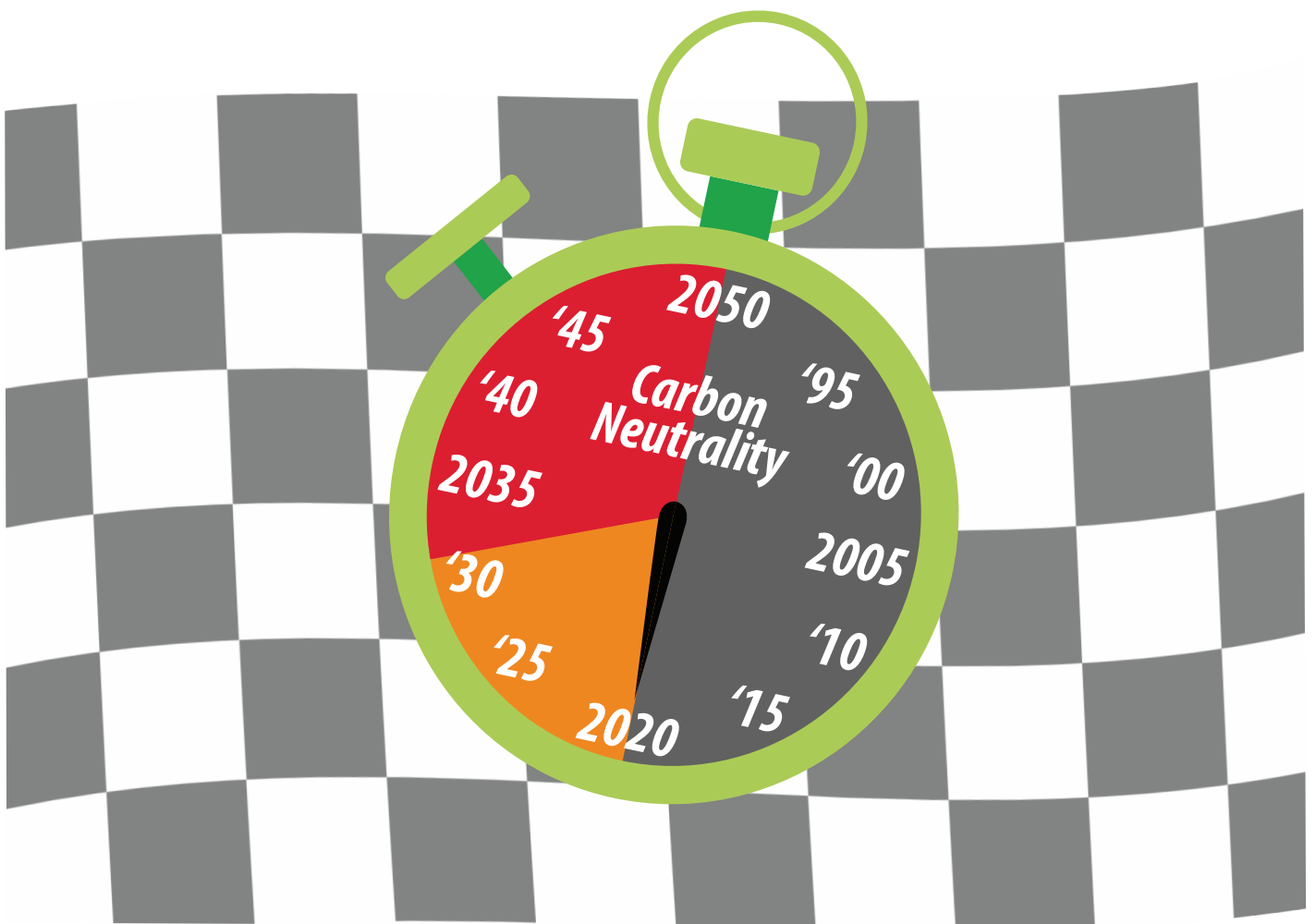


# Out of pace or out of the race?

Status and prospects of energy transition  
in the Western Balkans



**The views and opinions expressed herein are those of the authors, RES Foundation Belgrade, and do not necessarily constitute the views and opinions of the publisher.**

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## The Race: Climate-Neutrality by 2050

Our world is facing one of its greatest challenges: the race to zero (emissions) and climate-neutrality.

Science<sup>1</sup> tells us almost everything we need to know about the rules of this race. Moreover, most countries have read these and signed-up to enter the race years ago, in Paris, in 2015.

The Paris Agreement, a legally binding international treaty on climate change, was adopted by 196 countries at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.

Its main goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

To achieve this long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century.

**A climate neutral world by mid-century.**

## The Vehicle: Decarbonisation

One word, one “brand” of vehicle, is required for the successful completion of the race: decarbonisation.

It stands for nothing less than changing the way we work, play and consume so as to avoid skidding off the global warming track that is manageable.

The first leg of the race is to decarbonise our energy, to transition from burning fossil fuels, first of all – coal, to reducing energy use by improving our energy efficiency and powering our economies and societies by renewable energy sources.

## The Western Balkans, Team Europe

Ever since joining the Energy Community, the international treaty working to integrate the energy markets of the European Union and its neighbours, the countries of the Western Balkans could be said to have joined Team Europe.

Moreover, Albania, Bosnia and Herzegovina, Kosovo\*, Montenegro, North Macedonia and Serbia, all aspire to membership in the European Union and have recently re-affirmed their commitment to joining Team Europe in the race to climate neutrality by 2050<sup>2</sup>.

## The Race Stages: 2020, 2030

To stay on track, science warns of the required stage times, especially for the next decade, through to the year 2030.

If we don't make the required progress by then, we risk pushing our climate to tipping points, levels of stress from which our 2050 goal becomes impossible to reach.

## The indicators: Our decarbonisation speedometer

Firstly, we present comparative data relevant for the establishment of energy profiles of the Western Balkan countries, “contracting parties” to the Energy Community Treaty, such as:

- Energy production and consumption, CO2 emissions, population and general economic data.
- Data on coal power plants: age, capacity, emissions
- Potentials for energy efficiency improvements and for RES deployment
- Energy poverty profiles of the contracting parties

These datasets<sup>3</sup> are followed by the discussion on the status and prospects for the development of integrated climate and energy policies and incorporates views from the EU progress reports.

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<sup>1</sup> IPCC 1,5 report

<sup>2</sup> Sofia green agenda for the wb

<sup>3</sup> This review and analyses are based on the desk research and the data available in English language and local languages including but not limited to: IEA reports and statistics, EUROSTAT, NDCs and National Communication to UNFCCC, National energy and climate strategies, Reports to the Secretariat of the Energy Community, EU Progress Reports (since 2015), SILC, Household budgetary surveys, IRENA documents on RES potential

