

# Key findings from the Energy Transition Index 2018

The energy transition framework and the index support a call to action for policy-makers, businesses and society to improve the quality of life for their people by creating an enabling environment for effective energy transition. The three major findings from the Energy Transition Index are:

1. **Over the last five years, more than 80% of countries improved their energy systems, but further effort is needed to resolve the world’s energy-related challenges.**
  - Current performance and recent improvement in environmental sustainability have done the least well of the three triangle dimensions. Particle emissions worsened for more than 50% of countries, carbon intensity stayed flat and energy productivity improved by 1.8% per annum (p.a.), falling short of 3%, believed to be required to meet the Paris Agreement.<sup>1</sup>
  - Security and access remains the area with the biggest gap between top- and bottom-performing countries. Almost all countries without total electricity access have seen progress. However, the absolute number of people without access still exceeds 1 billion people globally.<sup>2</sup>
  - Household electricity prices have been rising in real terms since 2013 in more than half of countries globally,<sup>3</sup> despite overall decreasing primary fuel prices. Such developments increase pressures to improve affordability of energy.
2. **Countries can prepare for future progress by establishing favourable conditions for energy system stakeholders, by targeting improvement across all three triangle dimensions and by pursuing improvement levers with synergistic impact across the system.**
  - The presence of enablers (transition readiness in the ETI) is a strong indicator for the increased performance of countries’ energy systems. The countries with the highest readiness scores are leading the performance ranking. Without these enablers in place, countries’ performance would be average at best. Since transition readiness is multidimensional, countries need to establish favourable conditions across all six readiness dimensions to fully capture the opportunities from the energy transition.
  - Countries that have not pursued a balanced approach to improve the energy triangle across its three imperatives showed below-average performance improvements across all dimensions. On the other hand, countries that managed to develop high performance levels show more balanced improvement across the three dimensions.
  - The removal of fossil fuel subsidies and the reduction of energy intensity are important improvement levers as they showed synergistic impact on other dimensions of the energy triangle. Countries with progress in these two dimensions showed overproportionate improvement on the other dimensions across the energy triangle.
3. **Countries follow different transition pathways and need to develop country-specific roadmaps; comparative analysis among peers can highlight opportunities to improve such roadmaps.**
  - Countries with high performance and the majority of enablers in place (leading countries) have led the improvement in environmental sustainability, while countries with relatively low performance or readiness managed to narrow the gap in security and access, and economic development and growth.
  - Countries are encouraged to benchmark themselves against comparable peer groups (e.g. geographies, development status, energy trade balance) to identify good practice examples and develop suitable improvement levers, applicable for their circumstances.
  - For example, energy importing economies showed higher transition readiness levels and also benefitted more from lower energy prices over the last five years. Of these countries, some with lower performance levels managed to establish a working ecosystem of enablers, including strong regulations, infrastructure and an innovative business environment, which allowed them to attract investment for future improvements, e.g. China or Kenya.

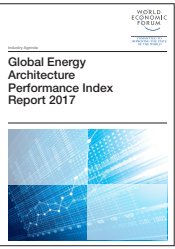
# Recent reports from the World Economic Forum System Initiative on Shaping the Future of Energy

The System Initiative on Shaping the Future of Energy aims to accelerate the development of effective policies, private-sector actions and public-private collaboration for an inclusive, affordable, sustainable and secure energy future essential for economic and social development. The complexity of energy transition requires a systemic perspective and the mobilization of multistakeholder actions. The following reports summarize the Forum’s perspective on other complementary dimensions of energy transition.



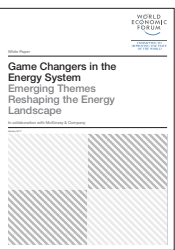
## Partnering to Accelerate Sustainable Energy Innovation

The implementation of new bold ideas and the replication of good practices are essential for faster innovation in sustainable energy. This report highlights barriers in the innovation process and offers recommendations for step changes to accelerate innovation in a wider set of sustainable energy technologies.



