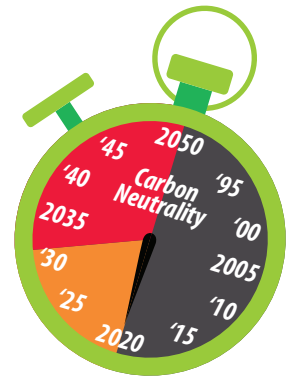


Status and prospects of energy transition in the Western Balkans

Mostly burning fossil fuels, inefficiently

Out of Pace or out of the Race?



Contracting parties of the Energy Community from the Western Balkans rely mostly on coal and oil for their primary energy supply. Renewables also take part in the energy mix primarily through traditional use of biomass in inefficient domestic devices followed by large hydro. Modern sources of renewable energy are at an early stage of develop-

ment. Energy and carbon intensity of the region is comparatively high both to the EU and the World average values. This points to significant space for the improvement in the efficiency of the energy use and production. Import dependency of the region is below the EU average. Currently the region depends on import of the natural gas from Russia.

Table 1 Basic data on contracting parties, Source of energy data IEA. Population statistical offices and UNFPA. GDP World Bank

	Population (million)	GDP (billion 2010 USD)	TPES (ktoe)	Import Dependency	Energy intensity TPES/GDP (toe/ thousand)	GHG emissions per capita CO ₂ / capita	GHG intensity kg CO ₂ / GDP
Albania	2.90	14.54	2,354	39%	0.17	1.15	0.31
Bosnia and Herzegovina	3.50	20.13	6,758	34%	0.35	6.37	1.14
Kosovo*	1.80	7.73	2,569	30%	0.35	4.46	1.1
North Macedonia	2.10	11.23	2,723	57%	0.25	3.57	0.68
Montenegro	0.62	5.11	1,018	41%	0.21	3.55	0.45
Serbia	6.90	48.04	15,609	34%	0.37	6.57	1.1

Figure 1 Energy and carbon intensity of the contracting parties and the EU

■ Energy intensity TPES/GDP (toe/ thousand)
■ Carbon intensity kg CO₂/GDP

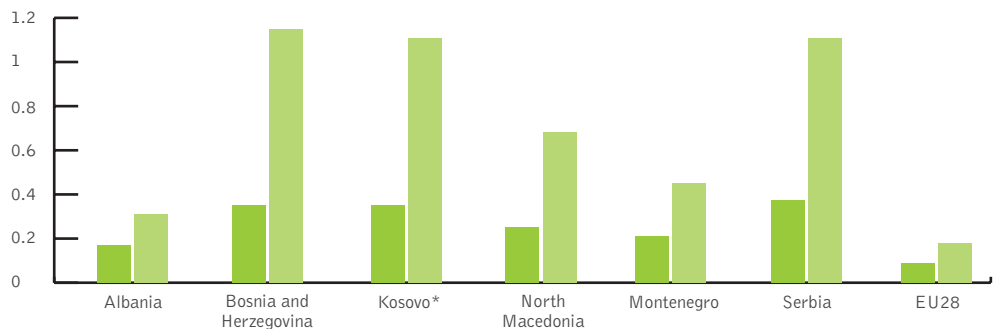
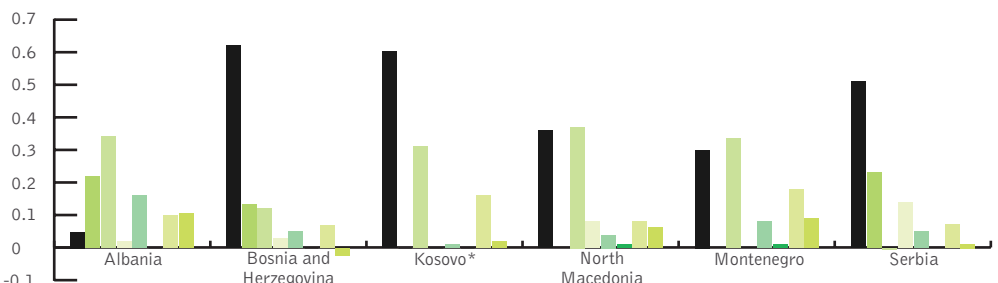


Table 2 Structure of Total Primary Energy Supply by source (Ktoe), 2017 data, source International Energy Agency (IEA)

	Coal	Crude Oil	Oil products	Natural gas	Hydro	Wind, solar	Biofuels/waste	Electricity
Albania	116	513	791	37	389	13	243	251
Bosnia and Herzegovina	4,189	896	824	200	343	2	464	-158
Kosovo*	1,418	0	733	0	15	0	371	31
North Macedonia	968	0	1,012	226	95	17	233	170
Montenegro	304	0	340	0	88	9	181	96
Serbia	7,874	3,664	-3	2,117	787	11	1,087	71

Figure 2 Shares of fuels in Total Primary Energy Supply

■ Coal ■ Crude Oil
■ Oil products ■ Natural gas
■ Hydro ■ Wind, Solar
■ Biofuels/waste ■ Electricity



Residential and transport sector dominate in final energy consumption in all contracting parties followed by industry.

