energy institute

2024 | 73rd edition

Statistical Review of World Energy

In collaboration with

KPMG

KEARNEY

The Energy Institute (EI) is the professional membership body for the world of energy. The EI Statistical Review of World Energy™ analyses data on world energy markets from the prior year. It has been providing timely, comprehensive and objective data to the energy community since 1952.

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Foreword

This 73rd Statistical Review of World Energy is the second under the custodianship of the Energy Institute (EI).

Energy has always been and remains central to human achievement and progress. It is also, increasingly, central to our very survival. With global temperature increases averaging close to 1.5°C, 2023 was the warmest year since records began, and the increasingly severe impacts of climate change were felt across all continents. We also experienced the continuing effects of geopolitical disruption on energy markets, and the economies and livelihoods they support.

As the chartered professional membership body for people working across the world of energy, the Energy Institute is proud to be the home of the Statistical Review of World Energy. Our aim is to provide an objective, independent and comprehensive evidence base for decision makers in governments, businesses and civil society grappling with these profound challenges.

In this second Statistical Review under the Institute's custodianship, we report on another year of highs in our energy hungry world. Record consumption of fossil fuels and record emissions from energy, but also record generation from renewables, driven by increasingly competitive wind and solar energy.

The progress of the transition is slow, but the big picture masks diverse energy stories playing out across different geographies. This year we provide additional visualisations to bring these contrasts to life – from advanced economies where we see signs of demand for fossil fuels peaking,

The progress of the transition is slow, but the big picture masks diverse energy stories playing out across different geographies.

to economies in the Global South for whom economic development and improvements in quality of life continue to drive fossil growth.

This year we also introduce new data sets in areas that will grow in significance over the coming years and decades – in battery storage and battery cells, carbon capture, hydrogen, ammonia, uranium, carbon prices, and additional key minerals and materials. Over the coming months, we'll be engaging with users on further developments, to ensure the way we measure and analyse energy keeps pace and stays relevant as the transition progresses from high to low carbon, from molecule to electron, from supply-led to demand-led.

We are grateful to our co-authors KPMG and Kearney in this vital endeavour, for the support of S&P Global Commodity Insights and bp, and for the data compilation undertaken by Heriot-Watt University. Together we are able to ensure the Statistical Review remains the respected, go-to source of data for the energy community around the world.

Juliet Davenport OBE HonFEI
President, Energy Institute

Dr Nick Wayth CEng FEI FIMechE
CEO, Energy Institute

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Businesses worldwide rely on independent and authoritative data to inform their energy transition strategies and investment decisions. The Energy Institute's 2024 Statistical Review of World Energy provides comprehensive insights, which is why KPMG International is proud to collaborate with them on the production of this report.

We saw renewables continuing to scale at pace, with record highs in 2023 and China adding more renewable generation than the rest of the world combined. But fossil fuels grew as well to meet the rising demand for energy globally. As a result, the share of fossil fuels in world energy demand remained stubbornly stuck around the 80% mark.

With record CO_2 emissions as well in 2023, this recent data should serve as a timely reminder for the world to redouble efforts to reduce carbon emissions and reach net zero. In particular, we should do more to provide finance and capacity to support the building of more low-carbon energy sources in the Global South, where demand is growing at a rapid pace.

Simon Virley CB FEI
Vice Chair and Head of Energy and Natural Resources, KPMG in the UK

Kearney

COP28 and rhetoric from world leaders on the energy transition demonstrates the ambition to reduce the world's fossil fuel dependency. However, this ambition is futile unless it is matched with drastic and coordinated actions resulting in real and immediate impact on climate change mitigation.

The Statistical Review of World Energy is the perfect opportunity for us to take a step back and examine the reality of our energy usage to understand just how far we must go on this transitional journey. While progress has been made, 2023 was unfortunately another record year for the consumption of fossil fuels and emissions from energy. With global temperature increases closing in on 1.5°C, we are also seeing a real disconnect with the Paris goals and the progress of the transition is too slow.

We hope that this report will help governments, world leaders and analysts around the world move forward, clear-eyed about the challenge that lies ahead, and ready to take a lead in promoting and enabling the use of clean energy across the world.

Dr Romain Debarre
Partner and Managing Director, Energy Transition Institute, Kearney

2023 Key highlights

2023 was a year of production and consumption records across the board with most markets returning to at least their 2019 pre-COVID long-term trends as supply chain issues finally eased.

Oil consumption in particular rebounded strongly, largely on the back of China relaxing its zero-COVID lockdown policies. Although demand for gas remained flat, consumption of crude oil broke through the 100 million barrels per day level for the first time ever and coal demand beat the previous year's record level. Consumption of renewable energy grew at six times the rate of total primary energy, and electricity demand grew 25% faster than total primary energy consumption.

Energy developments

- Total primary energy consumption increased by 2% over its 2022 level, 0.6% above its ten-year average and over 5% above its 2019 pre-COVID level.
- Renewables' share of total primary energy consumption reached 14.6%, an increase of 0.4% over the previous year. Together with nuclear, they represented over 18% of total primary energy consumption.
- Fossil fuel consumption as a percentage of primary energy dropped 0.4% to 81.5%.

Carbon emissions

- Greenhouse gas emissions from energy use, industrial processes, flaring and methane (in carbon dioxide equivalent terms) increased 2.1% to exceed the record level set in 2022. For the first time ever, energy-related emissions exceeded the 40 $GtCO_2e$ level, with emissions from the direct use of energy breaching 35 $GtCO_2e$ for the first time ever.
- Carbon dioxide emissions from flaring increased by 7% along with emissions from methane and industrial processes that also increased by over 5%.

Oil

- Although Brent crude oil prices fell 18% to average $83/bbl in 2023, they were still some 29% above their 2019 pre-COVID levels.
- Global oil production increased by 1.8 million b/d to reach a record level of 96 million b/d in 2023. The US remained the largest producer seeing its output grow by over 8%. Overall production from non-OPEC+ countries exceeded global incremental demand growth by 20%.
- In 2022 the combined consumption of oil and biofuel products exceeded 100 million barrels per day for the first time ever. In 2023, consumption of oil products alone exceeded this level.
- Regionally, whilst North America witnessed a modest increase in oil consumption of around 0.8%, demand in Europe fell by nearly 1% to 13.9 million barrels per day. By contrast, the Asia Pacific region saw an increase of over 5% to 38 million barrels per day.
- The ending of China's extended zero-COVID lockdown measures saw demand for gasoline and diesel rebound to 7,179 kbd, 15% above its 2019 pre-COVID levels. Whilst its demand for jet/kerosene grew by 74% in 2023 to 828 kbd, this is still 14% below its 2019 level which was a record year for China.
- China's refining capacity (18,484 kb/d) exceeded the US (18,429 kb/d) for the first time ever making it the largest oil refining market by capacity. However, throughput of refined products from China still lags the US with an overall utilisation of 81.7% versus 86.6%.

Natural gas

- On average natural gas prices in Europe and Asia fell 30% from their record highs recorded in 2022, averaging around $13/mmBtu. US Henry Hub prices exhibited an even greater fall of 60% to average $2.5/mmBtu across the year, back to their 2019 pre-COVID level.
- Global gas production remained relatively constant compared to 2022. The US remains the largest producer of gas delivering around a quarter of the world's supply. Output in Europe and the CIS fell by around 7% and 4% respectively. In absolute terms, the Russian Federation saw the largest fall in output with a 5% drop of 32 bcm.
- In 2023 LNG supply grew nearly 2% (10 bcm) to 549 bcm. The US overtook Qatar as the world's largest exporter of LNG, seeing its supply increase nearly 10% versus a 2% drop from Qatar. The Russia Federation saw falls in both its LNG and pipeline exports with LNG dropping nearly 2% (0.8 bcm) and pipeline supplies dropping around 24% (30 bcm).
- Global natural gas demand increased by only 1 bcm in 2023, a rise of only 0.02% and only slightly above its 2019 pre-COVID level. Whilst its share of global fossil fuel consumption remained around the 29% mark, its share of total primary energy consumption fell 0.5% since 2019.
- The global growth in LNG demand was triggered primarily by the Asia Pacific region with China, India, and other non-OECD Asia Pacific countries demand increasing by 11 bcm, 2.6 bcm, and 7.6 bcm respectively. LNG into both Europe and OECD Asia Pacific countries fell by 3 bcm and 11 bcm respectively.

- China regained its position as the world's largest LNG importing country followed by Japan and South Korea. Together, they accounted for around 45% of global LNG trade.
- Overall natural gas pipeline net trade fell by around 8% (or 35 bcm) in 2023. European pipeline imports fell by 26% (40 bcm), almost entirely attributable to supplies from Russia which accounted for 91% of the drop.

Coal

- From the record levels recorded in 2022, coal prices fell 46% on average with European delivered prices settling around $130/tonne and delivered prices in Asia averaging around $125/tonne.
- Global coal production reached its highest ever level (179 EJ), beating the previous high set the year before. The Asia Pacific region accounted for nearly 80% of global output with activity concentrated in just four countries, Australia, China, India, and Indonesia.
- Global coal consumption continued to increase and breached 164 EJ for the first time ever. The increase of 1.6% over 2022 was seven times higher than the previous ten-year average growth rate.
- Whilst China is by far the largest consumer of coal (it beat its own record set in 2022 and now accounts for 56% of the world's total consumption), in 2023 India exceeded the combined consumption of Europe and North America for the first time ever. Coal consumption in both Europe and North America fell below 10 EJ each and has been in constant decline over the past 10 years.

Electricity

- Global electricity generation increased by 2.5% in 2023 to reach a record level of 29,925 TWh. Whilst electricity demand in Asia Pacific and the Middle East increased by around 5%, demand in both Europe and North America fell by 2.4% and 1% respectively.
- For fossil fuels, coal retained its position as the dominant fuel for power generation in 2023 with a stable share around 35%. Natural gas' share of the generation fleet also remained stable at around 23%. Oil-fired plant contributed just over 2% of total electrical output.
- Renewables share of total power generation rose from 29% to 30%. At a regional level, Southern & Central America recorded the highest contribution from renewables at 72%. In Brazil, responsible for over 40% of electricity demand in the region, wind and solar increased by 17% and 71% respectively.
- The share of nuclear remained flat at around 9% with new build in China and returns to service of plant in France and Japan being offset by the closure of Germany's remaining plant.
- In 2023, grid-scale battery electricity storage system (BESS) capacity stood at 55.7 GW, nearly 50% of which was installed in China.

Wind and Solar

- Solar and wind capacity continued to grow rapidly in 2023 beating the previous year's record of 276 GW by around 186 GW, a 67% increase.
- Solar accounted for 75% (346 GW) of the capacity additions with China responsible for around a quarter of the growth. Europe installed just over 56 GW of solar, representing 16% of total solar capacity additions.
- Wind achieved a record year for new build with over 115 GW coming online. Nearly 66% of capacity additions were in China and its total installed capacity is now equal to North America and Europe combined. Although Europe has the highest share of offshore in its wind portfolio (12%), China has 37 GW compared to Europe's 32 GW.

Biofuels

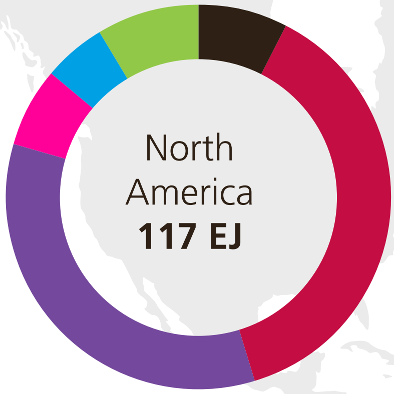
- Global biofuels' production grew by over 8% in 2023 with the biggest increases seen in the US (75 mboe/d) and Brazil (65 mboe/d). Indonesia was responsible for around 46% of Asia Pacific region's production of 422 mboe/d.
- The production split in 2023 was 54% biogasoline and 46% biodiesel.
- The US, Brazil, and Europe were responsible for around three-quarters of all biofuels consumed globally.

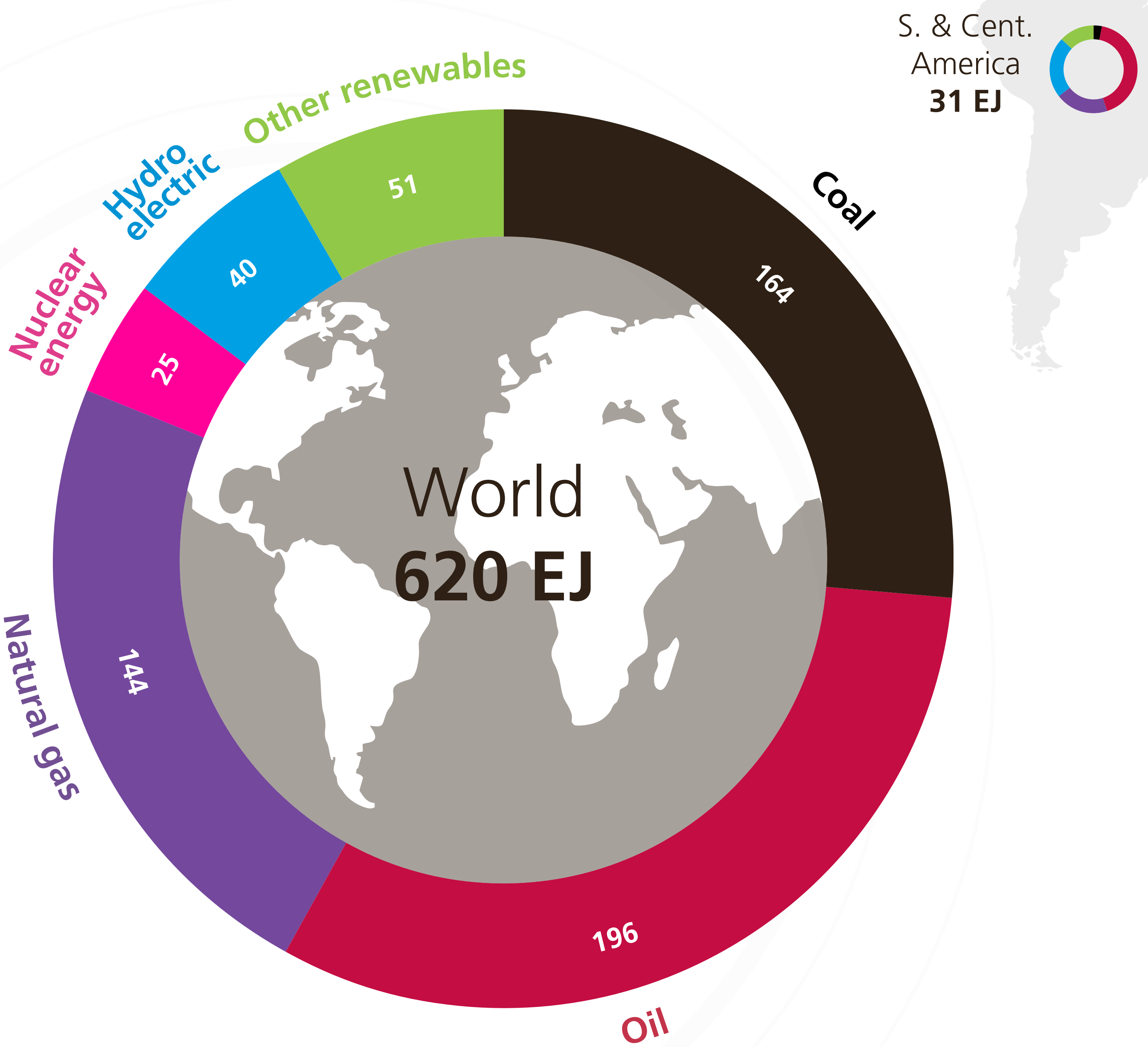
Key minerals

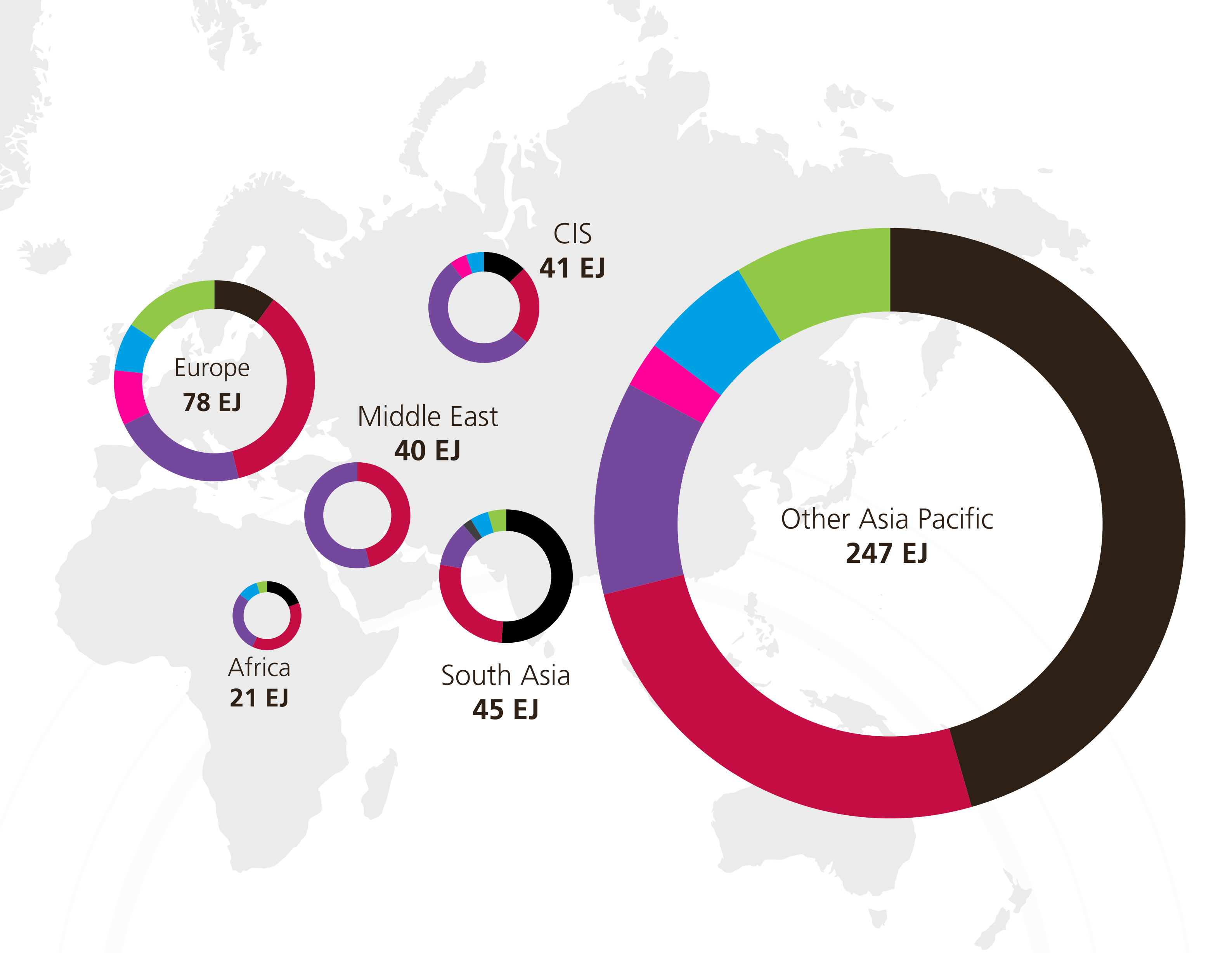
- Across the board, prices for key metals and materials fell by around 26% in 2023. The biggest declines were in cobalt (-47%), pet needle coke (-36%), and lithium carbonate (-32%). Prices for copper and natural graphite fell by only 4% and 15% respectively.
- Africa was responsible for nearly 75% of the world's cobalt production. Within this, the Democratic Republic of Congo was responsible for around 96% (or 56% of the global total).

2023 Regional overview – access to energy and sustainability

Global primary energy consumption reached a new record for the second consecutive year with non-OECD countries dominating both the share and annual growth rates. Fossil fuels continue to underpin their development accounting for 84% of their energy mix.







The contrasts between the northern and southern hemispheres is quite stark. Consumption of primary energy in the Global South first exceeded that of the Global North in 2014. In 2023 it accounted for 56% of total energy consumed and grew at twice the global average rate of 2%. The Asia Pacific region was responsible for 85% of the Global South's demand (and 47% of global demand) where the economies of China, India, Indonesia, Japan and South Korea dominated. Whilst Southern & Central America, and Asia Pacific experienced growth rates above the global average, total demand in Africa dropped by 0.4% in 2023 and electricity consumption remained flat. Electricity demand in both North America and Europe experienced falls of -1% and -2% respectively. In these regions, electricity demand in particular is increasingly impacted by energy efficiency regulations, energy-efficient lighting, and changing consumer habits.

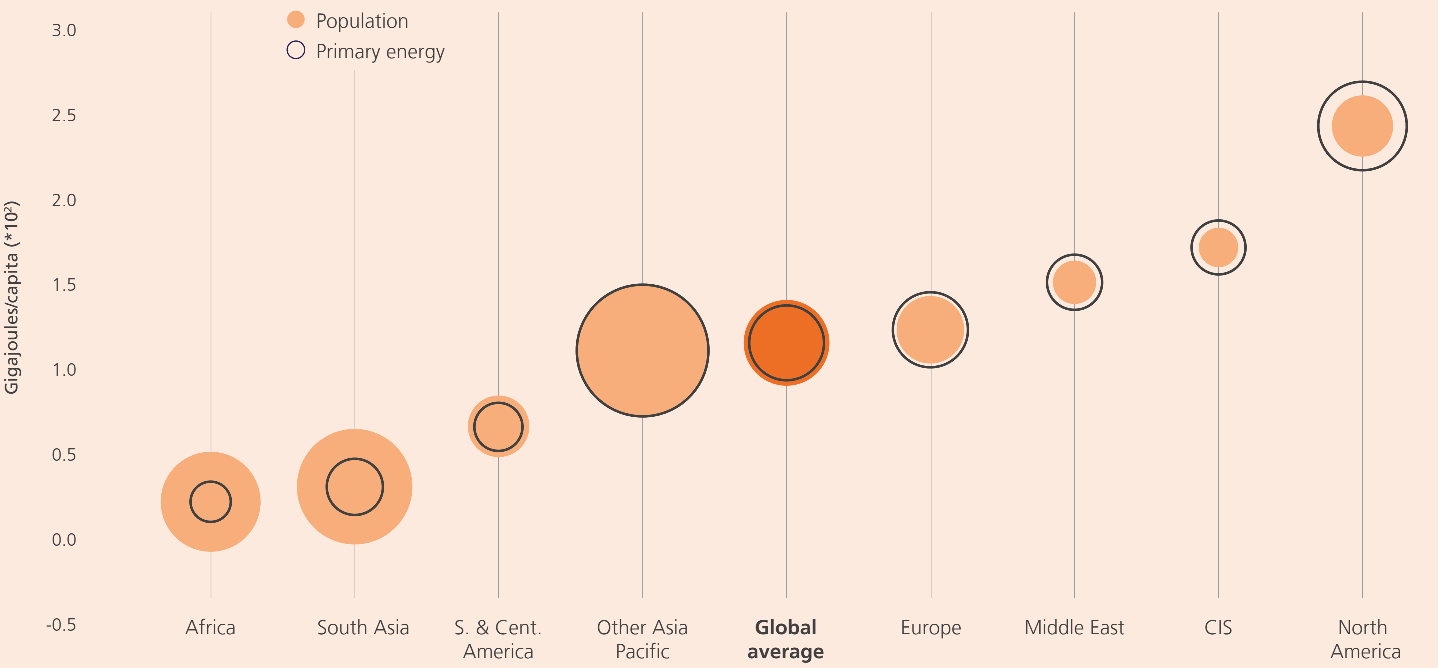
2023 Regional overview – energy access, efficiency, and sustainability

Whilst collectively Africa and South Asia were responsible for less than 10% of the world's energy demand in 2023, a prevalence of developing economies, large populations, low rate of access to energy today, potentially positions them for significant energy demand growth in the future.

