



Proposed Tariffs 2024 & Regulatory parameters 2024-2027

March 17th, 2023

- **Context**
- **Proposed Tariff 2024**
- **Regulatory Parameters 2024-2027**
- **ANNEX**

- Following RAE's approval of the Tariff Regulation (**98/2023**)*, DESFA is submitting for approval its proposal on Tariffs 2024 and the Regulatory Parameters for the Regulatory Period 2024-2027
- This presentation is submitted to RAE as supporting material to our proposed draft decision.

* Tariff Regulation as published on RAE's website : <https://www.rae.gr/genika-nea/62155/>

A decorative graphic consisting of several overlapping, wavy lines in shades of blue and green, flowing from the left side of the slide towards the right.

Proposed Tariff 2024

- Under the Capacity Weighted Distance (CWD) methodology the main cost drivers for the calculation of tariffs are distance and capacity. The logic of this methodology is to distribute all costs among network points, taking into account both the location of the points in the system, and the booked capacity of all points.
- Under stable conditions, the CWD methodology should be able to allocate costs in a cost reflective way. Applying the CWD methodology under the current volatile market conditions, however, leads to several distortions and would require several adjustments to the “pure CWD approach”, making the approach less transparent and cost reflective and therefore not the optimal solution for DESFA for the upcoming Regulatory Period
- We have strong arguments to support our proposal to move away from the CWD methodology. Greece is facing an era with **significant changes in the market** conditions such as:
 - ✓ Greece becoming an exporting country: significant increase of export flows compared to the previous regulatory period; still uncertain picture for the future
 - ✓ Change in the direction of flow patterns: North-to-South becomes more South-to-North
 - ✓ Introduction of new entry and exit points in the system (e.g., IGB, N. Macedonia, Gastrade, TAP etc.)
 - ✓ Uncertainty on the direction and the source of the estimated flows (i.e., between Kipi IP & entry to Gastrade, between IP entries and entry via the IPs of the North, i.e., Russia, or the LNG terminals)
 - ✓ Critical role of Revithoussa confirmed by the market
 - ✓ Introduction of new FSRUs
 - ✓ A significant investment plan in order to maintain and expand the network, following the requests of the market, while prioritizing energy transition agenda
 - ✓ Large scale investments to enable transit flows/exports (e.g., the compressor station in Komotini etc.) whose cost will not be properly allocated based on CWD methodology
- In addition, the volatility of current market conditions, especially regarding the exact points of entry and exit of flows in the Greek NNGTS, may lead to uncertainty regarding the cost allocation and the subsequent collection of revenues among the existing and future import and export points of the system.

Proposed Reference Price Methodology: Postage Stamp



- For those reasons, we propose to move away from the CWD methodology and introduce a form of **Postage stamp approach**, setting a separate but unified tariff for all the entries (IPs, Amfitriti, Agia Triada), a separate unified tariff for the exits (both domestic and IP exits) of the system, as well as a dedicated LNG Tariff for Revithoussa
- We propose to maintain a 50-50 split of the Required Revenue between the entry and the exit points of the system, in line with the reference price methodology of the TAR NC, since this seems to represent a fair allocation of costs
- In our view, given the dynamic and constantly changing environment Greece is currently facing, a simpler approach, such as the **Postage Stamp Methodology**, that results in unified tariffs, is **more appropriate, unbiased, simple, transparent and predictable in DESFA's case for the RP 2024-2027**.
 - **Appropriate**, since it removes the uncertainties introduced by the variability of the incoming and outgoing flows, especially as long as the ongoing security of supply crisis prevails in the SEE region and market dynamics are volatile.
 - **Unbiased**, since a User of the NNGTS will pay the same price irrespective of the entry and exit used. By using the Postage stamp reference price methodology, distortions that would be created through the CWD application in the specific case of Greece for the RP 2024-2027 are avoided.
 - **Simple, transparent and predictable**, since a single tariff is applicable for each homogenous group of points (i.e., entries, exits) and replication of the results is easy and straight forward. Following a postage stamp methodology for the RP 2024-2027 will favor transparency and tariff predictability, as it only requires a limited number of parameters and assumptions.
- Deviating from the CWD methodology is allowed by TAR NC, as long as the proposed approach is justified and the CWD methodology is presented as the counterfactual methodology. Countries such as Germany, UK, Netherlands, Sweden, Poland apply a Postage Stamp approach.

Proposed approach for the determination of the forecasted contracted capacity for tariffs



The outline of our proposed approach for the determination of the capacity charges of the tariffs for the years of the following Regulatory Period 2024-2027, is described below. According to the recently approved Tariff Regulation, only the numbers of the year 2024 are binding. However, we provide estimates also for the subsequent years, even though the resulting tariffs are only indicative and may change during the years of the Regulatory Period.

In broad terms, the steps we propose are as follows:

1. Estimation of the consumption level and total capacity for each entry and exit point based on most updated market intelligence (e.g. recent auctions, available information from the users, binding Market Tests, as well as market simulation results of the power sector). All necessary infrastructure and interconnection points are assumed to be operational based on the latest TYDP (for this regulatory period it is based on the TYDP 23-32, although this has not been approved yet, since it includes the most recent update of the projects' timeline and budget)
2. Based on historical data, the level of average capacity reservations for all entry and exit points for all the years of the regulatory period 2024-2027 is estimated
3. The average capacity reservations are then adjusted, with the view to encounter ex-ante the long and short-term behavior of the bookings of the Users in recent years of the past. This, in combination to the corresponding short-term multipliers, leads to the estimation of **the financially equivalent level of capacity** which will be reserved, which is then used to calculate the capacity charge of the tariff in the corresponding entry or exit point, dividing the Required Revenue allocated to this Point by the financially equivalent level of capacity.

