Republika e Kosovës
Republika Kosova - Republic of Kosovo

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

Consultation Report

Efficiency Factor

Second Regulatory Period (2018-2022)

DISCLAIMER

This Report has been drafted by ERO for the purpose of providing information to stakeholders of the energy sector. The report does not present any decision of ERO and should not be interpreted as such.

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Content

1 Introduction

This report describes ERO's approach to determining basic operational costs ("Basic Opex") for the Second Regulatory Period (SRP2), the role of the efficiency factor and how these efficiency factors are derived. This report accompanies consultative reports issued by ERO on Maximum Allowed Revenues (MAR) to be applied to licensees of Transmission, System and Market Operator (KOSTT J.S.C.) and Distribution System Operator (KEDS) during SRP2. This basic opex, calculated using efficiency factors as described herein, is part of MAR.

ERO uses the term "basic opex" to include personnel costs, maintenance costs and other general operating expenses. It excludes costs of purchasing energy to cover network electricity losses, depreciation costs, costs of purchasing ancillary services and other external services such as leased assets owned by third parties.

Comments on this Consultative Report may be submitted within the framework of the comments on the Maximum Allowed Revenue Consultation Reports. Comments may be submitted electronically via email at ero.pricing-tariffs@ero-ks.org or in hard copy at the following address:

Energy Regulatory Office
Pricing and Tariffs Department
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Deadline for submitting comments is **7 September 2018**.

2 Determination of allowed basic opex and the role of efficiency factors

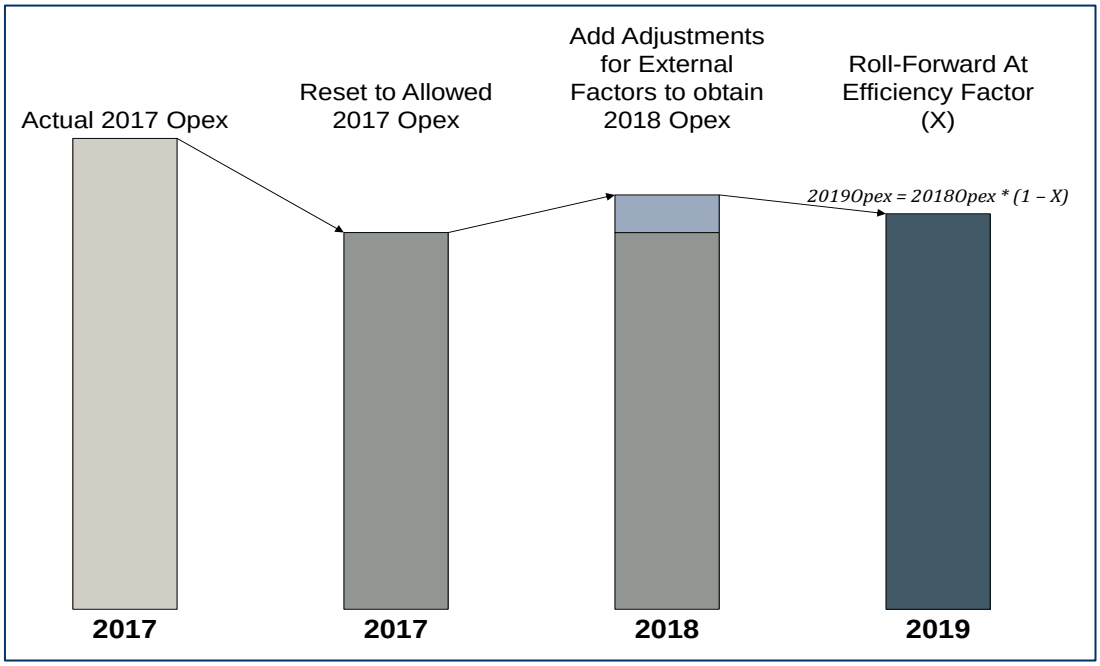
The ERO's approach to determining the allowed basix opex for SRP2 is as follows:

- The opening value of opex for SRP2 (2018) is set equal to the allowed closing value for SRP1 (2017), including any eventual component of additional costs beyond the control of the licensees. This protects consumers and licensees against significant price changes. Further, this allows licensees to keep savings or carry losses of opex realized, which varies from allowed levels in accordance with the Revenue Rules. ERO has broken the basic opex into main categories and not in details, in order to retain the flexibility for licensees to determine the best way to allocate the allowed costs by ensuring the required level of service quality.
- This opening value then fits into any changes in the expected opex resulting from defining new responsibilities for the licensees or for removal of existing responsibilities. These may include, for example, obligations arising from the implementation of the common energy market between Kosovo and Albania and any other costs outside the control of licensees.

