

## Albanian Power Exchange - Novelties and Impact

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### Abstract

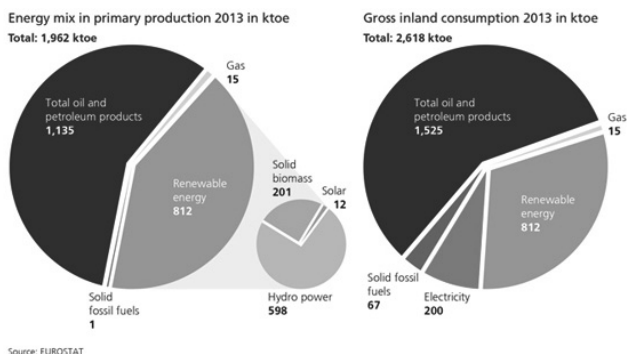
This article provides an overview related to the establishment of the Albanian Power Exchange, an innovation brought by the demands of the local energy market and the implementation of the European Union legislation in Albania. For this purpose, the article analyses the applicable legal framework and practice.

**Keywords:** (ECT) Energy Community Treaty, (ERE) Regulator Entity of Energy, (KESH ) Albanian Electro Energetic Corporation, (APEX) Albanian Power Exchange, (EES).

### Introduction

Regardless of its small size, Albania is a country rich in natural resources including onshore and offshore oil, natural gas reserves, coal and various metals, especially chrome reserves for which Albania ranks first in Europe. Among this resources, Albania is particularly rich with water resources, the latter being its primary source of electric energy production.


The geographic position on the coast of the Adriatic and the Ionian Sea, climatic conditions, rugged, mostly hilly-mountainous relief, large presence of water permeable cliffs and human activity have caused great water resources and their abundance: seas, lakes, rivers, waterfalls and water springs. Due to its particular morphology, Albania is very rich in rivers. More than 152 rivers and streams finally form 8 large rivers flowing from southeast to northwest, mainly to the Adriatic coast. About 65% of their watershed lies within the Albanian territory. These rivers discharge on the Adriatic Sea an average of 1'308 m<sup>3</sup> / s (min 649 and max 2'164 m<sup>3</sup> / s); with an average flow rate is 30.2 l / s. km<sup>2</sup>. Of the total annual flow of 42.25 billion m<sup>3</sup>, only 12.8 billion



belong to underground water. The annual average of rainfall in Albanian territory is 1,430 mm / year, but not uniformly distributed over the year: about 40% in winter, 32% in spring, 17% in the fall and only 11% in the summer.

Hence, water resources in Albania are used for the production of electric energy as the main type of energy used in the country. The below table illustrates the energy production in Albania.

Table no.1<sup>1</sup>

 <b>Albania</b> 3.1 Electricity		2014	2015
<b>Description of data (unit)</b>			
Electricity production [GWh]		4.726	5.865
Net imports [GWh]		3.356	2.355
Net exports [GWh]		288	956
Gross electricity consumption [GWh]		7.815	7.265
Losses in transmission [%]		2,1%	2,0%
Losses in distribution [%]		37,8%	31,3%
Consumption of energy sector [GWh]		21	24
Final consumption of electricity [GWh]		5.011	5.069
Consumption structure [GWh]	Industrial, transport, services and other non-residential sectors	2.509	2.547
	Households (residential customers)	2.502	2.522
Net maximum electrical capacity of power plants [MW]		1.824	1.895
of which:	oil-fired	98	98
	hydro, total	1726	1797
Horizontal transmission network [km]	Substation capacity [MVA]	3.846	4.026
	Number of interconnectors	5	5
Electricity customers	Total number of customers	1.218.000	1.244.716
	out of which: non-households	159.655	164.653
	Eligible customers under national legislation	7	1.244.716
	Active eligible customers	7	7
Internal market	Electricity supplied to active eligible customers [MWh]	697.000	610.207
	Share of final consumption [%]	13,91%	12,04%

Source: ERE and INSTAT

The **Albanian Electro Energetic Corporation (KESH)** is the public producer and at the same time the largest electricity producer in Albania. KESH has under the administration the main power generation plants in the country. These assets consist of hydropower plants of the Drin River Cascade (HEC Fierzë, HEC Koman and HEC Vau i Dejës) with an installed power of 1,350 MW, and TEC Vlora with installed power of 98 MW. The cascade built on the Drin River Basin is the largest in the Balkans both for its installed capacity and the size of hydro-tech works. Having in place 79% of the production capacity in the country, KESH supplies about 70-75% of the demand for electricity, provides the necessary energy to cover the losses by the transmission system, and through balancing energy and auxiliary services guarantees the security of the Albanian power system. The below table illustrates some key features related

<sup>1</sup> "Energy Community - Albania," 2017a).

to the Albanian Electricity Market.<sup>2</sup>

**Table no.2<sup>3</sup>**

### **Establishment of the Albanian Power Exchange**

In 30 April 2015, the Albanian Parliament adopted the Law no. 43/2015 "On electric energy sector" (hereinafter the "EES Law") and consequently the Decision no. 519, date 13.07.2016 was adopted by the Council of Ministers "For the adoption of Energy Market Model" (hereinafter "the EEM DCM") for the implementation of the abovementioned law. These legal acts introduced for the first time in Albania, the concept of the Albanian Power Exchange (APEX). APEX will aim to increase transparency in the underlying transaction of energy. It will be the mechanism to achieve physical and financial transactions of energy flows.

Albania is seeking to introduce the Power Exchange in the market, because between Albania and Kosovo energy transmission has been increasing from 220 MW to 650 MW when the new 400 kV line was completed by the end of 2016. In the same line, the existing transmission capacity between Albania and Montenegro has increased from 400 MW to 450 MW, and between Albania and Greece from 244 MW to 350 MW (Gordani, 2017).

