

Comparison of Balkan Countries Regarding Sustainable Development Goals (SDGs) About Environment

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Sustainable Development

"ability to make development sustainable-to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs"

What is to be sustained

Nature

Earth
Biodiversity
Ecosystems

Life Support

Ecosystem Services
Resources
Environment

Community

Cultures
Groups
Places

For how long?

Now and in the
future

What is to be developed

People

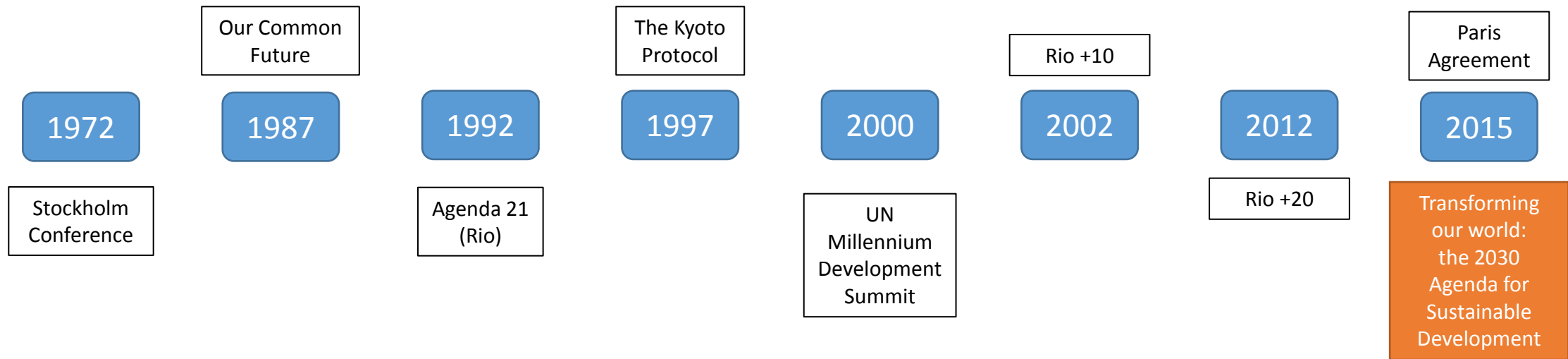
Child Survival
Life expectancy
Education
Equity
Equal opportunity

Economy

Wealth
Productive sectors
Consumption

Society

Institutions
Social capital
States Regions



The interaction process of Development and the environment

Transforming our world: the 2030 Agenda for Sustainable Development (SDGs)

- including its 17 Sustainable Development Goals (SDGs) and 169 targets was adopted on 25 September 2015 by Heads of State and Government at a special UN summit.
- The Agenda is a commitment to eradicate poverty and achieve sustainable development by 2030 world-wide, ensuring that no one is left behind.
- The adoption of the 2030 Agenda was a landmark achievement, providing for a shared global vision towards sustainable development for all.

Aim of the study

- In this study, we want to give comparatively the situation of the Balkan countries regarding sustainable development targets about the environment.
- In this context, what needs to be done in order to reach 2030 goals will also be discussed.

Methods

- Environmental Performance Index

The Environmental Performance Index (EPI) ranks countries' performance on high-priority environmental issues in two areas: **protection of human health** and **protection of ecosystems**.

Within these two policy objectives the EPI scores national performance in nine issue areas comprised of more than 20 indicators.

EPI indicators measure country proximity to meeting internationally established targets or, in the absence of agreed targets, how nations compare to one another.

(Yale University and Columbia University)

Methods

- Sustainable Development Goals Index

The purpose of the SDG Index and Dashboards is to assist countries to identify priorities for action, in order to achieve the 17 SDGs.

The indicators and dashboards should help countries to pinpoint key implementation challenges and the overall index permits an assessment of progress towards the goals and a comparison with peer countries.

(Bertelsmann Stiftung and Sustainable Development Solutions Network)



SUSTAINABLE DEVELOPMENT GOALS





SUSTAINABLE DEVELOPMENT GOALS



Environment



Balkan Countries



- Albania
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Greece
- Kosovo
- Macedonia
- Montenegro
- Romania
- Serbia
- Slovenia
- Turkey

Environmental Performance Index

	Environmental Performance Index (2016) (score)	Environmental Performance Index (2016) (rank) Ülke sayısı??
Slovenia	89,0	5
Croatia	87,0	15
Greece	85,8	21
Bulgaria	83,4	33
Romania	83,2	34
Montenegro	78,9	47
Serbia	78,7	48
Macedonia, FYR	78	50
Albania	74,4	59,0
Turkey	67,7	92
Bosnia and Herzegovina	63,3	110

