

20 Countries with the Highest Resource Consumption in the World

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In this article:

[RIO -4.63%](#)

In this piece, we will look at 20 Countries with the Highest Resource Consumption in the World. You can skip our detailed discussion on the issue of scarcity of global resources, and go directly to **[5 Countries with the Highest Resource Consumption in the World](#)**.

As we look at the world population reaching 10 billion by 2050, already surpassing 8 billion by the end of 2022, our planet feels an increasing strain on its resources. This rapid population growth is set to result in a 70% surge in the food demand by 2050 from the demand level in 2017. In the past twenty years, population growth has had a 27% contribution to the growth rate of resource extraction, according to *UNEP*.

As such, resource use has grown threefold in the past 50 years and is currently increasing at a rate of over 2.3% per year, according to *Global Footprint Network*. The outcome? Drastic climate changes, increasing animal extinctions, water scarcity, and drought.

As reported by Insider Monkey in other articles, two billion people (26% of the global population) in the world don't have access to clean water, while 10% of global water is lost as waste every year. For a detailed discussion on the inaccessibility to clean water across the globe, and the wastage of water, you can go and see **[25 Countries with the Least Access to Safe Drinking Water](#)** and **[15 Countries That Waste the Most Water](#)**.

Thus, the finite nature of the planet and its resources coupled with a growing population and demand calls upon actions for sustainability in global resource use.

The implications extend beyond just resource scarcity. According to Professor Usha Haley of West Virginia University, major conflicts over the accessibility of basic resources such as water and food could erupt, potentially leading countries into a fight for survival. This can be seen through the findings that resource extraction has tripled in the past 50 years, and as a result, it has contributed to 90% of the global water stress, as reported in our article -- **[20 Most Important Companies in the World](#)** -- discussing the global resource constraint.

As noted by *The World Counts*, the earth's ecosystem's consumption far exceeds its regenerative capacity and will continue to grow by a worrisome 75% by 2050; given that this trend continues, we could require two planets to meet our consumption level. Moreover, it's

hard to imagine that despite such resource scarcity and unsustainable consumption, half of the food produced is either wasted or lost as reported in our article -- **20 Countries That Waste the Most Food** -- addressing food wastage across the globe.

READ ALSO: Top 25 Countries with the Highest Oil Consumption in the World & 20 Countries With Most Carbon Dioxide Emissions Per Capita.

Technology's Role in Making Resource Consumption Sustainable

Turning to technology's role in sustainable resource management, we can see it playing a major role in making resource consumption efficient and sustainable presently and in the future too.

However, it also contributes to climate issues. According to a 2019 shift project study, the digital carbon footprint that is emitted through technology had a share of 4% in the global greenhouse gas emissions.

Nevertheless, researchers are optimistic about technology's positive role in accelerating eco-friendly resource usage. They believe technology, especially Artificial Intelligence (AI) and green tech, can save the planet. They expect a great deal from AI's predictive capabilities which are quite promising as they can enable more efficient resource utilization by optimizing energy grids, improving infrastructure planning, and enhancing disaster responses.

Furthermore, AI can help enhance research in green technologies which, in turn, can potentially help develop early detection systems for climate change. Other applications of green technologies include efficient carbon capture and storage which can help reduce emissions.

Can Technology Enable Eco-Friendly Mining?

As such, mining is one sector that needs to bring its environmental impact down. Excessive mining across the globe has dried up the reserves; particularly, in European mines, ore grades have been declining meaning that more energy is consumed to extract the same amount of metals. As a result, Tech Resources, a mining company, reported a 35% increase in copper unit costs since 2019 and a 33% increase in zinc unit costs.

Therefore, the mining industry is striving towards eco-friendly extraction of resources. Real-time environmental monitoring is possible through the integration of smart sensors and Internet of Things (IoT) technology. This enables monitoring of toxic gas emissions and water contamination. This means that environmental issues are identified and addressed as they occur. Moreover, cloud-based platforms have also enhanced data storage and analysis capabilities, enabling real-time decision-making, which will minimize environmental impact and enhance operational efficiency.

