ELECTRICITY SECTOR IN SOUTHEAST EUROPE: CHALLENGES OF EUROPEAN INTEGRATION

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Abstract

The analysis of the electricity sector in Southeast Europe shows that hydropower and coal represent the most important energy sources for electricity generation. Hydropower provides a necessary flexibility and storage capacity to help ensure stability of a transmission system and security of supply and supports the integration of increasing amounts of renewables, especially wind. Coal has a high share in total installed capacity in most countries and it will put high pressures on these countries in the context of undergoing changes and decarbonisation in electricity sector of European Union and Energy Community. Obviously, the electricity sector will face huge changes and is expected to contribute to the new energy revolution. However, during the 90s, the electricity sector of SEE countries changed dramatically. Generation and industrial demand have decreased considerably due to the wars and painful transition, while the household demand increased rapidly. This extensive use of electricity was stimulated by low electricity prices and poor payment discipline in most countries. Still, in recent years, electricity reforms and increase in electricity prices have improved energy efficiency and reduced deficits. SEE countries have started with reforms in electricity sector but the analysis shows that their progress is rather different. Despite the increase in electricity prices over the course of several years especially in new EU Member States, most SEE still have low electricity prices that are not cost-based. Regarding the quality of electricity supply, as it could be expected, Croatia as the best performer achieved the highest quality of electricity supply, while all other SEE countries are considerably lagging behind. As the analysis shows, sectoral characteristics, macroeconomic environment and institutional framework in SEE countries differ widely. Having in mind their different reform results, it is reasonable to question the uniform EU reform model that has been implemented in all SEE countries. It seems that this model cannot be appropriate for all countries since it requires adequate level of institutional resources that are missing in less developed and small transition countries of Southeast Europe.

Keywords: electricity sector, Southeast Europe, reforms, electricity prices, quality of supply

1 INTRODUCTION

In the context of actual economic and energy crises when energy issues have become crucial development topic, the paper focuses the issue of electricity sector reforms in Southeast European countries as a part of a wider process of Europeanisation.

Southeast Europe (SEE) is commonly identified with the Balkan Peninsula and is usually considered as a region that consists of nine countries: Albania, Bosnia and Herzegovina (B&H), Bulgaria, Croatia, Kosovo, Republic of Macedonia, Montenegro, Romania, and Serbia. Although the SEE region could be analysed in a broader sense that includes another three countries (Greece, Turkey, and Moldova), our paper adopts the first, narrower approach. These countries shared similar economic history and development path that has been characterised by transition and huge economic, institutional and political changes. They also face the common challenges of an over-dependence on the utilization of oil and coal in electricity generation, which also has a direct negative environmental impact, high dependency on oil and gas imports, a significant lack of energy efficiency, under-development of the renewable energy sector, insufficient market integration and a lack of interconnectors across the region. They have also experienced similar transition processes and energy sector's reform model. However, there are some important differences among them. Some of them have already become EU Member States (Bulgaria, Romania, Croatia), while other Western Balkan countries are at differing positions along the path of European integration and they each hold varying energy and environmental standards and targets.

The aim of this paper is to provide a comparative overview of electricity sector in SEE countries, discuss challenges posed by EU *acquis communautaire* and their ability to meet these challenges. Finally, the paper will consider the acceptability of EU energy model in less developed transition countries like SEECs.

The paper is organized as follows. Section 2 gives a short cross-country overview of the main energy indicators with special reference to electricity sector, Section 3 shows progress in conducting reforms in electricity sector within a wider European framework. The final section contains the conclusions.

2 CHARACTERISTICS OF ELECTRICITY SECTOR IN SOUTHEAST EUROPE

Although countries of SEE have some energy resources, mostly coal, however all of them are energy import dependent. Only Romania has significant reserves of oil and natural gas, while the larger lignite reserves in the region are located in Bulgaria, B&H and Kosovo. Most countries in the region import more than 50% of their total supply of primary energy and Croatia has recorded the highest import dependence. Romania has the highest consumption of primary energy, the highest domestic production and consumption of energy and consequently the highest carbon dioxide emissions in the region. Regarding domestic production, Serbia and Bulgaria are ranked just behind Romania, with about three times less production.