A more analytical description of this approach is detailed in the following slides

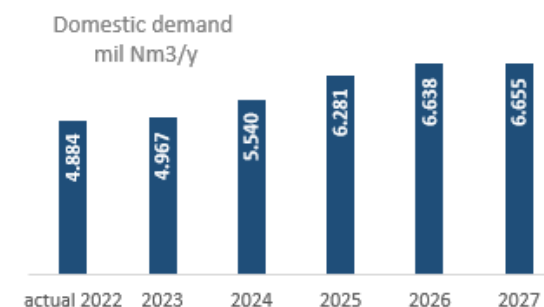
Demand assumptions



It needs to be clarified that the estimated volumes do not affect directly the calculation of tariffs, since the proposed tariff methodology is based on capacity bookings. Except for revenues related to the Old recoverable difference balance, estimated volumes do not affect the tariffs. To this end, the inclusion of demand assumptions aims at providing the estimated trend of the market, as well as the indirect estimation of the booked capacities in various entry and exit points, as is further explained below.

Exits: Domestic demand

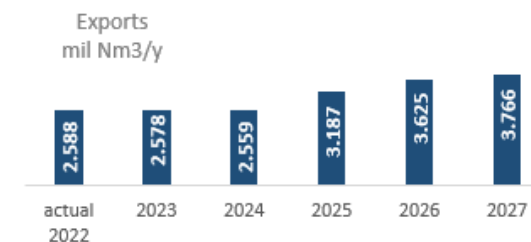
- Gas demand for Power Production is forecasted through electricity market simulation, taking also into account latest available market intelligence, i.e. the delayed decommissioning of lignite units (as decided by the Ministry in Dec. 2022).
- Gas demand for high pressure customers in **2024** is based on recent market data and further analysis on daily profile based on historical data. This demand category was dramatically decreased in year 2022 and is expected to slightly overcome this sharp decline in years 2023 -2025. Assuming that prices and market stabilize, growth is foreseen from 2026 onwards
- For **2024**, gas demand for distribution networks is based on data provided by DSOs and further analysis on daily profile based on historical data, degree days and category of use. From 2025 onward, demand for distribution networks is based on data provided by DSOs



Exits: Exports

Following the geopolitical evolutions of this year, a higher supply gap for the SEE region could be a potential upside for transit volumes, however alternative/potentially competing supply routes could appear from other countries of the SEE region, so, for **2024**, the demand for exports to Bulgaria and further North is kept at a conservative level, similar to 2022 exports (i.e. approximately 2,5 bcma), of which 1 bcma from Sidirokastro and the rest from IGB. From 2025 onward, this demand is increasing to 3 bcma, of which 2 bcma through IGB and the rest from Sidirokastro

- North Macedonia:** Exports to N. Macedonia start on October 2025; Volumes are estimated using the capacities booked at the corresponding market test and a load factor equal to 1
- Nea Messimvria (TAP):** The annual demand for this exit point is calculated from the expected capacity bookings with a load factor equal to 1. Resulting volumes are 0,02 bcma for the 2 months of 2024, since firm capacity will exist from November 2024, increasing to 0,11bcma for 2025 to 0,12 in 2026 and 0,16bcma in 2027



Entry Point NE Cluster (Kipi & Amfitriti to VTP)

- For year 2024 entry point Kipi (technical capacity 4,3milNm³/d) will be shut down to allow for the availability of the point-to-point product Amfitriti – IGB, as per the corresponding letter of RAE on 28/11/2022
- Firm capacity for entry point Amfitriti to VTP will be available only after the completion of the 3 CSs (Nea Mesimvria, Ambelia, Komotini) as per the connection agreement and is expected to be fully booked
- For years 2025 & 2026 the total available combined firm capacity of entry point Amfitriti & entry point Kipi is expected to be booked

Entry Point Sidirokastro

- The full technical capacity is foreseen to be booked, assuming existing long-term contracts to remain in force until the end of the Regulatory Period.

Entry Point TAP

- Expected capacity for each of the years 2024-2027 is equal to the booked capacity in the auctions of 2023

Entry Point Agia Triada

- Already booked regasification capacity from 2023 LNG Annual Auction is taken into consideration for years 2024-2027 with the addition of extra short-term bookings. The extra short-term bookings used reflect a) additional 18-day bookings representing additional unloading slots expect to be booked in future auctions and b) day-ahead bookings based on recent historical data.

Exits: Domestic Points

- Forecast of domestic exit capacity bookings considers recent historical observations on the actual booking behavior of Network Users and the expected annual demand. The detailed methodology is explained in the following slide

