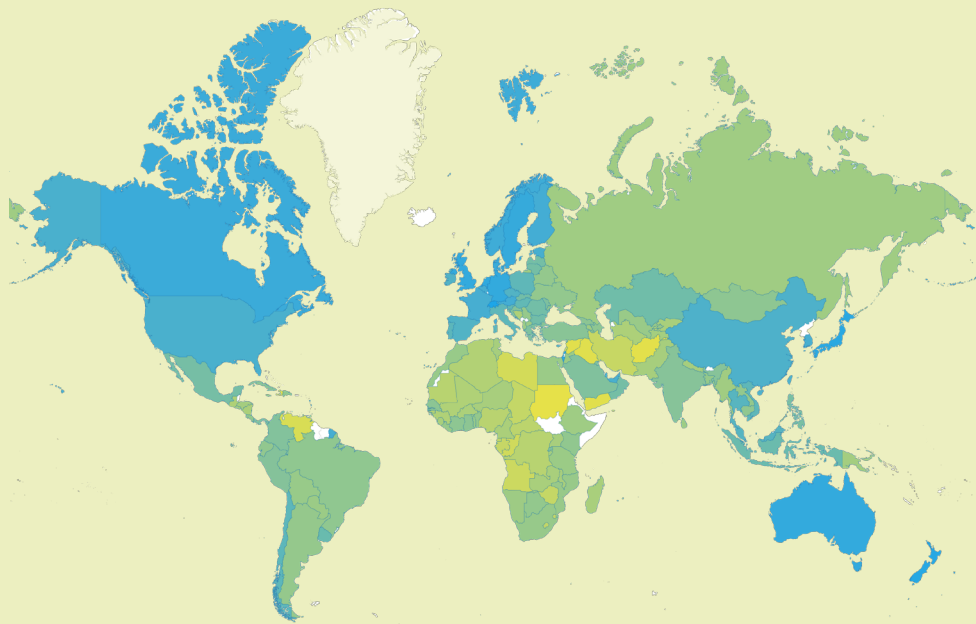**ELITE QUALITY INDEX**
EQx2023

This PDF includes a contribution from the following book:

ELITE QUALITY
REPORT 2023

Sustainable ecosystems analysis: Establishing Value Creation and Value Extraction

Martin Nerlinger, Professor of Finance, Swiss Finance Institute at the University of St.Gallen

Sustainable ecosystems analysis: Establishing Value Creation and Value Extraction

A new addition to the EQx 2023 is the inclusion of the Ecology EQx-Indicator Family. This aims to rate the index's 151 countries on their ecological performance. The individual Indicators were carefully selected to cover a wide range of ecological fields, from waste production and disposal to water use and air quality. The Indicators also capture ecological innovation through green patents and assess the consumption rates of problematic natural goods like fish and red meat.

The chosen Indicators reference the 'Planetary Boundary', a framework that describes the limits of the impact of human activities on the Earth's ecosystem. Beyond these limits, the environment may no longer be able to regulate itself. Crossing the planetary boundary risks abrupt environmental change and the associated Value Extraction from future generations. Therefore, all Indicators are of high importance and political and economic elites need to keep them in their sights to develop policies to steadily improve.

112

In the Ecology EQx-Indicator Family 2023, the conceptual category of 'Future' Sustainable Value Creation is proxied by Indicators that include *Green patents* (GPA, iii.9) and the *Environmental Performance Index* (EPI, iii.9). Countries that are particularly committed to investing in the future of environmentally-friendly solutions will be able to create new value in the long term. Particularly noteworthy here are countries such as Japan (GPA, iii.9, rank # 1) or Scandinavian countries such as Denmark, Sweden, and Finland (EPI, iii.9, ranks # 1 - # 3) who have been pursuing a strategy of improved environmental performance through innovation for a long time.

In other countries, ecology is seen primarily as 'Preservation' of the environment. Corresponding Indicators in this second category include the *Global Food Security Index* (FSQ, iii.7), *Terrestrial land protected* (TLP, iii.9), *Air quality index* (AIR, iii.9) and *Municipal Waste Recycling Rate* (MWR, iii.9). Note that countries that are not yet fully industrialized or otherwise developed can also successfully preserve their environment and rank highly in this category. Hence, the EQx2023 shows that countries from different regions of the world and at different stages of development have excelled. For instance, Zambia, Venezuela, Bulgaria and Slovenia share the top spot for Terrestrial land protected (TLP, iii.9, all rank # 1).

