



Challenges of businesses for access to electricity grid in Kosovo
Consumer and Producer Perspectives

National Council for Economy and Investments

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Introduction

The energy sector in Kosovo plays a vital role in the economic development of the country. Access to a sustainable electricity grid is essential for business prosperity. However, businesses face different challenges when trying to connect to the electricity network. These challenges vary depending on whether companies are energy producers or consumers.

The energy distribution system is regulated by the Energy Regulatory Office, which authorizes KEDS to invest up to 20 million euros per year for improvements and expansions of the distribution network. One of the reasons this amount is fixated relates to the internal capacity limitations of KEDS to implement projects exceeding this approximate value. On the other hand, even if investments exceed this significant amount (around 20 million), it could potentially lead to an increase in electricity rates, which would impact consumers.

Challenges arise especially for businesses trying to create or expand their production capacities by investing in new facilities. Depending on their location:

- Some businesses have relatively easy access to the network – when the location is favorable.
- Some businesses need to make significant investments in electricity grid infrastructure, such as extending power lines or building substations, to meet their electricity needs – when the location is unfavorable.

This has led to a situation where companies bear the burden of upgrading and expanding the network at their own expense, without being compensated through energy tariffs. Meanwhile, similar network expansion projects implemented by KEDS are reflected in the consumer tariffs.

Addressing this problem will require a review of how investments for network expansion are financed, as the current system puts new and existing businesses looking to increase production capacities at a disadvantage, hampering their growth and competitiveness in Kosovo.

Therefore, this report aims to highlight the main challenges facing businesses in the connection to the electricity grid in Kosovo, as well as to propose some practical solutions to facilitate this process. Although this report focuses more on the challenges of connecting the distribution network, it also presents the needs and concerns raised by businesses regarding the transmission network.

Despite the efforts of relevant institutions in changing the legal framework and increasing efficiency, some of the barriers of administrative nature, and the lack of clarity and unification of the legal framework continue to hinder new investments and a good business climate.

The report contains concrete recommendations for facilitating electricity grid access and offers several policy change proposals, with particular emphasis on creating a more coordinated and unified approach among all relevant stakeholders of this sector.

Energy sector in Kosovo

The electricity system in Kosovo includes the generation, transmission and distribution of energy. The Energy Regulatory Office monitors system development, licensing companies and regulates the price for end-users.

KOSTT, owned by the Assembly of Kosovo, is responsible for the transmission and management of the network, while KEDS, as a private operator, deals with the distribution of energy. Among the 7 licensed energy suppliers, KESCO has the obligation of the public service for supply, determined by the Regulator.

Government Program 2021-2025

Through its Program for 2021-2025, the Government has communicated its vision for ensuring sustainable energy supply for citizens and enterprises, improving the management of existing capacities and positively impacting the environment.

Energy Strategy 2022 – 2031

Kosovo Energy Strategy aims at a sustainable energy sector and integrated into the Pan-European market, increasing reliability and security of supply through modernization of the grid, investments in new capacities and security of supply.

To achieve the above strategic objectives, the Government plans 1) to increase system flexibility; 2) modernize the network and reduce losses on the network; 3) revitalize existing capacities for electricity generation and investments in new capacities, and 4) achieve cyber security of the energy sector.

Business narratives

The following part of the report summarizes descriptions from businesses about their experiences with the connection to the electricity grid.

PART 1

Customer perspectives on the distribution network

As an example of this burden, one company has indicated that, due to the lack of sufficient energy capacity in the area where the factory was opened, the company was obliged to dig, as a private investment, an underground channel 3 km in length in order to receive the necessary power supply. Currently, because the number of residents has increased in that area and all residents are connected to that line for power supply, the factory of this company is no longer supplied with sufficient electricity from the connection they have created themselves.