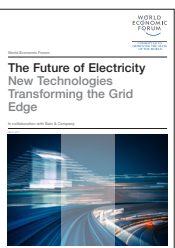
## Global Energy Architecture Performance Index Report 2017

This fifth annual edition of the global Energy Architecture Performance Index (EAPI) examines the progress of the global energy transition – that of moving towards more sustainable, affordable and secure energy systems – by benchmarking the energy systems of 127 countries.



## Game Changers in the Energy System – Emerging Themes Reshaping the Energy Landscape

This report offers a structured perspective of potential game changers in the next 10 to 20 years in the energy system, which can have step-change implications for different stakeholder groups.



## The Future of Electricity – New Technologies Transforming the Grid Edge

The main trends affecting the electricity system are decentralization, digitalization and electrification. This report offers recommendations to accelerate the deployment of these grid edge technologies and effectively realize their economic and social benefits.

## Acknowledgements

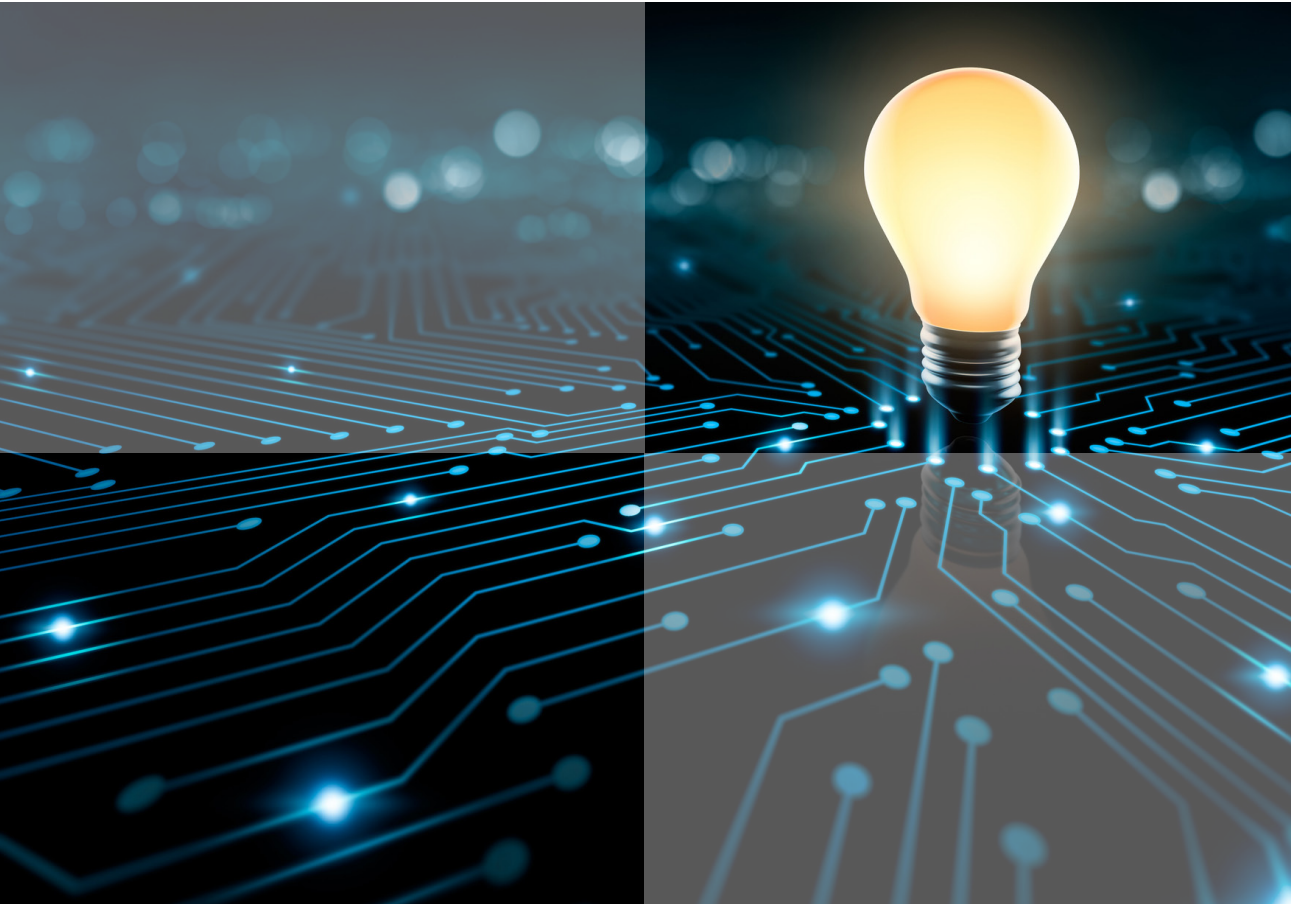
