Republika e Kosovës
Republika Kosova - Republic of Kosovo

ZYRA E RREGULLATORIT PËR ENERGJI
REGULATORNI URED ZA ENERGIJU
ENERGY REGULATORY OFFICE

Consultation Report on Maximum Allowed Revenues within MYT3

Periodic Review for TSO/MO

Third Regulatory Period (2023-2027)

DISCLAIMER

This Consultation Report is prepared by ERO with the purpose of consulting the stakeholders on the proposal of ERO on Maximum Allowed Revenues. The report does not represent a decision of ERO and shall not be considered as such.

16 February 2023

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1 Introduction

Energy Regulatory Office (ERO) is in the Periodic Review process for the Third Regulatory Period (PRR3) which includes the determination of Maximum Allowed Revenues (MAR) for the period 2023-2027. The Periodic Review shall determine the Maximum Allowed Revenues for the Transmission System and Market Operator (TSO/MO –KOSTT JSC) and the Distribution System Operator (DSO-KEDS JSC).

This Consultation Report provides the proposals of ERO for MAR which reflects the forecast costs for the calendar years 2023-2027. The approved Maximum Allowed Revenues shall determine the use of system tariffs which are applied for the relevant tariff year (1 April – 31 March 2023).

This Consultation Report provides the proposals of ERO on MAR to be recovered by TSO/MO during the third regulatory period PRR3. The approved Maximum Allowed Revenues shall determine the tariffs for transmission use of system which shall be charged to the transmission system users. The costs resulting from the use of transmission system shall be included in the electricity tariffs of final customers. The report is structured as follows:

- Chapter 2 summarizes the purpose of the periodic review and its difference to annual adjustments;
- Chapter 3 reviews the summary of the review process;
- Chapter 4 reviews the regulatory asset base and the investment plan for the upcoming regulatory period;
- Chapter 5 reviews the operating and maintenance expenses for the upcoming regulatory period;
- Chapter 6 reviews the costs of losses, costs of ancillary services and the unregulated revenues;
- Chapter 7 presents the calculations of ERO for regular annual adjustment; and
- Chapter 8 summarizes MAR for the upcoming regulatory period.

Comments of stakeholders

Consultation with stakeholders is essential in compilation of sustainable regulatory policies. ERO invites the customers, civil society, regulated companies and other interested parties to review the data and position of ERO provided in this Report, with which they may not agree, and to provide comments on them by providing facts, counter-arguments and new data which ERO may not have taken into consideration. The comments on this Consultation Report can be submitted in electronic form via e-mail at ero.pricing-tariffs@ero-ks.org or submitted as a hard copy at the following address:

Energy Regulatory Office
Tariffs and Pricing Department

St. Bekim Fehmiu (former-Fazita Building 2nd floor,
10000 Pristina, Kosovo

Comments must be submitted by 3 March 2023 at the latest.

Following the review of the received comments, ERO shall publish the Final Report along with the Reponses to Comments. The comments received on this Consultation Report shall be published along with the Final Report.

Relevant documents

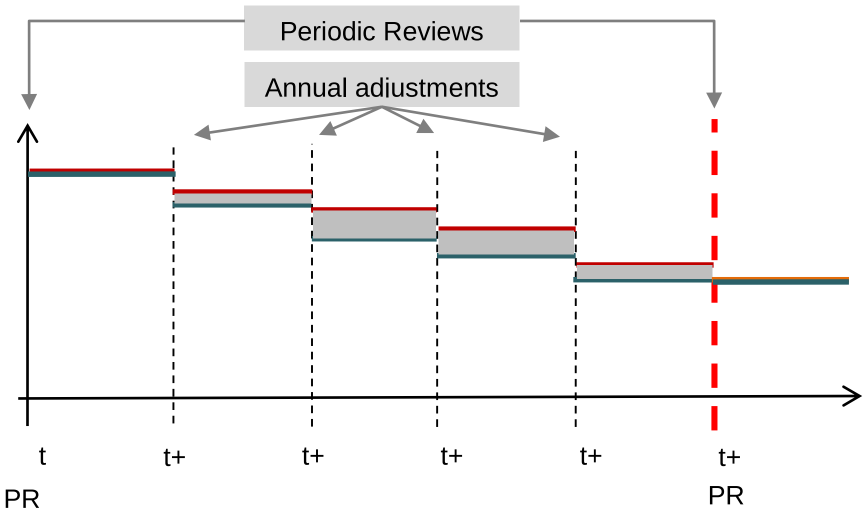
Title of the document	Link
Law No. 05/L-084 on Energy Regulator	https://www.ero-ks.org/zrre/sites/default/files/Legjislacioni/Ligjet/LIGJI_PER_RREGULLATORIN_E_ENERGJISE.pdf
Rule on Maximum Allowed Revenues for the Transmission System and Market Operator	http://ero-ks.org/2017/Rregullat/Rregulla%20per%20te%20Hyrat%20e%20OST_OT.pdf
Letter on initiation of periodic review	https://www.ero-ks.org/zrre/sites/default/files/Konsultimet%20Publike/Tarifat%20Ngrohje%20Qendrore/Dokument%20inicues_Shqyrtimi%20Periodik%20i%20OST-OT%20dhe%20OSSH%20(00000003).pdf
Final Report on Determination of Input Values – Weighted Average Cost of Capital (WACC) V_1634_2022 - Weighted Average Cost of Capital (WACC) for TSO/MO and DSO for the Third Regulatory Period (PRR3)	https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Pjesemarresit%20ne%20Treg/Furnizim/Raport%20perfundimtar_Pergjigje%20ndaj%20raportit%20konsultativ%20per%20WACC.pdf https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Vendimet/Vendimet%202022/V_1634_2022.pdf
Final Report on Determination of Input Values –Level of Network Losses Decision V_1636_2022 Loss reduction target and the curve of allowed losses in PRR3 for transmission and distribution network PRR3	https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Pjesemarresit%20ne%20Treg/Furnizim/Raport%20perfundimtar_pergjigje%20ndaj%20komenteve_%20per%20humbje.pdf https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Vendimet/Vendimet%202022/V_1636_2022.pdf
Final Report on Determination of Input Values – Efficiency Factor V_1635_2022 - Efficiency Factor for TSO/MO and DSO for PRR3	https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Pjesemarresit%20ne%20Treg/Furnizim/Raport%20perfundimtar_fakori%20i%20efikasiteti_pergjigje%20ndaj%20komenteve.pdf V_1635_2022.pdf (ero-ks.org)
Preliminary Transmission Five-Year Investment Plan	https://www.ero-ks.org/zrre/sites/default/files/Publikimet/P%C3%ABr%20Ne/Plani%20i%20P%C3%ABrformanc%C3%ABs/220404_KOSTT_Plani%20Peliminar%20Pes%C3%ABvje%C3%A7ar%20Investues%202023-2027_P%C3%ABr%20Publikim.pdf