In another case, via its initial application to KEDS, a company requested a simultaneous capacity of 420 kW and a transformer with a capacity of 630 kVA. While the first electrical approval (2022) was obtained for a connection at 10 kV, the company later requested an approval revision due to obstacles, such as a narrow road and private property. The approval was revised for an installed capacity of 160 kVA and 120 kW, with a connection near the factory. Due to the need for increased capacity, a further request was made to increase to 420 kW, but the projects proposed by KEDS were deemed unfeasible by all relevant operators because of technical conditions and difficult terrain. At this point, KEDS offered to carry out the project themselves at a cost of €179,362.67, with all constructed assets being transferred to KEDS as fundamental equipment.

In conclusion, to temporarily address the issue and achieve the necessary energy capacity, the company installed a solar energy system (300 kW), two generators (630 kVA; 100 kVA), and utilized KEDS' network with a capacity of 120 kW.

In another case, a company has informed us that after expanding the production capacity in its water production factory, it has requested an increase in energy supply from 0.4 kV to 10 kV supply, through a request directed to KEDS. Due to the limitations on the capacity of existing substations, the company suggested switching substation and power poles near elsewhere the factory, which have been in place since the 1960s and often create supply problems during high winds.

KEDS approved the installation of a substation near the factory but rejected the company's proposal to build new power poles near the factory, suggesting supply from a longer distance, which, according to the company, would require the construction of 50-60 poles in mountainous

terrain and private land. The company proposed an alternative that involved placing 12 poles on meadow land, where the owners had already given consent to the construction of the existing poles. As a result of a lack of sufficient energy supply, the company has lost a large investment that would play a major role in its plans to double production and enter the European market.

Lastly, a company reported difficulties in completing the documentation needed for network access for three consecutive years due to delays in getting approvals from the respective public institutions. In this specific case, while the deadline for the connection given by KEDS is currently approaching, the documentation is still incomplete due to these delays. This situation poses a risk of changing the location of the point of access, despite the company's large investments in the current location.

Another problem is that municipalities issue permits without consulting the energy development plan, resulting in a lack of capacity at the point of access and the obligation of companies to make additional investments.

PART 2

Perspective of energy producers (generators) for the transmission network

As a first challenge, through Law No. 08/L-201 supplementing the Law No. 05/L-081 on Energy, dated 9 August 2023, it is required that any connection-to-grid agreement should be in line with the plans of the Ministry of Economy, prioritizing the interest of the state for building new energy generating capacities from renewable energy sources in public lands, to then decide whether the business can start generating power at that specific point. Businesses affected by this change consider that it shakes the sustainability of their investments, and that the approval required by the Ministry of Economy delays development time and adds costs, making the business environment more challenging and less attractive to investors.

Another issue raised during the sectoral forums was the lack of better coordination between ERO and KOSTT regarding the connection of energy producers to the transmission network. A representative of a network of businesses reported cases when foreign investors have faced a lack of clear and complete documentation for authorization and login procedures. This creates confusion, especially when institutions have opposing demands.

The companies reported that they had encountered problems obtaining authorizations, as ERO sought preliminary agreements with KOSTT, while KOSTT required authorization from the ERO to sign the agreement. This created the need for recommendations from businesses for clear and unified rules among institutions.

Representatives from another company also reported problems during the access to electric grid for their capacity increases. While initially they were informed by KEDS that they could access electricity at that point of access, at the time of finalizing the connecting, and after making the investment, KEDS announced that there was not enough capacity in that line. Consequently, the company was forced to invest in conductive capacity building for about 7 km length to realize the connection for its power supply needs.

The problem of multiple applications for the same grid access point was highlighted, where applicants spend up to half a million euros for completion of relevant documentation without certainty of signing the final agreement.

The companies have proposed updating the procedures so they can provide more certainty to investors, suggesting that the agreement be concluded to the first applicant, who will then have a two-year deadline to meet the conditions.

Clarification from the Energy Regulatory Office

Following the meeting held within the NCEI/Forumiks, the Regulator has provided the guidelines under Rule 03/2022 on the Authorization Procedure for the Construction of Energy Projects, which has changed the preliminary Rule. According to the explanation given, for the authorization procedure for building new generation capacities, the following steps should be followed:

- a) Investor receives technical information from KOSTT;
- b) Investor obtains the Decision on Construction Conditions from the competent body, in accordance with the Law on Construction;
- c) Investor signs the connection agreement with KOSTT, which has as a prerequisite the possession of a Decision on construction conditions;
- d) Investor (Applicant) submits to ERO the application for equipment with authorization for construction, which includes the connection agreement.

