



European Union Agency for the Cooperation  
of Energy Regulators

## Agency Report

# Analysis of the Consultation Document on the Gas Transmission Tariff Structure for Greece

NRA: Ρυθμιστική Αρχή Ενέργειας/  
Regulatory Authority for Energy (RAE)  
TSO: Διαχειριστής Εθνικού Συστήματος  
Φυσικού Αερίου Α.Ε./ National Natural Gas  
System Operator A.E. (DESFA)

Date: 21 July 2023

## Contents

1.	ACER conclusion.....	3
2.	Introduction.....	8
3.	Completeness.....	9
3.1	Has all the information referred to in Article 26(1) been published?.....	9
4.	Assessment of the proposed reference price methodology.....	10
4.1	Description of the Greek transmission network.....	10
4.1.1	Identification of approved investments to be allocated via tariffs.....	13
4.1.2	On the instruments to allocate investment costs across transmission networks... ..	13
4.2	Choice of reference price methodology.....	14
4.2.1	CWD methodology applicable between 2020 and 2023.....	14
4.2.2	Desfa’s criticism of the currently applicable CWD.....	15
4.2.3	Application of locational signals.....	16
4.2.4	Proposed postage stamp methodology in the consultation document.....	16
4.2.5	Comparison with the CWD methodology.....	17
4.2.6	Desfa’s calculation for a separate allocation of the Komotini compressor to the IGB exit.....	18
4.2.7	Cost allocation assessment.....	19
4.2.8	Postage stamp methodology used to calculate tariffs in the July 2023 auction.....	19
4.2.9	ACER conclusion on the choice of RPM.....	20
4.3	Conditional capacity product on the Entry to IGB.....	21
5.	Compliance.....	22
5.1	Does the RPM comply with the requirements set out in Article 7?.....	22
5.1.1	Transparency.....	22
5.1.2	Cost-reflectivity.....	22
5.1.3	Cross-subsidisation and non-discrimination.....	23
5.1.4	Volume risk.....	23
5.1.5	Cross-border trade.....	23
5.2	Are the criteria for setting commodity-based transmission tariffs as set out in Article 4(3) met?.....	23
5.3	Are the criteria for setting non-transmission tariffs as set out in Article 4(4) met?.....	24
6.	Other comments.....	25
6.1	Revithoussa socialisation.....	25
6.2	Desfa’s analysis of the socialisation of the LNG revenue.....	25
6.2.1	Revithoussa terminal utilisation levels.....	26
6.2.2	RAE decision.....	27
6.2.3	ACER’s analysis of the socialisation of the LNG revenue.....	27
6.3	Risk of stranded assets.....	29
	Annex 1: Approved and planned investments in the Greek transmission network.....	30

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

Annex 1.1. Investment requirements to enable exit flows to IGB .....	30
Annex 1.2. Compression station to provide pressure to the Greek exit to IGB .....	31
Annex 1.3. Duplication of the Karperi – Komotini high pressure branch .....	32
Annex 1.4. Alexandroupolis FSRU.....	32
Annex 1.5. Duplication of the HP branch Patima – Livadeia and Dioryga FSRU.....	33
Annex 1.6. Interconnection point with North Macedonia .....	33
Annex 2: Trans Adriatic Pipeline (TAP) and Gas Interconnector Greece–Bulgaria (IGB).....	34
Annex 2.1. Trans Adriatic Pipeline (TAP) .....	34
Annex 2.2. The Gas Interconnector Greece–Bulgaria (IGB) .....	34
Annex 3: Legal framework .....	36
Annex 4: List of abbreviations .....	40

## 1. ACER conclusion

- (1) The Greek national Regulatory Authority of Energy (RAE) has carried out a consultation on the reference price methodology (RPM) for the Greek transmission network<sup>1</sup>. The consultation documents have been completed by the transmission system operator (TSO), National Natural Gas System Operator (Desfa).
- (2) In the consultation, Desfa proposes to move from the capacity weighted methodology (CWD) applicable between 2020 to 2023, to a postage stamp methodology. Desfa justifies this choice based on the changes in the utilisation pattern of the network and on the new investments that have been approved and are planned in the network. Desfa argues that a postage stamp methodology is a more robust methodology in a time where flow patterns are changing. In such a context, the capacity forecast, which is required for the CWD, cannot be calculated accurately for each point of the network. In addition, RAE argues that the postage stamp methodology has a higher degree of cost reflectivity, in particular, because it allocates more accurately the costs of the recent network investments to its beneficiaries. In Desfa's view, this is especially relevant for the tariff at the exit to the gas Interconnector Greece – Bulgaria (IGB). The proposed entry-exit split is 50/50.
- (3) Desfa refers to significant changes in the utilisation of the network. These include the increase of domestic demand<sup>2</sup>, the change in the location of demand within the country and the potential transformation of the Greece network from a net importing network to a network receiving LNG and exporting gas towards Bulgaria, North Macedonia and beyond. In the recent times, the Greek network has seen the addition of the Alexandroupolis FSRU in the North-East of the network and the completion of the Trans Adriatic Pipeline (TAP) and the Interconnector Greece-Bulgaria (IGB). In the future, an exit point towards North Macedonia will become operational and other FSRUs could be further connected. These projects have been accompanied by additional network expansions which are described in Annex 1 of this report. All these elements are key when assessing the appropriateness of the proposed postage stamp methodology.
- (4) Desfa proposes two non-transmission services: odorization and metrology. However, it does not provide the information required to assess its compliance with Article 4(4) of the Network Code on Harmonised Transmission Tariff Structures for Gas (NC TAR).
- (5) The consultation document includes the details of the cost allocation assessment (CAA)<sup>3</sup>, which results in 6.3%. This value is within the 10% threshold stated in Article 5(6) of the NC TAR and does not require further justification.

---

<sup>1</sup> The NC TAR foresees a period of five months following the end of the final consultation for the NRA to take a motivated decision on all the items set out in Article 26(1) of the NC TAR. As part of this process, the Agency shall publish a Report on the compliance of the consulted reference price methodology which the NRA should take into account for its motivated decision. The Agency notes, however, that RAE has taken its decision on the reference price methodology prior to the publication of this Report. As RAE notified this timeline, the Agency provided preliminary input to RAE for its motivated decision.

<sup>2</sup> As informed by Desfa, demand is expected to evolve from 4.9 bcm in 2022 to 6.7 bcm in 2027 and up to 7.3 bcm in 2029.

<sup>3</sup> Throughout this document, 'CAA' is used to refer to the capacity cost allocation comparison index described in Article 5(3)(c) of the NC TAR.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- (6) EU legislation included instruments for the allocation of investments costs across Member States: the incremental capacity process under the NC CAM<sup>4</sup> and the NC TAR, and the cross-border cost allocation (CBCA) under Regulation (EU) No 347/2013<sup>5</sup>. Desfa explains in the consultation document its choice to allocate the recent network investments to all network users using instead transmission tariffs. The Agency notes that this approach should be based on the application of the RPM to an entry-exit zone. As a result, it is unlikely that a single investment will be allocated exclusively to the users of this investment. This Report assesses the extent to which the proposed postage stamp methodology together with alternative reference price methodologies can perform this task.
- (7) In addition, the consultation document proposes to allocate a part of the revenue of the Revithoussa LNG terminal to users of the Greek transmission network. Desfa proposes to socialise 50% of these costs to exit points of the Greek transmission network.
- (8) Finally, Desfa proposes to continue applying a commodity-based transmission tariff (complementary revenue recovery charge) to recover the deficit accumulated between 2006 and 2016<sup>6</sup>.
- (9) The Agency concludes, after having completed the analysis of the consultation document pursuant to Article 27(2) of the NC TAR, that:
- The consultation document contains the required information listed in Article 26(1) with the exception of specific details on non-transmission services as referred to in Section 5.3.
  - The Agency cannot conclude its analysis on the compliance of the RPM with the requirements on cost reflectivity, prevention of undue cross-subsidisation and non-distortion of cross-border trade listed under Article 7 of the NC TAR. While the Agency considers the justification provided to adopt a postage stamp methodology is conceptually valid, the consultation document does not provide sufficient quantitative evidence supporting this argumentation. At the same time, the Agency notes that the RPM is compliant with the requirements on transparency, non-discrimination and volume risk.
  - The proposed commodity-based transmission tariffs are compliant with the requirements in Article 4(3) of the NC TAR.
  - The Agency cannot assess the compliance of the proposed non-transmission services with Article 4(4) of the NC TAR as the consultation document is missing the necessary information

---

<sup>4</sup> Commission Regulation (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013

<sup>5</sup> Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009.

The new TEN-E Regulation entered into force in June 2022 (Regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013).

<sup>6</sup> The proposed commodity-based transmission tariff has not changed since the previous ACER report. [https://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf](https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf)

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

required by Article 26(1)(c)(ii) of the NC TAR. In addition, there are several non-transmission services which Desfa does not include as part of the consultation<sup>7</sup>.

- (10) The Agency notes that before the publication of this Report, RAE took a decision to set the tariffs applicable for the annual yearly capacity auction on 3 July 2023. This is unusual in the consultation process as this Report, to be published by ACER, precedes the NRA decision on the reference price methodology to calculate tariffs. RAE has further confirmed to the Agency that the applicable tariffs are based on the postage stamp methodology proposed in the consultation. However, as of the date of publication of this Report, RAE has not published the motivated decision. RAE has informed ACER that the methodology is not adopted for the four-year duration of the regulatory period, as it was initially foreseen. Instead, the adopted methodology is set for a provisional period of two years. During this period, RAE expects that additional investments could be approved and that flow patterns in the network could stabilise. Both of these conditions could enable revising the reference price methodology with a view to assessing the possibility of setting tariffs providing locational signals<sup>8</sup>.
- (11) Taking into account this process, and considering that the recommendations in this ACER Report are intended for a decision that has already been adopted, the Agency recommends that RAE take into account the following points when publishing its motivated decision (which has not yet been published), pursuant to Article 27(4) of the NC TAR. To the extent that the required information for these recommendations is not currently available, the Agency recommends that RAE fulfil these recommendations by the end of the provisional period for which an RPM has been adopted in preparation of the following period for which an RPM will need to be adopted.
- (12) First, clearly set the duration for which the applicable methodology is valid. In the understanding of the Agency, this period has been established by RAE for two years. The Agency recommends that RAE establish this duration, or a different one, based on the expected network investments and the period needed for the network utilisation patterns to stabilise.
- (13) Second, clearly identify the investments that will be allocated through tariffs during this period and the potential beneficiaries of these projects. The choice of the applicable postage stamp methodology should reflect the topology of the network and the infrastructure expansions approved for the period.
- (14) Third, assess the potential variability resulting from the capacity forecast and its impact on tariffs with a view to assessing the possibility of using a methodology providing locational signals.
- (15) Fourth, justify the choice of the postage stamp methodology, compared to the previously applicable CWD methodology, at least based on the following considerations:
  - That the tariffs applicable maintain a cost-reflective ratio between the costs allocated to cross-system and to intra-system use.

---

<sup>7</sup> See paragraph (110) under Section 5.3.