2 Periodic reviews and annual adjustments

The Law on Energy Regulator sets out the basic regulatory framework and the principles to be followed during the determination of Maximum Allowed Revenues (MAR) of the regulated operators. The law stipulates that the Maximum Allowed Revenues must be sufficient to cover the reasonable costs of the system and the regulated tariffs must be set at the level that covers the system cost.

The Rule on Determination of Revenues for Transmission System and Market Operator transposes the requirements of the primary legislation and sets the basis for multi-year tariff regulation. According to this rule, the main components of the MAR are determined during periodic reviews and do not change during the multi-year tariff period (so-called regulatory period) which in Kosovo has been set to be five years. These can be the cost components related to depreciation costs, allowed return on investments and operating and maintenance expenses. In addition to these components, and in the interest of increasing the predictability of MAR and the financial sustainability of the sector, ERO determines the main regulatory parameters such as the Weighted Average Cost of Capital, the allowed level of losses and the level of efficiency factor applied to operating costs. The consultation on regulatory parameters has already been completed and ERO proposals are published on its website.

Figure 1 *Periodic Reviews and Regular Adjustments within the multi-year tariff system*

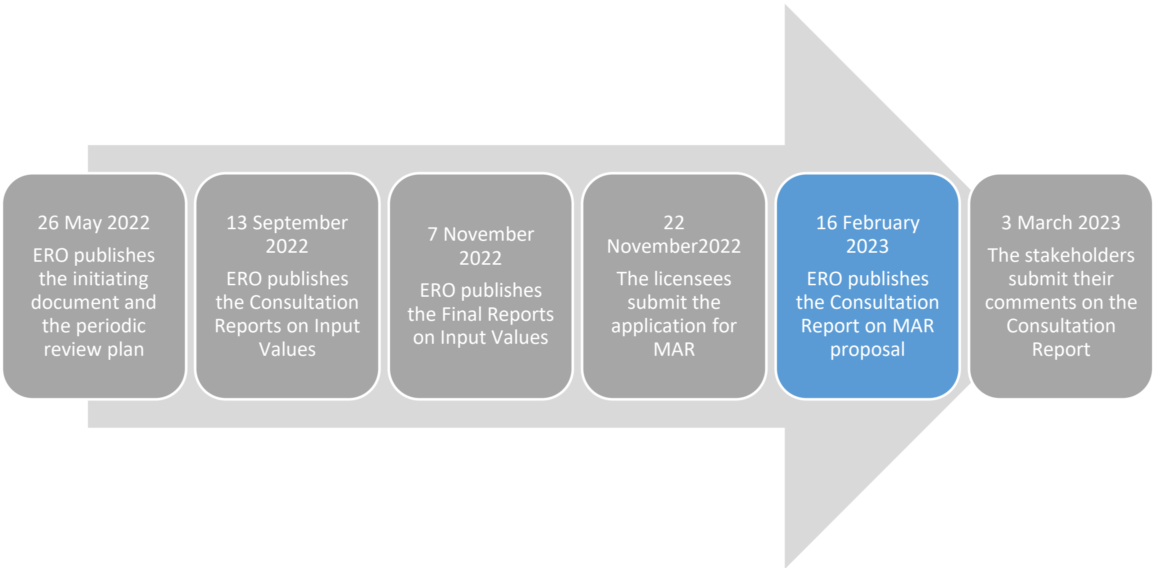


Through the multi-year tariff framework, ERO aims to maintain the predictability of system costs and maintain sustainable and predictable prices for customers. At the same time, ERO has taken into account that several cost factors - such as the cost of energy purchase to cover losses, volume of losses or inflation - can vary beyond five -year predictions. For this reason, the Maximum Allowed Revenues are adjusted each year during the annual adjustment process to coordinate the differences between the forecast values and realized ones of these costs. Annual adjustment for the last tariff year of the previous regulatory period (MAR2) is provided in Chapter 7 of this report.

