



**Demand Assessment Report  
for the Call of Interest  
for future capacity at the NNGS**

**November 2023**



This report was conducted by:

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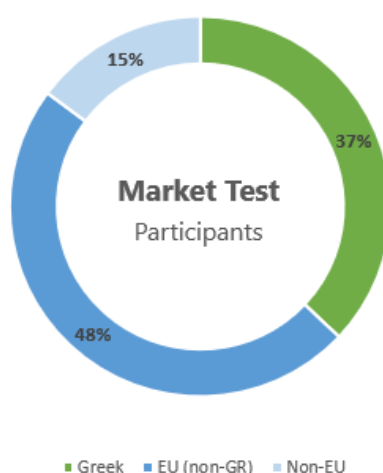
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## A. INTRODUCTION

On March 29, 2023, DESFA launched a Call of Interest, during which interested parties were asked to submit their non-binding requests for the booking of future capacity in the Greek National Natural Gas System (NNGS). DESFA, through this Call of Interest, intended to collect interest for the booking of capacity, from all interested parties. The aim is to design the necessary technical upgrades of the NNGS, which will be able to cover the needs of more than one interested party, thus reducing the cost per interested party and increasing the chances of implementation of these projects.

## B. NON-BINDING DEMAND INDICATIONS

The Non-Binding Requests Deadline was set for the 1st of June 2023. Until the Non-Binding Request Deadline, 27 companies submitted their requests, of which 85% are based in the EU (37% in Greece) and the rest in third countries:



*Table 1: Composition of the companies that submitted non-binding requests.*

Regarding the points of the NNGS, capacity was requested at all Interconnection Points between the NNGS and neighboring gas transmission systems. In addition, there was also significant interest for capacity at new entry/exit points.

More specifically, interested parties requested firm capacity at eight entry points of the NNGS. Four of them are already operational while another four are currently at different maturity levels. The list of the entry points where **firm entry capacity** was requested, is given below:

A/A	Entry Point
1	Sidirokastro
2	Nea Mesimvria

3	Kipi
4	Agia Triada
5	Argo FSRU
6	Alexandroupoli FSRU (Amphitriti)
7	Thessaloniki FSRU
8	Dioriga Gas FSRU

*Table 2: Entry points for which at least one non-binding request was submitted.*

In addition, interested parties requested firm capacity at thirty exit points of the NNGS. Most of them are currently in operation. Four of the exit points are Interconnection Points (IPs) with adjacent gas transmission systems. The rest of the exit points where firm exit capacity was requested refer either to connections with distribution networks or direct connections to gas consumers (i.e. power producers). The list of the exit points where **firm exit capacity** was requested is given below:

A/A	Exit point
1	Sidirokastro
2	Nea Mesimvria
3	Komotini (IGB)
4	Evzoni
5	Thisvi
6	Energiaki Thessalonikis
7	Lavrio
8	Komotini PPC
9	Aliveri PPC
10	Megalopoli PPC
11	Larisa Thermoelectric (new exit point)
12	Thessaloniki Elpedison (new exit point)
13	Thessaloniki
14	Drama
15	Kilkis
16	Serres
17	Athens
18	Larissa
19	Oinofyta
20	Volos
21	Kokkina
22	Lamia
23	Spata
24	Katerini
25	Karditsa

26	Trikala
27	Farsala
28	Alexandroupoli
29	Xanthi
30	Kosmio

*Table 3: Exit points for which at least one non-binding request was submitted.*

Finally, DESFA also allowed interested parties to submit linked non-binding requests that include one entry and one exit point. Linked capacity was requested for entry and exit for which firm capacity was also requested. It must be also highlighted that for all linked bids the entry point refers to an LNG entry point (either Revithoussa LNG Terminal or one of the FSRU projects), highlighting the importance of LNG in the region. The list of the **linked bids** that include both entry and exit points are given in the table 3 below:

A/A	Linked points
1	Entry Agia Triada - Exit Sidirokastro
2	Entry Agia Triada - Exit Nea Mesimvria
3	Entry Agia Triada - Exit Kipi
4	Entry Agia Triada - Exit Komotini (IGB)
5	Entry Agia Triada - Exit Oinofyta
6	Entry Argo FSRU - Exit Sidirokastro
7	Entry Argo FSRU - Exit Nea Mesimvria
8	Entry Argo FSRU - Exit Komotini (IGB)
9	Entry Argo FSRU - Exit Evzoni
10	Entry Argo FSRU - Exit Thisvi
11	Entry Argo FSRU - Exit Komotini PPC
12	Entry Argo FSRU - Exit Heron
13	Entry Argo FSRU - Exit Heron II
14	Entry Argo FSRU - Exit Larissa Thermoelectric
15	Entry Argo FSRU - Exit Industrial Larissa
16	Entry Argo FSRU - Exit Thessaloniki
17	Entry Argo FSRU - Exit Larisa
18	Entry Argo FSRU - Exit Oinofyta
19	Entry Argo FSRU - Exit Volos
20	Entry Argo FSRU - Exit Kavala
21	Entry Alexandroupoli FSRU (Amphitriti) - Exit Sidirokastro
22	Entry Alexandroupoli FSRU (Amphitriti) - Exit Nea Mesimvria
23	Entry Alexandroupoli FSRU (Amphitriti) - Exit Komotini (IGB)
24	Entry Alexandroupoli FSRU (Amphitriti) - Exit Evzoni

*Table 4: Pairs of points for which at least one linked non-binding request was submitted*

### C. ASSESSMENT OF THE NON-BINDING REQUESTS

All submitted non-binding requests refer to annual capacity products. As a first step DESFA excluded from the next phase of the assessment those requests that include capacity requests lower than the existing available capacity, already offered by DESFA, at the respective points. To this end, DESFA compared the maximum annual capacity requested per point with the technical capacity at the respective points. In case the already available capacity is greater than the requested capacity, the relevant point is excluded from the assessment phase. That means that in this case there is already available capacity that can be booked by the interested parties, without the need for any expansion of the transmission system.