<sup>8</sup> Section 4.2.3 assesses the relevance of locational signals in the Greek transmission network.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- That no individual tariff at network points result in a significant and non-justifiable deviation compared to the previously applicable RPM or to the CWD.
- (16) Fifth, assess alternative methodologies using unit costs as a cost driver or any other cost driver capable of assigning, to the extent possible, the costs of the approved investments to the beneficiaries of the investments. The Agency recommends that RAE perform this analysis once the necessary information is available, in particular, with regards to the approved investments and contracted capacity.
- (17) In addition, the Agency recommends the following points on the calculation of the CWD methodology and on the additional supportive information provided in the consultation, used as a comparison with the proposed postage stamp methodology:
- On the calculation of the CWD, the Agency recommends that the NRA review the clustering options considered for the calculation of the CWD methodology. These include the use of a clusters of points for the North and South part of the network. The Agency notes that different clustering configuration can lead to different CWD results. In addition, the Agency recommends that the NRA consider other tools, such as the use of flow scenarios, when calculating the CWD methodology. These instruments can potentially improve the cost reflectivity of the CWD methodology and should be considered for the choice of RPM.
  - On the tariff comparison provided by Desfa to the Agency based on an additional tariff applicable to the exit to Komotini, the Agency recommends expanding the assessment to consider all relevant investments for the period during which tariffs are applicable, in addition to the topology and use of the network. The simulation for the calculation of a separate charge for the Komotini compressor, applicable at the exit to IGB, should be expanded to compare the tariffs resulting for the route: entry from Alexandroupolis – exit to IGB. In the current calculation submitted to the Agency, only the tariffs for the latter point are compared.
- (18) On the proposed non-transmission tariffs, the Agency recommends that RAE provide the missing information for the assessed non-transmission services, as per Article 26(1)(c)(ii) of the NC TAR. In addition, RAE should assess a number of services<sup>9</sup> not considered in the consultation as transmission or non-transmission and apply the relevant NC TAR requirements.
- (19) On the conditional product offered between the entry point from the Alexandroupolis FSRU and the exit point to IGB, the Agency recommends that RAE clarify the period for which the conditional product will continue to be offered.
- (20) The Agency further refers to the proposed socialisation of the revenue from the Revithoussa LNG terminal. The Agency recommends that the NRA take into consideration the points listed under Section 6.2.3 of this report which are based on the analysis included in Section 5.1 of ACER's 2019 NC TAR Implementation Report<sup>10</sup>.

---

<sup>9</sup> See Section 5.3. for a list of these services.

<sup>10</sup>[https://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Publication/The%20internal%20gas%20market%20in%20Europe\\_The%20role%20of%20transmission%20tariffs.pdf](https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/The%20internal%20gas%20market%20in%20Europe_The%20role%20of%20transmission%20tariffs.pdf)

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- (21) Regarding the allocation of part of the cost related to the Revithoussa LNG terminal to all domestic exit points and IPs, the Agency remarks that this charge is also applied to the exit to IGB. The Agency notes that there is currently no firm capacity between the Revithoussa LNG terminal and the exit to IGB. The Agency recommends that RAE only apply the socialisation levy to the exit to IGB following a justification which establishes whether this exit point benefits, and if so, to what extent, from the positive externalities of the LNG socialisation mechanism.
- (22) The Agency notes the investments in the Greek network are significant as detailed in Annex 1. For this reason, the Agency invites RAE to:
- Assess the planned investments against the EU decarbonisation targets<sup>11</sup>, taking into account that gas demand is expected to decrease over time.
  - Adopt depreciation times to recover the cost of investments that ensure the sustainability of the network on the short to long term in addition to the affordability of tariffs for end consumers<sup>12</sup>.
  - Assess the impact of approved and planned investments on future transmission tariffs<sup>13</sup>

---

<sup>11</sup> The European Green Deal and the REPower EU set the goal of making Europe the first climate-neutral continent by 2050 and to decarbonise and diversify the EU natural gas market by facilitating the uptake of renewable and low carbon gases, including hydrogen and biomethane. Additional targets relevant for the gas sector are described in ACER's 2021 study: *Future Regulatory Decisions on Natural Gas Networks: Repurposing, Decommissioning and Reinvestments* (p. 19-25). Link to the study:

<https://www.acer.europa.eu/Media/News/Documents/Future%20Regulation%20of%20Natural%20Gas%20Networks%20-%20Final%20Report%20DNV.pdf>

<sup>12</sup> This is in line with the European Commission Proposal for a recast Regulation on gas markets and hydrogen (COM/2021/804 final, [link](#)) currently under discussion. See Recital 36 which points at the need for NRAs to *modify the regulatory arrangements in due time and prevent a situation where the cost recovery of transmission system operators through tariffs threatens the affordability for consumers due to an increasing ratio of fixed costs to gas demand*.

<sup>13</sup> See Article 17(3) Proposal for a recast Regulation on gas markets and hydrogen requiring NRAs to *assess the long-term evolution of transmission tariffs based on the expected changes in their allowed or target revenues and in gas demand until 2050*.

## 2. Introduction

- (23) Commission Regulation (EU) 2017/460 of 16 March 2017 establishes a network code on harmonised transmission tariff structures for gas (NC TAR).
- (24) Article 27 of the NC TAR requires the Agency to analyse the consultation documents on the reference price methodologies for all entry-exit systems.<sup>14</sup> This Report presents the analysis of the Agency for the transmission system of Greece.
- (25) On 20 March 2023, the Greek NRA 'Regulatory Authority for Energy' (RAE), forwarded the consultation documents to the Agency. The consultation was launched on 20 March 2023 and remained open until 22 May 2023. On 4 July 2023, the consultation responses were published. The Agency has taken these responses into consideration for this analysis.
- (26) The NC TAR foresees a period of five months following the end of the final consultation for the NRA to take a motivated decision on all the items set out in Article 26(1) of the NC TAR, to calculate the applicable tariffs and to publish these tariffs for the yearly capacity auction taking place in July according to the NC CAM. However, RAE has already published the tariffs for the July 2023 auction prior to the publication of this Report. The Agency notes that the NC TAR does not prevent the NRA from taking a motivated decision before the publication of the ACER Report, which is due two months following the end of the final consultation. The consultation process foresees the ACER Report as an input for the NRA to take its motivated decision. As RAE intended to take its decision on the RPM before the publication deadline of this Report, the Agency provided to RAE preliminary input for its motivated decision.
- (27) The Agency further notes that the NRA did not publish the tariff for the yearly capacity auction as required by Article 32(a) of the NC TAR, which establishes that reference prices shall be published *no later than thirty days before the annual yearly capacity auction*, which took place on 3 July 2023. The TSO published provisional tariffs for the auction by 5 June 2023, while the final tariffs adopted by the NRA were only published on 30 June 2023.
- (28) The Agency notes that both, RAE and Desfa, have been enormously helpful supporting the information requests of the Agency. The input provided has facilitated the analysis carried out in the Report.

### *Reading guide*

- (29) In Section 3, this document first presents an analysis on the completeness, namely if all the information in Article 26(1) of the NC TAR has been published. Section 4 assesses the proposed reference price methodology. Section 5 focuses on the compliance, namely if the RPM complies with the requirements set out in Article 7 of the NC TAR, if the criteria for setting commodity-based transmission tariffs as set out in Article 4(3) of the NC TAR are met and if the criteria for setting non-transmission tariffs as set out in Article 4(4) of the NC TAR are met. Section 6 includes a review of the proposed socialisation costs of the Revithoussa LNG terminal together with additional ACER

---

<sup>14</sup> With the exception of Article 10(2)(b) of the NC TAR, when different RPMs may be applied by the TSOs within an entry-exit zone.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

views on the risk of stranded assets related to the approved and planned network expansions. This document contains four annexes on the approved and planned investments, TAP and IGB, the legal framework and a list of abbreviations.

### 3. Completeness

#### 3.1 Has all the information referred to in Article 26(1) been published?

- (30) Article 27(2)(a) of the NC TAR requires the Agency to analyse whether all the information referred to in Article 26(1) of the NC TAR has been published.
- (31) Article 26(1) of the NC TAR requires that the consultation document should be published in the English language, to the extent possible. The Agency remarks that the consultation documents have been published in English.
- (32) Overall, most of the information in Article 26(1) of the NC TAR has been properly published. The Agency recommends that RAE publishes the missing information related to non-transmission services as referred to in Section 5.3.

Figure 1 Checklist information Article 26(1)

Article	Information	Published: Y/N/NA
<b>26(1)(a)</b>	the description of the proposed reference price methodology	Yes
<b>26(1)(a)(i)</b> <b>26(1)(a)(i)(1)</b> <b>26(1)(a)(i)(2)</b>	the indicative information set out in Article 30(1)(a), including: <ul style="list-style-type: none"> <li>the justification of the parameters used that are related to the technical characteristics of the system</li> <li>the corresponding information on the respective values of such parameters and the assumptions applied</li> </ul>	Yes
<b>26(1)(a)(ii)</b>	the value of the proposed adjustments for capacity-based transmission tariffs pursuant to Article 9	Yes
<b>26(1)(a)(iii)</b>	the indicative reference prices subject to consultation	Yes
<b>26(1)(a)(iv)</b>	the results, the components and the details of these components for the cost allocation assessments set out in Article 5	Yes
<b>26(1)(a)(v)</b>	the assessment of the proposed reference price methodology in accordance with Article 7	Yes
<b>26(1)(a)(vi)</b>	where the proposed reference price methodology is other than the capacity weighted distance reference price methodology detailed in Article 8, its comparison against the latter accompanied by the information set out in point (iii)	Yes
<b>26(1)(b)</b>	the indicative information set out in Article 30(1)(b)(i), (iv), (v)	Yes
<b>26(1)(c)(i)</b> <b>26(1)(c)(i)(1)</b> <b>26(1)(c)(i)(2)</b> <b>26(1)(c)(i)(3)</b>	where commodity-based transmission tariffs referred to in Article 4(3) are proposed <ul style="list-style-type: none"> <li>the manner in which they are set</li> <li>the share of the allowed or target revenue forecasted to be recovered from such tariffs</li> <li>the indicative commodity-based transmission tariffs</li> </ul>	Yes

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

<p><b>26(1)(c)(ii)</b>  <b>26(1)(c)(ii)(1)</b>  <b>26(1)(c)(ii)(2)</b>  <b>26(1)(c)(ii)(3)</b>  <b>26(1)(c)(ii)(4)</b></p>	<p>where non-transmission services provided to network users are proposed:</p> <ul style="list-style-type: none"> <li>• the non-transmission service tariff methodology therefor</li> <li>• the share of the allowed or target revenue forecasted to be recovered from such tariffs</li> <li>• the manner in which the associated non-transmission services revenue is reconciled as referred to in Article 17(3)</li> <li>• the indicative non-transmission tariffs for non-transmission services provided to network users</li> </ul>	<p>Partially. Missing information (see relevant section)</p>
<p><b>26(1)(d)</b></p>	<p>the indicative information set out in Article 30(2);</p>	<p>Yes</p>
<p><b>26(1)(e)</b>  <b>26(1)(e)(i)</b>  <b>26(1)(e)(ii)</b>  <b>26(1)(e)(iii)</b>  <b>26(1)(e)(iv)</b></p>	<p>where the fixed payable price approach referred to in Article 24(b) is considered to be offered under a price cap regime for existing capacity:</p> <ul style="list-style-type: none"> <li>• the proposed index;</li> <li>• the proposed calculation and how the revenue derived from the risk premium is used</li> <li>• at which interconnection point(s) and for which tariff period(s) such approach is proposed</li> <li>• the process of offering capacity at an interconnection point where both fixed and floating payable price approaches referred to in Article 24 are proposed</li> </ul>	<p>N.A.</p>

## 4. Assessment of the proposed reference price methodology

- (33) The following Section assesses different aspects of the Greek transmission network impacting the choice of the RPM. These include the changes in network utilisation patterns and approved and planned investments. This assessment precedes the analysis on the choice of the RPM in Section 4.
- (34) The network expansions in the recent years are described in detail in the following annexes, which should be read together with this Section:
- Annex 1: Approved and planned investments in the Greek transmission network.
  - Annex 2: Trans Adriatic Pipeline (TAP) and the Interconnector Greece – Bulgaria (IGB).

