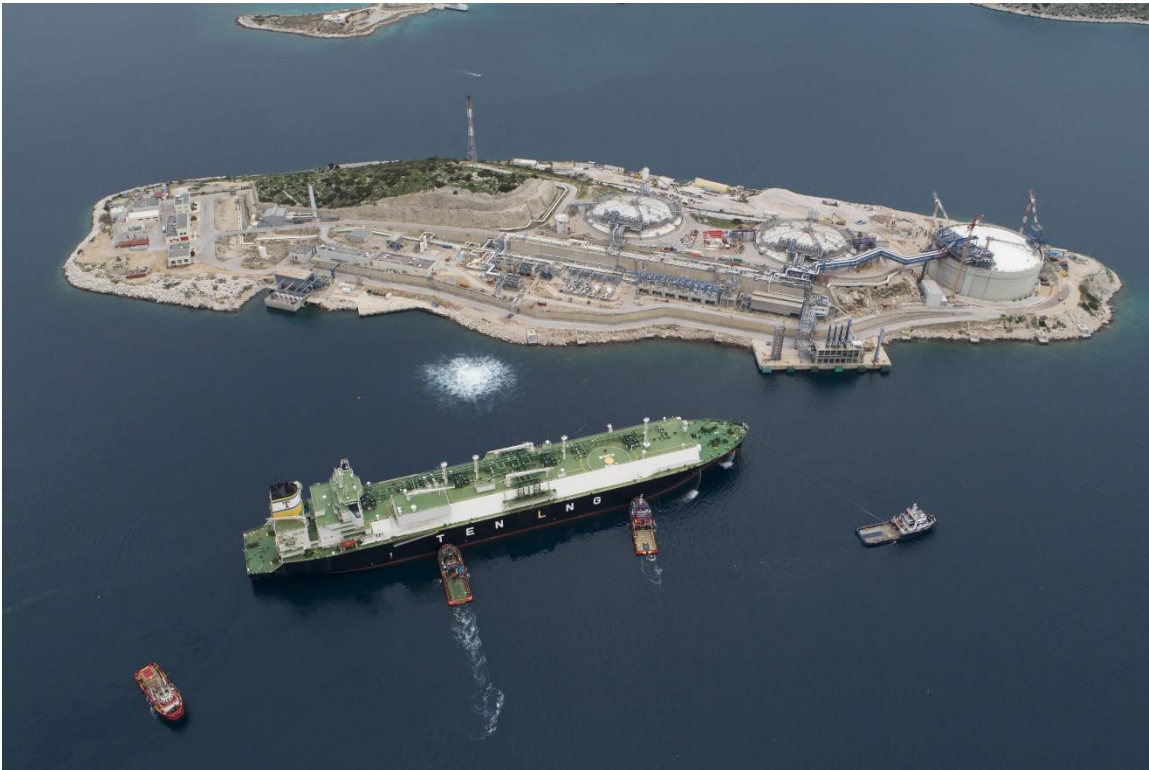


**DESFA's proposal on the determination of the parameters of the Annual LNG Scheduling for  
the Years 2021 - 2025**



**Athens 14.08.2020**

**A. Determination of Scheduling Periods for each one of the Years 2021 – 2025**

In accordance with the provisions of article 82 of Chapter 11 of the NNGS Network Code "...3. For the most efficient conduct of the LNG Auction process and in order to facilitate the participation of LNG Users in the auction, the Operator may divide each Year into sub-consecutive time intervals (Scheduling Periods), to each of which it offers a specific number of one or more different Standard LNG Slots". 4. For the determination of the Scheduling Periods the Operator takes into consideration, especially, the annual and seasonal demand of Natural Gas in the NNGS during the last three years."

For the determination of the Scheduling Periods for the Years 2021 up to and including 2025, the average Daily NG demand of the last three (3) Years (2017-2019) is taken into account, as well as its fluctuation during the said Years.

