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Renewable Energy Performance Index 2023

December 2023

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**PIONEERING THE FUTURE OF
RENEWABLE ENERGY**

INNOVATIVE RENEWABLE ENERGY SOLUTIONS AND GRID BALANCING

Overview

Exaum and Coincub are proud to announce the release of the first Renewable Energy Performance Index 2023, a comprehensive research designed to guide the industry and startups working in renewable energy on their path to internationalization.

- Europe showcased exceptional performance by securing the top 10 positions in the Index. Countries like Denmark (Rank 1, Score 0.78) and Germany (Rank 5, Score 0.56) lead in solar and wind energy even as the region grappled with a notable decrease in renewable energy production last year, exacerbated by the energy crisis brought on by the war in Ukraine.
- United States: Ranked 21st (Score 0.37), the US shows a mixed approach to renewable energy, with states like Vermont reaching 99.7% renewable energy generation. However, states like West Virginia and Delaware lag with less than 10% renewable energy usage.
- China: Despite being a leader in the size of green energy generation, China (ranked 23rd) also holds the title of the world's biggest polluter. Its CO2 emissions skyrocketed from 489 million tonnes in 1965 to an overwhelming 10,550 million in 2022.

Full Index: <https://coincub.com/ranking/renewable-energy-performance-index-2023/>

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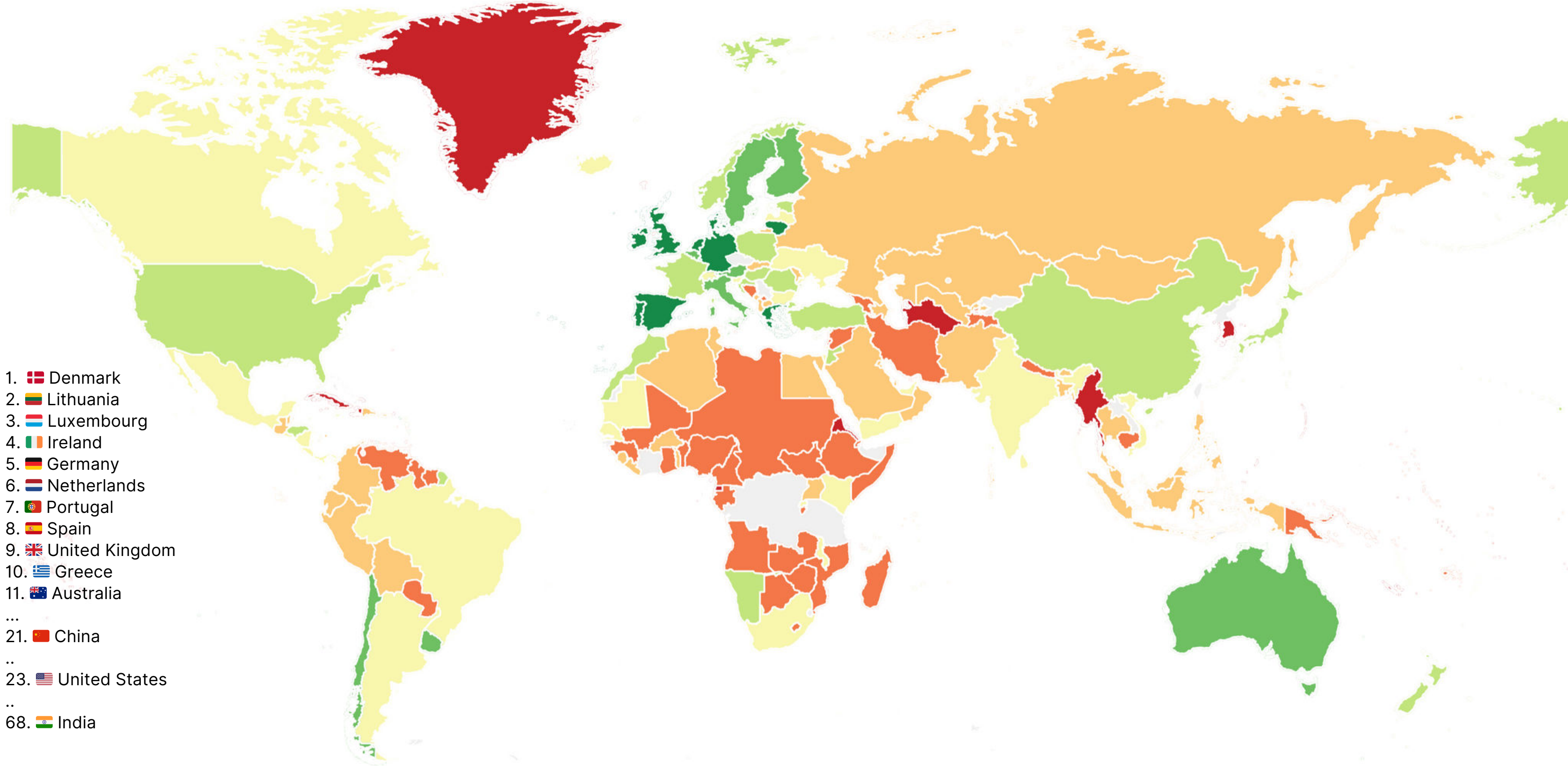
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Performance Index **Map**