### 4.1 Description of the Greek transmission network

- (35) In recent years, the Greek transmission network is witnessing a significant transformation both in terms of utilisation patterns and investments.
- (36) Traditionally, the Greek transmission network was supplied via gas import from Bulgaria, Turkey and via the Revithoussa LNG terminal, with marginal exports starting in year 2017 (with limited volumes in the order of 2 million Nm<sup>3</sup> and 7.6 million Nm<sup>3</sup> for 2017 and 2018 respectively). The availability of TAP and IGB, together with the current war in Ukraine have enabled different flow patterns in the Greek transmission network (with exports being increased to the level of about 650 million Nm<sup>3</sup>/y for years 2019-2021 and 2,600 million Nm<sup>3</sup> for year 2022). This infrastructure significantly increased the possibility of exporting gas to Bulgaria which can enter Greece via the Revithoussa LNG terminal in the Southern part of the Greek transmission network or, from January

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

2024 onwards, via the Alexandroupolis FSRU in the East of the Greek transmission network. The map in Figure 2 below shows the location of this infrastructure.

- (37) In addition to the possibility of exporting gas to Bulgaria, the Greek network is further expected to enable approximately 1 bcm of interconnection capacity with North Macedonia which will become operational by 2025 thanks to a new interconnection to North Macedonia<sup>15</sup>. Finally, TAP further enables physical export capacity to Italy and virtual flows to Bulgaria. These capacities are currently only possible on interruptible basis and will become firm after the completion and entry into operation of the compressor in Nea Mesimvria. The expected entry into operation date is October 2024.

Figure 2 Greek transmission network, 2023.

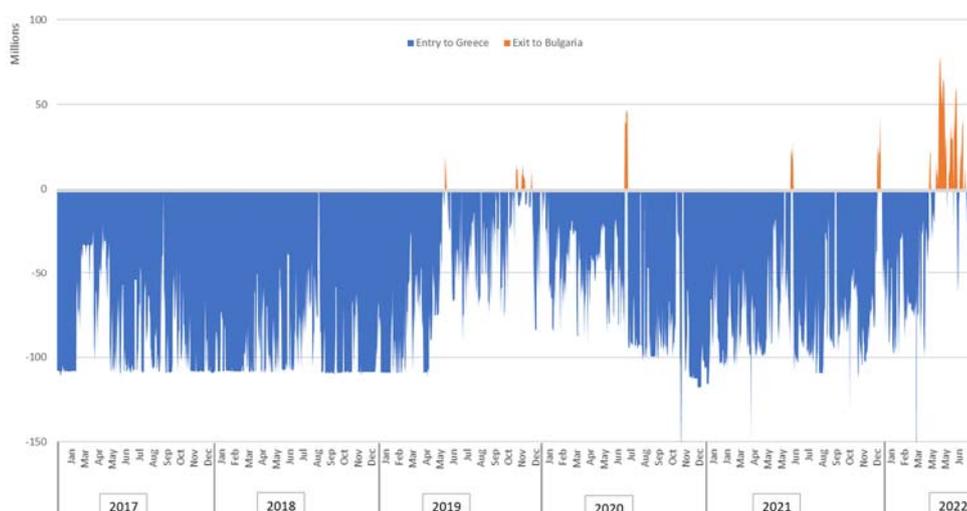


<sup>15</sup> Based on the market results the forecasted volumes are as follows: 37.5 million Nm<sup>3</sup> in 2025 gradually increasing up to 560 million Nm<sup>3</sup> (2027) and 860 million Nm<sup>3</sup> (2030).

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- (38) Furthermore, domestic demand is forecasted to increase from 4.9 bcm in 2022 to 6.7 bcm in 2027 and up to 7.3 bcm in 2029<sup>16</sup>. Up to three new CCGTs of approximately 850 MW each could be built in Greece by 2026. These plants are located as follows:
- In Komotini, the plant will enter into operation in 2023.
  - In Thessaloniki, a final investment decision (FID) decision could be taken shortly.
  - In Alexandroupolis, the approval of the investment in this CCGT is subject to the expansion of the Greek transmission network to provide access to gas transmission capacity.
- (39) The Greek transmission system was designed, as it stands today, to accommodate a domestic demand of up to 7 bcm<sup>17</sup> and was intended to import gas from Turkey, Bulgaria and from the Revithoussa LNG terminal. The current utilisation has reached the limits of the current design. In the current period, the system is being turned around to export gas from the Revithoussa LNG terminal and the FSRU(s) to Bulgaria, North Macedonia and Italy through TAP. At this stage, it remains unclear whether Greece will remain to be an importing country or whether it will transform into an exporting country. Figure 3 below illustrates the change in flows in relation to the Siderokastro IP with Bulgaria. Traditionally, Siderokastro IP is used to import gas (blue). Since May 2022 Siderokastro IP is also being used to export gas to Bulgaria (orange)<sup>18</sup>.

Figure 3 Cross-border flows at the Siderokastro IP, 2017-23. Source: ENTSOG TP.



- (40) To meet the projected export and domestic flows, there are several bottlenecks in the Greek transmission network that relate both to limited pipeline capacity and to insufficient compression power.
- First, the Greek network does not have sufficient compression capacity to enable flows to IGB<sup>19</sup>.

<sup>16</sup> Data provided to the Agency by Desfa.

<sup>17</sup> Data provided to the Agency by Desfa.

<sup>18</sup> Exports to Bulgaria started in 2017. As of May 2022 exports were significantly increased, thus leading to physical flows from Greece to Bulgaria (orange)

<sup>19</sup> See Annex 1.1 and Annex 1.2

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- Second, the transmission capacity from the western part of the Greek network towards the East is limited by the available pipeline capacity, which means that gas from the Revithoussa LNG terminal in the South cannot be transported to IGB on a firm basis<sup>20</sup>.
- Third, additional network expansions would need to be accomplished upon the decision to incorporate an additional FSRU terminal (the Dioryga FSRU terminal close to Revithoussa LNG terminal) in the South driven by the development of additional demand for gas in the North of the country<sup>21</sup>.

(41) These changes create large uncertainty which impacts the discussion on the appropriate methodology to set tariffs, including:

- The possibility to forecast contracted capacity.
- The difference in the unit costs of infrastructure across the network.
- The provision of locational signals for approved and future investment in the network.
- The allocation of costs of approved network investments to the beneficiaries.

### 4.1.1 Identification of approved investments to be allocated via tariffs

(42) Based on the information provided in Annex 1 of this Report, the Agency identifies the following investments impacting the TSO's regulatory asset base (RAB) in the coming years:

- Komotini compressor entering into operation from October 2024<sup>22</sup>.
- Duplication of the Karperi – Komotini branch<sup>23</sup> entering into operation end of 2027<sup>24</sup>.
- Greece - North Macedonia interconnection point, entering into operation in 2025<sup>25</sup>.

(43) As described in Annex 1, these investments are intended mainly for transporting gas to neighbouring markets and to some extent for supplying larger domestic consumption. The Komotini compressor will be used exclusively to export gas to Bulgaria via IGB. This increased export capacity to Bulgaria via IGB will be supported by the duplication of the Karperi – Komotini branch, which will additionally increase the transport capacity between East and West parts of the Greek network. Since these investments support the export capacity to Bulgaria, the partial allocation of these costs to the exit to IGB could be justified.

### 4.1.2 On the instruments to allocate investment costs across transmission networks

(44) The Agency notes that an important point of the consultation document concerns the allocation of costs related to network expansion which serve the purpose of transporting gas across borders. At the time of taking the relevant investment decisions, EU legislation included instruments for the allocation of investments costs across Member States: the incremental capacity process under the

---

<sup>20</sup> See Annex 1.3

<sup>21</sup> See Annex 1.4 and Annex 1.5

<sup>22</sup> See Annex 1.1 and Annex 1.2

<sup>23</sup> This investment is finalised close to the end of the regulatory period, however the investment will be included in the RAB gradually, starting in 2024.

<sup>24</sup> See Annex 1.3

<sup>25</sup> See Annex 1.6.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

NC CAM and the NC TAR, and the cross-border cost allocation (CBCA) under Regulation (EU) No 347/2013<sup>26</sup>.

- (45) The Agency notes that Desfa proposes instead to allocate the costs of new investments using transmission tariffs applicable in the Greek transmission network. According to Desfa, the investments referred to above<sup>27</sup> needed to be built in a short period of time to enable cross-border flows to Bulgaria. This timeline did not allow using the instruments referred to in the previous paragraph as they required longer processes.
- (46) The Agency notes that reference price methodologies are not intended to allocate the costs of a specific project only to the beneficiaries of that project. This is because tariffs are set for an entry-exit system. The result of a reference price methodology generally implies some degree of socialisation across all network users. The Agency recognizes that the selection of the RPM and the costs drivers can facilitate the calculation of tariffs that are more cost reflective. In the Greek case, this implies tariffs that can more accurately allocate the costs of the approved and planned investments to the relevant network points. The options for meeting this objective are discussed in detail in the next section.

### 4.2 Choice of reference price methodology

- (47) The following section discusses the postage stamp methodology proposed in the consultation document. This section starts by assessing Desfa's arguments to move away from the current CWD, which the Agency recommended RAE to take into account for the previous regulatory period. The section further discusses the role of locational signals, which are relevant for the Greek network in view of the approved and planned network investments. Additionally, the section refers to the tariffs used for the annual auction in July 2023, which are based on a postage stamp methodology, as established by RAE's final decision (not yet published). Finally, the section provides the conclusion of the Agency on the proposed and the approved methodology and its recommendations.

#### 4.2.1 CWD methodology applicable between 2020 and 2023

- (48) In 2018, RAE consulted on the RPM to be applied in the Greek transmission network. Desfa proposed to continue using a postage stamp methodology on the basis of the simplicity of the Greek transmission network and on the objective to set the same tariff at network points irrespective of the location<sup>28</sup>.
- (49) In its analysis, the Agency concluded that the simplicity of the network was not a sufficient motivation to disregard distance as a cost driver to the RPM. Distance tends to be an even more relevant cost driver in non-meshed grids<sup>29</sup>. The Agency recommended RAE to clarify further the

---

<sup>26</sup> The new TEN-E Regulation replacing Regulation (EU) No 347/2013 entered into force in June 2022.

<sup>27</sup> See paragraph (42) and Annex 1 for additional details.

<sup>28</sup> 2019 ACER Report on the Greek tariff consultation p. 9.  
[https://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf](https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf)

<sup>29</sup> 2019 ACER Report on the Greek tariff consultation p. 10

choice of a postage stamp methodology in view of the characteristics of the network. In its motivated decision, RAE set a CWD methodology<sup>30</sup>.

### 4.2.2 Desfa's criticism of the currently applicable CWD

- (50) In the current consultation, Desfa argues that the currently applicable CWD methodology is not suited for the upcoming period for which tariffs are being proposed. In view of Desfa, the difference in network unit costs, resulting from the approved investments together with the difficulty to accurately forecast contracted capacity support the use of a postage stamp methodology.

#### 4.2.2.1 Differences in unit costs resulting from network investments

- (51) First, Desfa argues in the consultation document that the CWD methodology does not accurately reflect the underlying costs of different parts of the network. In particular, RAE argues that the capacity and the distance cost drivers that are an input to the RPM do not reflect the new network expansions in specific areas of the network. Distance is calculated uniformly between all network points. However, the underlying costs of the network can differ greatly. Distance is measured on the same terms for the whole network, while the unit costs of this infrastructure can be heterogeneous. As a result, distance can fail to accurately represent the underlying costs of the network.
- (52) This situation occurs in networks that have been built or upgraded at very different points in time, or where investments in the network are used for very local purposes (e.g. the Komotini compressor). In such situations, the value of infrastructure assets across the network might differ largely and the cost drivers of capacity and distance might not reflect these differences.