Exits: Exports

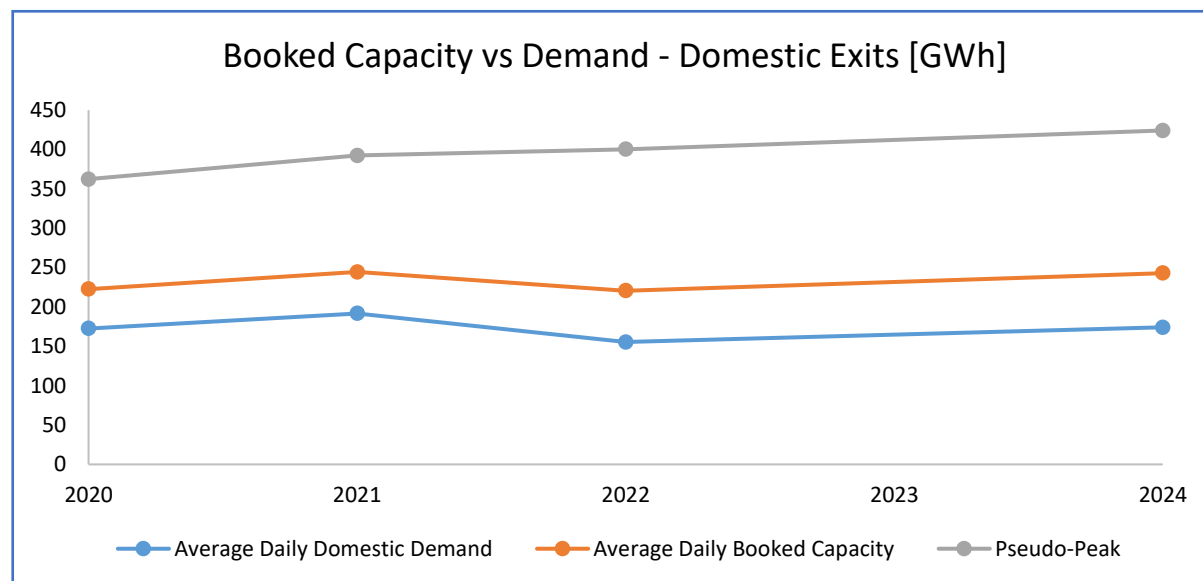
- **IGB:** We assume the exit point from NGTS to IGB to be operational from the expected operation of Gastrade in 2024, offering only the point-to-point route product Amfitriti-IGB. From 2025 onward, all (known) available capacity of IGB not used by TAP users (i.e. 2bcm) will be used from Users of the NGTS, assuming that the revenues will be obtained from the 90% of the capacity
- **Sidirokastro:** For the level of exports to Bulgaria and considering the supply from the new IGB exit point, bookings in Sidirokastro exit point are assumed equal to 50% of the technical capacity of the point
- **North Macedonia:** Exports to N. Macedonia start on October 2025; Volumes are estimated using the capacities booked at the corresponding market test and a load factor equal to 1, for the rest of the period to 2027
- **Exit Point TAP:** Firm capacity will be available from November 2024; for 2024 (2months), 2025 & 2026 firm capacity reservation is assumed equal to the capacity already booked on interruptible basis for 2023 in the yearly auctions of July 2022, decreased by an amount reflecting flows towards IGB from the TAP exit point; for 2026 (October onwards) & 2027 booked capacity is based on the results from TAP market test

Proposed approach for estimating domestic exit capacity bookings

The proposed methodology considers recent historical data on the actual booking behavior of Network Users (i.e. long term versus short term bookings) and the expected level of volumes and, in our view, provides more accurate forecasts compared to the “pseudo-peaks”¹ approach (which was used in the previous regulatory periods).

Year	Average Daily Domestic Demand ²	Average Daily Booked Capacity ³	Capacity / Demand	Pseudo-Peak	Capacity / Pseudo-Peak
2020	172,416	222,496	1,3	362,153	0,61
2021	191,673	244,291	1,3	392,173	0,62
2022	155,178	220,559	1,4	400,159	0,55
2024 (est.)	173,978 [2]	242,861 [3]	1,4 [4]	423,931	0,57

All figures in GWh/day



¹ “pseudopeaks”: capacity is estimated as the sum of the forecasted peaks of all the exit points irrespective of the day occurs

² Yearly Demand/365

³ Total Capacity Bookings/365

⁴ Historical ratio of Capacity/Demand used for the calculation of (3) for future years

Pseudo peak approach drawback:

- The pseudo-peaks approach leads to the overestimation of the forecasted capacity bookings, thus to an underestimation of tariffs. As peaks increase (e.g. additional exit points, more renewables enter the energy mix), the pseudo-peaks approach will keep inflating the forecasted capacity, regardless of the overall demand evolution. As a result, the actual capacity booked by shippers becomes an increasingly declining fraction of the pseudo-peak (see table and graph, where pseudo-peak increases even when demand drops)

Proposed methodology

- On the other hand, capacity bookings to average demand ratio seem to be stable (value between 1,3 and 1,4, see Table and graph)
- We, therefore, propose to proceed with the following approach for the estimation of the expected level of bookings at the domestic exit points:
 - Starting from the anticipated average daily demand (See point [2] in the Table), use recent historical data (that represent the actual booking behavior of Network Users, see point [4] in the Table) for the capacity/demand ratio to derive the expected contracted daily capacity [3]. Levels of contracted capacity for each year will be proportional to the anticipated average daily demand of the year
 - Then, use historical data to estimate the proportion of such capacity which will be booked at various levels of duration, to estimate **the financially equivalent level of capacity** which will be used, in combination to the corresponding multipliers (set equal to the existing ones), to estimate the capacity charge of the tariff in the corresponding domestic Exit Point dividing the Required Revenue allocated to this Point by the financially equivalent level of capacity

The corresponding results are presented in the following slides

Proposed Exit points 2024 tariffs: Postage Stamp & CWD counterfactual

RR 2024 _{exits}					RR 2023 _{exits}
<u>81.310.826€</u>	Exit Points _{after socialisation} (€/Kwh/h/y)	Proposed Approach: Postage stamp 2024 Tariff	Counterfactual CWD: 2024 Tariff	2023 Tariff	<u>60.630.404€</u>
	Domestic NZ exits	6,1507	7,2360	5,1192	
	Domestic SZ exits		6,2756	5,5676	
	Sidirokastro IP - exit		8,1777	4,7934	
	N. Mesimvria IP – exit		5,9562	4,7934	
	IGB		2,0847	N/A	
50% socialisation level applied to both domestic and IP exits					