- The adjusted opening value is then transferred in the following years in SRP2 by multiplying the value of each previous year with (1 - X), where "X" represents an "efficiency factor" determined by ERO[1].

This approach is illustrated below.

Figure 1: ERO's approach to defining the proposed basic opex



According to this methodology, factor X can be considered as a summary of three different drivers:

- **Expected efficiency improvements** during the PRR2, leading to the reduction of the unit costs[2] of the licensee and, consequently, to the decline of basic opex in real terms during SRP2.

- **Real Price Effects** (RPEs), where the input price is expected to increase or decrease faster than the overall consumer price inflation (to which the basic opex permissions are indexed). This leads to an increase or decrease in the basic opex in real terms during the SRP2.

- **Volume effects**, when the increase in network size leads to increased input demand and, consequently, higher basic opex in real terms during SRP2.

The default position of ERO is that RPE is equal to zero. It should be clear that this does not imply that all costs are consistently assumed in real terms, but net charges in real costs are zero. This is

[1] Same as with other components of MAR, basic opex is originally defined in real terms. The allowance will be updated annually within the SRP2 for consumer price inflation and efficiency factor in accordance with the rules.

[2] These reductions may be a result of lower unit prices, but without damaging the expected service quality

consistent with either constant real wages (e.g., average wages increase in line with inflation) or real wage growth by offsetting from the real cost reduction for other basic opex components[3].

ERO also assumes the volume effects to be zero or close to zero. There are economies of scale in provision of services in the electricity network and, consequently, given the ratio of operational costs and the existing network, there is little reason to assume that the costs of basic opex will increase due to network growth.

Therefore, as regards assessment of efficiency factors, ERO has focused on the first driver - that of expected efficiency improvements. **X-factors proposed to be used in calculating the basic opex are set equal to ERO's estimates of the potential benefits of efficiency in costs per unit.**

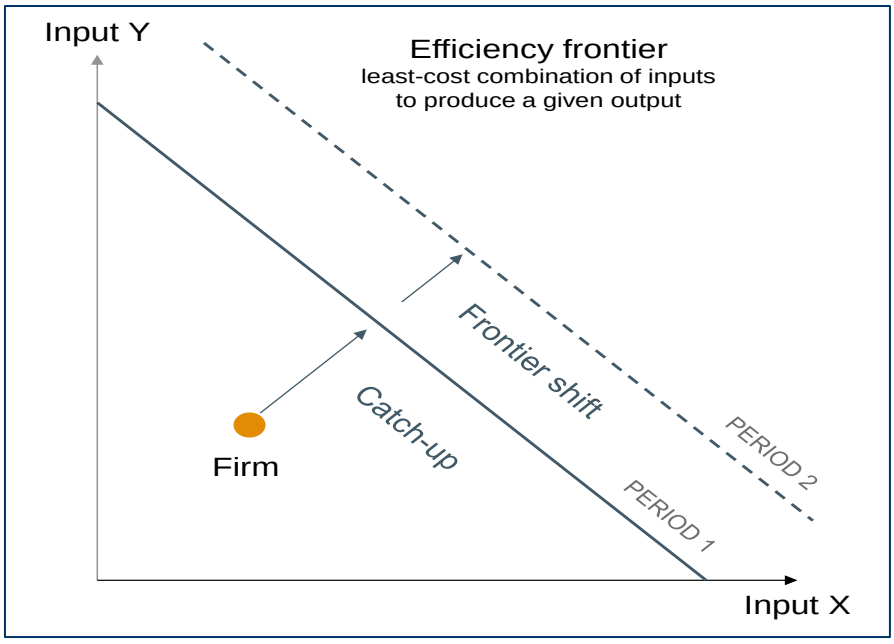
3 Assessment of efficiency benefits

Potential efficiency benefits can be broken down into two parts:

- **Catch-up efficiency -** represents the expected time for the enterprise to achieve the efficiency of the best performance (or "frontier").
- **Frontier efficiency** - represents the speed at which frontier companies are becoming more efficient over time, in particular as a result of technological upgrade.

