Renewable energy potential and reference energy scenarios to 2030

Project Title: Western Balkans Investment Framework, Infrastructure Project Facility, Technical Assistance 5 (IPF 5)

Energy Community
6th Renewable Energy Coordination Group

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Sources used in data collection exercise

- EUROSTAT reports
- Official national plans and targets (national strategies and action plans, state statistical offices documents/databases, regulatory commissions reports)
- Existing publicly available sources (national, regional and international studies/publications, data from power and heat production companies, distribution and supply companies, etc.)
- Other sources (existing databases from World Bank, UN, IEA, etc.)
- Consultant's estimations – for selection in case of multiple different information, for substitution of pending information, as well as for evaluation of data quality/precision
- Valuable feedback from DG and IRENA experts
- Consultations with local and regional experts on selected topics

Methodology for assessing RES potential

- Overall techno-economic potential – experts' opinion using national Energy Strategies and available RES potential studies
- RES scenarios to 2030 – selected approach was to present realistic, feasible RES development by 2030 the one that could be achieved taking into account all circumstances
- Major obstacles coming from lack of organized electricity markets, outdated RES incentive schemes and low electricity prices (and their "political sensitivity") have been taking into account

Albania - Potential

- Techno-economic RES potential is 5894.33 ktoe in total
- Techno-economic RES potential for electricity generation 1659.96 ktoe
- RES potential for heat generation is 377.3 ktoe in biomass, in solar thermal 147.58 ktoe and in geothermal 14.1 ktoe
- Total biomass potential is 707.8 ktoe

Albania - 2030

- Main RES indicators and targets for the National Energy Strategy are as follows:

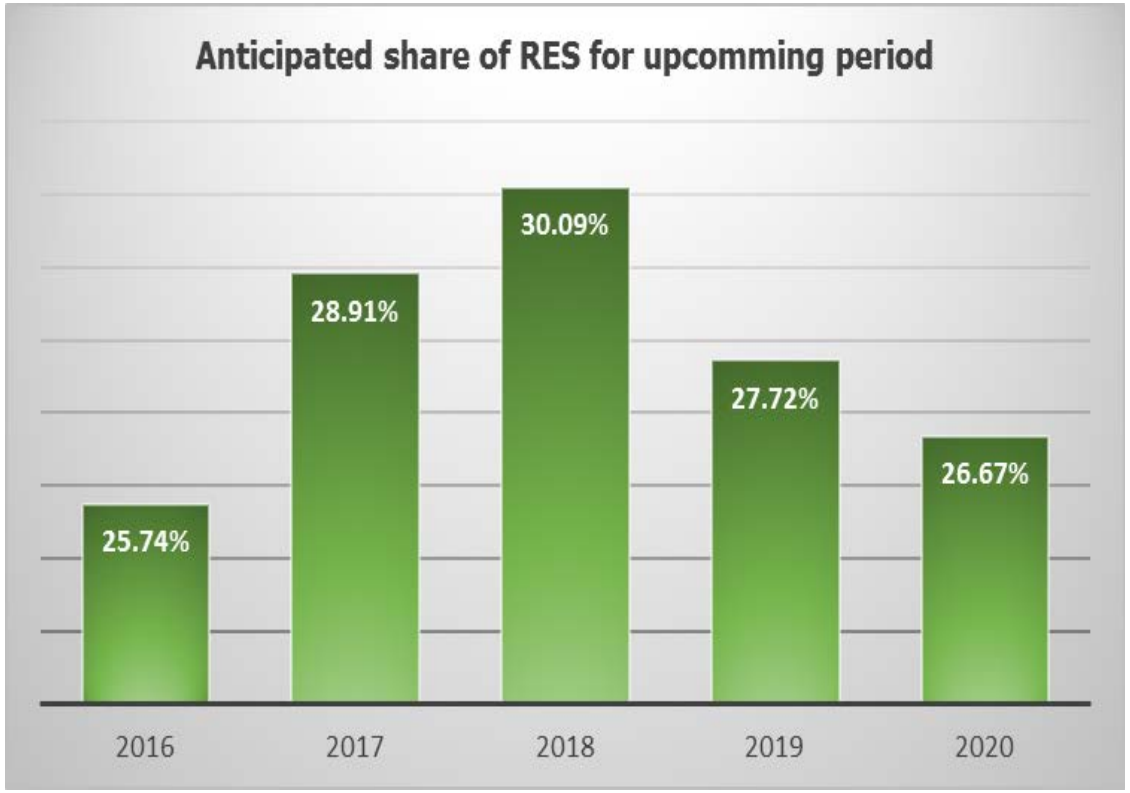
Target	2015	2020	2025	2030
Utilization of renewable energy (%)	32.50%	38.00%	40.50%	42.00%