Companies Striving Towards Sustainable Resource Use

Entities like BaniQL and SiTraction have emerged in recent times to drive the world to better use of resources. BaniQL is striving towards technologies to drive down water, energy, and chemical use in the mining sector. It produces nickel from metal waste, while also making lower-grade nickel through a process that applies less heat. For the said purpose, the startup secured funding of \$1.6 million in May 2024 to start its operations in Indonesia.

Every ton of copper extracted leaves behind roughly 100-150 tons of waste, and this is where SiTraction comes into play; it makes silicon-based filters which it uses to manage the waste from copper extraction and cuts down the need for chemicals for applying heat in metal refining by 95%.

Furthermore, the big giants of the mining industry also look forward to bringing sustainability to their mining operations. Namely, in May 2024, Rio Tinto Group (NYSE:RIO) and BHP Group Limited (NYSE:BHP) collaborated with Caterpillar and Komatsu in the hope of bringing into use electric and hybrid haul trucks in the Pilbara region in Australia, known for the extensive mineral deposits. Currently, both Rio Tinto Group (NYSE:RIO) and BHP Group Limited (NYSE:BHP) are planning to test out the trucks, and the related equipment to assess their feasibility. The outcome is expected to be a reduction in the reliance on diesel fuel which contributes heavily to greenhouse gas emissions.

Rio Tinto Group (NYSE:RIO) has also gotten into an agreement with Wartsila in June 2024, wherein the company will be using Wartsila's GEMS Digital Energy Platform that will optimize energy assets at QMM's (Rio Tinto's subsidiary) 24 MW power plant; this will mean reduced emissions, increased renewable energy use, and enhanced efficiency through the deployment of machine learning. Machine Learning (ML) achieves this by accurately predicting real-time energy requirements, optimizing the use of renewable energy sources, and reducing energy waste. Moreover, ML allows predictive maintenance which would mean that equipment is serviced before it runs out, extending the machinery's life and minimizing downtime, further contributing to eco-friendly resource extraction.

With this, let's now go and have a look at the 20 Countries with the Highest Resource Consumption in the World.

While we acknowledge the potential of RIO as an investment, our conviction lies in the belief that some AI stocks hold greater promise for delivering higher returns and doing so within a shorter time frame. If you are looking for an AI stock that is more promising than RIO but that trades at less than 5 times its earnings, check out our report about the **[cheapest AI stock](#)**.



20 Countries with the Highest Resource Consumption in the World

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Methodology

To curate our list of 20 Countries with the Highest Resource Consumption in the World, we made use of credible sources of the U.S. Energy Information Administration (EIA) and the Food and Agriculture Organization of the United Nations (FAO). We picked out countries' consumption of the following resources: Oil, natural gas, coal, electricity, biofuel, and water; oil consumption pertains to 2023, water consumption pertains to 2021, and the rest of the consumption figures pertain to 2022. Based on the respective resource consumption by each country, we normalized the data because of the varying units of measurement for different resources and added the overall consumption, and ranked on the basis of absolute consumption, although we've also mentioned their per capita consumption.

Thus, let's get on with our list of 20 Countries with the Highest Resource Consumption in the World.

At Insider Monkey we are obsessed with the stocks that hedge funds pile into. The reason is simple: our research has shown that we can outperform the market by imitating the top stock picks of the best hedge funds. Our quarterly newsletter's strategy selects 14 small-cap and

large-cap stocks every quarter and has returned 275% since May 2014, beating its benchmark by 150 percentage points ([see more details here](#)).

20. Malaysia

Oil Consumption of barrels per day in 2023 (in thousands): 930

Electricity Consumption (billion kWh): 181

Coal Consumption (short tons in thousands): 37,723

Natural Gas Consumption (billion cubic feet): 1,501

Biofuel Consumption of barrels per day (in thousands): 16

Annual Water Consumption (billion-meter cube): 5

Aggregate Resource Consumption: 40,143

Per capita consumption Score: 0.001

On our list of the 20 Countries with the Highest Resource Consumption in the World, we have a country that witnessed an 11.1% increase in oil consumption in 2023 from the prior year. Furthermore, it imported \$12.2 billion worth of oil in 2022 alone. To read more on this, go to [Top 25 Countries with the Highest Oil Consumption in the World](#).

However, the country is quite aware of the scarcity of natural resources. This can be seen through its requirement, according to which, sustainability practices' public disclosures need to be made by public-listed companies in their annual reports.