The World Economic Forum Energy Transition Index was prepared with analytical support from McKinsey & Company, input from the Forum’s industry communities from Electricity, and Oil & Gas, and government and civil society constituents from the energy sector. The team would like to thank the chief expert advisers involved in this report: Dominic Emery, Vice-President, Long-Term Planning, BP; David Victor, Professor, University of California, San Diego (UCSD); Lin Boqiang, Dean, China Institute for Studies in Energy Policy, Xiamen University; David Turk, Head, Energy and Climate Division, International Energy Agency; Rigoberto Ariel Yépez-García, Chief, Energy Division, Inter-American Development Bank; Davide Puglielli, Senior Manager, Strategy and Mergers and Acquisitions, Enel; Bertrand Magne, Senior Economist and Energy Specialist, SEforALL; Morgan Bazilian, Lead Energy Specialist, World Bank; and Eirik Waerness, Senior Vice-President and Chief Economist, Statoil. Thanks also go to the Climate Action Tracker, Fitch Ratings, Heritage Foundation, International Energy Agency, International Gas Union, International Monetary Fund, International Renewable Energy Agency, Moody’s, PBL Netherlands Environmental Assessment Agency, Standard & Poor’s, Transparency International, UN SEforALL, the UN Statistics Division and UNCTADstat, World Bank Group and the World Trade Organization as data contributors.



