



**Republika e Kosovës**  
**Republika Kosova - Republic of Kosovo**

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



# **Consultation Report**

## **Third Periodic Review for the regulatory period 2023 – 2027**

### **Efficiency Factor**

#### **STATEMENT**

**This Consultative Report has been prepared by ERO in order to inform stakeholders in the energy sector. The report does not represent any decision of ERO and should not be interpreted as such.**

**13 September 2022**



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## 1 Introduction

Based on the mandate given in the Law on the Energy Regulator and the approved rules for the Maximum Allowed Revenues for Transmission System Operator and Market Operator (TSO/MO-KOSTT) and Distribution System Operator (DSO/KEDS), ERO has started the process of the Third Multi-Year Tariff Review (Regulatory Period – “MYT3”) to determine the Maximum Allowed Revenues of the licensees KOSTT and KEDS licensees for the upcoming 5-year period 2023-2027 (1 April 2023 – 31 March 2028).

On 26 May 2022, ERO sent to the licensees (KOSTT and KEDS), as well as copies to the Assembly and the Ministry of Economy, the "Letter of Initiation" to inform them on ERO's Plan regarding the Third Periodic Review for the regulatory period 2023 - 2027.

In order to determine the Maximum Allowed Revenues (MAR) for TSO/MO (KOSTT) and DSO (KEDS), ERO will determine in advance the main variables of regulatory parameters (inputs) in order to ensure sufficient time and information for the parties in the public consultation process. This practice was also used in the two previous tariff reviews. The values of the regulatory parameters that will be set following the public discussion are:

- The initial level and expected rate of reductions in transmission and distribution system losses.
- Expected rate of efficiency improvements in operating costs of TSO and DSO, which is the subject of this consultation report.
- Weighted Average Cost of Capital (WACC) of TSO and DSO.
- The appropriate life expectancy of the assets to be used for purposes of calculating the regulatory depreciation of new investments.
- Loss sharing factor.
- Savings sharing factor which is applied to savings that exceed the efficiency factor, and
- Any other input parameters that the regulator may deem necessary.

This consultation report will focus on the efficiency factor for the TSO/MO and DSO for the period 2023 - 2027 and serves for public consultation.

Any comments on this consultation report should be submitted electronically via email at [ero.pricing-tariffs@ero-ks.org](mailto:ero.pricing-tariffs@ero-ks.org) or submitted in hard copy at the following address:

Energy Regulatory Office - Tariffs and Pricing Department

Street: Bekim Fehmiu (Former Fazita Building), floor: 2, Pristina, 10000, Kosovo



The comments from interested parties must be submitted by 28 September 2022 at the latest. ERO reserves the right to publish any comment received in whole or in part, unless it is identified as confidential.

## **2 Summary of proposals and comments from the Regulated Utilities on the Efficiency Factor for the Regulatory Period 2023 – 2027**

Based on the initiating document sent by ERO for the opening of the process of the Third Periodic Review for Multi-Year Tariffs (MYT3), the Transmission System Operator (KOSTT) has prepared and submitted to ERO their proposal for the Efficiency Factor for the Regulatory Period 2023 – 2027.

The Distribution System Operator (KEDS) did not submit their proposal for the Efficiency Factor for the Regulatory Period 2023 – 2027.

KOSTT proposes that the value of the Efficiency Factor to be set at 0 (zero) for the next Periodic Review (MYT3). KOSTT provided the following reasons to justify their proposal:

1. The level of the Efficiency Factor was set arbitrarily at 1.5% using a methodology mainly designed for highly developed countries.
2. The Efficiency Factor is not significantly used in ERRA (Energy Regulatory Regional Association) Member States, and a value of 1.5% is not typical for member countries.
3. As a state-owned company, KOSTT does not have enough flexibility to manage costs, such as number and salary of employees, negotiating prices with suppliers etc.
4. During the previous regulatory period, there is minimal correlation between allowed OPEX and the actual OPEX.
5. The asset base of KOSTT has increased during the years to fulfil Kosovo's electricity needs.
6. There are new planned capital projects for the following 5 years which will increase O&M costs.
7. New regulations on compliance with Governmental regulations, environmental standards, and health and safety standards increase costs.
8. The latest ENTSO-E report requests from KOSTT to increase staff and to increase operational costs, considering new duties and requirements stemming from ENTSO-E.
9. Limits in cash-flow in the past have impacted KOSTT, resulting in cancelation or postponements of O&M projects. The further electricity crisis will worsen the situation at KOSTT.