Proposed Entry point Tariffs 2024: Postage Stamp & CWD counterfactual



RR 2024 _{entries}					RR 2023 _{entries}
<u>60.510.164€</u>	Entry Points (€/Kwh/h/y)	Proposed Approach: Postage stamp 2024 Tariff	Counterfactual CWD: 2024 Tariff	2023 Tariff	<u>53.298.665€</u>
	Sidirokastro	3,2736	4,0671	4,7934	
	N. Mesimvria		3,0310		
	NE Cluster ¹		5,1824	4,7934 (Kipi)	
	Agia Triada ²		2,5457	1,6683 (with 30% discount)	
	Revithoussa tariff ³	2,1614	2,1614	3,0112	

¹NE Cluster comprises of Amfitriti entry point & IP Kipi

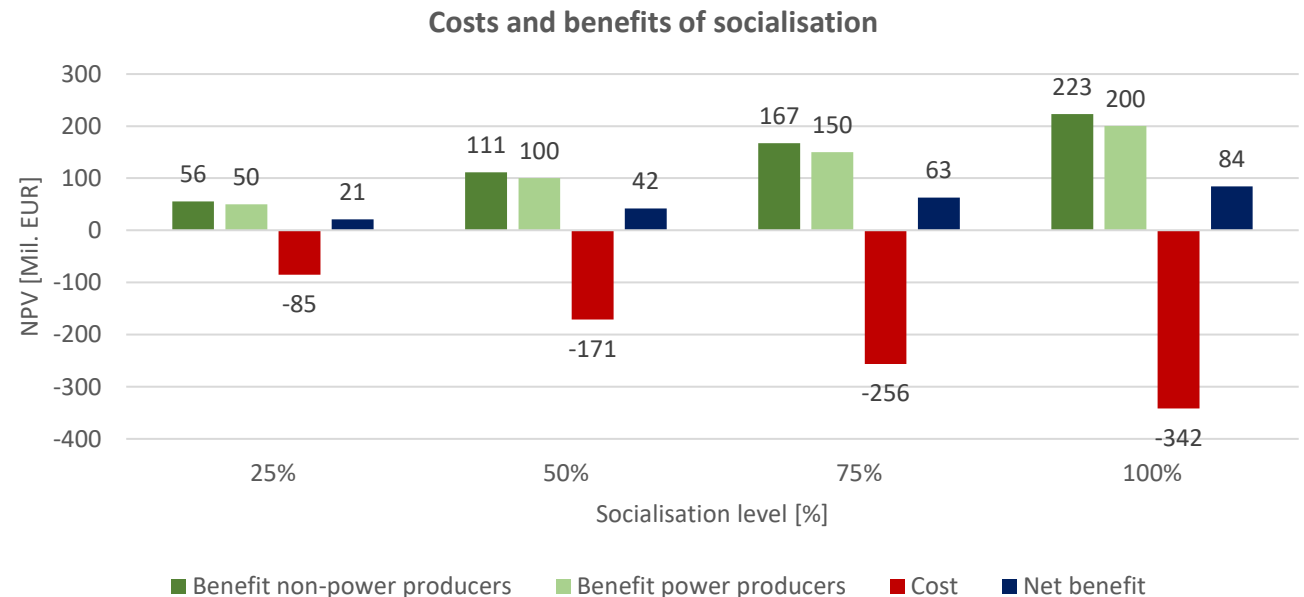
²No discount is applied for 2024 tariffs (only in 2023 tariffs)

³50% Socialisation is applied in domestic and IP exits

- DESFA conducted a CBA for calculating the optimal Revithoussa Socialisation percentage.
- The analysis was based on the European Commission (EC) and ENTSG guidelines and methodology for Cost-Benefit Analysis. However, since Revithoussa LNG terminal is already built, the default scenarios with and without the infrastructure are not relevant and therefore a tailor-made approach towards the definition of the scenarios and the quantification of the costs and benefits was developed.
- Alternative scenarios based on different socialisation levels are considered for assessing the impact of socialisation to the welfare of gas consumers.
- The cost of socialisation is the amount of the required revenue of the Revithoussa LNG terminal that needs to be recovered from domestic and interconnection exit users, while the benefit is quantified through the ENTSG monetised indicators that are relevant to socialisation (i.e., Supply Cost Savings, Fuel Cost Savings and Emission Cost Savings).
- The principles of the methodology used are the same with the ones used in the previous CBA conducted in 2019 for the same purpose.

Results:

- The CBA showed that, under the baseline scenario, for all socialisation levels there is net benefit, with the highest being for 100% socialisation level – The higher the socialisation, the higher the net benefit.
- Based on the results of the CBA, DESFA's proposal is to maintain the socialisation at the current level (i.e., 50%), although a higher level of socialization could be justified from the results





Regulatory Parameters 2024-2027

- DESFA's WACC proposal is set at **9,14%** for the Regulatory Period 2024-2027.
- The proposed WACC level is reasonable and fully justified, based on:
 - ✓ The financial situation in Europe and growing interest rates, expected to continue during the Regulatory Period, coupled with increased financial needs to support the investment plan of DESFA
 - ✓ The need for appropriate equity remuneration given the significant investment plan of DESFA in the coming years
 - The increased uncertainty related to gas investments compared to electricity, while recognizing the key role that gas will play as the "transition fuel" in the future energy market and the need for the gas TSO to envisage the gradual transformation of the system, to be able to transport new decarbonized gases

DESFA's WACC proposal is set at **9,14%**

WACC PARAMETER VALUES		DESFA PROPOSAL	
		2024 - 2027	
INPUT	RFR	2,36%	1
	CRP	1,50%	2
	TAX RATE	22,00%	
	ERP	5,50%	3
	GEARING	45,00%	4
CALCS	DRP	2,44%	
	EQUITY BETA	1,10	5
OUTCOME	CoD	4,80%	6
	WACC	9,14%	

1 RFR adjusted – this parameter requires a significant increase for '24-'27

- **Proposal:** In light of the **significant increase** in the **market rates** we propose to apply **1-year avg yield** of 10-Y gov bonds, **adjusted** to reflect the **higher expected levels observed in the market for the future period '24-'27**
- **Remarks:** The ECB lending rate is already above 3% and is expected to increase further during March and remain years.

