

80. Energinet.dk proposes that the allocation methodology for costs of capital be changed to uniform tariffs so that both volume and capacity tariffs become uniform.

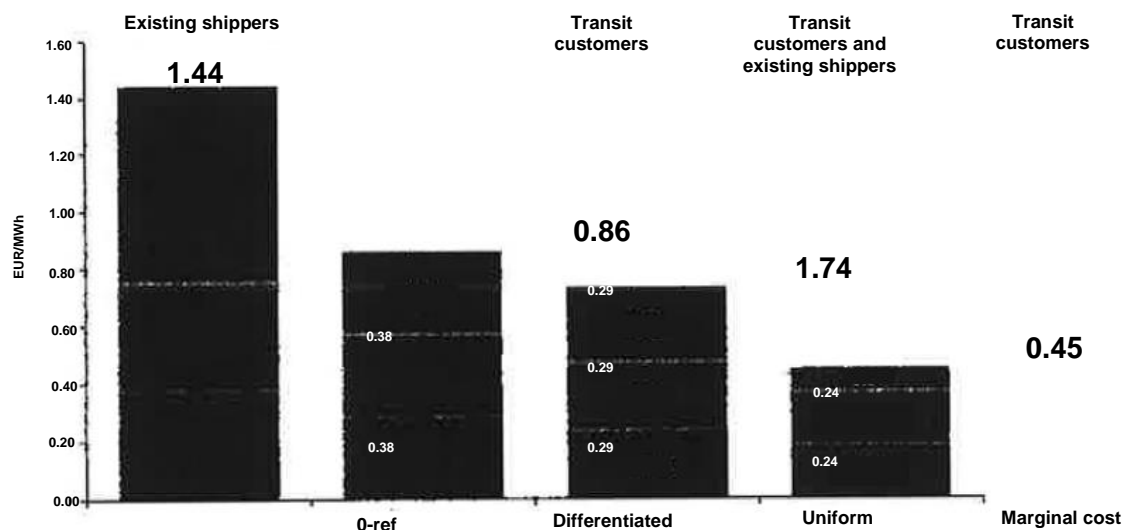
81. A uniform tariff methodology entails a tariff of EUR 0.74 per MWh for both transit customers and existing shippers if the Baltic Pipe Project is realised. This reduces the tariff for existing shippers compared with the scenario without the Baltic Pipe Project as well as reducing the tariff for transit customers compared with the current differentiated tariff methodology.

82. If transit customers were only to pay for the costs of the Baltic Pipe Project – ie costs of capital with a 30-year depreciation and operating expenses for the two subprojects in the asset base (incremental costs) – without contributing to the existing transmission system, the marginal transport costs would be EUR 0.45 per MWh.

---

<sup>2</sup> This amount has been stated by Energinet.dk and has been calculated as the present value in 2016 of non-depreciated costs of capital after the expiry of the OS contracts (EUR 352 million in 2037). A discount rate of 4 per cent has been applied.

**FIGURE 4 | TARIFFS IN 2025 BASED ON VARIOUS ALLOCATION METHODOLOGIES, EUR/MWH**



Source: Energinet.dk

Note: 0-reference (0-ref) is a scenario in which the Baltic Pipe Project is not realised.

83. It appears from Energinet.dk's memorandum on principles that Energinet.dk does not find it fair that new transit customers should be required to pay towards the majority of the existing Danish infrastructure in addition to the costs of the Baltic Pipe Project. Energinet.dk therefore wants to socialise all costs by applying uniform capacity tariffs.

84. Energinet.dk finds that a uniform allocation methodology is fair, objective and transparent, as the expected transit volumes create a long-term contribution margin for the entire Danish transmission system. Energinet.dk emphasises that a uniform allocation methodology is more transparent than the current methodology with differentiated tariffs and also assesses that uniform tariffs are a necessity in order to make it profitable to use the route for the Baltic Pipe Project compared with alternative routes.

85. The Danish Energy Regulatory Authority notes that none of the market participants which have submitted consultation responses to Energinet.dk or the Danish Energy Regulatory Authority prefers to continue with the current differentiated tariff methodology.

86. Some market participants indicate that uniform tariffs seem to constitute a fair cost allocation as the project, overall, reduces the average tariffs. Other market participants express concern about uniform tariffs, which are deemed to be a rigid tariff principle that distributes costs without taking account of value, incremental costs and risks relating to the project. One market participant finds that a 'transit tariff' based on marginal costs would be fairer than uniform tariffs. Moreover, no market participants have found reason to comment on the competitive situation in the gas market as a consequence of the Baltic Pipe Project (one Danish market zone and one uniform tariff methodology).



87. Energinet.dk also proposes that the other elements of the current tariff methodology be maintained, ie the weighting of capacity and volume payments in the tariff structure such that they continue to follow the actual costs of CAPEX and OPEX, the multipliers and seasonal profile as well as the determination of the emergency supply tariff.