## Industry Agenda

# Fostering Effective Energy Transition

# Energy Transition Index 2018

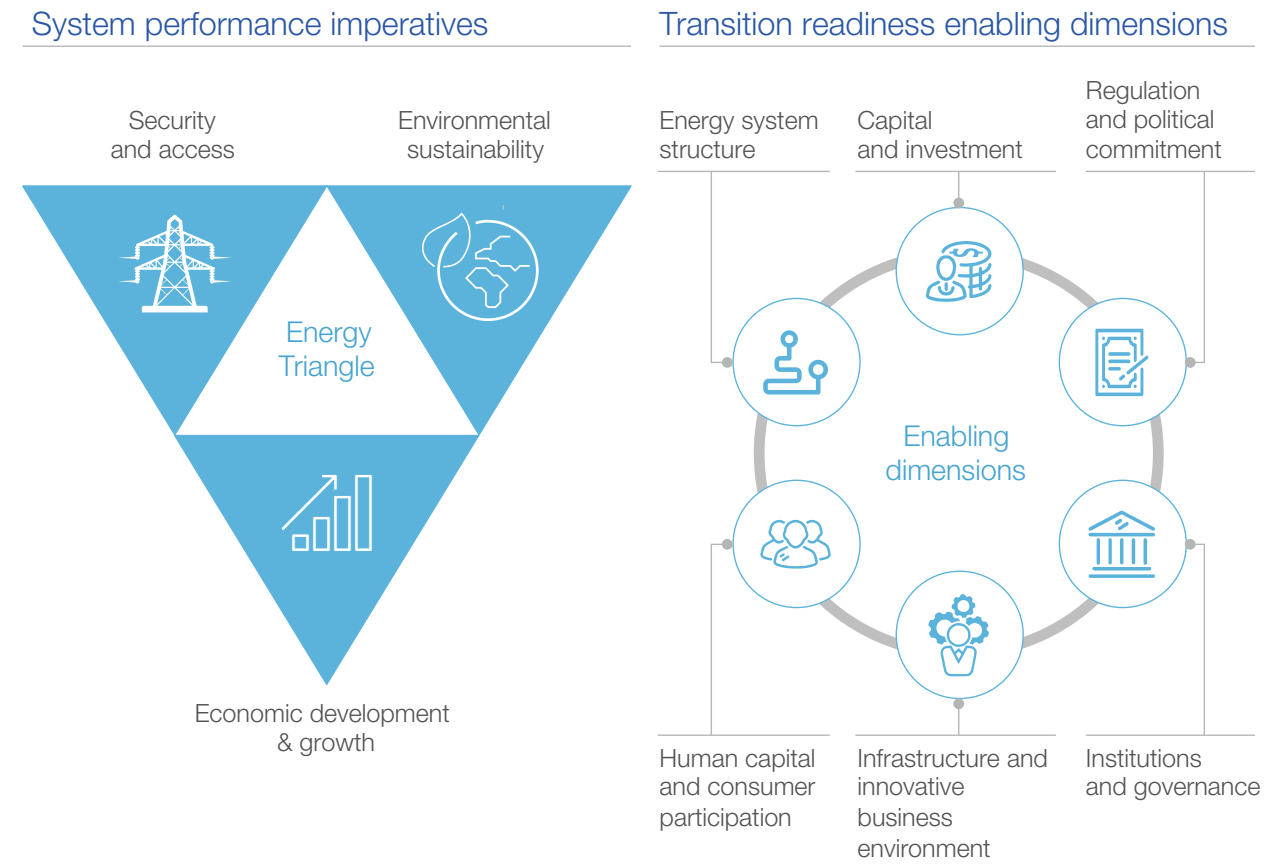


# About the Energy Transition Index

This index attempts to create a fact-based framework that lends transparency to the energy transition debate by benchmarking countries’ energy system performance across three key priorities: energy access and security, environmental sustainability, and economic development and growth.