#### 4.2.2.2 Changes in network utilisation and contracted capacity forecast

- (53) Second, RAE argues that the capacity forecast that is an input to the CWD methodology is subject to a large forecasting error, which reduces the cost reflectivity of the resulting tariffs.
- (54) The CWD methodology requires a contracted capacity forecast per point of the network, which impacts the resulting tariff per point. This approach requires visibility over the future utilisation of the network as this forecast determines tariffs. In the absence of accuracy and visibility, tariffs at specific points will be based on a forecasted contracted capacity value that potentially differs from the actual booked capacity. Such a result is not optimal and could be considered as not cost reflective should the forecasting error be significant. In addition, this approach could result in significant volatility in tariffs year on year.
- (55) As explained by Desfa to ACER, market parties are currently not booking capacity on long-term basis, but rather short-term. In this context, RAE has explained to the Agency that it is not possible to provide an accurate contracted capacity forecast.

---

<sup>30</sup> <https://www.desfa.gr/userfiles/pdflist/DRSA/2020%20Tariffs.pdf>

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

### 4.2.3 Application of locational signals

- (56) The Agency expressed its view in the 2019 Report on the Greek Tariff consultation<sup>31</sup> over the relevance of locational signals. Article 7 of the NC TAR requires that the RPM shall “*take into account the actual costs incurred for the provision of transmission services considering the level of complexity of the transmission network*”. In meshed networks, where the distance between network points is homogenous, a postage stamp methodology can be a good approximation of cost reflectivity. In networks where the distance between points differs significantly, a CWD methodology can increase cost reflectivity.
- (57) In the context of the Greek network, locational signals can play a two roles. First, they can serve to allocate the costs of approved investments to the users of that infrastructure. Second, they provide investment signals to assess future infrastructure projects. As there are numerous projects planned for the Greek network, locational signals are a key instrument to estimate the costs of using this new infrastructure.
- (58) The Agency considers that the use of locational signals would be particularly relevant for the Greek transmission network. At the same time, the Agency notes that the assessment provided by Desfa in the consultation is limited in terms of considering alternative methodologies that can provide locational signals<sup>32</sup>.
- (59) While the Agency is aware of the challenges for using locational signals, it considers that this feature can contribute to making investments efficient. For this purpose, RAE should assess alternative methodologies providing locational signals, including methodologies using unit costs as a cost driver as recommended in Section 4.2.9 below.

### 4.2.4 Proposed postage stamp methodology in the consultation document

- (60) In the consultation document, Desfa proposes to replace the previously applicable CWD methodology with a postage stamp methodology. This choice is argued on the following basis:
- (61) First, the postage stamp methodology allocates a higher share of the costs to cross-border points, in particular to the exit point to IGB. Desfa considers this outcome to be more cost-reflective compared to the CWD methodology. This comparison is further assessed in Section 4.2.5 below.
- (62) Second, the postage stamp methodology is not impacted by changes in the actual utilisation pattern of the network, which are currently taking place. This makes the methodology more resilient in the current times of changes.

---

<sup>31</sup> [https://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf](https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf)

<sup>32</sup> Regarding unit costs, in its initial exchanges with RAE and Desfa, the Agency referred to the possibility of using a methodology based on unit costs such as the one used in Portugal before 2018. Desfa communicated to the Agency several reasons why such methodology would not be appropriate in the Greek system. The methodology used in Portugal was intended for a simpler system with stable utilisation patterns. In the case of Greece, the network expansion is more significant, and the utilisation patterns are not yet settled. In this context, Desfa considered that the methodology used in Portugal would not be appropriate for the Greek system.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- (63) Third, a postage stamp methodology does not need a forecast to be performed per network point. As a result, the tariffs per point of the network are more resilient to forecasting errors and variability compared to the actual utilisation of the network.

### 4.2.5 Comparison with the CWD methodology

- (64) The consultation document provides a comparison between the CWD methodology and the proposed postage stamp methodology. Table 1 below shows the differences between both methodologies in addition to the final tariffs used for the yearly capacity auction on 3 July 2023. The table further includes the additional LNG socialisation levy that is proposed at all exit points and that is added separately for each of the methodologies assessed. Furthermore the table below displays the tariffs applicable for the route consisting of: entry from the Alexandroupolis FSRU and exit to IGB.

Table 1: Proposed reference prices derived using the postage stamp and CWD methodology and final tariffs used for the July 2023 yearly capacity auction. Source: Desfa consultation document.

		Postage stamp 2024	Postage stamp 2024 + LNG socialisation (only tariffs at exit points are listed)	CWD 2024	CWD 2024 + LNG socialisation (only tariffs at exit points are listed)	2023 Tariff	2023 Tariff 2024 + LNG socialisation (only tariffs at exit points are listed)	Postage stamp vs CWD (%)	Postage Stamp vs 2023 tariff (%)	Final tariffs for the 2023 yearly capacity auction
Exits	Domestic NZ	4.865	6.151	6.038	7.32	3.897	5.12	-19%	25%	4.300
	Domestic SZ		6.151	5.061	6.35	4.345	5.57	-4%	12%	
	Sidirokastro IP		6.151	6.879	8.16	4.793	6.02	-29%	1%	
	N. Mesimvria IP		6.151	4.658	5.94	4.793	6.02	4%	1%	
	IGB		6.151	0.769	2.05	N.A.	5.12	533%	N.A.	
Entries	Sidirokastro IP	3.274	3.274	4.067	4.067	4.793	N.A.	-20%	-32%	2.917
	N. Mesimvria			3.031	3.031	4.793	4.793	8%	-32%	
	NE Cluster <sup>1</sup>			5.182	5.182	4.793 <sup>4</sup>	4.793 <sup>4</sup>	-37%	-32%	
	Agia Triada <sup>2</sup>			2.546	2.546	1.668 <sup>3</sup>	1.668 <sup>3</sup>	29%	96%	
Revithoussa tariff <sup>3</sup>		2.161	2.161	2.161	-2.161	2.161	2.161	2.161	-28%	1.924
Revithoussa LNG socialisation levy (applied to exit points)		1.285	-	1.285	-	1.222		-	-	1.144

	Postage stamp 2024	CWD 2024	Difference
Entry NE cluster + exit IGB	8.139	5.951	37%
Entry NE cluster + exit IGB + LNG socialisation	9.424	7.237	30%

<sup>1</sup> NE Cluster comprises of Amfitriti entry point & IP Kipi.

<sup>2</sup> No discount is applied for 2024 tariffs (only in 2023 tariffs)

<sup>3</sup> A With 30% discount was applied in this entry point in 2023 as an entry point of the LNG Terminal. No discount applied in 2024

<sup>4</sup> Only Kipi IP.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- (65) The key difference between the postage stamp methodology and the CWD methodology are the tariffs assigned to the route connecting the entry point from Alexandroupolis FSRU and the exit point to IGB. Under the postage stamp methodology, these tariffs amount to 8.139 €/KWh/h/y (9.424 €/KWh/h/y including the Revithoussa LNG socialisation), while under the CWD methodology, these tariffs amount to 5.951 €/KWh/h/y (7.237 €/KWh/h/y including the Revithoussa LNG socialisation). This amounts to a 37% increase for the route product (30% if we consider the additional LNG socialisation that Desfa proposed to all exit points, including IGB). When looked at individually, the postage stamp RPM results in a decrease of 37% at the entry from the Alexandroupolis FSRU and an increase of 533% at the exit to IGB. It should be noted that the tariffs applicable to the entry point from Alexandroupolis FSRU and the exit point to IGB are subject to a conditional capacity discount, as discussed in Section 4.3 below.
- (66) The Agency recommends that the NRA review the clustering options taken for the calculation of the CWD methodology. These include the use of a clusters of points for the North and South part of the network. The Agency notes that different clustering configuration can lead to different CWD results. In addition, the Agency recommends that the NRA consider other tools, such as the use of flow scenarios, when calculating the CWD methodology. These instruments can potentially improve the cost reflectivity of the CWD methodology and should be considered for the choice of RPM.

### 4.2.6 Desfa's calculation for a separate allocation of the Komotini compressor to the IGB exit

- (67) Desfa argues in the consultation document that the tariffs derived using the postage stamp methodology have a higher degree of cost reflectivity. According to Desfa, this is because the postage stamp methodology serves to better allocate the costs of the Komotini compressor to the exit to IGB. As described in Annex 1 and Section 4.1.1, this network asset will be used primarily to enable the export from the entry point from the Alexandroupolis FSR to the exit to IGB.
- (68) The Agency notes that Desfa does not include any quantitative assessment supporting this claim. However, Desfa provided to the Agency a calculation which partially supports the choice of a postage stamp methodology. According to this calculation, Desfa estimated an additional tariff for the exit to IGB which would serve to allocate the costs of the Komotini compressor only to this point. This additional tariff is then added to the exit tariff at this same point that is derived using the reference price methodology applicable to the whole Greek network.
- (69) The calculation proposed by Desfa, allows estimating an additional tariff at the exit to IGB that would approximate the outcome of the incremental capacity process. Article 33 of the NC TAR refers to a mandatory minimum premium that is applied to the point where capacity is increased.
- (70) Desfa argues that the proposed postage stamp methodology is only 4% lower than tariff from the CWD combined with an additional tariff at the exit to IGB. The application of the CWD methodology alone results in a tariff which is 68% lower. This is a much larger deviation compared to the proposed postage stamp methodology. These results are summarised in Figure 4 below.
- A CWD methodology allocating separately the costs of the Komotini compressor results in tariff of ~6,4177 €/Kwh/h/y. This value could be considered a cost reflective value.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- A CWD methodology allocating together all transmission costs, including the Komotini compressor, results in a tariff of ~4,3711€/Kwh/h/y at the exit to IGB.
- A postage stamp methodology allocating together all transmission costs, including the Komotini compressor, results in a tariff of ~6,1507€/Kwh/h/y for the exit to IGB.

Figure 4 Calculation of an additional dedicated tariff to allocate the costs of the Komotini compressor to the exit to IGB (€/Kwh/h/y).

[1] Postage stamp tariff applicable to the exit to IGB (current proposal)	[2] CWD tariff applicable to the exit to IGB	[3] Additional tariff to allocate the costs of the Komotini compressor only to the exit to IGB	[4] CWD tariff applicable to the exit to IGB (calculated without the costs of the Komotini compressor)	[3+4] Additional tariff to allocate the costs of the Komotini compressor + CWD tariff applicable to the exit to IGB (calculated without the costs of the Komotini compressor)
6,1507	2,0847	~4,3711	~2,0466	~6,4177

Tariff values do not include the LNG socialisation tariff.

- (71) While the results cannot be taken as a final proof of compliance with the requirement on cost reflectivity, they do support the claim that the postage stamp methodology has a higher degree of cost reflectivity compared to the CWD methodology. The postage stamp methodology results in a closer approximation to a hypothetical tariff structure were the costs of the Komotini compressor are allocated to the exit point to IGB.
- (72) While this result of the assessment is overall supportive of a postage stamp methodology, the Agency notes that this information, together with the analysis provided in the consultation document, is not sufficient to assess whether the proposed postage stamp methodology results in a more cost reflective allocation of the network costs. The Agency recommends expanding the assessment to consider all relevant investments for the period during which tariffs are applicable in addition to the topology and use of the network. In addition, the simulation for the calculation of a separate charge for the Komotini compressor, applicable at the exit to IGB, should be expanded to compare the tariffs resulting for the route: entry from Alexandroupolis – exit to IGB. In the current calculation submitted to the Agency, only the tariffs for the latter point are compared.

### 4.2.7 Cost allocation assessment

- (73) RAE provides the calculation for the cost allocation assessment (CAA) for the proposed postage stamp methodology, which results in 6.3%. This result is within the threshold foreseen under Article 5(6) of the NC TAR and does not require further justification.