# Mostly burning fossil fuels, inefficiently

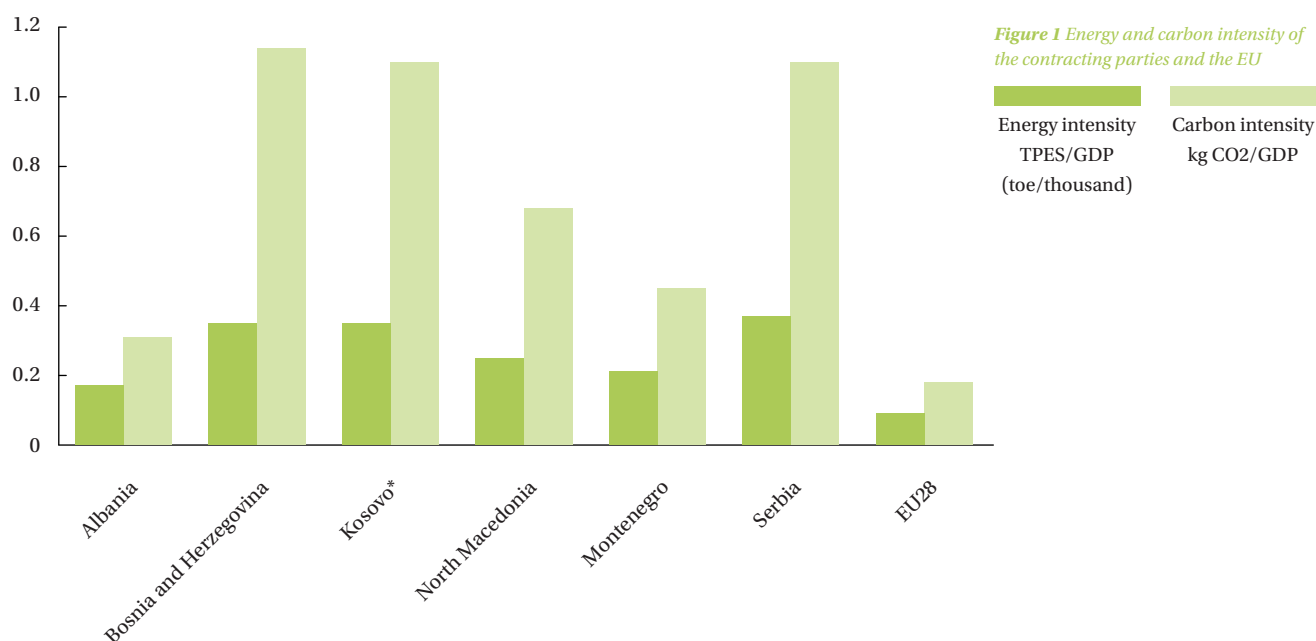


Contracting parties of the Energy Community from the Western Balkans rely mostly on coal and oil for their primary energy supply. Renewables also take part in the energy mix primarily through traditional use of biomass in inefficient domestic devices followed by large hydro. Modern sources of renewable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

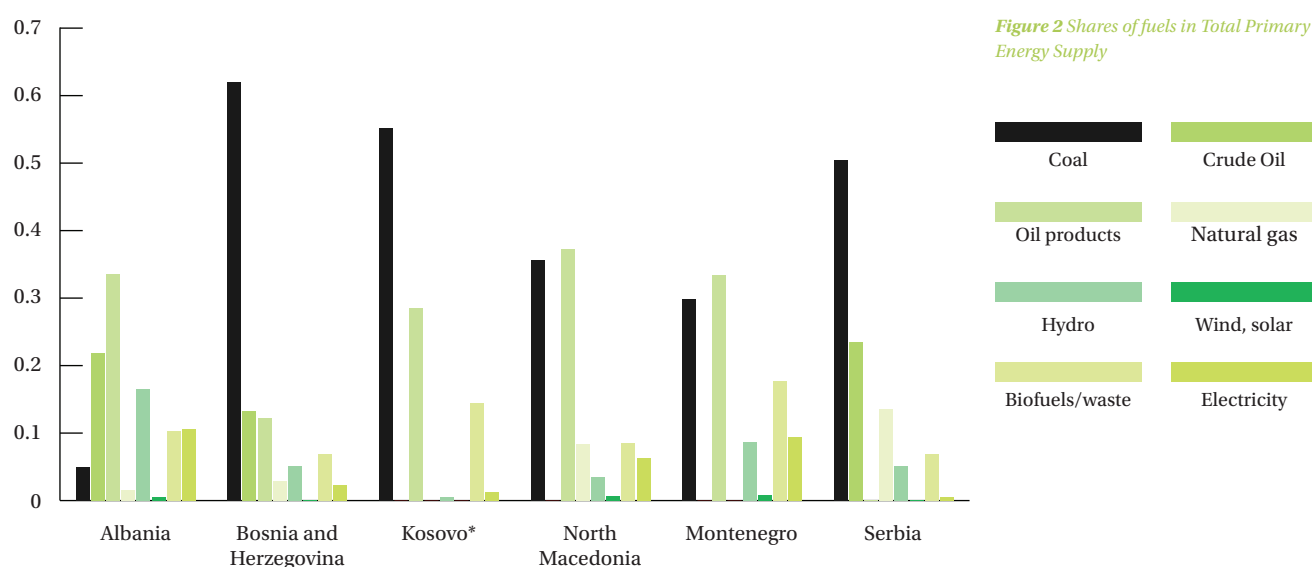
	Population (million)	GDP (billion 2010 USD)	TPES (ktoe)	Import Dependency	Energy intensity TPES/GDP (toe/ thousand)	GHG emissions per capita CO <sub>2</sub> / capita	GHG intensity kg CO <sub>2</sub> / GDP
<b>Albania</b>	2.9	14.54	2,354	39%	0.17	1.15	0.31
<b>Bosnia and Herzegovina</b>	3.5	20.13	6,758	34%	0.35	6.37	1.14
<b>Kosovo*</b>	1.8	7.73	2,569	30%	0.35	4.46	1.1
<b>North Macedonia</b>	2.1	11.23	2,723	57%	0.25	3.57	0.68
<b>Montenegro</b>	0.62	5.11	1,018	41%	0.21	3.55	0.45
<b>Serbia</b>	6.9	48.04	15,609	34%	0.37	6.57	1.1

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



	Coal	Crude Oil	Oil products	Natural gas	Hydro	Wind, solar	Biofuels/ waste	Electricity
<b>Albania</b>	116	513	791	37	389	13	243	251
<b>Bosnia and Herzegovina</b>	4189	896	824	200	343	2	464	-158
<b>Kosovo*</b>	1418	0	733	0	15	0	371	31
<b>North Macedonia</b>	968	0	1012	226	95	17	233	170
<b>Montenegro</b>	304	0	340	0	88	9	181	96
<b>Serbia</b>	7874	3664	-3	2117	787	11	1087	71

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



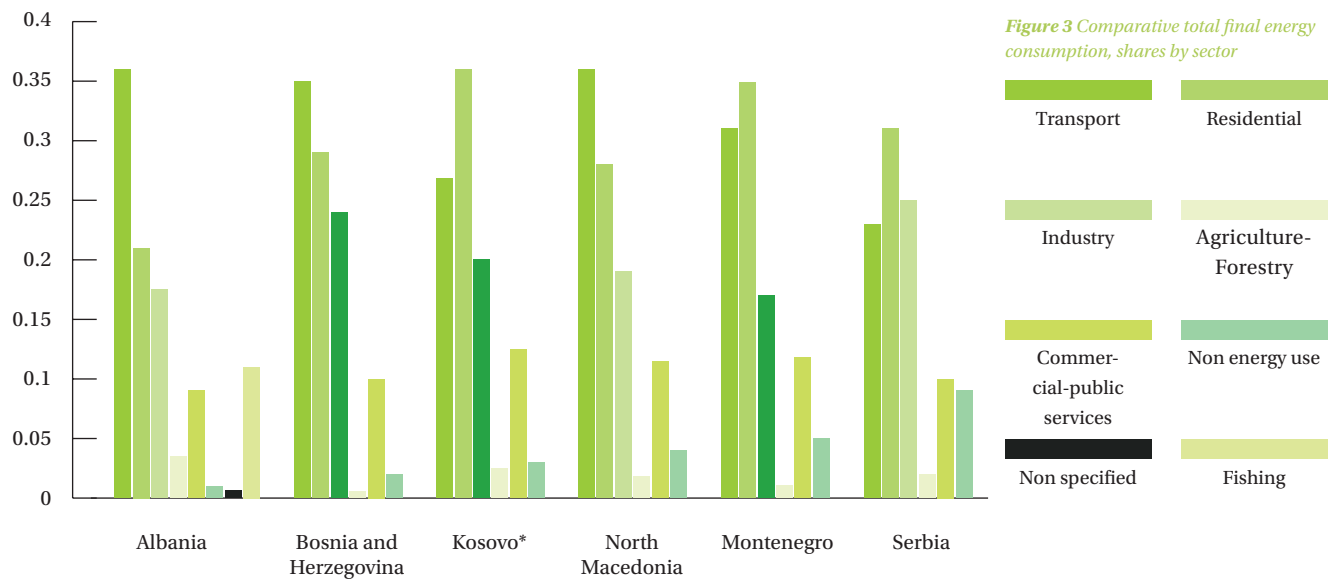
Residential and transport sector dominate in final energy consumption in all contracting parties followed by industry.

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.