SDG Global Rank

2017	(of 157)
Slovenia	9
Croatia	24
Romania	35
Serbia	37
Greece	38
Bulgaria	40
Macedonia, FYR	57
Albania	63
Turkey	67
Montenegro	69
Bosnia and Herzegovina	84

SDG	Description/Label	Indicator
1	Poverty headcount ratio at \$1.90/day (%)	
	Projected poverty headcount ratio at \$1.90/day (%) in 2030	
	Poverty line 50% (%)	
2	Prevalence of undernourishment (%)	
	Prevalence of stunting, under-5s (%)	
	Prevalence of wasting, under-5s (%)	
	Prevalence of adult obesity (%)	
	Cereal yield (t/ha)	
3	Sust. Nitrogen Management Index	
	Maternal mortality (per 100,000 live births)	
	Neonatal mortality (per 1000 live births)	
	Under 5 mortality (per 1000 live births)	
	Incidence of tuberculosis (per 100,000)	
	HIV prevalence (per 1,000)	
	Death rate from NCDs (per 100,000)	
	Death rate from household and ambient pollution (per 100,000)	
	Traffic deaths (per 100,000)	
	Healthy life expectancy at birth (years)	
	Adolescent fertility (births per 1,000)	
	Births attended by skilled health personnel (%)	
	Infants who receive 2 WHO vaccines (%)	
	UHC Tracer Index (0-100)	
	Subjective wellbeing (0-10)	
	Daily smokers (% , age 15+)	
4	Net primary school enrolment rate (%)	
	Expected years of schooling (years)	
	Literacy rate of 15-24 year olds (%)	
	Population with tertiary education (%)	
	PISA score (0 -600)	
5	Unmet demand for contraceptives (%)	
	Female years of schooling (% male)	
	Female labor force participation (% male)	
	Women in national parliaments (%)	
	Gender wage gap (% male wage)	

SDG	Description/Label	Indicator
6	Access to improved water (%)	
	Access to improved sanitation (%)	
	Freshwater withdrawal (%)	
	Imported groundwater depletion (m³/year/capita)	
7	Access to electricity (%)	
	Access to non-solid fuels (%)	
	CO₂ from fuels & electricity (MtCO₂/TWh)	
	Renewable energy in final consumption (%)	
	Adjusted GDP growth (%)	
8	Child labor (%)	
	Access to bank account or mobile-money (% adult pop.)	
	Employment-to-population ratio (%)	
	Youth not in employment, education, training (%)	
	Unemployment rate (%)	
9	Internet use (%)	
	Mobile broadband subscriptions (per 100)	
	Quality of overall infrastructure (1-7)	
	Logistics Performance Index (1-5)	
	Average of top 3 university rankings (0-100)	
	Scientific and technical journal articles (items per capita)	
	Gross Domestic Expenditure on R&D (% GDP)	
10	R&D researchers (per 1000 employed)	
	Patent applications (per million)	
	Gini index (0-100)	
	Palma ratio	
	PISA Social Justice Index (0-10)	
11	PM2.5 in urban areas (µg/m³)	
	Improved water source, piped (%)	
	Rent burden (% disposable income)	
12	E-waste (kg/capita)	
	Wastewater treated (%)	
	Production-based SO₂ emissions (kg/capita)	
	Net imported SO₂ emissions (kg/capita)	
	Nitrogen production footprint (kg/capita)	
	Net imported emissions of reactive nitrogen (kg/capita)	
	Non-recycled municipal solid waste (kg/person/year)	
	Municipal solid waste (kg/person/year)	

SDG	Description/Label	Indicator
13	CO₂ emissions from energy (tCO₂/capita)	
	Imported CO₂ emissions, tech-adjusted (tCO₂/capita)	
	Climate change vulnerability (0-1)	
	Effective Carbon Rate (€/tCO₂)	
14	Marine sites, mean protected area (%)	
	Ocean Health Index - Biodiversity (0-100)	
	Ocean Health Index - Clean waters (0-100)	
	Ocean Health Index - Fisheries (0-100)	
	Fish stocks overexploited or collapsed (%)	
15	Terrestrial sites, mean protected area (%)	
	Freshwater sites, mean protected area (%)	
	Red List Index of species survival (0-1)	
	Annual change in forest area (%)	
	Imported biodiversity impacts (species/million people)	
16	Homicides (per 100,000)	
	Prison population (per 100,000)	
	Feel safe walking at night (%)	
	Government efficiency (1-7)	
	Property rights (1-7)	
	Registered births (%)	
	Corruption Perception Index (0-100)	
	Slavery Score (0-100)	
	Conventional weapons exports (US\$m per 100,000 people)	
17	Health, Education & R&D spending (% GDP)	
	Official development assistance (% GNI)	
	Tax revenue (% GDP)	
	Tax Haven Score (best 0-5 worst)	
	Secrecy Score (best 0-100 worst)	