### 4.2.8 Postage stamp methodology used to calculate tariffs in the July 2023 auction

- (74) The Agency notes that prior to the publication of this report, RAE has already published the tariffs applicable to the auction<sup>33</sup>. While RAE has not published the motivated decision at the time of publishing this Report, RAE has confirmed orally to the Agency that the final tariffs are based on

<sup>33</sup> See paragraph (26) under Section 2. The tariffs for the final capacity auction are included in Table 1.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

the proposed postage stamp methodology. This methodology is set for a period of two years, during which RAE will assess the possibility to apply a methodology providing locational signals. This period is intended to allow network utilisation patterns to stabilise allowing for a more precise forecast on contracted capacity.

- (75) As communicated to ACER, RAE is committed to assessing other potential methodologies capable allocating the cost of new investments based, for example, on unit costs.

### 4.2.9 ACER conclusion on the choice of RPM

- (76) In this section, ACER provides its conclusion on the choice of RPM in addition to several recommendations.

- (77) Overall, ACER considers that the arguments made by Desfa supporting the postage stamp methodology are conceptually valid. However, the consultation document does not provide sufficient quantitative evidence supporting this argumentation.

- (78) First, as illustrated in Sections 4.1.1 and Annex 1, there are multiple investments that have been approved and are planned for the Greek transmission network. It is not clear how the postage stamp methodology better reflects the existing transmission costs. Desfa clearly justifies the appropriateness of the postage stamp methodology on the basis of the costs allocated to the exit to IGB. However, as discussed in Sections 4.1.1, the approved and planned investments go beyond the Komotini compressor. The assessment on the allocation of investments should be performed with a view to reviewing the following effects:

- Tariff levels at individual network points.
- The overall allocation of costs to cross-system and to intra-system use.

- (79) Second, the impact of the forecasted contracted capacity over tariffs has not been fully justified to move away from a methodology providing locational signals. Desfa refers to the changes in utilisation patterns but does not assess the possible deviation and volatility in individual tariffs at network points resulting from the contracted capacity forecast.

#### 4.2.9.1 ACER recommendation for the motivated decision

- (80) Considering that the recommendations in this ACER Report are intended for a decision that has already been adopted, the Agency recommends that RAE take into account the following points when publishing its motivated decision (which has not yet been published), pursuant to Article 27(4) of the NC TAR. To the extent that the required information for this recommendation is not currently available, the Agency recommends that RAE fulfil these recommendations by the end of the provisional period for which an RPM has been adopted in preparation of the following period for which an RPM will need to be adopted.

- (81) First, establish the duration for which the applicable methodology is valid. In the understanding of the Agency, this period has been established by RAE for two years. The Agency recommends that RAE establishes the duration based on the expected network investments and on the period needed for the network utilisation and demand patterns to stabilise, namely once the forecasting of

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

capacity use could be more accurately established. The duration can be longer or shorter than two years.

- (82) Second, clearly identify the investments that will be allocated through tariffs during this period and the potential beneficiaries of these projects. The choice of RPM should reflect the topology of the network in addition to the approved investments for the period. The methodology should allow allocating, to the extent possible, the costs of these investments to the beneficiaries.
- (83) Third, assess the potential variability resulting from the capacity forecast and its impact on tariffs with a view to assessing the possibility of using a methodology providing locational signals..
- (84) Fourth, justify that the postage stamp methodology is a better choice than the CWD, at least based on the following considerations:
- That the tariffs applicable maintain cost-reflective ratio of costs dedicated to cross-system and to intra-system use. This is particularly relevant in view of the investments identified for the period for which tariffs will be applicable, as referred to in the previous paragraphs.
  - That no individual tariff at network points result in a significant and non-justifiable deviation compared to the previously applicable RPM or to the CWD.
- (85) Fifth, assess alternative methodologies using unit costs as a cost driver or any other cost driver capable of assigning, to the extent possible, the costs of the approved investments to the beneficiaries of the investments. The Agency recommends that RAE perform this analysis once the necessary information is available, in particular, in regards to the approved investments and contracted capacity.

### 4.3 Conditional capacity product on the Entry to IGB

- (86) Desfa proposes to apply a 10% discount for a conditional capacity product between the entry point from Alexandroupolis FSRU and the exit point to IGB. As reviewed in Section 4.1.2, the capacity from the entry point from Alexandroupolis FSRU is mostly used to transport gas to the exit to IGB. In addition, this capacity has limited access to the rest of the Greek network. The discount is applied on the basis of the offered capacity not having access to the virtual trading point (VTP).
- (87) In addition, RAE explained to the Agency that the duration of the conditional product is adapted to the entry into operation of the Alexandroupolis FSRU. This will happen in January 2024, resulting in a shorter period than the yearly capacity product. Consequently, the tariff for the conditional product is set based on the months during which transport of gas will be possible.
- (88) According to Article 4(2) of the NC TAR transmission tariffs may be set in a manner that takes into account the conditions for firm capacity products.
- (89) The Agency recommends that RAE clarify the time during which the capacity at these points will have limited access to the VTP. Given that additional infrastructure is planned to solve internal bottlenecks in the Greek network, RAE should clarify the period for which the conditional product will continue to be offered.

## 5. Compliance

### 5.1 Does the RPM comply with the requirements set out in Article 7?

- (90) Article 27(2)(b)(1) of the NC TAR requires the Agency to analyse whether the proposed reference price methodology complies with the requirements set out in Article 7 of the NC TAR. This article refers to Article 13 of Regulation (EC) 715/2009 and lists several requirements to take into account when setting the RPM. As these requirements overlap, in the remainder of this section, the Agency will take a closer look at the five elements listed in Article 7 of the NC TAR.
- (91) As the concepts of transparency, cost reflectivity, non-discrimination, cross-subsidisation and cross border trade are closely related the Agency concludes with an overall assessment. Special attention is paid to the allocation of revenues between domestic and transit routes.

#### 5.1.1 Transparency

- (92) **Article 7(a)** of the NC TAR requires that the RPM aims at ensuring that network users can reproduce the calculation of reference prices and their accurate forecast. The Agency finds the simplified tariff model meets the requirements laid out in Article 30(2)(b) of the NC TAR
- (93) The Agency considers that network users would be able to reproduce the calculation of reference prices. The Agency further considers that network users would be able to forecast reference prices.

#### 5.1.2 Cost-reflectivity

- (94) **Article 7(b)** of the NC TAR requires the RPM to take into account the actual costs incurred for the provision of transmission services, considering the level of complexity of the transmission network. In the specific case of Greece, this assessment should consider the changes in the network utilisation patterns and the approved investments for the period during which tariffs are being proposed.
- (95) In its 2019 Report on the Greek Tariff consultation<sup>34</sup>, the Agency recommended RAE to consider distance as a relevant cost driver for the RPM. In the consultation document, Desfa proposes to disregard this cost driver in favour of a postage stamp methodology.
- (96) As discussed in Section 4.2.9 above, Desfa does not provide sufficient quantitative evidence supporting this proposal. While the Agency considers the argumentation provided by Desfa conceptually valid, ACER cannot conclude that the proposed RPM, is compliant with the requirements on cost reflectivity. The compliance with the requirement on cost-reflectivity is subject to an appropriate justification based on the recommendations presented in Section 4.2.9.

---

<sup>34</sup> [https://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf](https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/Agency%20Report%20-%20analysis%20of%20the%20consultation%20document%20for%20Greece.pdf)

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

### 5.1.3 Cross-subsidisation and non-discrimination

- (97) **Article 7(c)** of the NC TAR requires the RPM to ensure non-discrimination and prevent undue cross-subsidisation.

#### 5.1.3.1 Cross-subsidisation

- (98) The compliance with the requirement on preventing undue-cross-subsidisation is subject to the same considerations and conclusion as the requirement on cost-reflectivity in Section 5.1.2 above.

#### 5.1.3.2 Non-discrimination

- (99) The Agency considers that the proposed methodology is compliant with the requirement on non-discrimination.

### 5.1.4 Volume risk

- (100) **Article 7(d)** of the NC TAR requires that the RPM ensures that significant volume risk related particularly to transports across an entry-exit system is not assigned to final customers within that entry-exit system. In Greece gas volumes transported to end-consumers are larger than gas transported to other networks.

- (101) The Agency considers that the proposed methodology is compliant with the requirement on volume risk.

### 5.1.5 Cross-border trade

- (102) **Article 7(e)** of the NC TAR requires that the RPM ensures that the resulting reference prices do not distort cross-border trade.

- (103) The compliance with the requirement on non-distorting cross-border trade is subject to the same considerations and conclusion as the requirement on cost-reflectivity in Section 5.1.2 above.

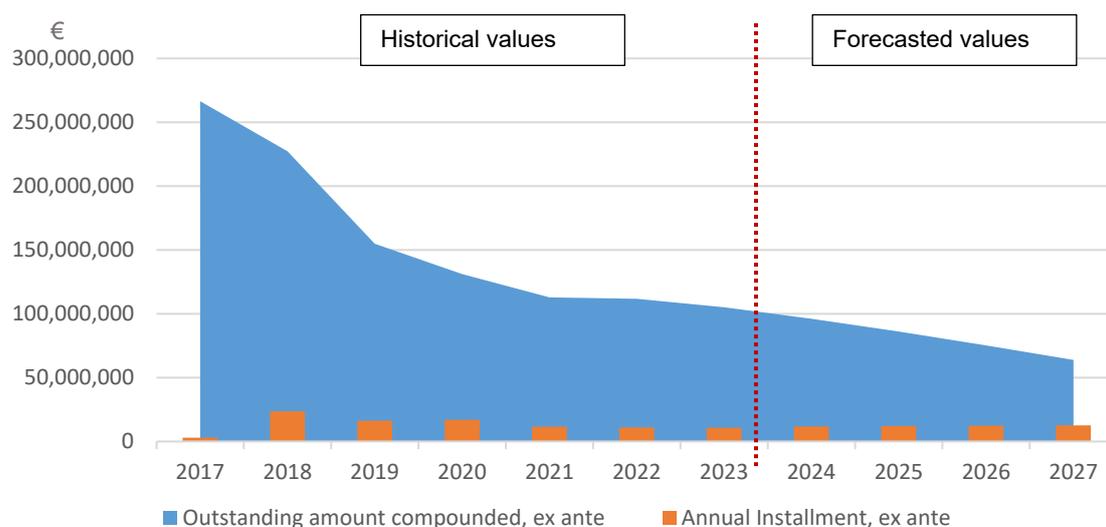
## 5.2 Are the criteria for setting commodity-based transmission tariffs as set out in Article 4(3) met?

- (104) Article 27(2)(b)(2) of the NC TAR requires the Agency to analyse whether the criteria for setting commodity-based transmission tariffs as set out in Article 4(3) are met.

- (105) As in its current methodology, the Greek tariff methodology foresees a commodity-based charge for complementary revenue recovery of the “Old Recoverable Difference”. Figure 5 below shows the outstanding amounts and annual instalments. The commodity-based charge represents the under-recovery for the period 2006-2016 and is calculated on historical flows. The charge applies only to domestic exit points because the under-recovery is the result of reduced domestic gas consumption compared to the forecasts.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

Figure 5: Old recovery difference for the Greek transmission Outstanding amounts and annual instalments. Past and projected values. Source: RAE.



- (106) The proposed complementary revenue recovery charge meets the criteria set in Article 4(3) as summarized in Figure 6 below. Moreover, the Agency comments that, according to Article 17 of the NC TAR, under- and over-recoveries should be minimised. Revenues should be recovered timely and significant differences between the tariffs of two consecutive tariff period should be avoided. The period to recover the unrecovered revenue for the period 2006-2016 will last 16 years.<sup>35</sup> RAE aims foremost at tariff stability. Still, as in its previous report, the Agency recommends RAE to re-evaluate the pace of the reconciliation regularly to minimise, to the extent possible, inter-temporal cross-subsidisation.