During the 90s, the electricity production and consumption in SEE countries changed dramatically. Generation and industrial demand have decreased considerably due to the wars and painful transition, while the household demand increased rapidly. This extensive use of electricity was stimulated by low electricity prices and poor payment discipline in most countries. Still, in recent years, electricity reforms and increase in electricity prices have improved energy efficiency and reduced deficits. As shown in Fig. 1, all SEE countries except Croatia and to a lesser extend Macedonia and Albania have recorded electricity surplus in 2013.

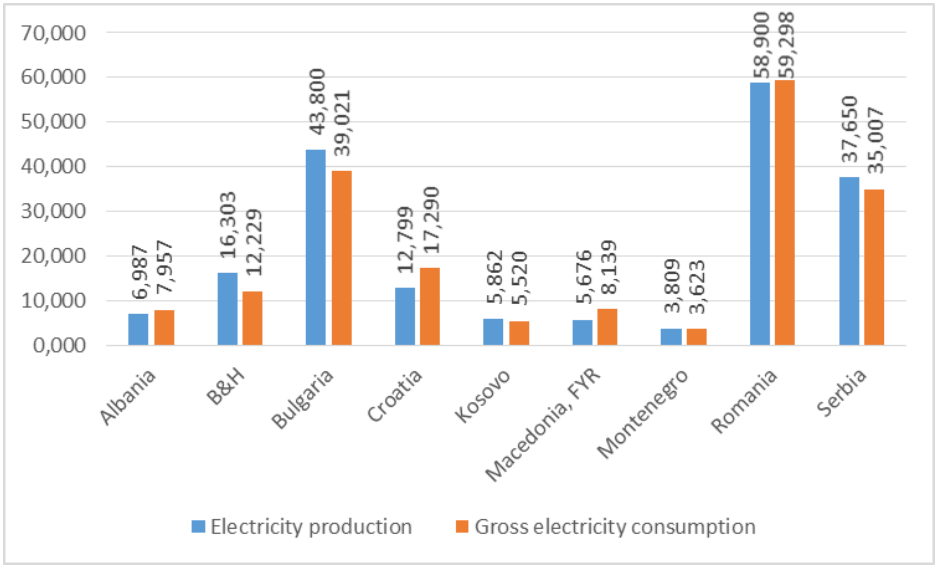

Fig. 1. Electricity production and gross electricity consumption in SEE countries in 2013
Source: http://ec.europa.eu/energy/en/statistics/country

According to the data, Romania, Bulgaria and Serbia are countries with highest absolute electricity generation and consumption, although in relative terms (consumption per capita), all countries in the region are lagging behind EU average.

According to the presented overview of electricity indicators in SEE countries (see Table 1), there are different resource endowments across SEE region regarding installed capacities, which generate potentials for trade. Interconnection of a largely thermal power system with a largely hydropower system allows energy banking and provides power during off-peak periods. The extreme case is Albania with 90% of hydro installed capacity, while Bulgaria has the most widely differentiated capacities. Thermal power plants in the region are dominantly based on old technologies with high generation prices. If one includes high variability and insecurity of primary energy source prices (especially fuel and gas), the role of hydro production will be even more important. Regarding network losses, the data indicate very high losses, especially in two less developed countries Albania (-47%) and Kosovo (-36%) of the final electricity consumption. They are due to the poor technical performance of transmission and especially distribution network because of outdated equipment and lack of maintenance. Commercial losses are also high and are connected with low payment discipline and illegal connections. The best situation is in Croatia with 11% of final electricity consumption that is on EU level (Vlahinić-Dizdarević and Šegota, 2008).

The following analysis gives a brief cross-country overview with special reference to electricity balance.

Albania has a specific electricity system since nearly 96% of domestic production of electricity is obtained from hydropower plants, which makes system reliability fragile. The installed electricity capacity of 1.6 GW is 91% from hydropower, with most of the remainder being produced from oil power plants. In 2010, electricity production surged by 46% to 7.6 TWh thanks to an exceptionally high level of rainfall. In 2013, power production was almost 7 TWh (ERRA, 2011). To cover its needs, Albania imports electricity from Greece, Montenegro and Kosovo (www.enercee.net). The main renewable energy sources in Albania are hydropower and biomass. Although most of the domestic production comes from hydropower plants, only 35% of the hydro potential of Albania is currently used. Albania also has significant potential of biomass (12,8 TWh/year), hydropower (3,2 GW), wind power (1,4 GW) and solar power (33 MW).

