

2.1 Maps

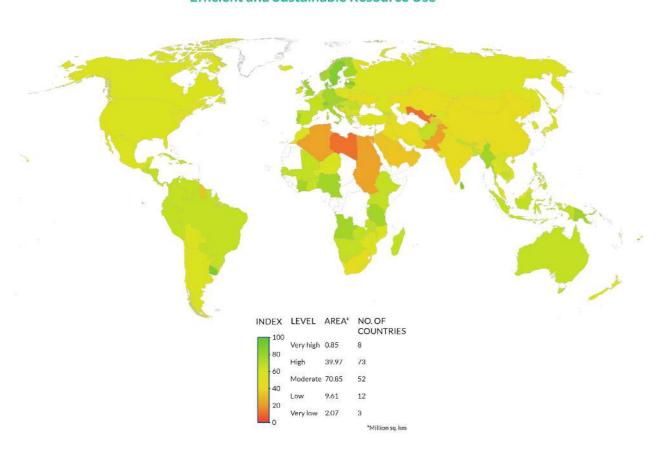
Figure 5 presents the maps of scores for the four green growth dimensions in 2019. Among the four dimensions, the scores in the green economic opportunities dimension are lowest across all regions and have large variance across countries. No country has reached very high scores and only four countries have high scores, which are all in Europe (i.e. Sweden, Denmark, Czech Republic, and Germany). Out of the 124 countries with scores for this dimension, 44% and 29% have very low and low scores, respectively. These are a significant number of countries, which correspond to about 74.61 million m² of the global land area. Thirty countries have moderate scores of between 40 and 60. Social inclusion is the next dimension showing divergent scores, albeit between regions. Africa is the most disadvantaged region as far as social inclusion is concerned, with low and very low scores. In contrast, countries in other regions have scores that are high and very high. Almost the exact opposite of green economic opportunities because, out of the 171 countries with scores for the social inclusion dimension, 34% and 25% have high and very high scores, respectively. These countries account for 97,75 million m² of the global land area, including the most populated countries like China, the United States, Indonesia, and Brazil.

The maps of scores for efficient and sustainable resource use and natural capital protection have some similarities, with most countries having high scores (Figure 5). These dimensions have almost the same number of countries with moderate scores, 52 and 59 for efficient and sustainable resource use and natural capital protection, respectively, which both correspond to about 70.28 million m² of the global land area. The land area covered by the countries with not only moderate, but more importantly high and very high scores are very relevant because these dimensions deal with sustainable use and effective protection of natural resources. For efficient and sustainable resource use, out of the 148 countries with scores for this dimension, 49% and 5% have high and very high scores,

respectively. Natural capital protection, which is the dimension with the highest number of countries with scores, has slightly higher country scores than efficient and sustainable resource use. Out of the 194 countries with scores for this dimension, 58% has high scores and, like the other dimension, with an additional 5% having also very high scores. These countries cover a combined land area coverage of 57.33 million m^2 .

In 2019, there are 117 countries with scores for the Green Growth Index, with 24 countries in Africa, 20 countries in the Americas, 33 countries in Asia, 38 countries in Europe, and only two in Oceania (Figure 6). The scores of almost half of the countries are in the middle range, between 40 and 60, covering about 77 million m² of the global land area. There are 32 countries that reached a high score between 60 and 80, many of them are in Europe. Those 30 countries with low scores are mainly from Africa and Asia. While there are no countries with very low scores in 2019, none has also received a very high score. Sweden, located in Northern Europe, has the highest Green Growth Index with a score of 78.72, which is still further away from reaching the sustainability target of 100. The lowest score of 24.49 is attributed to Niger in Western Africa. Despite no score reaching a very high level, the Green Growth Index generally increased worldwide from 2005 to 2019. There is a very encouraging development for about 19 countries which experienced over a 20% increase in score for the Green Growth Index during this period. Many of these significant improvements in green growth performance can be found in the African region. While green growth performance moderately increased in 48 countries globally, a decline in scores can be observed in countries in different regions. The six countries, which experienced the most significant decline in green growth performance between -10% and -25%, account for 24.87% of the global land area. These countries include Cabo Verde in Western Africa (-19%), Mauritius in Eastern Africa (-11%), Algeria in Northern Africa (-13%), Panama in Central America (-19%), Jordan in Western Asia (-15%), and Bosnia and Herzegovina in Southern Europe (-25%).

