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Energy policy reforms in the Serbian oil sector: An update

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ABSTRACT

Since 2012, when Serbia became a candidate for European Union membership, the harmonization of the Serbian energy policy regulatory framework in compliance with EU energy acquis has been accelerating. An umbrella framework adopted recently as a basis for conducting reforms in all Serbian energy sub-sectors involves a new Energy law that transpose the EU Third Energy Package and a new Energy Development Strategy of Serbia by 2025, with projections to 2030. The priorities of Serbian energy policy are increasing energy security supply, the further development of the energy market, and provision of sustainable energy development. The adopted strategic objectives for the oil sector are: providing a secured supply on the domestic market in petroleum products whose quality meets the highest EU standards; reduction of import dependency, and securing new crude oil supply routes. This paper provides an overview of the Serbian oil sector reforming progress concerning adoption of new legislation relating to key issues for adjustment with EU directives. Also, it represents new activities and major development projects in the oil sector, including projects that contribute to the development of the Serbian oil sector on the principles of sustainability.

1. Introduction

Serbia became a candidate for European Union membership in March 2012. In December 2013 the European Union Council approved the opening of negotiations on Serbia's accession, and the first Intergovernmental Conference as the start of accession negotiations was held in January 2014. It was determined how and when Serbia would adopt the EU acquis communautaire.

One of the most important issues of Serbia's roadmap to full EU membership is energy policy reforms, i.e. the Energy chapter, number 15, in negotiations, which is planned to be opened by the end of 2017.

The energy sector, as one of the most important in Serbia's industry from the economic, environmental and social point of view, is on the path of reform, reorganization and harmonization, applying EU energy policies and strategies.

The roadmap for Serbia's energy sector reform includes improvement in internal energy market openings, energy supply security, competition, energy efficiency increase, environmental protection, and the promotion and greater use of renewable energy sources (EU Information Centre, 2014). Intensive energy policy reforms in Serbia concerning all energy sectors are underway. These reforms started in 2004, but they have accelerated over the last few years. As a basis for conducting reforms in the energy sector, a new legal and institutional framework was recently adopted. The most important documents are the new Energy Law, adopted by the Serbian Parliament in 2014, which includes the European Union's Third Energy Package (EC, 2009). In compliance with that, the document "Energy Development Strategy of Serbia by 2025 with projections to 2030" was adopted by the Serbian government in December 2015. The main strategic priorities are defined according to European Energy Community strategy.

Following new trends in world and European energy policies in compliance with the principles of sustainable development, NIS-Gazprom neft company (NIS), which is engaged in exploration, production, refining, and trade in crude oil, petroleum products and natural gas in Serbia, is being transformed from a petroleum to an energy company, by using cleaner fossil-fuel technology, increasing energy efficiency, improved environmental protection, and by starting energy production from renewable sources.

The aim of this article is to present an update on the energy policy regulatory framework since the European Union granted Serbia membership candidate status, relating to reforms presented in the paper of Karovic Maricic et al. (2012). Besides that, it provides an overview of new activities and major development projects in the oil sector that contribute to achieving defined strategic goals by the Energy Development Strategy of the Republic of Serbia for the oil sector i.e. increasing the secured supply of petroleum products of higher quality, improving the petroleum product market, reducing import dependency, with a transition to sustainable energy development (Serbian Ministry of Mining and Energy, 2015).

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Table 1
Serbian main energy indicators for 2011–2015 period.
Sources: IEA (2017); Statistical Office of the Republic of Serbia (2017)

Parameters (ktoe)	2011	2012	2013	2014	2015
Total primary production	11,161	10,781	11,362	9443	10,860
Solids	7825	7287	7671	5713	7199
Crude oil	1124	1230	1279	1217	1113
Natural gas	405	425	423	444	506
RES	1807	1848	1989	2069	2042
Imports	5851	4836	4807	4916	5732
Solids	802	410	309	487	629
Oil	1516	1115	1845	1853	1899
Oil products	1556	1377	796	856	1113
Natural gas	1391	1425	1502	1110	1539
Electricity	576	497	351	609	542
Net imports	4940	4050	3590	3718	4259
Total primary energy supply (TPES)	16,176	14,533	14,891	13,259	15,051
Solids	8700	7630	7928	6249	7742
Crude Oil	2584	2343	3100	3142	3101
Oil products	1232	1017	296	121	353
Natural gas	1902	1677	1866	1608	1944
RES	1776	1866	1700	2138	1910
Gross final energy consumption	10,200	9400	10,000	8500	9300
Electricity consumption (TWh)	32.48	31.58	31.84	30.46	32.21
TPES/population (toe/capita)	2.24	2.02	2.08	1.86	1.53
Energy intensity (TPES/GDP(PPP)) (toe/1000 2010 USD)	0.23	0.21	0.21	0.19	0.22
Import dependency, %	31	28	24	28	28
CO_2 emissions (Mt of CO_2)	50.05	44.63	45.31	38.11	NA
CO_2 /population (t CO_2/capita)	6.92	6.20	6.33	5.35	NA

2. Serbia's main energy indicators

Serbia's main energy indicators for 2011–2015 period are presented in Table 1. Primary energy production includes the exploitation and use of domestic resources of coal (mostly low energy lignite), crude oil, natural gas and renewable energy (hydropower, geothermal energy, and biomass). Coal is the largest primary energy source, with its share of around 50%, and it is mainly used for electricity production. It can be seen that primary energy production increased in the 2012–2013 period, due to an increase in oil and gas production. For that reason, as well as for TPES reduction (mostly due to a decrease in industrial sector consumption), import dependency has been reduced.