### 3 OPEX Efficiency Factor (X)

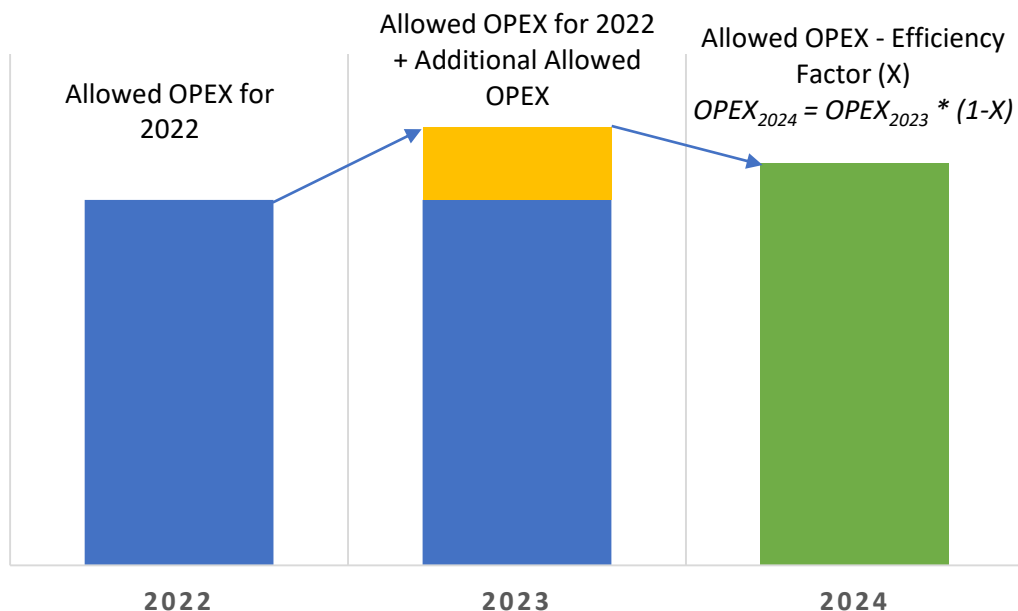
Efficiency Factors are used by regulators worldwide to emulate market competition in monopolistic markets. They limit excessive pricing and put incentives for utilities to operate in an efficient manner.

In the beginning of the Regulatory Period, ERO establishes the base OPEX level, which is the same as the allowed OPEX for the last year of the previous Regulatory Period. The base allowed OPEX for the following regulatory period is adjusted considering new responsibilities or the removal of responsibilities from the public service. Therefore, points 5 – 9 of KOSTT’s consultation paper shall be addressed when setting the base allowed OPEX.

The base allowed OPEX level for the new regulatory period is then adjusted yearly with Harmonized Indices of Consumer Prices (HICPs) – all units for Eurozone and for the Efficiency Factor according to the rules. ERO limits the effect of the Efficiency Factor to controllable OPEX.

ERO does not set the allowed OPEX or efficiency factor for each OPEX detail, in order to allow flexibility of the licensee on evaluating the most efficient manner of achieving quality of supply.

**Figure 1: ERO application of Efficiency Factor to base OPEX.**



ERO establishes the Efficiency Factor based on the expected efficiency gains of OPEX of operators for the regulatory period.

As mentioned, when considering the additional allowed OPEX for the Third Multi-Year Tariff Review (MYT3), ERO will analyse and consider the new review.