Furthermore, Malaysia's big companies like SD Guthrie Berhad, a palm oil producer, and Tenaga Nasional Berhad (TNB), the country's biggest electricity utility company, are making good use of AI technology. They are planning to deploy AI-powered energy management systems, and monitoring systems for plantations to prevent deforestation.

19. Serbia

Oil Consumption of barrels per day in 2023 (in thousands): 82

Electricity Consumption (billion kWh): 31

Coal Consumption (short tons in thousands): 40,824

Natural Gas Consumption (billion cubic feet): 104

Biofuel Consumption of barrels per day (in thousands): N/A

Annual Water Consumption (billion-meter cube): 5

Aggregate Resource Consumption: 41,046

Per capita consumption Score: 0.006

Serbia is next on our list of Countries with the Highest Resource Consumption in the World. The situation in the country is something to look at because the country is a mining hub. The investments that have rolled in the country have been massive: from \$131.5 million worth of investments in 2021, the number has increased to \$787.27 million in 2023.

The outcome is increasing waste and environmental damage. In the last three years, roughly speaking, a 150% increase in mining waste has been incurred, according to a report by *tmi*.

18. Philippines

Oil Consumption of barrels per day in 2023 (in thousands): 471

Electricity Consumption (billion kWh): 103

Coal Consumption (short tons in thousands): 40,828

Natural Gas Consumption (billion cubic feet): 80

Biofuel Consumption of barrels per day (in thousands): 3

Annual Water Consumption (billion-meter cube): 89

Aggregate Resource Consumption: 41,556

Per Capita Consumption Score: 0.0003

Next, we have the Philippines. It was reported in May 2024 that the country exchanged dialogue with the U.S. in which the country discussed its goals to capitalize on space technology to monitor its maritime awareness. They also discussed how to make use of various technologies for better predictions of weather and improvement of natural resource usage.

This demonstrates the country's active efforts to assess and improve the usage of the country's resources and its impact on the environment.

17. Czech Republic

Oil Consumption of barrels per day in 2023 (in thousands): 206

Electricity Consumption (billion kWh): 62

Coal Consumption (short tons in thousands): 42,144

Natural Gas Consumption (billion cubic feet): 268

Biofuel Consumption of barrels per day (in thousands): 8

Annual Water Consumption (billion-meter cube): 1

Aggregate Resource Consumption: 42,699

Per Capita Consumption Score: 0.004

Next in line on our list of the 20 Countries with the Highest Resource Consumption in the World is a country that despite having its gas storage facilities full, consumed the least quantity of natural gas in 2023 since 1994.

The YoY change in consumption was a decrease of 7%, which was a result of reduced dependence on natural gas to produce electricity, according to *AzerNews*.

16. Thailand

Oil Consumption of barrels per day in 2023 (in thousands): 1,221

Electricity Consumption (billion kWh): 200

Coal Consumption (short tons in thousands): 39,693

Natural Gas Consumption (billion cubic feet): 1,727

Biofuel Consumption of barrels per day (in thousands): 48

Annual Water Consumption (billion-meter cube): 57

Aggregate Resource Consumption: 42,973

Per Capita Consumption Score: 0.005

Thailand is a country that is dealing with the global resource consumption issue through its sustainable plans, such as Etix Everywhere's green energy project. In June 2024, the company installed solar power in its #1 data center in Bangkok, which produces 11% of the center's energy. It resulted in a reduction of CO2 emissions by 480 tons annually.

15. Taiwan

Oil Consumption of barrels per day in 2023 (in thousands): 840

Electricity Consumption (billion kWh): 274

Coal Consumption (short tons in thousands): 67,338

Natural Gas Consumption (billion cubic feet): 959

Biofuel Consumption of barrels per day (in thousands): 1

Annual Water Consumption (billion-meter cube): 16

Aggregate Resource Consumption: 69,610

Per Capita Consumption Score: 0.002

Next, we have Taiwan, which is 17th on the list of countries with most carbon dioxide emissions per capita. The per capita electricity consumption in Taiwan is three times the per capita consumption in the U.S. This could come off as surprising, especially when you consider that the U.S. GDP per capita is twice that of Taiwan.

