

2024 International Energy Situation as Seen from EI Statistics (3): Trends in Major Economies

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In “A Japanese Perspective on the International Energy Landscape (748 and 749),” I summarized global energy consumption, production, and export trends in 2024 based on the EI Statistical Review of World Energy 2025, focusing mainly on a breakdown by energy source. In this essay, I would like to organize the key points of the international energy situation in 2024 by major economy. The six major economies covered here are the United States, the European Union, China, India, the Middle East, and Russia.

The United States is a world-leading superpower in terms of international politics, global economy, and military security, exerting an extremely large influence on the international energy situation. In 2024, the United States held a presidential election and prepared to launch the Trump 2.0 administration in 2025. In addition to the above factors, it should not be overlooked that U.S. energy supply and demand have a significant impact on the global energy market as well. In 2024, primary energy consumption in the United States totaled 91.8 exajoules (EJ), accounting for 16% of the global total. The United States was thus the world's second largest energy consumer after China. U.S. primary energy consumption in 2024 increased only by 0.4% from the previous year. Over the past decade, U.S. primary energy consumption has leveled off. In the 2024 U.S. primary energy consumption, oil accounted for 39%, natural gas for 35%, and coal for 9%. Fossil fuels thus captured 83% of the consumption, centered on oil and gas, which have abundant resources in the country. Of total power generation, gas accounted for the largest share at 43%, followed by 18% each for renewable energy and nuclear energy, and 15% for coal.

The United States distinctly leads the world in the production and consumption of oil, the world's largest internationally traded commodity, and natural gas, the second-largest. In 2024, U.S. oil consumption totaled 19 million barrels per day, accounting for 19% of the global total. U.S. oil production came to 20.14 million bpd, capturing 21% of the global total. U.S. gas consumption aggregated 902 billion cubic meters (BCM), commanding 22% of the global total. U.S. gas production stood at 1,033 BCM, capturing 25% of the global total. In 2024, U.S. oil production posted a particularly robust increase of 3.6%. Supported by the production increase, U.S. oil exports grew by 6.3% from the previous year to 9.88 million bpd, leading the world. At the same time, however, U.S. oil imports totaled 8.43 million bpd. U.S. LNG exports increased by 0.4% to 115 BCM, commanding the world's largest share. In 2024, as well as earlier years, the importance of the United States for international energy trade was significantly prominent.

Primary energy consumption in the EU declined for two consecutive years in 2022 and 2023, but increased by 0.3% from the previous year to 52.0 EJ in 2024. The EU's share of global primary energy consumption stood at 9%, the third largest among regions after those of China and the United States. Due to its economic maturation, however, the EU's energy consumption has shown an average annual decrease of 1.1% over the past decade. EU consumption in 2024 posted a 22% decrease from

a peak reached in 2006. Of the EU primary energy consumption in 2024, oil accounted for 42%, gas for 22%, and coal for 9%. Fossil fuels thus captured 73% of the total, 14 percentage points lower than the global average of 87%, characterizing the EU energy mix. Of the EU's total power generation, renewable energy captured the largest share at 34%, followed by 23% for nuclear, 15% for gas, 13% for hydro, and 11% for coal. Non-fossil or zero-emission power sources thus accounted for 70% of the total.

The EU's oil and gas consumption scored the respective increases of 0.7% and 1.6% in 2024, reversing the previous year's declines. On the other hand, coal continued to decline sharply with a decrease of 12.1%. It seems that a decline in gas consumption under initiatives to phase out dependence on Russia came to a halt. On the other hand, nuclear and renewable energy consumption showed steady growth. However, the growth rate of 3.1% in 2024 for overall renewable energy (including hydro) was lower than the past decade's annual average at 3.4%. Seemingly, the EU's efforts to phase out dependence on Russia in the face of the Ukraine crisis were slowing down somewhat, along with decarbonization initiatives.

China, the world's largest energy consumer, recorded a firm growth of 2.4% in primary energy consumption in 2024, exceeding the global average and accounting for 27% of the global total. In the year, coal's share of primary energy consumption in China was overwhelmingly high at 58%, followed by 20% for oil and 9% for gas. Although the coal share has gradually decreased from nearly 80% in China, its energy supply and demand still depend heavily on coal. Of total power generation, coal had an overwhelmingly high share of 58%, followed by 20% for rapidly growing renewable energy.

By energy source, renewable energy posted an extremely high consumption growth of 18.8% in China in 2024. At the same time, coal, the largest source of energy in China, increased by 1.4%. From the perspective of energy security, China increased its consumption of coal, which is abundant in that country and price-competitive. The coal consumption and production growth led China to account for 56% of global coal consumption and for 52% of global coal production in 2024. Furthermore, China's share of global renewable energy consumption was the highest in the world at 28%, highlighting China's growing presence, which was also seen in nuclear energy consumption. On the other hand, China's oil consumption fell by 1.2% to 16.37 million bpd in an attention-attracting development in 2024. The first drop since 1990 represented a great change, apparently reflecting an economic slowdown and electric vehicles' diffusion.

As a leader of the Global South, India increased its presence in the international energy market. India's primary energy consumption in 2024 increased by 4.3% from the previous year to 38.8 EJ, accounting for 7% of the global market share. Among countries around the world, India was the third largest energy consumer. India, like China, was highly dependent on coal, which accounted for 59% of primary energy consumption in 2024, followed by 28% for oil and 7% for gas. India's power generation mix in the year showed a more prominent coal share at 75%. In 2024, India scored a high growth of 9.9% in renewable energy consumption. From the perspective of energy security, however, India characteristically expanded coal consumption by 3.7% and coal production by 7.0% in 2024.

In the Middle East, the center of gravity of global energy supply, both oil production and exports declined in 2024 due to production cuts by the OPEC-plus group of oil-producing countries to support oil prices. Oil production in the Middle East in 2024 decreased by 0.4% to 30.12 million bpd, accounting for 31% of the global total. Spearheading the oil production cuts was OPEC leader Saudi Arabia, which reduced oil production by 3.6% to 10.86 million bpd. From 2022, its oil

production in 2024 decreased by 1.28 million bpd or 11%. While global oil demand increased slightly, the OPEC-plus group's sustained production cuts in response to an increase in U.S. and other non-OPEC oil production led to a decline in oil production in the Middle East. Under the above production trend, oil exports from the Middle East in 2024 decreased by 0.9% to 24.26 million bpd. Nevertheless, the Middle East's oil exports accounted for 35% of the global total, the largest share among regions around the world. LNG exports from the Middle East in 2024 decreased by 0.6% to 124 BCM. However, the Middle East remained the world's largest LNG-exporting region, slightly surpassing the Asia-Pacific and North America regions.

There were various developments in 2024 regarding Russia's energy production and exports under Western economic sanctions. In 2024, Russia's oil production decreased by 2.9% from the previous year to 10.75 million bpd, while its oil exports increased by 3.3% to 7.04 million bpd. However, its exports fell short of restoring the level of 7.81 million bpd before the Ukraine war. On the other hand, Russia's gas production increased by 7.1% to 630 BCM, putting an end to a downtrend since 2022. Its pipeline gas exports increased by 22% to 108 BCM in an attention-attracting development in 2024. Pipeline gas exports to Europe, the former Soviet Union, and China all increased. However, Russia's pipeline gas exports in 2024 were far less than 201 BCM in 2021. Russia's LNG exports also increased by 5.1% to 44 BCM in 2024. It is noteworthy that Russia's oil and gas exports put an end to their downtrend that continued until 2023.

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