SDG 2: Zero Hunger

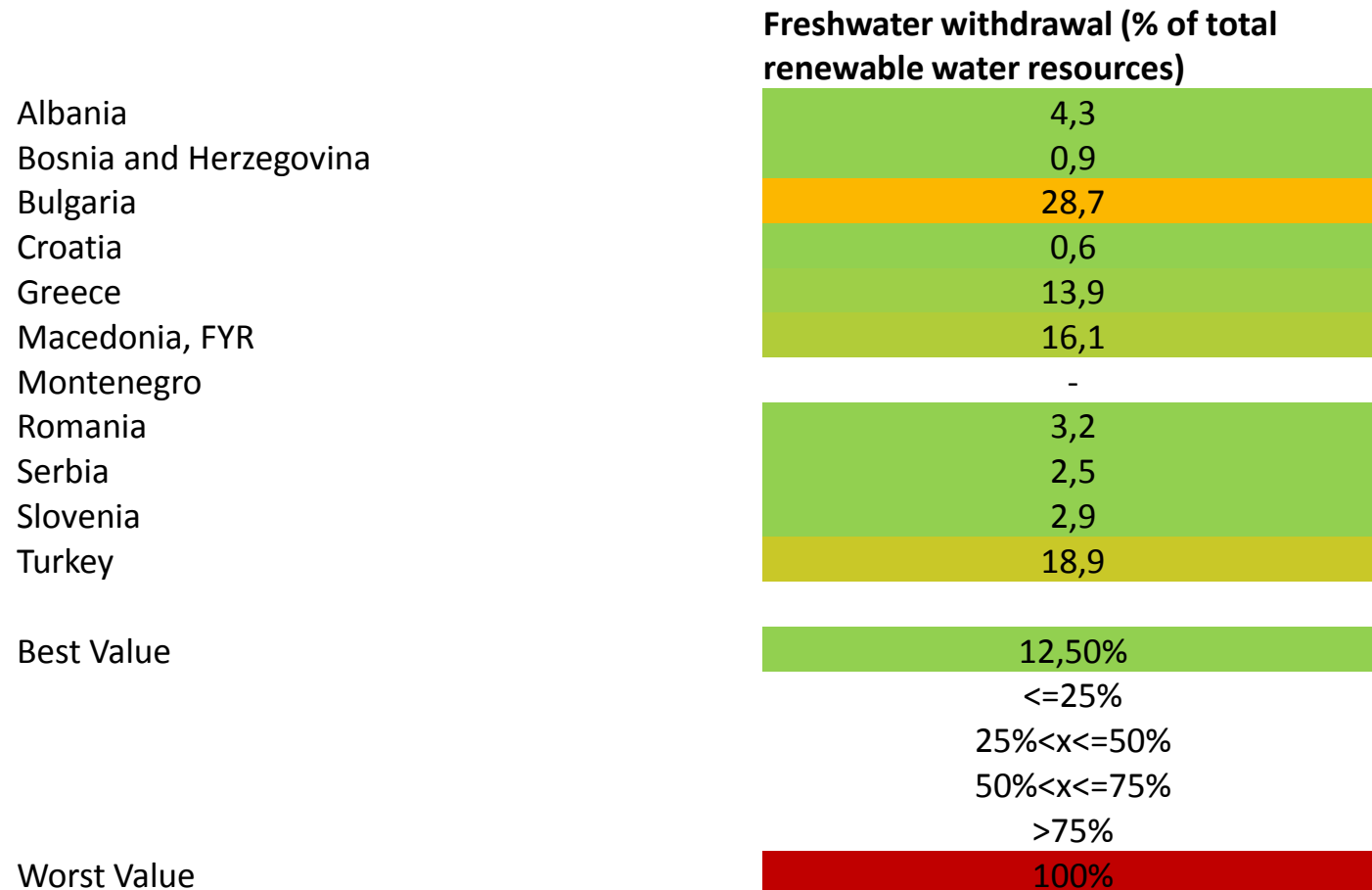
End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Sustainable Nitrogen Management Index (0-1)	
Albania	1,0
Bosnia and Herzegovina	0,9
Bulgaria	0,8
Croatia	0,7
Greece	0,7
Macedonia, FYR	0,8
Montenegro	1,1
Romania	0,7
Serbia	0,7
Slovenia	0,8
Turkey	0,8
Best Value	0,0
	$\leq 0,3$
	$0,3 < x \leq 0,5$
	$0,5 < x \leq 0,7$
	$> 0,7$
Worst Value	1,2