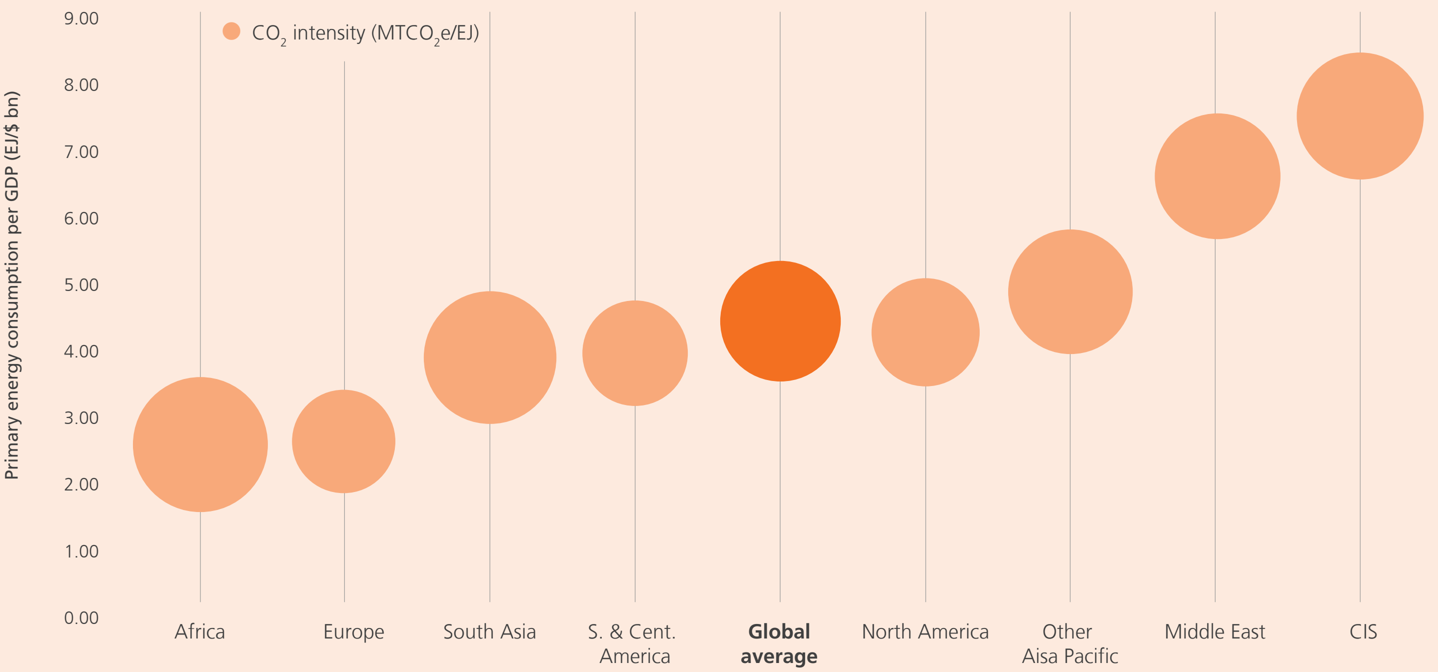
It is estimated that globally around 750 million people – 1 out of 10 – do not have access to electricity to light their homes, refrigerate their food, or keep cool in rising temperatures and around 2.6 billion people rely on heavily polluting biomass fuels such as charcoal, coal, and animal waste for heating and cooking. In 2023 significant geographical variations were evident in the relationships between regional population sizes and regional energy consumption. In Africa, South Asia, and Southern & Central America, the average amount of energy consumed per person stood at 30 Gigajoules (GJ). This was in stark contrast to North America, the CIS, and the Middle East, where energy consumption per capita averaged 180 GJ. In North America, the ratio was over twice the global average of 110 GJ.

A similar pattern also played out for average greenhouse gas emissions per person where Africa, South Asia, and Southern & Central America averaged 2 $MtCO_2e$ relative to a global average of 6.7 $MtCO_2e$. North America, the CIS, and the Middle East collectively averaged 11.5 $MtCO_2e$, almost twice the global average. The exception was Other Asia Pacific that was just below the global average for energy consumption per capita but 0.7 $MtCO_2e$ above the global average for greenhouse gas emissions per person. This was primarily due to China, the world's largest consumer of coal and second largest consumer of oil.

Today, both Africa and South Asia have very low levels of energy demand relative to the size of their population



Europe and Southern & Central America are the only regions to be below both the global average for CO_2 Intensity and Energy Consumption per GDP

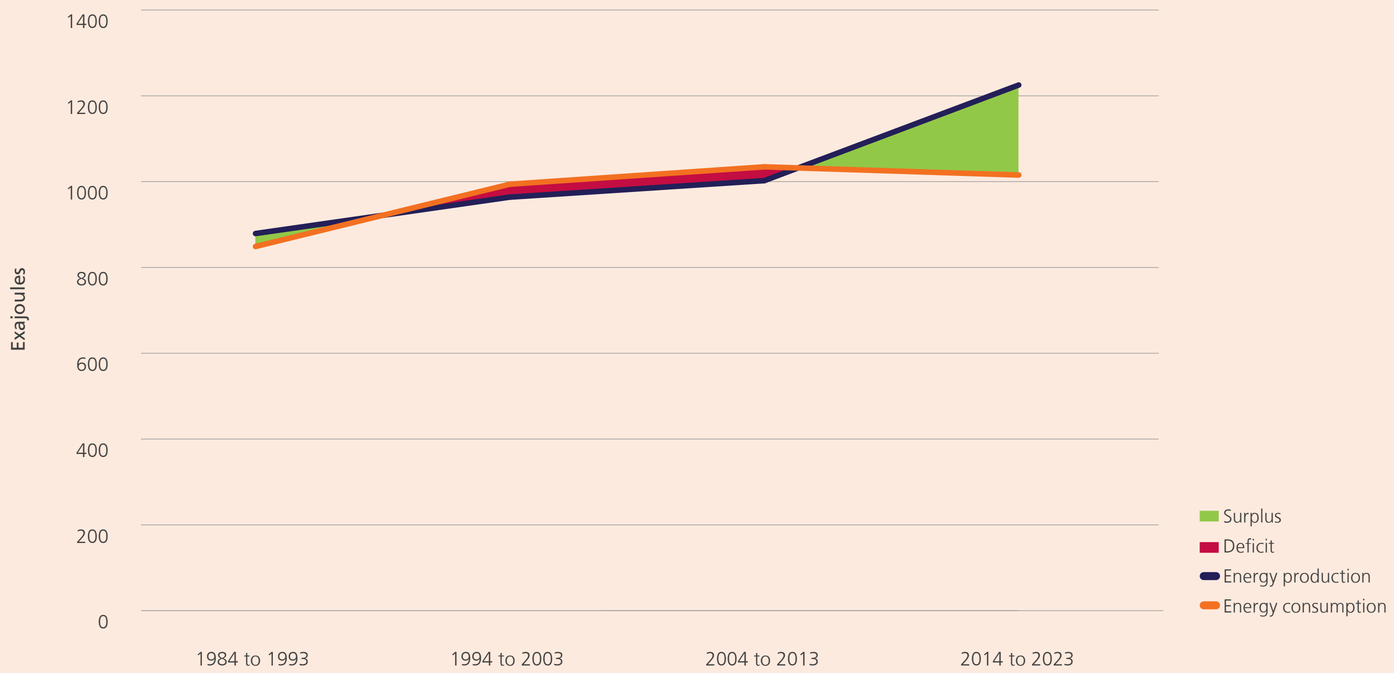


2023 Regional overview – energy security

Along with sustainability and affordability, secure supply of energy is a key pillar of the energy trilemma. In 2023, the total international trade of oil, gas, and coal was 53% higher than it was in 2000. Collectively, North America, Europe, and Asia Pacific regions consumed 78% of the world's total energy in 2023. Over the past two decades, North America's energy system has been transformed by the growth in unconventional oil and gas that began in the early 2000s. As a result, in the past 10 years the region has moved from being a net importer of energy to a net exporter. In 2023, oil production in North America was 16% above its domestic consumption whilst gas production sat at 14% above its demand level. Since the 1980s, Europe has consistently been a net importer of energy. Its biggest deficit in 2023 was in oil where production only met 23% of demand. Whilst European gas production was only able to meet 44% of consumption, the balance with coal was less severe with production meeting 58% of demand. The Asia Pacific region had the highest demand of any region in 2023, consuming 292 EJ of primary energy, 47% of the world's total demand. Like Europe, it has consistently been a net importer of energy since the 1980s. In 2023, its biggest shortfall was in servicing its demand for oil with production only meeting around 19% of its consumption. Its gas position was more positive with production able to meet 74% of its demand. For coal, production in the Asia Pacific region achieved a surplus in 2023, with supply exceeding the region's demand by 5%.

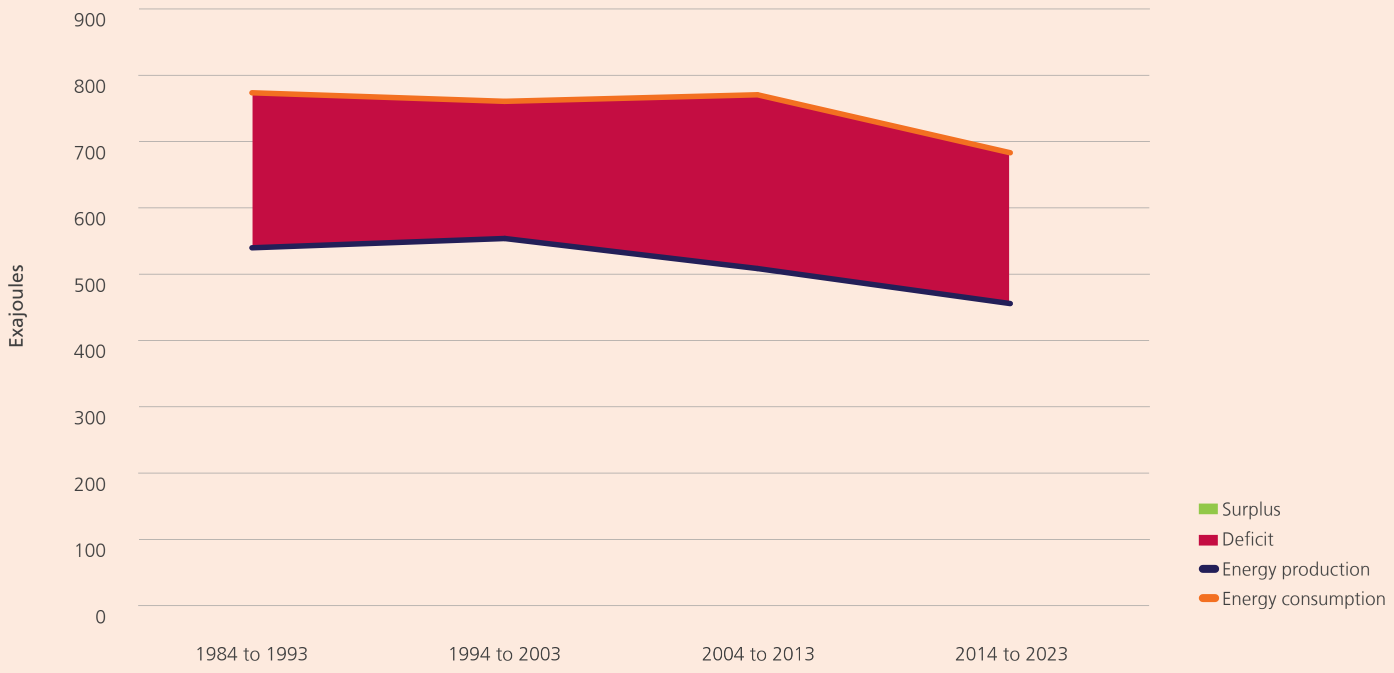
Production vs consumption by region

North America



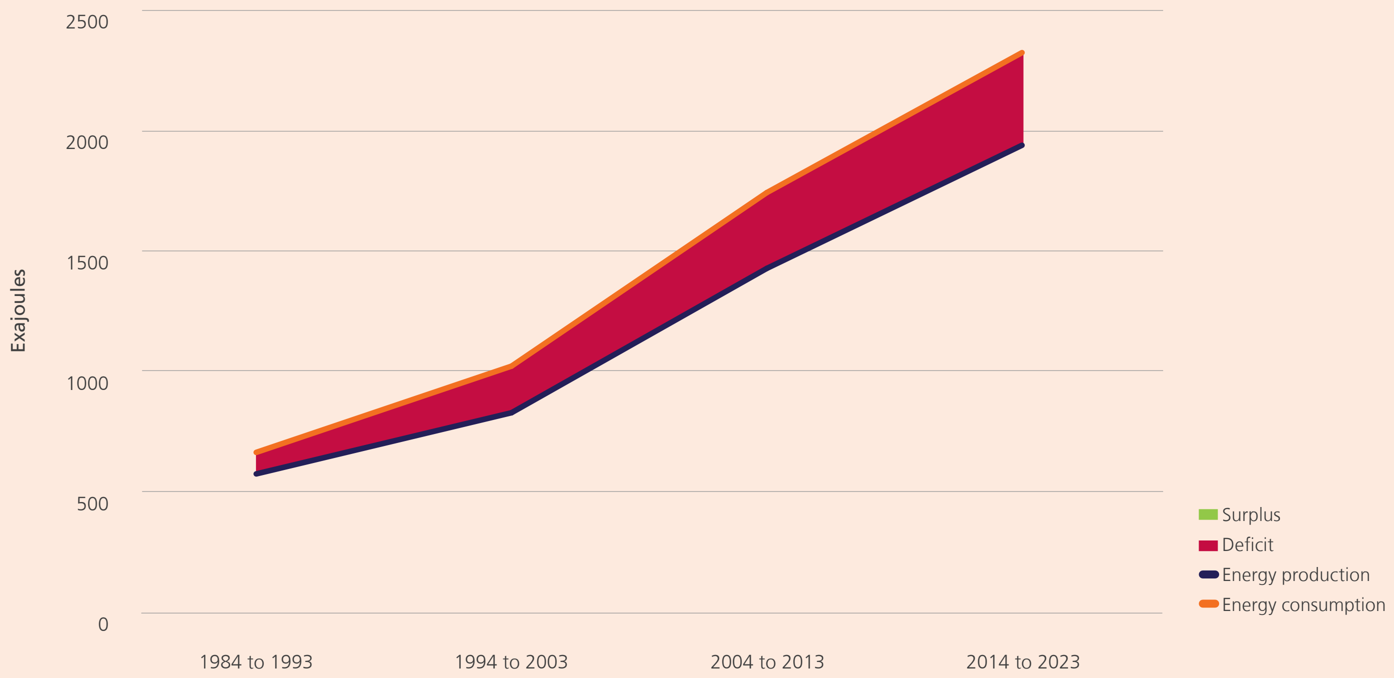
Production vs consumption by region

Europe



Production vs consumption by region

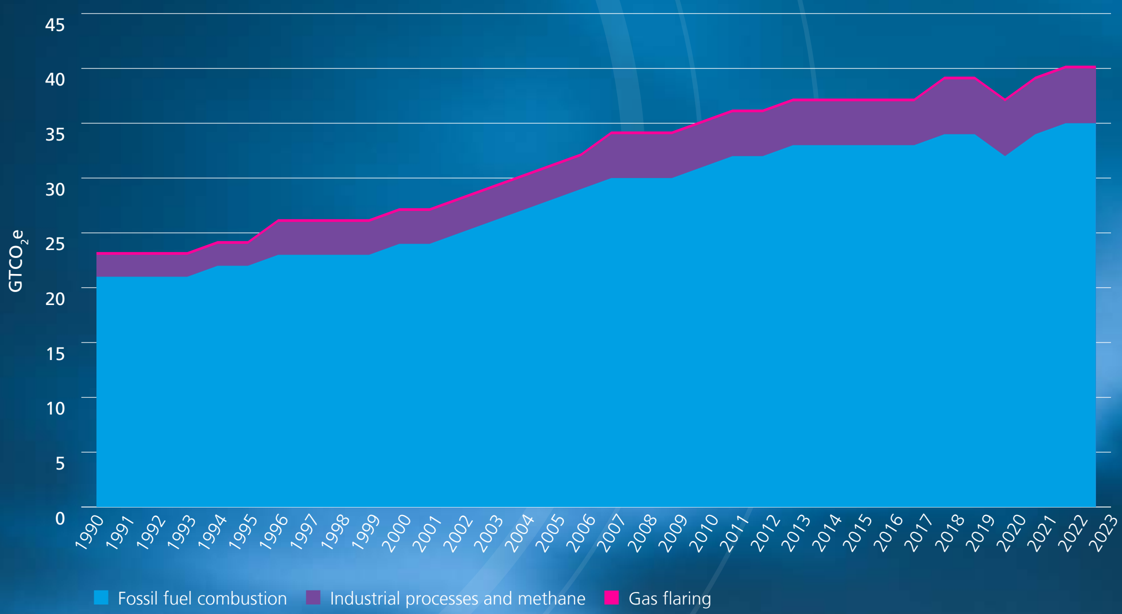
Asia Pacific



Primary energy and carbon

2023 saw a second consecutive record year for global primary energy consumption as it grew by 2%, reaching 620 EJ. Its growth rate was 0.6% above its ten-year average and over 5% above its 2019 pre-COVID level. Whilst a new record in the consumption of fossil fuels (in absolute terms) was recorded. In 2023, it fell to 81.5% compared to almost 81.9% in 2022. With demand for natural gas, a relatively low carbon-intensive fossil fuel, remaining flat, the increased use of more carbon-intensive oil and coal meant that energy-related greenhouse gas emissions also reached a record high, exceeding 40 $GtCO_2e$ for the very first time. CO_2 emissions from the combustion of fossil fuels is by far the largest source of energy-related greenhouse gas emissions contributing around 87% of the total.

2023 global energy-related greenhouse gas emissions exceeded 40 gigatonnes for the first time ever