Energy is mostly used in the form of oil products, followed by

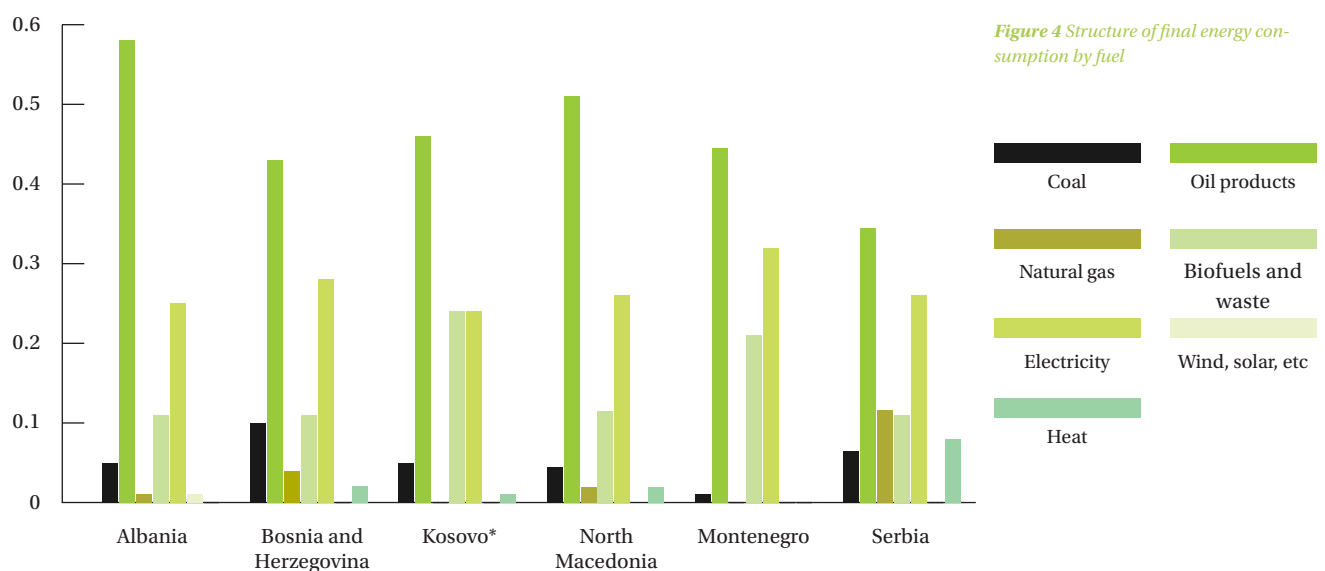
	Transport	Residential	Industry	Agriculture- Forestry	Commer- cial-public services	Non energy use/ Non specified	Fishing	TOTAL
<b>Albania</b>	827	490	396	75	211	55	251	2305
<b>Bosnia and Herzegovina</b>	1243	1046	830	19	356	63	0	3557
<b>Kosovo*</b>	421	571	316	30	192	42	0	1572
<b>North Macedonia</b>	703	529	384	24	220	80	0	1940
<b>Montenegro</b>	234	263	132	5	86	39	0	759
<b>Serbia</b>	2092	2852	2326	190	938	848	0	9246

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



	Coal	Oil products	Natural gas	Biofuels and waste	Electricity	Wind, solar, etc	Heat	Total
<b>Albania</b>	116	1200	12	240	512	13	0	2093
<b>Bosnia and Herzegovina</b>	365	1530	149	402	981	0	127	3554
<b>Kosovo*</b>	87	716	0	371	373	0	15	1562
<b>North Macedonia</b>	101	987	44	229	525	5	50	1941
<b>Montenegro</b>	9	340	0	164	245	0	0	758
<b>Serbia</b>	629	3214	1182	1047	2418	5	751	9246

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



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 as explained in more details in next sections.

	Coal	Oil	Natural gas	Biofuels	Waste	Hydro	Solar PV	Wind	Total production	Import	Export
<b>Albania</b>	0	0	0	0	0	4525	1	0	4526	2915	0
<b>Bosnia and Herzegovina</b>	12339	62	23	6	0	3987	21	0	16438	3346	-5187
<b>Kosovo*</b>	5726	12	0	0	0	179	1	0	5918	1242	-880
<b>North Macedonia</b>	3386	89	829	52	0	1110	24	110	5600	2294	-311
<b>Montenegro</b>	1362	0	0	0	0	1024	0	97	2483	1537	-417
<b>Serbia</b>	26554	48	549	75	5	9752	13	48	37045	6549	-5724

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

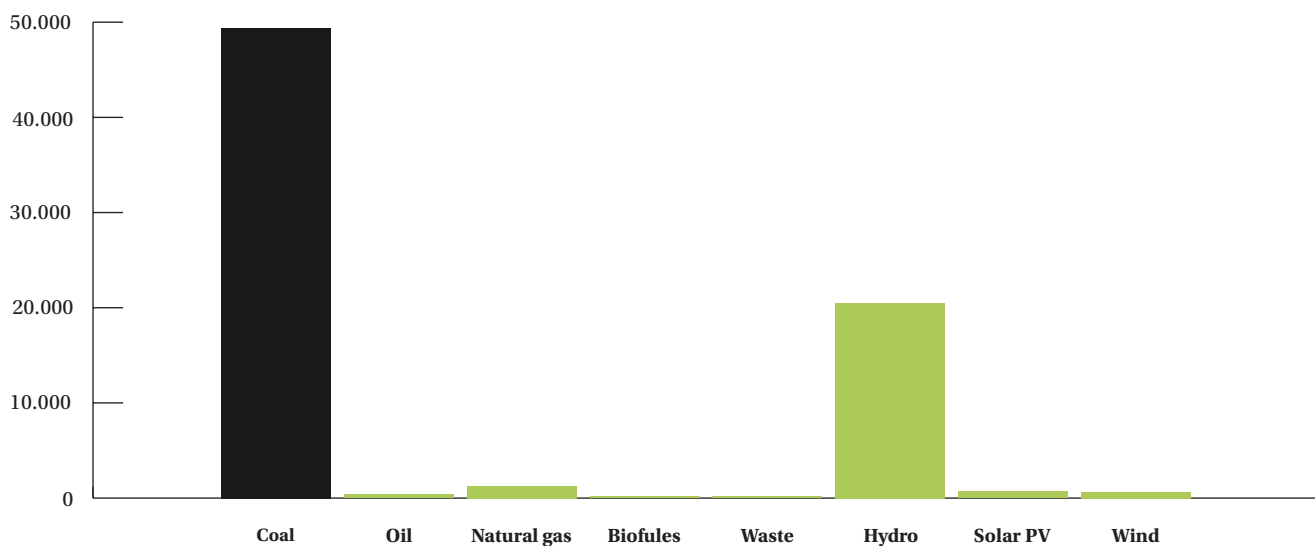


Figure 5 Electricity production in the Western Balkans by source, GWh



# Stuck in coal, in breach of emission standards



Western Balkans is the home to the most polluting thermal power plants in Europe. Despite the fact that Contracting Parties committed themselves to significantly reduce dust, SO<sub>2</sub> and NO<sub>x</sub> emissions in line with the provisions of the Large

Combustion Plants Directive by 31 December 2017, emissions are still huge and larger than prescribed limits. Some of the plants exceeded prescribed limits for SO<sub>2</sub> emissions by as much as 15 times.