While in 2017, an underwater cable of 1000 MW between Montenegro and Italy will create a strong link between the Balkans and the Italian market. In 2020 a 400 KW line is expected to connect Albania with Macedonia. Therefore, the transmission capacity between Albania and its neighboring countries will be very strong in the medium term, implying that the benefits from the regional market may be rapid. Moreover, the transmission capacity between the Albanian market and neighboring countries (Kosovo, Greece, Serbia, Montenegro and FYROM) will be abundant and growing over time.

Albania is part of one of four control areas in the Southeast Europe region. Current trade with Southeastern Europe is based on bilateral contracts and auctions organized by the Transmission System Operator (OST). The proposed market design will not bring any change to the OST and its liabilities, but Day-Ahead-Market (DAM) should replace most of the domestic bilateral contracts in Albania and an important part of cross-border trade will be made from areas that will be set up for this purpose. Energy trade with neighboring countries will be through the creation of import / export areas linked together through auctions (Gordani, 2017).

Under the new energy market model, an import-export area will be set up at the border between Albania and Kosovo. Part of the capacity will be held as a joint reserve, while the remaining capacity will be traded on auction from the free zone for bilateral import-export.

A second export-import area will be on the border between Albania and Montenegro. A third export-import zone will be for trade with Serbia and the fourth cross-border energy trade zone will be Greece-Albania. The new market model suggests that import-export areas should register with the APEX as any other market participant

<sup>2</sup> "[http://www.kesh.al/info.aspx?\\_NKatID=1211](http://www.kesh.al/info.aspx?_NKatID=1211)," n.d.).

<sup>3</sup> "Energy Community - Albania," 2017b).

(Gordani, 2017).

The EES Law has been fully aligned with Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 "On common rules for the internal market in electricity", which repeals Directive 2003/54 / EC, as part of the reforms initiated by the Albanian Government and the obligations of Albania as an EU member-state candidate. The law aims to promote the opening, organization and operation of a competitive electricity market. Whereas the EEM DCM establishes the rules for the creation of the new model for the Albanian energy market.

The Albanian Market Model (AMM) was developed on the basis of the Energy Community Treaty (EnCT) requirements for the establishment of a regional electricity market, which was ratified by the Albanian Parliament in 2006. In accordance with the obligations of the EnCT, Albania is committed to implementing the Third Energy Package, approved by the Council of Ministers, in 2011.

Also, Albania has engaged in the Vienna Summit on 27 August 2015, to implement a series of short-term measures within the framework of the Berlin Process (Western Balkans 6).

The establishment of the Albanian Power Exchange, closely linked to the two above developments, also requires the further approximation of the electricity market in line with the requirements set by the Energy Community.

This model is expected to provide a stable structure and create the conditions for further regional integration between Albania and its neighboring countries.

The establishment is being directed by the Ministry of Energy and Industry, supported by the International Financial Corporation (IFC).<sup>4</sup>

### **Organization of the Albanian Power Exchange**

According to the EEM DCM the term "*Albanian Power Exchange*" means the platform for the sale and purchase of electricity on the basis of the day ahead and / or intraday market.<sup>5</sup>

The new Albanian Market Model is characterized as a wholesale market, based on bilateral transactions and contracts concluded between two over-the-counter (OTC) counterparts or as an organized day ahead and intraday market, organized through the APEX.

The APEX shall collect the bids of the market participants and perform the matching and the liquidation of the wholesale electricity products on an hourly basis. Liquidation of contracts, for the marketable products of the APEX will be developed gradually, based on the need of the market participants, in order to allow the balancing of their portfolios respectively for production, consumption, import/export, as well as to better integrate into the European wholesale market.<sup>6</sup>

The sale and purchase activities of electricity, as a physical product, may be carried out by all market participants registered in the APEX, without being bound by a public service obligation.

<sup>4</sup> "<http://energija.al/2017/02/01/liberalizimi-dhe-bursa-e-energjise-procese-paralele/>," n.d.).

<sup>5</sup> Decision of Council of Ministers No.519, date 13.07.2016, page.2, pr.7.

<sup>6</sup> "Portali i Energjise » Bursa, ERE konsultime për rregulloren e re," 2017).

## Advantages for energy traders

Based on EM DCM the initial deadline for the operation of the APEX was by the end of June 2017, however this deadline is unlikely to be met due to the lack of professional expertise and experience by the local key actors. Therefore, APEX is expected to be functional by January 2018.

The project for the development of the energy market aims to improve the management of the hydro reserve and the transmission system, a better use of transboundary transmission capacities and in growing market operators for efficient delivery of ancillary services to the transmission system operator in Albania, enabling the sale of these cross-border services. It is foreseen to provide access to the foreign market for customers (free of charge) so that this segment of the customer can be supplied independently from the Distribution System Operator (OSHE).

The DAM, proposed by the Albanian Government will allow a quick integration with neighboring countries through a stronger union with the regional market. The APEC initiative aims to increase the liquidity and efficiency of price access in the national market in Albania and also will reduce the dependence from the imports.

## Conclusions and Recommendations

The Albanian market will become the main platform for energy trading, enabling all domestic stakeholders to buy and sell electricity quickly and easily, including trading with other countries. The Albanian Power Exchange is expected to help promote the integration of Albania's electricity grid with the rest of Europe, including neighbour countries in the region. APEX will also increase price transparency and improve investment climate for new energy projects.

Based on the experience of the neighbour countries and the problems they have faced during the implementation of the energy power exchanges, the need for a transparent and controlled process of implementation and function. It is highly important that APEX is equipped with the necessary supervision tools in order to avoid eventual issues.

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