

Analysis of the Western Balkans Power Market Prices within the ENTSO-E framework.

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ABSTRACT:

This paper analysis the Western Balkan power market, taking in consideration 6 countries from the Area: Albania, Croatia, Bosnia and Herzegovina, Serbia and Montenegro. All these countries are members of the European Network of Transmission System Operators, an association of 43 electricity transmission system operators (TSOs) from 36 countries across Europe. Electricity production in the Western Balkans is CO₂ intensive, as most countries in the region use domestic lignite (brown coal) reserves to generate electricity. Greenhouse gas emissions show a distinct pattern: overall per capita emissions are significantly below the level of most developed countries, but electricity sector emissions per unit of output are higher due to the high share of lignite and hard-coal in the power. The Western Balkan countries have difference composition of their electricity supply mainly based on hydropower generation or thermo power generation. Currently this systems face market inefficiencies and power outages. The aim of these models is to show how the hydroelectric generators of some countries can use their water storage capacities strategically to mainly affect off-peak prices, while heat generators of other countries can manage their capacity strategically to influence peak prices. The potential of regional coordination has been highlighted also by the European Commission within the recent legislative proposal, "Clean Energy Package for All Europeans". The aim of this paper, is to raise awareness on the need to have more regulatory alignment in the Western Balkan region to remove the economic and political barriers between these countries.

Keywords: electricity market, energy planning, EU integration, power outage, barriers.

1. Introduction

The region of the Western Balkans, a term coined by the European Union in the late 1990s, includes Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro and Serbia. All of the countries of the region with the exception of Albania are successor states of the former Socialist Federal Republic of Yugoslavia, and all seven are ex-Communist states. This legacy has important implications for the state of the present-day energy systems of the Western Balkans.

Electricity trading across borders is a key element of EU energy policy. Three regulatory packages have opened up formerly isolated EU markets and introduced cross-border trading through liquid spot markets, with a view to removing the barriers to an internal electricity market covering the entire EU. As Contracting Parties to the Energy Community Treaty, the Western Balkan six countries ('WB6 countries') have followed this development, including full implementation of the Third Energy Package by 1 January 2015. WB6 countries committed in Vienna in 2015 to implement a list of energy

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legal and regulatory measures, which are necessary to establish market-based electricity trading. These commitments remain valid. They include developing spot trading and regional market coupling, regional balancing and regional capacity allocation. They also include the removal of existing legal and regulatory barriers by, inter alia, full implementation of the Third Energy Package and additional market reforms.

The recently signed Memorandum of Understanding of the WB6 on regional electricity market development ("MoU") constitutes the basis for further regional market integration; it is a positive signal in the right direction. A central element is now how to continue national reform and regional market integration efforts, and to allow integration of the SEE markets into the pan-European electricity market.



Figure 1. Map of the Western Balkans Countries

However, the majority of the WB6 countries are still lagging behind in establishing organized market places as a precondition for efficient electricity trading. Cross-border electricity trade is below the region's potential, reflecting the high level of market fragmentation. The potential benefits of liquid spot markets for the WB6 countries are significant. Many of the WB6 countries do not have the critical size to develop liquid markets in isolation. Liquid cross-border markets will lead to important cost savings for SEE energy consumers through more competition and more effective use of existing generation and transmission infrastructure in the region. This would also attract more investments. Regional power trading is also a pre-condition to organise electricity markets in a more environmentally-friendly manner. Aggregating generation and demand over larger trading regions will become a key condition for integrating energy from water, wind and sun. Expanding renewables in small isolated markets would require

considerable investment into backup generation, which would further increase costs for customers. All of this market integration will also enhance security of supply.

Unbundled and certified transmission system operators and a regionally coordinated capacity calculator are part of a functioning regional trading system. Not all countries have implemented the necessary institutional changes yet.

Since the WB6 region is physically closely linked with neighbouring EU Member States, it is crucial to develop an integrated SEE trading region, including WB6 and EU countries in order to overcome the limits of the small size of isolated national markets. The WB6 countries will support integration with the neighbouring EU Member States which should take place in parallel to the implementation of the present Roadmap but not replacing it. In this respect, they take note of and will participate in the emerging “SEE Coupling Initiative”. National market reforms will also have to be executed in EU MSs neighbouring the WB6 countries to allow for successful implementation of market coupling in the SEE Region (to be followed up by EC). This roadmap clarifies content, addressees and implementation steps for implementing the soft measures relating to the development of spot trading and market coupling in the WB6 countries. It is an additional tool to enable implementation of those soft measures which are particularly important to prepare WB6 countries for integration with the EU markets. This roadmap neither replaces nor extends the Vienna Summit conclusions, which remain as commitments. The clearer description in this roadmap of the conditions to be fulfilled by WB6 countries may reduce the risk of further delays to access EU funds for energy infrastructure.