In **Bosnia and Herzegovina (B&H),** the most important domestic energy sources are lignite and hydropower. Lignite reserves are estimated at about 2,4 Gt and the hydro potential over 7 TWh. The country has an estimated wind power potential between 900-2000 GWh. The total electricity capacity is 4,400 MW, with 56% for hydro and 44% for thermal from lignite. Electricity production has doubled since 1996 and in 2013 exceeded 16 TWh, which enables B&H to become an important electricity exporter, mainly to Croatia. However, hydropower production has increased but it is limited by hydro variability. Electricity production from coal and lignite increased fourfold between 1996 and 2011, but declined by 3.5% in 2011. Nevertheless, the lignite power plants have the potential to produce double the amount they are currently producing.

Bulgaria is one of the largest electricity exporters in Southeast Europe. In 2012 the share of net country exports was 10,6 GWh and that was lower than 2011 (12,1 GWh) because of decreasing demand from the Greek market and other neighbouring markets having sufficient hydro resources. Bulgaria is interconnected with Romania, Greece, Serbia and Macedonia and net export capacities are equally divided among these four countries. The installed electricity capacity about 12 GW is made up of about 6,5 GW thermal (using mainly lignite), 1,5 GW of which in CHP power plants, 1,9 GW of nuclear (Kozloduy power plant) and 3,1 GW of hydro-electricity. Gross electricity generation in 2011 reached 50,8 TWh, with the largest contributor being solid fuels (54.2%), followed by nuclear power (32.1%). Gross electricity generation in 2012 reached 47,3 TWh, and in 2013 only 43,8 TWh (ec.europa.eu).

Table 1. Overview of electricity sector in SEE countries in 2013

2013		Albania	B&H	Bulgaria	Croatia	Kosovo	Macedonia, FYR	Montenegro	Romania	Serbia
Electricity production [GWh]		6,987	16,303	43,800	12,799	5,862	5,676	3,809	58,900	37,650
Net imports [GWh]		2,322	3,167	2,353*	4,491	522	2,491	195	3,903*	2,152
Net exports [GWh]		1,425	6,911	10,661*	0	857	62	681	3,650*	4,475
Gross electricity consumption [GWh]		7,957	12,559	39,021*	17,290	5,52	8,139	3,623	59,298*	35,007
Losses in transmission [%]		2.3	1.81	NA	2.2	1.32	2.0	4.28	NA	2.4
Losses in distribution [%]		45.04	11.55	NA	9.1	35.54	16.4	18.96	NA	14.9
Net maximum electrical capacity of power plants [MW]	Oil-fired	98	0	0	303	0	210	0	0	0
	Coal-fired	0	1,588	4,701	290	1,171	800	218.5	11,393	3,905
	Gas-fired	0	0	0	1,125	0	287	0	0	356
	Nuclear	0	0	1,982	348**	0	0	0	1,411	0
	Other renewables	0	2,45	1,719	295	1,35	7,2	0	3,534	7,3
	Hydro	1,780	2,12	3,202	2,147	42,58	649	658	6,610	2,871
Electricity customers		1,161,626	1,492,214	NA	2,361,869	468,663	682,356	378,073	NA	3,580,579
Internal market	Electricity supplied to active eligible customers [MWh]	602,972	885	NA	7,568,000	NA	1,753,00	784,235	NA	2,238,000
	Share of final consumption [%]	13.4	7.98	NA	50.0	NA	25.08	23.59	NA	7.99
Consumption structure [GWh]	Industrial, transport, services and other non-residential sectors	2,239	6,464	17,007*	8,905	1,447	3,932	2,107	30,351*	13,851
	Households (residential customers)	2,262	4,624	10,838*	6,237	2,13	3,057	1,216	12,035*	14,147
Horizontal transmission network [km]	380 kV or more [km]	395	865	NA	1,301	188,49	507	284	155 (750 kV)	1,614
	220 kV [km]	1,180	1,525	NA	1,201	231,83	0	367	4132,4	1,884
	110 kV [km]	1,343	3,920	NA	4,905	802,7	1,722	617	4639,2 (400 kV)	5,814
	HVDC [km]	0	0	NA	0	0	0	0	0	0
	Substation capacity [MVA]	3,846	12,369	NA	11,637	5,579	2,700	3,359	1x750kV; 32x400kV; 44x220kV	27,040