Name of plant	Contracting Party	Plant capacity (MW)	Date of starting operation	Electricity production pa (GWh)	SO <sub>2</sub> emissions (t)	Dust emissions (t)	NO <sub>x</sub> emissions (t)
Gacko	Bosnia and Hercegovina	300	1983	1465	18710	1087	2920
Ugljevik	Bosnia and Hercegovina	300	1985	1560	83266	481	3547
Kakanj 5	Bosnia and Hercegovina	110	1969	2546	20533	16	2113
Kakanj 6	Bosnia and Hercegovina	110	1977		21913	18	2255
Kakanj 7	Bosnia and Hercegovina	230	1988		47707	38	4902
Tuzla 3	Bosnia and Hercegovina	110	1966	3461	0	0	0
Tuzla 4	Bosnia and Hercegovina	200	1971		14399	385	1869
Tuzla 5	Bosnia and Hercegovina	200	1974		11647	263	1414
Tuzla 6	Bosnia and Hercegovina	215	1978		18147	104	1140
Stanari	Bosnia and Hercegovina	300	2016	2056	N/A	N/A	N/A
Bitola 1	North Macedonia	233	1982	885	34234	2582	3649
Bitola 2	North Macedonia	233	1984	782			
Bitola 3	North Macedonia	233	1988	878	18589	888	891
Oslomej	North Macedonia	125	1980	68	1031	115	168
Pljevlja I	Montenegro	210	1982	1444	64475	282	7786
Kostolac A1	Serbia	100	1967	2010	17599	263	1399
Kostolac A2	Serbia	210	1980		26316	352	2878
Kostolac B1	Serbia	348	1987	4329	113913	1268	8076
Kostolac B2	Serbia	348	1991				
Morava	Serbia	125	1969	444	11029	70	1219
Nikola Tesla A1	Serbia	210	1970	7878	35681	2081	4862
Nikola Tesla A2	Serbia	210	1970				
Nikola Tesla A3	Serbia	305	1976				
Nikola Tesla A4	Serbia	309	1978		53025	918	7166
Nikola Tesla A5	Serbia	309	1979				
Nikola Tesla A6	Serbia	309	1979				
Nikola Tesla B1	Serbia	620	1983	7733	89045	1809	12014
Nikola Tesla B2	Serbia	620	1985				
Kolubara A3-1	Serbia	32	1956	560	5466	3084	569
Kolubara A3-3, 4, 5	Serbia	32	1957				852
Kolubara 5	Serbia	110	1979				305
Kosovo A3	Kosovo*	200	1970	1500	709	97	1401
Kosovo A4	Kosovo*	200	1971		1407	165	2924
Kosovo A5	Kosovo*	210	1975		1477	143	2661
Kosovo B1	Kosovo*	339	1983	3750	4435	2628	6673
Kosovo B2	Kosovo*	339	1984		3705	2633	5936

Table 6 Capacities, production and emissions data on coal plants in the Western Balkans. 2018 emissions data; Source: national reports

# 2020: Out of pace



The Western Balkan contracting parties to the Energy Community Treaty are below RES indicative trajectories and are highly likely to fall short of meeting the 2020 RES targets<sup>4</sup>. The methodology for monitoring of the EE saving is less robust and

it is more difficult to predict the target attainment. Targets for CO<sub>2</sub> reduction by 2030 are not ambitious enough considering its main purpose- combatting the climate change. The largest contracting party has least ambitious target.

	RES target % for 2020	Indicative trajectory 2017/2018	RES Target attainment /2017	EE target %	Achieved in final consumption (compared to 2010 levels) <sup>5</sup> %	CO <sub>2</sub> reduction % by 2030	RES technical potential GWH
Albania	38	35.6	34.5	9	0.9	11.5	44137
Bosnia and Herzegovina	40	36.7	25.3	9	3.78	N/A <sup>6</sup>	61239
Kosovo*	25	22.9	22.9	9	0.91	N/A <sup>7</sup>	6747
North Macedonia	23	20.9	19.6	9	4.94	30/36 <sup>8</sup>	14267
Montenegro	33	30.7	40	9	3.55	30	13275
Serbia	27	25	20.6	9	4.43	9.8 <sup>9</sup>	90210

Table 7 RES, EE, CO<sub>2</sub> targets and achievements<sup>10</sup>

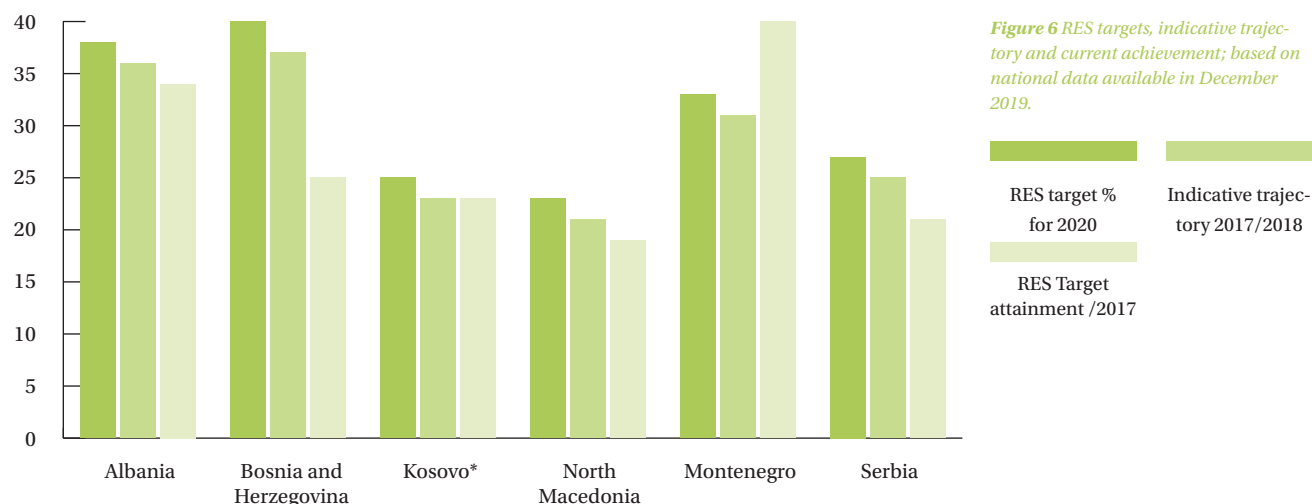


Figure 6 RES targets, indicative trajectory and current achievement; based on national data available in December 2019.

<sup>4</sup> Overachievement of the RES deployment in Montenegro is a result of improved statistical coverage of biomass consumption in households

<sup>5</sup> In year 2015

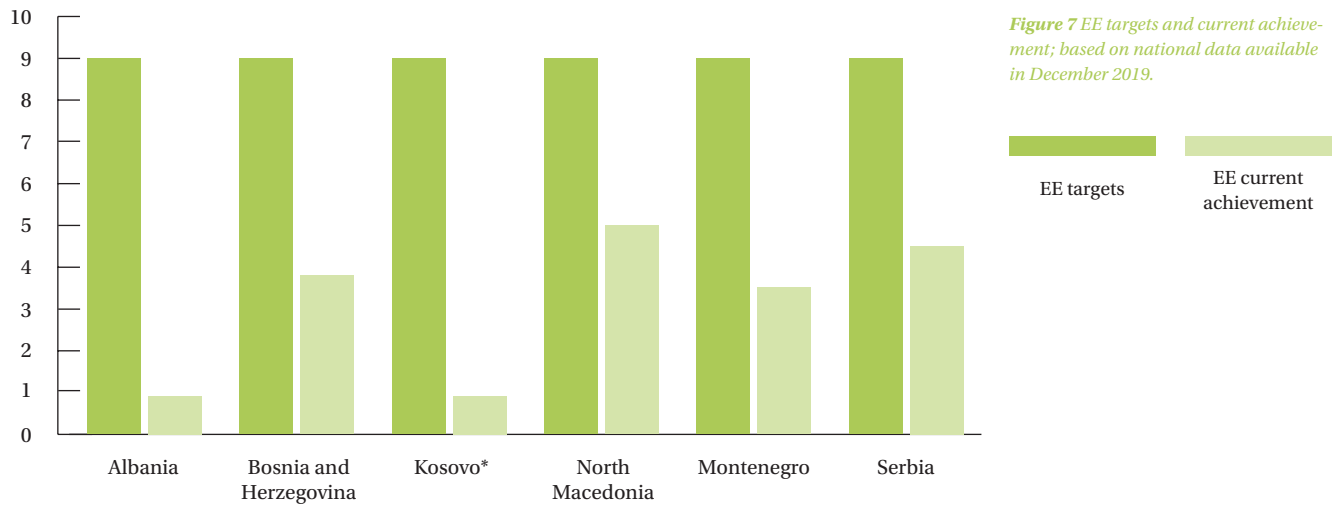
<sup>6</sup> Total emissions have an upward trend, according to the developed scenarios - their peak occurs in 2030; according to the baseline scenario (BAU) in 2030 expected emissions are 20% higher than the level of emissions in 1990. Emission reduction that BaH unconditionally might achieved, compared to the BAU scenario, is 2% by 2030 which would mean 18% higher emissions compared to the base year 1990.