By the signing up to this Roadmap, the WB6 countries reiterate their commitments made under the Energy Community Treaty and at the WB6 Summit in Vienna last year and ask the Secretariat of the Energy Community to help them coordinating and implementing the reform measures to be taken for that purpose and to monitor the implementation.

2. Agreement on Day-Ahead Market Integration and Cross-Border Balancing Targets

In April 2016 representatives of transmission system operators, national regulatory authorities, and ministries of energy and power exchanges of the Western Balkans 6 countries committed to implementing a memorandum of understanding (MoU) setting out general principles of cooperation as well as concrete actions to develop the regional electricity market. The memorandum of understanding was signed at the premises of the Energy Community Secretariat in Vienna.¹

The MoU’s signatories agreed to implement:

Day-ahead market integration between the six countries of the WB6 region with the aim of achieving market coupling of national organised day-ahead markets with at least one neighbouring WB6 or EU country by July 2018; and

Cross-border balancing cooperation between the WB6 countries by December 2018.

¹ <https://www.entsoe.eu/>

The MoU also commits its signatories to follow up with legally binding agreements between the concerned parties. It will facilitate the implementation of the regional electricity market objectives agreed upon by the Energy Ministers in August 2015 and will improve the coordination between Western Balkans 6 in order to create a competitive, efficient and integrated European energy market.

“Integrating power markets in the region and with the rest of Europe is an important step in delivering more social and economic welfare to all customers”, commented Konstantin Staschus, ENTSO-E Secretary-General. “Transmission system operators will continue working hard towards the goal of creating a regional electricity market in the Western Balkans in a consistent and coordinated manner with the work already undertaken within the European Union, and of integrating it with the overall European Internal Electricity Market. As in many other processes, TSOs support policy-makers and regulators, and in this instance the Energy Community, in building ‘power bridges’ between countries”.

The signature of the Memorandum of Understanding by Kosovo representatives is pending the entry into force of the Connection Agreement between KOSTT and the relevant ENTSO-E members.

This MoU is open for signature by additional WB6 and EU neighbouring stakeholders which are willing and expected to assume a role in the market integration projects.

The Memorandum of Understanding was signed on 27 April by:

For the WB6 Transmission System Operators (TSOs):

Operatori i Sistemit të Transmetimit (OST)

Nezavisni operator sistema u Bosni i Hercegovini (NOS BiH)

Transmission System Operator of Macedonia – Joint Stock Company for Electricity Transmission and Power System Control of Macedonia (AD MEPSO)

Electric Transmission System of Montenegro (Crnogorski Elektroprenosni Sistem AD - CGES)

JP Elektromreža Srbije (EMS)

For the WB6 National Regulatory Authorities (NRA):

Albanian Energy Regulatory Authority (ERE)

State Electricity Regulatory Commission (DERK)

Energy Regulatory Commission (ERC)

Energy Regulatory Agency (REGAGEN)

Energy Agency of the Republic of Serbia (AERS)

For the Power Exchanges (PX) and parties expected to assume responsibilities for market organisation:

SEEPEX a.d. Beograd (SEEPEX)

COTEE Montenegro

For the WB6 Ministries of:

Ministry of Energy and Industry of Albania

Ministry of Economy of Macedonia

Ministry of Economy of Montenegro

Ministry of Mining and Energy of Serbia

3. Power Exchange

Western Balkan Countries have monopolised power markets, dominated by state owned companies. Hence the envisaged market liberalisation would mean breaking up these monopolies into smaller companies in charge of individual market segments. For instance separating electricity production and distribution in two separate legal entities etc. This would also mean enabling consumers to choose between multiple electricity providers. Most importantly it would entail having electricity markets, which in the Western Balkan case would be bundled and connected to rest of Europe. Lastly these countries are obliged to adopt the Third Package, which is a set of legislative measures aimed at creating a single EU gas and electricity market.

The Transmission System Operators, regulators and energy ministers of the WB6 have signed in 2016 in Vienna a Memorandum of Understanding, where they have agreed on joint targets for regional market integration and these include:

Day-ahead market integration between the six countries of the WB6 region with the aim of achieving market coupling of national organised day-ahead markets with at least one neighbouring WB6 or EU country by July 2018 Cross-border balancing cooperation between the WB6 countries by December 2018.

Until now progress has been made and in this Energy Community Secretariat report you can read in more detail about individual countries. However apart from CROPEX, which joined the memorandum additionally in 2017, the SEE Power Exchange (SEPEX) in Serbia is the only other operational power exchange in the Western Balkan region.

The SEPEX is a licensed Market operator for an organized electricity market/power exchange established in the form of partnership between A.D. EMS and EPEX SPOT as a joint stock company. It provides a market place where exchange members send their orders to buy or sell electricity in determined delivery areas. Its role consists in matching these orders in a transparent manner, according to the public market rules which among others describe the priorities and algorithms used for the matching of the orders.