Primary energy Consumption*

												Growth rate per annum		Share
Exajoules	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	2023	2013–23	2023
Canada	14.40	14.43	14.47	14.34	14.54	14.72	14.64	13.76	13.92	14.30	**13.95**	-2.4%	-0.3%	2.3%
Mexico	8.07	8.03	7.94	8.11	8.26	8.15	8.07	7.35	7.83	8.18	**8.45**	3.3%	0.5%	1.4%
US	92.62	93.59	92.69	92.62	92.97	96.37	95.68	88.64	93.44	95.42	**94.28**	-1.2%	0.2%	15.2%
Total North America	115.09	116.04	115.10	115.07	115.76	119.25	118.40	109.75	115.20	117.90	**116.68**	-1.0%	0.1%	18.8%
Argentina	3.53	3.53	3.59	3.57	3.57	3.54	3.34	3.13	3.45	3.71	**3.67**	-0.9%	0.4%	0.6%
Brazil	12.51	12.83	12.66	12.36	12.47	12.51	12.72	12.22	12.85	13.44	**13.87**	3.3%	1.0%	2.2%
Chile	1.49	1.47	1.49	1.56	1.62	1.69	1.71	1.59	1.72	1.81	**1.81**	0.1%	2.0%	0.3%
Colombia	1.75	1.84	1.74	1.96	1.98	2.01	2.03	1.85	2.07	2.20	**2.26**	2.7%	2.6%	0.4%
Ecuador	0.65	0.68	0.68	0.67	0.70	0.74	0.76	0.66	0.77	0.80	**0.84**	5.2%	2.7%	0.1%
Peru	0.95	0.97	1.01	1.08	1.09	1.15	1.18	1.04	1.18	1.22	**1.24**	1.7%	2.7%	0.2%
Trinidad & Tobago	0.82	0.82	0.80	0.70	0.75	0.70	0.70	0.61	0.62	0.62	**0.59**	-5.3%	-3.3%	0.1%
Venezuela	3.73	3.65	3.49	3.20	3.14	2.62	2.37	1.90	2.17	2.34	**2.53**	8.1%	-3.8%	0.4%
Other S. & Cent. America	3.90	3.92	4.11	4.33	4.33	4.41	4.39	3.93	4.15	4.24	**4.46**	5.2%	1.4%	0.7%
Total S. & Cent. America	29.32	29.71	29.57	29.44	29.65	29.37	29.19	26.92	28.99	30.37	**31.28**	3.0%	0.6%	5.0%
Austria	1.48	1.42	1.43	1.47	1.50	1.47	1.54	1.44	1.46	1.37	**1.39**	1.3%	-0.7%	0.2%
Belgium	2.53	2.34	2.37	2.55	2.58	2.57	2.66	2.39	2.66	2.50	**2.31**	-7.5%	-0.9%	0.4%
Czech Republic	1.76	1.73	1.69	1.67	1.77	1.76	1.72	1.59	1.68	1.64	**1.52**	-7.1%	-1.5%	0.2%
Finland	1.23	1.19	1.18	1.20	1.18	1.20	1.18	1.13	1.15	1.15	**1.20**	3.6%	-0.3%	0.2%
France	10.53	10.07	10.16	9.96	9.92	10.04	9.83	8.79	9.34	8.27	**8.66**	4.7%	-1.9%	1.4%
Germany	13.93	13.36	13.61	13.83	14.00	13.64	13.30	12.40	12.76	12.29	**11.41**	-7.1%	-2.0%	1.8%
Greece	1.18	1.11	1.12	1.11	1.16	1.17	1.14	1.00	1.09	1.13	**1.10**	-2.9%	-0.7%	0.2%
Hungary	0.86	0.86	0.90	0.92	0.97	0.98	0.99	0.97	1.02	0.96	**0.91**	-5.3%	0.6%	0.1%
Italy	6.69	6.34	6.53	6.56	6.64	6.67	6.55	5.95	6.37	6.19	**5.95**	-3.9%	-1.2%	1.0%
Netherlands	3.83	3.66	3.69	3.76	3.79	3.70	3.68	3.56	3.65	3.44	**3.44**	-0.1%	-1.1%	0.6%
Norway	1.89	1.95	1.98	2.01	2.02	1.99	1.86	2.01	2.05	1.92	**1.99**	3.8%	0.5%	0.3%
Poland	4.07	3.92	3.97	4.14	4.35	4.40	4.27	4.10	4.41	4.27	**4.12**	-3.7%	0.1%	0.7%
Portugal	1.04	1.05	1.04	1.12	1.09	1.11	1.06	0.95	0.96	0.95	**0.95**	0.3%	-0.9%	0.2%
Romania	1.33	1.36	1.37	1.37	1.40	1.41	1.38	1.33	1.40	1.30	**1.28**	-1.6%	-0.4%	0.2%
Spain	5.68	5.60	5.66	5.70	5.77	5.86	5.70	5.12	5.51	5.73	**5.66**	-1.1%	†	0.9%
Sweden	2.17	2.16	2.24	2.19	2.27	2.19	2.25	2.16	2.28	2.24	**2.15**	-3.9%	-0.1%	0.3%
Switzerland	1.29	1.24	1.21	1.14	1.14	1.16	1.21	1.11	1.07	1.04	**1.13**	8.5%	-1.3%	0.2%
Türkiye	5.08	5.24	5.72	6.01	6.43	6.44	6.66	6.56	7.02	7.10	**7.00**	-1.4%	3.3%	1.1%
Ukraine	4.93	4.35	3.61	3.78	3.51	3.64	3.45	3.31	3.36	2.33	**2.22**	-4.6%	-7.7%	0.4%
United Kingdom	8.56	8.09	8.21	8.08	8.10	8.09	7.92	7.10	7.17	7.27	**6.95**	-4.4%	-2.1%	1.1%
Other Europe	6.41	6.19	6.33	6.50	6.62	6.73	6.56	6.19	6.59	6.52	**6.51**	-0.2%	0.2%	1.1%
Total Europe	86.47	83.23	84.05	85.06	86.19	86.21	84.90	79.16	83.01	79.60	**77.85**	-2.2%	-1.0%	12.6%
Azerbaijan	0.56	0.57	0.62	0.61	0.60	0.63	0.67	0.67	0.71	0.76	**0.82**	8.4%	4.0%	0.1%
Belarus	1.06	1.06	0.96	0.98	1.00	1.11	1.11	1.03	1.10	1.06	**1.07**	0.6%	0.1%	0.2%
Kazakhstan	2.63	2.77	2.29	2.56	2.75	2.84	2.88	2.65	2.96	2.95	**2.98**	1.1%	1.2%	0.5%
Russian Federation	28.92	29.01	28.55	29.11	29.29	30.36	30.13	29.08	30.01	31.08	**31.29**	0.7%	0.8%	5.1%
Turkmenistan	0.96	1.02	1.16	1.26	1.17	1.32	1.26	1.58	1.60	1.63	**1.60**	-1.7%	5.2%	0.3%
Uzbekistan	1.96	2.04	1.94	1.88	1.93	1.94	1.95	1.94	2.04	2.12	**2.10**	-0.7%	0.7%	0.3%
Other CIS	0.72	0.75	0.75	0.75	0.78	0.85	0.82	0.82	0.84	0.84	**0.86**	2.6%	1.7%	0.1%
Total CIS	36.81	37.21	36.27	37.15	37.52	39.05	38.82	37.78	39.25	40.43	**40.72**	0.7%	1.0%	6.6%
Iran	9.55	9.97	9.85	10.39	10.78	11.15	11.75	12.20	11.96	12.48	**12.71**	1.9%	2.9%	2.1%
Iraq	1.69	1.64	1.61	1.75	2.04	2.13	2.30	2.06	2.13	2.39	**2.51**	5.1%	4.0%	0.4%
Israel	0.96	0.94	0.99	1.01	1.03	1.05	1.09	1.03	1.05	1.11	**1.11**	0.3%	1.5%	0.2%
Kuwait	1.53	1.49	1.60	1.59	1.60	1.66	1.51	1.43	1.53	1.56	**1.58**	1.3%	0.3%	0.3%
Oman	1.14	1.14	1.21	1.22	1.27	1.35	1.34	1.30	1.42	1.50	**1.55**	3.2%	3.1%	0.2%
Qatar	1.74	1.88	2.14	2.10	2.03	2.01	2.10	1.84	1.95	2.04	**2.22**	8.7%	2.5%	0.4%
Saudi Arabia	9.83	10.55	11.00	11.45	11.45	11.17	10.68	10.39	10.73	11.34	**11.60**	2.3%	1.7%	1.9%
United Arab Emirates	4.08	4.07	4.42	4.59	4.38	4.14	4.39	4.34	4.49	4.88	**5.13**	5.2%	2.3%	0.8%
Other Middle East	2.15	2.14	2.00	1.96	2.00	2.00	2.00	1.93	2.01	1.99	**2.05**	2.7%	-0.5%	0.3%
Total Middle East	32.67	33.81	34.82	36.05	36.59	36.65	37.17	36.51	37.27	39.29	**40.46**	3.0%	2.2%	6.5%
Algeria	1.93	2.11	2.22	2.22	2.25	2.41	2.50	2.34	2.55	2.64	**2.54**	-4.0%	2.8%	0.4%
Egypt	3.50	3.46	3.51	3.71	3.85	3.86	3.78	3.56	3.81	3.98	**3.94**	-1.1%	1.2%	0.6%
Morocco	0.77	0.78	0.80	0.80	0.84	0.87	0.95	0.87	0.97	0.96	**0.98**	1.6%	2.4%	0.2%
South Africa	5.15	5.21	5.10	5.34	5.32	5.12	5.35	5.01	5.06	4.87	**4.85**	-0.4%	-0.6%	0.8%
Other Africa	5.95	6.22	6.53	6.60	7.04	7.52	7.61	7.36	8.36	8.49	**8.56**	0.7%	3.7%	1.4%
Total Africa	17.31	17.78	18.16	18.67	19.29	19.77	20.20	19.14	20.75	20.95	**20.87**	-0.5%	1.9%	3.4%
Australia	5.60	5.64	5.76	5.78	5.77	5.85	6.05	5.71	5.72	5.98	**6.02**	0.7%	0.7%	1.0%
Bangladesh	1.10	1.15	1.39	1.39	1.45	1.55	1.74	1.65	1.77	1.86	**1.83**	-1.8%	5.2%	0.3%
China	121.87	125.02	126.49	127.00	131.94	138.27	144.68	149.38	157.85	160.26	**170.74**	6.5%	3.4%	27.6%
China Hong Kong SAR	1.17	1.14	1.18	1.21	1.29	1.31	1.24	0.93	0.88	0.78	**0.90**	15.4%	-2.6%	0.1%
India	25.84	27.59	28.55	29.83	30.96	32.72	33.54	31.78	34.51	36.37	**39.02**	7.3%	4.2%	6.3%
Indonesia	6.52	6.62	6.72	6.83	7.08	7.75	8.28	7.79	7.97	10.05	**10.11**	0.6%	4.5%	1.6%
Japan	20.07	19.55	19.31	19.06	19.28	19.14	18.74	17.37	18.13	18.02	**17.40**	-3.4%	-1.4%	2.8%
Malaysia	3.91	3.95	4.01	4.22	4.28	4.35	4.47	4.31	4.49	4.79	**4.81**	0.3%	2.1%	0.8%
New Zealand	0.86	0.90	0.91	0.92	0.94	0.93	0.95	0.86	0.85	0.84	**0.86**	3.0%	†	0.1%
Pakistan	2.71	2.79	2.94	1.95	3.39	3.50	3.54	3.52	3.90	3.60	**3.37**	-6.2%	2.2%	0.5%
Philippines	1.39	1.46	1.60	1.74	1.91	1.98	2.04	1.85	1.96	2.06	**2.19**	6.7%	4.7%	0.4%
Singapore	2.92	2.98	3.16	3.34	3.42	3.42	3.35	3.28	3.28	3.17	**3.47**	9.3%	1.7%	0.6%
South Korea	11.61	11.71	11.91	12.27	12.40	12.61	12.47	12.05	12.62	12.75	**12.43**	-2.5%	0.7%	2.0%
Sri Lanka	0.29	0.31	0.33	0.36	0.38	0.40	0.41	0.38	0.39	0.35	**0.36**	1.8%	2.3%	0.1%
Taiwan	4.70	4.80	4.80	4.82	4.83	4.88	4.79	4.65	4.94	4.75	**4.53**	-4.6%	-0.4%	0.7%
Thailand	4.73	4.89	4.96	5.06	5.16	5.32	5.33	4.95	4.99	5.00	**5.01**	0.2%	0.6%	0.8%
Vietnam	2.37	2.62	2.98	3.24	3.47	3.90	4.33	4.34	4.35	4.48	**4.89**	9.2%	7.5%	0.8%
Other Asia Pacific	2.14	2.29	2.37	2.52	3.15	3.28	3.45	3.55	3.54	3.70	**3.83**	3.5%	6.0%	0.6%
Total Asia Pacific	219.80	225.42	229.36	231.54	241.10	251.16	259.38	258.34	272.15	278.81	**291.77**	4.7%	2.9%	47.1%
Total World	**537.48**	**543.21**	**547.33**	**552.99**	**566.11**	**581.47**	**588.05**	**567.60**	**596.62**	**607.35**	**619.63**	**2.0%**	**1.4%**	**100.0%**
of which: OECD	234.81	232.88	233.43	234.62	237.13	240.65	238.53	221.91	232.56	233.55	**229.90**	-1.6%	-0.2%	37.1%
Non-OECD	302.66	310.32	313.89	318.36	328.98	340.81	349.52	345.69	364.07	373.80	**389.73**	4.3%	2.6%	62.9%
European Union	62.74	60.54	61.38	62.01	62.98	62.79	61.76	57.11	60.21	57.85	**56.38**	-2.5%	-1.1%	9.1%

* In this review, primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.
Energy from all sources of non-fossil power generation is accounted for on an input-equivalent basis. See the appendix or **https://www.energyinst.org/statistical-review** for more details on this methodology.
† Less than 0.05%.

Primary energy Consumption by fuel*

Exajoules	2022 Oil	2022 Natural gas	2022 Coal	2022 Nuclear energy	2022 Hydro-electricity	2022 Renewables	2022 Total	2023 Oil	2023 Natural gas	2023 Coal	2023 Nuclear energy	2023 Hydro-electricity	2023 Renewables	2023 Total
Canada	4.31	4.46	0.39	0.78	3.73	0.64	**14.30**	4.35	4.35	0.37	0.80	3.41	0.68	**13.95**
Mexico	3.77	3.27	0.24	0.10	0.33	0.46	**8.18**	3.84	3.51	0.26	0.11	0.19	0.54	**8.45**
US	35.75	31.67	9.91	7.31	2.36	8.42	**95.42**	35.86	31.91	8.20	7.32	2.21	8.78	**94.28**
Total North America	43.83	39.40	10.54	8.19	6.43	9.51	**117.90**	44.05	39.77	8.83	8.23	5.81	9.99	**116.68**
Argentina	1.48	1.65	0.05	0.07	0.21	0.24	**3.71**	1.41	1.62	0.05	0.08	0.28	0.24	**3.67**
Brazil	5.01	1.15	0.59	0.13	4.01	2.55	**13.44**	5.11	1.08	0.57	0.13	4.01	2.97	**13.87**
Chile	0.82	0.26	0.24	–	0.19	0.30	**1.81**	0.83	0.25	0.18	–	0.22	0.33	**1.81**
Colombia	0.96	0.45	0.10	–	0.60	0.08	**2.20**	0.98	0.47	0.16	–	0.56	0.09	**2.26**
Ecuador	0.54	0.02	^	–	0.23	0.01	**0.80**	0.58	0.02	^	–	0.24	0.01	**0.84**
Peru	0.50	0.35	0.03	–	0.28	0.05	**1.22**	0.52	0.36	0.03	–	0.27	0.05	**1.24**
Trinidad & Tobago	0.07	0.56	–	–	–	^	**0.62**	0.07	0.52	–	–	–	^	**0.59**
Venezuela	0.65	1.05	0.01	–	0.64	^	**2.34**	0.84	1.07	0.01	–	0.61	^	**2.53**
Other S. & Cent. America	2.56	0.36	0.17	–	0.82	0.34	**4.24**	2.68	0.43	0.18	–	0.82	0.36	**4.46**
Total S. & Cent. America	12.59	5.85	1.19	0.20	6.99	3.56	**30.37**	13.01	5.82	1.16	0.21	7.01	4.06	**31.28**
Austria	0.49	0.28	0.10	–	0.32	0.17	**1.37**	0.49	0.25	0.10	–	0.36	0.19	**1.39**
Belgium	1.19	0.52	0.12	0.40	^	0.27	**2.50**	1.13	0.49	0.10	0.30	^	0.29	**2.31**
Czech Republic	0.42	0.27	0.56	0.28	0.02	0.10	**1.64**	0.42	0.24	0.47	0.27	0.02	0.10	**1.52**
Finland	0.35	0.04	0.12	0.23	0.13	0.29	**1.15**	0.33	0.04	0.09	0.31	0.14	0.29	**1.20**
France	2.80	1.38	0.23	2.65	0.42	0.79	**8.27**	2.76	1.22	0.18	3.03	0.52	0.95	**8.66**
Germany	4.25	2.79	2.31	0.31	0.17	2.46	**12.29**	4.01	2.72	1.83	0.06	0.18	2.60	**11.41**
Greece	0.62	0.22	0.07	–	0.04	0.19	**1.13**	0.62	0.19	0.05	–	0.04	0.20	**1.10**
Hungary	0.35	0.33	0.05	0.14	^	0.09	**0.96**	0.34	0.29	0.04	0.14	^	0.10	**0.91**
Italy	2.51	2.35	0.31	–	0.27	0.76	**6.19**	2.47	2.11	0.22	–	0.36	0.78	**5.95**
Netherlands	1.66	0.99	0.23	0.04	^	0.52	**3.44**	1.70	0.93	0.16	0.04	^	0.61	**3.44**
Norway	0.39	0.14	0.03	–	1.20	0.16	**1.92**	0.38	0.14	0.03	–	1.27	0.16	**1.99**
Poland	1.40	0.67	1.78	–	0.02	0.40	**4.27**	1.41	0.70	1.51	–	0.02	0.48	**4.12**
Portugal	0.46	0.20	^	–	0.06	0.22	**0.95**	0.45	0.16	^	–	0.11	0.23	**0.95**
Romania	0.46	0.35	0.15	0.10	0.13	0.11	**1.30**	0.46	0.33	0.11	0.10	0.17	0.11	**1.28**
Spain	2.61	1.19	0.16	0.53	0.17	1.08	**5.73**	2.57	1.05	0.12	0.51	0.24	1.17	**5.66**
Sweden	0.48	0.03	0.07	0.47	0.66	0.54	**2.24**	0.47	0.03	0.07	0.43	0.62	0.54	**2.15**
Switzerland	0.38	0.11	^	0.21	0.28	0.07	**1.04**	0.39	0.10	^	0.21	0.35	0.09	**1.13**
Türkiye	2.18	1.84	1.76	–	0.63	0.69	**7.10**	2.30	1.74	1.65	–	0.60	0.71	**7.00**
Ukraine	0.39	0.66	0.54	0.56	0.10	0.07	**2.33**	0.39	0.67	0.49	0.47	0.12	0.08	**2.22**
United Kingdom	2.65	2.55	0.21	0.43	0.05	1.37	**7.27**	2.69	2.29	0.18	0.37	0.05	1.38	**6.95**
Other Europe	2.57	1.00	1.21	0.34	0.65	0.75	**6.52**	2.57	0.97	1.02	0.36	0.79	0.81	**6.51**
Total Europe	28.60	17.92	10.02	6.68	5.29	11.09	**79.60**	28.33	16.68	8.39	6.60	5.97	11.86	**77.85**
Azerbaijan	0.25	0.49	^	–	0.01	^	**0.76**	0.26	0.54	^	–	0.02	^	**0.82**
Belarus	0.30	0.66	0.04	0.04	^	0.01	**1.06**	0.30	0.60	0.04	0.11	^	0.01	**1.07**
Kazakhstan	0.65	0.77	1.41	–	0.09	0.04	**2.95**	0.69	0.77	1.39	–	0.08	0.05	**2.98**
Russian Federation	7.14	16.14	3.84	2.01	1.86	0.08	**31.08**	7.21	16.32	3.83	1.95	1.88	0.10	**31.29**
Turkmenistan	0.28	1.35	–	–	^	^	**1.63**	0.28	1.32	–	–	^	^	**1.60**
Uzbekistan	0.22	1.74	0.11	–	0.05	^	**2.12**	0.22	1.68	0.14	–	0.07	^	**2.10**
Other CIS	0.20	0.20	0.09	0.03	0.32	0.01	**0.84**	0.20	0.22	0.09	0.02	0.32	0.01	**0.86**
Total CIS	9.03	21.35	5.49	2.08	2.33	0.14	**40.43**	9.16	21.46	5.49	2.08	2.37	0.17	**40.72**
Iran	3.58	8.62	0.08	0.06	0.13	0.02	**12.48**	3.50	8.84	0.08	0.06	0.21	0.02	**12.71**
Iraq	1.70	0.66	–	–	0.02	^	**2.39**	1.80	0.67	–	–	0.03	^	**2.51**
Israel	0.45	0.44	0.16	–	^	0.06	**1.11**	0.44	0.45	0.14	–	^	0.08	**1.11**
Kuwait	0.77	0.78	0.01	–	–	^	**1.56**	0.76	0.81	0.01	–	–	^	**1.58**
Oman	0.45	1.03	0.01	–	–	0.01	**1.50**	0.47	1.06	0.01	–	–	0.01	**1.55**
Qatar	0.58	1.45	^	–	–	^	**2.04**	0.61	1.59	^	–	–	0.01	**2.22**
Saudi Arabia	7.11	4.20	^	–	–	0.02	**11.34**	7.43	4.11	^	–	–	0.05	**11.60**
United Arab Emirates	2.14	2.38	0.10	0.18	–	0.07	**4.88**	2.20	2.41	0.10	0.29	–	0.13	**5.13**
Other Middle East	1.06	0.82	0.03	–	0.01	0.07	**1.99**	1.06	0.85	0.04	–	0.01	0.07	**2.05**
Total Middle East	17.85	20.38	0.38	0.24	0.17	0.27	**39.29**	18.28	20.80	0.38	0.35	0.26	0.39	**40.46**
Algeria	0.82	1.81	0.01	–	^	0.01	**2.64**	0.86	1.67	0.01	–	^	0.01	**2.54**
Egypt	1.53	2.18	0.04	–	0.12	0.10	**3.98**	1.49	2.16	0.05	–	0.13	0.10	**3.94**
Morocco	0.58	0.01	0.31	–	^	0.06	**0.96**	0.57	0.03	0.29	–	^	0.08	**0.98**
South Africa	1.06	0.15	3.38	0.09	0.03	0.16	**4.87**	1.09	0.17	3.33	0.08	0.02	0.18	**4.85**
Other Africa	4.52	2.13	0.38	–	1.31	0.15	**8.49**	4.48	2.13	0.41	–	1.36	0.17	**8.56**
Total Africa	8.50	6.29	4.12	0.09	1.47	0.48	**20.95**	8.49	6.16	4.08	0.08	1.51	0.54	**20.87**
Australia	2.05	1.56	1.54	–	0.16	0.68	**5.98**	2.17	1.44	1.51	–	0.14	0.76	**6.02**
Bangladesh	0.62	1.03	0.20	–	0.01	0.01	**1.86**	0.52	1.01	0.28	–	0.01	0.01	**1.83**
China	29.51	13.60	87.83	3.76	12.18	13.37	**160.26**	32.73	14.57	91.94	3.90	11.46	16.13	**170.74**
China Hong Kong SAR	0.46	0.16	0.15	–	–	0.01	**0.78**	0.57	0.17	0.15	–	–	0.01	**0.90**
India	10.10	2.10	20.03	0.42	1.64	2.09	**36.37**	10.57	2.25	21.98	0.43	1.39	2.38	**39.02**
Indonesia	3.09	1.59	4.38	–	0.26	0.74	**10.05**	3.10	1.64	4.32	–	0.23	0.83	**10.11**
Japan	6.94	3.61	4.92	0.47	0.70	1.39	**18.02**	6.65	3.33	4.54	0.70	0.70	1.49	**17.40**
Malaysia	1.60	1.87	0.95	–	0.30	0.08	**4.79**	1.79	1.66	0.98	–	0.29	0.08	**4.81**
New Zealand	0.30	0.13	0.05	–	0.25	0.11	**0.84**	0.32	0.14	0.04	–	0.25	0.12	**0.86**
Pakistan	0.99	1.38	0.64	0.20	0.32	0.06	**3.60**	0.78	1.36	0.62	0.20	0.35	0.06	**3.37**
Philippines	0.89	0.11	0.80	–	0.10	0.16	**2.06**	0.93	0.12	0.88	–	0.10	0.17	**2.19**
Singapore	2.67	0.47	0.02	–	–	0.02	**3.17**	2.99	0.44	0.01	–	–	0.02	**3.47**
South Korea	5.47	2.25	2.87	1.59	0.03	0.55	**12.75**	5.36	2.16	2.69	1.62	0.03	0.56	**12.43**
Sri Lanka	0.20	–	0.07	–	0.06	0.02	**0.35**	0.22	–	0.06	–	0.05	0.03	**0.36**
Taiwan	1.73	1.01	1.58	0.21	0.05	0.16	**4.75**	1.63	1.01	1.49	0.16	0.04	0.20	**4.53**
Thailand	2.32	1.60	0.71	–	0.06	0.31	**5.00**	2.31	1.70	0.60	–	0.06	0.33	**5.01**
Vietnam	1.07	0.28	1.90	–	0.90	0.33	**4.48**	1.20	0.26	2.32	–	0.76	0.36	**4.89**
Other Asia Pacific	1.22	0.40	1.17	–	0.87	0.03	**3.70**	1.26	0.41	1.27	–	0.85	0.04	**3.83**
Total Asia Pacific	71.21	33.13	129.80	6.65	17.90	20.12	**278.81**	75.10	33.67	135.70	7.01	16.72	23.57	**291.77**
Total World	**191.62**	**144.31**	**161.53**	**24.13**	**40.58**	**45.18**	**607.35**	**196.43**	**144.37**	**164.03**	**24.57**	**39.65**	**50.58**	**619.63**
of which: OECD	87.43	64.56	28.88	16.12	13.09	23.47	**233.55**	87.15	63.25	25.15	16.44	12.96	24.96	**229.90**
Non-OECD	104.19	79.75	132.65	8.01	27.49	21.71	**373.80**	109.29	81.11	138.88	8.13	26.69	25.62	**389.73**
European Union	21.88	12.38	6.89	5.49	2.57	8.64	**57.85**	21.45	11.50	5.48	5.56	3.05	9.35	**56.38**

* In this review, primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.
Energy from all sources of non-fossil power generation is accounted for on an input-equivalent basis. See the appendix or **https://www.energyinst.org/statistical-review** for more details on this methodology.
^ Less than 0.005.