Based on the above data, each one of the Years 2021 up to and including 2025, is divided into five (5) Scheduling Periods (blocks), which correspond to high, medium, and low gas demand as follows:

Scheduling Period Code	Scheduling Period		Duration (Days)	Daily Average Demand for the respective time periods of 3 Years (kWh)	Daily Average Demand for Scheduling Period Vs Average Daily demand for 3 Years (2017-2019) (%)
B1	1/1	28/2 (or 29/2 at leap year)	59 (or 60 at leap year)	195.585.874	131%
B2	1/3	17/6	109	119.671.252	80%
B3	18/6	20/9	95	148.095.408	99%
B4	21/9	13/11	54	140.609.695	94%
B5	14/11	31/12	48	172.692.487	116%
<b>Annual Average Daily Demand</b>				<b>149.410.842</b>	

**B. Determination of standardized LNG Slots, offered in each LNG Auction concerning each one of the Years 2021 up to and including 2025**

In accordance with the provisions of article 82 of Chapter 11 of the NNGS (National Natural Gas System) Network Code “1. During the A’ Phase of the LNG Auction, the Operator offers for each Year, to which the Annual LNG Scheduling concerns, specific number of LNG slots. [...] 2. For the determination of the characteristics and the number of standardized LNG Slots of each Annual LNG Scheduling, the Operator takes into consideration especially the technical characteristics and the operational limitations of the LNG Facility, the size of LNG Cargoes, which, were unloaded into the LNG Facility, during the Year when, the Annual LNG Scheduling is elaborated, as well as during the immediately preceding two Years, the Standardized LNG Slots which have been possibly allocated to the LNG Users for the said Year via the previous Annual LNG Scheduling, the need of maximizing the use of the LNG Facility and the access of the LNG Users to the LNG Facility on an equal basis.”

Each one of the offered LNG Slots is determined by the LNG Quantity to be unloaded, the Unloading Day, the Temporary Storage Period of the LNG Cargo, the Temporary Storage Space for each Day of the Temporary Storage Period as well as the Bundled LNG Capacity, which is equal to the Minimum Regasification Capacity of the LNG Cargo.

For the determination of the quantity of the LNG Cargo, the Temporary Storage Period and the Bundled LNG Capacity of a standard LNG Slot the following are taken into account:

(A) the technical characteristics and limitations of the Revithousa LNG terminal, and in particular

- The Available Storage Space of the Facility which is equal to 205.055 m<sup>3</sup> (1.388.227.868 kWh)
- The Regasification Capacity which is equal to 1.250 m<sup>3</sup> LNG / h (204.481.800 kWh/D),
- The minimum Regasification Capacity which is equal to 19.200.000 kWh/D

(B) the average tonnage of the LNG vessels certified for unloading at the LNG Facility, which is estimated at 153.000 m<sup>3</sup> LNG or 1,035 TWh

(Γ) the size of LNG Cargos that have been unloaded at the Revithousa LNG Facility during the last three years, which ranges between 0.28 and approx. 1 TWh.

(Δ) the Minimum Regasification Capacity corresponding to each size of LNG Cargo, in combination the average amount of LNG regasified on a daily basis during the last 5 years, which is appr. 48 GWh.

(Ε) the maximum Temporary Storage Period applied, based on the framework that regulates the access to the Revithousa LNG Facility.

(Στ) the necessity of offering more than one standard slots due to the dispersion of Users' portfolios, in accordance with point (Δ), above

On the basis of the above, there are two categories of standard LNG Slots defined with the following characteristics:

### **1<sup>st</sup> Category**

LNG Cargo  $\approx$  0,5 TWh – 74.000 m<sup>3</sup> LNG

Temporary Storage Period (TSP): 18 Days

Bundled LNG Capacity: 26.620.370. kWh/D

Injection Time: 18 h

Temporary Storage Space: is calculated (for the Unloading Day and each Day of the TSP) in accordance with the provisions of article 69 of the Network Code, based on the above parameters.

### **2<sup>nd</sup> Category**

LNG Cargo  $\approx$  1 TWh – 148.000 m<sup>3</sup> LNG

Temporary Storage Period: 18 Ημέρες

Bundled LNG Capacity: 50.925.926. kWh/d

Injection Time: 36 h

Temporary Storage Space: is calculated (for the Unloading Day and each Day of the TSP) in accordance with the provisions of article 69 of the Network Code, based on the above parameters.

For the determination of the Unloading Day, the limitations of the LNG Facility are taken into account, as mentioned in point (A) above, the already booked Regasification Capacity and Transmission Capacity for delivery at the LNG Entry Point, the ability of corresponding an Unloading Day to only one standard LNG Slot, as well as the maximization of use of the LNG Facility.