Thus, it was explained that the investor has the right to apply to ERO to be equipped with the Authorization Decision only after completing the necessary documents, including the Decision on Construction Conditions (building permit) and the connection agreement with KOSTT.

Comment from photovoltaic systems developers

From installers of photovoltaic systems, we have received input that 1) delays in ERO decisions and 2) lack of unified standing for granting consents at municipal level, makes the process of

obtaining the construction authorization last 2-8 months, creating a major problem for the sector.

One of these problems is that some municipalities do not issue approvals for projects a roofs due to the non-approval of zonal maps. Another problem is that the requirement for construction permits, detailed statics, electro-energetic consent, and environmental permits differ among municipalities such as Gjakova, Vitia, and Prizren, where clear instructions on the required documentation are lacking.

The solution proposed by the developers is that for solar photovoltaic systems (PV) up to 200 kWh, the municipalities should not request such consent of municipalities, as this falls within the competence of KEDS - as is the case for residential PV systems up to 7 kWh.

As we have been informed, the developers have met with the ERO, where the latter has pledged to meet with the Association of Municipalities of Kosovo, in order to establish a unified template for environmental consents for use in all municipalities.

Regulatory framework for access to distribution network

ERO has published methodologies that regulate electricity distribution modalities. There are two main documents that regulate these aspects. First, the Principles on Determining of the Distribution of System Tariffs and Connection Taxes (2022) ("Principles"), and, second, the Distribution Network Connection Charging Methodology (2022) ("Methodology").

The following explanations refer mainly to the access to network of companies, not necessarily to household consumers.

Distribution Network Methodology

The methodology defines the connection fees for two different categories, firstly, the grid connection taxes for new applicants in the existing network, secondly, taxes for increasing the capacity of current users. For the purposes of these categories, effective capacity means the existing capacity at each point of the network, which may be used by applicants without stretching the technical limitations of network operation.

- **The first category** is called shallow connection, i.e. customer connecting in the distribution network, without needing expansion or reinforcement of the existing network. In this case, the applicant shall only cover those costs caused by the creation of a new connection at the nearest and most appropriate connection point.
- The **second category**, called deep connection, means connecting to the network when the existing capacity is not sufficient for the applicant's needs, and it needs expansion or

reinforcement of the network. In this case, the applicant will cover at his own expenses the costs of assets necessary for the connection at the nearest appropriate connection point in the existing network, the standard fee for service of the connection, the capacity expansion fee (only for the reinforced part), as well as the fee for the construction of the network (in cases where these works are performed by KEDS).

Connection tax = Standard connection service tax + capacity tax + indicative tax for network building work

Meanwhile, according to the Principles for network connection of distribution, the taxes for deep connections are not applied in case the reinforcement in question is foresaid in the KEDS Network Development Plan approved by the Regulator.¹ However, if the investor cannot wait for the implementation as per the development plan, they can pay for the enhanced network capacities themselves in an expedited manner.

On the other hand, cases are also presented when the transmission system is also needed. In these cases, taxes will be applied to both the distribution network and the transmission network, while KOSTT and KEDS will coordinate around cost distribution.²

The principles of tax determination of KEDS, also regulate the issue of priority in case two or more consumers seek to connect at the same point of the electricity grid. In these cases, when there is a lot of demand for the point where capacity is not sufficient, or there are other obstacles in the network, then KEDS gives the right to the first applicant, while the second proposes the connection at another point³.

Furthermore, this document has also analyzed cases involving the expansion of the transmission system during deep connection. In these cases, taxes are applied to both networks, while system operators coordinate around cost distribution.

Finally, KEDS should propose to the Regulator for approval a declaration for taxes for the calculated in accordance with the Methodology, once a year. This gives room for changing the level of taxation if the need arises.