Efficient and Sustainable Resource Use



Natural Capital Protection

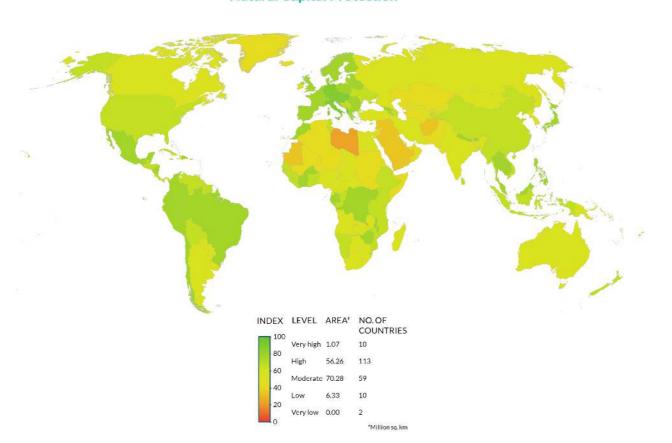
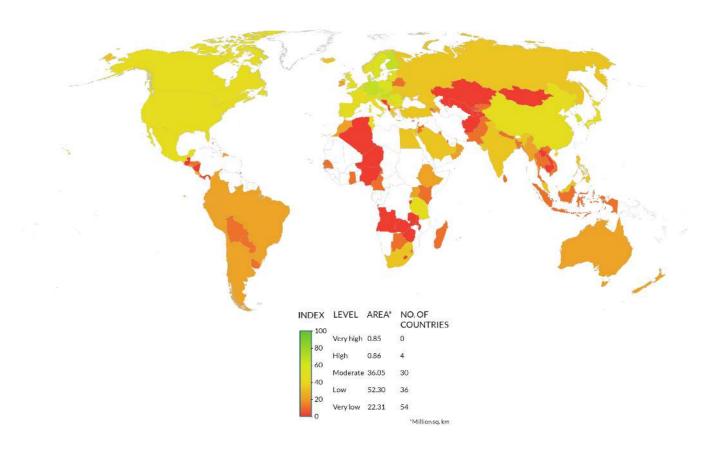


Figure 5 Sub-indices of the green growth dimensions for different countries in 2019 (continued)