2 CRP – proposal to keep steady

- **Proposal:** **1.5%** consistent with the **recently approved rates** in the electricity sector (HEDNO & IPTO).
- **Remarks:** **1-year average spread** Greek vs German 10-y gov. Bonds is currently **2.31%**. This might be a peak value, considering past month's improvements. Current spreads are around 1.8%.

3 ERP – proposal to keep steady

- **Proposal:** **5.5%**, consistent with weighted average of historical ERP and HEDNO/IPTO decisions
- **Remarks:** Weighted averages of arithmetic and geometric means of historical **ERP support a higher range of 6.0-6.5%**

4 Gearing – increases as new debt is attracted to fund TYDP

- **Proposal:** **45.0%** based on average '24 - '27 projected gearing, which is expected to gradually go over 45% in that period.
- **Remarks:** Value of **45%**, is also consistent with **target** notional **gearing** (as per Art.17)

5 BETA Factor – follows gearing, otherwise steady

- **Proposal:** Asset Beta is consistent with previous decisions. Based on gearing (previous point) this leads to an **Equity Beta of 1.1**.
- **Remarks:** **Higher volatility & risk for Gas industry may justify higher Beta vs Electricity benchmarks**

6 Cost of Debt (and embedded Debt risk premium) – our best estimate including new debt

- **Proposal:** **4.8%**, based on DESFA projected CoD for the period '24 - '27, with Euribor 6m above 3%, incl. State guarantee interests, hedging & Commitment fees, and which includes additional new debt needed to fund the ongoing TYDP
- **Remarks:** The DRP is calculated as the difference between the CoD and the RFR

RAB Calculation: Working Capital

73,4m is the average Working capital for the period '24 –'27



The necessary Working Capital calculation is based on a "lead - lag" study, in accordance with the requirements of the new regulation to define the financial needs of DESFA considering the **average time difference of repayment of liabilities in relation to the collection of revenues**.

Amounts in € million	2024	2025	2026	2027	Average '24 – '27
Working Capital	86,80	71,65	65,63	69,48	73,39
- Current Assets	101,25	90,25	89,47	93,92	93,72
- Current Liabilities	14,45	18,60	23,84	24,44	20,33

Key elements of Working Capital:

❖ Current Assets

- **Inventories** exclude the amount of line pack (of 8,8m based on historical cost)
- **Accounts Receivable** follow the "lead – lag" study estimating the timing of the collection of regulated revenue, i.e. service provision, billing / invoicing and collection
- **Income tax receivable** as expected end of '24 (whereas other years have net income tax payable balances)

❖ Current Liabilities

- **Accounts Payable** follow the "lead – lag" study estimating the timing of repayment of regulated expenses, such as payroll costs, repair & maintenance costs, third party fees and other expenses
- **Income and other taxes payable** based on the estimated PnL outcome for the period '24-'27

RAB Calculation: Investments



- The investment profile for the 2024-2027 Regulatory period is based on the approved TYDP 2022-2031 as well as the Inclusion of Karperi-Komotini pipeline (total budget of 290 mil.), as proposed in the TYDP 2023-2032
- In our view, the above proposal represents the most likely scenario for the investment profile of the coming 4 years.
- The total Capex for 2024 is expected to be approximately 296 mil. €, while for the following 3 years is expected cumulatively to reach approximately 558 mil. €.

<i>Amounts in € million</i>	2024	2025	2026	2027
RAB – [Transmission]	842.083.502	981.693.411	1.094.623.332	1.220.463.440
Working Capital	64.849.128	54.922.947	51.231.577	55.174.576
Net Capex¹ base	777.234.374	926.770.463	1.043.391.755	1.165.288.864
RAB – [LNG]	254.713.256	239.606.775	226.403.328	214.929.646
Working Capital	20.990.442	15.706.873	13.478.617	13.390.512
Net Capex¹ base	233.722.815	223.899.902	212.924.711	201.539.134

¹ exc Grants

Regulated OPEX – Executive Summary



The **Regulated OPEX** is based on DESFA's best estimations for the **period '24-'27 based on '21-'22 actual and '23 budget figures** and using the three pillars (**inflation, growth and efficiency**) as per new tariff methodology, as presented below (all amounts are in Million or m EUR):

Amounts in € million	2024	2025	2026	2027	Delta '24-'27	Inflation (*)	Growth	Efficiency
Total Regulated Opex for Submission	60,37	63,15	64,15	64,49	4,12			
Total Controllable Regulated Opex	55,69	58,58	59,76	60,51	4,82			
- Permanent Opex	55,61	58,52	59,68	60,42	4,81	3,12	3,82	-2,13
- Non-Permanent Opex	0,08	0,07	0,08	0,08	0,0			
Total Non-Controllable Regulated Opex	4,67	4,58	4,41	4,02	-0,66			

(*) The inflation impact is calculated based on the following rates: (i) 1,80% in '25-'26 & (ii) 1,90 in '27

The **Controllable Permanent Regulated OPEX** follow the **growing effect from the activities** of DESFA, including prior years and ongoing continuous development of the network as (such as *West Macedonia, North Macedonia, Patras and Compressor Stations and MR stations across the country*) as well as planned TYDP additions (such as *Karperi-Komotini duplication*) The **main drivers** of OPEX growth (3,8m) above inflation (3,1m) are the following:

- **Gradual Network expansion** according to the TYDP results in growing **Maintenance costs of up to 1,5m increase in '27** and a corresponding increase in **DESFA personnel (+1,2m)**
- Further continuation of the IT digitalization including **software maintenance of 0,3m** and impact of **DESFA development plan on general expenses** (see also item (iii) below)

The amount of **2,1m** represents **expected efficiencies during the period '24-'27** based on the **realized and ongoing corporate transformation efforts** including the **digitalization** of the processes and activities. The efficiency are quantified as the difference between to total estimated cost increases (inflation + growth = 6,94m) and the Delta 24-27 included in the regulated OPEX profile. More specifically:

- **Lower DESFA personnel (-0,8m)** due to (i) introduction of Workforce planning, (ii) implementation of new Systems and reskilling & (iii) continuous Reorganization of core business functions
- **Lower External costs (-1,3m)** due to (i) optimization of truck loading costs by moving from Perama to Almira in '24 and (ii) lower general expenses due to movement to a new office building and (iii) commitment of DESFA in keeping the increase of all external expenses below inflation through new ways of working & digitalization

Note: The above cost levels reflect the classification of Own Production Cost and IFRS 16 in RAB as foreseen in new methodology.

Allowed Revenue 2024 – 2027 & Required Revenue 2024 [Transmission]

Allowed Revenue, <small>TRANS</small> (€)	2024	2025	2026	2027
RAB ¹ x WACC	76.966.432	89.726.778	100.048.573	111.550.358
Depreciation	33.311.996	36.355.221	40.660.093	44.395.633
OPEX	44.953.517	47.244.784	48.001.084	48.239.883
<u>Allowed Revenue</u>	<u>155.231.945</u>	<u>173.326.782</u>	<u>188.709.749</u>	<u>204.185.874</u>
RD (2020-2022 ²)	-13.410.955			
OLD RD	11.538.049			
Required Revenue, <small>TRANS</small>	153.359.038			

¹RAB is based on actual 2021 data and updated for 2022 based on preliminary.

² RD 2022 based on preliminary 2022 figures

Allowed Revenue 2024 – 2027 & Required Revenue 2024 [LNG]

Allowed Revenue, LNG (€)	2024	2025	2026	2027
RAB ¹ x WACC	23.280.792	21.900.059	20.693.264	19.644.570
Depreciation	10.952.157	11.156.935	11.403.146	11.316.312
OPEX	11.963.754	12.573.543	12.774.821	12.838.374
<u>Allowed Revenue</u>	<u>46.196.703</u>	<u>45.630.537</u>	<u>44.871.231</u>	<u>43.799.256</u>
RD (2020-2022 ²)	-3.219.165			
Socialised Revenue	21.488.769			
Required Revenue, LNG	21.693.111			

¹ RAB is based on actual 2021 data and updated for 2022 based on preliminary 2022 figures

² RD 2022 based on preliminary 2022 figures

Cost Allocation Assessment

- Art. 5 of TAR NC (EU 2017/460) regulates that a Cost Allocation Assessment (CAA) shall be performed, to indicate the degree of cross-subsidisation between intra-system (i.e., domestic) and cross- system (i.e., transit) network use, based on the proposed reference price methodology.
- The CAA shall be carried out separately for the capacity and commodity components of the gas transmission tariffs. DESFA only applies capacity tariffs.
- If the result of the CAA is more than 10%, a justification has to be provided.
- The CAA is calculated based on the following formula:

$$CAA = \frac{2 \times |Ratio_{intra} - Ratio_{cross}|}{Ratio_{intra} + Ratio_{cross}} \times 100\%$$

$$Ratio = \frac{Revenue}{Driver}$$

Where:

- *Revenue* is the revenue which is obtained from capacity tariffs for intra-system / cross-system network use
- *Driver* is the value of capacity-related cost driver for intra-system / cross-system network use. We use forecasted contracted capacities, in line with the type of driver used in the reference price methodology.
- Both Revenues and Drivers used for calculating the Ratio are adjusted to account for the impact of the Short-Term multipliers to the Revenue (same methodology used for calculating the tariffs)
- The indicative result of the **CAA for the NNGTS is 6,3%** using the reference price methodology which is below the 10% threshold set by TAR NC

desfa

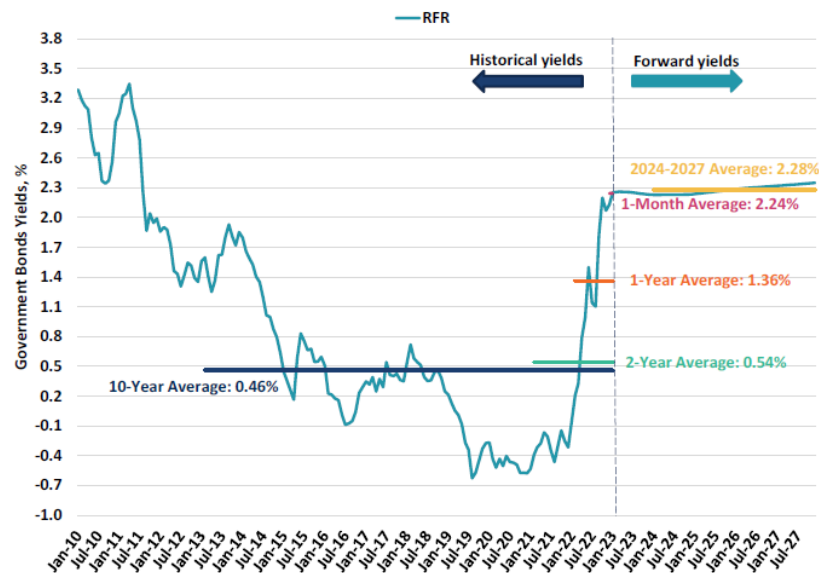
Annex

A decorative graphic consisting of several overlapping, wavy horizontal bands. The colors are primarily shades of blue and green, with some yellow-green highlights. The bands flow from the left side of the image towards the right, creating a sense of movement and depth.