Post-connection procedure and compensation of assets from new applicants

KEDS informed us that after finalizing the network connection, the applicant shall bear the costs for the substation and the line to his facility. There is the possibility of compensation for new assets (in cases of new connection), but not for collective buildings.

¹ Principles, Article 12, paragraph 6, and Methodology, 12.4.

² Principles, Article 19.

³ Principles, Article 18

Regarding the compensation of assets from new applicants, the methodology foresees that in cases where the connection assets paid by the previous (first) applicant are used for the connection of a new applicant, KEDS will charge the new applicant with a tax for the unamortized value of the assets and for capitalized costs that exceed the remainder of the assets. The proportions of costs will be determined according to the capacity agreed between users, while compensation will be realized through KEDS⁴.

Comment from KEDS

In KEDS's view, the main challenge is the large concentration of businesses at certain points, which creates high demand for energy, while KEDS investments fail to meet this demand on time. KEDS investment plan is approved by the Regulator in accordance with the allocated budget, but often is not approved due to lack of development capacity.

As a result, KEDS invests approximately 20 million euros per year in improvements and extensions of the network. This limit is set due to several factors. One of these factors relates to the limited capacities of KEDS to realize projects that exceed this value. Although additional and significant investments on this value can lead to increased tariffs, this does not seem to be the main reason why there are no additional investments above 20 mil, as the Regulator has reflected with tariff deductions in April 2024.

Some companies, depending on their location, find it easier to connect to the existing network, while others have to invest in building new grid lines or substations to access a sufficient electricity supply.

This situation results in a double-parallel system:

1. KEDS invests up to 20 million euros per year, with costs reflected in consumer tariffs.
2. Businesses are forced to invest in network expansions across this threshold, without reflecting those investments in tariffs.

Effectively, companies are not only financing network expansions independently, but also competing with KEDS's resources and operating capacity. The work they carry out – often through contracting smaller developers – is parallel to what KEDS would do if it hired external

⁴ Methodology, Article 16

contractors for the same purpose. From the perspective of these businesses, this current situation seems unfair.

Recommendations

In order to address the above-mentioned issues, the KKEI Secretariat, through sectoral and thematic forums, has collected recommendations to facilitate the network access process and to address the challenges facing businesses. These measures include improvements in institutional coordination, regulatory and strategic reforms, as well as concrete technical and infrastructure solutions. The recommendations aim to create a more conducive environment for investment, increase transparency and efficiency of procedures, and mitigate challenges that hinder businesses' access to the electricity grid.

Technical recommendations

1. The regulator and system operators coordinate with each other regarding the requirements of businesses on this issue.
2. System operators (KEDS and KOSTT) hold consultations on development plans with stakeholders, and this is exactly reported in the published reports on the plans.

Recommendations regarding legislation in force

3. Harmonizing and unifying the application procedure for connection to the grid of transmission and distribution, at local and central level.

Concrete Recommended – projects.

4. Creation of an interactive portal (map) to view potential connection points and develop new generation capacities.
5. Creating a one-stop shop that deals only with energy matters – makes it easier for businesses, especially when there are legal discrepancies.
6. Drafting a comprehensive roadmap for businesses on connecting to grid, or even wider in the energy sector – this is accomplished through the formation of a working group that would work in this regard.

Regulatory/Strategic Reforms

7. The local government shall cover the costs of building infrastructure, access to grid, and necessary assets if it grants the construction permit. These costs are induced to the municipality directly from KEDS. Such a reform would encourage the legalization of buildings, i.e. discouraging the construction of objects without permission.

8. If the project/consumer has a major impact on the national economy, employment, etc., then apply one of the following options:
 - a. The regulator accepts the cost of KEDS as *an ad hoc investment* (as deviation from the current development plan); or
 - b. The government or the respective municipality, to take over the payment if that point of the closing is not in the KEDS development plan.
9. Equal treatment for businesses and the Government regarding the connection to the transmission network: KOSTT should equally address the demands of the Government and businesses for connection to the transmission network, not giving priority to the Government. This principle of equality would increase competition, provide clarity for businesses, and avoid delays that are caused when KOSTT awaits responses from the Government for booking a key point.