This concept is illustrated below.

Figure 2: Components of efficiency benefits



[3] The impact of such changes in real costs depends on the relative additions of different cost items to the total costs of licensees and to the Consumer Price Index (CPI) across the economy. For example, if copper costs comprise 1% of CPI but 10% of KOSTT's costs, then a decrease of 10% in copper price would reduce CPI by 0.1%, but would reduce KOSTT's costs by 1%. The real price effect in this case would be -0.9%.

Assessing the efficiency benefits, especially the level of the existing ones in relation to inefficiency and, consequently, the potential to achieve those benefits, is challenging. While many methodologies exist, all depend on the use of quality and consistent data sets for a large number of similar enterprises over many years. Such data is difficult to be found in the electricity industry in most cases, but this can be accomplished by comparing countries and operators with similar characteristics.

Necessarily, this pushes the assessments of efficiency benefits for Kosovo to rely more on international comparisons. Such comparisons are challenging, given the differences in local price levels, differences in cost allocation and reporting, differences in duties and responsibilities, operational and environmental differences, exchange rate movements and so on. Adaptations can be made to many of these differences, but such adaptations inevitably bring a considerable subjectivity to the analysis. It often happens that changes in the assumptions made may lead to major changes in result.

Given the constraints imposed by the lack of a data set suitable for Kosovo and the time and cost implications for collecting and analysing a suitable set of international comparators, ERO instead has chosen to test the potential benefits of efficiency from a range of resources in order to propose efficiency factors. It turns out that ERO, in its assessment, is based on different data sources as evidence. To approve this approach, ERO has not required distinguishing catch-up components and efficacy benefit frontiers and, consequently, did not have an explicit view of the current level of KOSTT and KEDS efficiency compared to that of the best performance comparators.

The reviewed sources are:

- **Rate of change in costs per unit achieved by OST/MO and other DSOs in the SEE region**. These provide an indicator which shows what comparable enterprises in the region could achieve. This review is not intended to be inclusive, whether it is limited to assessing change in a selection of unit cost indices to those enterprises for which relevant data are accessible to the public.
- **Decisions by other regulators for efficiency improvement rates to be included in price control for broadcasting and distribution licensees**. These provide an indication of what regulators consider as achievable for licensees operating in a similar environment in terms of efficiency benefits from regulated power networks.

4 Benefits of efficiency

4.1 Comparison between countries of the region

ERO has compared KOSTT's performance regarding the improvement of basic opex[4] (efficiency) with other TSOs in Bulgaria, Macedonia, Montenegro and Romania. The comparison shows that:

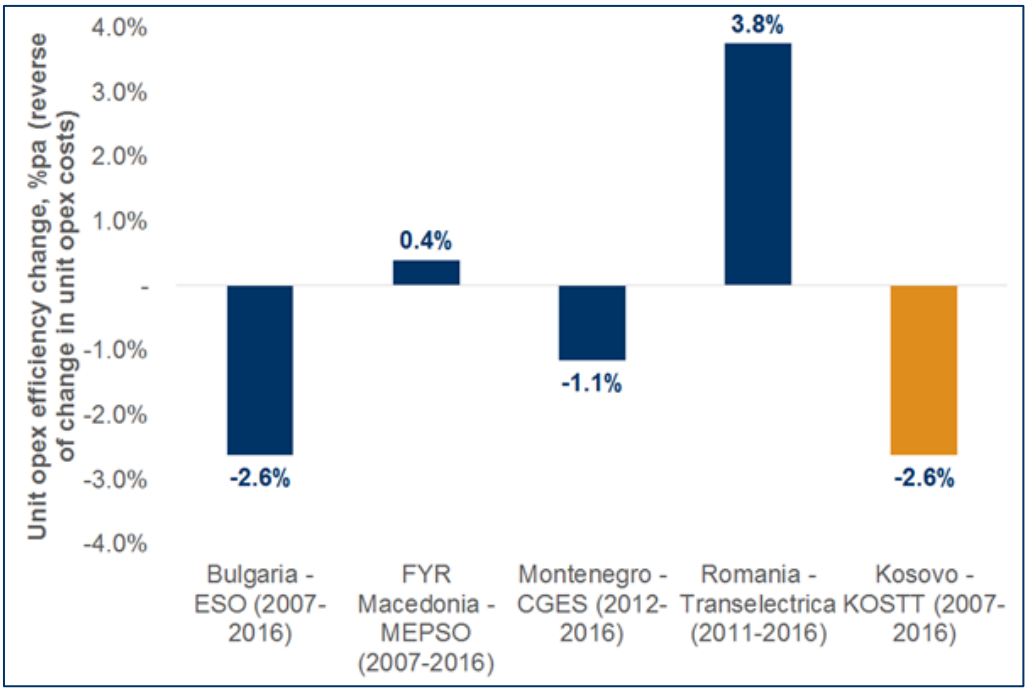
[4] In this comparison, basic opex is the amount of the costs for staff, materials, repairs, maintenance and other opex. It excludes depreciation and purchase of balancing energy, energy to cover losses and ancillary services