Note: NA – not available; * indicates data for 2012; ** indicates Nuclear power plant Krško (50% of total available capacity)
Source: http://ec.europa.eu/energy/en/statistics/country

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Croatia has an installed capacity of 4 GW, which is made up of thermal (1,9 GW) and hydropower (2,1 GW). The production has been relatively stable over the past few years. Electricity production from hydro sources has decreased while the thermal generation has risen, except in 2009 when hydropower was the main electricity source. Around 75% of electricity consumption in 2013 is covered from domestic sources, while the rest is imported. More than half electricity production in Croatia comes from hydropower plants. There is a lack of electricity production during dry seasons that should be covered by imports. During last several years wind capacity increased considerably, from 2004 when the first wind park was commissioned. Of all the countries in the region, Croatia has the most consistent approach for encouraging renewable energy sources. In addition, Croatia developed a coherent legislative and regulatory framework for supporting development of renewable energy sources projects.

Electricity system of **Kosovo** is among the smallest within the Energy Community. It consists of two lignite power plants with 45,9 MW of installed capacity. In 2013, the three wind power plants contributed with 1,35 MW. Domestic power plants produced 5,862 TWh and covered 91.5% of electricity consumption in 2013. The remaining 0,522 TWh was imported from neighbouring countries (Serbia, Montenegro and Macedonia). Kosovo has a potential of nearly 400 MW in hydropower as well as 50 MW in wind power and the total potential of renewable energy sources (mostly hydro energy, biomass and solar energy) is estimated at about 1,7 TWh per year.

Macedonia, similar to other SEE countries, is relatively rich with coal with a low energy value (lignite) and hydro potential. However, only a limited amount of that potential is used; the number of sites on which power plants could be installed is estimated at over 400. Therefore, the theoretical hydropower resources (8,863 TWh) are significantly higher than the production (about 1,2 TWh). In 2013, the total electricity production in the Republic of Macedonia was 5,676 GWh or 69.7% of gross electricity consumption, while thermal power plants produce more than 75% of the electricity consumed. Macedonia imports electricity mainly from Bulgaria and Serbia. The total consumption of electricity in 2012 was 8,931 GWh and is by 9.73% higher than the consumption in 2013. Capacity of hydropower plants is 649 MW, which includes seven major and several small hydropower plants. Although significant resource and with big potential, production of electricity in hydropower plants is very variable with regard to climatic conditions.

Montenegro depends greatly on imports of oil and gas since there is no oil and natural gas production. Research indicates that oil and gas reserves are located underground and under the sea (www.minekon.gov.me). However, Montenegro has significant hydropower potential of rivers, which so far has been used for only 17% of the total theoretical potential. The total installed power of generating capacity in 2013 in Montenegro amounted 658 MW from hydropower plants and 210 MW from one thermal power plant Pljevlja. The total electricity production is increasing from 2,656 GWh in 2011 to 3,809 GWh in 2013 mostly due to the good hydrological conditions since electricity is mostly generated by hydropower plants. Currently, 658 MW or 76% of the installed production capacities in Montenegro is in hydropower plants, of which only 9% is in small hydropower plants. In order to cover domestic demand, Montenegro needs a significant electricity imports. It is estimated that Montenegro has significant potential with respect to hydropower (2 GW), wind power (400 MW), solar power (33 MW) and biomass (4,2 TWh per year). However, currently there are no wind power plants in Montenegro and the use of solar power is mainly for domestic hot water preparation (www.enercee.net).