The third category of the Ecology EQx-Indicator Family is 'Damage' assessment. Specific Indicators taken into account here are: *Natural resources rents as % of GDP* (NRR, iii.9), *Deforestation Rate* (DER, iii.9), *Fertilizer usage* (FUS, iii.9), *CO_2 emissions* (CDO, iii.9), *Hazardous Waste per capita* (HAZ, iii.9), *Waste collected per capita* (WPC, iii.9), *Fishing consumption as % of population* (FIS, iii.9) and *Red meat consumption kilograms per capita* (MET, iii.9). Indicators on fish and meat consumption, for example, show that some nations have structural preferences that are associated with their country-specific characteristics. For example, a landlocked country like Mongolia is ranked poorly in the red meat consumption Indicator but high in the fish and seafood consumption Indicator (MET, iii.9, rank # 147; FIS, iii.9, rank # 4), while the opposite is true for an island nation like Indonesia (MET, iii.9, rank # 11; FIS, iii.9, rank # 139). Nevertheless, some countries exhibit more responsible consumption patterns for both meat and fish, such as Pakistan (MET, iii.9, rank # 44; FIS, iii.9, rank # 9).

The fourth category of the Ecology EQx-Indicator Family covers the critical area of 'Climate' which threatens current and future human well-being and the planet's health. Climate-resilient development integrates adaptation and mitigation strategies to promote Sustainable Value Creation for society. It is enabled by enhanced international cooperation, including improved access to adequate finance as well as inclusive governance and coordinated policies. Deep, rapid, and sustained mitigation of climate change and the accelerated implementation of adaptation actions this decade would reduce the projected losses and damage to people and ecosystems and provide many ecological co-benefits, particularly for air quality and health. Effective climate action is enabled by political commitment, well-coordinated multilevel governance, institutional frameworks, laws, policies, and strategies, and improved access to finance and clean technologies. Indicators like *CO2 emissions per capita* (CDO, iii.9) provide valuable insights into the actions that countries are taking on tackling climate change and their outcomes. In the EQx2023, the Democratic Republic of Congo (CDO, iii.9, rank # 1) is ranked first with the lowest amount of CO2 emissions per capita. Many other countries in Africa and South America are also ranked highly, though they too will suffer from the increasing consequences of climate change, partly due to the inferior performance of rich industrialized countries such as Switzerland (CDO, iii.9, rank # 100) or the US (CDO, iii.9, rank # 151).

To achieve sustainable ecosystems, it is necessary to focus on Value Creation while minimizing Value Extraction accross the four different categories of the Ecology EQx-Indicator Family: 'Future', 'Preservation', 'Damage' and 'Climate'. Due to the interconnectedness of the Indicators, it is also essential that ecology is assessed holistically and managed in a sustainable and value-creating manner.

Professor Martin Nerlinger, Professor of Finance, University of St.Gallen and Swiss Finance Institute.