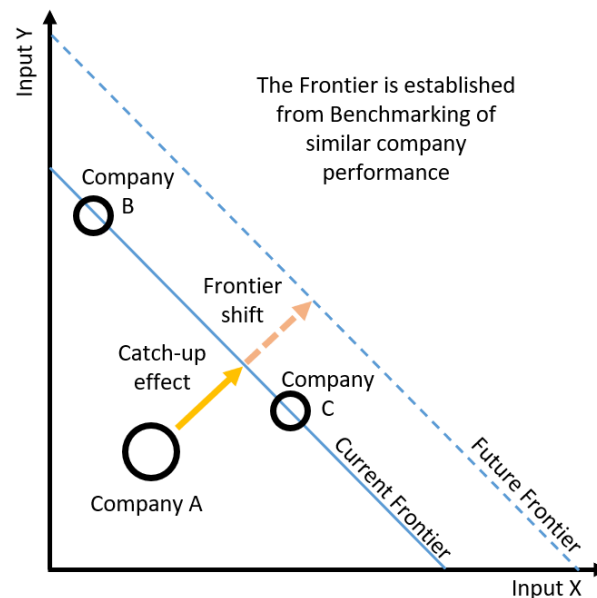
## 4 ERO's proposal for the Efficiency Factor of the Transmission System Operator (KOSTT) and the Distribution System Operator (KEDS)

In a well-functioning competitive market, utilities aim to increase their efficiency to gain an economical advantage over their competitors. There are two main elements of efficiency improvement known in literature:

- **Catch-up effect**, which includes all improvements within the utility to achieve best known practices in an industry, or in other words catching-up to the best performer in the market.
- **Frontier shift effect**, which is related to the changes of the best practices in the industry, through technological advancements and new working practices.

The two above mentioned components are visually presented in Figure 2.

*Figure 2. Visual representation of Catch-up and Frontier shift effect*



### 4.1 Catch-up Efficiency Effect

Determining the catch-up efficiency rate of a company is subject to determining the most efficient company or the efficiency frontier. This can be done in 2 main methods:

- **Benchmarking of companies operating in a similar market** – This methodology has limited use in the context of Kosovo, considering that KEDS and KOSTT are the only DSO and TSO, respectively. Conducting a benchmarking analysis would require access to detailed financial data of comparable regional TSOs and DSOs which are hard to gain access to.



- **Determining the efficiency frontier using a Virtual Reference Network** – While this methodology is used to determine the efficiency frontier in markets with limited actors, it is a complex and lengthy process. Moreover, it requires high quality data on network topology, per-unit costs, forecasts of future demand etc. Moreover, the results are highly dependent on the choice of input and output specifications.

Considering the complexity and lack of data to perform the above-mentioned methodologies, ERO will not set a catch-up efficiency factor for KOSTT or KEDS and assumes that both KOSTT and KEDS operate at the current most efficient level.

## 4.2 Frontier shift efficiency component

The determination of the efficiency factor for KOSTT and KEDS will be based on the frontier shift, considering that even if KOSTT and KEDS are operating in the most efficient manner, future efficiency improvements can be achieved through the new technologies and working practices.

There are two main methods of establishing the future potential of the frontier shift in electricity companies:

- **Indirect Comparisons** – are based on data from past comparable regulated companies or sectors. The assumption is that it is possible to estimate the historical rate of frontier shift of comparable sectors and assume that the past frontier shift level is a good indicator of potential future frontier shift. Moreover, it assumes that the established future frontier shift of comparable sectors is a good indicator of the rate of the overall technological progress and can be carried on to the electricity sector as well.

Some regulators in Europe use this methodology to establish the frontier shift rate. However, this methodology requires data on growth indicators such as the Total Factor Productivity (TFP) from several comparable industries. For Europe this data is available within the KLEMS database. This methodology is subject to discussions on which sectors should be considered as comparable and to what extent. Moreover, as the methodology assumes that past performance of other sectors is an indicator of future performance of electricity utilities, which often is not the case.

ERO considers that industry growth indicators are not a valid representation of growth indicators for electricity companies in Kosovo. Moreover, due to the lack of such data for comparable sectors in Kosovo, and the gaps that this methodology provides, ERO chooses not to conduct this comparison.