3 Summary of the Periodic Review Process

The periodic review process began in May 2022 and is now at an advanced level. ERO has approved the values of regulatory parameters that are input values in determining the main components of the Maximum Allowed Revenues.

Figure 2 *Periodic review process*



The proposals and decisions of ERO on regulatory parameters, stakeholders' comments and ERO responses on them are published on ERO's website. A summary of the determined values is given in sub-chapters 3.1-3.4, below.

3.1 Lifespan of Assets

The lifespan of assets is one of the input parameters to be determined by ERO during periodic reviews. Asset lifespan is an important regulatory parameter as it determines the time during which the assets invested by the company must be covered by tariffs to replace the asset following its technical depreciation.

ERO has established the asset categories and their lifespan during the previous periodic review (PRR2) and does not consider necessary to change them. A summary of the determined asset categories is given in the following table:

Table 1 *Categories of assets and their lifespan*

No.	Categories of assets	Lifespan
I	Buildings, roads, sewerage networks, water supply, wells, elevators	50
II	LV network, pillars	40
III	Low voltage network, substations, transformers, etc.	30
IV	Trucks, cherry pickers and work machinery	10
V	Control and telecommunication, different equipment, fire protection	8
VI	Furniture, office equipment	7
VII	IT equipment, software, patents, licenses, cars etc.	5

3.2 Weighted Average Cost of Capital (WACC)

The Weighted Average Cost of Capital (WACC) represents the share of return that regulated operators must benefit to be compensated for the risk they undertake by investing in regulated infrastructure assets.

The approved WACC for the third regulatory period is summarized below:

Table 2 *WACC determined for PRR3 for TSO/MO (KOSTT) and DSO (KEDS)*

Parameter	PRR 2	PRR3
Real risk-free rate	3.70%	3.65%
Debt premium	3.50%	2.09%
Real cost of debt	7.20%	5.74%
Tax rate	10%	10%
Equity Beta	1	0.88
ERP	4.50%	5.04%
Cost of net capital, real pre-tax	9.10%	8.98%
Gearing	40%	40%
WACC, real pre-tax	**8.30%**	**7.69%**

3.3 Allowed losses

Allowed losses consist of the allowed share of network losses that can be covered through Maximum Allowed Revenues. ERO has determined that the level of allowed losses for PRR3 for TSO shall be

1.75%. This proposal is based on the trend of losses realized in the previous years 2019, 2020 and 2021, and represents a stimulation for TSO to continue operating at the efficient level of losses.

The allowed level of losses for regulated operators is summarized in the following table:

Table 3 *Allowed network losses for the third regulatory period 2023-2027*

Allowed losses	Unit	2023	2024	2025	2026	2027
Allowed losses for TSO	%	1.75	1.75	1.75	1.75	1.75
Loss Reduction target	%		-	-	-	-
Loss sharing factor	%	50/50	0	0	0	0
Allowance of losses for DSO	%	15.1	14.7	13.3	12.1	11.1
Loss reduction target	%	-	0.4	1.4	1.2	1.0
Loss sharing factor	%	50/50	0	0	0	0

3.4 Efficiency factor

The efficiency factor represents ERO's expectations for improving the operational efficiency of regulated companies as a result of improvements in business processes, economies of scale or technological advancements.

In order to promote more efficient operation of operators, ERO has set a savings factor for operating and maintenance expenses for savings that exceed the efficiency factor. These savings are split between the licensee and the customers according to the 50/50 factor.

The efficiency level for regulated operators is given in the following table.

Table 4 *Efficiency factor for regulated companies*

Input values – Efficiency factor	Unit	2023	2024	2025	2026	2027
TSO/MO - KOSTT	%	1.5	1.5	1.5	1.5	1.5
DSO - KEDS	%	1.5	1.5	1.5	1.5	1.5

4 Regulatory Asset Base (RAB) and Investment Plan

During each periodic review, ERO reviews the actual implementation of the investment plan of the previous regulatory period (MAR2) and coordinates the Regulated Asset Base to reflect the changes between planned investments and the ones realized during that period. Following the evaluation of the coordinated Regulatory Asset Base, ERO reviews the proposed investment plan for the upcoming regulatory period (MAR3) and analyses its technical and financial reasonableness. ERO's analysis is summarized in this chapter and is organized as follows:

- Sub-chapter 4.1 provides a summary of coordination of the value of RAB;