The Global Renewable Energy Performance Index 2023

Denmark leads, Europe stands out, China 21st, USA 23rd, and India at 68th place

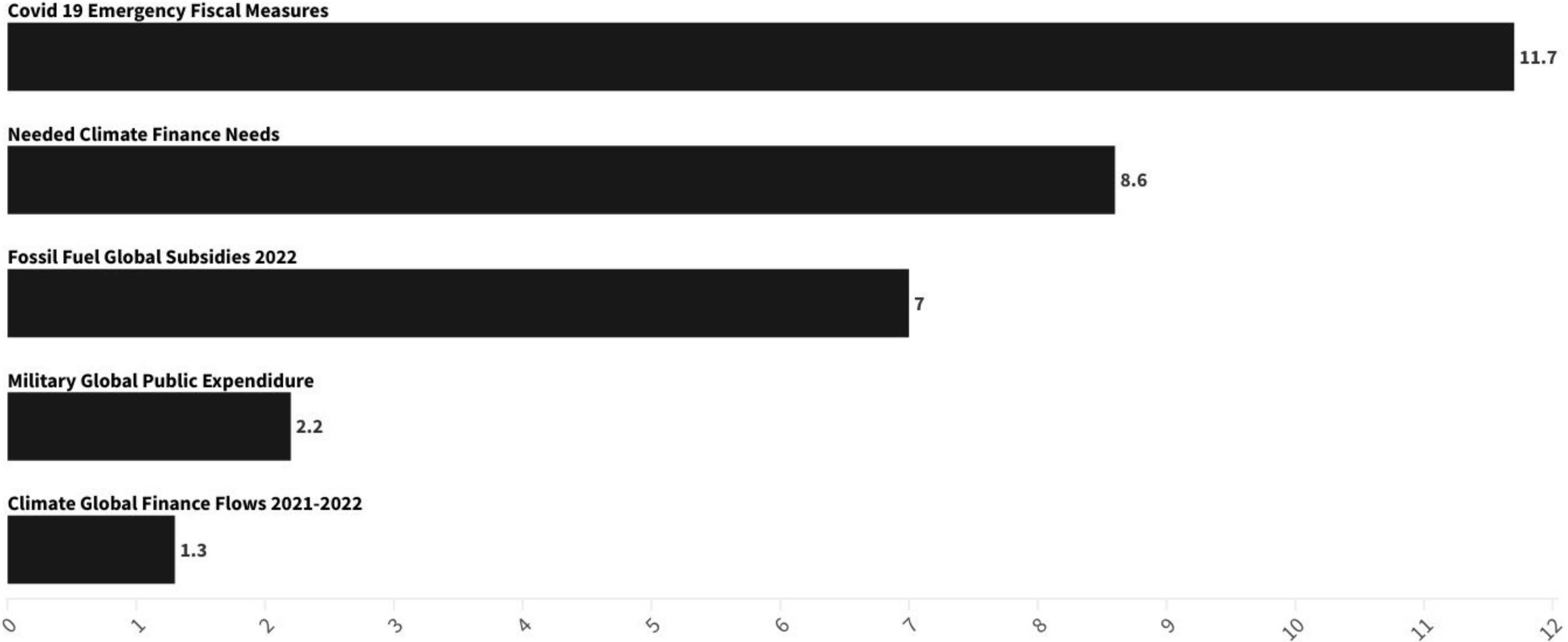


- 1. 🇩🇰 Denmark
- 2. 🇱🇹 Lithuania
- 3. 🇱🇺 Luxembourg
- 4. 🇮🇪 Ireland
- 5. 🇩🇪 Germany
- 6. 🇳🇱 Netherlands
- 7. 🇵🇹 Portugal
- 8. 🇪🇸 Spain
- 9. 🇬🇧 United Kingdom
- 10. 🇬🇷 Greece
- 11. 🇦🇺 Australia
- ...
- 21. 🇨🇳 China