The agricultural Sustainable Nitrogen Management Index (SNMI) is defined to provide a more comprehensive measurement of the environmental performance of the agricultural production.

SDG 6: Clean Water and Sanitation

Ensure availability and sustainable management of water and sanitation for all



SDG 7: Affordable and Clean Energy

Ensure access to affordable, reliable, sustainable and modern energy for all

	CO2 emissions from fuel combustion and electricity output (MtCO2/TWh)	Share of renewable energy in total final energy consumption (%)
Albania	0,9	38,2
Bosnia and Herzegovina	1,4	15,3
Bulgaria	1,0	15,8
Croatia	1,2	20,0
Greece	1,4	13,9
Macedonia, FYR	1,6	16,5
Montenegro	0,7	46,2
Romania	1,1	21,7
Serbia	1,1	19,6
Slovenia	0,8	19,3
Turkey	1,3	12,8
Best Value	0,0	94,20%
	≤ 1	$\geq 20\%$
	$1 < x \leq 1,25$	$20\% > x \geq 15\%$
	$1,25 < x \leq 1,5$	$15\% > x \geq 10\%$
	$> 1,5$	$< 10\%$
Worst Value	3,3	0,30%

SDG 12: Responsible Production and Consumption

Ensure sustainable consumption and production patterns

	E-waste (kg/capita)	Municipal solid waste (kg/person/year)	Production-based reactive nitrogen emissions (kg/capita)	Production-based SO2 emissions (t/capita)	Net imported emissions of reactive nitrogen (kg/capita)	Net imported SO2 emissions (t/capita)	Wastewater treated (%)
Albania	6,1	0,8	15,6	7,8	-24,8	7,8	5,1
Bosnia and Herzegovina	5,3		16,5		-19,2	-10,9	0,0
Bulgaria	10,7	1,3	20,0	98,2	-200,3	-31,0	60,8
Croatia	10,8	0,3	23,2	16,9	53,5	11,7	50,2
Greece	15,1	2,0	56,9	45,3	215,0	16,8	77,6
Macedonia, FYR	6,1	1,1	17,8			-10,9	4,4
Montenegro	7,1				329,3	-10,9	6,7
Romania	9,2	1,0	39,5	30,9	18,5	-1,2	15,4
Serbia	7,3	0,8	n.d.			-10,9	6,4
Slovenia	15,0	1,2	34,7	8,1	125,0	17,4	59,8
Turkey	6,5	1,8	25,2	22,4	35,2	3,1	31,6
Best Value	0,2	0,1	2,3	0,5	0	0	100%
	≤5	≤1	≤8	≤10	≤1,5	≤1	≥50%
	5 < x ≤ 7,5	1 < x ≤ 1,5	8 < x ≤ 29	10 < x ≤ 20	1,5 < x ≤ 75,75	1 < x ≤ 8	50% > x ≥ 32,5%
	7,5 < x ≤ 10	1,5 < x ≤ 2	29 < x ≤ 50	20 < x ≤ 30	75,75 < x ≤ 150	8 < x ≤ 15	32,5% > x ≥ 15%
	>10	>2	>50	>30	>150	>15	<15%
Worst Value	23,50	3,7	86,5	68,3	432,4	30,1	0%

SDG 13: Climate Action

Take urgent action to combat climate change and its impacts

	Climate change vulnerability index (0-1)	Imported emissions, tech-adjusted (tCO2/capita)	CO2 emissions from energy (tCO2/capita)
Albania	0,3	0,7	1,7
Bosnia and Herzegovina	0,0	0,2	5,7
Bulgaria	0,0	0,8	5,4
Croatia	0,0	0,3	4,2
Greece	0,1	1,5	6,3
Macedonia, FYR	0,0	0,6	4,0
Montenegro	0,1	2,1	3,6
Romania	0,0	0,2	3,5
Serbia	0,0	1,1	6,3
Slovenia	0,0	-1,4	7,0
Turkey	0,0	0,7	4,2
Best Value	0%	0	0
	≤0,1%	≤0,5	≤2
	0,1% < x ≤ 0,15%	0,5 < x ≤ 0,75	2 < x ≤ 3
	0,15% < x ≤ 0,2%	0,75 < x ≤ 1	3 < x ≤ 4
	>0,2%	>1	>4
Worst Value	0,40%	3,20	23,7