- **Direct Comparisons** – usage of the company data over time to estimate the historical rate of the frontier shift achieved by the company. It assumes that the past rate of progress is a good indicator of future potential progress. This methodology only requires data for the specific licensee (in this case KOSTT and KEDS). The drawbacks of this methodology are that they do not take into consideration potential environmental effects which may have led to increased or



decreased efficiencies in the past. Moreover, past efficiency gains do not guarantee future efficiency gains at the same rate, or at all.

Efficiency is generally considered as the ratio between outputs and inputs (with the adjustment of environment). However, taking into account the above-mentioned drawbacks, ERO has conducted an analysis to determine whether efficiency gains have been achieved in the past regulatory period for specific utilities (KEDS and KOSTT). This was carried out based on the financial data of KOSTT and KEDS by applying the Direct Comparison methodology for both operators.

For the analysis ERO used actual controllable OPEX financial data for the past regulatory period (2017 – 2022) and adjusted them considering as a basic value the 2017 costs, taking into account the Harmonized Index of Consumer Prices (HICP) in Europe, reported by the Eurostat and taken into consideration by the regulator during annual adjustment. This analysis enables the evaluation of the efficiency of network operators in the provision of electricity services, given that some of the volumetric aspects have no correlation with Opex due to economies of scale.

In order to calculate the efficiency achieved during MYT2, ERO has compared the Opex realized on an annual basis with the Opex converted into nominal values for each year, using the 2017 Opex as the base year. This enables that the Opex is initially comparable and then enables the calculation of the efficiency achieved by TSO/MO and DSO in the period 2017-2021.

The data used is found in the table below for both Operators (KOSTT and KEDS).

			2017	2018	2019	2020	2021
Actual controllable OPEX	KOSTT	€m	6,942	6,670	7,176	7,466	7,963
	KEDS	€m	26,752	26,434	27,560	27,046	27,713
Base year 2017							
HICP		%		1.73	1.19	1.26	5.0
Controllable OPEX adjusted for HICP Index	KOSTT	€m	6,942	7,062	7,146	7,165	7,523
	KEDS	€m	26,752	27,215	27,539	27,610	28,991

The results of the efficiency factor from year to year and in average for the period 2017-2021 based on the table above are also presented in figures 3 and 4. DSO (KEDS) has shown efficiency in Opex through the years, and the average efficiency achieved for the period 2017-2021 is 2.34%, whereas TSO/MO (KOSTT) did not achieve to be efficient, therefore increasing the average Opex in 1.31% during this period.





Figure 3. TSO/MO Efficiency 2017 - 2021.