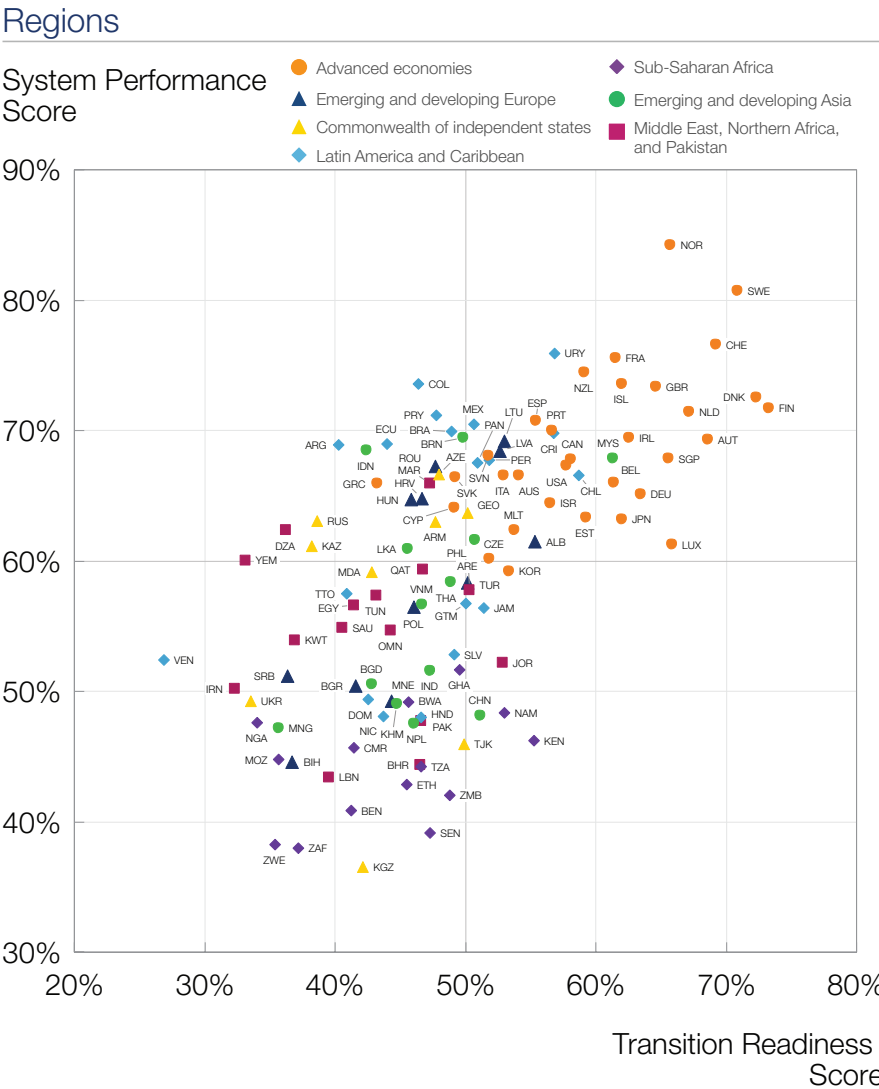
Additionally, taking a forward-looking perspective, the index identifies a set of systemic enablers that need to be aligned to improve countries’ readiness for a transition towards a future energy system that is secure, affordable, inclusive and reliable. The index highlights countries’ comparative strengths and improvement areas, and allows stakeholders to compare countries’ relative system performance and transition readiness, and identify policy-making priorities as well as opportunities and threats to business.

Further information on the methodology behind the Energy Transition Index can be found in the methodological addendum in this report.