Croatian Power Exchange Ltd. (CROPEX) was established in May 2014 and is equally owned by the Croatian Energy Market Operator Ltd. and the Croatian Transmission System Operator Ltd

SEPEX has until now traded much more than CROPEX, while the prices on these two markets have remained more or less the same, and on average around 40 EUR/MWh. This is still higher than in Western European markets. For instance in Germany the power prices have dropped to about 30 EUR/MWh, and this has mainly been caused by an increase in zero-marginal-cost renewable electricity. A snapshot of CROPEX and SEPEX in the period 2016-2017 is shown in Figure 1.

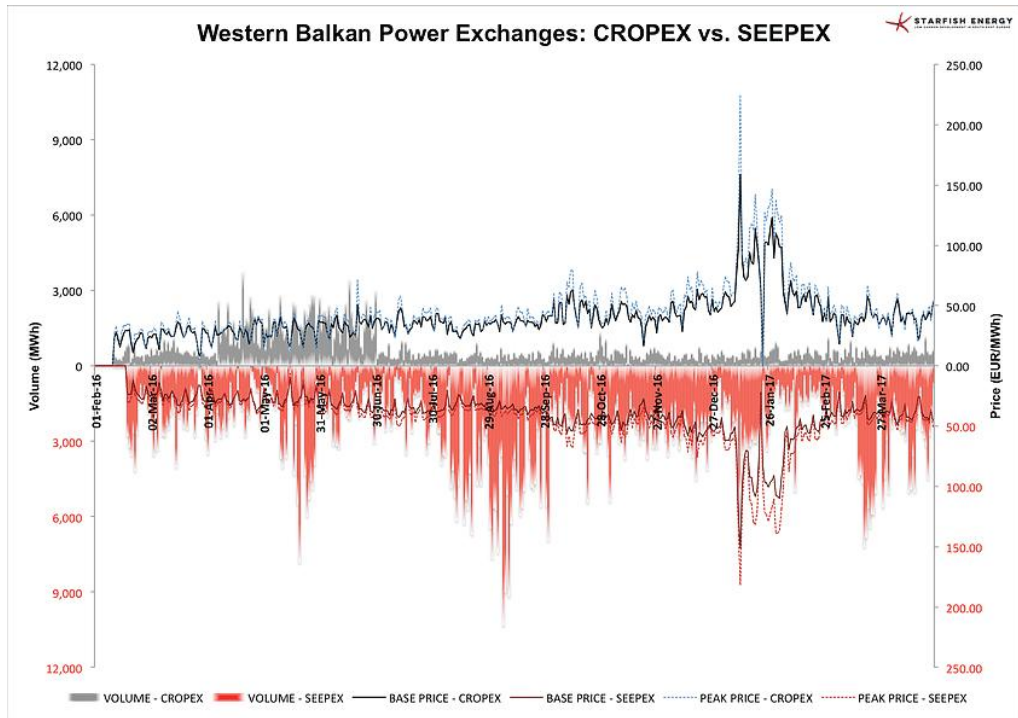


Figure 1 Western Power Exchanges: CROPEX VS. SEEPEX

Source: starfishenergy.org

Conclusion

The Western Balkans region has significant potential over the long term to decarbonise its electricity system by increasing its share of renewables and improving cross-border market integration. Yet despite the enormous potential to expand renewables and improve energy efficiency, significant fossil fuel investment is currently being planned, particularly for coal generation. If the Western Balkan countries are to decarbonise their electricity systems, power markets and greater competition among providers are a necessity. All countries of the Western Balkans have committed to increase the share of renewable sources in electricity production by 2020 and reach targets between 25% and 75% of their energy mix as part of broader commitments taken from the Energy Community Treaty. This is close to be achieved when the investment plans for new production capacities are being reviewed and the entire region is well on track to accomplish its goals. The numbers sound optimistic and the actual increase is above 10% in most of the countries when compared to base 2011 year. However, it is necessary to note that this is a thorny and complicated path. The Western Balkan countries, however, have not been able so far to capitalise on this key location and draw benefits as transit countries. Most of them suffer from chronic electricity and energy imbalances due to their backward power facilities and grids as well as the influence of external factors: on the one hand, the consistent strategy of Russia, the main supplier of energy carriers to the region, to retain its monopoly position and use it as leverage in the political sphere;

and on the other, the slowness of the EU, which all Western Balkan countries aspire to join, in countering the Russian influence in the region through viable and effective diversification strategies and rules. The EU, however, has already made firm and irreversible steps towards integrating the Western Balkans in its energy market, a process affirmed with the 2005 Energy Community Treaty.

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