On the basis of the above, the following Unloading Days are proposed per category of standard LNG Slot, for the Years 2021, 2022, 2023, 2024 and 2025:

Year	Date	LNG Quantity (kwh)	LNG Quantity (m3)	Date	LNG Quantity (kwh)	LNG Quantity (m3)	Date	LNG Quantity (kwh)	LNG Quantity (m3)
2021	3/1/2021	500.000.000	73.855	11/1/2021	1.000.000.000	147.710	22/1/2021	1.000.000.000	147.710
	27/1/2021	500.000.000	73.855	6/2/2021	1.000.000.000	147.710	16/2/2021	1.000.000.000	147.710
	22/2/2021	500.000.000	73.855	3/3/2021	1.000.000.000	147.710	13/3/2021	1.000.000.000	147.710
	19/3/2021	500.000.000	73.855	28/3/2021	1.000.000.000	147.710	7/4/2021	1.000.000.000	147.710
	13/4/2021	500.000.000	73.855	22/4/2021	1.000.000.000	147.710	2/5/2021	1.000.000.000	147.710
	8/5/2021	500.000.000	73.855	17/5/2021	1.000.000.000	147.710	27/5/2021	1.000.000.000	147.710
	2/6/2021	500.000.000	73.855	11/6/2021	1.000.000.000	147.710	21/6/2021	1.000.000.000	147.710
	27/6/2021	500.000.000	73.855	6/7/2021	1.000.000.000	147.710	16/7/2021	1.000.000.000	147.710
	22/7/2021	500.000.000	73.855	31/7/2021	1.000.000.000	147.710	10/8/2021	1.000.000.000	147.710
	16/8/2021	500.000.000	73.855	25/8/2021	1.000.000.000	147.710	4/9/2021	1.000.000.000	147.710
	10/9/2021	500.000.000	73.855	19/9/2021	1.000.000.000	147.710	29/9/2021	1.000.000.000	147.710
	5/10/2021	500.000.000	73.855	14/10/2021	1.000.000.000	147.710	24/10/2021	1.000.000.000	147.710
	30/10/2021	500.000.000	73.855	8/11/2021	1.000.000.000	147.710	18/11/2021	1.000.000.000	147.710
	24/11/2021	500.000.000	73.855	3/12/2021	1.000.000.000	147.710	13/12/2021	1.000.000.000	147.710
19/12/2021	500.000.000	73.855	28/12/2021	1.000.000.000	147.710				
2022	13/1/2022	500.000.000	73.855	22/1/2022	1.000.000.000	147.710	7/1/2022	1.000.000.000	147.710
	7/2/2022	500.000.000	73.855	16/2/2022	1.000.000.000	147.710	1/2/2022	1.000.000.000	147.710
	4/3/2022	500.000.000	73.855	13/3/2022	1.000.000.000	147.710	26/2/2022	1.000.000.000	147.710
	29/3/2022	500.000.000	73.855	7/4/2022	1.000.000.000	147.710	23/3/2022	1.000.000.000	147.710
	23/4/2022	500.000.000	73.855	2/5/2022	1.000.000.000	147.710	17/4/2022	1.000.000.000	147.710
	18/5/2022	500.000.000	73.855	27/5/2022	1.000.000.000	147.710	12/5/2022	1.000.000.000	147.710
	12/6/2022	500.000.000	73.855	21/6/2022	1.000.000.000	147.710	6/6/2022	1.000.000.000	147.710
	7/7/2022	500.000.000	73.855	16/7/2022	1.000.000.000	147.710	1/7/2022	1.000.000.000	147.710
	1/8/2022	500.000.000	73.855	10/8/2022	1.000.000.000	147.710	26/7/2022	1.000.000.000	147.710
	26/8/2022	500.000.000	73.855	4/9/2022	1.000.000.000	147.710	20/8/2022	1.000.000.000	147.710