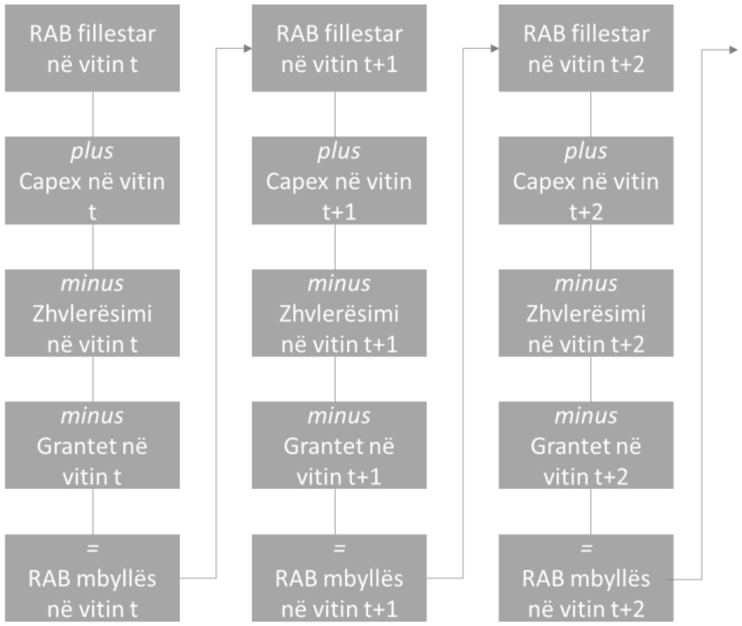
- Sub-chapter 4.2 provides a summary of RAB of the previous regulatory period (PRR2), investment plan and the realization of investments from TSO/MO;
- Sub-chapter 4.3 summarizes existing ending RAB until the closure of the previous regulatory period (PRR2);
- Sub- chapter 4.4 reviews the investment plan proposed by TSO/MO for the upcoming regulatory period (PRR3) and ERO's position on it; and
- Sub-chapter 4.5 summarizes ending RAB for the upcoming regulatory period which includes the coordination of the existing RAB and investments approved by ERO.

4.1 Principles of coordination of the value of RAB

This sub-section of the Consultation Report summarizes the basic principles of RAB coordination. They are:

- The Regulatory Asset Base is updated during each periodic review (every five years) to reflect the changes between the forecast and realized investment plan. The five-year RAB is modelled for each year starting from the opening RAB, adding investments during that year, and deducting depreciation on assets. Grants and donations are not part of RAB.
- The investment plan approved during the periodic review must not change during the entire regulatory period. In cases where the plan changes then the regulated operators are obliged to provide the necessary evidence to ERO that the alternative plan offers equivalent or better benefits to customers compared to the initial plan.
- Changes between the forecast and realized values of the investment plan, which may occur for reasons beyond the control of the regulated operator, are coordinated with interest.

Figure 3 Update of RAB during each year of regulatory period



4.2 Starting RAB for the previous regulatory period (PRR2)

The opening value of RAB at the beginning of the previous regulatory period was €223 million. The allowed investments during this period are worth €63.1 million. The allowed RAB in PRR2 is summarized in the following table:

Table 5 Summary of RAB in the regulatory period PRR2

€000s	- - - - - - - - - - - - - - PRR2 - - - - - - - - - - - - - -				
	2018	2019	2020	2021	2022
	Proposed	Proposed	Proposed	Proposed	Proposed
Opening RAB	222,749	224,145	229,885	226,095	230,058
Supplements	11,476	16,478	7,355	15,552	1,071
Impairment/repayments	-59	-59	-59	-59	-59
Depreciation	10,021	10,679	11,085	11,530	11,898
Ending RAB	224,145	229,885	226,095	230,058	219,173

The TSO/MO has reported differences between the forecast and realized plan in PRR2. The differences between the allowed and realized investments are presented in the following table:

Table 5 Differences between the approved and realized investments in PRR2

Capital investments	€000s
PRR2 – approved	63,072
PRR2 - realized	32,163
Added in the opening of RAB for PRR2	**32,163**

4.3 Update of RAB for the previous regulatory period (PRR2)

The differences between the forecast values and those realized during the investments implementation phase during the previous regulatory period have resulted in a change in the RAB value for the TSO/MO. The impact of these changes is the adjustment of MAR for €11.96 million (for more details see Appendix 1 of this Report).

The final RAB for the previous regulatory period is given in the following table. The closing value of assets for PRR2 is €207 million.

The main differences between the allowed and updated RAB for PRR 2 consist on:

- Indexation of RAB for HICP;
- Differences as a result of realized investments compared to allowed ones;
- Adjustment of depreciation costs which reflects the updated RAB and actual investments;

Ending RAB for TSO/MO for the second regulatory period is presented in the following table:

Table 6 *Ending RAB for the second regulatory period*

€000s	- - - - - - - - - - - - - -	PRR2	- - - - - - - - - - - - - -		
	2018	2019	2020	2021	2022
	Proposed	Proposed	Proposed	Proposed	Proposed
Opening RAB	223,863	217,434	208,883	209,818	217,251
Supplements	2.503	22,430	3,098	4,054	78
Depreciation	8,986	9,093	9,057	9,383	10,129
Ending RAB	217,380	230,771	202,925	204,489	207,200

4.4 Investment plan for the upcoming regulatory period (PRR3)

In the evaluation of capital projects that should be included in the regulatory period 2023-2027, ERO and TSO/MO have had continuous consultations so that the needs for investments are properly addressed. Further, ERO in the evaluation of capital projects for PRR 3 has taken into consideration the investment drivers, relevant studies and analysis that prove the needs and measure the benefits, unit costs for project categories as well as experiences in the implementation of projects during the two regulatory periods.