- ..
- 23. 🇺🇸 United States
- ..
- 68. 🇮🇳 India

Challenges in Green Energy **Financing**

Climate Finance in Context

■ Trillion USD



Source: Climate Policy Initiative

Target Against Fair Share

Yearly Financial Investment Needed to Limit Warming to 1.5°C

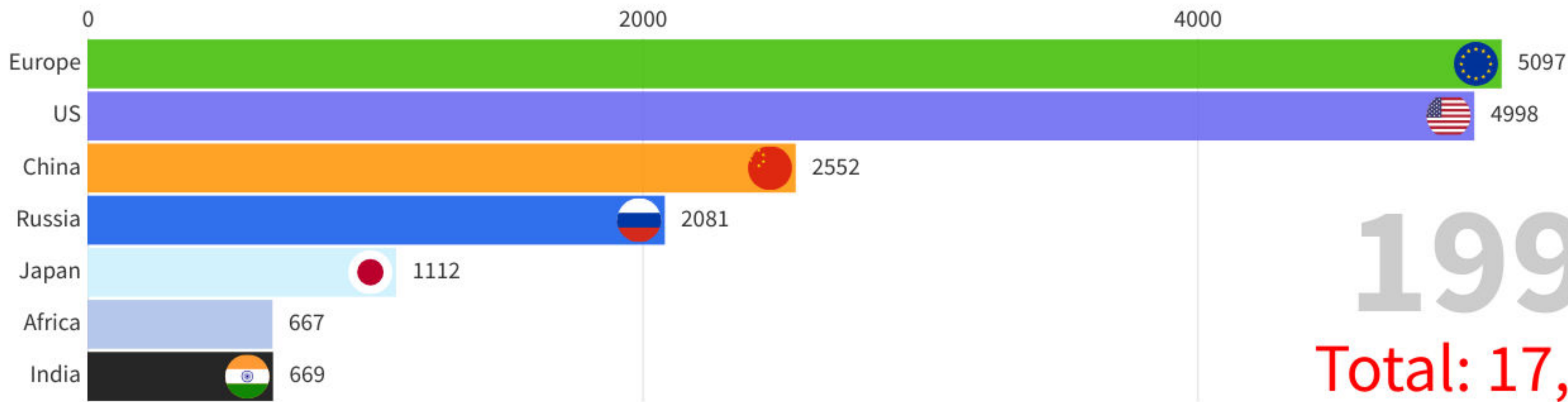
■ Investment size in USD Billions ■ Still needed to meet the yearly target (Global/GDP)