<sup>7</sup> Although Kosovo is not a signatory to the UN Framework Convention on Climate Change and therefore does not have nationally determined contribution (NDC) to the 2015 Paris Agreement, full implementation of its climate change strategy should help it reach the low emissions and climate-resilient objectives of the agreement.

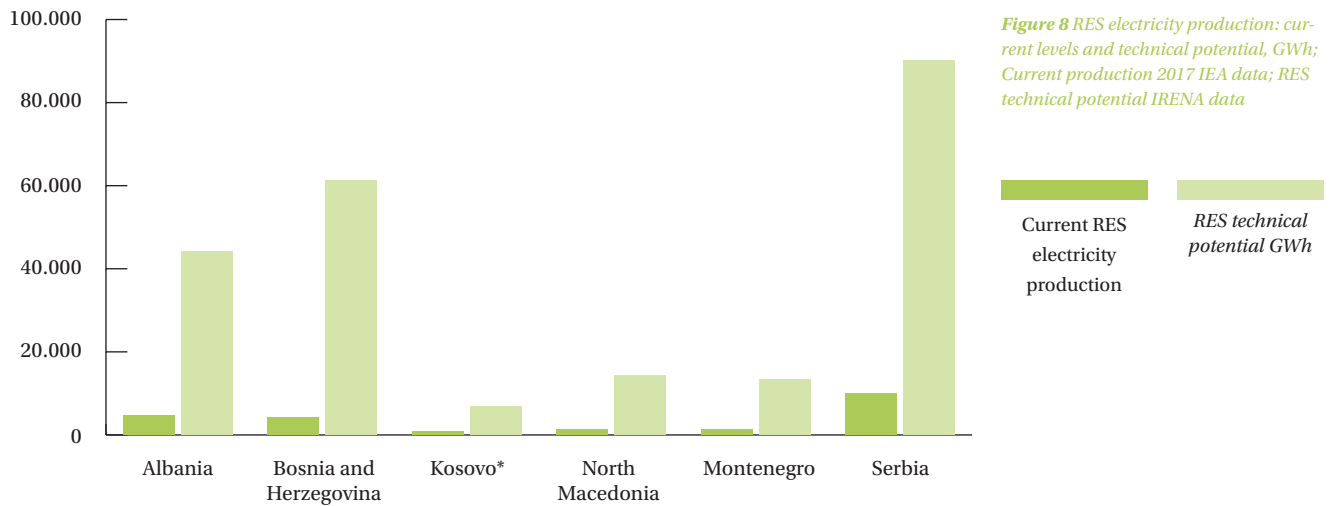
<sup>8</sup> To reduce the CO<sub>2</sub> emissions from fossil fuels combustion for 30%, that is, for 36% at a higher level of ambition, by 2030 compared to the business as usual (BAU) scenario (2012).

<sup>9</sup> Serbian target is controversial as geographical coverage of the base year and the target year are different.

<sup>10</sup> Data on targets from National renewable energy action plan (NREAP); Target attainment from Eurostat except Bosnia and Herzegovina where source is the Energy Community; 2016 data. CO<sub>2</sub> reduction targets from nationally determined contributions (NDCs). RES technical potential IRENA 2017.



Current levels of RES electricity production even after 10 years since the introduction of the RES support policies, are way below estimated technical potential.



# Energy poverty: poor or wasteful?



If the region wants to pursue energy transition the issue of energy affordability needs to be carefully addressed. Energy poverty is widespread in the region. The fact that biomass generated energy is the most important source of heating for the households, but also of the extreme levels of the air pollution (PM) in the Western Balkans is essential to address in the policy design processes. Network energy share is the share of electricity, natural gas and district heating in household consumption. The mechanisms to cope with energy poverty developed in the EU such as support to energy vulnerable customers with a view to households that rely entirely on network energy, which is not the case in this region. 2017 IEA data.

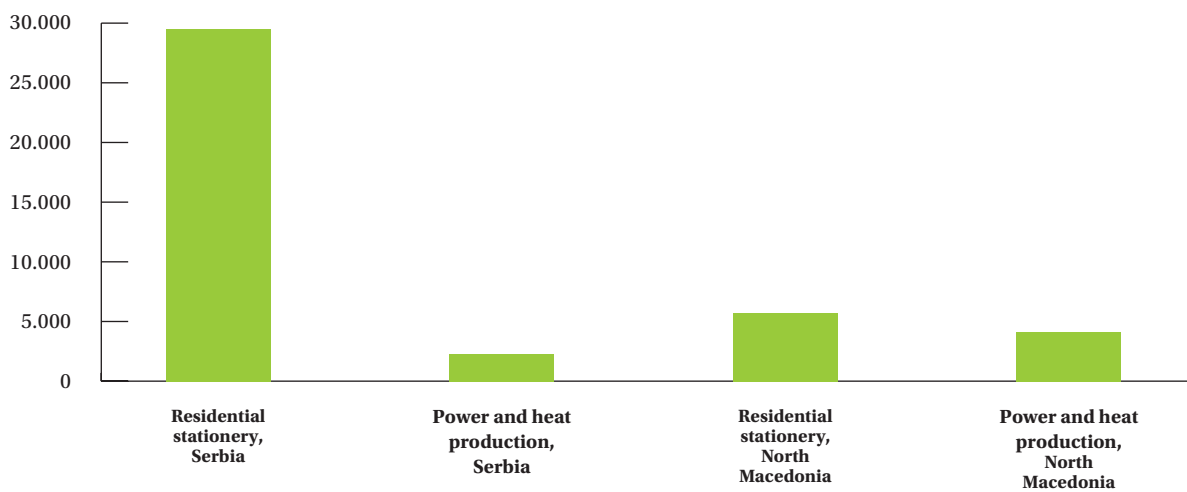
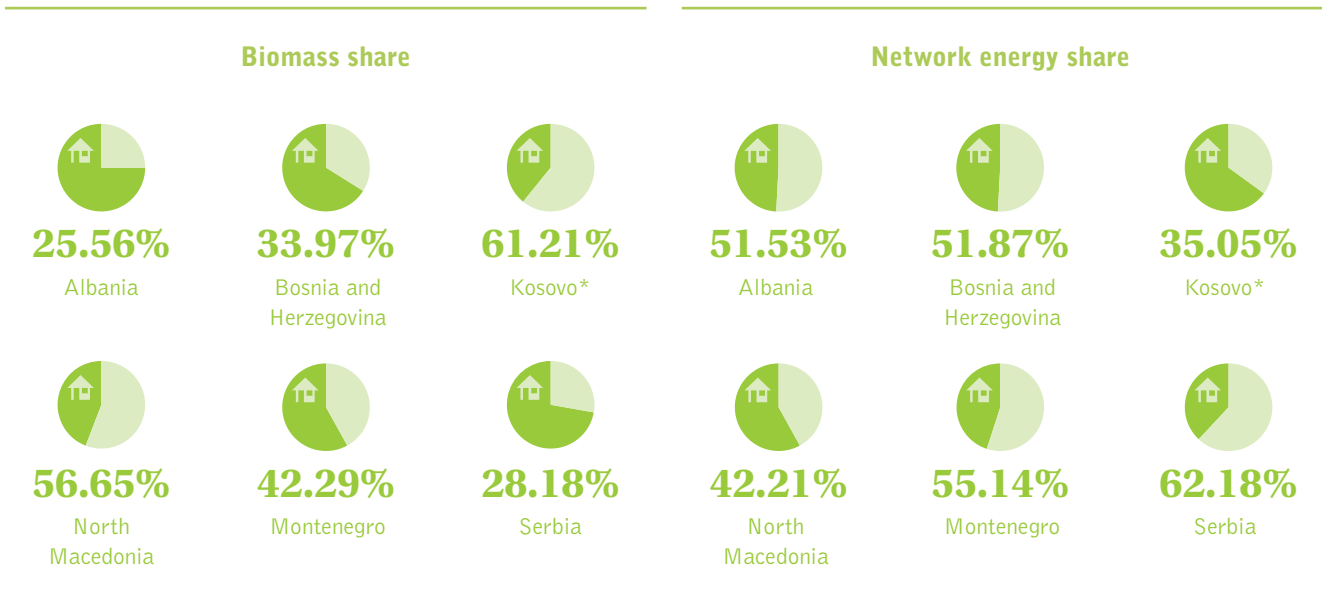