Romania has significant oil and gas reserves, substantial coal deposits and hydro resources. However, Romania imports oil and gas from Russia and other countries. To decrease this dependency, Romania seeks to use nuclear power as an alternative to electricity generation. Romania's first nuclear power plant the Cernavoda Number One was opened in 1993. To cover the increasing energy needs, Romania plans several nuclear power plants that would most likely be located near one of the major rivers in Transylvania. After the fossil fuels, hydropower is the second most important source of electricity generation. In 2013, the structure of electricity generation was 46.2% thermal, 25.9% hydro and 19.9% nuclear. Romania has the estimated total usable hydropower of 36,000 GWh per year and the highest wind potential in SEE. In 2014, wind power reached installed capacity of 2,954 MW, up from the 14 MW installed capacity in 2009, which is a remarkable increase. Solar power in Romania had an installed capacity of 1,151 MW at the end of 2013, which represents more than 20 fold increase from 2012. However, the record year of 2013 was an exception, and new installation drop back to a moderate level of 6,9 MW in 2014. Generally, renewable energy sources amounted to 4,348 MW installed capacity and their share in gross final energy consumption reached 22.9% in 2012, almost at its national 2020 target of 24% (ec.europa.eu).

Serbia mostly depends on imports of oil and gas, which represents for about 40% of its energy consumption, despite increased utilization of local resources (large reserves of coal and hydropower). Oil and gas reserves are symbolical and make less than 1% of the total balance reserves. The rest of 99% reserves depend on

various sorts of coal, dominantly low-calorie lignite. Regarding electricity, domestic production is able to meet the total demand, which grew by 5% in the past five years. Serbia is net exporter of electricity: imports of electricity in 2013 were 2,152 GWh and exports were 4,475 GWh. Total electricity consumption in 2013 was 35,007 GWh. The full production capacity amounts to 7,48 GW, distributed between lignite plants (4,30 GW), oil and gas cogeneration plants (350 MW) and hydropower plants (2,83 GW). Serbia is also rich in renewable energy sources; their estimated technically usable potential can have a considerable contribution to a reduced utilization of fossil fuels and an achievement of defined targets regarding the share of renewable sources in the final energy consumption (www.enercee.net). The potential for using renewables includes large untapped potential of hydropower, mainly for medium and small hydropower plants, for about 4,6 GW, as well as 2,3 TWh/year from wind power, 50 MW from geothermal and 33 MW from solar power. The biomass and agricultural waste have the greatest potential in Serbia, with an estimated 19 TWh/year.

3 CHALLENGES OF ELECTRICITY SECTOR REFORMS IN SOUTHEAST EUROPE WITHIN WIDER EUROPEAN CONTEXT

In order to evaluate the progress or success in conducting reforms in electricity sector achieved by SEE countries, we use the reform index made by European Bank for Reconstruction and Development-EBRD (see Table 2). This indicator ranges from 1 to 4+[1]:

Table 2. EBRD index of electricity sector reform in SEE countries (2000-2014)

Country	Transition indicator			
	2000	2005	2010	2014
Albania	2,3	2,7	3	2
B&H	2,3	3	3	2
Bulgaria	3,3	3,7	3,7	3
Croatia	2,3	3	3	3
Kosovo	NA	NA	NA	NA
Macedonia, FYR	2,3	2,7	3	3
Montenegro	NA	2,3	2,7	2
Romania	3	3,3	3,7	3
Serbia	2*	2,3	2,3	2

Note: * indicates data for one country officially known as the State Union of Serbia and Montenegro, which transitioned to two independent nations by 2006

Source: EBRD (2004; 2014)

Under EBRD methodology, all countries scoring 3 or higher have their electricity sectors at a fairly advanced stage of transition. Conversely, score 2 or lower denotes those countries and their electricity sectors where transition has barely advanced (EBRD, 2014, p. 114). According to data presented in Table 2, it is obvious how low diversification (and relatively low grades) exists among SEE countries in respect of electricity reforms' implementation. Naturally, current EU Member States (and Macedonia) have somewhat better grades due to the harmonization of their electricity sectors and legislation with the EU acquis and the internal electricity market. Macroeconomic environment in most SEE countries has been burden with serious problems and misbalances such as budget and current account deficits and, as a consequence, high external debts. Many macroeconomic problems have slowed down the pace of reforms in electricity sector,