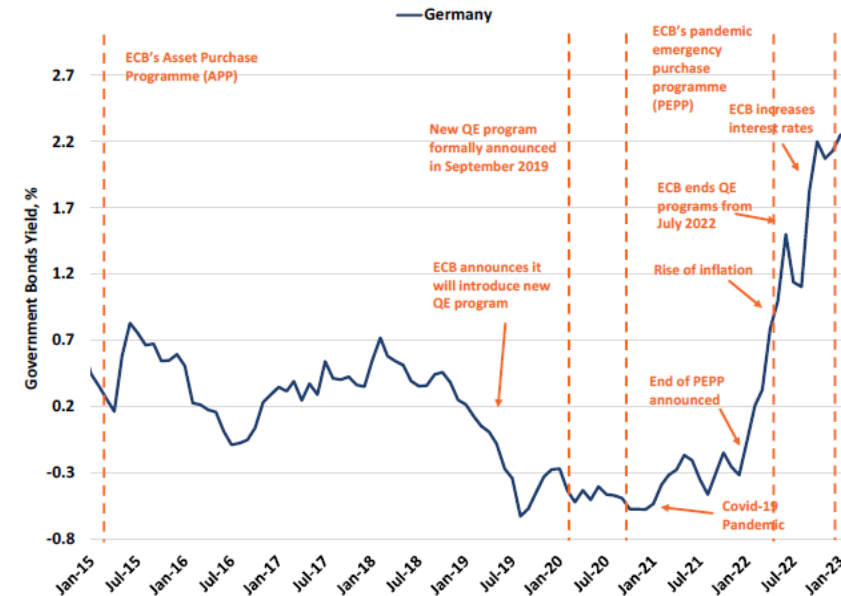
WACC components

- In light of the significant increase in the market rates we propose to apply 1-year avg yield of 10-Y gov bonds, adjusted to reflect the higher expected levels observed in the market for the future period '24-'27.
- The RfR of 1.36% is based on the 1-year averages of 10-y German government bond yields
- Recent increase in government bond yields is visualized with short-term averages and was present in recent forward premia. The proposed RfR premium of 1.0% presents a capped total of effects from QE-Convenience-Forward Premium spread as expected for '24 - '27
- The ECB lending rate is above 3% and expected to increase. Euribor 6m levels are well above 3% as well and curves indicate a continuation.

10Y German government bonds yields

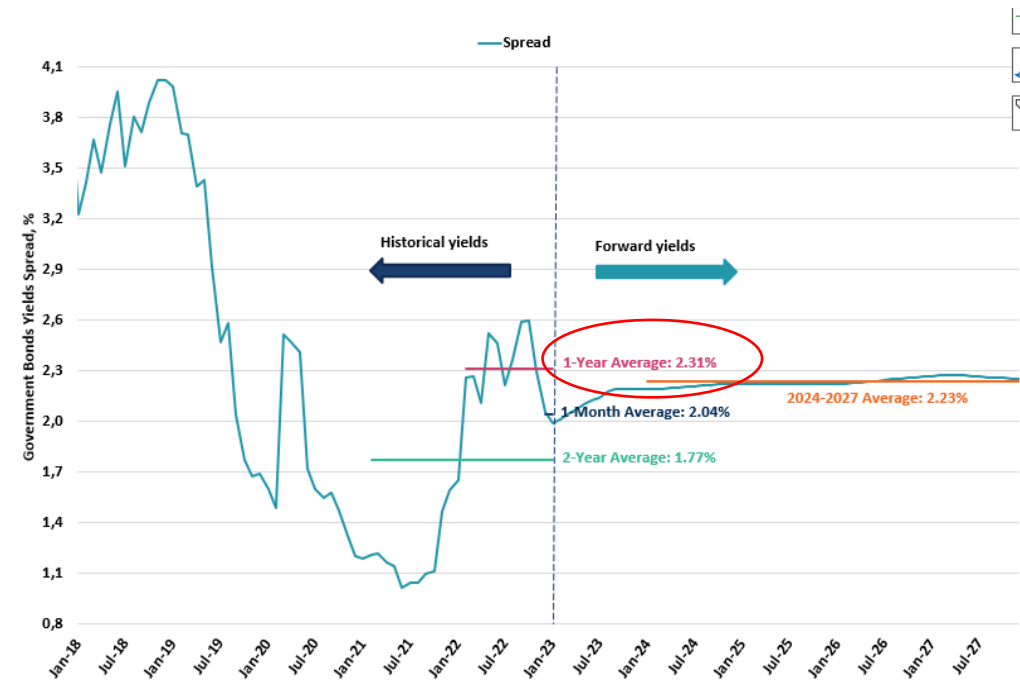


Impact of QE on German government bond yields



- The CRP is based on the short-term averages of the spread between 10-y Greek and German government bond yields
- 1-year average spread Greek vs German 10-y gov. Bonds was 2.31% end of January '23, while it would decrease to 2.23% in the period '24-'27
- We propose to use a CRP of 1.5% as Greece is expected to improve its credit rating in '23 and to be consistent with the recently approved rates in the electricity sector (HEDNO & IPTO). Current CRP level is around 1.8%.