Green Economic Opportunities



Social Inclusion

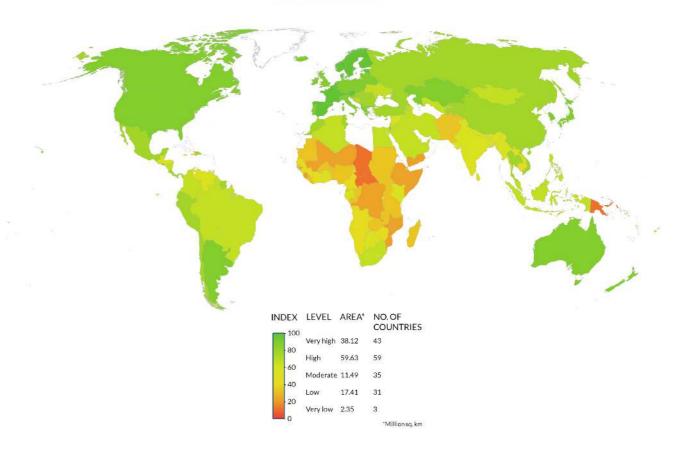
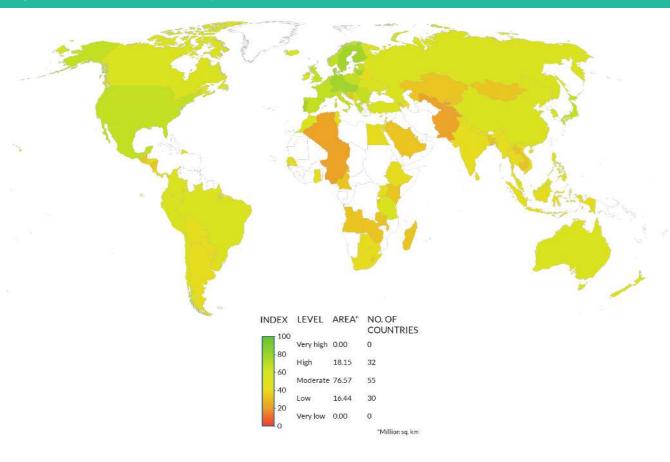
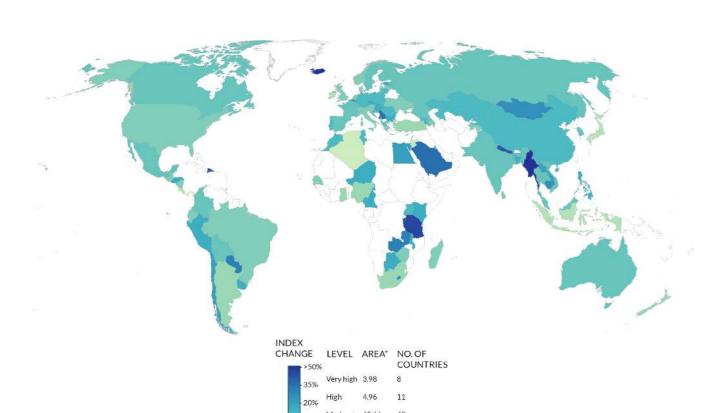


Figure 6 Performance and change in scores of countries on the Green Growth Index in 2019





Very low 24.87

2.2 Dashboards

Table 2 presents the country dashboard for the Green Growth Index by region and compares the changes in the scores of the Index from 2005 and 2019. In 2019, the top performing countries by region were Tanzania in Africa, Mexico in the Americas, Japan in Asia, Sweden in Europe, and New Zealand in Oceania, while the least performing countries were Niger in Africa, Trinidad and Tobago in the Americas, Uzbekistan in Asia, Malta in Europe, and Australia in Oceania. There were, however, only two countries with scores for the Index in Oceania due to lack of data for many countries in this region. Moreover, the score for Australia represents the scores in the upper range among the countries in the Americas and Asia. In Table 2, multi-directional arrows are used to show the performance of countries over time:

- † pointing straight up represents increasing performance, above 10% increase in scores
- A slightly slanting upward represents modest performance, between <10% and >=1% increase in scores
- horizontal represents stable or almost no change in performance, between <1 and >=0% change in scores
- Is slightly slanting downward represents slight decline in performance, between <0% and >= -10% decline in scores
- ↓ pointing straight down represents worsening performance, below -10% decrease in scores

A 10% interval was used to measure the performance because the data points gather around this value. Although, Africa had the lowest scores among the regions, many countries showed increasing performance from 2005 to 2019. Tanzania, for example, experienced a 48% increase in scores for the Green Growth Index, one of the eight countries with the highest percentage change of above 35% globally (Figure 5). But Table 2 also shows that Africa has the greatest number of countries displaying a worsening performance with a decrease in scores of over -10%. Nonetheless, Africa has more countries showing an increasing performance than in the Americas and is par with other regions in terms of the number of countries with this good level of performance. Moreover, the other top performing countries in other regions have performed lower than Tanzania, which is the top performing country in Africa. On the one hand, Mexico and Sweden only experienced modest performance over this period, while Japan and New Zealand showed a slight decline in performance. The best performing country worldwide with 89% change in Index score from 2005 and 2019 is Iceland, but this level of change can be considered an outlier as the rest of the countries have percentage change of below 50%.