[1] Grade 1: Electricity sector operates as government department with few commercial freedoms or pressures. Average prices are well below costs, with extensive cross-subsidies. Monolithic structure with no separation of different parts of the business.
Grade 2: Electricity company distanced from the government, but there is still a political interference. Some attempt to harden budget constraints, but effective tariffs are low. Weak management incentives for efficient performance. Little institutional reform and minimal, if any, private sector involvement.
Grade 3: Law passed providing for full-scale restructuring of industry, including vertical unbundling through account separation and set-up of regulator. Some tariff reform and improvements in revenue collection. Some private sector involvement.
Grade 4: Separation of generation, transmission and distribution. Independent regulator set up. Rules for cost-reflective tariff setting formulated and implemented. Substantial private sector involvement in distribution and/or generation. Some degree of liberalisation.
Grade 4+: Tariffs cost-reflective and provide adequate incentives for efficiency improvements. Large-scale private sector involvement in the unbundled and well-regulated sector. Fully liberalised sector with well-functioning arrangements for network access and full competition in generation.

and these problems have become even bigger during the recession that started in 2009. According to EBRD (2014, p. 115), the last few years have been difficult for energy markets in the entire EBRD region including SEE countries. While some countries have announced reforms, progress with implementation has been slow. In some cases, reforms have even been reversed, leading to six downgrades in the electric power sector in the past two years. It seems that 2014 may mark a turning point for this sector. However, it is too early to say with certainty, particularly given the increase in energy-related challenges in the region.

Comparing with Central and East European countries, less successful electricity reforms' implementation can be explained by slower pace of overall economic reforms and significant constraints of small SEE countries due to their limited market size, infrastructure and administrative capacity. These constraints can be divided as systemic and regulatory ones. The systemic aspect is related to the physical size of the electricity systems in these countries because they are too small to be divided up into several competing firms. In addition, there is a trade-off between having a sufficient number of competing generators and economies of scale of the power plants. The issue is whether the efficiency gains from several small competing units out-weights diseconomies of scale and increased transaction costs of an unbundled system (Jamasb, 2006). In addition to the systemic issues, these small transition countries are faced with the lack of institutional and regulatory resources. Their institutional settings are characterised by high corruption, the lack of judicial independence and credibility and highly interventionist governments, which makes the necessary reforms much slower.

Moreover, it seems that progress in electricity reforms has lagged behind other areas of transition. Economic environment in most SEE countries has been burden with serious problems and impediments that have slowed down the pace of reforms in electricity sector and chances for success. Serbia, Montenegro, B&H and Albania have been marked by lower grades, while Romania has reached the highest grades, which means they have done considerable reforms towards market economy in electricity sector (Vlahinić-Dizdarević and Šegota, 2008).

Since the most important goals of energy market reforms were to make cost-effective energy prices and increase the quality of electricity supply, the further analysis (see Table 3 and Fig. 2) investigates whether these goals have been fulfilled in SEE countries.

Table 3. Average residential electricity prices in SEE countries (2005-2014)[2]

Country	Electricity prices per kWh, all taxes included (in Euro)				
	2005	2010	2012	2013	2014
Albania	NA	NA	0,1165	0,1155	0,1158
B&H	NA	0,0738	0,0801	0,0800	0,0798
Bulgaria	0,0649	0,0822	0,0901	0,0903	0,0864
Croatia	0,0862	0,1152	0,1296	0,1361	0,1318
Kosovo	NA	NA	NA	0,0561	0,0569
Macedonia, FYR	NA	NA	0,0791	0,0795	0,0804
Montenegro	NA	NA	0,0930	0,0972	0,0987
Romania	0,0863	0,1042	0,1063	0,1301	0,1269
Serbia	NA	NA	NA	0,0586	0,0602

Source: http://ec.europa.eu/eurostat/data/database

Despite the increase in electricity prices over the course of several years especially in new EU Member States, most SEE countries like Kosovo, Serbia, Bosnia and Herzegovina, Macedonia, Bulgaria and Montenegro still have very low electricity prices that are not cost-based and energy policy focused mainly on social priorities. Prices in Croatia have been increasing substantially, reaching a level comparable or higher with those found at the EU level. The existences of tariffs that are not cost reflective in most SEE countries have become more acute by the payments arrears and low collection rates (Vlahinić-Dizdarević and Galović, 2007). Therefore, there is not enough new private investment and irrational consumption continues to grow.

Regarding the quality or reliability of the electricity supply, it is assessed by WEF, with grades ranging from 1 (not reliable at all) to 7 (extremely reliable). The available data for SEE countries for the year 2014 are shown in Fig. 2.