In May 2014 severe floods caused serious damage in energy sector, where 90% of the damage was in coal and power generation sectors. Overall damage in the energy sector was estimated at EUR 183.46 million (United Nations and the World Bank, 2014). Disruption in coal production has caused a significant decline in domestic production of primary energy and electricity. A decrease in coal production by 21% compared to production in 2013 affected increasing import dependency, and in 2015 security of electricity supply was re-established. The share of the total primary energy supply in 2015 is presented in Fig. 1.

Electricity generation is dominated by coal with a 71% share, followed by hydro potential with a 28% share, and a minimal amount provided by gas.

In comparison with surrounding countries and EU 28 countries, primary energy consumption per inhabitant in Serbia in 2015 was above regional values (except for Hungary, Bulgaria and Bosnia and Herzegovina), but less than the European Union average (Fig. 2 with last available data from 2015). Energy intensity or total primary energy consumption per unit of GDP (at purchasing power parity) in 2015 was above all regional values (except for Bosnia and Herzegovina) and double the European Union average (Fig. 3 with last available data from 2015).

Fig. 4 presents CO_2 emission from fuel combustion in Serbia, surrounding countries, EU 28 countries and the world. In 2015, CO_2 emissions were at 6.27 t per capita, that is almost equal to European

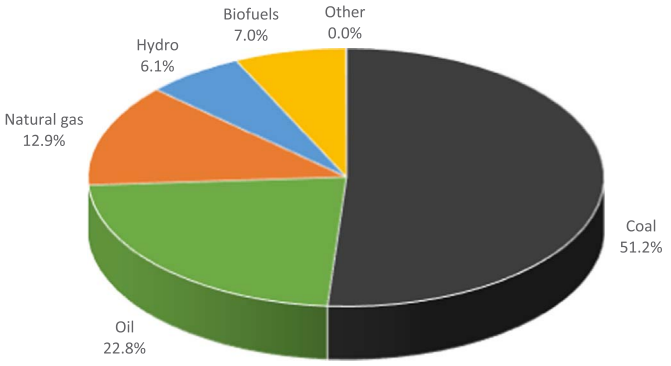

Fig. 1. Share of total primary energy supply in 2015. Source: Statistical Office of the Republic of Serbia (2017); IEA (2017b).

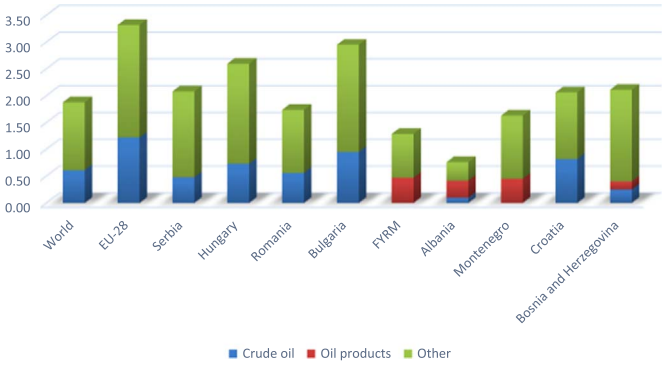

Fig. 2. Primary energy consumption per inhabitant in Serbia, surrounding countries, EU-28 and the world in 2015 (toe/capita). Source: IEA (2017a, 2017b).

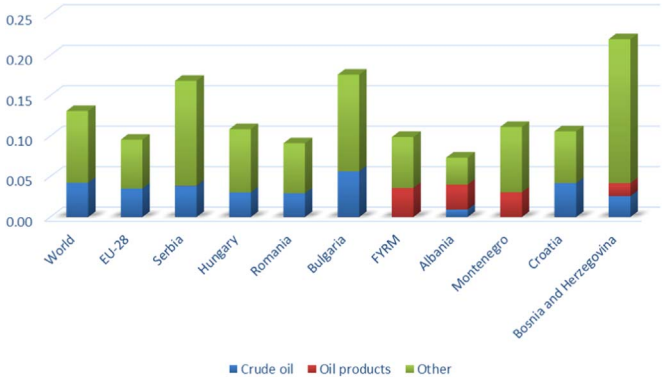

Fig. 3. Energy intensity in Serbia, surrounding countries, EU-28 and the world in 2015 (toe/1000 2010$). Source: IEA (2017a, 2017b).

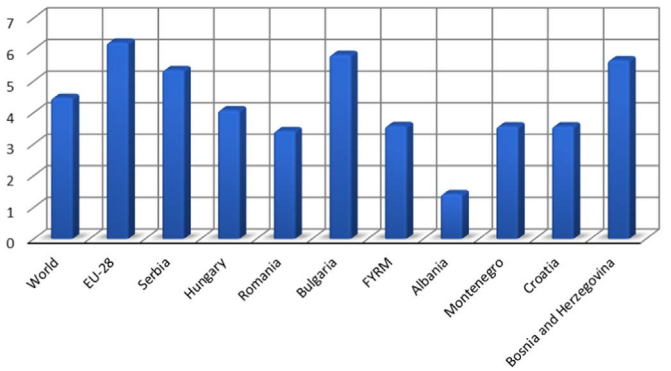

Fig. 4. CO_2 emissions per capita in Serbia surrounding countries, EU-28 and the world in 2015 (t CO_2/capita). Source: IEA (2017a, 2017b).