The better performance in Europe compared to other regions can be attributed to the relatively high scores for green economic opportunities in many European countries (Table 2). Only few European countries like Belarus, Albania, Montenegro, Bosnia and Herzegovina, and Malta showed very low scores for this green growth dimension. Among these countries, only Montenegro showed an increasing performance over time. In contrast, more than half of the countries in Africa, the Americas, and Asia have scores

below 20 for green economic opportunities. In Asia, more advanced countries like South Korea, China, and Japan are taking the lead in creating green economic opportunities. In Africa, these include developing countries like Tanzania, Tunisia, Egypt, and South Africa. If appropriate amounts of green investments and innovation would be made to enhance green employment and trade, many developing countries in the Asian and African regions would be expected to experience increasing performance in the future. In the Americas, performance of creating green economic opportunities in the United States and Canada are not on par with their peer developed countries in Europe.

The sub-regional performance for the different indicators is presented in Figure 7. It shows that the scores for the three among the four indicators for green economic opportunities are predominantly low and very low. On average, the scores for green trade (GT) are also low for all subregions in Europe. The scores for green investment (GV) are moderate for most sub-regions. After green economic opportunities, scores for efficient and sustainable resource use indicators are least impressive for most sub-regions, except for material use efficiency (ME). While efficient and sustainable use of energy (EE), water (EW), and land (SL) have low and moderate scores, the latter indicator shows scores from high to very high.

For the indicators of natural capital protection, the scores for environmental quality (EQ) and GHG emissions reduction (GE) also range from high to very high with few exceptions. For example, Northern America as well as Australia and New Zealand have scores of only around 40 for the reduction of emissions. In contrast, scores for indicators on biodiversity and ecosystem protection (BE) and cultural and social value (CV) are lower than the other two previous indicators in most subregions. In the case of the former indicator, subregions like Northern Africa, Central Asia, Western Asia, and Polynesia have very low scores for the protection of biodiversity and ecosystem. Scores are mostly low and moderate for cultural and social value (CV) with the exceptions of Europe as well as Australia and New Zealand wherein these sub-regions, scores are either high or very high.

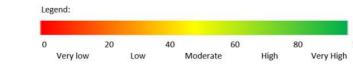
For social inclusion, the scores are rather divergent for the different indicators and across the subregions. Social equity (SE) indicator has the highest number of subregions with high or very high scores, except for most subregions in Africa. Social equity in Northern Africa is on par with the rest of the subregions of the world. Except for gender balance (GB) with high scores in Eastern and Southern Africa, the scores for the rest of the indicators have mainly low cores. The Eastern, Middle, and Southern sub-regions in Africa have low scores for both access to basic services and resources (AB) and social protection (SP). Although a bit better than Africa, many sub-regions in Oceania have also low scores for social inclusion indicators, except for social equity.