The table below shows the maximum requested annual capacity per each of the eight entry points where firm entry capacity was requested, as well as the respective technical capacity:

Point	Max. annual requested capacity (MWh/d/y)	Technical capacity (MWh/d/y)
1 Sidirokastro	73.000	120.362
2 Nea Mesimvria	150.000	53.368
3 Kipi	72.000	*
4 Agia Triada	90.520	224.592
5 Argo FSRU	68.491	N/A
6 Alexandroupoli FSRU (Amphitrite)	118.546	***
7 Thessaloniki FSRU	100.000	N/A
8 Dioriga Gas	15.000	**
* Kipi Entry point will be closed in 2024 and its technical capacity for 2025 onwards will be calculated by DESFA at a later stage. Until the end of 2023 at Kipi entry point only conditional capacity is offered equal to 46.000 MWh/d/y.		
** The capacity at Dioryga Gas entry point will be announced after the signing of the relevant Connection Agreement between DESFA and Dioryga Gas.		
*** Commercial operation of Amphitrite entry point is pending.		

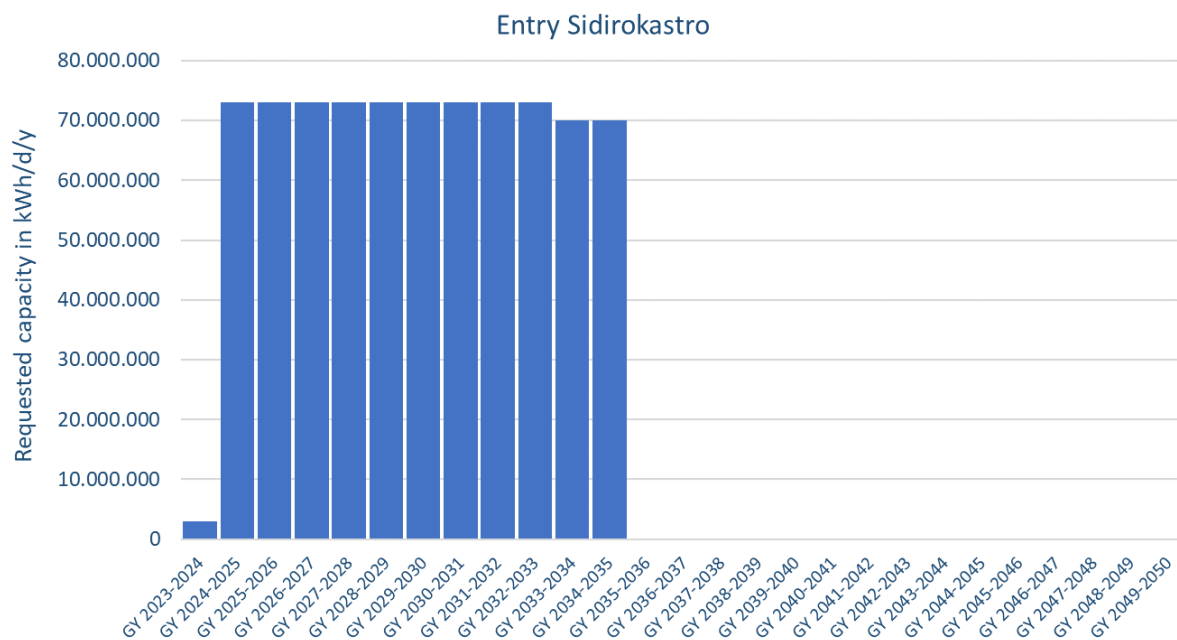
*Table 5: Maximum requested and available firm capacity for NNGTS entry points.*

From the figures in Table 5 it is obvious that for all entry points where firm capacity was requested, except Revithoussa LNG terminal, there is potential interest that may lead to necessary expansions of the system.

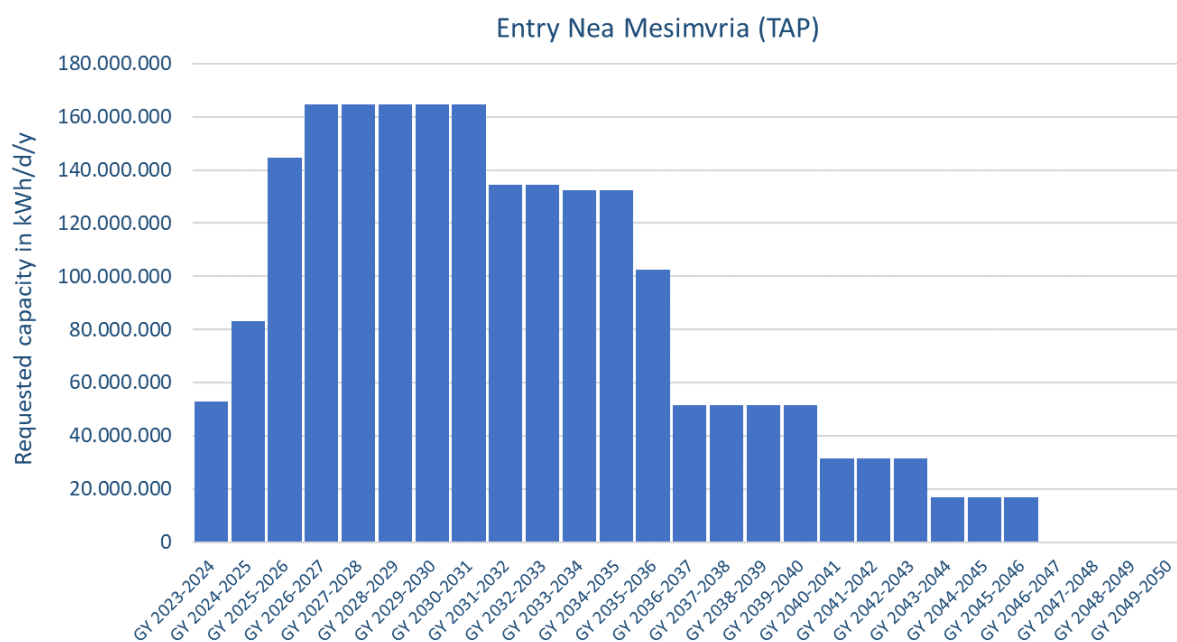
The requested capacity at Agia Triada entry point does not exceed the offered capacity through the LNG auctions (the maximum capacity is offered) and thus there is no need for additional expansion of the system to accommodate the requested capacity.

Regarding the new FSRU projects at Thessaloniki and Volos areas, no firm capacity can be allocated without the prior realization of significant reinforcement projects of NNGTS transmission capacity.