Figure 6 Criteria Article 4(3b)

Criteria	Y/N?
levied for the purpose of managing revenue under- and over-recovery	Yes, under-recovery for the period 2006-2016
calculated on the basis of forecasted or historical capacity allocations and flows, or both	Yes, historical flows
applied at points other than interconnection points	Yes, applicable only at domestic exit points
applied after the national regulatory authority has made an assessment of its cost-reflectivity and its impact on cross-subsidisation between interconnection points and points other than interconnection points	Yes

### 5.3 Are the criteria for setting non-transmission tariffs as set out in Article 4(4) met?

- (107) Article 27(2)(b)(3) of the NC TAR requires the Agency to analyse whether the criteria for setting non-transmission tariffs as set out in Article 4(4) are met. According to this Article, non-transmission tariffs shall be cost-reflective, non-discriminatory, objective and transparent and shall be charged to the beneficiaries of the non-transmission service.

<sup>35</sup> Agency Report 2019.

- (108) DESFA proposes to offer two non-transmission services: odourization and metrology<sup>36</sup>. The consultation document offers limited information on these services. This includes:
- Cost components.
  - Approximation of the applicable tariffs.
  - The “Allowed Revenues for Non-Transmission services” for the years 2024-2027. These amount to EUR 925,962 in 2024 up to EUR 977,829 in 2027 (around 0.6% of the allowed revenue of the NNGTS in 2024)<sup>37</sup>. The allowed revenue is aggregated for both non-transmission services without specifying the revenue related to each individual service.
- (109) The Agency notes that there is limited insight in the methodology used to calculate the tariffs. In addition, Desfa does not provide the share of revenue associated with the provision of each of these two services nor any information on the reconciliation of these services. These three items are a requirement according to Article 26(1)(c)(ii) of the NC TAR. In the absence of this information, the Agency cannot fully assess the compliance with the criteria referred to in Article 4(4) of the NC TAR. The Agency recommends that RAE include this information as part of its motivated decision.
- (110) In addition, the Agency notes that there are several services which Desfa does not include as part of the consultation. These include the connection fee, the capacity reservation charge in cases of release, transfer, surrender of transmission capacity or LNG regasification capacity, the charge for exceeding reserved capacity and the charge for the use of an exit point of the transmission system servicing a new customer. The Agency recommends that RAE assess these services as transmission or non-transmission. In the latter case, the requirements under Article 4(4) of the NC TAR are applicable.

## 6. Other comments

### 6.1 Revithoussa socialisation

- (111) Desfa proposes to allocate a part of the cost related to the Revithoussa LNG terminal to domestic exit points and IPs. The consultation includes a dedicated document assessing the amount of revenue proposed to be socialised: “*Cost benefit analysis for the socialisation of the Revithoussa LNG terminal*”. In addition, Desfa provided to the Agency on 26 May 2023 a second document extending the justification for the socialisation mechanism: “*Supplementary analysis*”. This document was not included as part of the consultation.

### 6.2 Desfa’s analysis of the socialisation of the LNG revenue

- (112) In the first document, Desfa argues that LNG imports to the Greek market are the marginal source of supply. Desfa argues that by socialising a part of the costs related to the marginal source of supply, the wholesale gas prices in the Greek market will decrease. Based on this rationale, Desfa

---

<sup>36</sup> Metrology is the service of calibrating metering equipment.

<sup>37</sup> Information included in the simplified tariff model.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

proposes to socialise 50% of the LNG terminal revenue, although it points out that socialising 100% of revenue would increase the welfare benefit for the market.

- (113) The second document provided by Desfa expands the justification for the socialisation of the LNG terminal revenue, which is based on several functions enabled by the terminal:
- It is the only gas storage possibility in the Greek System,
  - It is the main source of flexibility for both the TSO and the users,
  - It has highly contributed to the involvement of new suppliers in Greece and in the whole region enhancing gas competition,
  - The terminal has contributed to security of supply of South-East Europe and played a key role to reduce the pressure on gas markets in the recent context of the Russian invasion of Ukrainian.
- (114) Desfa argues that the socialisation of the LNG terminal contributes to enhancing security of supply, the balancing of the network, the increase of liquidity in the Greek market and the promotion of competition in the region.
- (115) Based on these benefits, Desfa argues that a 100% socialisation of the revenue of the LNG terminal would be justified. At the same time, DESFA proposes to limit the socialization level to 50%, which is the level already applied in the previous regulatory period. The socialisation levels have changed over time:
- 2006-2012: 95%<sup>38</sup>.
  - 2013-2019: 75%<sup>39</sup>.
  - 2020-2023: 50%<sup>40</sup>.

### 6.2.1 Revithoussa terminal utilisation levels

- (116) The Agency notes that the utilisation rates of the LNG terminal have changed in the recent years, as shown in Figure 7 below. The utilisation rate (Booked Capacity/Technical Capacity) has gradually increased in the last decade, from 20% in 2013, to a peak of 83% in 2022. For 2024, 72% of the regasification capacity has been booked, while capacity has been booked to a lesser extent for 2025 and 2026, with some additional bookings for 2027. Beyond 2027 there is limited contracted capacity

---

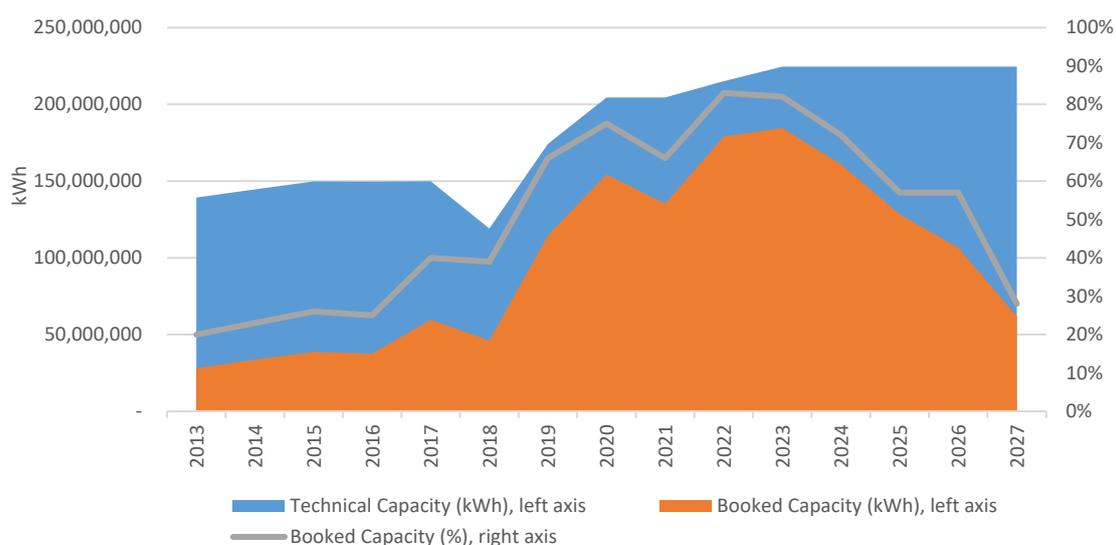
<sup>38</sup> Ministerial Decision.

<sup>39</sup> RAE's decision 722/2012.

<sup>40</sup> RAE's decision 566/2019

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

Figure 7: Technical and booked capacity at the Revithoussa LNG terminal, 2013-27. Source: Desfa.



- (117) DESFA did not have a congestion income for the Revithoussa terminal for capacity sold for 2022. In the annual auction that was performed in October 2022 for capacity sold in 2023 and in 2024, there was a congestion income of EUR 38,5 million for Revithoussa in addition to EUR 21,5 million for the entry point Agia Triada.

### 6.2.2 RAE decision

- (118) Following the 3 July 2023 capacity auction, RAE communicated to the Agency the decision to extend the socialisation for 50% of the LNG terminal's costs for one additional year and to further review the socialisation scheme after that time.

### 6.2.3 ACER's analysis of the socialisation of the LNG revenue

- (119) The Agency has assessed the application of transmission charges to allocate costs unrelated to transmission activities, including the LNG terminals, in the 2020 Tariff Implementation Monitoring Report<sup>41</sup> (TAR IMR Report).
- (120) The legal context applicable for these charges is set in Article 41(1)(f) which requires that NRAs ensure that *"there are no cross-subsidies between transmission, distribution, storage, LNG and supply activities"*. In this context, the Agency referred in the 2020 TAR IMR Report to the potential positive externalities resulting from gas infrastructure. There are cases where the price set by the market might not fully cover the costs of certain functions or services provided by infrastructure which can be deemed as necessary for the network. The Agency identified several examples where this situation could occur:
- In the absence of appropriate regulation, market parties could have an incentive to underestimate the risks of events with a low probability of occurrence (e.g. winter cold spell).
  - Prices at hubs might not always fully reflect the costs related to potential gas demand disruptions.

<sup>41</sup> [ACER Report The internal gas market in Europe: The role of transmission tariffs, Volume I](#), 6 April 2020, page 36.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- In relatively isolated markets, the preservation of an additional and marginal source of gas (such as an LNG terminal) increases the competitive pressure on the incumbent supplier, even at a low usage rate.
- (121) In the Report<sup>42</sup>, the Agency referred to negative effects that could result from the application of these network charges.
- First, they can lead to undue cross-subsidies between gas consumers: not all gas consumers benefit from positive externalities to the same extent, yet the way in which costs are recovered may not reflect such differences.
  - Second, these charges should be proportionate with the incentives for infrastructure operators to maintain cost-efficiency and to avoid the financing of unnecessary capacity.
  - Third, they could distort competition between gas sources: these mechanisms may have an impact on competition between suppliers, by favouring one supplier or one gas source over other alternatives.
- (122) When assessing the socialisation of the Revithoussa LNG terminal, the Agency recommends that RAE consider the following:
- Identify the positive externalities of the Revithoussa LNG terminal that are considered necessary for the Greek network.
  - Establish how these positive externalities necessarily require the socialisation of the terminal's allowed revenue.
  - Explain how the level of socialisation takes into account the utilisation rate of the terminal. The Agency here refers, as an example, to the schemes applied in Italy and Lithuania. In these cases, the socialisation of the terminals' revenue is only applied when the utilisation rates of the relevant infrastructure drop below certain thresholds. In this way the socialisation scheme is intended to ensure the sustainability of the infrastructure and is not triggered in periods where the infrastructure utilisation ensures the recovery of the allowed revenue. For this purpose, the contracted capacity of the terminal across different time horizons should be considered.
  - Clarify the conditions under which network infrastructure in the Greek network, that could also support the positive externalities, is eligible for such a socialisation scheme. These conditions should take into account, amongst other factors, the third party access regulation and applicable exemptions, where relevant.
  - Finally, assess the potential negative effects of the socialisation scheme in line with the points described in paragraph (121).
- (123) Regarding the allocation of part of the cost related to the Revithoussa LNG terminal to all domestic exit points and IPs, the Agency remarks that this charge is also applied to the exit to IGB. The Agency notes that there is currently no firm capacity between the Revithoussa LNG terminal and the exit to IGB. This is described in Section 4.1 and Annex 1.2. Firm capacity for this route will be available after the completion of the Karperi – Komotini high pressure pipeline.
- (124) The Agency recommends that RAE only apply the socialisation levy to the exit to IGB following a justification which establishes whether this exit point benefits, and if so, to what extent, from the positive externalities of the LNG socialisation mechanism.

---

<sup>42</sup> See previous footnote.