However, the disproportionate energy consumption is most likely due to Taiwan's industry-intensiveness. The energy consumption in Taiwan is reported to be three times higher than the Asian average, as reported by the *Jamestown Foundation*.

14. Vietnam

Oil Consumption of barrels per day in 2023 (in thousands): 602

Electricity Consumption (billion kWh): 252

Coal Consumption (short tons in thousands): 90,459

Natural Gas Consumption (billion cubic feet): 271

Biofuel Consumption of barrels per day (in thousands): 3

Annual Water Consumption (billion-meter cube): 82

Aggregate Resource Consumption: 91,561

Per Capita Consumption Score: 0.0009

As of April 2024, the country is suffering from extreme resource scarcity amidst drought situations and saltwater intrusion in the Mekong River Delta. This has resulted in a clean water shortage for almost 74,000 households, according to *UNICEF*.

This demonstrates the country's vulnerability to climate change. Vietnam is ranked 9th on the list of the Top 20 Countries with Highest Water Consumption, with a water consumption of 82-billion-meter cubes as of 2020.

13. Kazakhstan

Oil Consumption of barrels per day in 2023 (in thousands): 349

Electricity Consumption (billion kWh): 108

Coal Consumption (short tons in thousands): 90,674

Natural Gas Consumption (billion cubic feet): 799

Biofuel Consumption of barrels per day (in thousands): -

Annual Water Consumption (billion-meter cube): 25

Aggregate Resource Consumption: 91,894

Per Capita Consumption Score: 0.004

Next, we have Kazakhstan on our list of the 20 Countries with the Highest Resource Consumption in the World.

The country has a significant dependence on outside sources for 44% of its water. To make it worse, it has experienced a substantial amount of decrease in water run-off due to decreased inflows from neighboring countries in the last decade. The decline amounts to 15% in the Aral-Syrdarya basin and 21.5% in the Irtysh.

Thus, the country has invested \$66.9 million in the last ten years to sustain the water level in its biggest rivers – Zhaiyk (Ural) and Yertis (Irtysh).

12. Australia

Oil Consumption of barrels per day in 2023 (in thousands): 1,056

Electricity Consumption (billion kWh): 250

Coal Consumption (short tons in thousands): 116,523

Natural Gas Consumption (billion cubic feet): 1,772

Biofuel Consumption of barrels per day (in thousands): 3

Annual Water Consumption (billion cubic meters): 17

Aggregate Resource Consumption: 119,642

Per Capita Consumption Score: 0.004

Next on our list of the 20 Countries with the Highest Resource Consumption in the World is Australia, a country that's 10th on the list of countries with the most CO2 emissions per capita due to its dependence on coal for power generation.

Especially, the country's energy and agricultural sectors are suffering greatly from the impact of excess consumption in the country, as intense heat and drought are pushing the country's soil into becoming a net emitter of CO2. This poses challenges for the country to achieve its goal of decreasing greenhouse gas emissions by 43% by 2030, as reported by *The Guardian*.

Despite the country's commendable progress in clean energy – record-high 38% use of renewable sources to generate electricity in 2023 – the country is one of the biggest CO2 emitters in the world.

11. Turkey

Oil Consumption of barrels per day in 2023 (in thousands): 1,136

Electricity Consumption (billion kWh): 280

Coal Consumption (short tons in thousands): 130,490

Natural Gas Consumption (billion cubic feet): 1,868

Biofuel Consumption of barrels per day (in thousands): 2

Annual Water Consumption (billion-meter cube): 58

Aggregate Resource Consumption: 133,717

Per Capita Consumption Score: 0.001

Turkey is the next country on our list of the 20 Countries with the Highest Resource Consumption in the World. The country is undergoing severe water stress, having just 1,313 cubic meters per capita of water for use. This is due to its Mediterranean location and climate change, according to *Daily Sabah*.

The country has already put in investments worth \$80 billion in the last 21 years to tackle water-related issues. However, the country could yet face water scarcity by 2030, as pointed out by İbrahim Yumaklı, the Minister of Agriculture and Forestry of the country.