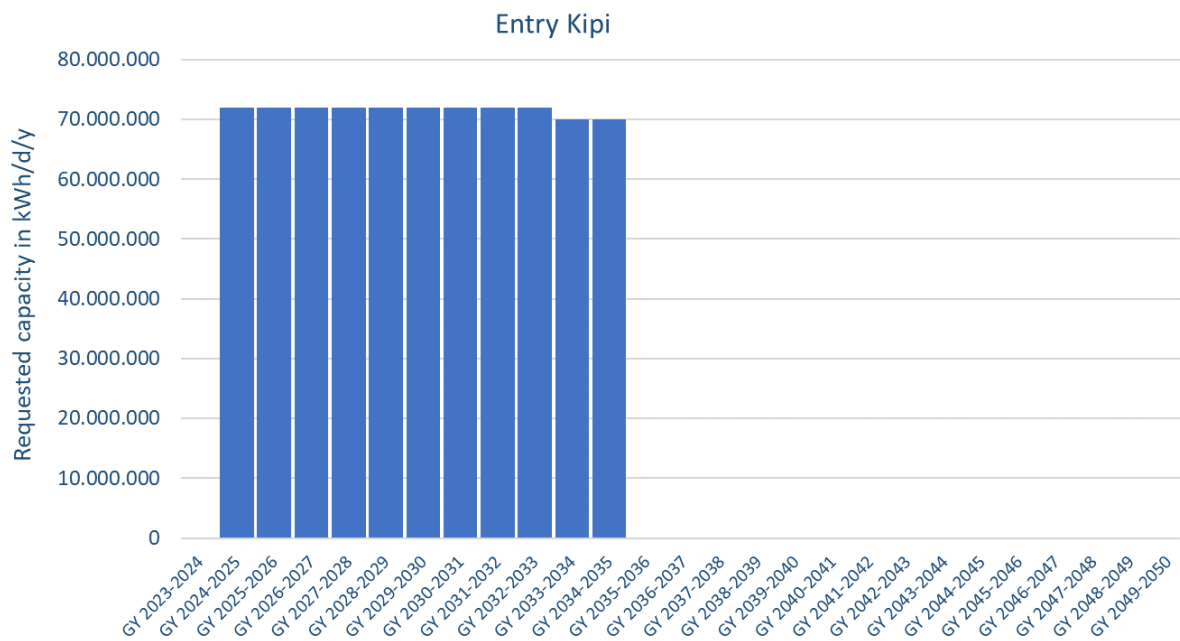
The non-binding requests for firm capacity, at entry points, throughout the years, are given in the graphs below:



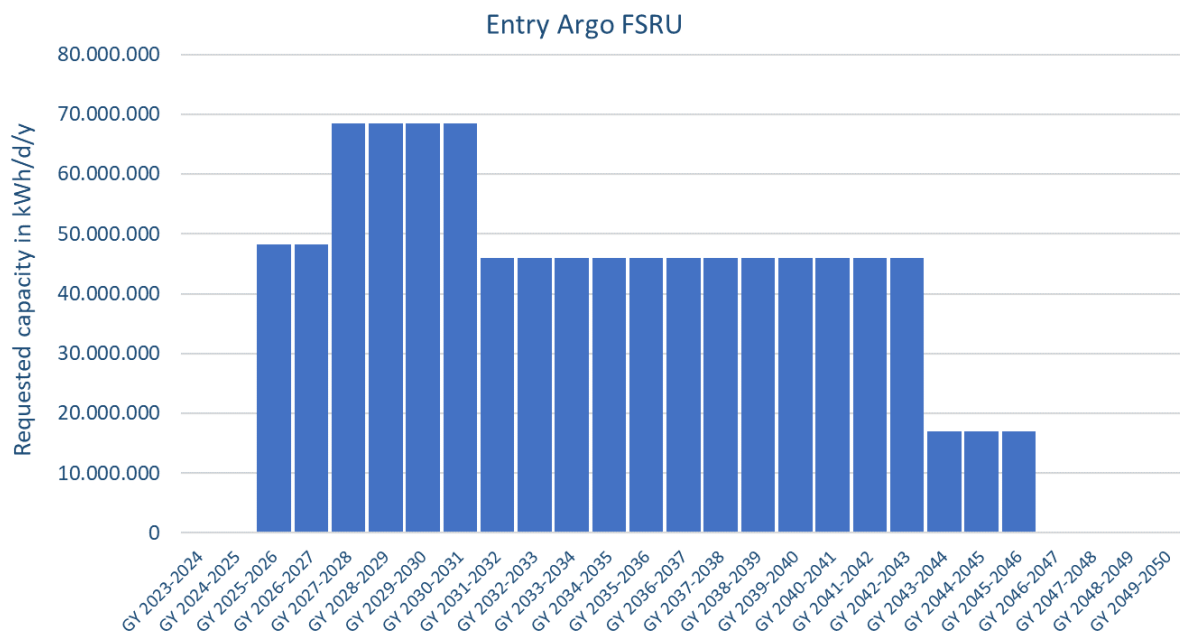
*Figure 1: Cumulative non-binding firm requests per year, for Sidirokastro entry point*



*Figure 2: Cumulative non-binding firm requests per year, for Nea Messimvria entry point*



*Figure 3: Cumulative non-binding firm requests per year, for Kipi entry point*



*Figure 4: Cumulative non-binding firm requests per year, for ARGO FSRU entry point*