Country	Greece	Germany	CRP
Maturity	10 Y	10 Y	10 Y
CRP 2024-2027	4,51%	2,28%	2,23%
CRP 1-y	3,67%	1,36%	2,31%



- We propose 5.5%, consistent with weighted average of historical ERP and HEDNO/IPTO decisions
- Weighted averages of arithmetic and geometric means of historical ERP support higher ERP of about 6% (80%-20% weighting) and 6.5% (weighting based on length of historical data and regulatory period -JKM)

Historical Equity Risk Premiums - DMS

		Risk premiums related to bonds, 1900 - 2021					Market Cap USD bln [F]
		Geometric mean %	Arithmetic mean %	Average (50%-50%) %	Average (80%-20%) %	Average (JKM) %	
		[A]	[B]	[C]	[D]	[E]	
Austria	[1]	2.8%	21.0%	11.9%	17.4%	20.4%	179
Belgium	[2]	2.2%	4.3%	3.3%	3.9%	4.2%	425
Finland	[3]	5.4%	9.0%	7.2%	8.3%	8.9%	352
France	[4]	3.2%	5.4%	4.3%	5.0%	5.3%	3,464
Germany	[5]	4.9%	8.2%	6.6%	7.5%	8.1%	2,764
Ireland	[6]	2.7%	4.7%	3.7%	4.3%	4.6%	130
Italy	[7]	3.0%	6.3%	4.7%	5.6%	6.2%	737
The Netherlands	[8]	3.4%	5.7%	4.6%	5.2%	5.6%	1,249
Portugal	[9]	5.1%	9.2%	7.2%	8.4%	9.1%	88
Spain	[10]	1.6%	3.5%	2.6%	3.1%	3.4%	714
Average Eurozone	[11]	3.4%	7.7%	5.6%	6.9%	7.6%	
Value-weighted average Eurozone	[12]	3.6%	6.5%	5.1%	5.9%	6.4%	

Historical Equity Risk Premiums – DGM and Damodaran

ERP 2022		
Bloomberg DGM, Eurozone	[1]	8.53%
KPMG DGM, Europe	[2]	6.00%
Damodaran, Greece	[3]	8.41%

Notes and sources:

[1]: Bloomberg DGM estimate of the average ERP in Eurozone countries as of September 30 2022, weighted by market capitalization.

[2]: KPMG DGM estimate of the ERP for Europe as of Q2 2022.

[3]: Damodaran's DGM estimate of the ERP for Greece as of 1 July 2022.

- *The higher volatility & risk for Gas industry, which has increased over time with, justifies a higher Beta vs Electricity sector*
- *We propose therefore an Asset Beta at least consistent with previous decisions for DESFA at 0.67.*
- *Based on gearing as per DESFA funding needs (see next page) for the updated TYDP, this leads to an Equity Beta of at least 1.1.*

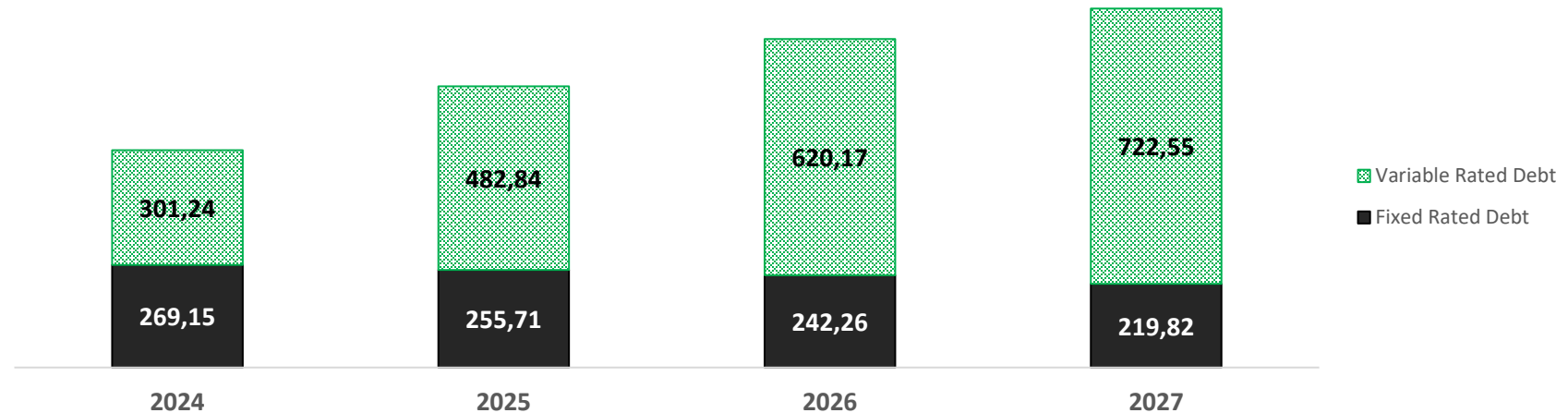
CoD & Gearing



- 4.8%, based on DESFA projected CoD for the period '24 - '27, with Euribor 6m above 3%, incl. State guarantee interests, hedging, commitment fees and bank margins. It includes additional new debt needed to fund the ongoing TYDP
- Increase in CoD is unavoidable given recent increase in rates and further expectations thereon as well as the need to enter into new additional debt
- 45.00% based on average '24 - '27 gearing. In function of progress of DESFA's investment plan this will gradually go over 45% in the period.
- Gearing expected to increase towards lower end of the notional range up to a high of slightly above 50% in 2027

					<u>CoD Average '24-'27</u>
CoD	4,87%	4,85%	4,81%	4,78%	4,82%
Euribor 6-months	3,91%	3,27%	3,04%	2,99%	

Outstanding Debt EoP



Gearing

38,6%

44,9%

48,8%

50,9%