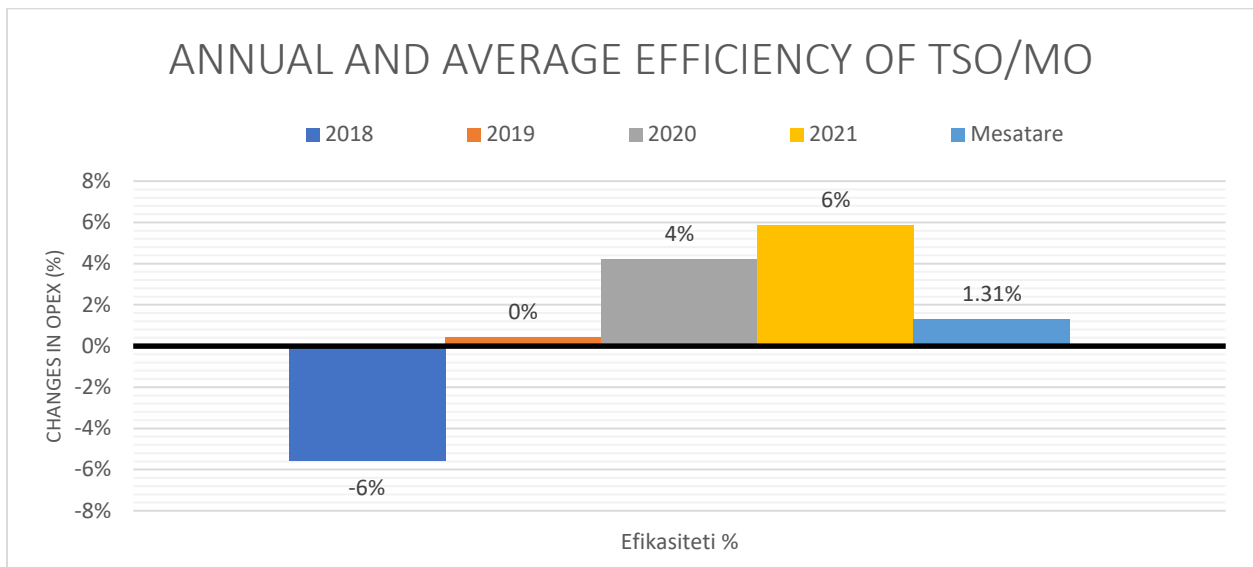
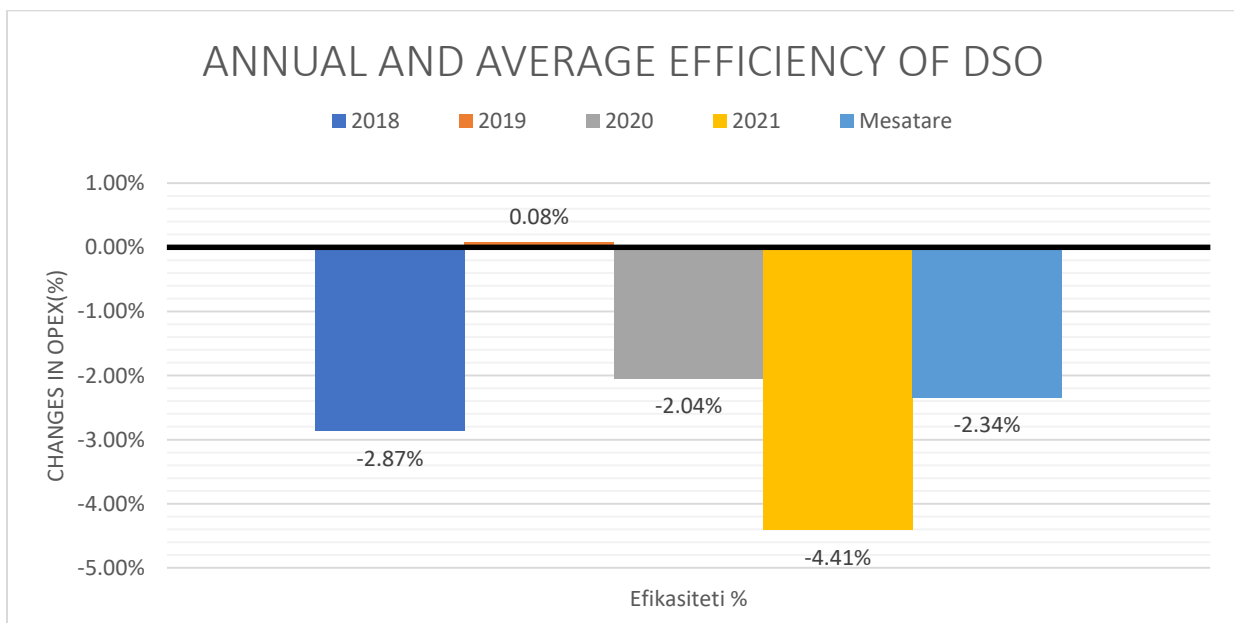


Figure 4. DSO Efficiency 2017 - 2021.





### 4.3 European Regulator Practices

ERO referred to data and regulatory practices used in other countries to propose an efficiency factor. While there is limited implementation of efficiency factors utilized in different countries, the values provided serve as a good basis for ERO consideration. The Energy Regulators Regional Association (ERRA) encourages member country regulators to set efficiency factors, considering the monopoly status and limited market competition for TSOs and DSOs.