- KOSTT's basic opex has been growing, while three out of four regional comparators have managed to lower costs. This shows that KOSTT's operational efficiency has deteriorated over the time[5].

- Among comparators, changes in basic opex have gone from 3.0% to -3.5% with a mere average of -0.9%. Changes in opex per unit have gone from 2.6% to -3.8% with a mere average of -0.1%.

These comparisons are presented below. For consistency in the use of these data for determining efficiency factors, decreases in basic opex are shown as efficiency improvements (e.g., a decrease in opex per unit of -3.8%, here is presented as an implied increase in opex efficiency of 3.8% per annum).

Figure 3: Opex productivity improvements amongst regional OST comparators



Sources: Compiled by ERO based the published financial statements. All costs have been converted to 2016 prices using the average CPI values published by the IMF. Costs per unit are calculated by dividing according to electricity consumption as reported by Eurostat on consistency issues.

Comparisons between KEDS and regional DSOs are more difficult. The division of supply activities and the subsequent restructuring of KEDS and regional DSOs mean that continuous comparisons of costs over time are not possible from data available to the public, in most cases. Therefore, ERO did not present such a comparison in this report.

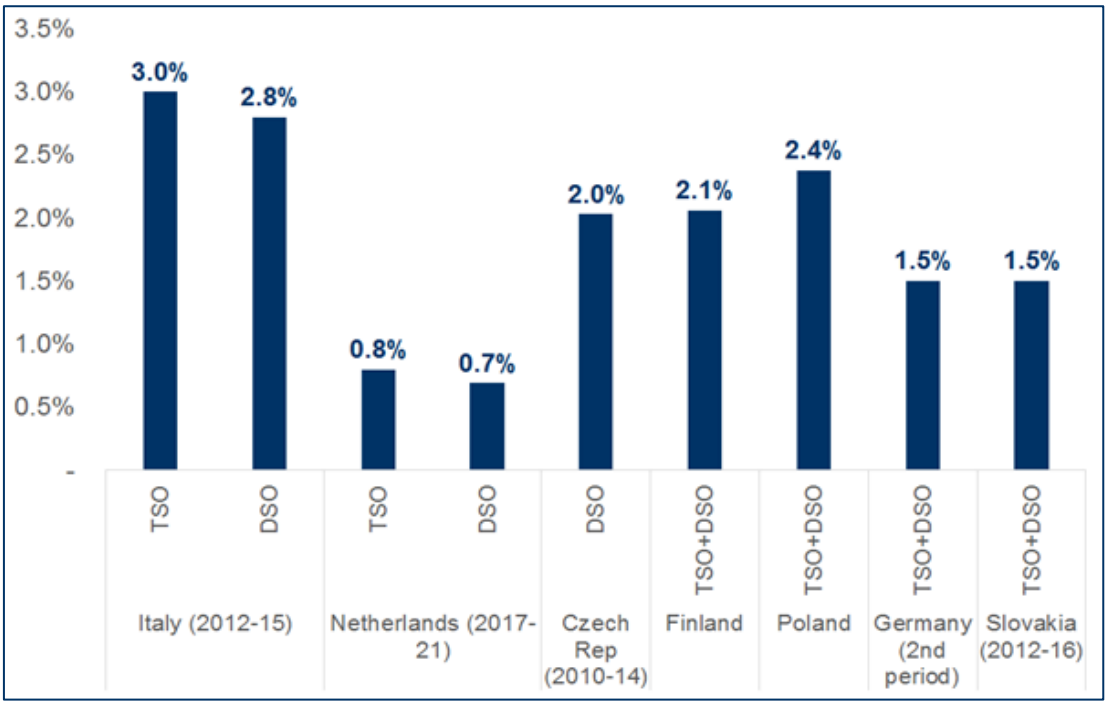
[5] KOSTT has explained that cash restrictions imply that, historically, it has spent less in relation to the effective levels of opex and is only now reaching those levels.