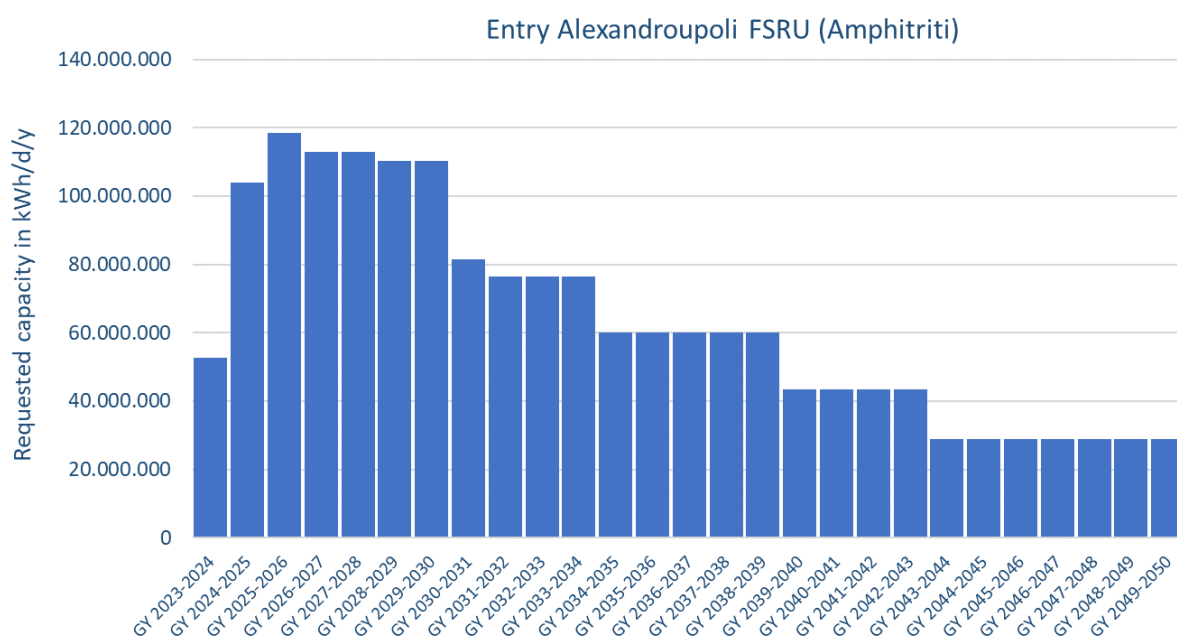


Figure 5: Cumulative non-binding firm requests per year, for ALEXANDROUPOLIS FSRU entry point



Figure 6: Cumulative non-binding firm requests per year, for THESSALONIKI FSRU entry point

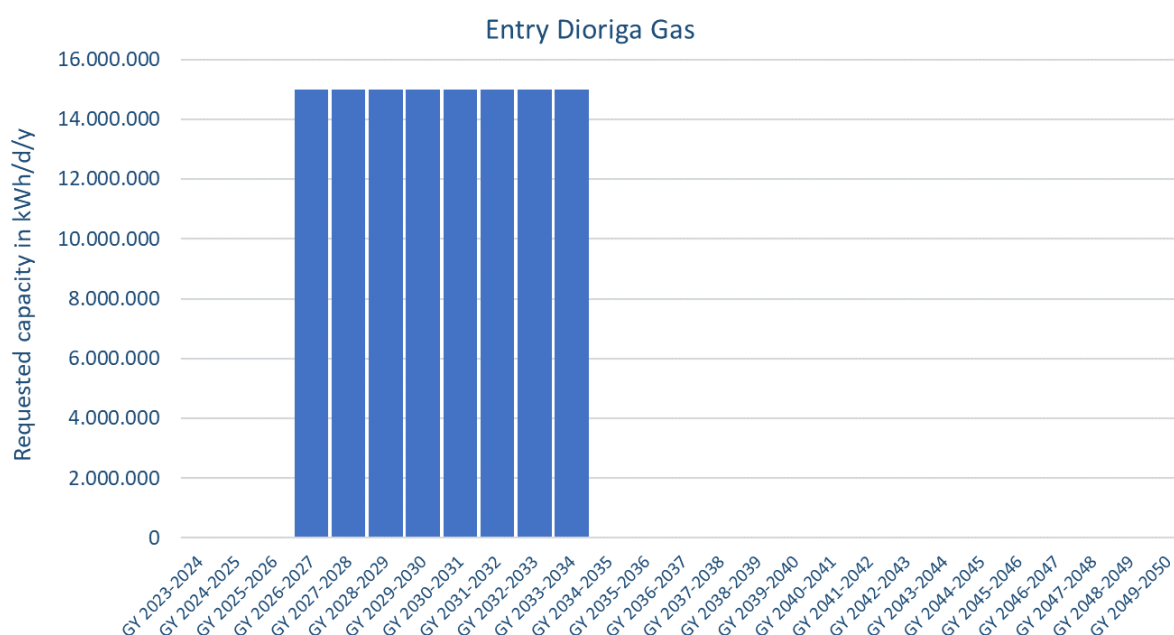


Figure 7: Cumulative non-binding firm requests per year, for DIORYGA GAS FSRU entry point

Regarding the exit points where firm capacity was requested, it is mentioned that for all domestic exit points (points where gas consumers are connected directly to the National Natural Gas Transmission System (NNGTS) or connection points with gas distribution networks – points No 5 to 30 of Table 3), there is available firm long-term exit capacity that can be booked. Only at the exit point Larisa Thermoelectric the requested capacity exceeds the projected capacity for that, future, exit point. However, considering that this future exit point is intended to supply one single power plant of already defined production capacity, that corresponds to a maximum gas demand lower than the requested one, it is assumed that in all domestic exit points there is sufficient firm capacity.

Regarding IPs, all but one indicates significant non-binding interest and shall be considered in the expansion of the NNGS. Namely, for the new interconnection point to be implemented between Greece and North Macedonia, DESFA has recently finalized a market test process through which firm exit capacity was allocated to interested parties and, thus, DESFA shall not offer supplementary exit capacity through this procedure.

For the rest of the IPs there was increased interest expressed in the non-binding phase. The non-binding requests for firm capacity, at Sidirokastro, Nea Messimvria and Komotini IGB IP, throughout the years, are given in the graphs below:

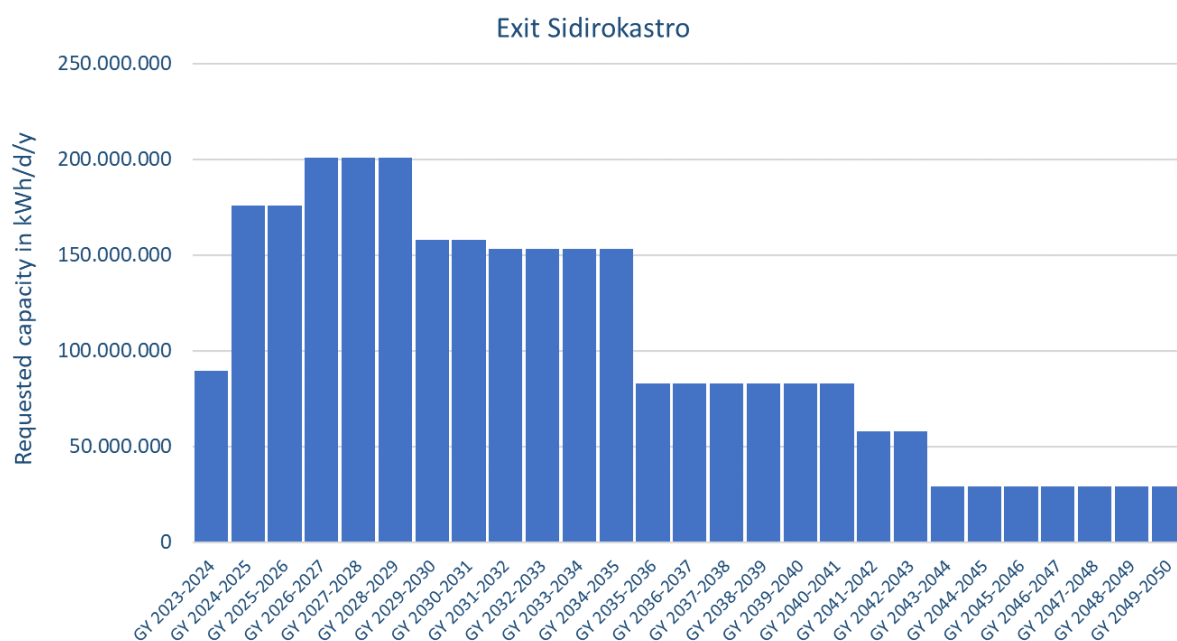


Figure 8: Cumulative non-binding firm requests per year, for Sidirokastro exit point.

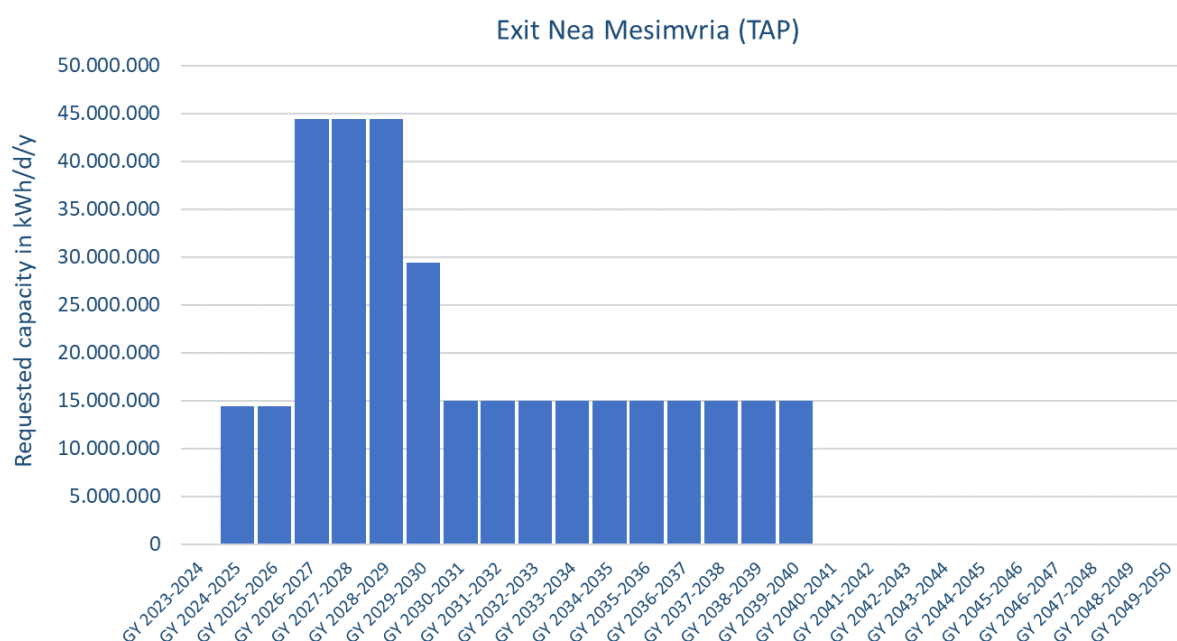


Figure 9: Cumulative non-binding firm requests per year, for Nea Messimvria exit point.

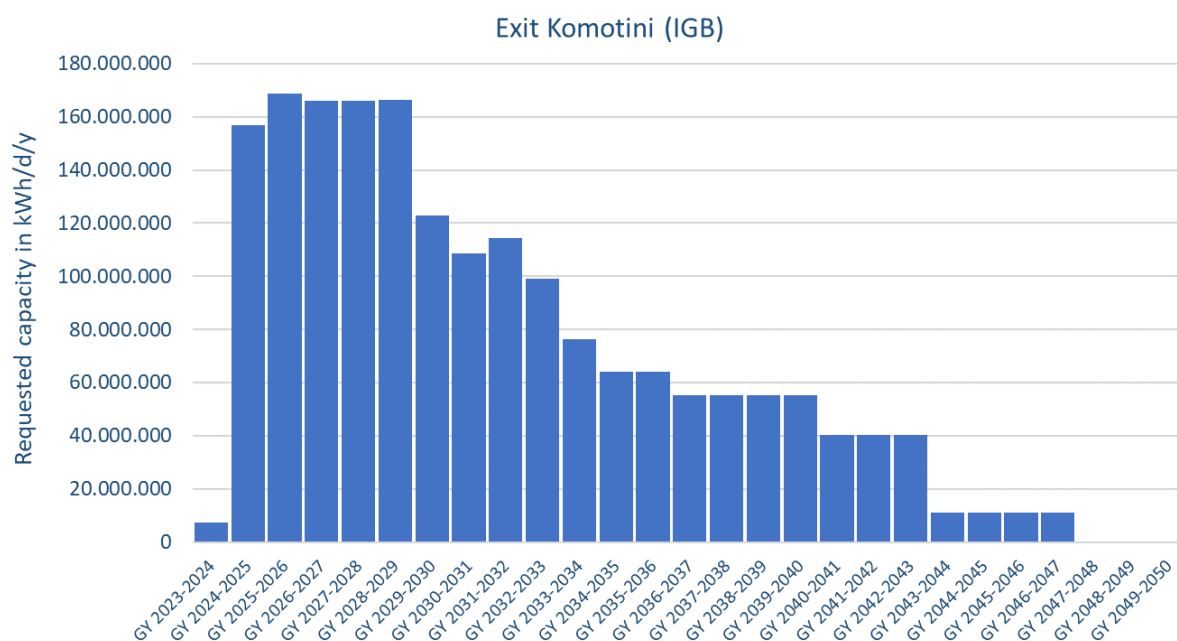


Figure 10: Cumulative non-binding firm requests per year, for Komotini IGB exit point

Finally, regarding linked bids, it is mentioned that from the cases presented in Table 4, only those that do not include entry or exit points that have been already excluded for the provision of incremental firm capacity can be assessed. So, only entry points supplied by the new FSRUs (Alexandroupolis and Volos) and exit points of Sidirokastro, Nea Messimvria and Komotini IGB can be assessed in the subsequent phase. The non-binding requests for linked capacity, throughout the years, are given in the graphs below:

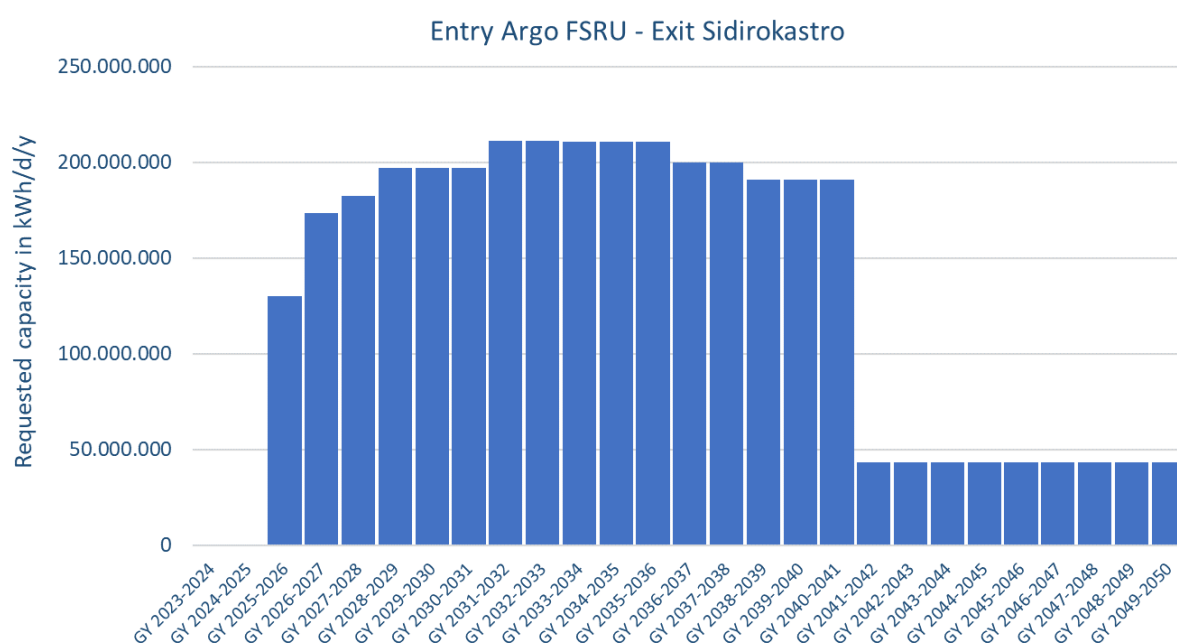
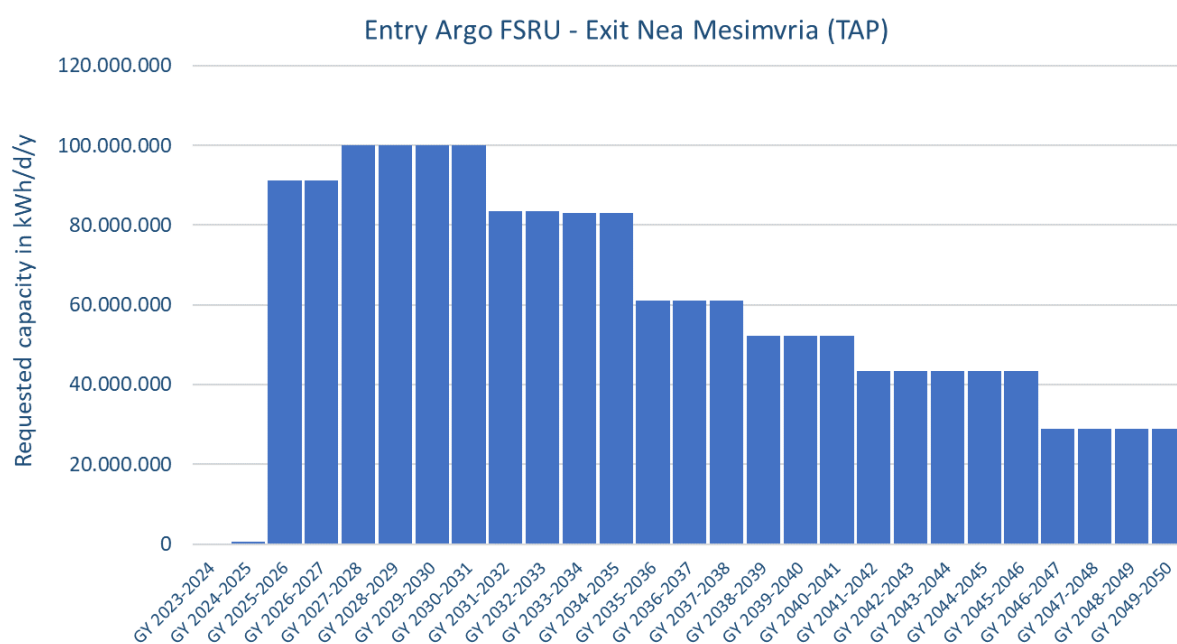
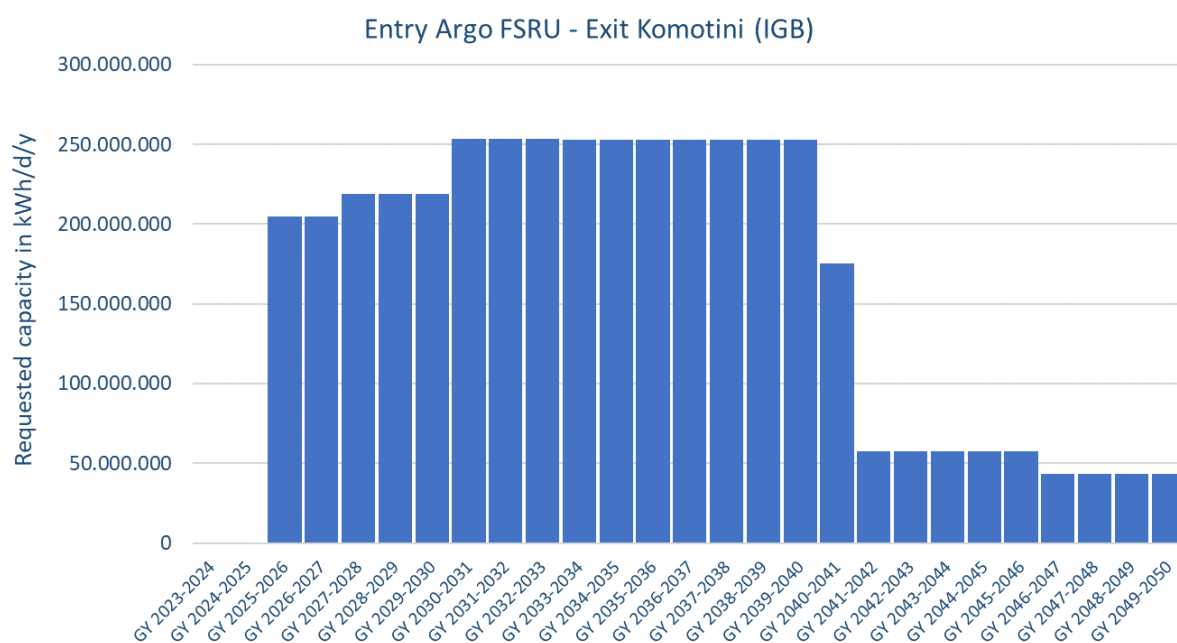