Energy is mostly used in the form of oil products, followed by electricity. Significant share of final energy is consumed in the form of traditional biomass which is further explained in the section on energy poverty. Natural gas use in the region is limited.

	Transport	Residential	Industry	Agriculture-Forestry	Commercial - public services	Non energy use / Non specified	Fishing	TOTAL
Albania	827	490	396	75	211	55	251	2,305
Bosnia and Herzegovina	1,243	1,046	830	19	356	63	0	3,557
Kosovo*	421	571	316	30	192	42	0	1,572
North Macedonia	703	529	384	24	220	80	0	1,940
Montenegro	234	263	132	5	86	39	0	759
Serbia	2,092	2,852	2,326	190	938	848	0	9,246

Table 3 Comparative total final energy consumption (Ktoe), 2017 data, International Energy Agency (IEA)

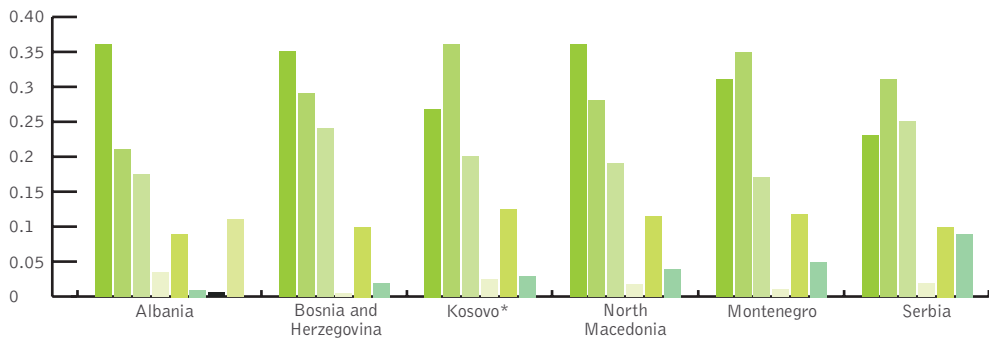
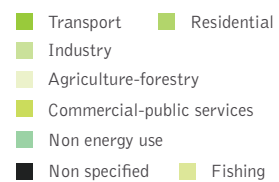


Figure 3 Comparative total final energy consumption, shares by sector



	Coal	Oil products	Natural gas	Biofuels and waste	Electricity	Wind, solar, etc	Heat	TOTAL
Albania	116	1,200	12	240	512	13	0	2,093
Bosnia and Herzegovina	365	1,530	149	402	981	0	127	3,554
Kosovo*	87	716	0	371	373	0	15	1,562
North Macedonia	101	987	44	229	525	5	50	1,941
Montenegro	9	340	0	164	245	0	0	758
Serbia	629	3,214	1,182	1,047	2,418	5	751	9,246

Table 4 Structure of final energy consumption by fuel (Ktoe), 2017 data, International Energy Agency (IEA)

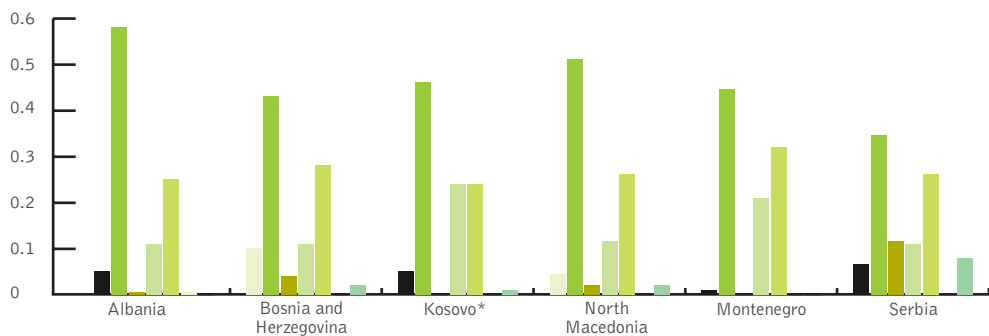
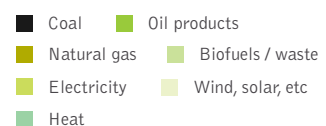


Figure 4 Structure of final energy consumption by fuel



Electricity is generated predominantly from coal followed by hydro. Other sources current contribution is negligible. Based on the estimations provided by the IRENA this does not need to be the case as technical potential for electricity production from renewables is significant.

	Coal	Oil	Natural gas	Bio-fuels	Waste	Hydro	Solar PV	Wind	Total production	Import	Export
Albania	0	0	0	0	0	4,525	1	0	4,526	2,915	0
Bosnia and Herzegovina	12,339	62	23	6	0	3,987	21	0	16,438	3,346	-5,187
Kosovo*	5,726	12	0	0	0	179	1	0	5,918	1,242	-880
North Macedonia	3,386	89	829	52	0	1,110	24	110	5,600	2,294	-311
Montenegro	1,362	0	0	0	0	1,024	0	97	2,483	1,537	-417
Serbia	26,554	48	549	75	5	9,752	13	48	37,045	6,549	-5,724

Table 5 Electricity balance (GWh), 2017 data, International Energy Agency (IEA)