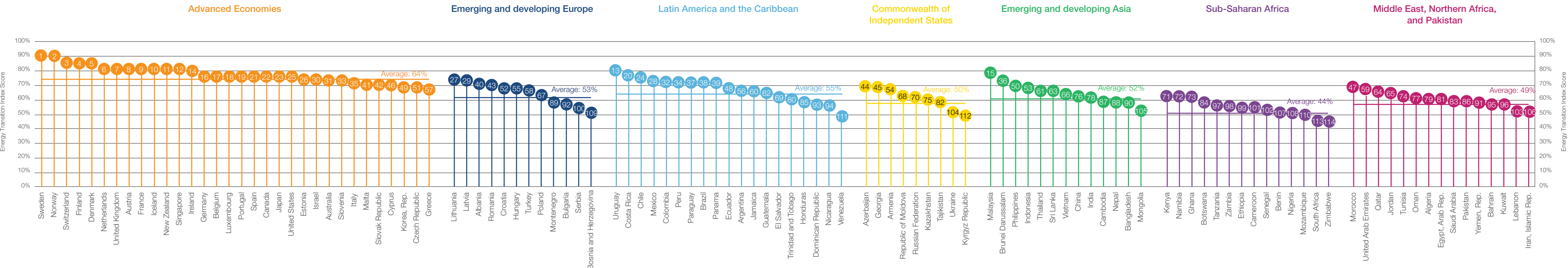




Performance/Readiness Matrix



Regional Rankings



Energy Transition Index 2018 World Map

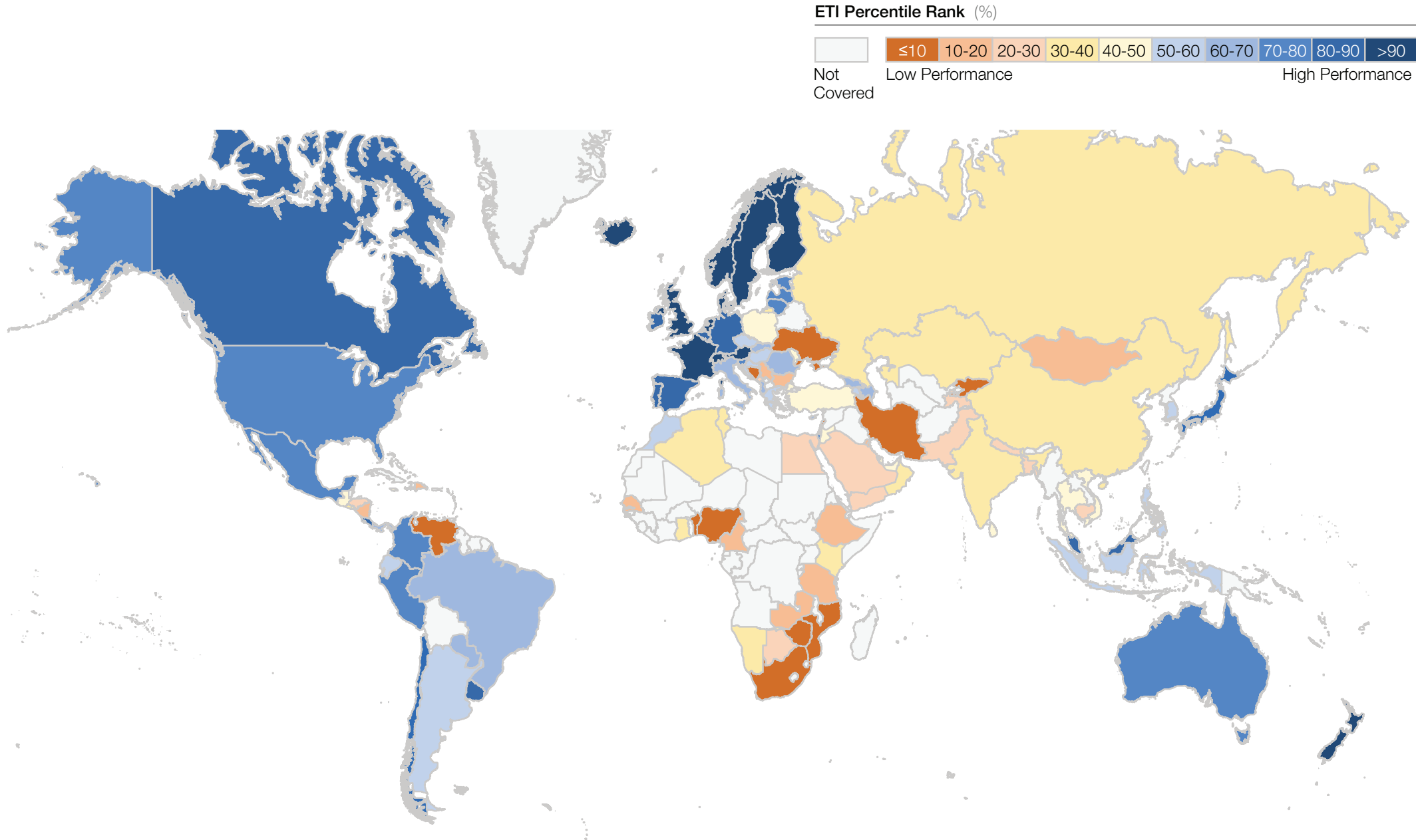


Table of Rankings

Country name	2018 ETI score <sup>1</sup>	System Performance	Transition Readiness
Sweden	76%	81%	71%
Norway	75%	84%	66%
Switzerland	73%	77%	69%
Finland	72%	72%	73%
Denmark	72%	73%	72%
Netherlands	69%	71%	67%
United Kingdom	69%	73%	65%
Austria	69%	69%	69%
France	69%	76%	61%
Iceland	68%	74%	62%
New Zealand	67%	74%	59%
Singapore	67%	68%	66%
Uruguay	66%	76%	57%
Ireland	66%	69%	63%
Malaysia	65%	68%	61%
Germany	64%	65%	63%
Belgium	64%	66%	61%
Luxembourg	64%	61%	66%
Portugal	63%	70%	57%
Costa Rica	63%	70%	57%
Spain	63%	71%	55%
Canada	63%	68%	58%
Japan	63%	63%	62%
Chile	63%	67%	59%
United States	63%	67%	58%
Estonia	61%	63%	59%
Lithuania	61%	69%	53%
Mexico	61%	71%	51%
Latvia	61%	68%	53%
Israel	60%	64%	56%
Australia	60%	67%	54%
Colombia	60%	74%	46%
Slovenia	60%	68%	52%
Peru	60%	68%	52%
Italy	60%	67%	53%
Brunei Darussalam	60%	69%	50%
Paraguay	59%	71%	48%
Brazil	59%	70%	49%
Panama	59%	68%	51%
Albania	58%	61%	55%
Malta	58%	62%	54%
Slovak Republic	58%	66%	49%
Romania	57%	67%	48%
Azerbaijan	57%	67%	48%
Georgia	57%	64%	50%
Cyprus	57%	64%	49%
Morocco	57%	66%	47%
Ecuador	56%	69%	44%
Korea, Rep.	56%	59%	53%
Philippines	56%	62%	51%
Czech Republic	56%	60%	52%
Croatia	56%	65%	47%
Indonesia	55%	69%	42%
Armenia	55%	63%	48%
Hungary	55%	65%	46%
Argentina	55%	69%	40%