	20/9/2022	500.000.000	73.855	29/9/2022	1.000.000.000	147.710	14/9/2022	1.000.000.000	147.710
	15/10/2022	500.000.000	73.855	24/10/2022	1.000.000.000	147.710	9/10/2022	1.000.000.000	147.710
	9/11/2022	500.000.000	73.855	18/11/2022	1.000.000.000	147.710	3/11/2022	1.000.000.000	147.710
	4/12/2022	500.000.000	73.855	13/12/2022	1.000.000.000	147.710	28/11/2022	1.000.000.000	147.710
	29/12/2022	500.000.000	73.855				23/12/2022	1.000.000.000	147.710
2023	23/1/2023	500.000.000	73.855	7/1/2023	1.000.000.000	147.710	17/1/2023	1.000.000.000	147.710
	17/2/2023	500.000.000	73.855	1/2/2023	1.000.000.000	147.710	11/2/2023	1.000.000.000	147.710
	14/3/2023	500.000.000	73.855	26/2/2023	1.000.000.000	147.710	8/3/2023	1.000.000.000	147.710
	8/4/2023	500.000.000	73.855	23/3/2023	1.000.000.000	147.710	2/4/2023	1.000.000.000	147.710
	3/5/2023	500.000.000	73.855	17/4/2023	1.000.000.000	147.710	27/4/2023	1.000.000.000	147.710
	28/5/2023	500.000.000	73.855	12/5/2023	1.000.000.000	147.710	22/5/2023	1.000.000.000	147.710
	22/6/2023	500.000.000	73.855	6/6/2023	1.000.000.000	147.710	16/6/2023	1.000.000.000	147.710
	17/7/2023	500.000.000	73.855	1/7/2023	1.000.000.000	147.710	11/7/2023	1.000.000.000	147.710
	11/8/2023	500.000.000	73.855	26/7/2023	1.000.000.000	147.710	5/8/2023	1.000.000.000	147.710
	5/9/2023	500.000.000	73.855	20/8/2023	1.000.000.000	147.710	30/8/2023	1.000.000.000	147.710
	30/9/2023	500.000.000	73.855	14/9/2023	1.000.000.000	147.710	24/9/2023	1.000.000.000	147.710
	25/10/2023	500.000.000	73.855	9/10/2023	1.000.000.000	147.710	19/10/2023	1.000.000.000	147.710
	19/11/2023	500.000.000	73.855	3/11/2023	1.000.000.000	147.710	13/11/2023	1.000.000.000	147.710
14/12/2023	500.000.000	73.855	28/11/2023	1.000.000.000	147.710	8/12/2023	1.000.000.000	147.710	
				23/12/2023	1.000.000.000	147.710			
2024	8/1/2024	500.000.000	73.855	17/1/2024	1.000.000.000	147.710	2/1/2024	1.000.000.000	147.710
	2/2/2024	500.000.000	73.855	11/2/2024	1.000.000.000	147.710	27/1/2024	1.000.000.000	147.710
	27/2/2024	500.000.000	73.855	7/3/2024	1.000.000.000	147.710	21/2/2024	1.000.000.000	147.710
	23/3/2024	500.000.000	73.855	1/4/2024	1.000.000.000	147.710	17/3/2024	1.000.000.000	147.710
	17/4/2024	500.000.000	73.855	26/4/2024	1.000.000.000	147.710	11/4/2024	1.000.000.000	147.710
	12/5/2024	500.000.000	73.855	21/5/2024	1.000.000.000	147.710	6/5/2024	1.000.000.000	147.710
	6/6/2024	500.000.000	73.855	15/6/2024	1.000.000.000	147.710	31/5/2024	1.000.000.000	147.710