Figure 11 PM 10 emissions from residential combustion and from electricity and heat production in Serbia and North Macedonia; National submissions to CLRTAP for 2017

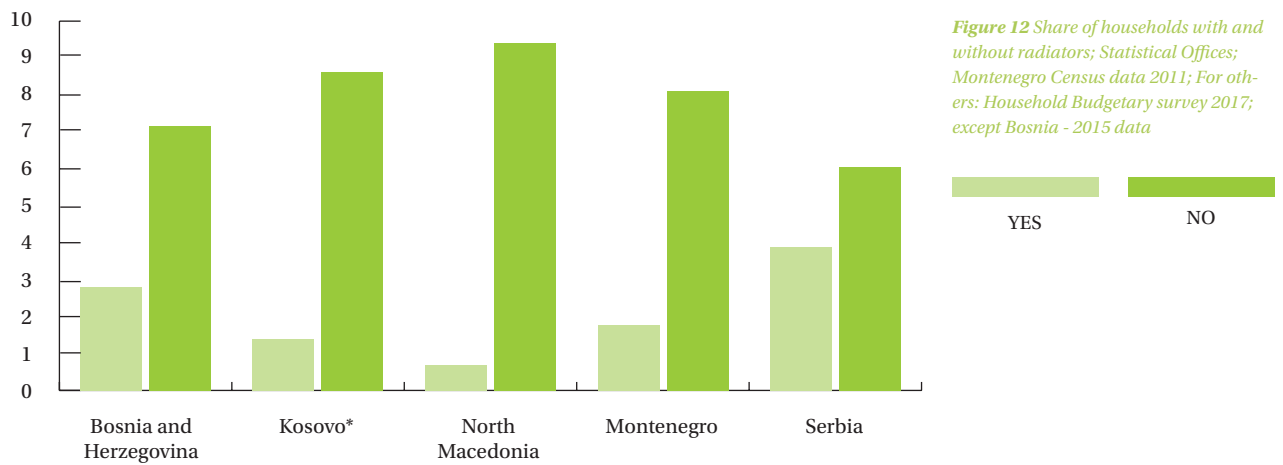
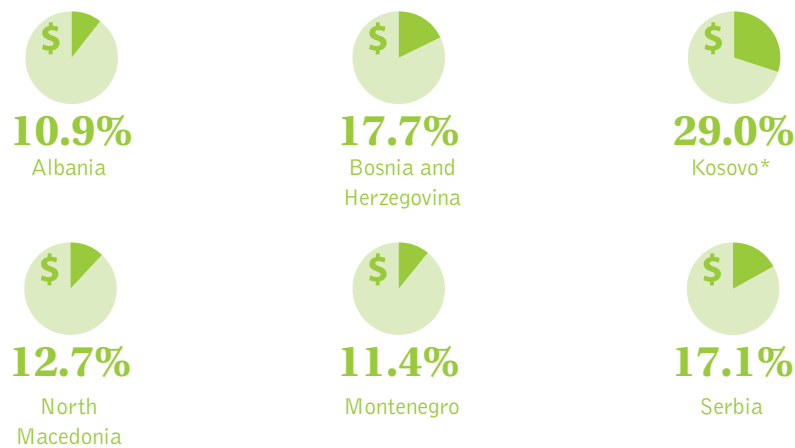


Figure 12 Share of households with and without radiators; Statistical Offices; Montenegro Census data 2011; For others: Household Budgetary survey 2017; except Bosnia - 2015 data

### Network energy share



Share of housing and energy costs is high in all contracting parties. All data are from the Household Budgetary Survey, 2017, except Bosnia and Herzegovina, 2015. Based on additional data we may tell that energy costs are the largest share of this category of costs. In Serbia for example share of energy costs in total household spending is higher than 12% on average.

Survey of income and living conditions is performed in Serbia, Montenegro and North Macedonia providing, among others, data on adequacy of heating, arrears on utility bills and burden of

housing costs<sup>11</sup>. The data shows that increasing number of households is able to afford sufficient warmth, with the striking exception in Kosovo\* where 43% of the respondents were not able to heat their homes adequately. While approximately one third of the households is late with the utility payments more than 90% of the households consider housing costs as financial burden or heavy financial burden. As already mentioned, energy costs are main component in the total housing cost

<sup>11</sup> SILC has been performed in Albania, but the data are not yet public. Some data are also available for Kosovo\*.

# Racing with(out) roadmaps



Submitted or adopted	Will exist, process has started	Will exist, process has not started	Does not exist / no process in place
----------------------	---------------------------------	-------------------------------------	--------------------------------------

Table 8 Legend

	International targets and commitments		National strategies and plans		
	NDC <sup>12</sup> update	NECP <sup>13</sup>	CAP <sup>14</sup> & other plans	NREAP <sup>15</sup>	NEEAP <sup>16</sup>
Albania	●	●	●	●	●
Bosnia and Herzegovina	●	●	●	●	●
Kosovo*	●	●	●	●	●
North Macedonia	●	●	●	●	●
Montenegro	●	●	●	●	●
Serbia	●	●	●	●	●

Table 9 Overview of climate-related commitments and planning processes currently under preparation in the Energy Community Contracting Parties

## Albania

### Renewable energy

The regulatory framework for renewable energy is at an early stage. The revised national renewable-energy action plan for 2018-2020 envisages that 38% of gross final energy consumption will come from renewable energy sources, in line with the commitments made to reach 38% renewable energy target in 2020. With the adoption of the Law promoting renewable energy in 2017, Albania increased its compliance with the acquis. This Law introduced schemes to support renewable-energy producers above 2 MW (for solar power) and 3 MW (for wind power) through a competitive procedure. The procedure is based on the support scheme ‘contracts for difference’ to be paid on top of the market price of electricity. The Law incorporates a net metering scheme for photovoltaic (PV) or wind energy with a capacity of up to 500 kW.

Albania depends almost exclusively on hydropower for its electricity generation (98% of its electricity generation comes from hydropower), making it vulnerable to unfavorable hydro-

logical conditions in the summer. In addition, electricity from hydropower is not sufficient to meet its needs. Albania is a net importer of electricity and ensuring the security of its power supply is a challenge. Several investments in renewable energy (local and foreign) have been made through concession contracts to build and operate hydroelectric power plants. However, around 20% of the more-than-500 concession contracts are located in protected areas, and some plants have had a significant impact on local biodiversity. Plans for future plants have generated debate and protests about the need to address ecological and water rights considerations.

### Energy efficiency

The main target of the energy efficiency action plans for 2017-2020 is a cumulative saving of 6.8% of the energy used in Albania by 2020. The agency reports to the minister responsible for energy. A working group has been set up within the Ministry of Energy and Infrastructure to prepare the establishment of the energy

<sup>12</sup> NDC: Nationally determined contributions; NDCs embody efforts by each country to reduce national emissions; The Paris Agreement requests each country to outline and communicate their post-2020 climate actions, known as their NDCs.

<sup>13</sup> NECP: National Energy and Climate Plan; To meet the EU’s energy and climate targets for 2030, EU Member States need to establish a 10-year integrated national energy and climate plan (NECP) for the period from 2021 to 2030. By membership in the Energy Community Treaty, the countries of the Western Balkans also need to establish their own NECPs.

<sup>14</sup> CAP: Climate action plan; a detailed and strategic framework for measuring, planning, and reducing greenhouse gas (GHG) emissions and related climatic impacts; at a minimum, CAP includes an inventory of existing emissions, reduction goals or targets, and analyzed and prioritized reduction actions

<sup>15</sup> NREAP: National Renewable Energy Action Plans (NREAPs); Progress is measured every two years when countries publish national renewable energy progress reports.