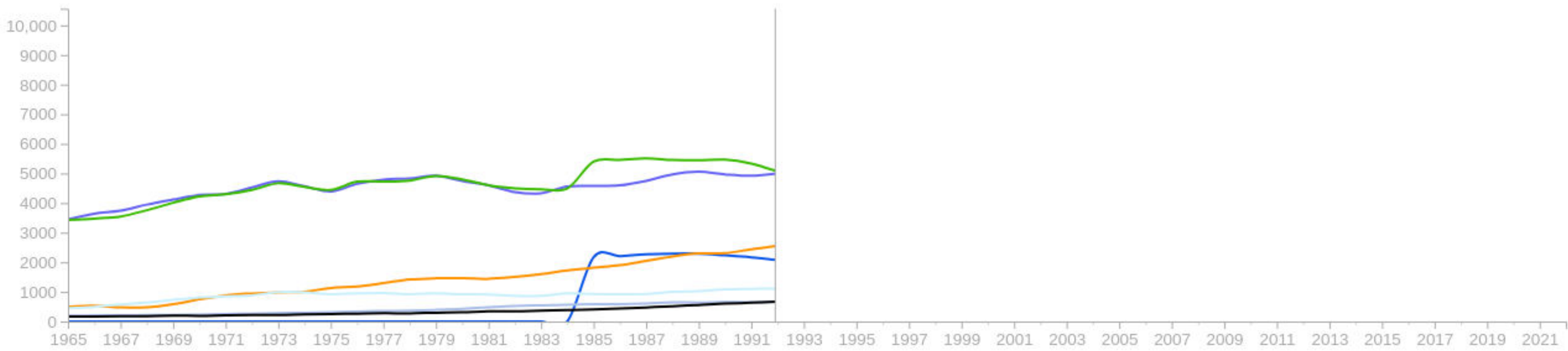
Source: Climate Action Tracker

Energy Consumption and CO2 Emissions

Global CO2 emissions from fossil fuels



1991
Total: 17,176



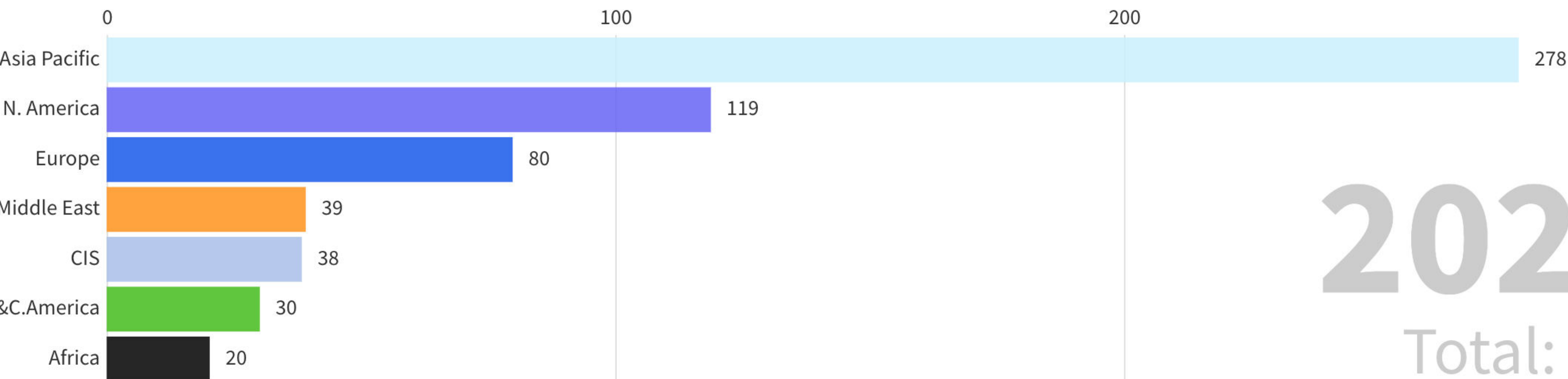
Source: BP

Energy Consumption

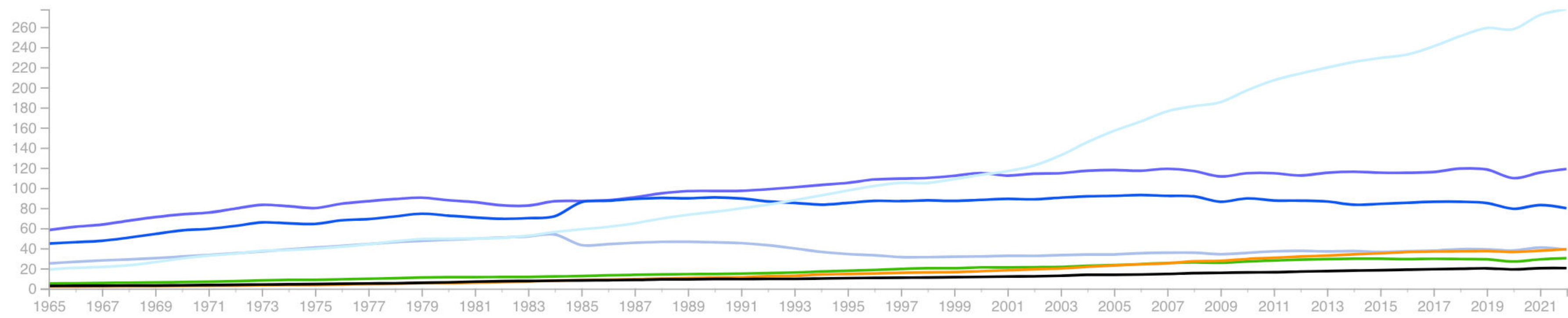
Total in Exajoules

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N. America S.&C.America Europe CIS Middle East Africa Asia Pacific