Primary energy Consumption per capita*

Gigajoule per capita	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	Growth rate per annum 2023	2013–23
Canada	410.6	407.5	404.9	397.1	397.7	397.6	390.3	363.1	364.9	371.8	**359.7**	-3.3%	-1.3%
Mexico	68.8	67.6	66.1	66.8	67.2	65.8	64.5	58.3	61.8	64.2	**65.8**	2.5%	-0.4%
US	290.0	290.6	285.5	283.1	281.9	290.1	286.2	263.9	277.3	282.1	**277.3**	-1.7%	-0.4%
Total North America	244.0	243.7	239.5	237.3	236.6	241.8	238.3	219.6	229.5	233.8	**230.0**	-1.6%	-0.6%
Argentina	83.3	82.4	83.0	81.8	81.0	79.8	74.6	69.5	76.2	81.4	**80.2**	-1.5%	-0.4%
Brazil	62.0	63.1	61.7	59.7	59.8	59.5	60.1	57.3	60.0	62.4	**64.1**	2.7%	0.3%
Chile	85.1	83.4	83.4	86.4	88.3	90.1	89.6	82.5	88.1	92.5	**92.4**	†	0.8%
Colombia	37.8	39.4	36.9	41.2	40.9	40.8	40.4	36.2	40.2	42.3	**43.3**	2.3%	1.4%
Ecuador	41.1	42.5	41.8	41.0	42.1	43.7	43.9	37.4	43.0	44.5	**46.4**	4.1%	1.2%
Peru	31.5	31.9	33.0	34.6	34.6	35.6	35.8	31.1	35.0	35.7	**36.0**	0.8%	1.4%
Trinidad & Tobago	571.2	567.9	546.4	479.7	504.2	464.2	462.3	401.6	408.5	406.9	**384.3**	-5.6%	-3.9%
Venezuela	125.1	120.8	114.3	104.2	102.8	87.9	81.6	66.7	77.1	82.7	**87.8**	6.1%	-3.5%
Other S. & Cent. America	36.0	35.8	37.2	38.7	38.3	38.6	38.1	33.7	35.3	35.7	**37.2**	4.1%	0.3%
Total S. & Cent. America	59.5	59.7	58.8	58.0	57.8	56.8	55.9	51.2	54.7	57.0	**58.3**	2.2%	-0.2%
Austria	174.4	166.3	165.1	168.8	170.9	166.3	173.5	161.7	163.8	152.9	**154.6**	1.1%	-1.2%
Belgium	227.6	209.6	210.4	225.7	226.4	224.6	230.9	206.8	228.9	214.5	**197.8**	-7.8%	-1.4%
Czech Republic	167.8	164.3	161.0	158.8	167.7	167.1	163.3	151.3	159.7	156.3	**145.2**	-7.1%	-1.4%
Finland	226.2	217.4	216.1	218.9	213.9	217.9	213.2	204.4	208.5	208.4	**215.6**	3.5%	-0.5%
France	166.2	158.3	159.2	155.6	154.6	156.2	152.6	136.3	144.7	128.0	**133.8**	4.5%	-2.1%
Germany	170.5	163.2	165.8	168.0	169.4	164.5	160.0	148.8	153.0	147.4	**137.0**	-7.0%	-2.2%
Greece	108.3	102.0	103.8	102.8	108.5	109.7	107.9	94.8	104.3	109.0	**106.2**	-2.5%	-0.2%
Hungary	86.6	86.9	91.8	93.7	99.0	99.9	101.3	99.8	105.3	96.4	**89.7**	-7.0%	0.3%
Italy	110.9	105.2	108.5	109.1	110.6	111.4	109.7	99.9	107.5	104.8	**101.0**	-3.6%	-0.9%
Netherlands	226.9	215.8	216.8	219.5	220.1	213.8	212.0	204.5	208.7	195.8	**195.0**	-0.4%	-1.5%
Norway	371.3	380.4	381.6	384.0	382.7	374.4	347.8	373.0	378.8	352.9	**363.7**	3.1%	-0.2%
Poland	105.5	101.6	103.0	107.5	112.9	114.2	111.0	106.7	115.1	107.2	**100.3**	-6.4%	-0.5%
Portugal	99.6	100.9	100.6	108.0	105.4	107.7	102.5	92.7	93.2	92.1	**92.6**	0.5%	-0.7%
Romania	66.3	68.3	68.9	69.3	70.9	72.0	70.8	68.4	72.6	65.9	**64.1**	-2.7%	-0.3%
Spain	121.9	120.4	122.0	122.6	123.8	125.3	121.0	108.2	116.0	120.4	**119.2**	-1.1%	-0.2%
Sweden	225.2	221.9	227.4	220.4	226.0	215.8	219.4	208.4	217.9	212.2	**202.7**	-4.5%	-1.0%
Switzerland	159.9	151.4	146.2	136.0	135.0	135.9	141.0	128.6	123.5	119.5	**128.8**	7.8%	-2.1%
Türkiye	66.4	67.0	71.8	74.2	78.4	77.7	79.7	78.0	82.9	83.2	**81.6**	-1.9%	2.1%
Ukraine	108.8	96.4	80.3	84.3	78.6	82.0	78.0	75.3	77.3	58.6	**60.4**	3.1%	-5.7%
United Kingdom	133.1	124.8	125.9	123.0	122.6	121.8	118.6	105.8	106.5	107.7	**102.6**	-4.7%	-2.6%
Other Europe	104.9	101.5	104.0	106.9	109.2	111.0	108.3	102.5	109.6	108.6	**108.6**	-0.1%	0.3%
Total Europe	130.2	124.8	125.6	126.7	128.1	127.8	125.6	116.9	122.6	117.7	**115.2**	-2.1%	-1.2%
Azerbaijan	57.7	58.1	62.7	61.4	59.7	62.5	65.4	64.7	69.0	73.1	**78.8**	7.8%	3.2%
Belarus	109.3	109.5	99.1	101.2	103.0	114.1	114.9	107.1	115.0	111.1	**112.2**	1.0%	0.3%
Kazakhstan	151.8	157.4	128.4	141.6	150.4	153.3	153.3	139.6	154.2	152.0	**152.0**	†	†
Russian Federation	200.9	201.0	197.3	200.6	201.4	208.4	206.7	199.7	206.8	214.7	**216.6**	0.9%	0.8%
Turkmenistan	173.5	180.3	201.5	214.2	196.0	217.5	204.5	253.3	251.5	253.5	**245.8**	-3.0%	3.5%
Uzbekistan	65.4	67.1	62.7	59.8	60.3	59.9	59.2	58.0	59.8	61.2	**59.8**	-2.2%	-0.9%
Other CIS	35.8	36.6	36.2	36.0	37.1	39.9	38.1	37.5	37.8	36.9	**37.1**	0.6%	0.4%
Total CIS	155.8	156.5	151.5	154.1	154.7	160.1	158.4	153.5	159.1	163.2	**163.7**	0.3%	0.5%
Iran	121.7	124.7	120.4	124.7	127.6	130.2	135.7	139.7	136.0	140.9	**142.6**	1.1%	1.6%
Iraq	47.7	44.6	42.6	45.2	51.6	52.4	55.4	48.4	49.0	53.7	**55.2**	2.8%	1.5%
Israel	124.5	119.3	123.7	123.8	123.8	124.4	126.1	117.2	118.1	122.9	**121.4**	-1.2%	-0.2%
Kuwait	418.9	395.9	409.5	393.9	388.8	383.5	340.7	328.5	359.3	364.6	**365.9**	0.4%	-1.3%
Oman	299.5	283.6	289.6	277.1	280.1	294.0	291.9	285.6	313.3	328.0	**333.4**	1.7%	1.1%
Qatar	853.1	847.8	884.6	808.1	748.9	727.2	748.3	667.1	725.6	756.9	**816.7**	7.9%	-0.4%
Saudi Arabia	312.3	328.5	336.0	342.6	335.0	318.9	298.2	288.7	298.6	311.5	**313.9**	0.8%	0.1%
United Arab Emirates	466.2	460.7	495.7	510.9	482.5	453.1	476.4	467.0	479.1	516.9	**539.4**	4.3%	1.5%
Other Middle East	31.9	31.3	28.8	27.8	27.9	27.5	26.9	25.4	25.9	25.1	**25.2**	0.2%	-2.3%
Total Middle East	136.8	138.6	139.7	141.9	141.5	139.2	138.6	134.4	135.6	140.9	**142.9**	1.4%	0.4%
Algeria	50.9	54.4	56.2	55.1	54.6	57.5	58.5	53.8	57.7	58.9	**55.7**	-5.5%	0.9%
Egypt	37.5	36.2	36.0	37.2	37.9	37.2	35.8	33.1	34.9	35.9	**34.9**	-2.7%	-0.7%
Morocco	22.8	22.8	22.9	22.9	23.7	24.2	26.2	23.8	26.1	25.7	**25.8**	0.6%	1.3%
South Africa	95.6	95.2	91.3	94.6	93.9	89.2	92.1	85.3	85.2	81.3	**80.3**	-1.2%	-1.7%
Other Africa	6.5	6.6	6.7	6.6	6.8	7.1	7.0	6.6	7.3	7.2	**7.1**	-1.7%	1.0%
Total Africa	15.2	15.2	15.1	15.2	15.3	15.3	15.2	14.1	14.9	14.7	**14.3**	-2.7%	-0.6%
Australia	242.3	240.3	242.0	239.0	234.5	234.2	238.5	222.3	220.7	228.4	**227.7**	-0.3%	-0.6%
Bangladesh	7.2	7.3	8.8	8.7	9.0	9.5	10.5	9.8	10.5	10.9	**10.6**	-2.8%	4.0%
China	88.6	90.3	90.8	90.6	93.6	97.6	101.8	104.8	110.7	112.4	**119.8**	6.6%	3.1%
China Hong Kong SAR	160.4	155.3	158.8	162.2	173.4	174.9	165.5	123.8	117.0	104.5	**120.6**	15.4%	-2.8%
India	20.0	21.1	21.6	22.3	22.9	23.9	24.3	22.8	24.5	25.7	**27.3**	6.4%	3.2%
Indonesia	25.7	25.8	25.9	26.1	26.8	29.0	30.7	28.7	29.1	36.5	**36.4**	-0.2%	3.5%
Japan	157.2	153.4	151.7	150.1	152.2	151.6	149.0	138.7	145.5	145.4	**141.2**	-2.9%	-1.1%
Malaysia	129.8	129.1	129.1	133.9	133.8	134.4	136.2	129.7	133.7	141.2	**140.1**	-0.8%	0.8%
New Zealand	193.8	199.9	197.8	197.2	197.1	192.3	191.4	170.2	165.3	161.2	**164.7**	2.1%	-1.6%
Pakistan	13.2	13.4	13.9	9.1	15.7	15.9	15.8	15.5	16.9	15.2	**14.0**	-8.0%	0.6%
Philippines	13.9	14.4	15.5	16.6	17.9	18.2	18.5	16.5	17.2	17.8	**18.7**	5.1%	3.0%
Singapore	533.9	535.3	559.7	584.1	593.3	588.5	570.5	554.6	551.8	531.3	**577.0**	8.6%	0.8%
South Korea	231.8	231.6	233.6	239.1	240.8	244.0	240.6	232.4	243.6	246.1	**240.1**	-2.4%	0.4%
Sri Lanka	13.5	14.6	15.4	16.9	17.9	18.7	18.8	17.6	18.1	16.1	**16.3**	1.5%	1.9%
Taiwan	201.3	205.0	204.1	204.4	204.0	205.9	201.5	195.2	207.2	198.7	**189.3**	-4.7%	-0.6%
Thailand	67.9	69.8	70.5	71.7	72.7	74.8	74.7	69.3	69.7	69.7	**69.7**	0.1%	0.3%
Vietnam	26.3	28.7	32.3	34.7	36.9	41.1	45.2	44.9	44.6	45.6	**49.5**	8.5%	6.5%
Other Asia Pacific	12.3	13.0	13.3	13.9	17.2	17.6	18.3	18.5	18.2	18.8	**19.2**	2.1%	4.5%
Total Asia Pacific	54.9	55.7	56.2	56.2	58.0	59.9	61.3	60.6	63.5	64.7	**67.3**	4.0%	2.1%
Total World	**74.1**	**74.0**	**73.7**	**73.6**	**74.5**	**75.7**	**75.7**	**72.4**	**75.4**	**76.2**	**77.0**	**1.1%**	**0.4%**
of which: OECD	178.4	175.8	175.1	174.9	175.7	177.3	174.8	161.9	169.3	169.3	**166.0**	-1.9%	-0.7%
Non-OECD	51.0	51.6	51.5	51.6	52.6	53.9	54.6	53.4	55.7	56.7	**58.5**	3.2%	1.4%
European Union	142.0	136.9	138.6	139.9	141.9	141.3	138.8	128.3	135.3	129.3	**125.6**	-2.9%	-1.2%

* In this review, primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.
Energy from all sources of non-fossil power generation is accounted for on an input-equivalent basis. See the appendix or **https://www.energyinst.org/statistical-review** for more details on this methodology.
† Less than 0.05%.

Carbon Carbon dioxide emissions from energy

Million tonnes of carbon dioxide	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	559.3	564.5	559.4	546.9	561.2	574.2	562.4	502.2	511.3	525.0	**519.5**	-1.0%	-0.7%	1.5%
Mexico	496.7	482.8	480.9	491.1	503.3	489.0	480.6	413.4	442.5	469.3	**489.9**	4.4%	-0.1%	1.4%
US	5246.9	5252.5	5137.8	5039.3	4980.3	5134.6	4982.8	4466.8	4755.3	4798.2	**4639.7**	-3.3%	-1.2%	13.2%
Total North America	6302.9	6299.8	6178.1	6077.3	6044.9	6197.8	6025.8	5382.4	5709.2	5792.4	**5649.1**	-2.5%	-1.1%	16.1%
Argentina	187.6	187.8	191.2	190.1	188.5	186.0	174.6	162.3	183.5	198.4	**190.9**	-3.8%	0.2%	0.5%
Brazil	487.0	511.7	494.8	455.9	461.7	442.1	435.5	408.3	461.6	443.4	**451.0**	1.7%	-0.8%	1.3%
Chile	88.9	87.2	87.4	92.2	93.9	93.5	94.8	85.1	93.8	93.0	**86.5**	-7.0%	-0.3%	0.2%
Colombia	89.1	94.9	87.7	102.3	95.3	96.9	99.7	89.6	96.8	103.0	**110.2**	7.0%	2.1%	0.3%
Ecuador	36.5	38.4	37.6	35.4	34.4	37.2	35.7	29.2	36.2	39.6	**42.2**	6.7%	1.5%	0.1%
Peru	46.0	46.8	49.2	53.2	51.0	52.8	54.4	45.3	54.0	57.9	**59.5**	2.7%	2.6%	0.2%
Trinidad & Tobago	25.1	24.7	23.8	21.5	20.7	19.6	19.0	16.4	15.5	15.8	**15.2**	-3.7%	-4.9%	0.0%
Venezuela	186.1	181.7	172.1	159.2	149.9	123.8	111.3	77.7	93.6	104.7	**120.8**	15.5%	-4.2%	0.3%
Central America	60.1	61.8	68.7	71.6	72.1	72.9	80.7	63.7	72.4	75.0	**81.0**	8.0%	3.0%	0.2%
Other Caribbean	103.8	105.5	110.0	112.8	109.6	112.1	111.5	101.2	101.4	101.0	**106.9**	5.9%	0.3%	0.3%
Other South America	34.7	35.2	35.6	37.3	38.2	39.4	40.0	35.9	41.4	42.6	**43.8**	2.7%	2.4%	0.1%
Total S. & Cent. America	1344.9	1375.9	1357.9	1331.5	1315.3	1276.3	1257.3	1114.8	1250.2	1274.3	**1308.1**	2.7%	-0.3%	3.7%
Austria	62.8	59.0	61.6	62.1	64.5	62.3	63.8	56.2	59.3	56.3	**53.8**	-4.5%	-1.5%	0.2%
Belgium	117.3	109.0	115.2	116.9	118.8	125.5	121.8	105.3	113.9	109.7	**103.3**	-5.8%	-1.3%	0.3%
Bulgaria	40.7	43.2	45.9	43.1	45.9	42.7	41.5	36.1	42.0	46.4	**35.5**	-23.5%	-1.4%	0.1%
Croatia	16.1	15.8	16.2	16.7	17.1	16.3	16.3	14.9	15.7	16.0	**16.0**	-0.1%	-0.1%	0.0%
Cyprus	7.3	7.3	7.5	8.1	8.3	8.2	8.2	7.0	7.2	7.7	**7.6**	-0.5%	0.5%	0.0%
Czech Republic	105.0	102.0	102.8	104.8	104.8	103.8	98.2	88.4	92.9	91.9	**82.9**	-9.8%	-2.3%	0.2%
Denmark	43.0	39.2	36.7	38.0	35.5	35.8	32.6	27.4	28.8	29.8	**28.4**	-4.5%	-4.1%	0.1%
Estonia	24.5	23.5	21.4	22.2	24.5	24.1	18.3	15.7	16.8	17.8	**15.0**	-15.6%	-4.8%	0.0%
Finland	52.0	47.7	44.9	47.7	45.1	46.5	43.4	36.8	36.3	35.8	**31.7**	-11.5%	-4.8%	0.1%
France	339.5	304.4	308.9	314.2	319.1	308.9	301.5	252.9	278.6	272.5	**254.6**	-6.6%	-2.8%	0.7%
Germany	797.6	751.1	755.6	767.4	758.2	731.0	678.4	603.0	640.2	631.8	**571.9**	-9.5%	-3.3%	1.6%
Greece	79.9	76.1	73.8	70.7	75.0	73.6	69.6	56.3	59.6	62.8	**59.4**	-5.5%	-2.9%	0.2%
Hungary	42.0	41.3	43.8	44.7	46.9	47.3	47.1	44.6	46.0	43.3	**39.1**	-9.6%	-0.7%	0.1%
Iceland	2.6	2.6	2.9	2.8	3.1	3.3	2.8	1.8	2.1	2.6	**2.4**	-6.6%	-0.8%	0.0%
Ireland	37.5	37.2	38.7	40.4	39.3	39.1	37.6	33.4	35.5	36.2	**34.0**	-6.3%	-1.0%	0.1%
Italy	341.4	318.8	334.4	331.4	335.5	336.1	328.6	286.3	318.2	324.9	**301.3**	-7.3%	-1.2%	0.9%
Latvia	8.0	7.7	7.9	8.2	8.0	7.8	8.4	7.1	7.5	6.7	**6.5**	-2.1%	-1.9%	0.0%
Lithuania	11.7	11.0	11.3	11.8	12.0	12.6	12.4	12.1	12.4	11.9	**11.7**	-1.5%	0.0%	0.0%
Luxembourg	10.9	10.5	10.1	10.0	10.3	10.8	10.9	9.0	9.7	8.6	**8.3**	-3.8%	-2.7%	0.0%
Netherlands	211.4	202.5	207.6	208.0	204.3	198.2	193.7	173.1	176.9	164.8	**156.1**	-5.3%	-3.0%	0.4%
North Macedonia	8.1	7.7	7.4	7.5	7.8	7.5	8.3	7.0	7.1	7.9	**8.2**	4.3%	0.1%	0.0%
Norway	37.5	37.4	38.0	37.0	37.1	37.3	36.0	33.7	34.6	34.7	**34.0**	-1.9%	-1.0%	0.1%
Poland	307.5	290.3	290.1	303.2	316.0	320.7	302.5	284.3	310.3	294.5	**270.3**	-8.2%	-1.3%	0.8%
Portugal	48.8	48.0	52.6	52.0	57.3	54.3	50.3	40.5	39.1	42.2	**39.7**	-5.7%	-2.0%	0.1%
Romania	70.4	70.7	71.5	69.1	72.6	72.2	70.7	64.5	69.6	64.8	**59.9**	-7.7%	-1.6%	0.2%
Slovakia	32.6	30.0	30.4	30.8	32.9	32.3	30.0	27.8	31.3	28.4	**27.6**	-2.6%	-1.6%	0.1%
Slovenia	14.1	12.6	12.7	13.6	13.9	13.9	13.3	11.9	12.1	11.6	**10.4**	-10.5%	-3.0%	0.0%
Spain	273.5	271.1	286.9	279.4	297.1	291.4	274.6	221.4	242.3	260.3	**246.8**	-5.2%	-1.0%	0.7%
Sweden	45.6	44.5	44.7	44.8	44.9	40.9	41.2	38.9	41.2	37.8	**35.8**	-5.3%	-2.4%	0.1%
Switzerland	43.4	38.9	39.6	38.1	38.9	37.1	38.2	32.6	33.3	32.8	**32.7**	-0.1%	-2.8%	0.1%
Türkiye	303.3	335.1	341.1	359.2	404.2	401.8	394.0	384.6	420.7	420.4	**411.1**	-2.2%	3.1%	1.2%
Ukraine	286.5	246.8	195.1	215.6	187.9	198.7	185.5	171.5	167.7	109.4	**105.3**	-3.7%	-9.5%	0.3%
United Kingdom	499.0	458.0	440.9	413.8	403.6	397.1	381.8	320.9	339.4	341.1	**327.3**	-4.1%	-4.1%	0.9%
Other Europe	113.3	102.3	111.7	116.5	120.4	119.4	119.9	117.9	118.2	119.8	**118.3**	-1.3%	0.4%	0.3%
Total Europe	4434.7	4203.5	4210.0	4250.1	4310.8	4258.5	4081.5	3625.0	3866.4	3783.0	**3546.8**	-6.2%	-2.2%	10.1%
Azerbaijan	30.4	31.2	33.7	33.2	32.2	34.3	34.3	34.5	36.6	39.3	**42.4**	8.0%	3.4%	0.1%
Belarus	60.0	59.1	54.8	54.9	55.6	60.5	60.8	55.8	57.0	55.1	**52.5**	-4.8%	-1.3%	0.1%
Kazakhstan	210.8	218.0	175.2	197.0	211.3	218.6	217.0	199.3	221.8	220.9	**221.2**	0.1%	0.5%	0.6%
Russian Federation	1548.8	1551.5	1520.8	1529.3	1516.9	1573.3	1557.1	1461.1	1512.4	1599.1	**1614.7**	1.0%	0.4%	4.6%
Turkmenistan	58.2	62.0	68.9	76.0	69.8	78.5	74.4	94.0	93.4	95.4	**93.9**	-1.6%	4.9%	0.3%
Uzbekistan	109.4	114.0	107.6	103.6	105.4	109.0	108.9	110.8	115.7	120.7	**120.1**	-0.5%	0.9%	0.3%
Other CIS	25.3	27.5	28.9	29.3	29.8	33.3	31.3	31.9	33.6	32.9	**34.1**	3.6%	3.0%	0.1%
Total CIS	2042.8	2063.2	1989.8	2023.5	2021.1	2107.5	2084.0	1987.2	2070.4	2163.3	**2178.8**	0.7%	0.6%	6.2%
Iran	542.8	552.3	546.9	567.2	575.8	602.3	627.4	653.2	649.3	677.2	**683.6**	1.0%	2.3%	1.9%
Iraq	114.1	112.3	110.6	118.8	140.4	144.5	151.5	134.7	141.9	159.9	**168.2**	5.2%	4.0%	0.5%
Israel	66.8	64.0	66.7	66.0	66.5	67.1	69.1	62.9	63.4	67.2	**65.5**	-2.5%	-0.2%	0.2%
Kuwait	93.2	90.0	97.1	96.3	96.7	100.3	91.1	85.2	91.3	92.1	**93.9**	2.0%	0.1%	0.3%
Oman	65.2	64.7	69.0	69.5	72.2	74.9	74.6	70.1	76.6	82.3	**85.1**	3.4%	2.7%	0.2%
Qatar	100.3	110.3	123.9	124.3	116.8	119.2	125.2	108.6	117.0	119.7	**132.5**	10.7%	2.8%	0.4%
Saudi Arabia	526.0	565.1	601.8	634.5	631.2	612.4	576.3	556.9	572.2	609.4	**620.4**	1.8%	1.7%	1.8%
United Arab Emirates	247.1	243.0	265.1	275.8	264.1	248.8	261.8	255.0	262.0	281.4	**287.2**	2.1%	1.5%	0.8%
Other Middle East	134.2	135.2	124.8	120.3	122.7	123.1	121.2	115.1	119.8	118.3	**121.8**	3.0%	-1.0%	0.3%
Total Middle East	1889.8	1936.8	2006.0	2072.8	2086.4	2092.6	2098.2	2041.7	2093.6	2207.4	**2258.3**	2.3%	1.8%	6.4%
Algeria	115.4	123.6	129.0	127.7	130.7	137.3	142.4	132.7	144.5	149.6	**144.7**	-3.3%	2.3%	0.4%
Egypt	202.7	201.6	204.2	216.6	221.6	217.7	209.6	189.7	221.2	235.6	**232.1**	-1.5%	1.4%	0.7%
Morocco	54.4	56.6	56.8	57.2	60.2	61.8	67.9	62.8	69.9	70.3	**69.1**	-1.8%	2.4%	0.2%
South Africa	463.0	467.4	455.3	474.4	470.5	452.4	474.9	448.9	444.8	425.7	**425.0**	-0.1%	-0.9%	1.2%
Eastern Africa	90.7	101.8	106.0	105.0	114.3	121.1	117.7	109.6	119.0	114.3	**116.8**	2.2%	2.6%	0.3%
Middle Africa	45.5	47.9	48.3	46.4	44.5	45.5	47.4	40.5	46.7	51.2	**52.2**	1.9%	1.4%	0.1%
Western Africa	109.2	110.5	127.4	132.5	142.9	160.8	164.2	166.0	194.0	195.7	**189.9**	-3.0%	5.7%	0.5%
Other Northern Africa	75.2	74.8	67.9	69.6	74.4	75.6	76.4	68.8	82.3	86.7	**89.6**	3.3%	1.8%	0.3%
Other Southern Africa	12.4	13.7	13.7	13.6	14.5	15.1	14.4	12.3	13.9	15.3	**15.7**	2.2%	2.3%	0.0%
Total Africa	1168.5	1197.9	1208.5	1243.0	1273.5	1287.3	1314.8	1231.4	1336.2	1344.5	**1335.1**	-0.7%	1.3%	3.8%
Australia	395.6	399.2	407.4	406.0	404.3	402.5	406.9	376.5	369.2	377.0	**376.1**	-0.2%	-0.5%	1.1%
Bangladesh	64.4	66.9	83.8	83.8	88.4	95.7	107.7	102.2	109.7	119.0	**118.2**	-0.7%	6.3%	0.3%
China	9214.1	9235.5	9172.9	9027.1	9274.3	9612.0	9923.8	10128.4	10543.8	10576.3	**11218.4**	6.1%	2.0%	31.9%
China Hong Kong SAR	91.5	89.6	90.4	92.6	98.8	100.0	94.5	68.0	64.4	57.5	**65.9**	14.6%	-3.2%	0.2%
India	1896.2	2046.5	2114.3	2211.3	2287.9	2385.8	2411.4	2241.6	2469.9	2595.6	**2814.3**	8.4%	4.0%	8.0%
Indonesia	439.2	448.6	465.0	463.8	483.9	521.6	565.7	522.5	528.6	704.4	**701.4**	-0.4%	4.8%	2.0%
Japan	1296.2	1261.5	1223.3	1202.0	1196.6	1174.2	1135.5	1046.0	1080.1	1081.2	**1012.8**	-6.3%	-2.4%	2.9%
Malaysia	234.2	243.2	247.1	252.5	241.3	251.2	255.8	251.2	258.6	277.4	**284.7**	2.6%	2.0%	0.8%
New Zealand	35.1	35.0	35.4	34.6	36.7	36.6	37.9	32.9	32.6	30.5	**31.7**	4.1%	-1.0%	0.1%
Pakistan	145.3	151.7	160.3	114.0	188.7	195.3	195.1	196.1	231.4	208.4	**189.6**	-9.0%	2.7%	0.5%
Philippines	91.9	96.8	105.9	115.9	128.4	132.8	139.9	126.8	134.3	140.7	**152.6**	8.4%	5.2%	0.4%
Singapore	191.3	190.8	202.3	216.8	227.5	222.7	214.9	210.7	213.3	209.8	**224.4**	7.0%	1.6%	0.6%
South Korea	620.0	615.0	622.8	633.2	641.8	659.1	635.3	588.1	603.2	592.9	**571.2**	-3.7%	-0.8%	1.6%
Sri Lanka	15.9	19.9	20.4	24.1	25.9	25.4	26.6	24.7	23.6	20.4	**21.1**	3.7%	2.9%	0.1%
Taiwan	268.5	275.4	275.7	280.9	286.9	284.8	279.3	265.7	281.1	273.3	**265.5**	-2.9%	-0.1%	0.8%
Thailand	265.9	273.6	281.1	286.7	287.4	293.1	288.3	273.0	269.7	274.6	**269.7**	-1.8%	0.1%	0.8%
Vietnam	134.0	150.2	181.9	197.3	199.0	240.3	290.8	285.2	268.2	257.5	**305.4**	18.6%	8.6%	0.9%
Other Asia Pacific	118.4	128.7	136.5	143.0	196.9	201.8	219.8	219.7	211.3	218.2	**230.5**	5.6%	6.9%	0.7%
Total Asia Pacific	15517.7	15728.1	15826.7	15785.6	16294.7	16835.0	17229.1	16959.4	17693.0	18014.7	**18853.5**	4.7%	2.0%	53.7%
Total World	32701.3	32805.2	32776.9	32783.7	33346.5	34055.0	34090.7	32341.8	34019.0	34579.6	**35129.8**	1.6%	0.7%	100.0%
of which: OECD	12793.4	12572.9	12470.4	12394.5	12438.5	12528.9	12144.2	10876.4	11495.4	11556.7	**11108.5**	-3.9%	-1.4%	31.6%
Non-OECD	19908.0	20232.3	20306.5	20389.2	20908.1	21526.1	21946.5	21465.5	22523.7	23022.9	**24021.3**	4.3%	1.9%	68.4%
European Union	3147.7	2981.4	3040.5	3067.2	3117.0	3065.7	2924.9	2564.2	2751.8	2724.0	**2517.6**	-7.6%	-2.2%	7.2%

Note: The carbon emissions above reflect only those through consumption of oil, gas and coal for combustion related activities, and are based on 'Default CO_2 Emissions Factors for Combustion' listed by the IPCC in its Guidelines for National Greenhouse Gas Inventories (2006). This does not allow for any carbon that is sequestered, for other sources of carbon emissions, or for emissions of other greenhouse gases. Our data is therefore not comparable to official national emissions data.