Ecology
EQx-Indicator Family

113

Ecology
EQx-Indicator Family
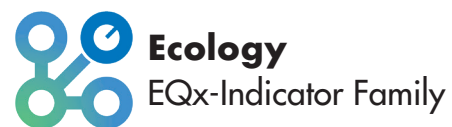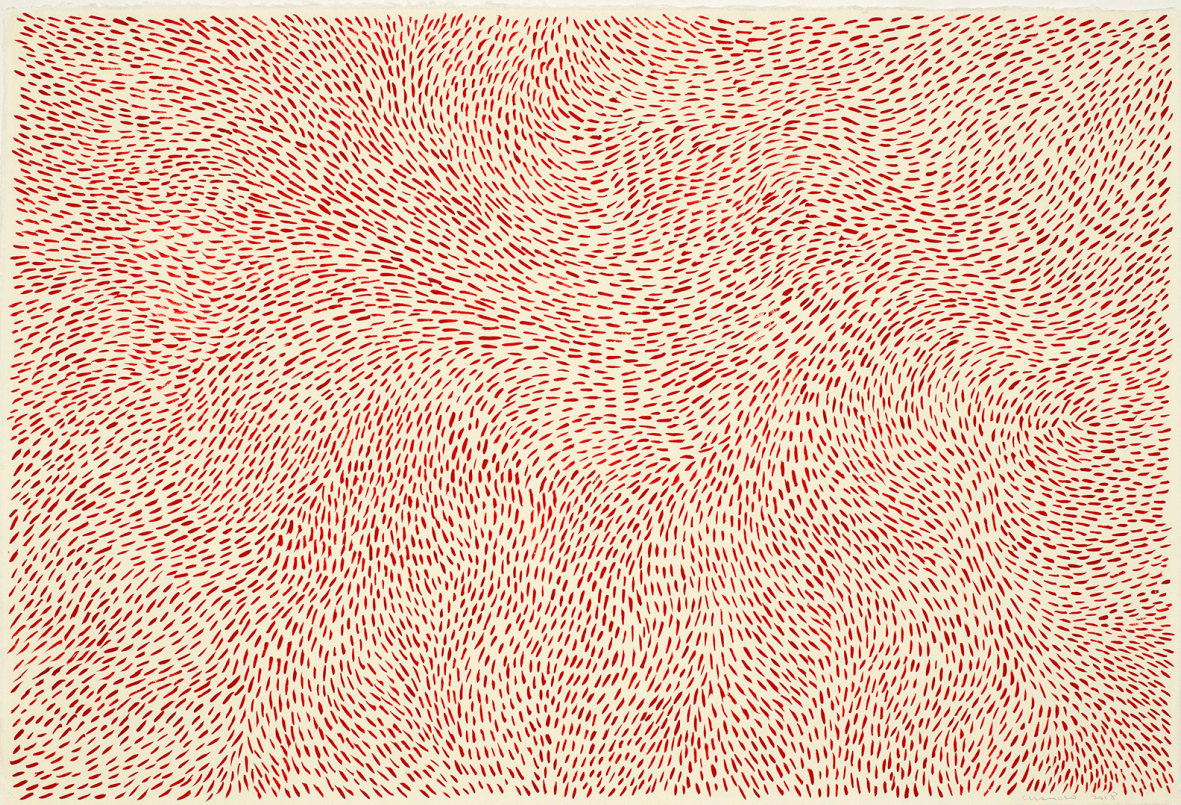
Countries covered: 151

Indicators included:

		Weight within Family	Weight within EQx
FSQ	*Global Food Security Index - availability, q*	57.2%	0.6%
NRR	*Natural resources rents as % of GDP*	4.9%	0.5%
GPA	*Green patents*	4.9%	0.5%
EPI	*Environmental Performance Index*	4.9%	0.5%
DER	*Deforestation Rate*	2.4%	0.3%
FUS	*Fertilizer usage kg per hectar*	2.4%	0.3%
TLP	*Terrestrial land protected*	4.9%	0.5%
CDO	*CO2 emissions (metric tons per capita)*	3.7%	0.4%
AIR	*Air quality index*	3.7%	0.4%
HAZ	*Hazardous Waste per capita*	1.2%	0.1%
WPC	*Waste collected per capita*	2.4%	0.3%
MWR	*Municipal Waste Recycling Rate*	3.7%	0.4%
FIS	*Fishing consumption as % of population*	1.2%	0.1%
MET	*Red meat consumption kilograms per capita*	2.4%	0.3%
Ecology EQx-Indicator Family, total weight			**5.3%**

Rationale

The Ecology EQx-Indicator Family is a construct formed by 14 Indicators. The weighting of each Indicator is conceptual and will likely evolve in new iterations of the EQx. The rationale of the Ecology EQx-Indicator Family is simple. Any type of environmental damage is unsustainable and results in a long-term burden for society. As such, it represents Value Extraction and rent seeking behavior by today's generation on the cost of future generations. In contrast, any type of investment into environmental preservation or improvements is sustainable and results in a long-term Value Creation.