2022
Total: 604

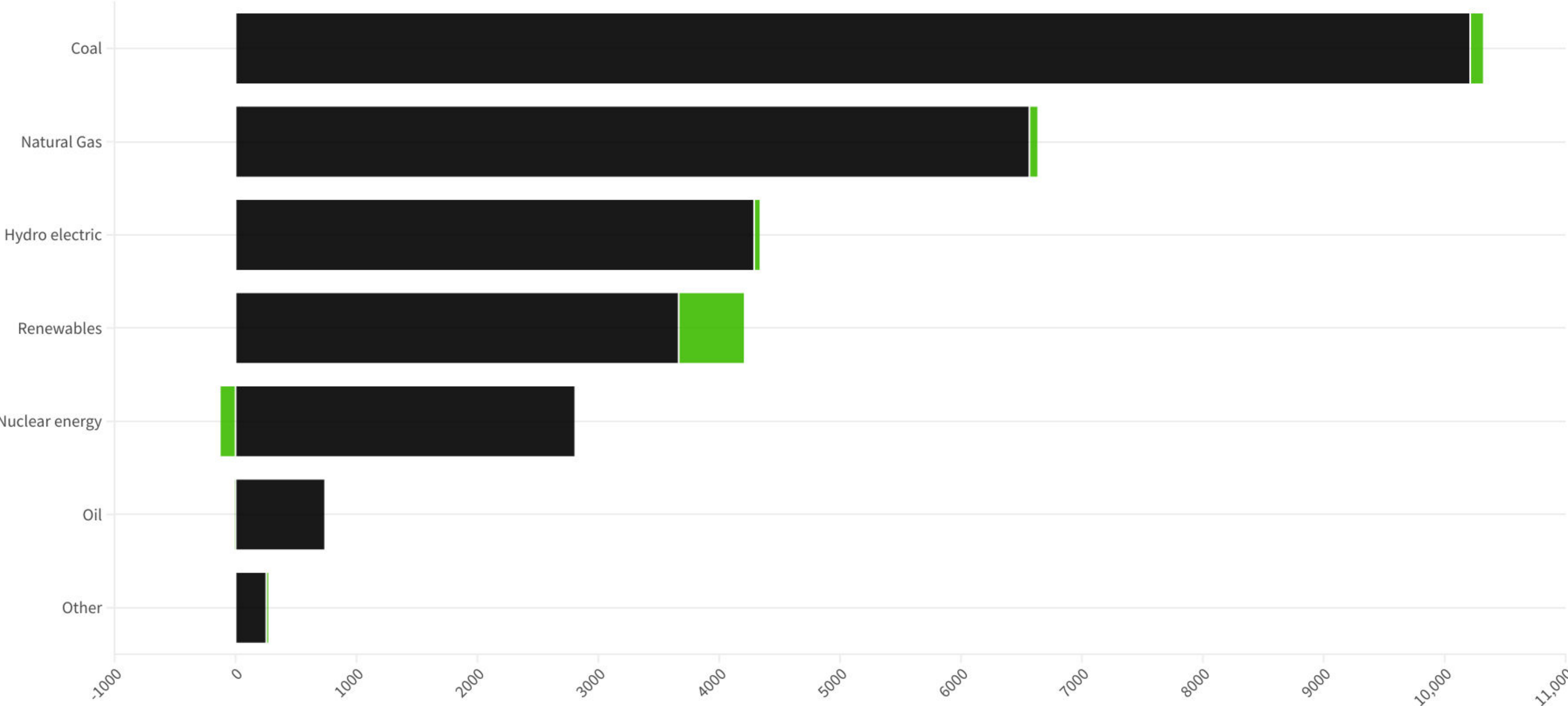


Source: BP

Electricity generation by fuel in 2022

Terawatt-hours

2021 2022



Source: BP

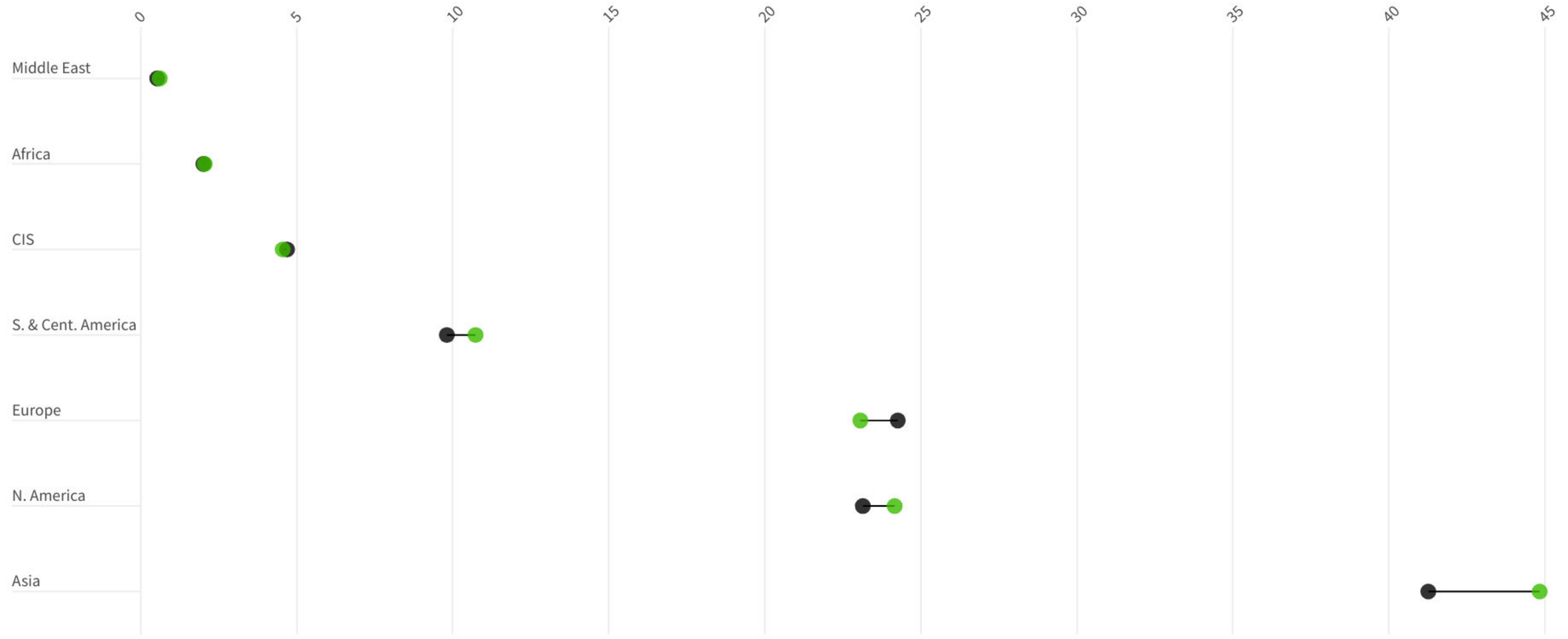
Nuclear, Hydro and Renewables

Europe and CIS regions contracted in 2022

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Year ● 2021 ● 2022

Nuclear, Hydro and Renewables, in Exajoules

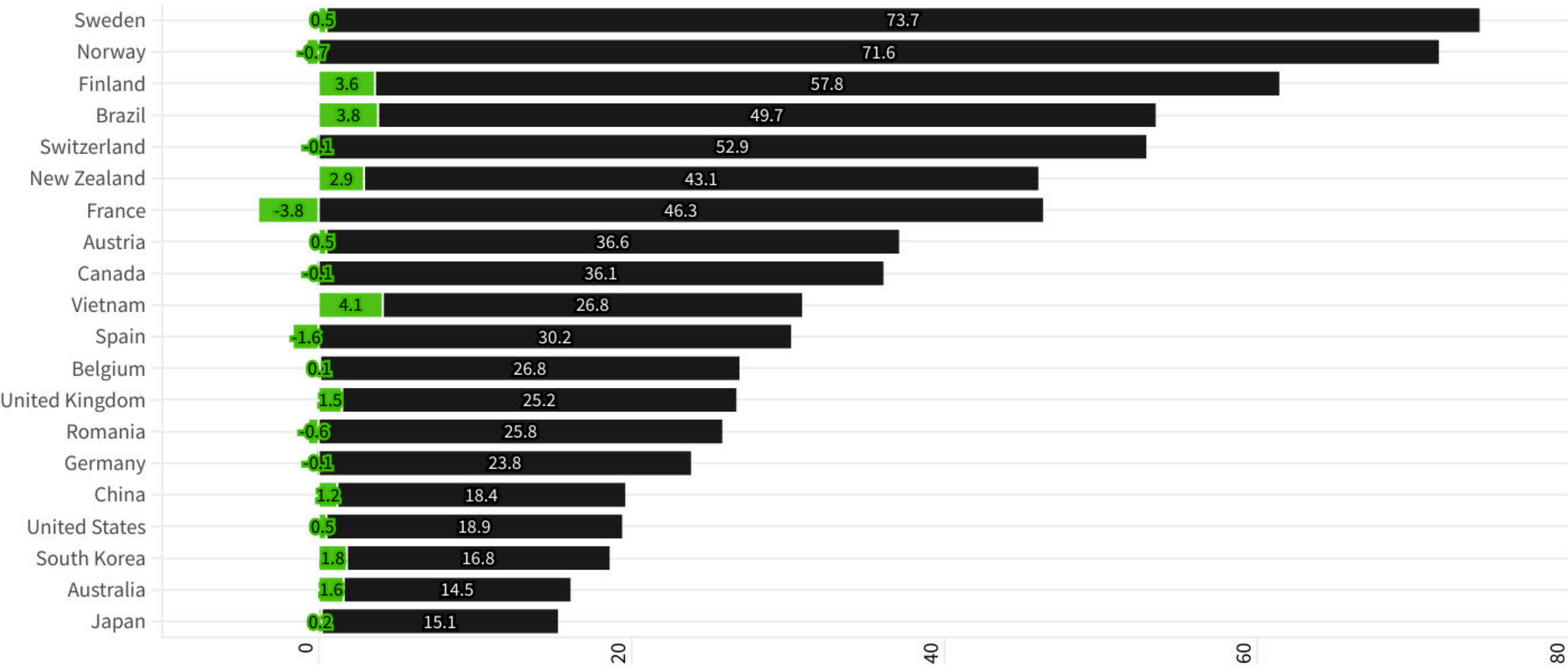


Source: BP

2022 Consumption of Green Energy %

Includes Renewables, Hydro, Biofuels and Nuclear

2022 2021

















Source: BP

U.S. Green Energy

List of U.S. 🇺🇸 states by electricity production from renewable sources