[2] Table 3 comprises data collected under the so-called new and old methodology. The main methodological changes that were introduced as of 2008 are related with the use of consumption bands instead of typical standard consumers, and the averaging over 6 months instead of fixed prices on 1st January and 1st July. The methodology was modified to cope with the liberalised energy markets. See more: http://ec.europa.eu/eurostat/cache/metadata/en/nrg_pc_204_esms.htm

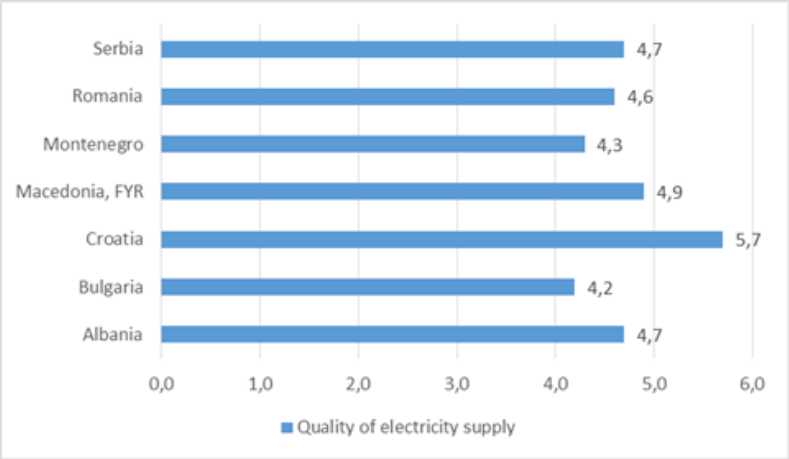

Fig. 2. Quality of electricity supply in SEE countries in 2014
Source: WEF (2014)

As it could be expected, Croatia achieved the highest quality of electricity supply (5,7) and according to technical parameters, its electricity system can be compared with the ones from the most developed EU Member States. All other SEE countries are lagging behind, reaching between 4,2 (Bulgaria) and 4,9 (Macedonia).

4 CONCLUSION

The analysis of the electricity sector in Southeast Europe shows that hydropower and coal represent the most important energy sources for electricity generation. Hydropower accounts more than 50% in total installed electricity capacity in Albania, Montenegro, Croatia and Bosnia and Herzegovina. This is important because hydropower provides a necessary flexibility and storage capacity to help ensure stability of a transmission system and security of supply. It supports the integration of increasing amounts of renewables, especially wind, and it will become even more important in the future as the share of variable generation from renewable energy sources further increases. Another important characteristic of SEE electricity sector is a high share of coal in total installed capacity, especially in Kosovo, Serbia and Bosnia and Herzegovina. This fact should be seen in a wider context of undergoing changes in electricity sector of European Union since all SEE countries are either EU Member States (Bulgaria, Croatia, Romania) or Energy Community contracting parties, which means that they agreed to adopt EU *acquis communautaire* in energy and environment. The 2030 climate and energy framework sets a number of ambitious targets for 2030 including, among others, a 27% EU wide target for RES energy consumption and a EU target of 40% GHG reduction compared to 1990 levels. The electricity sector will face huge changes and is expected to contribute to this energy revolution.

SEE countries have already started with reforms in electricity sector but the analysis shows that their progress is rather different. Despite the increase in electricity prices over the course of several years especially in new EU Member States, most SEE countries like Kosovo, Serbia, Bosnia and Herzegovina, Macedonia, Bulgaria and Montenegro still have low electricity prices that are not cost-based and energy policy focused mainly on social priorities. Regarding the quality of electricity supply, as it could be expected, Croatia as the best performer achieved the highest quality of electricity supply and according to technical parameters, its electricity system can be compared with the ones from the most developed EU Member States. All other SEE countries are considerably lagging behind. As the analysis shows, sectoral characteristics, macroeconomic environment and institutional framework in SEE countries differ widely and are much less favourable that in most EU Member States. Having in mind their different reform results, it is reasonable to question the uniform EU reform model that has been implemented in all SEE countries. It seems that this model cannot be appropriate for all countries since it requires adequate level of institutional resources that are missing in less developed and small transition countries of Southeast Europe.

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