Bosnia and Herzegovina - Potential

- Techno-economic RES potential is 8261.27 ktoe in total
- RES potential for electricity generation is 2825.78 ktoe,
- RES potential for heat generation is 2,074 ktoe in biomass, in solar thermal 153.89 ktoe and in geothermal 2.1 ktoe
- Total biomass potential is 3197.5 ktoe

Bosnia and Herzegovina - 2030

- There are no official RES targets for Bosnia and Herzegovina for 2030, but its real amount in 2030 could be 41%.



The former Yugoslav Republic of Macedonia – Potential

- Techno-economic RES potential is 2569.37 ktoe in total
- Techno-economic RES potential for electricity generation 237.56 ktoe
- RES potential for heat generation is 732 ktoe in biomass, in solar thermal 112.33 ktoe and in geothermal 56.8 ktoe
- Total biomass potential is 1270.7 ktoe

The former Yugoslav Republic of Macedonia – 2030

	2030 LL (lowest limits)	2030 UL (upper limits)
Electricity from RES	3,898	5,301
Hydro power plants	3,430	4,410
Large hydro power plants	2,920	3,700
Small hydro power plants	510	710
Wind power plants	360	720
Photovoltaics	28	56
Biomass	50	70
Biogas	30	45
Heat from RES	3,183	3,445
Biomass	2,540	2,630
Solar energy	83	155
Geothermal energy	560	660
Biofuels	1,700	1,900
TOTAL RES	8,781	10,646
Final energy consumption (FEC)	41,710	38,560

Kosovo* - Potential

- Techno-economic RES potential is 1647.74 ktoe in total
- Techno-economic RES potential for electricity generation 310.8 ktoe
- RES potential for heat generation is 383 ktoe in biomass and in solar thermal 161.89 ktoe
- Total biomass potential is 833.35 ktoe

Kosovo*- 2030

Target for the share of RES in the gross final consumption of energy for 2020 (NREAP, 2013)	Mandatory	Voluntary
Target of energy from renewable sources in gross final consumption of energy (%)	25.0%	29.47%
Expected total adjusted energy consumption (ktoe)	1730	1730
Expected amount of energy from renewable sources corresponding to the 2020 target (ktoe)	432	510

Overall renewable share	Overall renewable share	Sectoral plans/targets					
		Renewables in power generation	District heat generation	Heating & cooling	Industry	Buildings	Transport
%	ktoe	ktoe	ktoe	ktoe	ktoe	ktoe	ktoe
35	644.87	150.89	5.67	42.51	117.33	288.35	40.12

Montenegro Potential

- Techno-economic RES potential is 7401.5 ktoe in total
- Techno-economic RES potential for electricity generation 582.4 ktoe
- RES potential for heat generation is 355.4 ktoe in biomass and in solar thermal 180.6 ktoe
- Total biomass potential is 680.3 ktoe

Montenegro - 2030

- The total renewable energy target is 484.4 ktoe, which is 43.72% from the total final energy consumption.