SDG 14: Life Below Water

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

	Ocean Health Index - Biodiversity (0-100)	Ocean Health Index - Clean waters (0-100)	Marine sites, mean area protected (%)	Ocean Health Index - Fisheries (0-100)
Albania	93,7	53,5	66,1	28,1
Bosnia and Herzegovina	79,3	40,6	0,0	32,5
Bulgaria	94,0	42,7	99,4	36,3
Croatia	94,5	64,0	69,3	40,7
Greece	94,9	59,6	71,8	54,3
Macedonia, FYR				
Montenegro	92,6	60,1	0,0	36,8
Romania	94,3	56,4	99,6	57,8
Serbia		n.d.	n.d.	n.d.
Slovenia	95,8	28,4	99,9	49,7
Turkey	91,7	50,4	4,6	66,5
Best Value	100	100	100	100
	≥90	≥70	≥50%	≥70
	90> x ≥ 85	70> x ≥ 65	50%> x ≥ 30%	70> x ≥ 65
	85> x ≥ 80	65> x ≥ 60	30%> x ≥ 10%	65> x ≥ 60
	<80	<60	<10%	<60
Worst Value	76	28,6	0%	19,7

SDG 15: Life on Land

Protect, restore and promote sustainable use of terrestrial ecosystems

	Freshwater sites, mean area protected(%)	Terrestrial sites, mean area protected (%)	Annual change in forest area (%)	Imported biodiversity impacts (species lost per million people)	Red List Index of species survival (0-1)
Albania	95,4	68,5	5,0	0,2	0,85
Bosnia and Herzegovina	40,0	12,5	0,8	0,2	0,90
Bulgaria	98,6	95,6	2,1	0,2	0,94
Croatia	100,0	65,2	1,9	0,2	0,90
Greece	86,1	72,5	4,0	0,3	0,85
Macedonia, FYR	86,0	21,1	4,0	0,3	0,97
Montenegro	0,0	2,1	1,8	n.d.	0,81
Romania	66,1	77,8	3,3	0,2	0,95
Serbia	31,1	26,1	1,2	0,2	0,96
Slovenia	93,1	85,5	1,6	0,6	0,94
Turkey	4,1	2,3	3,3	0,2	0,88
Best Value	100%	100%	0,60%	0	1
	≥50%	≥50%	≤3%	≤0,1	≥0,9
	50% > x ≥ 30%	50% > x ≥ 30%	3% < x ≤ 4,5%	0,1 < x ≤ 0,225	0,9 > x ≥ 0,85
	30% > x ≥ 10%	30% > x ≥ 10%	4,5% < x ≤ 6%	0,225 < x ≤ 0,35	0,85 > x ≥ 0,8
	<10%	<10%	>6%	>0,35	<0,8
Worst Value	0%	2,10%	18,40%	1,10	0,6

General Scores

	SDG2	SDG6	SDG7	SDG12	SDG13	SDG14	SDG15
Albania							
Bosnia and Herzegovina							
Bulgaria							
Croatia							
Greece							
Macedonia, FYR							
Montenegro							
Romania							
Serbia							
Slovenia							
Turkey							

Result and Interpretation

- The SDG Index gives an initial indication of the state of play and helps raise public awareness of the 2030 Agenda and its implementation in individual states.
- Available data for SDG 2 show that all balkan countries also need to shift towards more environmentally sustainable agricultural practices and improve nutrition outcomes.
- Balkan countries also face major challenges in decarbonizing their energy systems to fight climate change (SDG 13), and in conserving marine (SDG 14) and terrestrial (SDG 15) ecosystems.

Result and Interpretation

- As described in the methodology section, the 2017 SDG Index contains new indicators and updated values for those indicators for which new data are available. As a result, the 2017 scores and rankings are not comparable with the 2016 results.
- Unfortunately, it has not been possible to estimate time series trends for many variables, so the available data do not tell us whether and how fast countries progress towards the SDGs.

Result and Interpretation

- Achieving the 2030 goals is a major step in data collection and measurability.
- Due to the difficulties in collecting data, the SDG is insufficient in monitoring the process of reaching the target countries.