	Subregion	Dimension scores (2019)				2005			2019		5 (
Country		ESRU	NCP	GEO	SI	Inc	lex	Rank	Index	Rank	Performano
				AFRIC	:A						
Tanzania	Eastern Africa	71.77	66.89	47.53	41.77	37	.63	9	55.56	1	1
Morocco	Northern Africa	50.34	73.63	26.35	72.16	45	.03	4	51.52	2	1
Tunisia	Northern Africa	28.27	61.76	46.16	75.42	44	.22	5	49.65	3	1
South Africa	Southern Africa	40.14	59.22	35.45	67.24	49	.96	2	48.79	4	2
Cabo Verde	Western Africa	67.97	68.39	15.41	69.17	58	.20	1	47.18	5	•
Senegal	Western Africa	70	65.62	18.55	43.76	41	.95	6	43.94	6	27
Mauritius	Eastern Africa	59.21	53.2	12.98	84.43	48	.19	3	43.10	7	•
Uganda	Eastern Africa	65.41	69.92	23.7	31.63	39	.01	8	43.03	8	77
Egypt	Northern Africa	24.87	54.85	39.72	61.17	35	.42	10	42.66	9	1
Ethiopia	Eastern Africa	57.88	67.24	26.03	29.98	30	.31	16	41.75	10	1
Ghana	Western Africa	69.8	68.23	12.02	51.76	41	.75	7	41.49	11	2
Botswana	Southern Africa	66.41	58.75	12.25	53.92	33	.48	12	40.07	12	1
Cameroon	Middle Africa	67.58	59.76	12.88	43.61	32	.40	14	38.81	13	1
Kenya	Eastern Africa	62.67	62.48	10.3	53.68	32	.53	13	38.36	14	1
Madagascar	Eastern Africa	60.35	56.36	15.51	31.39	34	.24	11	35.87	15	77
Angola	Middle Africa	76.39	56.04	7.28	40.59	28	.89	18	33.53	16	1
Lesotho	Southern Africa	56.76	45.4	8.24	50.88	25	.58	21	32.24	17	1
Zambia	Eastern Africa	65.23	59.62	8.14	32.63	24	.49	22	31.88	18	1
Malawi	Eastern Africa	62.08	76.44	7.48	27.22	26	.91	20	31.35	19	1
Burundi	Eastern Africa	58.59	68.51	6.68	34.23	21	.11	23	30.95	20	1
Zimbabwe	Eastern Africa	57.58	78.42	4.2	41.71	29	.73	17	29.83	21	
Algeria	Northern Africa	28.43	45.45	7.2	66.27	32	.36	15	28.02	22	↓
Nigeria	Western Africa	67.97	57.23	4.18	36.18	28	.07	19	27.69	23	2
Niger	Western Africa	59.67	48.93	4.84	25.47	20	.69	24	24.49	24	1
				AMERIC	CAS						_
Mexico	Central America	57.84	72.64	44.65	76.94	58	.41	2	61.64	1	77
United States	Northern America	56.3	63.95	43.13	85.21	58	.60	1	60.31	2	77
Canada	Northern America	59.17	56.24	41.73	87.91	54	.25	5	59.11	3	77
Brazil	South America	65.5	71.03	28.44	70.08	54	.84	4	55.18	4	
Dominican Rep.	Caribbean	60.96	76.25	25.98	73.41	38	.66	16	54.57	5	1
Costa Rica	Central America	66.5	68.6	23.29	75.27	57	.57	3	53.18	6	2
Colombia	South America	65.1	71.7	25.05	67.98	48	.77	9	53.10	7	77
Peru	South America	64.94	72.08	23.26	71.17	45	.10	10	52.76	8	1
Chile	South America	59.01	73.63	21.98	79.87	42	.41	11	52.55	9	1
El Salvador	Central America	63.12	58.34	26.67	76.79	40	.62	12	52.40	10	1
Ecuador	South America	60.89	70.84	20.44	75.28		.29	8	50.75	11	77