4.2 Decisions of regulators

The second source of data, to which ERO is referred, are efficiency factors (X factors) applied by a number of European regulators in the recent decisions on allowed revenues for electricity network operators. Not all regulators place an explicit efficiency factor and consequently, the data set available is inevitably limited. However, this may provide a guide to what other regulators consider as achievable with regard to improvements in efficiency for regulated services which, in general, operated under incentive-based regimes for longer than Kosovo and which started from a point closest to frontier efficiency than it can be expected for KOSTT and KEDS. Therefore, these can be seen as representatives of values towards the end of what should be achieved by KOSTT and KEDS.

The first X efficiency factors range from 0.7% to 3.0% per annum (where a positive value represents the expected productivity improvement) with a mere average of 1.9%. This may be interpreted as regulators on average expect a decrease in opex of 1.9% per annum in real terms.

Figure 4: EU regulatory decisions on efficiency factors



Sources used:[6]

[6] Sources used are available at: https://www.acm.nl/sites/default/files/old_publication/publicaties/17231_incentive-regulation-of-the-gas-and-elektricity-networks-in-the-netherlands-2017-05-17.pdf, http://www.medreg-regulators.org/Portals/45/capacitybuilding/1st/1st_MEDREG_Capacity_building-AEEGSI-Lanza.pdf, http://www.ey.com/Publication/vwLUAssets/Mapping_Power_and_Utilities_Report_2013/$FILE/EY%20European%20Power%20regulatory%20report%20FINAL%200513.pdf and https://www.ceer.eu/documents/104400/3731873/C16-IRB-29-03_Investment+Conditions_24-Jan-2017.pdf/44a08bad-efe7-01da-8b37-a3dd7edccfd5.

5 Conclusions and proposals for SRP2

ERO is aware that defining the potential to increase efficiency and appropriate adjustments to be involved in price control is challenging. This is especially so in a country like Kosovo that has only one licensee for broadcast and one for distribution.

At the same time, ERO does not consider it reasonable to assume that there is no potential for KOSTT and KEDS to make efficiency improvements during the course of PRR2. To do so, both companies must be operating at the best level of efficiency practice and keep this best practice unchanged in the forthcoming years. In ERO's view, these are impractical assumptions, based on current circumstances.

Given the limited basis of data where it can be based, ERO proposes to determine the efficiency factors for SRP2 using expert judgment as well as relying on comparison with regional performance and other regulators' decisions. These comparisons are outlined above and indicate the possible ranges for annual improvements in operational cost efficiency ranging from -2.6% to 3.8% based on regional comparisons and from 0.7% to 3.0% per annum based on other regulators' decisions.

Given those ranges, ERO proposes to determine an efficiency factor for opex of 1.5% per annum for KOSTT and KEDS during SRP2.

Table 1: Efficiency factors proposed by ERO for SRP2

Efficiency factors proposed by ERO	2018	2019	2020	2021	2022
OST/MO	-	1.5%	1.5%	1.5%	1.5%
DSO	-	1.5%	1.5%	1.5%	1.5%

Given those ranges, ERO proposes to determine an efficiency factor for opex of 1.5% per annum for KOSTT and KEDS during SRP2. This generally falls within the ranges applied by other regulators and about two-thirds higher than comparator costs, which implies a target that is achievable.

The savings factor for savings that exceed the efficiency factor for operating costs will be divided between licensees and customers by the factor 50/50. In the case of exceeding the costs above the allowed level, they will be covered by licensees in accordance with the Rules on Revenues.