10. Poland

Oil Consumption of barrels per day in 2023 (in thousands): 700

Electricity Consumption (billion kWh): 157

Coal Consumption (short tons in thousands): 134,175

Natural Gas Consumption (billion cubic feet): 708

Biofuel Consumption of barrels per day (in thousands): 23

Annual Water Consumption (billion-meter cube): 10

Aggregate Resource Consumption: 135,788

Per Capita Consumption Score: 0.003

Poland has experienced several droughts in recent times, specifically, in the years 2018, 2019, and 2020, making things climatically concerning. The 2022 Oder disaster in the Oder River of the country is an example of a serious climatic issue in the country, wherein 100 tons of fish were found dead in the river.

And yet, the country's adequate response to tackle this issue is to be awaited.

9. South Korea

Oil Consumption of barrels per day in 2023 (in thousands): 2,797

Electricity Consumption (billion kWh): 587

Coal Consumption (short tons in thousands): 133,767

Natural Gas Consumption (billion cubic feet): 2,101

Biofuel Consumption of barrels per day (in thousands): 12

Annual Water Consumption (billion-meter cube): 27

Aggregate Resource Consumption: 139,041

Per Capita Consumption Score: 0.002

South Korea, due to its high electricity consumption per capita and large population, is a country that emits large amounts of CO₂. As noted in our article on **20 Countries with the Highest Carbon Emissions per Capita** – South Korea emitted 11.6 tons of CO₂ per capita in 2022.

However, it's commendable to see that through efficient use of resources, the country was able to reduce its greenhouse gas emissions in the last two years consecutively. South Korea's emissions from the energy transition sector and industrial sector (both account for 70% of the greenhouse gas emissions) both fell by roughly 4.8% in 2023 from the prior year, according to a report by *Yonhap News Agency*.

8. South Africa

Oil Consumption of barrels per day in 2023 (in thousands): 522

Electricity Consumption (billion kWh): 201

Coal Consumption (short tons in thousands): 192,244

Natural Gas Consumption (billion cubic feet): 158

Biofuel Consumption of barrels per day (in thousands): -

Annual Water Consumption (billion-meter cube): 20

Aggregate Resource Consumption: 193,224

Per Capita Consumption Score: 0.003

Next, we have South Africa. The country's excessive resource consumption has led to severe power outage issues. In this case, particularly, it's the coal that South Africa has overly consumed, resulting in 6-10 hours of power outage in 2024.

However, the country plans to shift things up by bringing wind and solar power into play. It plans to achieve an energy mix with wind and solar having a 65% share, according to the Executive Chairman of the African Energy Chamber.

7. Germany

Oil Consumption of barrels per day in 2023 (in thousands): 1,955

Electricity Consumption (billion kWh): 507

Coal Consumption (short tons in thousands): 195,816

Natural Gas Consumption (billion cubic feet): 2,737

Biofuel Consumption of barrels per day (in thousands): 70

Annual Water Consumption (billion-meter cube): 26

Aggregate Resource Consumption: 201,335

Per Capita Consumption Score: 0.002

Amidst the global environmental concerns rising in recent years, Germany has successfully reduced its carbon dioxide emissions by 73 million tons in 2023. This was a result of efficient energy generation through renewables.

Over half of the electricity produced in the country was through the use of renewables, cutting down emissions by 46 million tons. However, there's still a long way to go as 85% of this reduction of emissions is regarded as temporary.

6. Japan

Oil Consumption of barrels per day in 2023 (in thousands): 3,366

Electricity Consumption (billion kWh): 939

Coal Consumption (short tons in thousands): 206,881

Natural Gas Consumption (billion cubic feet): 3,279

Biofuel Consumption of barrels per day (in thousands): 15

Annual Water Consumption (billion-meter cube): 78

Aggregate Resource Consumption: 214,568

Per Capita Consumption Score: 0.001

Being the 12th most populated country in the world, it's obvious that Japan would make it to the list. Despite that, it's impressive to see the efforts the country is making to mitigate the environmental risks associated with the excessive use of resources.

The country's greenhouse gas emission fell by 2.5% to an all-time low of 1.14 billion metric tons in 2023, showcasing the country's sustainable growth of the industrial sector.