A general overview of the evaluation of capital projects for PRR3 is elaborated below:

ERO has requested information from TSO/MO on unit costs for different categories of implemented projects, and following the review of the average unit costs of TSO/MO for the main investment items towards regional operators to evaluate the reasonability of costs. This review has concluded that the proposed TSO/MO costs are within acceptable limits.

For the projects LOT 1 - SS 110/10(20) kV-Dragashi with 1x40MVA transformers and transmission lines, the investment value has been reviewed by ERO. Within this project, the new 110kV single line between Zhur and Kukës (border with Albania) is proposed to be postponed for the next regulatory period. Based on the Rule on Evaluation of Investments, this project is ranked lower in relation to other investment projects.

Also, the projects of LOT2 Rehabilitation of SS and supply of 40MVA power transformers with consulting services funded by KfW/TSO/MO, have been ranked lower in relation to other investment projects, therefore they have been postponed for the next regulatory period.

Also, based on the Rule on Evaluation of Capital Projects, the project "Re-vitalization of LV 110kV equipment at SS Vushtrri 1" is proposed to be postponed for the next regulatory period.

The capital investments of TSO/MO and the plan of their commissioning is provided in the following table:

Table 7 *Investment Plan proposed by KEDS and ERO for PRR3*

NO.	Classification of projects by categories of assets	TSO/MO Proposal mil€	ERO Proposal mil€
I	Buildings, roads, sewerage network, water supply, wells, elevators	18.3	11.2
II	LV network, pillars	21.2	3.7
III	Low voltage network, substations, transformers, etc.	30.5	17.7
IV	Trucks, cherry pickers, work machinery	0.45	0.45
V	Control and telecommunication, different equipment, fire protection	28.9	18.0
VI	Furniture, office equipment	0.0	0.05
VII	IT equipment, software, patents, licenses, vehicles, etc., etc.	4.9	4.7
Total		**104.4**	**55.9**

The capital investments of TSO/MO and the plan of their commissioning during PRR3 is presented in the following table

***Table 8** Investment plans and their commissioning PRR3*[1]

€000s	Total	- - - - - - - - - - - - - -	PRR3	- - - - - - - - - - - - - -		
		2023	2024	2025	2026	2027
		Proposed	Proposed	Proposed	Proposed	Proposed
Submitted by TSO/MO						
Capital expenses	**104.4**	14.3	9.3	10.9	50.3	19.5
ERO proposals						
Capital expenses	**55.9**	13.9	9.3	6.7	23.7	2.3

4.5 Ending RAB for the upcoming regulatory period

During the next five-year regulatory period, a total of €55.9 million is expected to be invested. These investments and the value of the final RAB for TSO/MO for the next regulatory period are summarized in the following table:

***Table 9** Ending RAB for the upcoming regulatory period*

€000s	- - - - - - - - - - - - - -		PRR3	- - - - - - - - - - - - - -	
	2023	2024	2025	2026	2027
	Proposed	Proposed	Proposed	Proposed	Proposed
Opening RAB	237,575	239,091	235,212	228,361	237,796
Investments (Supplements)	13,943	9,259	6,655	23,385	2,343
Depreciation	12,427	13,139	13,506	13,951	14,445
Ending RAB	239,091	235,212	228,361	237,796	225,694

5 Operating and Maintenance Costs

TSO/MO Operating and Maintenance Costs (OPEX) are comprised of repair and maintenance costs and other operational costs.

The value of TSO/MO operating and maintenance expenses is set as follows:

- Baseline Opex value for the first year of the upcoming regulatory period (PRR3) takes into account the closing Opex value in the last year of the previous regulatory period and adjusts this to reflect changes in costs which are outside the control of TSO/MO or as a result of its additional obligations to fulfill legal obligations.

[1] The proposal of ERO also includes the projects in proces.

- The base OPEX value is indexed to the inflation rate for 2022 for 8.4%.
- An efficiency factor of 1.5% is applied to the adjusted base value, set as a regulatory parameter that reflects the expectations for efficiency improvement for the next regulatory period.
- The costs for the "Repairs and Maintenance" line are evaluated as a separate OPEX line. The basis for the evaluation of these costs is the average level realized in the years 2018-2022.
- The OPEX line "Other operating expenses" is calculated as the difference of the total OPEX from the line "Repairs and Maintenance" and "Insurance".
- The evaluated operating costs for 2023 are then forecast for the remaining period of PRR3 being adjusted to expected improvements from annual efficiency.

  OPEX adjustments for DSO PRR3 are summarized below:

  - Non-controllable Opex is determined based on asset insurance and health insurance costs in 2022 recommended as the recommended base year.
  - The costs for the line "Membership in international organizations" recognized during PRR 2 have been removed in PRR 3 based on the information of TSO/MO as they were not realized in Opex during PRR 2.
  - An efficiency factor of 1.5% is applied to controllable Opex.