The value of Efficiency Factors used by different regulators for DSOs and TSOs is presented in the table below.

	TSO	DSO	Reference
<b>Austria</b>	Depends on the company	1.25% - 4.4%	ERRA database
<b>Bhutan</b>	2.0%	2.0%	ERRA database
<b>Czech Republic</b>	1.0%	1.0%	ERRA database
<b>Finland</b>	2.2%	2.2%	WIK-Consult, Cost Benchmarking in Energy Regulation in European Countries.
<b>Georgia</b>	1.5%	1.5%	ERRA database
<b>Hungary</b>	1.5%	1.5%	ERRA database
<b>Lithuania</b>	1.0%	1.0%	ERRA database
<b>Moldova</b>	1.0%	1.0%	ERRA database
<b>Netherlands</b>	1.5%	1.5%	WIK-Consult, Cost Benchmarking in Energy Regulation in European Countries.
<b>Nigeria</b>	4%		ERRA Study on Regulatory Approaches to Revenue Setting, 2017
<b>Northern Ireland</b>	0.80%	0.80%	Utility Regulator, Real Price Effects & Productivity RP6, Final Determination, 2017
<b>Norway</b>	1.5%	1.5%	WIK-Consult, Cost Benchmarking in Energy Regulation in European Countries.
<b>Oman</b>	1%	1%	ERRA Study on Regulatory Approaches to Revenue Setting, 2017
<b>Poland</b>	1.50%	1.50%	ERRA Study on Regulatory Approaches to Revenue Setting, 2017
<b>Romania</b>	1 - 1.5%	2%	ERRA database
<b>Slovakia</b>	3.5%	3.5%	ERRA database
<b>Turkey</b>		1.17%	ERRA database
<b>UK</b>	1.25%	1.25%	OFGEM – RIIO-2 Final Determination, 2020

The average Efficiency Factor used in the data set for TSOs is 1.7% with a range of 0.8% - 4%. Whereas, for DSOs the average is 1.6%, with a range of 0.8% - 3.5%.



The ERRA Study on Regulatory Approaches to Revenue Setting (2017), suggested that an OPEX efficiency factor, for transmission companies operating close to the frontier, of 2% annually is achievable. Whereas for distribution companies an annual rate of 1.5% - 2% of efficiency gains is common.

#### **4.4 ERO Proposal on Efficiency Factor**

ERO sees the Efficiency Factor as crucial to providing incentives to licensees to increase efficiency, within a market with limited (non-existent) competition. The licensees should aim to increase efficiency wherever possible, by increasing the quality of service and by providing electricity to customers at affordable prices.

ERO understands that a lack of data to conduct a frontier analysis hinders the ability to set ambitious Efficiency Factors, especially for the component of the Efficiency Factor.

ERO considers that even if the licensees (KOSTT and KEDS) operate at frontier or near frontier levels, efficiency gains can still be made considering the frontier shift, by implementing new technologies and innovative management practices. This was demonstrated during the past regulatory period, where both KOSTT and KEDS showed potential of achieving OPEX efficiency gains. ERO will consider new responsibilities for both KOSTT and KEDS when setting the OPEX base level.

Taking into account: a) the efficiency achieved by DSO as the achievement of the best performer, ERO according to the "catch-up" approach; b) as well as the ERRA Study for the average efficiency factor used for TSO and DSO:

***ERO proposes an OPEX Efficiency Factor of 1.5 % - 2% per year for both KEDS (DSO) and KOSTT (TSO) during MYT3.***

ERO proposes the same level of efficiency for TSO/MO, expecting that this enterprise will reach the efficiency of enterprises with the best performance. ERO believes that this limit is achievable, taking into account its application by other regulators and the performance of operators in the past (KOSTT and KEDS).

Based on previous Regulatory Practice, ERO proposes that the savings sharing factor for savings that exceed the efficiency factor for operating costs will be shared between the licensee and the customers according to the 50/50 factor. In the case of expenses exceeding the allowed level, they will be covered by the licensees in accordance with the Rules on Revenues.