5. Indonesia

Oil Consumption of barrels per day in 2023 (in thousands): 1,604

Electricity Consumption (billion kWh): 312

Coal Consumption (short tons in thousands): 221,450

Natural Gas Consumption (billion cubic feet): 1,274

Biofuel Consumption of barrels per day (in thousands): 179

Annual Water Consumption (billion-meter cube): 223

Aggregate Resource Consumption: 225,166

Per Capita Consumption Score: 0.0008

Indonesia is a country abundant with the supply of water and minerals like nickel, the latter of which is a crucial component of the global transition of decarbonization. The country has 55% of the global quantity of nickel, according to the *United Nations*, and, is therefore, a critical player in the decarbonization mission of the world.

However, despite having abundant water supply in the country, Java Island, which has 60% of the country's population living in it, has just 10% of the water supply. This showcases the uneven and unsustainable allocation of basic resources, such as water in the country.

4. Russia

Oil Consumption of barrels per day in 2023 (in thousands): 3,635

Electricity Consumption (billion kWh): 1,026

Coal Consumption (short tons in thousands): 291,357

Natural Gas Consumption (billion cubic feet): 16,677

Biofuel Consumption of barrels per day (in thousands): N/A

Annual Water Consumption (billion-meter cube): 65

Aggregate Resource Consumption: 312,809

Per Capita Consumption Score: 0.002

Amidst the serious topic of excessive resource consumption under discussion here, we have Russia – a country that's in a war state and is therefore consuming up all of its natural resources to sustain itself in the short run, without having any regard for the global resource scarcity issue.

Despite being sanctioned by the West, the country has been exporting oil excessively to the non-western side of the world. Furthermore, it has increased its aluminum and nickel exports to the EU and the U.S. by 70% from March 2022 to June 2022.

To make things worse, Rosatom, the country's nuclear monopoly saw its exports increase by 15% in 2022, while having a \$200 billion foreign order book, according to the *Wilson Center*.

3. United States

Oil Consumption of barrels per day in 2023 (in thousands): 18,984

Electricity Consumption (billion kWh): 4,128

Coal Consumption (short tons in thousands): 515,555

Natural Gas Consumption (billion cubic feet): 32,288

Biofuel Consumption of barrels per day (in thousands): 1,132

Annual Water Consumption (billion-meter cube): 5

Aggregate Resource Consumption: 573,118

Per Capita Consumption Score: 0.001

Next, we have the U.S. Being one of the most populated countries in the world, and being a high-income country, it's obvious that the country is amongst the top countries that consume the most resources in the world.

Specifically, the U.S. and the EU together are responsible for 74% of the global resource consumption, with the U.S. being responsible for 27% of the extraction.

2. India

Oil Consumption of barrels per day in 2023 (in thousands): 5,446

Electricity Consumption (billion kWh): 1,463

Coal Consumption (short tons in thousands): 1,273,287

Natural Gas Consumption (billion cubic feet): 2,079

Biofuel Consumption of barrels per day (in thousands): 92

Annual Water Consumption (billion-meter cube): 761

Aggregate Resource Consumption: 1,282,731

Per Capita Consumption Score: 0.0008

India, which is home to roughly 1.45 billion people, is expected to see its population grow to 1.5 billion by 2030. Therefore, with limited resources in the country, serious resource scarcity is expected to hit the country.

While the country's population makes up 18% of the global population, its land, forest, and clean water only make up 2.4%, 2%, and 4% of the global totals of the respective resources, according to *Eco-Business*.

1. China

Oil Consumption of barrels per day in 2023 (in thousands): 16,577

Electricity Consumption (billion kWh): 8,540

Coal Consumption (short tons in thousands): 5,311,746

Natural Gas Consumption (billion cubic feet): 12,931

Biofuel Consumption of barrels per day (in thousands): 78

Annual Water Consumption (billion-meter cube): 581

Aggregate Resource Consumption: 5,349,024

Per Capita Consumption Score: 0.003

China, the third largest in the world by size, is a country in which a whopping 1.4 billion people reside – the second highest in the world. Thus, understandably, one can expect it to be here on the list.

However, what might seem astonishing is the share of consumption of resources the country has – 15% of the world's resources are consumed by China alone!

READ NEXT: \$30 Trillion Opportunity: 15 Best Humanoid Robot Stocks to Buy According to Morgan Stanley and Jim Cramer Says NVIDIA 'Has Become A Wasteland'.

Disclosure: None. This article was originally published at [Insider Monkey](#).