Emissions from natural gas flaring

Million tonnes of carbon dioxide	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	3.3	4.3	3.9	2.9	2.9	2.9	2.3	2.5	2.5	2.3	**2.6**	13.5%	-2.4%	0.8%
Mexico	10.3	11.5	12.1	11.7	9.1	9.2	10.7	13.5	15.8	13.8	**14.4**	4.9%	3.4%	4.6%
US	18.7	23.0	24.2	18.3	19.5	28.6	34.9	25.0	19.6	17.7	**21.0**	18.6%	1.2%	6.6%
Total North America	32.4	38.8	40.2	32.8	31.4	40.6	47.9	41.0	37.9	33.8	**38.1**	12.6%	1.6%	12.0%
Argentina	1.6	1.7	1.5	1.3	1.2	1.6	2.0	2.3	2.7	2.5	**2.4**	-4.9%	4.0%	0.7%
Bolivia	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	-7.3%	1.3%	0.0%
Brazil	3.0	3.4	3.0	3.4	2.6	2.4	2.7	2.3	2.2	2.0	**2.7**	31.8%	-1.0%	0.8%
Colombia	1.7	1.7	1.6	1.2	1.1	1.0	1.1	0.8	0.7	0.5	**0.7**	30.0%	-8.8%	0.2%
Peru	0.4	0.5	0.5	0.4	0.3	0.3	0.2	0.3	0.3	0.3	**0.3**	2.4%	-2.7%	0.1%
Trinidad & Tobago	0.8	0.7	0.6	0.5	0.5	0.5	0.8	0.4	0.3	0.3	**0.3**	-10.5%	-9.4%	0.1%
Venezuela	19.7	21.1	20.0	20.5	16.1	18.7	21.2	18.9	18.5	19.7	**19.1**	-3.2%	-0.3%	6.0%
Other S. & Cent. America	2.1	2.6	2.7	2.9	2.6	2.3	2.3	3.1	3.2	3.4	**3.9**	14.1%	6.6%	1.2%
Total S. & Cent. America	29.3	31.8	30.1	30.2	24.4	26.7	30.3	28.2	28.0	28.9	**29.4**	1.7%	0.0%	9.3%
Denmark	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	**0.1**	-13.1%	-8.7%	0.0%
Germany	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	**0.1**	26.2%	0.6%	0.0%
Italy	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	-0.1%	-5.7%	0.0%
Netherlands	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	**0.0**	-6.7%	-2.0%	0.0%
Norway	0.9	0.7	0.8	0.8	0.5	0.4	0.3	0.3	0.4	0.3	**0.3**	-9.7%	-11.1%	0.1%
Poland	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	**0.1**	69.9%	7.0%	0.0%
Romania	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	**0.1**	-5.7%	-1.9%	0.0%
Ukraine	0.5	0.5	0.5	0.5	0.3	0.3	0.2	0.2	0.3	0.2	**0.2**	21.6%	-6.3%	0.1%
United Kingdom	2.8	2.7	2.7	2.8	2.8	2.5	2.4	2.2	1.8	1.2	**1.4**	12.0%	-6.7%	0.4%
Other Europe	0.9	1.0	0.9	0.9	0.6	0.7	0.9	0.8	0.8	0.7	**0.7**	2.0%	-2.0%	0.2%
Total Europe	5.6	5.6	5.5	5.7	4.7	4.5	4.2	3.9	3.8	2.8	**3.0**	7.6%	-5.8%	1.0%
Azerbaijan	0.9	0.7	0.4	0.5	0.4	0.5	0.5	0.3	0.3	0.4	**0.8**	68.0%	-1.9%	0.2%
Kazakhstan	7.4	7.8	7.3	5.3	4.8	4.1	3.1	2.9	3.0	2.0	**2.0**	-1.2%	-12.2%	0.6%
Russian Federation	42.3	39.4	42.5	48.2	42.3	42.9	48.0	50.6	53.3	52.6	**59.4**	13.0%	3.5%	18.7%
Turkmenistan	4.5	4.0	3.7	3.6	3.3	3.0	2.7	3.3	2.4	2.2	**2.4**	11.2%	-6.1%	0.8%
Uzbekistan	3.0	2.6	2.2	2.1	1.7	1.6	1.2	1.1	0.9	0.9	**0.8**	-9.8%	-12.5%	0.2%
Other CIS	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	**0.3**	129.7%	7.3%	0.1%
Total CIS	58.2	54.5	56.2	59.8	52.6	52.1	55.9	58.4	60.1	58.2	**65.7**	12.8%	1.2%	20.7%
Bahrain	0.2	0.1	0.1	0.2	0.3	0.2	0.4	0.5	0.3	0.2	**0.2**	-1.7%	2.4%	0.1%
Iran	24.3	26.4	25.7	34.4	37.4	36.5	29.6	28.6	37.3	37.1	**43.1**	16.3%	5.9%	13.6%
Iraq	26.8	27.9	32.0	35.3	35.4	35.5	35.8	34.7	35.8	35.9	**35.6**	-0.9%	2.9%	11.2%
Kuwait	3.0	3.1	2.0	2.6	1.8	2.0	1.7	1.8	2.1	1.5	**1.6**	12.4%	-5.9%	0.5%
Oman	4.6	5.1	4.8	5.6	5.2	5.2	5.2	5.1	5.2	4.2	**3.7**	-11.6%	-2.1%	1.2%
Qatar	3.5	3.2	2.8	2.8	2.6	2.6	3.3	2.6	2.8	2.6	**2.6**	1.0%	-2.8%	0.8%
Saudi Arabia	5.4	5.1	5.5	6.3	5.8	5.8	5.2	5.7	5.6	5.1	**6.8**	31.9%	2.3%	2.1%
Syria	0.9	0.8	1.1	1.2	2.4	1.4	1.9	2.0	2.1	2.2	**2.2**	2.1%	9.5%	0.7%
United Arab Emirates	2.7	2.2	2.3	2.0	2.2	2.6	2.0	2.2	2.0	2.2	**2.1**	-5.3%	-2.3%	0.7%
Other Middle East	2.3	2.4	1.3	0.7	0.8	0.9	1.4	1.7	1.9	1.4	**0.9**	-35.6%	-8.6%	0.3%
Total Middle East	73.7	76.2	77.5	91.0	93.9	92.7	86.5	84.9	95.0	92.5	**99.0**	7.1%	3.0%	31.2%
Algeria	17.8	18.5	19.5	19.5	18.6	19.0	19.6	18.8	16.4	17.3	**16.7**	-3.0%	-0.6%	5.3%
Egypt	5.2	6.0	6.1	6.1	5.1	4.9	5.1	5.1	4.7	4.4	**4.4**	-1.0%	-1.7%	1.4%
Libya	8.3	5.9	5.4	4.9	8.0	9.4	10.2	5.0	12.0	11.0	**13.6**	24.5%	5.1%	4.3%
Nigeria	18.7	16.7	15.1	14.6	15.2	14.7	15.7	14.2	13.1	10.7	**11.5**	8.4%	-4.7%	3.6%
Other Africa	18.7	19.5	21.0	21.0	18.9	17.3	16.5	15.8	15.0	15.9	**14.5**	-9.1%	-2.5%	4.6%
Total Africa	68.8	66.7	67.0	66.2	65.8	65.3	67.2	59.0	61.1	59.2	**60.8**	2.6%	-1.2%	19.2%
Australia	1.6	2.2	2.2	1.4	1.4	1.7	2.8	2.0	1.6	1.4	**1.3**	-5.9%	-1.5%	0.4%
Bangladesh	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	**0.0**	-2.5%	6.9%	0.0%
Brunei	0.4	0.4	0.4	0.6	0.6	0.4	0.6	0.3	0.4	0.2	**0.3**	35.3%	-4.5%	0.1%
China	4.9	5.0	5.0	4.7	3.6	4.0	4.4	5.8	5.4	5.0	**4.9**	-2.7%	-0.1%	1.5%
India	4.4	4.8	5.4	4.9	4.1	3.7	3.6	4.1	3.8	4.1	**4.1**	-0.1%	-0.8%	1.3%
Indonesia	6.6	6.4	6.1	5.8	4.9	4.3	4.3	4.0	3.5	3.7	**4.2**	13.1%	-4.4%	1.3%
Malaysia	6.3	7.2	7.9	6.9	6.2	5.1	5.5	5.4	4.3	3.5	**3.4**	-2.4%	-5.8%	1.1%
Myanmar	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	**0.0**	-11.6%	-17.8%	0.0%
Pakistan	1.2	0.9	0.9	0.9	0.7	0.6	0.6	0.6	0.5	0.6	**0.5**	-4.0%	-7.8%	0.2%
Thailand	0.9	0.9	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.5	**0.5**	2.6%	-6.4%	0.1%
Vietnam	2.1	2.1	2.0	1.8	1.9	1.6	1.6	1.4	1.1	1.2	**1.3**	14.3%	-4.6%	0.4%
Other Asia Pacific	1.4	1.7	1.4	1.4	0.9	0.9	0.6	0.6	0.8	0.9	**0.8**	-15.6%	-5.8%	0.2%
Total Asia Pacific	29.9	31.9	32.4	29.5	25.3	23.1	24.8	25.1	22.4	21.1	**21.3**	1.2%	-3.3%	6.7%
Total World	**297.9**	**305.6**	**309.0**	**315.2**	**298.1**	**305.0**	**316.8**	**300.5**	**308.3**	**296.6**	**317.4**	**7.0%**	**0.6%**	**100.0%**
of which: OECD	41.0	48.0	49.3	41.0	38.5	47.8	55.9	47.7	44.0	38.6	**43.1**	11.7%	0.5%	13.6%
Non-OECD	256.9	257.6	259.6	274.2	259.6	257.2	260.9	252.8	264.3	258.0	**274.3**	6.3%	0.7%	86.4%
European Union	1.4	1.6	1.4	1.4	1.0	1.2	1.2	1.1	1.2	1.0	**1.0**	3.7%	-2.9%	0.3%

Data from 2013 onward: Made utilising VIIRS Nightfire (VNF) nightly data produced by the Earth Observation Group, Payne Institute for Public Policy, Colorado School of Mines. These data include flaring from upstream, downstream oil and gas. Emissions have been calculated using flared natural gas volumes based on standard cubic metres (standardized using a Gross Calorific Value (GCV) of 40 MJ/m³) and the standard conversion factor for emissions from the IPCC. Perfect combustion has been assumed.
Note: Annual changes and shares of total are calculated using exajoules figures.

Carbon Carbon dioxide equivalent emissions from energy, process emissions, methane and flaring

Million tonnes of carbon dioxide equivalent	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	615.8	625.0	620.3	608.9	627.7	643.8	632.0	567.8	580.0	596.7	**599.4**	0.4%	-0.3%	1.5%
Mexico	570.2	557.5	553.9	562.7	568.2	553.1	544.8	481.3	514.0	538.1	**559.7**	4.0%	-0.2%	1.4%
US	5610.0	5648.5	5540.6	5415.7	5375.0	5579.0	5474.3	4912.9	5197.2	5270.1	**5130.1**	-2.7%	-0.9%	12.7%
Total North America	**6796.0**	**6831.0**	**6714.8**	**6587.3**	**6570.8**	**6776.0**	**6651.0**	**5962.0**	**6291.1**	**6405.0**	**6289.3**	**-1.8%**	**-0.8%**	**15.6%**
Argentina	218.4	218.6	222.1	220.2	218.4	217.6	208.4	193.3	218.3	235.2	**229.4**	-2.5%	0.5%	0.6%
Brazil	544.7	573.0	555.3	514.3	518.5	498.0	494.3	469.2	524.0	505.5	**525.0**	3.9%	-0.4%	1.3%
Chile	90.4	88.7	88.9	93.8	95.2	94.8	96.2	86.5	95.3	94.4	**87.9**	-6.9%	-0.3%	0.2%
Colombia	121.8	128.4	120.7	134.1	126.6	127.4	130.8	112.8	121.8	129.4	**138.2**	6.8%	1.3%	0.3%
Ecuador	47.7	50.5	49.2	47.2	45.7	48.0	46.7	39.1	46.6	50.4	**56.2**	11.7%	1.7%	0.1%
Peru	53.9	55.5	57.5	61.2	58.6	60.4	62.2	52.2	62.3	66.6	**69.2**	3.9%	2.5%	0.2%
Trinidad & Tobago	34.0	33.4	31.9	28.5	27.7	26.6	26.4	22.4	20.8	21.2	**20.4**	-3.7%	-5.0%	0.1%
Venezuela	364.4	359.3	342.7	320.2	287.8	244.1	214.5	156.4	174.8	195.2	**225.0**	15.3%	-4.7%	0.6%
Central America	64.2	66.0	73.0	75.7	76.4	76.9	84.5	66.9	75.8	78.5	**84.5**	7.7%	2.8%	0.2%
Other Caribbean	107.7	109.7	114.2	116.8	113.5	116.0	115.4	104.7	105.4	105.0	**111.2**	5.8%	0.3%	0.3%
Other South America	43.7	44.8	45.4	47.1	47.7	48.4	48.4	44.4	50.1	52.4	**52.1**	-0.5%	1.8%	0.1%
Total S. & Cent. America	**1691.0**	**1727.8**	**1700.7**	**1659.2**	**1616.2**	**1558.2**	**1527.9**	**1347.9**	**1495.1**	**1533.7**	**1599.1**	**4.3%**	**-0.6%**	**4.0%**
Austria	65.0	61.3	63.8	64.4	66.7	64.6	66.0	58.5	61.5	58.5	**56.0**	-4.3%	-1.5%	0.1%
Belgium	120.0	111.7	117.7	119.4	121.2	128.1	124.7	108.0	116.6	112.4	**106.0**	-5.7%	-1.2%	0.3%
Bulgaria	43.1	45.6	48.7	45.8	48.7	45.4	44.2	38.5	44.5	48.8	**37.6**	-22.9%	-1.3%	0.1%
Croatia	18.2	17.9	18.3	18.7	19.2	18.3	18.1	16.7	17.4	17.4	**17.5**	0.7%	-0.4%	0.0%
Czech Republic	111.4	108.3	109.2	111.1	110.9	109.9	104.5	94.0	98.2	96.5	**87.8**	-9.0%	-2.4%	0.2%
Denmark	45.3	41.5	39.0	40.5	37.9	38.0	34.6	29.3	30.6	31.6	**30.1**	-4.6%	-4.0%	0.1%
Estonia	25.0	24.0	21.7	22.5	24.9	24.5	18.7	15.8	16.9	17.9	**15.1**	-15.4%	-4.9%	0.0%
France	349.0	313.3	317.5	323.0	327.7	317.6	310.4	261.0	287.1	280.8	**262.9**	-6.3%	-2.8%	0.7%
Germany	815.0	768.2	772.5	784.5	776.3	748.7	696.1	620.6	658.3	649.2	**589.4**	-9.2%	-3.2%	1.5%
Greece	85.5	81.8	79.0	75.7	80.0	78.3	74.0	59.9	63.2	66.7	**63.3**	-5.2%	-3.0%	0.2%
Hungary	43.7	43.0	45.6	46.5	48.8	49.3	49.5	47.0	48.2	45.2	**41.2**	-8.8%	-0.6%	0.1%
Ireland	39.0	38.9	40.6	43.1	42.1	42.0	40.3	35.8	38.1	38.6	**36.4**	-5.9%	-0.7%	0.1%
Italy	355.3	331.7	347.4	343.8	348.1	348.7	341.3	298.1	331.0	337.0	**312.7**	-7.2%	-1.3%	0.8%
Lithuania	12.1	11.4	11.9	12.3	12.4	13.1	13.0	12.6	13.0	12.5	**12.3**	-1.4%	0.2%	0.0%
Netherlands	212.0	203.1	208.1	208.5	204.8	198.6	193.9	173.3	177.0	165.0	**156.5**	-5.2%	-3.0%	0.4%
North Macedonia	8.1	7.7	7.4	7.5	7.8	7.5	8.3	7.0	7.1	7.9	**8.2**	4.3%	0.1%	0.0%
Norway	39.8	39.5	40.1	39.2	39.1	39.2	37.7	35.5	36.4	36.4	**35.5**	-2.6%	-1.2%	0.1%
Poland	336.6	319.5	319.7	334.1	347.7	353.0	335.4	317.3	343.7	326.9	**299.1**	-8.5%	-1.2%	0.7%
Romania	80.0	80.6	81.6	78.6	82.5	82.2	80.8	74.4	79.6	74.5	**69.6**	-6.6%	-1.4%	0.2%
Slovakia	33.9	31.5	31.9	32.4	34.5	33.8	31.5	29.4	32.8	29.9	**29.1**	-2.6%	-1.5%	0.1%
Slovenia	14.5	13.1	13.1	14.0	14.3	14.4	13.8	12.4	12.6	12.1	**10.9**	-10.0%	-2.8%	0.0%
Spain	281.5	280.4	296.3	288.9	306.7	301.3	283.8	229.8	251.0	268.5	**254.9**	-5.1%	-1.0%	0.6%
Sweden	47.1	45.9	46.3	46.4	46.5	42.5	42.6	40.3	42.5	39.1	**37.1**	-4.9%	-2.3%	0.1%
Türkiye	342.4	375.1	380.1	402.0	448.8	446.9	433.0	432.2	471.9	464.0	**457.1**	-1.5%	2.9%	1.1%
Ukraine	323.9	280.6	225.4	246.0	217.2	229.6	215.5	200.8	196.8	132.6	**131.4**	-1.0%	-8.6%	0.3%
United Kingdom	511.1	470.1	453.5	427.0	416.6	409.8	394.4	332.6	350.4	351.2	**338.5**	-3.6%	-4.0%	0.8%
Other Europe	297.2	276.4	288.2	293.9	302.7	298.4	293.1	264.4	264.9	267.2	**279.6**	4.6%	-0.6%	0.7%
Total Europe	**4655.5**	**4422.3**	**4424.5**	**4469.8**	**4534.0**	**4483.6**	**4299.4**	**3844.9**	**4091.5**	**3988.3**	**3775.8**	**-5.3%**	**-2.1%**	**9.3%**
Azerbaijan	40.8	41.2	43.2	42.5	41.1	43.8	44.1	43.4	46.2	49.2	**54.3**	10.4%	2.9%	0.1%
Belarus	63.9	62.9	58.1	58.3	59.2	64.5	65.0	59.3	60.5	58.3	**55.2**	-5.4%	-1.5%	0.1%
Kazakhstan	278.0	284.1	237.9	256.2	274.6	283.6	277.7	259.8	279.4	277.5	**308.7**	11.2%	1.1%	0.8%
Russian Federation	2060.5	2055.3	2029.5	2055.0	2052.9	2136.1	2139.2	2015.4	2103.4	2165.6	**2176.1**	0.5%	0.5%	5.4%
Turkmenistan	133.1	135.3	143.8	148.7	142.0	152.5	150.2	168.1	178.6	181.8	**222.2**	22.3%	5.3%	0.5%
Uzbekistan	137.8	140.0	133.1	129.7	131.5	138.4	138.7	140.3	147.7	150.8	**152.9**	1.4%	1.0%	0.4%
Other CIS	27.1	29.9	31.3	31.7	33.4	37.7	36.1	36.6	38.8	37.7	**39.0**	3.4%	3.7%	0.1%
Total CIS	**2741.3**	**2748.8**	**2676.9**	**2722.1**	**2734.8**	**2856.7**	**2851.1**	**2723.0**	**2854.7**	**2920.9**	**3008.4**	**3.0%**	**0.9%**	**7.4%**
Iran	740.9	762.1	756.2	810.7	834.3	859.9	856.1	879.6	896.3	927.6	**937.0**	1.0%	2.4%	2.3%
Iraq	225.3	228.6	245.7	270.7	294.1	304.0	314.9	286.1	295.6	321.6	**278.3**	-13.5%	2.1%	0.7%
Israel	69.4	66.8	69.5	68.6	69.2	69.5	71.3	65.3	66.1	70.0	**68.2**	-2.6%	-0.2%	0.2%
Kuwait	119.5	116.1	122.2	123.8	121.6	125.7	116.2	108.5	114.9	117.2	**125.8**	7.3%	0.5%	0.3%
Oman	87.8	87.4	91.9	94.3	95.9	99.9	99.7	94.9	102.8	108.6	**110.0**	1.3%	2.3%	0.3%
Qatar	125.8	135.1	148.5	149.0	141.1	143.5	149.7	132.1	140.8	143.8	**164.2**	14.3%	2.7%	0.4%
Saudi Arabia	629.1	669.7	709.0	745.8	734.5	719.0	679.2	658.1	676.3	720.9	**725.9**	0.7%	1.4%	1.8%
United Arab Emirates	298.6	294.7	320.1	330.5	316.7	301.2	315.8	305.6	312.7	336.3	**340.8**	1.3%	1.3%	0.8%
Other Middle East	172.8	170.0	149.3	141.2	147.4	146.0	145.0	138.7	144.3	142.7	**149.4**	4.7%	-1.4%	0.4%
Total Middle East	**2469.2**	**2530.4**	**2612.3**	**2734.6**	**2754.7**	**2768.7**	**2747.9**	**2668.8**	**2749.8**	**2888.7**	**2899.5**	**0.4%**	**1.6%**	**7.2%**
Algeria	206.7	219.1	225.7	228.8	231.6	239.5	243.2	229.2	248.5	254.7	**248.5**	-2.4%	1.9%	0.6%
Egypt	249.9	250.3	253.1	267.2	271.0	267.6	259.1	236.1	269.7	282.4	**279.3**	-1.1%	1.1%	0.7%
Morocco	60.6	61.9	62.2	62.5	65.3	66.8	73.0	67.4	75.1	75.5	**74.4**	-1.5%	2.1%	0.2%
South Africa	501.4	506.2	494.2	513.5	509.3	491.4	513.9	486.0	479.9	461.7	**478.1**	3.6%	-0.5%	1.2%
Eastern Africa	109.0	122.7	128.0	127.0	136.8	144.4	141.9	134.0	143.0	139.8	**142.7**	2.0%	2.7%	0.4%
Middle Africa	98.9	105.3	109.7	107.3	101.9	100.9	102.3	92.3	94.8	99.9	**113.7**	13.9%	1.4%	0.3%
Western Africa	214.0	212.3	226.3	225.2	238.1	258.2	267.2	263.8	286.2	278.2	**276.5**	-0.6%	2.6%	0.7%
Other Northern Africa	140.3	123.0	113.8	113.6	138.4	148.7	154.2	107.6	168.7	161.5	**158.8**	-1.7%	1.2%	0.4%
Other Southern Africa	12.7	14.0	14.1	13.9	14.9	15.6	14.9	12.8	14.4	15.9	**16.2**	2.4%	2.5%	0.0%
Total Africa	**1593.5**	**1614.8**	**1627.1**	**1659.0**	**1707.4**	**1733.2**	**1769.5**	**1629.2**	**1780.3**	**1769.6**	**1788.3**	**1.1%**	**1.2%**	**4.4%**
Australia	448.3	456.4	466.8	464.2	464.1	462.7	472.2	440.6	429.9	437.6	**440.4**	0.6%	-0.2%	1.1%
Bangladesh	73.7	76.4	94.5	95.3	100.0	107.0	119.2	113.8	121.7	130.2	**124.6**	-4.3%	5.4%	0.3%
China	10443.7	10493.8	10372.3	10213.0	10481.9	10856.5	11241.3	11489.1	11941.3	11895.5	**12603.5**	6.0%	1.9%	31.2%
China Hong Kong SAR	92.1	90.3	91.1	93.3	99.4	100.6	95.1	68.6	65.0	58.1	**66.5**	14.4%	-3.2%	0.2%
India	2091.1	2252.5	2325.9	2429.3	2497.7	2617.3	2649.5	2454.4	2705.6	2865.0	**3121.5**	9.0%	4.1%	7.7%
Indonesia	575.4	584.0	592.9	597.7	619.8	665.5	715.4	660.2	666.4	852.1	**861.5**	1.1%	4.1%	2.1%
Japan	1328.6	1293.6	1254.5	1233.5	1228.4	1205.5	1165.6	1075.4	1109.3	1108.7	**1038.6**	-6.3%	-2.4%	2.6%
Malaysia	260.3	271.5	275.5	280.0	267.2	276.4	281.5	278.0	284.6	303.1	**321.9**	6.2%	2.1%	0.8%
New Zealand	37.0	36.9	37.5	36.4	38.4	38.1	39.3	34.3	33.8	31.5	**32.8**	4.2%	-1.2%	0.1%
Pakistan	171.3	177.6	186.2	140.7	215.0	223.1	222.8	226.3	263.1	237.1	**222.0**	-6.4%	2.6%	0.5%
Philippines	100.7	106.2	116.4	126.0	139.5	144.6	151.6	136.7	145.6	152.1	**164.0**	7.8%	5.0%	0.4%
South Korea	645.1	640.4	648.6	659.9	668.2	683.9	660.3	611.0	627.0	616.3	**594.2**	-3.6%	-0.8%	1.5%
Taiwan	276.6	282.6	282.1	286.4	292.3	290.3	284.8	271.5	287.1	279.1	**270.8**	-3.0%	-0.2%	0.7%
Thailand	300.5	309.1	316.5	325.1	324.4	330.0	325.3	308.4	304.0	306.2	**302.1**	-1.3%	0.1%	0.7%
Vietnam	179.2	197.8	231.3	248.0	255.3	303.6	361.6	358.9	343.3	329.7	**372.4**	12.9%	7.6%	0.9%
Other Asia Pacific	342.8	355.1	375.1	405.1	477.7	479.3	494.7	485.9	480.7	479.3	**520.9**	8.7%	4.3%	1.3%
Total Asia Pacific	**17366.3**	**17624.4**	**17667.2**	**17633.7**	**18169.3**	**18784.4**	**19280.4**	**19013.0**	**19808.6**	**20081.8**	**21057.6**	**4.9%**	**1.9%**	**52.1%**
Total World	**37312.8**	**37499.4**	**37423.5**	**37465.7**	**38087.3**	**38960.8**	**39127.3**	**37188.9**	**39071.1**	**39588.0**	**40417.9**	**2.1%**	**0.8%**	**100.0%**
of which: OECD	13600.5	13424.7	13327.7	13229.2	13293.4	13433.6	13094.1	11771.4	12397.3	12475.9	**12079.9**	-3.2%	-1.2%	29.9%
Non-OECD	23712.2	24074.8	24095.9	24236.4	24793.9	25527.2	26033.2	25417.5	26673.8	27112.1	**28338.0**	4.5%	1.8%	70.1%
European Union	3271.7	3106.3	3165.1	3192.3	3245.0	3194.0	3052.9	2686.8	2876.9	2844.0	**2656.0**	-6.6%	-2.1%	6.6%