### 6.3 Risk of stranded assets

- (125) The Agency recently commissioned a report assessing the risk of decommissioning in natural gas transmission networks<sup>43</sup>.
- (126) The Agency notes the investments in the Greek network are significant as detailed in Annex 1. For this reason, the Agency invites RAE to:
- Assess the planned investments against the EU decarbonisation targets<sup>44</sup>, taking into account that gas demand is expected to decrease over time.
  - Adopt depreciation times to recover the cost of investments that ensure the sustainability of the network on the short to long term in addition to the affordability of tariffs for end consumers<sup>45</sup>.
  - Assess the impact of approved and planned investments on future transmission tariffs<sup>46</sup>

---

<sup>43</sup><https://www.acer.europa.eu/Media/News/Documents/Future%20Regulation%20of%20Natural%20Gas%20Networks%20-%20Final%20Report%20DNV.pdf>

<sup>44</sup> See footnote 11.

<sup>45</sup> See footnote 12.

<sup>46</sup> See footnote 13.

## Annex 1: Approved and planned investments in the Greek transmission network

- (127) The following section assesses the approved and planned investments to the Greek transmission network. The section identifies investment projects that could be included in Desfa's RAB during the period for which tariffs are proposed in the consultation. The planned use of these projects, to supply domestic consumers or to export gas volumes, is an important criterium to assess the choice of RPM. The annex is equally intended to bring attention over the importance of locational signals, which is discussed in section 4.2.3 of this report. The expansion of the network should be based on accurate locational signals to support the efficient planning and use of the infrastructure. The Agency notes that the Section is based on information provided to the Agency by Desfa.

### Annex 1.1. Investment requirements to enable exit flows to IGB

- (128) This section describes the status of pressure levels in the Greek network that have led to the need of installing an additional compressor station in the Komotini (North-East part of the Greek network). The purpose of this compressor station is to ensure exit flows via IGB to Bulgaria.
- (129) In case of gas flows from West to East, the minimum guaranteed pressure level at the Komotini node is approx. 30 bar. This pressure level does not allow any flows from the Western or Southern part of Greece towards IGB in the North-East (hence, also not from Revithoussa LNG terminal to IGB). In the opposite direction, the pressure level in case of gas flows from East to West, including to IGB, is provided by the Turkish network. However, this pressure level is not sufficient to ensure the transport of gas volumes to IGB.
- (130) Initially, export flows from the Greek network to IGB would be provided by a small compressor planned on the Greek-Turkish border. This plan dates back to a 2010 project in the TYNDP. This compressor would allow flowing 3 bcm/a. For IGB to increase its capacity to 5 bcm/a additional compressor power would be needed.<sup>47</sup> In January 2024, the exempted Alexandroupolis FSRU terminal will enter into operation with the primary aim of exporting gas to IGB.<sup>48</sup>
- (131) In this context, in December 2021 IGB communicated to Desfa the need for an increase in the pressure requirements on the IGB network from 38 bar to at least 60 bar for the 3 bcm/a capacity and 70 bar for the 5bcm/a capacity. Under this new requirement, the planned compressor in the Greek-Turkish network, would not allow export flows to IGB from the Greek transmission network. Under those circumstances, the compression capacity of the Greek transmission network had to be enhanced, with the view to permit the smooth operation of the new IGB interconnector.
- (132) It should be noted that meanwhile the Russian invasion to Ukraine started, putting additional pressure on import flows from LNG terminals to transport gas to inland markets, both European

---

<sup>47</sup> The exemption decision for IGB stated that IGB would have to provide the necessary means. Joint Exemption Decision of the Greek and Bulgarian Regulators for IGB. The Greek Decision is 768/2018, published on the OJ B' 4052/17.09.2018.

<sup>48</sup> This LNG terminal is exempted from third party access. RAE Decision 1580/2020, OJ B' 5941/31.12.2020

and non-European. The Repower EU plan sets as of May 2022 the objective of expanding the IGB interconnection to 5 bcm, for which additional compressor power and capacity would be required.<sup>49</sup>

- (133) To solve this situation, the TYDP foresees two investments, a larger compressor station in the Eastern section of the Greek network and the upgrade of the pipeline segment connecting the Western and Eastern sections of the Greek network (the latter is assessed in the next section). This setting allows gas to be transported to IGB from the Greek network, including from the Revithoussa LNG terminal in the South, and solves the need for compression power to export gas via IGB to Bulgaria.

### Annex 1.2. Compression station to provide pressure to the Greek exit to IGB

- (134) In January 2022, Desfa proposed to build a compressor station in Komotini after the pressure change notification from IGB in December 2021. The compressor is composed of three plus one units. The first two units will allow flowing 3 bcm/a to IGB, with the third unit allowing to increase the capacity to 4.8 bcm/a (as foreseen in the Repower EU) and the fourth unit will serve as capacity reserve. The initial three compression units, currently under construction, will be operational by October 2024, while the fourth unit is planned to be operational by mid-2025.
- (135) The costs of the Komotini compressor amount to EUR 111 million. A part of these costs, EUR 11 million, are dedicated to connect the compressor to the power grid, since the compressor station is electrically driven.
- (136) The planned network expansion comprises several stages.
- From January 2024, gas can be transported to IGB from the Alexandroupolis FSRU in the East of the Greek network based on the compression power provided by the FSRU terminal itself. At the same time, TAP can also transport gas to IGB, although this is independent of the Greek system.
  - From October 2024 until the end of the regulatory period, by end of 2027, the same flow pattern remains, although the transport of gas from the Alexandroupolis FSRU to IGB will be powered by the Komotini compressor and not by the FSRU compressors. In addition, gas quantities to IGB from the rest of the Greek network could be provided, but only on an interruptible basis.
  - From 2028 onwards, after the expansion of the pipeline connecting the West and East sections of the Greek network, gas to IGB can be delivered from Alexandroupolis FSRU as described above, and can be delivered on firm basis from the rest of the Greek network including from the Revithoussa LNG terminal.
- (137) Regarding the beneficiaries of the Komotini compressor, this infrastructure will be used for exporting gas to IGB and to potentially increase flows from the Eastern entry points towards the West.

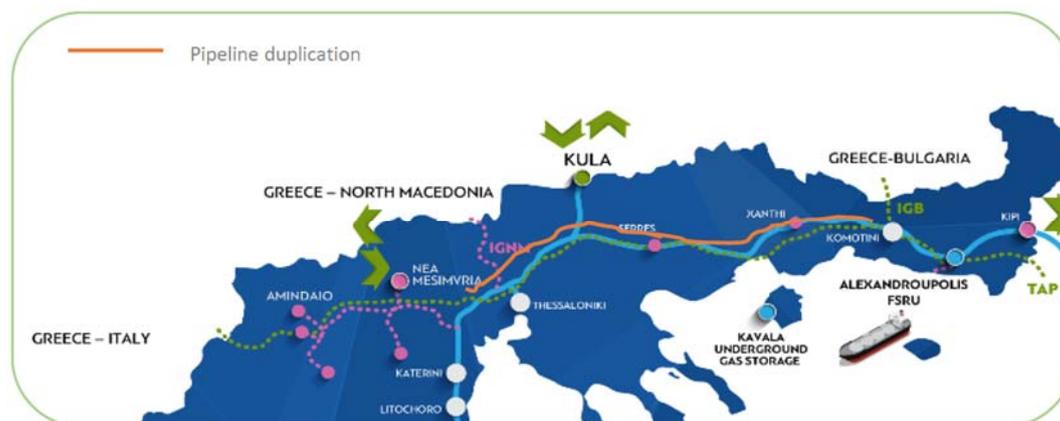
---

<sup>49</sup> COM(2022) 230 final ANNEXES 1 to 3. ANNEXES to the COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS REPowerEU Plan

### Annex 1.3. Duplication of the Karperi – Komotini high pressure branch

- (138) This section describes the expansion of the Karperi – Komotini pipeline branch. The purpose of this network expansion is to enable the offering of firm capacity from the West of the Greek network to the East, with the main purpose of exporting gas to IGB and of supplying potential new demand in the Greek network. Figure 8 below provides a map showing the location of the expansion.

Figure 8 Duplication of Karperi-Komotini HP Branch



- (139) The section connecting the West and East parts of the Greek network is congested and, as a result, gas cannot be transported on firm basis from West to East. The Karperi – Komotini pipeline branch is proposed to resolve this internal bottleneck.
- (140) The project is a 215 km pipeline expected to cost EUR 290 million and it is foreseen to enter into operation by the end of 2027. It has been included in the proposed TYDP 2023-2032 from DESFA and has been approved by RAE on the 30 of June 2023. The investments will start being included in the RAB as of August 2024. This implies that the costs would already need to be allocated prior to the project entering into operation.
- (141) The project enables firm capacity to IGB of up to 2 bcm/a to all users of the system from all points of the system. It allows transporting gas from the Revithoussa LNG terminal and potentially from other planned FSRUs (Dioriga FSRU, Volos FSRU, Thessaloniki FSRU) to IGB (West to East flows), and from the Alexandroupolis FSRU to the West of the Greek network (East to West flows).
- (142) From a tariff perspective, the infrastructure can be used both to export gas to IGB and to supply domestic end points. The project allows for other functionalities which benefit the Greek end users, such as greater SoS in the network.

### Annex 1.4. Alexandroupolis FSRU

- (143) This section describes the connection of the Alexandroupolis FSRU to the Greek transmission network and the link between this FSRU and IGB for exporting gas to Bulgaria. Figure 2 above provides a map with the location of the FSRU.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- (144) Desfa has a 20% participation in the Alexandroupolis FSRU. The infrastructure was built for the purpose of exporting gas mainly via IGB to Bulgaria. Paragraph (136) above describes the conditions under which gas can flow to IGB over time.
- (145) A discount (10%) on the conditional product FSRU Alexandroupolis to IGB is offered (based on Article 4(2) of the TAR NC), as the capacity at these points does not include access to the VTP. This is described in Section 4.3.
- (146) Given the expected cross-border use of this infrastructure, the tariffs applicable to the entry from the Alexandroupolis FSRU and to the exit to IGB should reflect the additional costs of the Komotini compressor to transport gas between these two points.

### Annex 1.5. Duplication of the HP branch Patima – Livadeia and Dioryga FSRU

- (147) This section describes the expansion of the Patima – Livadeia pipeline branch. The purpose of this network expansion is to provide firm capacity to the Dioryga FSRU that could be built in the region. Figure 9 below provides a map which shows the location of the expansion.

Figure 9 Duplication of the HP branch Patima - Livadeiatitle.



- (148) The project has been approved by RAE on the 30 June 2023, under the condition of an FID for the Dioryga Gas FSRU, which has not been taken yet. As such, the relevant costs will not be included in the tariffs of the following regulatory period.
- (149) These costs fall outside the upcoming regulatory period.

### Annex 1.6. Interconnection point with North Macedonia

- (150) This section describes the project for establishing an interconnection point with North Macedonia. The purpose of this network expansion is to provide export capacity to transport gas from Greece to North Macedonia.
- (151) The interconnection point to North Macedonia is built in two parts, one in Greece and the other in North Macedonia, as part of the transmission grids in both countries. Third party access rules are applicable in both countries as well as the NC TAR.

- (152) Following a positive market test carried out in Q2 2023, the project has been incorporated in the TYDP. The capacity reservation agreement has been signed and an approval/FID is expected in July 2023.
- (153) The project is estimated at a cost of EUR 67 million and is expected to be operational in 2025. It will provide ~ 2.65 mcm/day export capacity.