<sup>16</sup> NEEAP: National Energy Efficiency Action Plan; National energy efficiency action plans (NEEAPs) set out estimated energy consumption, planned energy efficiency measures, long-term renovation strategies, and the improvements that individual countries expect to achieve

efficiency fund. However, full compliance with the Energy Community acquis has still not been achieved so the Energy Community's Ministerial Council adopted a decision stating that Albania was in breach of its obligations. The second annual report due in June 2018 was submitted in March 2019. A law on energy performance in buildings entered into force in 2016. Albania still needs to adopt the necessary legislation to achieve full compliance with the acquis in this area.

**Recommendations:**

- diversify electricity production away from hydropower and promote alternative sources of renewable energy while complying with environmental standards,
- fully align its Energy Efficiency Law with the acquis, set up an energy efficiency fund and draft and adopt secondary legislation implementing the Energy Performance of Buildings Directive.

**Climate change**

Albania's alignment with the EU acquis is still limited. A national strategy on climate change consistent with the EU 2030 framework on climate and energy policies needs to be adopted and a

National Energy and Climate Plan in line with Energy Community recommendation has to be developed. No specific administrative structure for handling climate change issues is in place.

Regarding its reporting obligation under the United Nations Framework Convention on Climate Change, Albania is preparing its Fourth National Communication and its First Biennial Update Report.

The law on climate change and accompanying decisions, partly transposing provisions the EU Emissions Trading Directive, still need to be adopted. Further efforts should be made on emission standards for new cars and vans and related consumer information. Similar efforts are needed regarding effort sharing, geological storage of CO<sub>2</sub>, and greenhouse gas emissions from land use, land use change, and forestry. Considerable strengthening of administrative capacity, allocation of the necessary financial resources as well as awareness-raising activities are needed.

**Recommendations:**

- start implementing the Paris Agreement by adopting a national strategy and legislation on climate change,
- develop integrated National Energy and Climate Plans in line with Energy Community obligation.

## Bosnia and Herzegovina

**Renewable energy**

The national renewable energy action plan was submitted to the Energy Community Secretariat in 2016. The national target is 40% of renewable energy sources (RES) in final energy consumption and an energy share from RES in transport of 10% by 2020. Bosnia and Herzegovina reached a 25.33% share of energy from renewable sources in 2016. The implementation is lagging behind. The country should establish a legal framework that clearly defines responsibilities of national, regional and local administrative bodies for authorisation, certification and licensing procedures on renewable energy. The legislation at entity level is partially compliant with the Renewable Energy Directive, both entities have legislation in place on support schemes for different renewable energy technologies in the form of feed-in tariffs.

A number of renewable energy projects are licensed in the country. The investment framework is hampered by heavy administrative procedures for permitting authorisation and licensing. The authorities should take measures to simplify procedures and create a more favourable environment for RES investments. Integration of renewable sources into the grid is treated differently at the state and entities level. Also, a state-level piece of secondary legislation enforces priority or guaranteed access but the priority dispatch is not in place. Meanwhile, entity-level legislation includes priority dispatch and guaranteed priority to connection, but not priority or guaranteed access.

Hydropower planning is carried out at entity level. The existing legal framework requires environmental impact assessments to be drawn up but in practice this is not always properly applied and often challenged by civil society and subject to legal challenges through the courts.

**Energy efficiency**

Energy efficiency action plans for each entity provide for a final energy consumption savings target of 9% for 2018. The assessment of the current plan based on 2015 data indicates that Bosnia and Herzegovina only achieved a saving of 3.77%. There is no state-level legislation on energy efficiency. The Republika Srpska

entity has partially transposed the energy efficiency acquis through a 2013 law on energy efficiency and the Federation entity followed in 2017. Additional transposition is urgently required in line with the obligations from the Directive on energy end-use efficiency and energy services as part of the Energy Community acquis. The Energy Community has opened an infringement case on this due to failure of Bosnia and Herzegovina to fulfil its obligations.

**Recommendation:**

- adopt state- and entity-level legislation on renewable energy and energy efficiency in line with obligations stemming from the Energy Community Treaty.

**Climate change**

Neither at entity and Brcko District nor cantonal levels are there clearly defined roles of specific ministries or bodies regarding responsibilities for drafting, implementation and monitoring of policies, legal acts and measures for climate change. Bosnia and Herzegovina has a focal point as regards the UN Framework Convention on Climate Change (UNFCCC).

The level of alignment on EU climate acquis is limited. Bosnia and Herzegovina does not have a separate state-level law on climate change. The legal basis for action in the field of climate in the Republika Srpska entity is a provision in the Law on Air Protection. The Federation of Bosnia and Herzegovina does not have any specific legislation on climate. The countrywide 2013 climate change adaptation and low emissions development strategy for Bosnia and Herzegovina covering the period 2013 – 2025 is currently being updated. However, its implementation consistent with the EU 2030 framework on climate and energy policies and its integration into all relevant sectors is very slow, mainly due to lack of knowledge and institutional capacity. Bosnia and Herzegovina is working on a National Adaptation Plan (NAP) and it has established a working group with the aim to develop an integrated national energy and climate plan (NECP) in line with the 2018 Energy Community recommendation.

As for the UNFCCC, the third national communication, containing the greenhouse gas (GHG) inventory reports for 2002-2009 and 2012-2013 and the second Biennial Update Report on GHG emissions containing inventory data for 2014, was adopted in May 2017 and submitted to the UNFCCC secretariat. The responsibility for compiling GHG inventory reports lies with the entity-level hydro-meteorology services. Preparation has started on the fourth national report and the third biennial report on climate change. Bosnia and Herzegovina ratified the Paris Agreement in April in December 2016 and should now give priority to

implementing its National Determined Contribution (NDC).

**Recommendations:**

- start implementing the Paris Agreement by putting in place policies and measures to deliver on its NDC,
- update and implement the climate change adaptation and low emissions development strategy,
- start to develop an integrated NECP in line with the Energy Community recommendation.

## Kosovo\*

### Renewable energy

There was some progress on renewable energy sources. A new 32 MW wind farm and 2 solar projects with a capacity of 6 MW have been put into operation. The revision figures of biomass used for heating by household customers puts Kosovo on track to achieving its 25% target in 2020. While the legislation is partially aligned with the acquis, the electricity market should be restructured so as to facilitate the integration of renewable energy generation. A market-based scheme for supporting independent producers should be introduced.

### Energy efficiency

There was good progress on alignment with the energy efficiency acquis, with the adoption of the new Law on energy efficiency, which is partly aligned with the EU energy efficiency Directive. The secondary legislation on the energy performance of buildings has to be completed and services need to be developed for energy auditing and energy assessors. The Energy Efficiency Fund has been established and should be operationalized. 25 Municipalities have developed energy efficiency action plans. Kosovo achieved only about half of the 9% energy efficiency target by 2018.

**Recommendations:**

- make the Energy Efficiency Fund fully operational and increase energy efficiency incentives for the private sector and households.
- focus on renewable energy, including by introducing market-based support schemes,
- addressing investments barriers.

### Climate change

The 2019-2028 strategy and action plan on climate change has been approved. However, no progress has been achieved in aligning the legislation. The National Council for the Environment and Climate Change and the Climate Change Coordinator took no concrete measures to mainstream climate action or raise public awareness.

Although Kosovo is not a signatory to the UN Framework Convention on Climate Change and therefore does not have nationally determined contribution (NDC) to the 2015 Paris Agreement, full implementation of its climate change strategy should help it reach the low emissions and climate-resilient objectives of the agreement.

As regards the transparency of climate action, the compiling of greenhouse gas inventory and reporting stopped after 2015. Kosovo still has to align with the climate acquis. Administrative capacity and awareness-raising activities need to be strengthened considerably.

**Recommendations:**

- implement the climate change strategy and the action plan on climate change,
- prepare a roadmap for alignment with the climate acquis,
- start the work on an energy and climate plan, in line with Energy Community recommendations.