The Opex for TSO/MO for the next regulatory period is summarized in the following table:

***Table 10** OPEX for the upcoming regulatory period*

€000s	- - - - - - - - - - - - - - PRR3 - - - - - - - - - - - - - -				
	2023 Proposed	2024 Proposed	2025 Proposed	2026 Proposed	2027 Proposed
Proposed by TSO/MO					
Repairs and maintenance	1,024	1,188	1,061	1,145	1,151
Other operative expenses	9,043	9,840	10,465	10,925	11.912
Uncontrollable OPEX Health insurance	129	137	142	169	172
Total OPEX	**10,302**	**11,271**	**11,775**	**12,345**	**13,342**
ERO proposals					
Repairs and maintenance	690	679	669	659	649
Other operative expenses	7,075	6,969	6,865	6,762	6,660
Uncontrollable OPEX (Health insurance)[2]	123	123	123	123	123
Total proposed ERO	**7,888**	**7,771**	**7,657**	**7,544**	**7,432**

[2] These costs shall be adjusted in actual basis depending on the realized level.

6 Losses, Ancillary Services and Unregulated Revenues

The Maximum Allowed Revenues of the TSO/MO should be sufficient to cover the costs of a reasonable level of network losses. The level that ERO considers reasonable was approved during the determination of regulatory parameters (1.75% per year). The costs of losses will be adjusted during each regulatory year to reflect:

- The difference between forecast and realized energy volumes;
- The difference between forecast and realized energy price; and
- The difference between allowed and realized level of losses.

6.1 Cost of Energy Losses

The cost of energy losses is the result of the product between the volume of losses, originating from the energy balance, and the Weighted Average Power Purchase Cost (WAPPC).

In the past, WAPPC has been set as the weighted average of the costs of purchasing power from domestic capacity and the forecast cost of energy purchase from imports. The past two years have been characterized by unprecedented increases in electricity prices and significant price fluctuations in electricity exchanges. This has caused the materiality threshold estimated at 5% to be violated due to fluctuations in the cost of purchasing losses in the network.

Since the costs of losses are not a fixed parameter during the regulatory period but are subject to regular annual adjustments, the table below shows the proposal of the cost of losses only for the year 2023.

A summary of the cost of energy losses is provided in the following table:

***Table 11** Cost of losses for the first regulatory year of PRR3*

€000s	Unit	2023 Proposed TSO/MO	2023 Proposed ERO
Proposed			
Energy entering transmission	GWh	7,357	7,308
Loss allowance	%	1.75%	1.75%
Losses	GWh	129	128
Purchase price	€/MWh	105.3	115.8
Total costs	**€000s**	13,594	14,040

6.2 Costs of ancillary services

The costs of ancillary services cover the costs of the resources that must be contracted for system balancing purposes by the system operator. The costs of ancillary services are adjusted each year to reflect deviations between forecast and realized values. ERO, in forecasting these costs for 2023, has taken into account the realizations from the previous two years.

The forecast of TSO/MO which at the same time presents the value proposed by ERO is presented in the following table:

Table 123 *Costs of ancillary services for the first regulatory year of PRR3*

Ancillary services	Unit€	2023 TSO/MO	2023 ERO
Proposals	000	13,000	8,638

6.3 Unregulated revenues

Unregulated revenues are revenues that the TSO/MO receives from the use of regulated assets and that are deducted from the Maximum Allowed Revenues. While the costs for performing any service (including here revenues from capacity allocation, revenues from transit and other operating revenues are revenues that are deducted in PRR3.

Given that the forecast OPEX enables recovery of all costs, ERO, in order to avoid double counting, subtracts these revenues and costs from the final MAR.

The evaluation of these unregulated revenues has not been conducted by TSO/MO for PRR3. ERO proposes the value of 8.31 million euros for PRR3 and expects from TSO/MO the proposals for unregulated revenues. These revenues are adjusted during regular annual adjustments.

7 Annual adjustment of costs and revenues

As explained in Chapter 2 of this Report, the Maximum Allowed Revenues of the operators are coordinated between the regulatory years to reflect the changes in the predicted and realized values of some cost components. This chapter presents ERO's calculations for the annual adjustment of TSO/MO’s MAR and is organized as follows:

- Sub-chapter 7.1 presents the indexation of costs with inflation;
- Sub-chapter 7.2 addresses the adjustment of the cost of losses;
- Sub-chapter 7.3 addresses the adjustment of unregulated revenues;
- Sub-chapter 7.4 addresses the ancillary services;
- Sub-chapter 7.5 addresses the adjustment of OPEX costs;
- Sub-chapter 7 addresses the adjustments for KREV.

7.1 Indexation with inflation rate

According to tariff methodology, some components of TSO/MO costs should be indexed every year to reflect the annual rate of inflation. The inflation rate takes into account the Harmonized Index of Consumer Prices published by Eurostat. The value published in January 2023 for 2022 is 8.39%.