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State	Total generation(TWh)	Renewable generation(TWh)	% of US Renewables	CO ₂ Mt/TWh	Green Fossil Fuel	Population
Vermont	2.10	2.10	0.13	5.00		
South Dakota	17.30	14.30	0.90	145.00		
Washington	110.80	90.80	5.71	100.00		
New Hampshire	17.20	12.30	0.77	131.00		
Idaho	16.80	11.80	0.74	153.00		
Maine	10.90	7.20	0.45	210.00		
Oregon	61.00	39.70	2.50	143.00		



Seeking 1.5 million euros
of seed funding for
scaling.

Exaum
Renewable Energy Performance Index
2023

Message from Henri Yoki

Exaum stands at the forefront in the evolving energy landscape, challenging conventional categories in the energy sector. Traditionally segmented into Generators, Transmission, Storage, and Consumers, the energy industry is now witnessing a transformative phase. At Exaum, we transcend these traditional roles, focusing on grid balancing with our innovative approach. This emergent need in the energy sector, particularly with the rise of renewable sources, calls for a new category; Balancing – one that we at Exaum are pioneering.

With the current ranking, we aim to encourage the industry to look forward at the massive opportunities lying ahead and to focus on the right geographies in their internationalization.

Henri Yoki
CEO and Founder of Exaum

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