Figure 11: Cumulative non-binding firm requests per year, for Argo FSRU entry – Sidirokastro exit linked non-binding requests.



*Figure 12: Cumulative non-binding firm requests per year, for Argo FSRU entry – Nea Messimvria exit linked non-binding requests.*



*Figure 13: Cumulative non-binding firm requests per year, for Argo FSRU entry – Komotini IGB exit linked non-binding requests.*

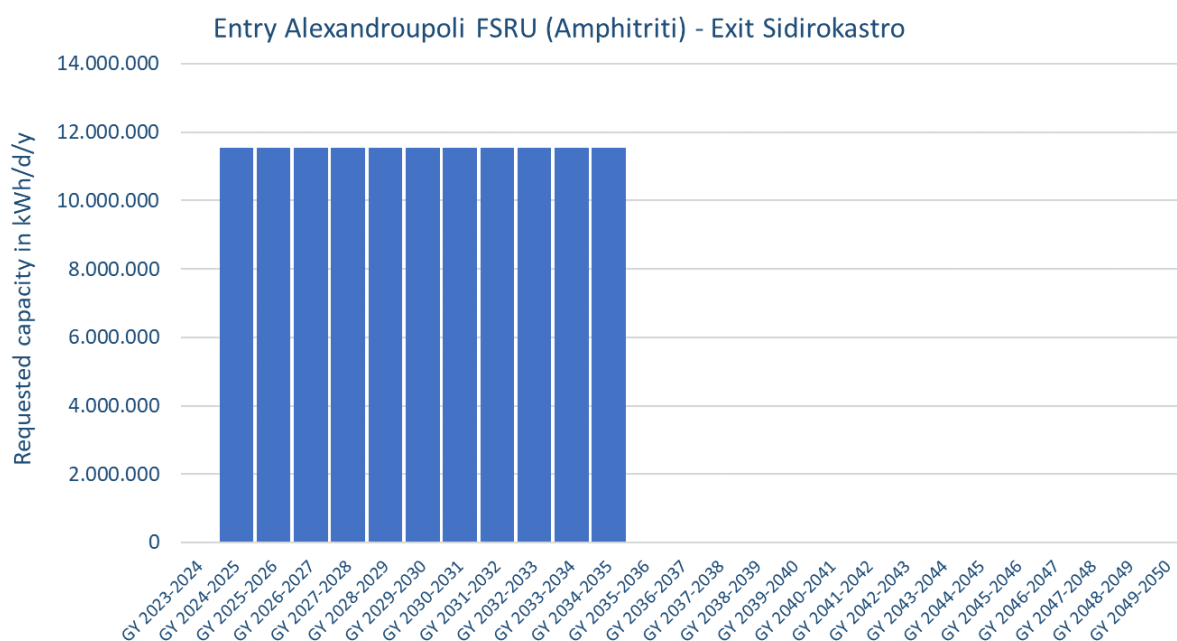


Figure 14: Cumulative non-binding firm requests per year, for Alexandroupolis FSRU entry – Sidirokastro exit linked non-binding requests.

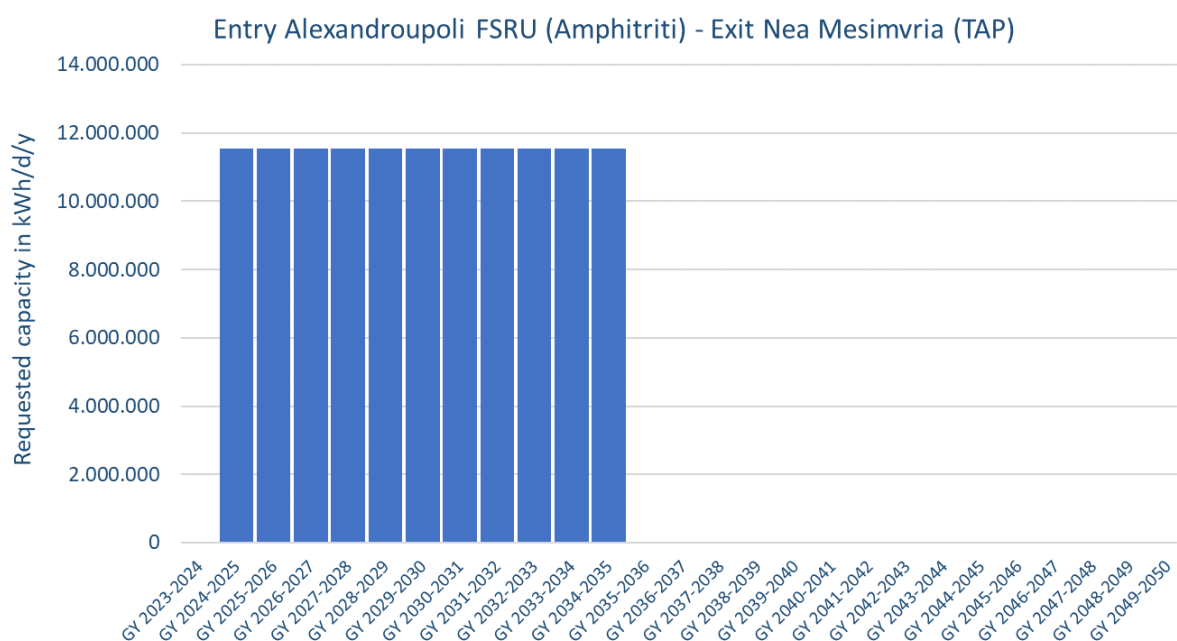


Figure 15: Cumulative non-binding firm requests per year, for Alexandroupolis FSRU entry – Nea Messimvria exit linked non-binding requests.