Note: The emissions above are the sum of carbon dioxide emissions from energy, carbon dioxide emissions from flaring, methane emissions (in carbon dioxide equivalent) associated with the production, transportation and distribution of fossil fuels, and carbon dioxide emissions from industrial processes.

Carbon Carbon capture, usage and storage (CCUS)

Capture capacity Million tonnes per year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	0.1	1.1	2.3	2.3	2.3	2.3	2.3	4.0	4.0	4.0	**4.0**	–	48.0%	7.3%
Mexico	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
US	19.5	19.5	19.5	19.5	21.9	21.9	21.6	21.6	21.6	21.8	**22.5**	3.4%	1.5%	40.9%
Total North America	19.5	20.5	21.7	21.7	24.1	24.1	23.9	25.6	25.6	25.8	26.5	2.9%	3.1%	48.3%
Brazil	1.1	2.1	2.8	4.1	4.6	6.5	8.9	9.6	10.3	10.5	**10.6**	1.0%	25.4%	19.3%
Total S. & Cent. America	1.1	2.1	2.8	4.1	4.6	6.5	8.9	9.6	10.3	10.5	10.6	1.0%	25.4%	19.3%
Norway	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	**1.7**	–	–	3.1%
Other Europe	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.6	**0.7**	16.1%	-5.0%	1.3%
Total Europe	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.3	2.4	4.3%	-1.8%	4.4%
Russian Federation	–	–	–	–	–	–	–	–	0.4	0.4	**0.4**	–	–	0.8%
Total CIS	–	–	–	–	–	–	–	–	0.4	0.4	0.4	–	–	0.8%
Qatar	–	–	0.2	0.2	0.2	0.2	2.3	2.3	2.3	2.3	**2.3**	–	–	4.1%
Saudi Arabia	–	–	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	**1.3**	–	–	2.4%
Other Middle East	0.3	0.3	0.3	1.1	1.1	1.1	1.1	1.4	1.4	1.4	**1.4**	–	16.4%	2.6%
Total Middle East	0.3	0.3	1.8	2.6	2.6	2.6	4.7	5.0	5.0	5.0	5.0	–	32.0%	9.1%
Algeria	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	**1.2**	–	–	2.2%
Total Africa	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	–	–	2.2%
Australia	–	–	–	–	–	–	4.0	4.0	4.0	4.0	**4.0**	–	–	7.3%
China	0.3	0.3	0.4	0.4	0.4	0.7	0.7	0.7	0.9	1.1	**3.5**	221.8%	28.4%	6.4%
Other Asia Pacific	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.3	1.3	1.3	**1.3**	–	2.5%	2.3%
Total Asia Pacific	1.3	1.3	1.4	1.4	1.5	1.8	5.8	6.0	6.2	6.4	8.8	38.2%	21.2%	16.0%
Total World	**26.3**	**28.4**	**31.9**	**34.0**	**37.0**	**39.3**	**47.6**	**50.4**	**51.7**	**51.6**	**55.0**	**6.6%**	**7.6%**	**100.0%**
of which: OECD	22.1	23.1	24.4	24.4	26.9	26.9	30.7	32.6	32.5	32.1	**32.9**	2.6%	4.1%	59.8%
Non-OECD	4.2	5.2	7.5	9.6	10.1	12.4	16.9	17.9	19.2	19.6	**22.1**	13.0%	18.0%	40.2%
European Union	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.6	**0.7**	16.7%	-5.2%	1.3%

Source: Rystad Energy. For further information please contact **billy.snaith@rystadenergy.com**

Carbon Prices

	Compliance Markets				Voluntary Markets				
	UK Emissions trading scheme GBP£/teCO_2	EU Emissions trading scheme EUR€/teCO_2	California carbon allowance USD$/te$CO_2$	Regional greenhouse gas initiative USD$/ton$CO_2$	Platts CORSIA-eligible credits (CEC) USD$/te$CO_2$e	Platts carbon removal credits (CRC) USD$/te$CO_2$e	Platts CAC USD$/te$CO_2$e	Platts technological carbon capture USD$/te$CO_2$e	Platts renewable energy USD$/te$CO_2$e
2012	–	6.87	–	–	–	–	–	–	–
2013	–	4.53	–	–	–	–	–	–	–
2014	–	6.01	–	–	–	–	–	–	–
2015	–	7.72	–	–	–	–	–	–	–
2016	–	5.36	–	–	–	–	–	–	–
2017	–	5.84	–	–	–	–	–	–	–
2018	–	15.85	–	–	–	–	–	–	–
2019	–	24.91	–	–	–	–	–	–	–
2020	–	24.83	–	–	–	–	–	–	–
2021	66.76	53.52	–	–	4.09	14.53	8.53	7.32	112.80
2022	92.81	81.17	92.81	13.42	4.77	16.00	9.55	6.81	138.84
2023	**63.53**	**85.27**	**63.53**	**13.61**	**1.41**	**13.36**	**1.96**	**3.02**	**129.72**

Source: S&P Global Commodity Insights, ©2024 by S&P Global Inc.

Oil

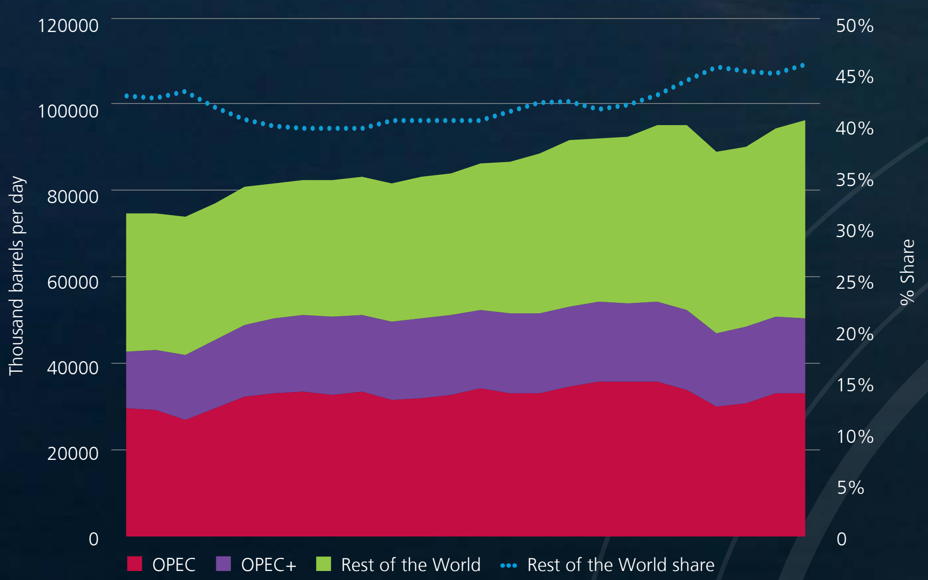
In 2023, global oil production reached a record level of just over 96 million barrels per day. The US remained the largest producer seeing its output grow by over 8%. In contrast, Russia's production decreased by over 1% as a full year of international sanctions were felt. Southern & Central America continues to grow rapidly post-COVID and recorded the highest growth rate (11%) for any region in 2023. In Asia Pacific, China's production rose by 2%, accounting for around 57% of the region's total production.

Whilst the US lost its position as the largest oil refining market by capacity with China reaching 18,484 thousand barrels per day, throughput of refined products from China still lags the US with a utilisation of nearly 82% compared to around 87%.

Consumption of oil exceeded 100 million barrels of oil per day (mbpd) for the first time ever. Gasoline, diesel and kerosene (aviation) use are trending back to or beyond their 2019 levels, but within the data sets there are some national/regional differences. Whilst global gasoline consumption (25 mbpd) was just above its 2019 pre-COVID level, kerosene, although growing strongly (17.5% in 2023), has yet to return to its 2019 peak.

In 2023, production from non-OPEC+ countries exceeded global incremental demand growth by 20%

Oil production



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Oil Production in thousands of barrels per day*

Thousand barrels daily	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	4000	4271	4388	4464	4813	5244	5372	5130	5414	5575	**5653**	1.4%	3.5%	5.9%
Mexico	2875	2784	2587	2456	2224	2068	1918	1910	1926	1943	**2040**	5.0%	-3.4%	2.1%
US	10101	11805	12782	12356	13140	15321	17135	16493	16693	17844	**19358**	8.5%	6.7%	20.1%
Total North America	16976	18860	19756	19275	20178	22633	24426	23533	24033	25361	**27050**	6.7%	4.8%	28.1%
Argentina	644	638	646	610	590	592	720	721	797	955	**1074**	12.5%	5.2%	1.1%
Brazil	2110	2341	2525	2607	2731	2691	2890	3030	2991	3112	**3502**	12.5%	5.2%	3.6%
Colombia	1010	990	1006	886	854	865	886	781	736	754	**777**	3.0%	-2.6%	0.8%
Ecuador	527	557	543	548	531	517	531	479	473	481	**475**	-1.2%	-1.0%	0.5%
Guyana	–	–	–	–	–	–	1	74	117	278	**391**	40.8%	–	0.4%
Peru	171	175	153	141	136	139	144	131	128	128	**123**	-3.9%	-3.2%	0.1%
Trinidad & Tobago	116	114	109	97	99	87	82	76	77	74	**72**	-2.8%	-4.7%	0.1%
Venezuela	2680	2692	2864	2566	2199	1642	1051	680	678	735	**853**	16.1%	-10.8%	0.9%
Other S. & Cent. America	152	154	146	135	133	128	121	112	114	108	**99**	-7.8%	-4.2%	0.1%
Total S. & Cent. America	7411	7661	7991	7590	7275	6661	6426	6086	6111	6626	**7368**	11.2%	-0.1%	7.7%
Denmark	178	167	158	142	138	116	103	72	66	65	**60**	-8.3%	-10.3%	0.1%
Italy	114	120	113	78	86	97	89	112	100	94	**90**	-4.4%	-2.3%	0.1%
Norway	1849	1894	1953	2004	1982	1863	1774	2018	2036	1906	**2022**	6.1%	0.9%	2.1%
Romania	86	84	83	79	76	75	75	72	70	66	**63**	-4.7%	-3.1%	0.1%
United Kingdom	865	854	964	1015	1005	1092	1118	1049	874	809	**715**	-11.6%	-1.9%	0.7%
Other Europe	344	341	331	312	303	308	302	289	289	274	**275**	0.5%	-2.2%	0.3%
Total Europe	3437	3460	3602	3630	3590	3550	3460	3612	3436	3214	**3225**	0.3%	-0.6%	3.4%
Azerbaijan	878	851	841	828	782	784	763	703	708	669	**620**	-7.2%	-3.4%	0.6%
Kazakhstan	1720	1701	1672	1637	1813	1900	1903	1796	1805	1891	**1771**	-6.4%	0.3%	1.8%
Russian Federation	10807	10927	11087	11342	11374	11562	11679	10666	11000	11202	**11075**	-1.1%	0.2%	11.5%
Turkmenistan	256	263	271	270	269	259	254	219	206	203	**194**	-4.2%	-2.7%	0.2%
Uzbekistan	69	63	60	57	61	64	62	44	46	45	**43**	-5.3%	-4.6%	†
Other CIS	35	35	36	36	37	38	39	39	41	43	**44**	3.2%	2.3%	†
Total CIS	13765	13840	13966	14171	14336	14607	14701	13468	13806	14053	**13748**	-2.2%	†	14.3%
Iran	3609	3714	3853	4578	4939	4720	3510	3230	3766	3945	**4662**	18.2%	2.6%	4.8%
Iraq	3099	3239	3986	4423	4538	4632	4779	4114	4102	4520	**4355**	-3.6%	3.5%	4.5%
Kuwait	3134	3106	3069	3150	3009	3050	2976	2721	2706	3036	**2908**	-4.2%	-0.7%	3.0%
Oman	942	943	981	1004	971	978	971	951	971	1064	**1049**	-1.5%	1.1%	1.1%
Qatar	1934	1892	1844	1846	1783	1798	1737	1715	1697	1743	**1772**	1.6%	-0.9%	1.8%
Saudi Arabia	11393	11519	11998	12406	11892	12261	11832	11039	10954	12191	**11389**	-6.6%	†	11.8%
Syria	59	33	27	25	25	24	34	43	43	43	**40**	-6.6%	-3.8%	†
United Arab Emirates	3540	3592	3876	4020	3880	3894	3984	3679	3640	4020	**3922**	-2.5%	1.0%	4.1%
Yemen	198	153	54	43	71	94	95	88	83	74	**49**	-32.8%	-13.0%	0.1%
Other Middle East	208	214	213	214	208	207	214	202	208	209	**217**	3.7%	0.4%	0.2%
Total Middle East	28117	28405	29901	31709	31316	31658	30132	27782	28171	30844	**30362**	-1.6%	0.8%	31.5%
Algeria	1485	1589	1558	1577	1540	1511	1487	1332	1353	1443	**1408**	-2.4%	-0.5%	1.5%
Angola	1738	1701	1796	1745	1671	1519	1420	1325	1177	1191	**1150**	-3.4%	-4.0%	1.2%
Chad	91	89	111	117	98	116	127	126	116	124	**134**	8.2%	4.0%	0.1%
Republic of Congo	243	253	234	232	270	330	336	307	274	269	**278**	3.5%	1.4%	0.3%
Egypt	710	714	726	691	660	674	653	632	608	613	**610**	-0.4%	-1.5%	0.6%
Equatorial Guinea	282	284	260	223	195	176	160	158	131	121	**88**	-27.0%	-11.0%	0.1%
Gabon	213	211	214	221	210	193	218	207	181	191	**223**	17.0%	0.4%	0.2%
Libya	1048	518	437	412	929	1165	1232	420	1286	1143	**1271**	11.2%	2.0%	1.3%
Nigeria	2276	2273	2199	1898	1966	2000	2093	1894	1678	1445	**1540**	6.6%	-3.8%	1.6%
South Sudan	100	155	148	137	147	144	172	165	153	141	**148**	4.7%	4.0%	0.2%
Sudan	118	120	109	84	70	74	72	63	64	62	**57**	-7.3%	-6.9%	0.1%
Tunisia	68	63	57	54	45	44	40	37	45	38	**38**	-0.4%	-5.7%	†
Other Africa	242	247	276	270	317	315	348	331	294	284	**282**	-1.0%	1.5%	0.3%
Total Africa	8612	8218	8123	7660	8121	8263	8358	6998	7360	7063	**7228**	2.3%	-1.7%	7.5%
Australia	401	420	378	353	322	342	458	454	444	412	**383**	-7.0%	-0.5%	0.4%
Brunei	135	126	127	121	113	112	121	110	107	93	**93**	0.2%	-3.7%	0.1%
China	4216	4246	4309	3999	3846	3802	3848	3901	3994	4111	**4198**	2.1%	†	4.4%
India	921	914	904	896	897	892	851	795	770	739	**728**	-1.5%	-2.3%	0.8%
Indonesia	871	847	838	873	837	808	781	742	692	647	**641**	-1.0%	-3.0%	0.7%
Malaysia	627	649	696	726	718	713	672	615	571	561	**565**	0.7%	-1.0%	0.6%
Thailand	466	464	481	489	486	475	475	421	398	328	**324**	-1.3%	-3.6%	0.3%
Vietnam	346	325	352	317	284	257	236	207	196	194	**188**	-2.9%	-5.9%	0.2%
Other Asia Pacific	270	292	293	277	269	230	227	204	195	167	**158**	-5.4%	-5.2%	0.2%
Total Asia Pacific	8254	8284	8378	8051	7774	7630	7669	7449	7366	7252	**7277**	0.4%	-1.3%	7.6%
Total World	**86572**	**88728**	**91717**	**92085**	**92588**	**95002**	**95172**	**88928**	**90282**	**94413**	**96258**	**2.0%**	**1.1%**	**100.0%**
of which: OECD	21670	23589	24605	24010	24814	27251	29089	28244	28514	29614	**31330**	5.8%	3.8%	32.5%
Non-OECD	64901	65139	67113	68075	67774	67751	66084	60684	61768	64798	**64928**	0.2%	†	67.5%
OPEC	34740	34693	36342	37449	37240	37094	35079	31107	31928	34247	**34048**	-0.6%	-0.2%	35.4%
Non-OPEC	51832	54036	55375	54636	55348	57908	60093	57821	58354	60165	**62210**	3.4%	1.8%	64.6%
European Union	559	554	534	468	464	448	414	392	370	346	**328**	-5.1%	-5.2%	0.3%

* Includes crude oil, shale/tight oil, oil sands, lease condensate or gas condensates that require further refining. Excludes liquid fuels from other sources such as biomass and synthetic derivatives of coal and natural gas.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil Production in million tonnes*