The costs impacted by indexation in inflation are provided in the following table:

***Table 14** Indexation of costs with HICP*

Line	Unit	Allowed	HICP	Excluded costs
OPEX-i	mil€	7.35	8.39%	0.62
Depreciation	mil€	12.67	8.39%	1.06
Return	mil€	11.63	8.39%	0.98
Adjustments	mil€	31.65	8.39%	2.65

7.2 Adjustment of the cost of losses

Energy purchase costs must be adjusted annually to reflect the changes in forecast and realized input values. The main changes derive from changes in realized energy purchase prices and realized volumes of energy flow in the network. Changes in the energy purchase cost are reimbursed with interest between the TSO/MO and customers.

The adjustment of the cost of losses is summarized below:

***Table 135** Adjustment of the cost of losses*

Losses TSO/MO	Unit	2022 Allowed	2022 Realized	Difference
LSSAt	%	1.78	1.78	
REUEt	GWh	7,376	7,021	
WHEAt	€/MWh	111.6	113.19	
It	%		8.51%	
Value of losses	mil€	13.9	13.4	-0.56

7.3 Unregulated revenues

Revenues from unregulated sources are adjusted during each regulatory year to reflect the changes between their forecast and realized values.

The value of revenues from excluded services after the application of the interest rate turns out to be -9.9 million euros (capacity allocation, ITC and other revenues), so this value will be returned to customers through the application of tariffs in PRR3.

7.4 Ancillary services

The costs of ancillary services are adjusted annually to reflect the changes between the forecast and realized value of the cost of these services.

The calculation of the annual adjustment is provided in the following table:

***Table 146** Adjustment of costs of ancillary services*

Ancillary services TSO/MO	Unit	2022 Allowed	2022 Realized	Difference
Ancillary services	mil€	6.99	9.89	2.89

7.5 Costs of membership in international organizations and OPEX for Vallaq

ERO had allowed OPEX in PRR2 for TSO/MO, in building professional capacities to fulfill the obligations that will arise with membership in relevant international organizations. During PRR2, about €0.3 million was allowed per year, which was not realized. Therefore, ERO has reduced these costs through adjustments in the amount of -2.05 million, following the application of the interest rate for this period.

Regarding the additional costs for the operation of SS Vallaq, TSO/MO during PRR3 is allowed €76,000 per year necessary to cover staff costs for 7 workers. ERO has deducted these staff costs for the years 2021, 2022 and adjusted -0.18 million euro, following the application of the interest rate for this period.

7.6 Revenues correction factor KREV

KREV represents the annual adjustment of the Maximum Allowed Revenues to reflect the difference between forecast and realized revenues that occur as a result of changes in energy flows. This adjustment of revenues is carried out in constant value during PRR3.

The adjustment for the regulatory year is provided in the following table:

***Table 157** Adjustment for KREV*

Revenues correction factor - KREV	Unit	Value
AAC_{at-11} Allowed actual costs for relevant year t-1	mil€	23.38
ARR_{t-1} Realized revenues in relevant year t-1	mil€	34.72
I_t Interest rate	%	8.5
KREV = $(AAC_{at-1} - ARR_{t-1})*(1+I_t)$	**mil€**	**12.91**

8 The Maximum Allowed Revenues (MAR) including regulatory adjustments

This chapter of the Consultation Report presents ERO's proposal for the Maximum Allowed Revenues according to TSO/MO entities (Transmission System Operator (TSO), System Operator and Market Operator) for the regulatory period 2023-2027.

Based on the operating and capital costs evaluated above, the following is the proposal for KOSTT's MAR (including TSO/MO). For the purposes of determining the transmission tariffs, these costs must be divided between the three functions of KOSTT: those of the Transmission System Operator (TSO), the System Operator (SO) and the Market Operator (MO). The basis for this division is as follows:

- Existing assets at the beginning of PRR2 are allocated between three functions. The resulting opening RAB of PRR2 is carried forward using the allowed capital expenses by function during PRR1 (adjusted as discussed above) and the calculated depreciation to give the opening RAB in PRR2 by function.
- Capital expenditures during PRR2 are allocated by function based on the nature of the projects in question. The allowed return and depreciation by functions for PRR2 is calculated using the resulting RAB. The same WACC is applied to all functions.
- The base Opex is allocated between functions using the allocation factors provided by the TSO/MO.
- The costs of losses and ancillary services are allocated to the TSO function, which is responsible for purchasing system services.
- Non-tariff revenues are allocated to TSO as the operator of assets which are used to provide transit services and other third-party services.[3].
- The Renewable Energy Sources Fund managed by the Market Operator will be addressed during regular annual adjustments.

The Maximum Allowed Revenues shall be calculated according to the base formula provided in the Pricing Rule:

$$MAR_t = OPMC_t + DEPC_t + RTNC_t + ASVC_t + LSSC_t + LICC_t - ITCR - NTFR_t + KREV_t$$

Where:

MAR_t - *Maximum Allowed Revenues in year t*

$OPMC_t$ - *Operating and maintenance costs in year t*

$DEPC_t$ - *Depreciation costs in year t*

[3] In case the revenues from the compensation mechanism of ENTSO-E are then included in the calculations of MAR, then these shall be allocated to the function of the TSO.