Greece	55%	66%	43%
Turkey	54%	58%	50%
United Arab Emirates	54%	58%	50%
Jamaica	54%	56%	51%
Thailand	54%	58%	49%
Guatemala	53%	57%	50%
Sri Lanka	53%	61%	46%
Qatar	53%	59%	47%
Jordan	53%	52%	53%
Vietnam	52%	57%	47%
Poland	51%	56%	46%
Republic of Moldova	51%	59%	43%
El Salvador	51%	53%	49%
Russian Federation	51%	63%	39%
Kenya	51%	46%	55%
Namibia	51%	48%	53%
Ghana	51%	52%	50%
Tunisia	50%	57%	43%
Kazakhstan	50%	61%	38%
China	50%	48%	51%
Oman	49%	55%	44%
India	49%	52%	47%
Algeria	49%	62%	36%
Trinidad and Tobago	49%	58%	41%
Egypt, Arab Rep.	49%	57%	41%
Tajikistan	48%	46%	50%
Saudi Arabia	48%	55%	41%
Botswana	47%	49%	46%
Honduras	47%	48%	47%
Pakistan	47%	48%	47%
Cambodia	47%	49%	45%
Nepal	47%	47%	46%
Montenegro	47%	49%	44%
Bangladesh	47%	51%	43%
Yemen, Rep.	46%	60%	33%
Bulgaria	46%	50%	42%
Serbia	44%	51%	36%
Cameroon	44%	46%	41%
Senegal	43%	39%	47%
Lebanon	41%	43%	39%
Ukraine	41%	49%	34%
Mongolia	41%	47%	36%
Iran, Islamic Rep.	41%	50%	32%
Benin	41%	41%	41%
Nigeria	41%	48%	34%
Bosnia and Herzegovina	41%	44%	37%
Mozambique	40%	45%	36%
Venezuela	40%	52%	27%
Kyrgyz Republic	39%	37%	42%
South Africa	38%	38%	37%
Zimbabwe	37%	38%	35%

Notes: For the ETI 2018 methodology, see the methodology addendum at the end of this report. Country scores are rounded to full PPT, but exact figures are used to determine rankings. Therefore, countries with the same ETI scores may have different rankings.

<sup>1</sup> ETI 2018 score on a scale from 0% to 100%