Million tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	195.4	209.8	216.1	218.8	236.6	257.7	263.5	252.0	266.6	273.9	**277.9**	1.4%	3.6%	6.2%
Mexico	141.8	137.1	127.5	121.4	109.5	102.3	94.9	95.1	96.4	97.6	**102.5**	5.0%	-3.2%	2.3%
US	448.6	524.6	567.0	542.7	574.2	669.6	751.0	713.3	715.9	762.1	**827.1**	8.5%	6.3%	18.3%
Total North America	785.8	871.5	910.6	882.9	920.3	1029.6	1109.4	1060.4	1079.0	1133.6	**1207.5**	6.5%	4.4%	26.8%
Argentina	30.2	29.8	30.0	28.6	27.3	27.6	33.8	33.7	37.6	45.4	**51.2**	13.0%	5.4%	1.1%
Brazil	110.2	122.5	132.2	136.7	142.6	140.6	151.2	159.3	156.9	163.2	**183.7**	12.5%	5.2%	4.1%
Colombia	53.2	52.2	53.0	46.8	45.0	45.6	46.7	41.3	38.8	39.7	**40.9**	3.0%	-2.6%	0.9%
Ecuador	28.2	29.8	29.1	29.5	28.5	27.7	28.5	25.8	25.3	25.8	**25.5**	-1.2%	-1.0%	0.6%
Guyana	–	–	–	–	–	–	0.1	3.7	5.8	13.8	**19.5**	40.8%	–	0.4%
Peru	7.3	7.5	6.5	5.8	5.7	5.9	6.1	5.5	5.3	5.4	**5.1**	-4.4%	-3.4%	0.1%
Trinidad & Tobago	5.1	5.1	4.8	4.3	4.4	3.9	3.7	3.4	3.5	3.4	**3.3**	-1.8%	-4.2%	0.1%
Venezuela	137.8	138.5	147.6	132.6	113.2	84.3	53.4	34.6	34.5	37.5	**43.7**	16.6%	-10.8%	1.0%
Other S. & Cent. America	7.6	7.7	7.4	6.8	6.7	6.4	6.1	5.7	5.8	5.5	**5.1**	-7.4%	-4.0%	0.1%
Total S. & Cent. America	379.6	393.1	410.7	391.2	373.3	342.0	329.5	313.0	313.5	339.7	**378.1**	11.3%	†	8.4%
Denmark	8.7	8.1	7.7	6.9	6.7	5.6	5.0	3.5	3.2	3.2	**2.9**	-8.3%	-10.3%	0.1%
Italy	5.5	5.8	5.5	3.8	4.1	4.7	4.3	5.4	4.8	4.5	**4.3**	-4.5%	-2.4%	0.1%
Norway	83.5	85.4	88.0	90.7	89.4	83.9	80.3	92.7	94.3	89.2	**94.7**	6.2%	1.3%	2.1%
Romania	4.1	4.1	4.0	3.8	3.6	3.6	3.6	3.5	3.3	3.1	**3.0**	-4.7%	-3.2%	0.1%
United Kingdom	40.6	39.9	45.3	47.4	46.6	50.9	51.8	49.0	40.9	37.8	**33.4**	-11.4%	-1.9%	0.7%
Other Europe	17.1	17.0	16.5	15.6	15.0	15.2	15.0	14.4	14.3	13.6	**13.7**	0.6%	-2.2%	0.3%
Total Europe	159.5	160.3	166.9	168.2	165.5	163.9	160.0	168.4	160.9	151.4	**152.1**	0.5%	-0.5%	3.4%
Azerbaijan	43.5	42.1	41.7	41.1	38.7	38.8	37.6	34.6	34.6	32.7	**30.2**	-7.5%	-3.6%	0.7%
Kazakhstan	81.8	80.8	79.5	78.0	86.2	90.4	90.6	85.7	85.9	90.0	**84.2**	-6.4%	0.3%	1.9%
Russian Federation	532.2	537.4	544.6	558.5	558.5	567.9	573.4	524.4	538.8	548.5	**541.7**	-1.3%	0.2%	12.0%
Turkmenistan	12.5	12.9	13.2	13.2	13.1	12.5	12.2	10.4	9.8	9.6	**9.2**	-4.0%	-3.0%	0.2%
Uzbekistan	3.2	2.9	2.7	2.6	2.8	2.9	2.8	2.0	2.1	2.1	**2.0**	-5.2%	-4.6%	†
Other CIS	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.1	**2.2**	3.2%	2.3%	†
Total CIS	674.9	677.9	683.4	695.2	701.1	714.3	718.5	659.1	673.2	685.0	**669.5**	-2.3%	-0.1%	14.8%
Iran	169.7	174.0	180.2	216.1	234.5	222.6	161.7	147.7	172.2	180.2	**214.3**	18.9%	2.4%	4.8%
Iraq	151.9	158.8	195.6	217.6	222.4	227.0	234.2	202.0	200.8	221.3	**213.0**	-3.7%	3.4%	4.7%
Kuwait	151.4	150.2	148.2	152.7	145.0	146.8	143.4	131.2	130.0	145.9	**139.8**	-4.2%	-0.8%	3.1%
Oman	46.1	46.2	48.0	49.3	47.6	47.8	47.3	46.1	46.8	51.4	**50.6**	-1.7%	0.9%	1.1%
Qatar	81.7	79.9	77.4	77.6	74.8	75.1	72.3	72.2	70.8	72.7	**74.1**	2.0%	-1.0%	1.6%
Saudi Arabia	538.4	543.8	568.0	586.7	559.3	576.8	556.6	519.6	515.0	574.2	**531.7**	-7.4%	-0.1%	11.8%
Syria	2.7	1.5	1.2	1.1	1.1	1.1	1.5	2.0	2.0	2.0	**1.8**	-6.9%	-3.8%	†
United Arab Emirates	161.6	162.9	175.1	181.6	174.9	176.0	179.9	165.9	163.4	181.1	**176.1**	-2.8%	0.9%	3.9%
Yemen	9.1	6.9	2.2	1.6	3.0	4.1	4.1	3.8	3.5	3.1	**1.9**	-37.7%	-14.4%	†
Other Middle East	10.3	10.5	10.5	10.6	10.2	10.2	10.4	9.9	10.2	10.2	**10.6**	4.0%	0.3%	0.2%
Total Middle East	1322.9	1334.8	1406.5	1495.0	1472.8	1487.4	1411.4	1300.3	1314.7	1442.1	**1413.9**	-2.0%	0.7%	31.4%
Algeria	64.8	68.8	67.2	68.4	66.6	65.3	64.3	57.6	58.2	62.1	**60.4**	-2.7%	-0.7%	1.3%
Angola	85.2	83.3	88.2	85.8	81.6	74.1	69.1	64.6	57.1	57.8	**55.8**	-3.5%	-4.1%	1.2%
Chad	4.8	4.7	5.8	6.1	5.2	6.1	6.7	6.6	6.1	6.5	**7.0**	8.2%	4.0%	0.2%
Republic of Congo	12.3	12.9	11.9	11.9	13.8	16.9	17.2	15.8	14.0	13.7	**14.2**	3.5%	1.4%	0.3%
Egypt	34.4	35.1	35.4	33.8	32.2	32.8	31.8	31.1	29.6	29.9	**29.8**	-0.3%	-1.4%	0.7%
Equatorial Guinea	13.2	13.3	12.1	10.3	9.0	8.1	7.4	7.4	6.1	5.6	**4.0**	-27.7%	-11.2%	0.1%
Gabon	10.7	10.5	10.7	11.0	10.5	9.7	10.9	10.4	9.0	9.5	**11.1**	17.0%	0.4%	0.2%
Libya	49.4	24.4	20.5	19.3	43.8	54.9	58.0	19.7	60.4	53.6	**59.7**	11.4%	1.9%	1.3%
Nigeria	109.4	109.2	105.7	91.3	94.4	96.2	100.9	91.4	80.7	69.3	**73.9**	6.7%	-3.8%	1.6%
South Sudan	4.9	7.7	7.3	6.8	7.3	7.1	8.4	8.1	7.5	6.9	**7.3**	4.7%	4.0%	0.2%
Sudan	5.8	5.9	5.4	4.2	3.4	3.7	3.6	3.1	3.2	3.1	**2.8**	-7.3%	-6.9%	0.1%
Tunisia	3.1	2.9	2.6	2.4	2.1	2.0	1.8	1.7	2.1	1.8	**1.7**	-1.8%	-5.8%	†
Other Africa	12.0	12.2	13.7	13.5	15.7	15.5	17.1	16.3	14.4	13.9	**13.7**	-1.5%	1.3%	0.3%
Total Africa	409.9	390.8	386.4	364.8	385.4	392.4	397.2	333.9	348.4	333.6	**341.5**	2.4%	-1.8%	7.6%
Australia	17.6	18.6	16.8	15.4	13.9	14.6	19.3	19.1	18.4	17.1	**15.7**	-8.3%	-1.2%	0.3%
Brunei	6.6	6.2	6.2	5.9	5.5	5.4	5.9	5.4	5.2	4.5	**4.5**	0.2%	-3.7%	0.1%
China	210.0	211.4	214.6	199.7	191.5	189.3	191.6	194.8	198.9	204.7	**209.0**	2.1%	†	4.6%
India	42.2	41.6	41.2	40.6	40.4	39.5	37.5	35.1	34.0	33.0	**32.6**	-1.4%	-2.6%	0.7%
Indonesia	42.4	41.0	40.6	42.6	40.9	39.5	38.1	36.3	33.7	31.5	**31.2**	-1.0%	-3.0%	0.7%
Malaysia	28.7	29.8	32.2	33.3	32.9	32.5	30.6	28.0	25.9	25.3	**25.5**	0.7%	-1.2%	0.6%
Thailand	17.1	16.9	17.6	18.1	17.6	17.0	16.9	15.1	13.9	11.5	**11.2**	-2.4%	-4.1%	0.2%
Vietnam	16.9	15.9	17.2	15.5	13.9	12.4	11.4	10.0	9.5	9.3	**9.0**	-3.2%	-6.1%	0.2%
Other Asia Pacific	11.9	13.0	13.1	12.4	12.0	10.3	10.1	9.2	8.7	7.5	**7.1**	-5.0%	-5.0%	0.2%
Total Asia Pacific	393.4	394.4	399.4	383.5	368.6	360.6	361.5	353.1	348.2	344.5	**345.8**	0.4%	-1.3%	7.7%
Total World	**4126.0**	**4222.7**	**4363.9**	**4380.7**	**4387.0**	**4490.2**	**4487.4**	**4188.2**	**4237.9**	**4429.9**	**4508.4**	**1.8%**	**0.9%**	**100.0%**
of which: OECD	1008.5	1095.4	1140.5	1106.6	1138.3	1246.9	1328.4	1282.6	1290.6	1335.7	**1411.2**	5.6%	3.4%	31.3%
Non-OECD	3117.4	3127.3	3223.5	3274.1	3248.7	3243.3	3159.1	2905.6	2947.3	3094.2	**3097.3**	0.1%	-0.1%	68.7%
OPEC	1655.8	1650.7	1731.1	1785.4	1769.0	1758.8	1657.0	1468.0	1501.5	1611.8	**1597.8**	-0.9%	-0.4%	35.4%
Non-OPEC	2470.2	2572.0	2632.8	2595.3	2618.0	2731.4	2830.5	2720.3	2736.4	2818.0	**2910.7**	3.3%	1.7%	64.6%
European Union	27.3	27.1	26.1	23.0	22.6	21.9	20.2	19.2	18.0	16.8	**16.0**	-5.1%	-5.2%	0.4%

Source: includes data from FGE Iran Service.

* Includes crude oil, shale oil, oil sands, condensates (lease condensate or gas condensates that require further refining) and NGLs (natural gas liquids – ethane, LPG and naphtha separated from the production of natural gas).

Excludes liquid fuels from other sources such as biofuels and synthetic derivatives of coal and natural gas. This also excludes liquid fuel adjustment factors such as refinery processing gain.

Excludes oil shales/kerogen extracted in solid form.

† Less than 0.05%.

Note: Annual changes and shares of total are calculated using million tonnes figures. Growth rates are adjusted for leap years.

Oil Crude oil and condensate production in thousands of barrels per day*

Thousand barrels daily	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	3486	3758	3863	3868	4216	4596	4690	4470	4745	4866	**4935**	1.4%	3.5%	6.0%
Mexico	2522	2429	2267	2154	1948	1833	1701	1705	1756	1785	**1875**	5.1%	-2.9%	2.3%
US	7495	8791	9439	8846	9357	10951	12311	11318	11268	11911	**12927**	8.5%	5.6%	15.6%
Total North America	13504	14977	15569	14868	15522	17381	18702	17494	17769	18562	**19737**	6.3%	3.9%	23.9%
Argentina	540	532	532	511	480	490	608	601	682	832	**946**	13.8%	5.8%	1.1%
Brazil	2024	2255	2437	2510	2622	2587	2788	2940	2905	3022	**3402**	12.6%	5.3%	4.1%
Colombia	1010	990	1006	886	854	865	886	781	736	754	**777**	3.0%	-2.6%	0.9%
Ecuador	526	557	543	548	531	517	531	479	473	481	**475**	-1.2%	-1.0%	0.6%
Guyana	–	–	–	–	–	–	1	74	117	278	**391**	40.8%	–	0.5%
Peru	118	121	104	91	88	92	95	84	82	86	**80**	-6.7%	-3.8%	0.1%
Trinidad & Tobago	81	81	79	71	72	63	59	57	60	58	**60**	2.6%	-3.0%	0.1%
Venezuela	2564	2578	2747	2461	2095	1553	972	628	629	689	**809**	17.5%	-10.9%	1.0%
Other S. & Cent. America	135	139	133	123	119	114	108	100	101	95	**88**	-7.6%	-4.2%	0.1%
Total S. & Cent. America	6999	7254	7581	7200	6861	6281	6048	5744	5785	6295	**7029**	11.7%	†	8.5%
Denmark	178	167	158	142	138	116	103	72	66	65	**60**	-8.3%	-10.3%	0.1%
Italy	114	120	113	78	86	97	89	112	100	92	**88**	-4.9%	-2.6%	0.1%
Norway	1543	1570	1614	1655	1629	1527	1473	1725	1783	1709	**1818**	6.4%	1.7%	2.2%
Romania	83	82	80	76	73	72	71	68	66	62	**59**	-4.6%	-3.3%	0.1%
United Kingdom	810	791	903	933	913	1002	1019	961	807	742	**659**	-11.2%	-2.0%	0.8%
Other Europe	328	327	317	297	284	289	285	274	273	258	**260**	0.6%	-2.3%	0.3%
Total Europe	3057	3056	3186	3180	3124	3103	3040	3212	3096	2929	**2944**	0.5%	-0.4%	3.6%
Azerbaijan	877	849	840	826	781	783	762	702	707	667	**619**	-7.3%	-3.4%	0.7%
Kazakhstan	1720	1701	1672	1637	1813	1900	1903	1796	1805	1891	**1771**	-6.4%	0.3%	2.1%
Russian Federation	10528	10479	10617	10863	10898	11083	11186	10192	10455	10669	**10554**	-1.1%	†	12.8%
Turkmenistan	239	246	254	250	248	236	228	189	179	173	**166**	-3.9%	-3.6%	0.2%
Uzbekistan	69	63	60	57	61	64	62	44	46	45	**43**	-5.3%	-4.6%	0.1%
Other CIS	35	35	36	36	37	38	39	39	41	43	**44**	3.2%	2.3%	0.1%
Total CIS	13468	13373	13478	13670	13839	14104	14180	12963	13233	13489	**13196**	-2.2%	-0.2%	16.0%
Iran	3192	3273	3392	4090	4491	4241	3023	2734	3184	3312	**3940**	19.0%	2.1%	4.8%
Iraq	3058	3198	3945	4375	4473	4568	4712	4049	4032	4446	**4271**	-3.9%	3.4%	5.2%
Kuwait	2847	2830	2782	2860	2704	2737	2678	2438	2415	2707	**2590**	-4.3%	-0.9%	3.1%
Oman	942	943	981	1004	971	978	971	951	971	1064	**1049**	-1.5%	1.1%	1.3%
Qatar	1463	1426	1374	1373	1333	1328	1266	1288	1256	1286	**1310**	1.9%	-1.1%	1.6%
Saudi Arabia	9875	9941	10420	10688	10175	10533	10145	9430	9394	10509	**9609**	-8.6%	-0.3%	11.6%
Syria	45	23	19	17	17	16	25	33	33	33	**30**	-7.7%	-3.8%	†
United Arab Emirates	3058	3053	3262	3366	3250	3293	3345	3072	3016	3364	**3251**	-3.4%	0.6%	3.9%
Yemen	174	128	28	16	44	67	67	60	55	46	**22**	-52.6%	-18.7%	†
Other Middle East	199	204	203	204	198	196	196	184	193	193	**201**	4.1%	0.1%	0.2%
Total Middle East	24851	25020	26407	27994	27656	27956	26427	24239	24550	26959	**26274**	-2.5%	0.6%	31.8%
Algeria	1275	1329	1290	1316	1287	1259	1239	1099	1105	1178	**1137**	-3.4%	-1.1%	1.4%
Angola	1716	1672	1780	1722	1632	1479	1373	1278	1130	1144	**1103**	-3.5%	-4.3%	1.3%
Chad	91	89	111	117	98	116	127	126	116	124	**134**	8.2%	4.0%	0.2%
Republic of Congo	234	245	227	225	263	323	329	300	267	262	**271**	3.6%	1.5%	0.3%
Egypt	643	667	662	631	603	617	597	587	561	568	**565**	-0.6%	-1.3%	0.7%
Equatorial Guinea	261	266	242	204	174	157	144	143	119	108	**78**	-27.6%	-11.4%	0.1%
Gabon	213	211	214	221	210	193	218	207	181	191	**223**	17.0%	0.4%	0.3%
Libya	1025	510	422	397	909	1144	1205	405	1246	1103	**1231**	11.7%	1.8%	1.5%
Nigeria	2193	2188	2119	1822	1890	1922	2014	1833	1620	1378	**1471**	6.7%	-3.9%	1.8%
South Sudan	100	155	148	137	147	144	172	165	153	141	**148**	4.7%	4.0%	0.2%
Sudan	118	120	109	84	70	74	72	63	64	62	**57**	-7.3%	-6.9%	0.1%
Tunisia	62	58	52	46	39	38	36	33	41	35	**33**	-4.5%	-6.0%	†
Other Africa	242	247	276	270	317	315	347	328	287	274	**267**	-2.6%	1.0%	0.3%
Total Africa	8173	7756	7651	7190	7639	7782	7872	6568	6889	6566	**6719**	2.3%	-1.9%	8.1%
Australia	335	353	322	290	263	282	361	351	335	311	**281**	-9.5%	-1.7%	0.3%
Brunei	122	114	115	109	101	100	110	100	98	84	**84**	0.2%	-3.7%	0.1%
China	4216	4246	4309	3999	3846	3802	3848	3901	3994	4111	**4198**	2.1%	†	5.1%
India	785	778	772	752	744	719	677	636	620	609	**605**	-0.7%	-2.6%	0.7%
Indonesia	825	789	786	829	801	772	745	708	659	612	**606**	-1.1%	-3.0%	0.7%
Malaysia	588	610	662	667	660	653	610	556	511	502	**508**	1.1%	-1.5%	0.6%
Thailand	241	233	248	258	240	228	228	202	177	143	**136**	-5.0%	-5.5%	0.2%
Vietnam	337	315	342	308	275	243	225	195	185	182	**175**	-3.8%	-6.3%	0.2%
Other Asia Pacific	233	257	261	246	237	204	202	184	177	151	**144**	-4.5%	-4.7%	0.2%
Total Asia Pacific	7681	7695	7816	7457	7167	7004	7006	6834	6755	6707	**6737**	0.5%	-1.3%	8.2%
Total World	**77732**	**79131**	**81688**	**81561**	**81808**	**83611**	**83275**	**77053**	**78079**	**81506**	**82636**	**1.4%**	**0.6%**	**100.0%**
of which: OECD	17749	19233	19945	19095	19637	21497	22854	21708	21810	22436	**23642**	5.4%	2.9%	28.6%
Non-OECD	59983	59898	61743	62466	62172	62114	60421	55345	56269	59070	**58995**	-0.1%	-0.2%	71.4%
OPEC	31511	31294	32841	33746	33553	33402	31396	27616	28338	30388	**29985**	-1.3%	-0.5%	36.3%
Non-OPEC	46221	47836	48847	47815	48255	50209	51879	49437	49741	51118	**52651**	3.0%	1.3%	63.7%
European Union	546	542	522	456	450	436	403	382	359	334	**317**	-5.3%	-5.3%	0.4%

Source: includes data from FGE Iran Service.
* Includes crude oil, shale oil, oil sands, condensates (lease condensate or gas condensates that require further refining) and NGLs (natural gas liquids – ethane, LPG and naphtha separated from the production of natural gas).
Excludes liquid fuels from other sources such as biofuels and synthetic derivatives of coal and natural gas. This also excludes liquid fuel adjustment factors such as refinery processing gain.
Excludes oil shales/kerogen extracted in solid form.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil Natural gas liquids production in thousands of barrels per day*

												Growth rate per annum		Share
Thousand barrels daily	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2023**	**2013–23**	**2023**
Canada	514	513	525	595	597	647	682	660	669	708	**718**	1.4%	3.4%	5.3%
Mexico	353	355	320	302	276	235	217	205	170	158	**164**	3.8%	-7.3%	1.2%
US	2606	3015	3342	3509	3783	4369	4824	5175	5425	5933	**6431**	8.4%	9.5%	47.2%
Total North America	3473	3883	4187	4407	4656	5252	5724	6040	6263	6800	**7313**	7.6%	7.7%	53.7%
Argentina	104	105	114	99	110	102	112	120	114	123	**128**	3.7%	2.0%	0.9%
Brazil	86	87	88	97	110	104	102	90	86	91	**101**	10.7%	1.6%	0.7%
Colombia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ecuador	1	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Guyana	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	54	54	49	50	48	47	49	48	46	43	**43**	1.7%	-2.1%	0.3%
Trinidad & Tobago	34	33	30	25	27	24	23	20	17	15	**12**	-23.4%	-10.2%	0.1%
Venezuela	116	114	117	105	104	88	80	52	49	47	**44**	-5.0%	-9.2%	0.3%
Other S. & Cent. America	17	14	13	12	15	14	13	13	13	12	**11**	-9.7%	-4.0%	0.1%
Total S. & Cent. America	412	407	411	389	414	379	378	342	325	331	**339**	2.4%	-1.9%	2.5%
Denmark	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Italy	–	–	–	–	–	–	–	–	–	2	**2**	20.8%	–	†
Norway	306	324	338	349	352	335	301	293	252	197	**204**	3.6%	-4.0%	1.5%
Romania	3	3	3	4	3	3	4	4	4	4	**3**	-6.2%	1.8%	†
United Kingdom	55	62	60	82	92	90	99	88	67	67	**56**	-16.3%	0.1%	0.4%
Other Europe	16	14	14	15	18	18	17	15	16	16	**15**	-1.0%	-0.3%	0.1%
Total Europe	380	404	415	450	466	446	421	400	339	284	**281**	-1.3%	-3.0%	2.1%
Azerbaijan	1	2	1	1	1	1	1	1	1	1	**2**	39.5%	2.2%	†
Kazakhstan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Russian Federation	278	448	470	479	476	479	493	474	544	533	**522**	-2.2%	6.5%	3.8%
Turkmenistan	17	17	17	20	21	23	27	30	27	30	**28**	-6.2%	5.3%	0.2%
Uzbekistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other CIS	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total CIS	297	467	488	500	497	503	521	505	573	565	**551**	-2.3%	6.4%	4.0%
Iran	418	441	461	488	448	479	487	496	582	633	**722**	14.1%	5.6%	5.3%
Iraq	41	40	41	48	64	64	68	64	70	74	**84**	13.3%	7.3%	0.6%
Kuwait	287	276	288	290	305	313	299	283	291	329	**318**	-3.2%	1.0%	2.3%
Oman	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Qatar	471	466	470	473	450	471	470	427	441	457	**461**	0.8%	-0.2%	3.4%
Saudi Arabia	1518	1577	1578	1718	1717	1728	1687	1609	1560	1682	**1780**	5.8%	1.6%	13.1%
Syria	14	10	8	8	8	8	9	10	10	10	**10**	-3.0%	-3.9%	0.1%
United Arab Emirates	482	539	614	654	630	600	639	608	625	656	**671**	2.2%	3.3%	4.9%
Yemen	24	25	26	26	27	28	28	28	28	28	**28**	–	1.2%	0.2%
Other Middle East	10	10	10	10	10	11	19	18	15	16	**16**	-1.4%	5.0%	0.1%
Total Middle East	3266	3386	3494	3715	3659	3703	3705	3543	3622	3885	**4088**	5.2%	2.3%	30.0%
Algeria	210	260	268	261	254	252	247	233	248	265	**271**	2.2%	2.6%	2.0%
Angola	22	30	16	23	39	40	47	47	47	47	**47**	-0.8%	7.7%	0.3%
Chad	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Republic of Congo	9	8	7	7	7	7	7	7	7	7	**7**	–	-2.5%	0.1%
Egypt	67	47	64	60	57	58	56	44	47	45	**45**	1.5%	-3.8%	0.3%
Equatorial Guinea	21	19	17	19	21	19	17	15	12	13	**10**	-21.8%	-7.1%	0.1%
Gabon	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Libya	22	8	15	15	20	21	27	15	40	40	**40**	–	6.0%	0.3%
Nigeria	82	86	80	76	77	79	79	61	59	67	**70**	4.3%	-1.6%	0.5%
South Sudan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Sudan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Tunisia	6	5	5	7	6	5	4	4	5	3	**5**	45.0%	-2.6%	†
Other Africa	–	–	–	–	–	1	1	3	7	11	**15**	39.1%	–	0.1%
Total Africa	440	462	472	469	481	481	486	430	471	497	**509**	2.4%	1.5%	3.7%
Australia	66	67	56	64	59	60	97	103	109	101	**101**	0.9%	4.4%	0.7%
Brunei	13	12	11	12	13	12	12	10	8	9	**9**	–	-3.9%	0.1%
China	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
India	136	136	133	144	153	173	174	159	151	130	**123**	-5.4%	-1.1%	0.9%
Indonesia	46	58	52	44	36	36	35	34	33	34	**35**	1.9%	-2.7%	0.3%
Malaysia	39	39	35	59	58	60	62	59	60	59	**57**	-2.1%	4.0%	0.4%
Thailand	225	231	233	231	247	247	246	219	221	185	**188**	1.6%	-1.8%	1.4%
Vietnam	10	10	9	10	9	13	12	12	11	11	**13**	10.6%	2.9%	0.1%
Other Asia Pacific	38	36	33	31	32	26	26	21	17	16	**14**	-13.3%	-9.3%	0.1%
Total Asia Pacific	572	588	562	594	606	626	664	615	610	545	**540**	-0.9%	-0.6%	4.0%
Total World	**8840**	**9597**	**10029**	**10524**	**10779**	**11391**	**11898**	**11875**	**12203**	**12906**	**13622**	**5.5%**	**4.4%**	**100.0%**
of which: OECD	3921	4356	4659	4916	5177	5754	6235	6536	6704	7178	**7689**	7.1%	7.0%	56.4%
Non-OECD	4918	5241	5370	5608	5602	5637	5663	5339	5499	5728	**5933**	3.6%	1.9%	43.6%
OPEC	3230	3398	3501	3704	3686	3691	3684	3491	3590	3859	**4063**	5.3%	2.3%	29.8%
Non-OPEC	5610	6199	6529	6820	7093	7699	8214	8384	8613	9047	**9559**	5.7%	5.5%	70.2%
European Union	13	12	12	13	13	12	11	10	10	11	**11**	0.1%	-1.2%	0.1%