$RTNC_t$ - Allowed return costs in year t

$ASVC_t$ - Costs of ancillary services in year t

$LSSC_t$ - Costs of losses in year t

$LICC_t$ - Licensing costs in year t

$ITCR_t$ - ITCR costs in year t

$NTFR_t$ - Unregulated revenues in year t

$KREVt_t$ - Difference of KREV in year t

The calculations of ERO are detailed according to entities of KOSTT, provided in sub-chapter 8.1.

8.1 Summary of MAR by entities

Table 168 Summary of MAR by entities of KOSTT

Proposal of ERO for MAR €000s	- - - - - - - - - - - - - - PRR3 - - - - - - - - - - - - - -				
	2023	2024	2025	2026	2027
	Proposed	Proposed	Proposed	Proposed	Proposed
Transmission System Operator (TSO)					
Base Opex	5,915	5,828	5,742	5,658	5,574
Depreciation	11,047	11,299	11,553	12,460	12,953
Allowed return	9,297	9,385	9,354	9,113	10,264
Non-tariff revenues Allocation of capacities	-8,310	-8,310	-8,310	-8,310	-8,310
ITC	-1.363	-1.363	-1.363	-1.363	-1.363
Capex adjustments-PRR2	-1,963	-1,963	-1,963	-1,963	-1,963
Adjustments PRR2 and year 2022	-2,077	-2,077	-2,077	-2,077	-2,077
Total	**12,547**	**12,799**	**12,936**	**14,630**	**15,383**
System Operator (SO)					
Base Opex	1,716	1,691	1,666	1,641	1,616
Cost of losses	13,492	13,492	13,492	13,492	13,492
Costs of Ancillary Services	8,638	8,638	8,638	8,638	8,638
Depreciation	1,847	2,301	2,168	1,290	1,1
Allowed return	515	726	774	765	769
Non-tariff revenues	-	-	-	-	-
Adjustments CAPEX PRR2	-425	-425	-425	-425	-425

Proposal of ERO for MAR €000s	- - - - - - - - - - - - - -	PRR3	- - - - - - - - - - - - - -		
	2023	2024	2025	2026	2027
	Proposed	Proposed	Proposed	Proposed	Proposed
Adjustments PRR2 and year 2022	- 946	- 946	-946	-946	-946
Total	**25,385**	**25,478**	**25,367**	**24,456**	**24,715**
Market Operator (MO)					
Base Opex	256	252	249	245	241
Costs of Ancillary Services	-	-	-	-	-
Depreciation	0.0	0.0	0.0	27.9	55.9
Allowed return	62.0	45.3	28.5	21.7	19.6
Renewable Sources Fund[4]	20,928	20,928	20,928	20,928	20,928
Adjustments for PRR2	-5.2	-5.2	-5.2	-5.2	-5.2
Adjustments PRR2 and year 2022	- 6.0	-6.0	-6.0	-6.0	-6.0
Total	**21,235**	**21,214**	**21,194**	**21,211**	**21,234**
KOSTT MAR	**59,168**	**59,490**	**59,497**	**59.984**	**61,027**

[4] These costs shall be adjusted in annual basis and are neutral towards the TSO and DSO network tariffs.

Annex 1: Adjustments for capital investments in PRR2

There are a number of capital projects which were included in the approved investment plan for PRR2 but which have not been implemented. In these cases, ERO applies the adjustment of the 'return' of the allowed depreciation and the allowed return related to these projects which were included in the MAR of PRR2. The customers will be compensated for these adjustments during PRR3. This prevents the TSO/MO from benefiting from the proposal of investment projects whose costs are included in the MAR but which it has not actually implemented. As in other adjustments, the calculations are conducted taking into account the time value of money.

The value of adjustments of depreciation and allowed return for PRR2 is -11.96 million euros. The details of calculations are provided as follows:

Table 19 *Adjustment for capital investments PRR2*

Actual	**Unit**	**2018**	**2019**	**2020**	**2021**	**2022**	**Total**
Depreciation	mil€	0.06	0.66	1.34	1.74	1.75	**5.55**
Return	mil€	8.14	8.77	9.38	9.19	8.86	**44.34**
Allowed		**2018**	**2019**	**2020**	**2021**	**2022**	**Total**
Depreciation	mil€	0.35	1.28	2.11	2.76	3.42	**9.92**
Return	mil€	8.50	9.40	10.11	10.72	11.01	**49.74**
Difference							**Total**
Depreciation	mil€	-0.29	-0.62	-0.77	-0.102	-1.66	**(12.82)**
Return	mil€	-0.36	-0.63	-0.73	-1.53	-2.15	**(10.60)**
HICP - PRR2			1.73%	1.19%	0.26%	8.39%	
It		7.49%	7.38%	7.30%	7.12%	8.51%	
Total adjustment	mil€	(0.94)	(1.70)	(1.90)	(2.94)	(4.48)	**(11.96)**
Average in years	**mil€**	**(2.39)**	**(2.39)**	**(2.39)**	**(2.39)**	**(2.39)**	**(11.96)**