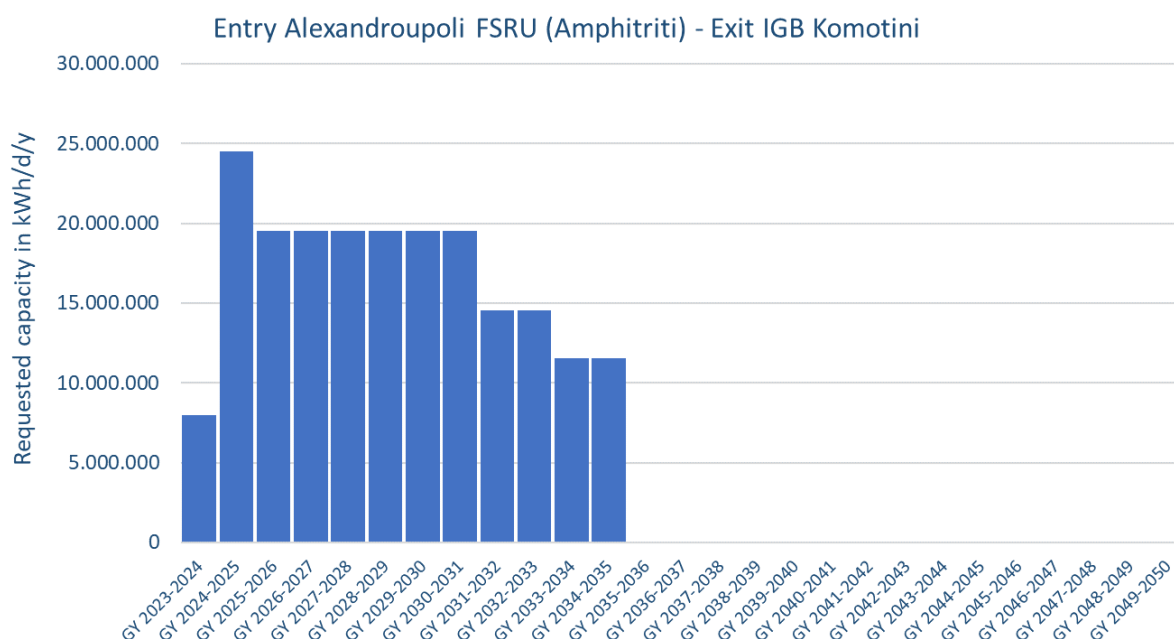


Figure 16: Cumulative non-binding firm requests per year, for Alexandroupolis FSRU entry – Komotini IGB exit linked non-binding requests.

#### D. RELATIONS TO DESFA'S TYNDP

The projects included in the DESFA's TYNDP 2023-2032, as approved by the Regulatory Authority for Energy, Waste and Water (RAEWW) that are relevant to the Market Test, are presented below.

##### "Duplication of the HP branch Karperi-Komotini"

The project will increase the ability of the NNGTS to accommodate additional gas flows on a firm basis. Said project has been designed with the aim to enable firm capacity of up to 3 bcm/y in NNGTS for export to IGB, the eventual capacity of which is up to 5 bcm/y, also exploiting the operation of the compressor station in Komotini.

##### "Compression Station in Komotini"

The project aims at increasing the pressure of the gas passing through Komotini node, among others, to allow flows from the NNGTS towards IGB. In phase A, three compressor units of 8,2 MW each will be installed (2 in operation and 1 stand-by unit). In phase B an additional compressor unit with the same characteristics will be installed (i.e. final configuration, 3 in operation and 1 stand-by unit). The Compressor will be Electric Motor Driven and will be able to operate with up to 10% hydrogen.

The latter is also included in the TYNDP 2022, as TRA-N-128 "Compressor Station Komotini" and as TRA-N-1112 "Upgrade of Compressor Station at Komotini".

*“Duplication of the HP branch Levadia-Karperi and Compression Stations”*

Even though the project has not been approved by RAEWW in the frame of the TYPD 2023-2032, it is clearly mentioned in the relevant Decision that will be reassessed after the finalization of the Market Test. The project will significantly increase the ability of the NNGTS to accommodate additional gas flows on a firm basis.

## **E. CONCLUSION FOR THE CONTINUATION OR NOT OF THE MARKET TEST**

Based on the evaluation of the received non-binding requests, DESFA will proceed to the next phase of the Market Test process and launch the Design Phase, the day after the publication of this Demand Assessment Report, in order to offer unbundled incremental capacity to the domestic points of the NNGTS and bundled incremental capacity products in the IPs with adjacent TSOs.

During the Design Phase, DESFA deems it necessary to conduct further technical studies to investigate, document and evaluate the preliminary technical solutions, costs, and schedules for development options to meet a range of demand cases.

The output of the technical studies and of the coordinated actions taken by DESFA and the adjacent TSOs during the Design Phase, including specific expansion thresholds, provisional costs, timelines, and applicable specific regulatory provisions will be included in the draft Guidelines.

## **F. PROVISIONAL TIMELINE**

DESFA plans to conduct the technical studies and the consultation of the draft Guidelines for the Market Test according to the following provisional timeline:

<b><i>Activity</i></b>	<b><i>Expected start</i></b>	<b><i>Expected end</i></b>	<b><i>Expected duration</i></b>
<b><i>Drafting of the Guidelines</i></b>	<i>From the publication of this DAR</i>	<i>Before 16/02/2024</i>	<i>&lt;15 weeks</i>
<b><i>Public Consultation on draft Guidelines</i></b>	<i>16/02/2024</i>	<i>15/03/2024</i>	<i>1 month</i>

The above-stated timeline has a provisional character and is therefore subject to change.

Following the end of the public consultation and further refinements of the draft Guidelines, the TSOs will submit the draft Guidelines to RAEWW for approval. In case of positive decision of RAEWW, the binding phase will start, and a notice will be published on DESFA’s website

at least 2 months before any binding offer of capacity. The process for the binding phase, including the indicative time schedule will be described in the draft Guidelines.

## **G. FEES**

For the non-binding phase of the Market Test process, addressed by this report, DESFA has not introduced any fees for the participation in the process, the evaluation and the processing of the non-binding requests.

## H. CONTACT INFORMATION

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