>10% <=10% & >1 <=1% & >0 <=-1% & >-10% <-10%

		D	imension s	cores (2019	2)	200	15	20	10	
Country	Subregion	ESRU	NCP	GEO	SI	Index	Rank	Index	Rank	Performance
Argentina	South America	59.96	57.91	21.14	81.37	49.91	7	49.44	12	24
Uruguay	South America	82.88	53.41	14.23	80.89	39.97	14	47.51	13	1
Paraguay	South America	64.96	58.18	19.86	67.46	35.39	18	47.44	14	1
Honduras	Central America	67.25	67.99	16.78	57.18	39.76	15	45.78	15	1
Bolivia	South America	55.73	69.79	14.1	68.92	40.35	13	44.09	16	77
Panama	Central America	67.14	67.48	9.39	73.22	51.75	6	42.01	17	Ţ
Guatemala	Central America	68.24	66.32	7.37	57.05	36.53	17	37.14	18	77
Nicaragua	Central America	66.11	71.45	5.12	66.42	34.55	19	35.60	19	77
Trinidad & Tobago	Caribbean	19.97	51.8	9.76	83.45	29.56	20	30.29	20	7
ITITIIdad & Tobago	Caribbeari	17.77	31.0	ASIA		27.50	20	30.27	20	V
Japan	Fastern Asia	55.74	71.1	44.88	82.16	66.00	1	61.83	1	21
Georgia	Western Asia	61.25	72.13	36.7	72.99	53.05	2	58.65	2	77
China	Eastern Asia	48.66	64.6	48.57	75.78	52.07	6	58.33	3	1
Philippines	South-Eastern Asia	63.68	74.54	31.9	67.56	48.90	8	56.55	4	1
	South-Eastern Asia	55.8	71.07	36.84	64.67	52.22	4	55.44	5	7
Malaysia South Korea		34.62	57	52.93	81.8	51.17	7	54.07	6	77
	Eastern Asia	54.28	50.94	31.87	74.43	52.34	3	50.60	7	2
Turkey	Western Asia	71.93	61.7		52.36	28.99		49.69	8	
Myanmar	Eastern Asia			26.24			26		9	1
Thailand	South-Eastern Asia	59.43	74.73	17.57	76.18	45.12	12	49.38	· ·	7
Israel	Western Asia	47.05	49.33	30.77	82.32	52.11	5	49.24	10	
Nepal	Southern Asia	61.27	71.55	18.71	60.01	32.55	21	47.10	11	1
Cyprus	Western Asia	62.73	69.33	11.6	82.94	46.33	9	45.23	12	<u>)</u>
Azerbaijan	Western Asia	44.94	65.96	21.17	64.01	43.03	13	44.77	13	77
India	Southern Asia	41.98	55.11	30.4	51.09	40.88	14	43.54	14	7
Lebanon	Western Asia	44.09	56.1	24.49	51.56	45.76	10	42.04	15	2)
Vietnam	South-Eastern Asia	55.29	62.61	11.98	73.78	39.40	16	41.82	16	77
Indonesia	South-Eastern Asia	62.88	64.3	11.52	64.6	45.46	11	41.65	17	20
Bangladesh	Southern Asia	63.61	53.31	13.75	52.65	33.35	19	39.58	18	1
Armenia	Western Asia	43.53	70.06	10.28	73.81	32.89	20	39.00	19	1
Laos	South-Eastern Asia	59.24	72.46	9.36	55.75	31.90	23	38.69	20	1
Saudi Arabia	Western Asia	31.1	35.75	30.75	65.27	28.19	27	38.65	21	1
Sri Lanka	Southern Asia	32.5	65.4	18.04	55.53	38.13	17	38.20	22	>
Kyrgyz Republic	Central Asia	43.93	59.7	10.73	73.06	33.84	18	37.87	23	1
Cambodia	South-Eastern Asia	64.66	76.39	5.89	48.67	27.04	30	34.49	24	1
Jordan	Western Asia	33.92	47.37	13.04	67.16	40.29	15	34.44	25	•
Kazakhstan	Central Asia	45.95	43.21	8.58	81.4	30.10	25	34.32	26	1
Kuwait	Western Asia	45.45	43.88	11.79	57.28	32.41	22	34.07	27	77

100













greengrowthindex.gggi.org

40 60 80 100 Low Moderate High Very High

Legend:

Very low

Legend:

40 60 80 1 Low Moderate High Very High

	Subregion	Dimension scores (2019)					2005			19	Performance
Country		ESRU NCP GEO SI			Index Rank			Index Rank			
Qatar	Western Asia	47.94	36	12.66	55.69	31.	64	24	33.22	28	77
Mongolia	Eastern Asia	44.71	55.65	7.32	63.26	25.	74	31	32.76	29	1
Pakistan	Southern Asia	24.71	49.99	16.3	37.8	27.	69	29	29.54	30	77
Tajikistan	Central Asia	38.45	60.85	4.17	72.86	28.	10	28	29.04	31	77
Afghanistan	Southern Asia	67.15	37.37	6.06	38.26	24.	20	32	27.62	32	1
Uzbekistan	Central Asia	13.24	53.7	9.74	64.26	19.	87	33	25.83	33	1
				EURO	PE						_
Sweden	Northern Europe	87.78	78.14	59.53	94.06	73.	17	2	78.72	1	77
Denmark	Northern Europe	86.12	73.19	59.68	92.33	74.	64	1	76.77	2	77
Czech Republic	Eastern Europe	72.92	83.15	65.49	87.35	65.	82	11	76.74	3	1
Germany	Western Europe	70.37	82.37	63.73	89.49	68.	08	7	75.83	4	1
Austria	Western Europe	79.21	80.67	56.1	89.31	73.	15	3	75.22	5	77
Finland	Northern Europe	78.21	71.53	60.34	91.21	68.	49	6	74.49	6	77
Slovakia	Eastern Europe	71.88	85.53	58.58	84.37	63.	09	17	74.25	7	1
Switzerland	Western Europe	83.26	77.99	48.66	90.93	73.	01	4	73.21	8	
Lithuania	Northern Europe	76.42	75.62	52.2	87.1	64.	54	13	71.60	9	77
Hungary	Eastern Europe	63.63	81.47	62.24	80.54	61.	79	18	71.40	10	1
Slovenia	Southern Europe	68.36	81.85	51.34	88.53	70.	21	5	71.01	11	77
Portugal	Southern Europe	76.48	78.41	45.52	89.87	63.	35	16	70.38	12	77
Estonia	Northern Europe	68.97	76.15	50.48	88.66	60.	38	22	69.63	13	1
Latvia	Northern Europe	84.31	77.22	41.95	83.6	66.	60	8	69.12	14	77
Belgium	Western Europe	59.54	78.37	53.93	90.48	56.	58	27	69.08	15	1
Poland	Eastern Europe	59.69	76.83	55.05	89.29	60.	76	20	68.90	16	1
France	Western Europe	68.41	79.61	46.21	89.31	65.	10	12	68.85	17	77
Romania	Eastern Europe	64.96	78.68	54.01	79.36	59.	83	23	68.41	18	1
Italy	Southern Europe	72.57	80.82	41.91	87.3	66.	28	9	68.06	19	27
Norway	Northern Europe	76.54	72.32	41.92	92.2	65.	99	10	68.01	20	77
Croatia	Southern Europe	72.71	84.04	45.91	75.48	60.	66	21	67.84	21	1
Netherlands	Western Europe	59.54	74.53	49.27	92.51	64.	22	14	67.06	22	77
United Kingdom	Northern Europe	72.28	76.12	40.36	90.07	63.	79	15	66.87	23	27
Spain	Southern Europe	63.03	76.76	45.32	90.62	60.	92	19	66.77	24	77
Greece	Southern Europe	65.19	77.07	34.57	84.27	58.	56	24	61.86	25	77
Luxembourg	Western Europe	64.6	78.07	31.74	90.27	58.	06	25	61.66	26	77
Bulgaria	Eastern Europe	54.84	78.32	41.46	79.24	53.	22	28	61.29	27	1
Serbia	Southern Europe	57.31	69.51	40.91	76.7	43.	89	35	59.46	28	1
Russia	Eastern Europe	50.55	55.84	37.17	77.88	50.	23	31	53.46	29	77