	1/7/2024	500.000.000	73.855	10/7/2024	1.000.000.000	147.710	25/6/2024	1.000.000.000	147.710
	26/7/2024	500.000.000	73.855	4/8/2024	1.000.000.000	147.710	20/7/2024	1.000.000.000	147.710
	20/8/2024	500.000.000	73.855	29/8/2024	1.000.000.000	147.710	14/8/2024	1.000.000.000	147.710
	14/9/2024	500.000.000	73.855	23/9/2024	1.000.000.000	147.710	8/9/2024	1.000.000.000	147.710
	9/10/2024	500.000.000	73.855	18/10/2024	1.000.000.000	147.710	3/10/2024	1.000.000.000	147.710
	3/11/2024	500.000.000	73.855	12/11/2024	1.000.000.000	147.710	28/10/2024	1.000.000.000	147.710
	28/11/2024	500.000.000	73.855	7/12/2024	1.000.000.000	147.710	22/11/2024	1.000.000.000	147.710
	23/12/2024	500.000.000	73.855				17/12/2024	1.000.000.000	147.710
2025	17/1/2025	500.000.000	73.855	1/1/2025	1.000.000.000	147.710	11/1/2025	1.000.000.000	147.710
	11/2/2025	500.000.000	73.855	26/1/2025	1.000.000.000	147.710	5/2/2025	1.000.000.000	147.710
	8/3/2025	500.000.000	73.855	20/2/2025	1.000.000.000	147.710	2/3/2025	1.000.000.000	147.710
	2/4/2025	500.000.000	73.855	17/3/2025	1.000.000.000	147.710	27/3/2025	1.000.000.000	147.710
	27/4/2025	500.000.000	73.855	11/4/2025	1.000.000.000	147.710	21/4/2025	1.000.000.000	147.710
	22/5/2025	500.000.000	73.855	6/5/2025	1.000.000.000	147.710	16/5/2025	1.000.000.000	147.710
	16/6/2025	500.000.000	73.855	31/5/2025	1.000.000.000	147.710	10/6/2025	1.000.000.000	147.710
	11/7/2025	500.000.000	73.855	25/6/2025	1.000.000.000	147.710	5/7/2025	1.000.000.000	147.710
	5/8/2025	500.000.000	73.855	20/7/2025	1.000.000.000	147.710	30/7/2025	1.000.000.000	147.710
	30/8/2025	500.000.000	73.855	14/8/2025	1.000.000.000	147.710	24/8/2025	1.000.000.000	147.710
	24/9/2025	500.000.000	73.855	8/9/2025	1.000.000.000	147.710	18/9/2025	1.000.000.000	147.710
	19/10/2025	500.000.000	73.855	3/10/2025	1.000.000.000	147.710	13/10/2025	1.000.000.000	147.710
	13/11/2025	500.000.000	73.855	28/10/2025	1.000.000.000	147.710	7/11/2025	1.000.000.000	147.710
8/12/2025	500.000.000	73.855	22/11/2025	1.000.000.000	147.710	2/12/2025	1.000.000.000	147.710	
				17/12/2025	1.000.000.000	147.710	27/12/2025	1.000.000.000	147.710



### **C. Marginal price for each Phase of the LNG Auction**

#### **Marginal Price – A Phase Auction**

The Marginal Price applied during the A' Phase of the LNG Auction is equal to the sum of the Reference Price at the LNG Entry Point plus the Reference Price at the LNG Facility, multiplied by the sum of the Days of LNG Temporary Storage Period (18) plus the Unloading Day (1) divided by the number of Days of the Year within which the Unloading is planned and multiplied by the Short-Term Use Coefficient (B19), applicable in the case of a capacity booking of a duration equal to the aforementioned sum of Days (19):

For the Years 2020, 2021, 2022, 2023 και 2025 the Marginal Price of the A' Phase of the LNG Auction (OT<sub>AΦ</sub>) is equal to

$$OT_{A\Phi} = \frac{(3,5584231 + 1,6924135) \times (18 + 1) \times 1,499}{365} = 0,4097235$$

Euro/kWh/hour/period

For the Year 2024 the Marginal Price of the A' Phase of the LNG Auction (OT<sub>AΦ</sub>) is equal to

$$OT_{A\Phi} = \frac{(3,5584231 + 1,6924135) \times (18 + 1) \times 1,499}{366} = 0,4086040$$

Euro/kWh/hour/period

Where

Reference Price for the LNG Regasification Capacity: 3,5584231 Euro/kWh/hour/year

Reference Price for the Transportation Capacity at the LNG Entry Point: 1,6924135

Euro/kWh/hour/year

Period: 19 Days

B19: 1,499

### **Marginal Price – B Phase Auction**

The Marginal Price applied during the B' Phase of the LNG Auction (OT\_BF) is equal to the sum of the Reference Price at the LNG Entry Point and the Reference Price at the LNG Facility:

$$OT\_B\Phi = 3,5584231 + 1,6924135 = 5,2508366 \text{ Euro/kWh/hour/year}$$

Where

Reference Price for the LNG Regasification Capacity: 3,5584231 Euro/kWh/hour/year

Reference Price for the Transportation Capacity at the LNG Entry Point: 1,6924135 Euro/kWh/hour/year

### **D. Large and small price step applicable in the ascending clock process of the B' Phase of the LNG Auction**

The price steps applicable in the ascending clock process of the B' Phase of the LNG Auction, are determined as follows:

- Large price step: 10%
- Small price step: 2%