88. As regards the tariff methodology, the Danish Energy Regulatory Authority notes that no market participants have commented on the other elements in the tariff methodology being maintained as proposed in the memorandum on principles.

89. The Danish Energy Regulatory Authority particularly notes that it is possible (and may be expedient) to make adjustments within a given general allocation methodology, see item 49, which may naturally affect the tariff level for the different shippers in the Danish system. The Danish Energy Regulatory Authority finds that, all else being equal, it would be natural to use the individual elements in the current tariff methodology as a starting point, and that it may be expedient to consider making adjustments while taking the impacts of the introduction of a new general allocation principle – the uniform tariff methodology – into consideration.

90. In its most recent approvals of tariff allocation methodologies, the Danish Energy Regulatory Authority has focused on ensuring that shippers using and benefiting from the infrastructure must contribute to paying the costs. The Danish Energy Regulatory Authority acknowledges that the Baltic Pipe Project will be able to create benefits for the existing shippers in the form of lower tariffs if the volumes transported are increased significantly. This may argue in favour of having existing shippers and end-users contribute to paying the costs in relation to the Baltic Pipe Project through uniform tariffs. Transit customers will benefit from the existing Danish system, and it is therefore fair that they should contribute to paying for this through the uniform tariff.

91. In its consultation response to Energinet.dk, one market participant assesses that the project may contribute to increased liquidity, while another mentions that it has not been clarified how different tariff principles contribute to increased integration with the northwestern European markets.

92. Tariff methodologies must facilitate efficient gas trade and competition in the gas market, and tariffs must neither restrict market liquidity nor distort trade across borders, see the Gas Regulation (article 13). Competitive concerns and elimination of trade barriers are thus key criteria for the Danish Energy Regulatory Authority when assessing a tariff methodology, see also the Danish Energy Regulatory Authority's most recent decision from 2016.

93. The Danish Energy Regulatory Authority notes that the Baltic Pipe Project will interconnect the Danish gas market with Norway and Poland and that this market coupling may lead to increased liquidity and competition in the Danish gas market for the benefit of the market participants.

94. The Danish Energy Regulatory Authority notes that all tariff methodologies must live up to certain basic legal requirements, the most important of which are set out above. A basic requirement is transparency, which entails that the methodology is transparent and that the necessary information is available. NC TAR (article 7) specifically mentions that the tariff methodologies must aim at *“enabling network users to reproduce the calculation of reference prices and their accurate forecast; [...]”*. One of the principal objectives of NC TAR has thus been to ensure transparency

in relation to the users. Predictability and reliability are ensured if the users themselves are able to calculate/forecast their tariffs.

95. The Danish Energy Regulatory Authority finds that a uniform tariff methodology may be designed in such a way that it facilitates the realisation of the project, while also giving existing shippers the possibility of benefiting in the form of generally lower transmission tariffs than they would otherwise have been.

96. In connection with the realization of the Baltic Pipe Project, the Danish Energy Regulatory Authority is aware of a number of advantages resulting from a reintroduction of uniform tariffs in the Danish transmission system. A uniform tariffing method will be more transparent than the differentiated allocation methodology and it may prove relevant to make an assessment of the benefit for all the individual subelements of the Baltic Pipe Project with a view to adding more differentiated tariffing elements to the existing allocation methodology. However, the Danish Energy Regulatory Authority also draws attention to the fact that, all else being equal, uniform allocation may increase the risk of a certain degree of cross-subsidisation between shippers. The Danish Energy Regulatory Authority's assessment of tariff methodologies will therefore be based on an assessment of a number of conflicting considerations, where the aim is to obtain a transparent methodology which, among other things, takes cross-subsidisation, competition and benefit into account.

97. In their consultation responses to Energinet.dk, several market participants point out that existing shippers and end-users in the Danish system should not be placed in a less favourable position than if the Baltic Pipe Project is not realised. Several others also mention that the value created by the project should benefit end-users and existing shippers.

98. The Danish Energy Regulatory Authority points out that, in addition to the statutory criteria applied in previous decisions, a future tariff methodology will aim at *“ensuring that significant volume risk related particularly to transports across an entry-exit system is not assigned to final customers within that entry-exit system”*, see NC TAR (article 7(d)). This is particularly relevant in connection with the Baltic Pipe Project, which may lead to very large transit volumes through the Danish transmission system.

99. The Danish Energy Regulatory Authority notes that it is not explicitly stated in the memorandum on principles how the depreciation of the residual value is to be handled if there is no transit gas after 2037. If the depreciation takes place in Energinet.dk's equity, end-users in the Danish system will be protected against the remaining financial risk after the expiry of the OS contracts, see item 75.

100. The Danish Energy Regulatory Authority finds that there should be a reasonable balance between the gain and the risk involved for transit customers and shippers, respectively, to the Danish market. The Danish Energy Regulatory Authority notes that there is uncertainty as to who bears the risk after the expiry of the OS contracts onwards, at which time there are still costs of capital for the Baltic Pipe Project.