>10%

<=10% & >1 <=1% & >0 <=-1% & >-10% <-10%

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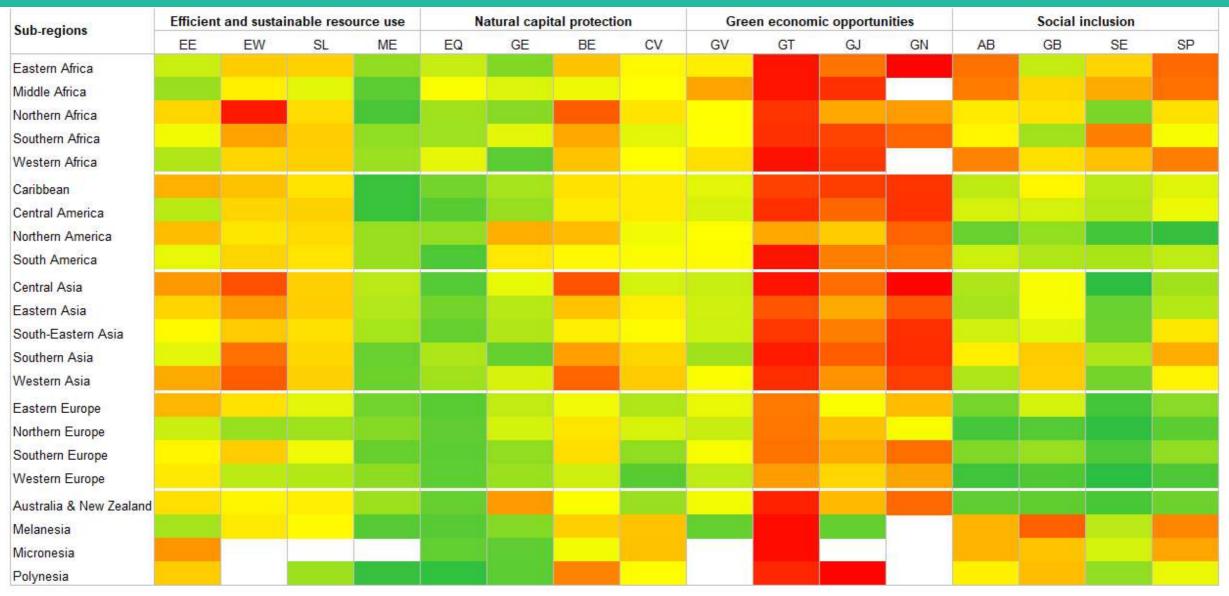
	Subregion	Dimension scores (2019)				200	5	2019		
Country		ESRU	NCP	GEO	SI	Index	Rank	Index	Rank	Performance
Ireland	Northern Europe	54.83	59.16	27.65	85.01	57.32	26	52.55	30	2
Iceland	Northern Europe	59.63	42.18	33.62	87.96	27.60	38	52.23	31	1
Moldova	Eastern Europe	57.93	58.49	31.72	66.17	49.62	32	51.64	32	77
Ukraine	Eastern Europe	45.02	62.57	35.34	69.62	50.87	30	51.31	33	->
Belarus	Eastern Europe	57.13	72.88	15.62	83.87	45.50	33	48.32	34	77
Albania	Southern Europe	65.05	82.62	9.44	80.69	44.81	34	44.98	35	\Rightarrow
Montenegro	Southern Europe	66.06	60.91	12.75	71.65	33.64	37	43.78	36	1
Bosnia & Herzegovina	Southern Europe	58.7	61.76	9.54	69.05	52.44	29	39.31	37	•
Malta	Southern Europe	50.86	71.99	3.25	85.41	38.06	36	31.76	38	•
				OCEAN	IIA					
New Zealand	Australia and New Zealand	58.11	69.64	27.98	88.92	58.08	1	56.33	1	2
Australia	Australia and New Zealand	63.65	55.36	28.17	83.61	50.12	2	53.67	2	77
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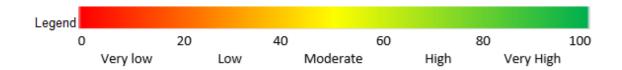
Very High $Definitions: ESRU-Efficient\ and\ sustainable\ resource\ use, NCP-Natural\ capital\ protection, GEO-Green\ economic\ opportunities, SI-Social\ inclusion$

Moderate

Very low

Figure 7 Dashboard of indicator categories in each green growth dimension, by sub-regions in 2019





Definitions: EE - Efficient and sustainable resource use, EW - Efficient and sustainable water use, EW - Efficient and sustainable water use, EW - Efficient and social value, EW - Efficient and EW - E