## Annex 2: Trans Adriatic Pipeline (TAP) and Gas Interconnector Greece–Bulgaria (IGB)<sup>50</sup>

### Annex 2.1. Trans Adriatic Pipeline (TAP)

- (154) TAP expands between the Greek-Turkish borders, where it is connected with TANAP, and Italy. TAP crosses Northern Greece, Albania and the Adriatic Sea before reaching Southern Italy.
- (155) The project was awarded an exemption from certain provisions of Directive 73/2009/EC, following the joint decision of the NRAs of Greece, Albania and Italy<sup>51</sup> for 10bcm/a capacity distributed as follows: 8bcm/a to Italy, 1 bcm/a to Greece and 1 bcm/a to Bulgaria.
- (156) The volumes delivered to Bulgaria are crossing Greece and IGB. Operations started in 2021 although IGB was not operational until 2022. During this time, flows were delivered from TAP to the Nea Messimvria entry point and through the Greek network directed to Bulgaria through the Sidirokastro Exit Point.
- (157) While the exemption to supply Bulgaria is applicable for 1 bcm/a capacity. TAP is in competition with the Greek gas system for the supply of IGB.

### Annex 2.2. The Gas Interconnector Greece–Bulgaria (IGB)

- (158) IGB is an interconnector between Bulgaria and Greece built for the purpose of connecting the national gas transmission network of Greece near the area of Komotini with the Bulgarian national gas transmission network near the area of Stara Zagora. A separate, additional interconnection, between TAP and IGB is also operational at the Komotini area. The pipeline has a length of 182 km and a capacity of 3 bcm/a which can be expanded to 5 bcm/a.
- (159) There are two different access to IGB from the Greek side, via TAP and via the Greek network. The latter becomes operational from January 2024 from the Alexandroupolis FSRU as previously explained<sup>52</sup>. For the time being, some reverse (backhaul) flows happen between TAP, Greece,

---

<sup>50</sup> This section is based on input provided to the Agency by Desfa.

<sup>51</sup> RAE Decision 269/2013, ARERA Decision 249/2013/R/Gas and ERE Decision 64/2013.

<sup>52</sup> See Section 4.1 and Annex 1.2.

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

Bulgaria, where deliveries through TAP to the Greek network are swapped with deliveries from TAP to IGB.

- (160) The IGB business model is based on the exempted TAP capacities, while the remainder of the capacity, which is not exempted, is be offered on competing basis to imports from both, TAP and the Greek network. The capacity at the exit to IGB on the Greek network is not subject to any exemptions.
- (161) The export volumes from the Greek network to IGB are transported from the Alexandroupolis FSRU until the end of 2027. From there onwards, additional export volumes to IGB can come from the Revithoussa LNG terminal or from other FSRUs in the country. The consultation proposes a conditional capacity product between these two points (see section 4.3).

## Annex 3: Legal framework

(162) Article 27 of the NC TAR reads:

1. *Upon launching the final consultation pursuant to Article 26 prior to the decision referred to in Article 27(4), the national regulatory authority or the transmission system operator(s), as decided by the national regulatory authority, shall forward the consultation documents to the Agency.*

2. *The Agency shall analyse the following aspects of the consultation document:*

*(a) whether all the information referred to in Article 26(1) has been published;*

*(b) whether the elements consulted on in accordance with Article 26 comply with the following requirements:*

*(1) whether the proposed reference price methodology complies with the requirements set out in Article 7;*

*(2) whether the criteria for setting commodity-based transmission tariffs as set out in Article 4(3) are met;*

*(3) whether the criteria for setting non-transmission tariffs as set out in Article 4(4) are met.*

3. *Within two months following the end of the consultation referred to in paragraph 1, the Agency shall publish and send to the national regulatory authority or transmission system operator, depending on which entity published the consultation document, and the Commission the conclusion of its analysis in accordance with paragraph 2 in English.*

*The Agency shall preserve the confidentiality of any commercially sensitive information.*

4. *Within five months following the end of the final consultation, the national regulatory authority, acting in accordance with Article 41(6)(a) of Directive 2009/73/EC, shall take and publish a motivated decision on all items set out in Article 26(1). Upon publication, the national regulatory authority shall send to the Agency and the Commission its decision.*

5. *The procedure consisting of the final consultation on the reference price methodology in accordance with Article 26, the decision by the national regulatory authority in accordance with paragraph 4, the calculation of tariffs on the basis of this decision, and the publication of the tariffs in accordance with Chapter VIII may be initiated as from the entry into force of this Regulation and shall be concluded no later than 31 May 2019. The requirements set out in Chapters II, III and IV shall be taken into account in this procedure. The tariffs applicable for the prevailing tariff period at 31 May 2019 will be applicable until the end thereof. This procedure shall be repeated at least every five years starting from 31 May 2019.*

(163) Article 26(1) of the NC TAR reads:

1. *One or more consultations shall be carried out by the national regulatory authority or the transmission system operator(s), as decided by the national regulatory authority. To the extent possible and in order to render more effective the consultation process, the consultation document should be published in the English language. The final consultation prior to the decision referred to in Article 27(4) shall comply with the requirements set out in this Article and Article 27, and shall include the following information:*

*(a) the description of the proposed reference price methodology as well as the following items:*

*(i) the indicative information set out in Article 30(1)(a), including:*

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

- (1) *the justification of the parameters used that are related to the technical characteristics of the system;*
  - (2) *the corresponding information on the respective values of such parameters and the assumptions applied.*
- (ii) *the value of the proposed adjustments for capacity-based transmission tariffs pursuant to Article 9;*
- (iii) *the indicative reference prices subject to consultation;*
- (iv) *the results, the components and the details of these components for the cost allocation assessments set out in Article 5;*
- (v) *the assessment of the proposed reference price methodology in accordance with Article 7;*
- (vi) *where the proposed reference price methodology is other than the capacity weighted distance reference price methodology detailed in Article 8, its comparison against the latter accompanied by the information set out in point (iii);*
- (b) *the indicative information set out in Article 30(1)(b)(i), (iv), (v);*
- (c) *the following information on transmission and non-transmission tariffs:*
  - (i) *where commodity-based transmission tariffs referred to in Article 4(3) are proposed:*
    - (1) *the manner in which they are set;*
    - (2) *the share of the allowed or target revenue forecasted to be recovered from such tariffs;*
    - (3) *the indicative commodity-based transmission tariffs;*
  - (ii) *where non-transmission services provided to network users are proposed:*
    - (1) *the non-transmission service tariff methodology therefor;*
    - (2) *the share of the allowed or target revenue forecasted to be recovered from such tariffs;*
    - (3) *the manner in which the associated non-transmission services revenue is reconciled as referred to in Article 17(3);*
    - (4) *the indicative non-transmission tariffs for non-transmission services provided to network users;*
- (d) *the indicative information set out in Article 30(2);*
- (e) *where the fixed payable price approach referred to in Article 24(b) is considered to be offered under a price cap regime for existing capacity:*
  - (i) *the proposed index;*
  - (ii) *the proposed calculation and how the revenue derived from the risk premium is used;*
  - (iii) *at which interconnection point(s) and for which tariff period(s) such approach is proposed;*
  - (iv) *the process of offering capacity at an interconnection point where both fixed and floating payable price approaches referred to in Article 24 are proposed.*

(164) Article 7 of the NC TAR reads:

*The reference price methodology shall comply with Article 13 of Regulation (EC) No 715/2009 and with the following requirements. It shall aim at:*

- a) *enabling network users to reproduce the calculation of reference prices and their accurate forecast;*
- (b) *taking into account the actual costs incurred for the provision of transmission services considering the level of complexity of the transmission network;*
- (c) *ensuring non-discrimination and prevent undue cross-subsidisation including by taking into account the cost allocation assessments set out in Article 5;*

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

*(d) 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;*

*(e) ensuring that the resulting reference prices do not distort cross-border trade.*

(165) Article 13 of Regulation (EC) No 715/2009 reads:

*1. Tariffs, or the methodologies used to calculate them, applied by the transmission system operators and approved by the regulatory authorities pursuant to Article 41(6) of Directive 2009/73/EC, as well as tariffs published pursuant to Article 32(1) of that Directive, shall be transparent, take into account the need for system integrity and its improvement and reflect the actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator and are transparent, whilst including an appropriate return on investments, and, where appropriate, taking account of the benchmarking of tariffs by the regulatory authorities. Tariffs, or the methodologies used to calculate them, shall be applied in a nondiscriminatory manner.*

*Member States may decide that tariffs may also be determined through market-based arrangements, such as auctions, provided that such arrangements and the revenues arising therefrom are approved by the regulatory authority.*

*Tariffs, or the methodologies used to calculate them, shall 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.*

*Tariffs for network users shall be non-discriminatory and set separately for every entry point into or exit point out of the transmission system. Cost-allocation mechanisms and rate setting methodology regarding entry points and exit points shall be approved by the national regulatory authorities. By 3 September 2011, the Member States shall ensure that, after a transitional period, network charges shall not be calculated on the basis of contract paths.*

*2. Tariffs for network access shall neither restrict market liquidity nor distort trade across borders of different transmission systems. Where differences in tariff structures or balancing mechanisms would hamper trade across transmission systems, and notwithstanding Article 41(6) of Directive 2009/73/EC, transmission system operators shall, in close cooperation with the relevant national authorities, actively pursue convergence of tariff structures and charging principles, including in relation to balancing.*

(166) Article 4(3) of the NC TAR reads:

*3. The transmission services revenue shall be recovered by capacity-based transmission tariffs. As an exception, subject to the approval of the national regulatory authority, a part of the transmission services revenue may be recovered only by the following commodity-based transmission tariffs which are set separately from each other:*

*(a) a flow-based charge, which shall comply with all of the following criteria:*

- (i) levied for the purpose of covering the costs mainly driven by the quantity of the gas flow;*
- (ii) calculated on the basis of forecasted or historical flows, or both, and set in such a way that it is the same at all entry points and the same at all exit points;*
- (iii) expressed in monetary terms or in kind.*

*(b) a complementary revenue recovery charge, which shall comply with all of the following criteria:*

- (i) levied for the purpose of managing revenue under- and over-recovery;*
- (ii) calculated on the basis of forecasted or historical capacity allocations and flows, or both;*

## ACER ANALYSIS OF THE CONSULTATION DOCUMENT ON THE GAS TRANSMISSION TARIFF STRUCTURE FOR GREECE

*(iii) applied at points other than interconnection points;*

*(iv) applied after the national regulatory authority has made an assessment of its cost-reflectivity and its impact on cross-subsidisation between interconnection points and points other than interconnection points.*

(167) Article 4(4) of the NC TAR reads:

*4. The non-transmission services revenue shall be recovered by non-transmission tariffs applicable for a given nontransmission service. Such tariffs shall be as follows:*

*(a) cost-reflective, non-discriminatory, objective and transparent;*

*(b) charged to the beneficiaries of a given non-transmission service with the aim of minimising cross-subsidisation between network users within or outside a Member State, or both.*

*Where according to the national regulatory authority a given non-transmission service benefits all network users, the costs for such service shall be recovered from all network users.*

## Annex 4: List of abbreviations

Acronym	Definition
<b>ACER</b>	Agency for the Cooperation of Energy Regulators
<b>ENTSOG</b>	European Network of Transmission System Operators for Gas
<b>NRA</b>	National Regulatory Authority
<b>TSO</b>	Transmission System Operator
<b>EC</b>	European Commission
<b>EU</b>	European Union
<b>MS</b>	Member State
<b>NC TAR</b>	Network code on harmonised transmission tariff structures for gas
<b>IP</b>	Interconnection Point
<b>VIP</b>	Virtual Interconnection Point
<b>RPM</b>	Reference Price Methodology
<b>CWD</b>	Capacity Weighted Distance
<b>CAA</b>	Cost Allocation Assessment
<b>RAB</b>	Regulated Asset Base
<b>OPEX</b>	Operational Expenditures
<b>CAPEX</b>	Capital Expenditures