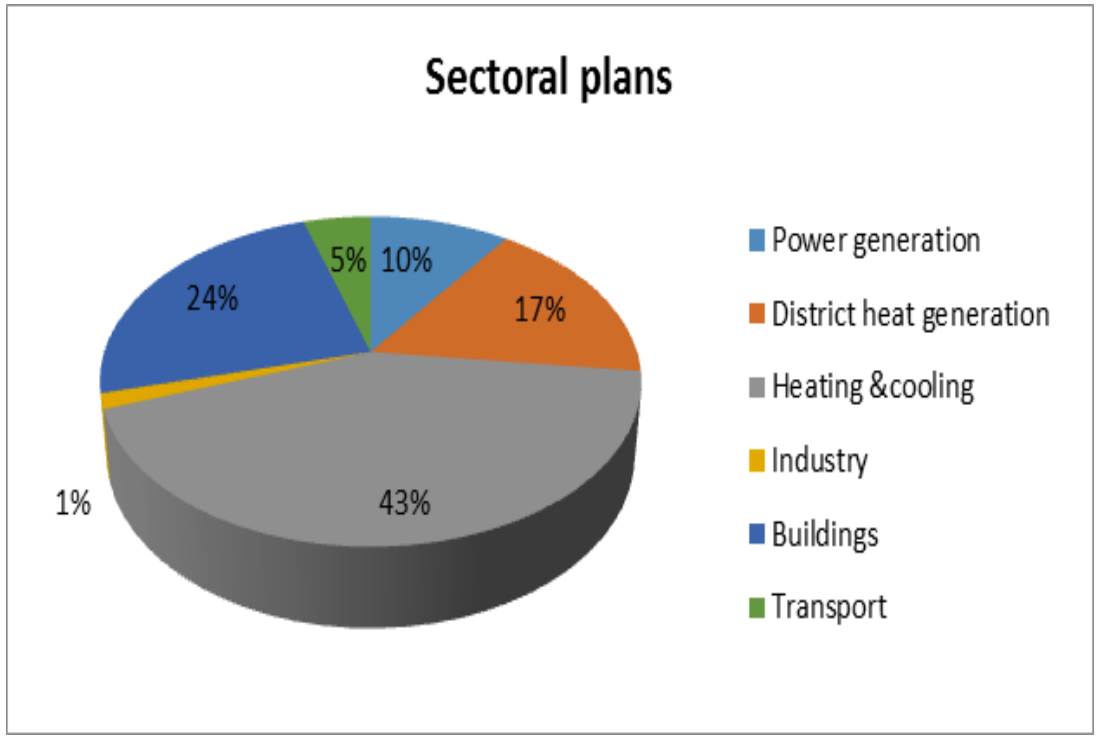
Renewables	**RES (ktoe)**	**(%) of Total**
Power generation	275.6	56.90
District heat generation	12.9	2.66
Heating & cooling	174.2	35.96
Transport	21.7	4.48
Total	484.4	100.00

Serbia - Potential

- Techno-economic RES potential is 7791.7 ktoe in total
- Techno-economic RES potential for electricity generation 1381 ktoe
- RES potential for heat generation is 1423 ktoe in biomass, in solar thermal 244 ktoe and 180 in geothermal
- Total biomass potential is 4563.7 ktoe

Serbia - 2030

- Overall renewable share planned for 2030 amounts 2,920.6 ktoe or 23.49% of final energy consumption.
- Sectoral plans/targets are: power generation 504.5 ktoe; district heat generation 864.1 ktoe; heating &cooling 2,173.1 ktoe, industry 76 ktoe, buildings 1,233 ktoe, transport 243 ktoe.



WB6 Summary

Country	Usable RES potential	For electricity generation	For heat generation	Biomass	2030 scenario
	ktoe	ktoe	ktoe	ktoe	%
Albania	5894.33	1659.6	538.98	707.8	42
Bosnia and Herzegovina	8261.27	3020.28	2229.99	3197.5	41
FYROM	2569.37	237.56	901.13	1270.7	21.1 – 27.6
Kosovo*	1647.74	310.8	544.89	833.35	35
Montenegro	7401.5	582.4	536	680.3	43.72
Serbia	7791.7	1381	1847	4563.7	23.49

Questions?