Plans to build the new 500-megawatt coal-fired Kosova e Re power plant, have been cancelled in 2020.

## North Macedonia

### Renewable energy

The amended national renewable energy action plan is now in line with the binding target of 23 % of energy coming from renewable energy sources by 2020. The new Energy Law is fully aligned with the Renewables Energy Directive. The implementing legislation is in the adoption phase. The new Energy Law determines a feed-in premium as a new mechanism for renewable energy sources support that will be granted on a competitive basis. Investment in hydropower should be compliant with the relevant environmental acquis.

### Energy efficiency

The third national energy efficiency action plan is adopted, and the country is on track to meet its mandatory targets. The energy service market still needs to be developed and the existing legislation amended so that energy service companies can be contracted. Financing to promote energy efficiency should be improved by setting up the Energy Efficiency Fund. The country has drafted a new Energy Efficiency Law, aligned with the Energy Efficiency Directive and the Energy Performance of Buildings Directive. Preparing and applying the secondary legislation remains a considerable challenge.



### Recommendations:

- adopt the Energy Efficiency Law to align with the Energy Efficiency Directive and the Energy Performance of Buildings Directive,
- continue efforts to align the work under way with the Energy Strategy and the Climate strategy, ensuring consistency among objectives and preventing adverse incentives.

### Climate change

The alignment of the legal framework with the acquis is still at an early stage. The country has started developing a comprehensive strategy on climate action, consistent with the EU 2030 framework. It should also pursue efforts to implement the Paris Agreement, which North Macedonia ratified in November 2017.

## Montenegro

### Renewable energy

The renewable energy national action plan aims to achieve a target of 33% of energy from renewable sources in gross final energy consumption by 2020. In 2017, 40% of gross final consumption of energy came from renewable sources, largely due to the revision of biomass data. In 2018, regulations were adopted on (i) issuing, transferring and withdrawing guarantees of origin of electricity produced from renewable energy sources and high efficiency cogeneration, and (ii) an incentive fee to foster energy production. Support to renewable energy producers is based on feed-in tariffs. Montenegro is yet to adopt rules for auctions for granting support to renewable energy producers compliant with the 2014-2020 guidelines on State aid for environmental protection and energy.

In December 2018, the Ministry of Economy awarded a contract to design, build, operate, and maintain a solar plant with an installed capacity of 250 MW at Briska Gora (near Ulcinj). The contract went to a consortium of Finland's state energy company, Montenegro's state power utility and the company Sterling and Wilson. The development of new projects, particularly on hydro-power, should be in conformity with the EU acquis on concessions and environment and should take into account the impact on areas of high natural interest.

### Energy efficiency

Amendments to the Law on efficient use of energy to ensure further alignment with the EU Energy Efficiency Directive were not adopted. The annual energy efficiency operating plan for public administration institutions was adopted in March 2018. Montenegro submitted its second annual report under the Energy Efficiency Directive in November 2018. Additional efforts are needed

In 2018 the country submitted its second Biennial Update Report on climate change to the United Nations Framework Convention on Climate Change and currently the 4th National Communication and 3rd Biannual Update Report to the UNFCCC are in preparation. Technical, institutional and administrative capacity remains weak and needs to be strengthened at all levels. The efforts to mainstream climate action into other sectors (such as energy and transport) need to be intensified.

### Recommendation:

- implement the Paris Agreement by developing a comprehensive strategy on climate-related action, consistent with the EU 2030 framework and start the process of developing a National Energy and Climate Plan, in line with Energy Community obligation.

to fully align Montenegro's regulatory framework with the Energy Performance of Buildings Directive and with the Labelling Regulation. The energy efficiency fund has not been established. Montenegro should also improve statistical data collection and put in place a functional system for calculating energy efficiency indicators and savings as well as monitoring the implementation of the Energy Efficiency Action Plan of 2016.

### Recommendation:

- move to market-based support schemes for renewable energy production and streamline the permitting and connection procedures.

### Climate change

Montenegro's level of alignment on climate change remains limited. Montenegro has a Climate Change Strategy in place but has to intensify its work to ensure consistency with the EU 2030 climate and energy policy framework and to ensure that its strategy is integrated into all relevant sectoral policies and strategies. As for the UN Framework Convention on Climate Change (UNFCCC), Montenegro has so far submitted two national communications and its second bi-annual report was submitted in April 2019.

The adoption of a climate change law, which will, among others, incorporate elements of the EU emissions trading system (ETS), the Effort Sharing Regulation and the monitoring and reporting mechanism (MMR), is still pending.

### Recommendation:

- develop the National Energy and Climate Plan in line with the Energy Community recommendations.

## Serbia

### Renewable energy

The Renewable Energy Directive is partially transposed into Serbia's law on energy. Serbia's national renewables target for 2020 is set at 27% of gross final consumption of energy. The latest data for 2017 show renewable sources accounted for a share of 20.6% of

energy produced, which is well below the 23.1% trajectory of Serbia's national renewable energy action plan. Wind power projects of 475 MW are in the construction phase. Serbia needs to intensify its efforts to switch from feed-in tariffs to feed-in premium support schemes, as well as to ensure transparent procedures for the connection of renewable energy producers to the grid in the

framework of an auction-based programme. Any further development of hydropower should be in line with EU environmental legislation.

#### Energy efficiency

Serbia achieved some progress in energy efficiency through adopting secondary legislation that implements rules on labelling, amendments to the Law on efficient use of energy improving energy audits and energy management, and the implementation of eco-design requirements and secondary legislation implementing this law. Further secondary legislation is necessary to achieve full alignment, in particular with the Directive on Energy Performance of Buildings. In October 2018, Serbia submitted the second annual report under the Energy Efficiency Directive. So far, there has been negligible implementation of consumption-based metering and billing in district heating, except for new buildings. A new fee on energy efficiency was introduced in December 2018; it should provide urgently needed funding for energy efficiency projects.

#### Recommendation:

- promote investment in energy efficiency including through establishing a sustainable financing system and initiate reforms to introduce cost-reflective electricity tariffs fully taking into account investment needs, climate change commitments and social security implications.

#### Climate change

The implementation is at a very early stage. A national cross-sectoral strategy on climate change, consistent with the EU 2030 framework for climate and energy policies and addressing adaptation to climate change, is still pending adoption.

Public consultations on the draft Law on climate change took place in spring 2018 but adoption is still pending. Work on improving greenhouse gas inventories continued. Serbia needs to strengthen its administrative and technical capability to fully align with climate acquis monitoring and reporting. Legislation on greenhouse gas emissions monitoring, reporting and verification in line with the EU emissions trading system and Effort Sharing Regulation was finalised in 2017 but is not yet adopted. Increasing investments in clean energy and considerable strengthening of administrative capacity is needed, together with awareness-raising activities.

#### Recommendation:

- implement the Paris Agreement, including by adopting a comprehensive climate strategy and law, consistent with the EU 2030 framework for climate and energy policies and well integrated into all relevant sectors and develop a National Energy and Climate Plan, in line with Energy Community obligations.

## Out of pace or out of the race?

The race indicators to date of the Western Balkans energy transition team are not indicative of a winning tempo.

The team is set to miss its 2020 stage time that is the required reduction in GHG emissions and/or increase in the share of RES in total energy supply.

It has not yet decided on its detailed race plan and policy maps to required 2030 stage times.

Judging from the indicators presented here, the Western Balkan countries are not only out of pace, but risking dropping out of the decarbonisation race altogether.

To stay in the race, they will need to demonstrate more ambition and more teamwork, working closely together and with the

rest of team Europe, through the Energy Community process, the pursuit of the Green Agenda for the Western Balkans and by advancing the EU accession process.

Perhaps the first indicator of their resolve to re-join the race would be their formal commitment to sufficiently ambitious coal phase-out dates<sup>17</sup>. Instead, some of the Western Balkan countries, namely Serbia and Bosnia and Herzegovina, remain firmly committed to adding more coal-burning energy production capacities to their energy mix.

Success will depend on action, not policy declarations.

The time for action is quickly running out.

The clock is ticking.

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<sup>17</sup> Excluding Albania