Rank /151	Country	Score	Rank /151	Country	Score	Rank /151	Country	Score
1	**Japan**	**77.3**	51	Bolivia	56.2	101	Uzbekistan	41.9
2	**France**	**77.1**	52	North Macedonia	55.9	102	Tunisia	41.8
3	**Finland**	**76.4**	53	Dominican Republic	55.6	103	Tanzania	41.3
4	**Netherlands**	**74.7**	54	Peru	55.1	104	Tajikistan	40.5
5	**Canada**	**74.1**	55	Malaysia	54.9	105	Azerbaijan	40.4
6	**Israel**	**73.9**	56	Russian Federation	54.8	106	Malawi	40.4
7	**Sweden**	**73.9**	57	Guinea-Bissau	54.8	107	Kyrgyz Republic	39.7
8	**Ireland**	**73.8**	58	Qatar	54.6	108	Lesotho	39.7
9	**Denmark**	**73.6**	59	Saudi Arabia	54.4	109	Mongolia	39.2
10	**Switzerland**	**73.2**	60	Albania	54.3	110	Algeria	39.0
11	Belgium	73.2	61	Mauritius	54.1	111	Liberia	38.8
12	Germany	72.9	62	Belarus	53.6	112	Myanmar	38.8
13	Portugal	72.9	63	Honduras	53.6	113	Botswana	38.5
14	Austria	72.5	64	Ecuador	53.2	114	Libya	38.3
15	United Kingdom	72.3	65	Trinidad and Tobago	52.9	115	Benin	38.1
16	Slovenia	70.2	66	Nepal	52.7	116	Iran, Islamic Rep.	38.0
17	Costa Rica	70.1	67	Gabon	52.3	117	Papua New Guinea	37.9
17	Bulgaria	68.7	68	Armenia	51.9	118	Zambia	37.9
19	Singapore	68.6	69	Zimbabwe	51.3	119	Mauritania	37.8
20	United States	68.3	70	Moldova	51.0	120	Senegal	37.5
21	Norway	68.1	71	Cuba	50.9	121	Lao PDR	36.1
22	Italy	67.9	72	Georgia	50.6	122	Burkina Faso	36.1
23	Spain	67.6	73	Bahrain	49.9	123	Ethiopia	35.8
24	Czech Republic	67.0	74	Gambia, The	49.9	124	Pakistan	35.4
25	Poland	67.0	75	Central African Republic	49.6	125	Turkmenistan	35.3
26	Cyprus	65.8	76	Paraguay	49.3	126	Indonesia	35.2
27	United Arab Emirates	65.7	77	Congo, Rep.	49.1	127	Rwanda	35.2
28	Greece	65.5	78	South Africa	48.9	128	Thailand	35.0
29	Korea, Rep.	65.3	79	Kenya	48.8	129	Ghana	34.2
30	Australia	64.4	80	Bosnia and Herzegovina	48.3	130	Mali	34.2
31	New Zealand	63.7	81	Oman	48.2	131	Togo	33.4
32	Chile	63.7	82	Timor-Leste	48.0	132	Iraq	32.9
33	Argentina	63.4	83	Lebanon	48.0	133	Guinea	32.4
34	China	63.1	84	Ukraine	47.9	134	Egypt, Arab Rep.	31.2
35	Hungary	62.7	85	Equatorial Guinea	47.9	135	Sudan	30.6
36	Slovak Republic	62.2	86	Kuwait	47.5	136	Burundi	30.3
37	Romania	61.9	87	Serbia	47.2	137	Côte d'Ivoire	30.1
38	El Salvador	61.8	88	Vietnam	47.1	138	Venezuela, RB	29.8
39	Namibia	61.4	88	Philippines	46.9	139	Mozambique	29.7
40	Turkey	60.9	90	Eswatini	46.9	140	Nigeria	28.3
41	Brazil	60.7	91	Jordan	46.8	141	Niger	28.2
42	Panama	60.4	92	Sri Lanka	46.8	142	Haiti	27.4
43	Croatia	60.1	93	Colombia	46.7	143	Uganda	25.6
44	Estonia	59.1	94	India	46.5	144	Cameroon	25.6
45	Mexico	58.4	95	Guatemala	45.3	145	Congo, Dem. Rep.	24.8
46	Uruguay	58.3	95	Afghanistan	44.7	146	Angola	24.1
47	Latvia	57.9	97	Morocco	43.7	147	Sierra Leone	20.6
48	Jamaica	57.2	98	Bangladesh	43.2	148	Chad	20.3
49	Lithuania	56.9	99	Cambodia	42.4	149	Yemen, Rep.	20.2
50	Kazakhstan	56.8	100	Nicaragua	42.1	150	Madagascar	19.7
						151	Syrian Arab Republic	19.6

The Elite Quality Report 2023 (EQx2023) provides Country Scores and Global Rankings for 151 countries
@Foundation for Value Creation 2023