Source: Includes data from FGE, FGE Iran Service, and ICIS.
* Includes ethane, LPG and naphtha separated from the production of natural gas. Excludes condensates.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil Total liquids consumption in thousands of barrels per day*

Thousand barrels daily	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	2471	2467	2487	2494	2471	2542	2552	2181	2283	2388	**2439**	2.1%	-0.1%	2.4%
Mexico	2172	2093	2044	2091	2044	1925	1825	1611	1777	1939	**1970**	1.6%	-1.0%	1.9%
US	18967	19100	19532	19692	19952	20512	20543	18186	19890	20010	**20246**	1.2%	0.7%	19.6%
Total North America	23609	23660	24062	24277	24467	24978	24920	21977	23950	24337	**24654**	1.3%	0.4%	23.8%
Argentina	711	709	729	713	713	684	608	527	638	757	**721**	-4.8%	0.1%	0.7%
Brazil	3127	3267	3192	3004	3045	3013	3076	2873	3039	3158	**3271**	3.6%	0.5%	3.2%
Chile	348	347	340	359	366	379	378	346	380	411	**416**	1.3%	1.8%	0.4%
Colombia	352	373	341	410	406	413	416	350	449	500	**513**	2.5%	3.8%	0.5%
Ecuador	247	260	254	240	237	255	249	203	249	271	**288**	6.2%	1.5%	0.3%
Peru	224	221	236	251	257	264	272	211	260	272	**280**	2.9%	2.2%	0.3%
Trinidad & Tobago	43	40	44	45	40	34	35	30	30	32	**33**	3.1%	-2.6%	†
Venezuela	869	809	711	628	548	425	411	230	247	310	**396**	27.8%	-7.5%	0.4%
Central America	371	384	422	438	454	450	487	387	447	472	**500**	6.1%	3.0%	0.5%
Other Caribbean	609	618	650	667	662	667	621	536	539	538	**564**	4.8%	-0.8%	0.5%
Other South America	201	202	208	219	223	232	239	214	249	253	**255**	0.8%	2.4%	0.2%
Total S. & Cent. America	7102	7232	7126	6973	6950	6819	6794	5908	6527	6973	**7237**	3.8%	0.2%	7.0%
Austria	262	255	258	264	265	270	276	239	253	243	**243**	†	-0.7%	0.2%
Belgium	612	606	619	625	632	679	639	557	618	601	**574**	-4.4%	-0.6%	0.6%
Bulgaria	81	88	98	101	105	105	109	99	104	111	**111**	0.3%	3.2%	0.1%
Croatia	64	66	68	68	73	71	71	60	65	69	**70**	2.2%	1.0%	0.1%
Cyprus	46	46	47	51	53	52	52	44	46	49	**49**	-0.1%	0.5%	†
Czech Republic	188	199	191	179	213	214	218	190	209	213	**213**	†	1.3%	0.2%
Denmark	156	155	158	158	158	160	160	137	139	158	**159**	0.6%	0.2%	0.2%
Estonia	31	29	29	29	30	30	27	28	28	28	**27**	-3.6%	-1.4%	†
Finland	213	207	207	210	208	208	208	187	183	192	**173**	-9.8%	-2.0%	0.2%
France	1667	1619	1646	1614	1644	1605	1600	1340	1447	1447	**1430**	-1.2%	-1.5%	1.4%
Germany	2404	2344	2336	2377	2440	2318	2340	2129	2113	2147	**2032**	-5.4%	-1.7%	2.0%
Greece	285	284	297	297	301	298	308	251	266	303	**303**	†	0.6%	0.3%
Hungary	131	147	157	155	168	180	181	168	182	180	**175**	-2.7%	3.0%	0.2%
Iceland	15	16	17	19	21	23	20	13	15	18	**17**	-5.5%	1.6%	†
Ireland	141	141	146	152	153	158	159	134	145	154	**155**	0.9%	0.9%	0.1%
Italy	1289	1220	1293	1284	1304	1331	1277	1064	1182	1260	**1248**	-0.9%	-0.3%	1.2%
Latvia	34	34	36	37	38	34	39	35	36	35	**35**	0.5%	0.3%	†
Lithuania	53	53	57	62	65	69	69	65	66	67	**68**	2.0%	2.5%	0.1%
Luxembourg	58	57	56	56	59	63	64	52	56	51	**50**	-2.3%	-1.5%	†
Netherlands	953	944	923	939	948	933	907	869	866	852	**880**	3.2%	-0.8%	0.9%
North Macedonia	19	19	20	23	22	23	23	21	22	24	**24**	1.2%	2.7%	†
Norway	224	219	225	222	228	234	226	210	215	217	**226**	4.4%	0.1%	0.2%
Poland	518	518	544	588	666	689	707	668	699	726	**728**	0.3%	3.5%	0.7%
Portugal	238	238	244	245	246	245	253	208	216	234	**224**	-4.4%	-0.6%	0.2%
Romania	181	185	189	200	211	212	224	216	231	235	**234**	-0.6%	2.6%	0.2%
Slovakia	75	71	78	80	90	91	86	86	91	92	**92**	0.5%	2.1%	0.1%
Slovenia	51	50	49	52	54	56	54	46	49	51	**46**	-10.3%	-1.1%	†
Spain	1181	1188	1232	1266	1281	1312	1314	1059	1167	1287	**1267**	-1.6%	0.7%	1.2%
Sweden	300	298	295	310	315	286	291	262	294	275	**275**	-0.1%	-0.9%	0.3%
Switzerland	248	225	228	216	223	215	221	183	184	189	**193**	1.9%	-2.5%	0.2%
Türkiye	742	758	887	943	1017	1022	1029	973	1036	1075	**1139**	6.0%	4.4%	1.1%
Ukraine	275	245	216	229	231	241	242	229	232	202	**205**	1.6%	-2.9%	0.2%
United Kingdom	1508	1515	1555	1588	1612	1597	1568	1221	1257	1361	**1381**	1.5%	-0.9%	1.3%
Other Europe	299	294	305	325	341	338	350	326	341	355	**361**	1.7%	1.9%	0.3%
Total Europe	14543	14331	14704	14965	15414	15362	15311	13368	14055	14502	**14411**	-0.6%	-0.1%	13.9%
Azerbaijan	101	100	100	99	100	114	115	105	120	126	**130**	3.1%	2.5%	0.1%
Belarus	160	164	138	147	147	171	175	166	159	147	**148**	1.2%	-0.7%	0.1%
Kazakhstan	285	294	274	279	283	304	307	264	327	323	**349**	8.1%	2.0%	0.3%
Russian Federation	3218	3365	3277	3329	3336	3363	3429	3308	3530	3624	**3647**	0.6%	1.3%	3.5%
Turkmenistan	138	154	128	178	143	153	137	180	142	147	**146**	-0.5%	0.6%	0.1%
Uzbekistan	87	93	88	111	103	118	121	128	126	126	**126**	0.2%	3.8%	0.1%
Other CIS	77	76	81	88	85	97	90	88	97	101	**102**	0.5%	2.9%	0.1%
Total CIS	4066	4247	4085	4231	4197	4320	4373	4240	4501	4593	**4648**	1.2%	1.3%	4.5%
Iran	1890	1772	1552	1590	1652	1722	1796	1722	1794	1853	**1817**	-2.0%	-0.4%	1.8%
Iraq	682	654	645	657	778	762	753	656	735	825	**875**	6.0%	2.5%	0.8%
Israel	213	200	211	217	227	230	232	201	210	228	**225**	-1.1%	0.6%	0.2%
Kuwait	467	451	459	438	449	470	451	425	437	420	**411**	-2.0%	-1.3%	0.4%
Oman	176	182	186	189	211	224	217	180	199	226	**233**	2.8%	2.8%	0.2%
Qatar	305	315	357	375	341	351	372	294	319	360	**370**	2.7%	2.0%	0.4%
Saudi Arabia	3468	3789	3964	4100	4052	3871	3632	3437	3600	3854	**4052**	5.1%	1.6%	3.9%
United Arab Emirates	847	881	919	1002	993	992	963	909	966	1110	**1139**	2.7%	3.0%	1.1%
Other Middle East	645	654	568	532	548	567	544	500	528	524	**525**	0.1%	-2.0%	0.5%
Total Middle East	8693	8897	8862	9099	9250	9188	8962	8324	8788	9401	**9647**	2.6%	1.0%	9.3%
Algeria	387	401	425	412	408	413	430	385	405	418	**440**	5.2%	1.3%	0.4%
Egypt	767	801	817	843	809	727	692	607	654	756	**742**	-1.8%	-0.3%	0.7%
Morocco	282	272	268	275	291	287	293	259	291	299	**300**	0.4%	0.6%	0.3%
South Africa	556	548	605	582	583	583	578	467	504	514	**524**	2.0%	-0.6%	0.5%
Eastern Africa	498	520	566	582	622	655	654	602	645	597	**598**	0.2%	1.8%	0.6%
Middle Africa	272	286	281	258	247	252	269	220	257	295	**307**	4.2%	1.2%	0.3%
Western Africa	590	548	561	624	686	803	816	800	879	916	**884**	-3.4%	4.1%	0.9%
Other Northern Africa	347	357	318	298	330	335	327	305	346	382	**380**	-0.4%	0.9%	0.4%
Other Southern Africa	54	56	57	56	56	59	58	53	54	58	**60**	3.1%	1.0%	0.1%
Total Africa	3755	3789	3898	3930	4032	4114	4116	3697	4035	4234	**4235**	†	1.2%	4.1%
Australia	1038	1032	1021	1021	1068	1080	1069	919	944	1002	**1060**	5.7%	0.2%	1.0%
Bangladesh	117	128	155	160	181	208	204	171	233	283	**240**	-15.3%	7.5%	0.2%
China	10648	11106	11962	12370	13070	13727	14410	14479	14966	15048	**16658**	10.7%	4.6%	16.1%
China Hong Kong SAR	352	335	368	380	428	435	408	285	255	216	**271**	25.1%	-2.6%	0.3%
India	3752	3872	4190	4595	4769	5033	5216	4772	4897	5289	**5544**	4.8%	4.0%	5.4%
Indonesia	1592	1606	1524	1508	1612	1683	1695	1547	1624	1777	**1816**	2.1%	1.3%	1.8%
Japan	4613	4388	4246	4116	4097	3954	3860	3427	3500	3518	**3380**	-3.9%	-3.1%	3.3%
Malaysia	807	810	762	846	805	814	881	746	717	857	**951**	10.9%	1.7%	0.9%
New Zealand	151	154	160	166	174	175	179	148	148	147	**157**	6.8%	0.4%	0.2%
Pakistan	442	458	505	566	589	499	446	434	503	489	**394**	-19.6%	-1.2%	0.4%
Philippines	326	347	397	427	460	470	481	395	427	467	**489**	4.5%	4.1%	0.5%
Singapore	1147	1172	1232	1300	1320	1338	1310	1262	1247	1203	**1359**	13.0%	1.7%	1.3%
South Korea	2478	2468	2578	2802	2801	2798	2783	2645	2829	2871	**2814**	-2.0%	1.3%	2.7%
Sri Lanka	94	108	105	127	138	138	144	124	118	98	**108**	10.7%	1.4%	0.1%
Taiwan	966	995	1020	1021	1013	1014	958	916	968	888	**840**	-5.5%	-1.4%	0.8%
Thailand	1185	1209	1213	1241	1291	1324	1343	1204	1212	1269	**1273**	0.3%	0.7%	1.2%
Vietnam	370	388	475	524	552	581	597	507	493	534	**602**	12.7%	5.0%	0.6%
Other Asia Pacific	353	368	434	418	476	529	566	576	581	610	**626**	2.7%	5.9%	0.6%
Total Asia Pacific	30432	30945	32347	33590	34842	35800	36548	34557	35662	36569	**38581**	5.5%	2.4%	37.3%
Total World	**92199**	**93100**	**95084**	**97065**	**99152**	**100580**	**101024**	**92071**	**97518**	**100609**	**103414**	**2.8%**	**1.2%**	**100.0%**
of which: OECD	46426	46060	46771	47391	48039	48384	48136	42435	45481	46534	**46642**	0.2%	†	45.1%
Non-OECD	45773	47041	48313	49673	51114	52196	52888	49636	52036	54076	**56771**	5.0%	2.2%	54.9%
European Union	11252	11080	11294	11445	11768	11719	11685	10242	10796	11111	**10916**	-1.8%	-0.3%	10.6%

* Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol), biodiesel and derivatives of coal and natural gas are also included.
† Less than 0.05%.
Notes: Differences between these world consumption figures and world production statistics are accounted for by stock changes, consumption of non-petroleum additives and substitute fuels and unavoidable disparities in the definition, measurement or conversion of oil supply and demand data.
Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil Consumption in thousands of barrels per day*

Thousand barrels daily	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	2413	2408	2431	2439	2408	2476	2486	2121	2219	2312	**2351**	1.7%	-0.3%	2.3%
Mexico	2168	2087	2038	2085	2038	1918	1818	1602	1770	1931	**1962**	1.6%	-1.0%	2.0%
US	17992	18111	18499	18593	18845	19417	19424	17183	18785	18862	**18984**	0.6%	0.5%	18.9%
Total North America	22573	22606	22968	23117	23291	23811	23727	20907	22774	23106	**23296**	0.8%	0.3%	23.2%
Argentina	685	678	695	677	672	645	567	504	613	723	**690**	-4.7%	0.1%	0.7%
Brazil	2651	2747	2583	2453	2485	2368	2361	2218	2394	2512	**2567**	2.2%	-0.3%	2.6%
Chile	348	347	340	359	366	379	378	346	380	411	**416**	1.3%	1.8%	0.4%
Colombia	335	356	323	393	389	392	394	331	429	478	**484**	1.3%	3.7%	0.5%
Ecuador	247	260	254	239	236	255	249	203	248	271	**287**	6.2%	1.5%	0.3%
Peru	215	213	227	241	246	254	262	201	248	261	**269**	2.9%	2.2%	0.3%
Trinidad & Tobago	43	40	44	45	40	34	35	30	30	32	**33**	3.1%	-2.6%	†
Venezuela	869	809	711	628	548	425	411	230	247	310	**396**	27.8%	-7.5%	0.4%
Central America	370	383	421	437	452	449	486	387	446	471	**499**	6.1%	3.0%	0.5%
Other Caribbean	600	609	640	657	652	658	612	527	531	529	**556**	5.0%	-0.8%	0.6%
Other South America	197	197	202	212	216	225	230	206	240	245	**247**	0.7%	2.3%	0.2%
Total S. & Cent. America	6561	6640	6440	6342	6302	6084	5986	5184	5805	6244	**6445**	3.2%	-0.2%	6.4%
Austria	251	244	247	253	254	259	265	230	244	234	**234**	0.1%	-0.7%	0.2%
Belgium	603	597	613	615	620	668	628	541	600	583	**556**	-4.5%	-0.8%	0.6%
Bulgaria	79	85	95	97	102	101	105	95	100	107	**106**	-0.8%	3.0%	0.1%
Croatia	63	65	68	68	73	71	69	59	63	68	**70**	2.3%	1.0%	0.1%
Cyprus	46	45	46	51	52	52	52	44	45	48	**48**	-0.2%	0.5%	†
Czech Republic	181	192	184	172	205	207	209	181	201	205	**206**	0.2%	1.3%	0.2%
Denmark	150	150	153	153	153	154	154	130	133	152	**153**	0.7%	0.2%	0.2%
Estonia	31	29	29	29	30	30	27	27	27	28	**27**	-4.0%	-1.6%	†
Finland	208	197	196	206	200	200	199	178	168	179	**164**	-8.4%	-2.3%	0.2%
France	1606	1553	1579	1547	1577	1538	1528	1275	1373	1360	**1348**	-0.9%	-1.7%	1.3%
Germany	2336	2273	2269	2310	2372	2247	2270	2047	2038	2072	**1955**	-5.7%	-1.8%	2.0%
Greece	282	281	294	293	298	294	304	246	261	297	**297**	†	0.5%	0.3%
Hungary	128	142	153	150	164	175	176	161	175	172	**167**	-3.0%	2.7%	0.2%
Iceland	15	16	17	19	21	23	19	13	14	18	**17**	-5.8%	1.3%	†
Ireland	139	138	143	150	149	155	154	130	141	149	**148**	-0.7%	0.6%	0.1%
Italy	1261	1196	1264	1255	1274	1300	1259	1039	1156	1236	**1221**	-1.2%	-0.3%	1.2%
Latvia	33	34	35	36	37	34	38	33	35	34	**35**	0.8%	0.3%	†
Lithuania	52	51	56	61	63	67	67	62	63	64	**65**	2.0%	2.3%	0.1%
Luxembourg	57	55	54	54	57	60	61	49	53	48	**47**	-2.8%	-1.9%	†
Netherlands	944	934	914	932	939	919	889	849	846	827	**850**	2.8%	-1.0%	0.8%
North Macedonia	19	19	20	23	22	23	23	21	22	24	**24**	1.2%	2.7%	†
Norway	221	216	221	215	217	226	215	201	206	209	**213**	2.2%	-0.4%	0.2%
Poland	500	501	528	576	650	667	683	644	674	698	**700**	0.2%	3.4%	0.7%
Portugal	232	232	236	239	240	239	247	203	209	228	**216**	-5.1%	-0.7%	0.2%
Romania	177	181	184	193	204	204	215	206	221	224	**223**	-0.3%	2.4%	0.2%
Slovakia	73	68	74	77	86	87	83	83	87	88	**88**	0.5%	2.0%	0.1%
Slovenia	50	49	49	52	53	54	52	43	47	49	**44**	-11.1%	-1.3%	†
Spain	1153	1159	1202	1233	1243	1262	1265	1016	1123	1245	**1228**	-1.4%	0.6%	1.2%
Sweden	286	282	277	288	294	261	266	237	266	240	**240**	†	-1.7%	0.2%
Switzerland	247	225	227	214	220	211	216	179	180	185	**188**	1.7%	-2.7%	0.2%
Türkiye	734	755	884	940	1014	1018	1025	970	1033	1072	**1136**	6.0%	4.5%	1.1%
Ukraine	274	244	215	228	230	240	239	227	230	201	**204**	1.6%	-2.9%	0.2%
United Kingdom	1481	1484	1529	1563	1587	1564	1528	1183	1217	1309	**1325**	1.2%	-1.1%	1.3%
Other Europe	299	294	305	324	341	338	350	325	341	355	**360**	1.7%	1.9%	0.4%
Total Europe	14211	13984	14358	14616	15040	14947	14882	12926	13591	14009	**13904**	-0.8%	-0.2%	13.9%
Azerbaijan	101	100	100	99	100	114	115	105	120	126	**130**	3.1%	2.5%	0.1%
Belarus	159	163	137	147	147	171	174	166	159	147	**148**	1.2%	-0.7%	0.1%
Kazakhstan	285	294	274	279	283	304	307	264	327	323	**349**	8.1%	2.0%	0.3%
Russian Federation	3218	3365	3277	3328	3334	3360	3425	3304	3523	3615	**3635**	0.6%	1.2%	3.6%
Turkmenistan	138	154	128	178	143	153	137	180	142	147	**146**	-0.5%	0.6%	0.1%
Uzbekistan	87	93	88	111	103	118	121	128	126	126	**126**	0.2%	3.8%	0.1%
Other CIS	77	76	81	88	85	97	90	88	97	101	**102**	0.5%	2.9%	0.1%
Total CIS	4066	4246	4085	4229	4195	4317	4369	4235	4494	4584	**4636**	1.1%	1.3%	4.6%
Iran	1890	1772	1552	1590	1652	1722	1796	1722	1794	1853	**1817**	-2.0%	-0.4%	1.8%
Iraq	682	654	645	657	778	762	753	656	735	825	**875**	6.0%	2.5%	0.9%
Israel	212	199	211	216	226	229	231	199	209	226	**223**	-1.2%	0.5%	0.2%
Kuwait	467	451	459	438	449	470	451	425	437	420	**411**	-2.0%	-1.3%	0.4%
Oman	176	182	186	189	211	224	217	180	199	226	**233**	2.8%	2.8%	0.2%
Qatar	305	315	357	375	341	351	372	294	319	360	**370**	2.7%	2.0%	0.4%
Saudi Arabia	3468	3789	3964	4100	4052	3871	3632	3437	3600	3854	**4052**	5.1%	1.6%	4.0%
United Arab Emirates	847	881	919	1002	993	992	963	909	966	1110	**1139**	2.7%	3.0%	1.1%
Other Middle East	645	654	568	532	548	567	544	500	528	524	**525**	0.1%	-2.0%	0.5%
Total Middle East	8693	8896	8861	9099	9249	9187	8961	8323	8786	9399	**9646**	2.6%	1.0%	9.6%
Algeria	387	401	425	412	408	413	430	385	405	418	**440**	5.2%	1.3%	0.4%
Egypt	767	801	817	843	809	727	692	607	654	756	**742**	-1.8%	-0.3%	0.7%
Morocco	282	272	268	275	291	287	293	259	291	299	**300**	0.4%	0.6%	0.3%
South Africa	555	547	603	581	582	580	576	465	502	512	**522**	2.0%	-0.6%	0.5%
Eastern Africa	498	520	565	581	622	655	653	601	645	597	**597**	0.2%	1.8%	0.6%
Middle Africa	272	286	281	258	247	252	269	220	257	295	**307**	4.2%	1.2%	0.3%
Western Africa	590	548	561	624	686	803	816	800	879	916	**884**	-3.4%	4.1%	0.9%
Other Northern Africa	347	357	318	298	330	335	327	305	346	382	**380**	-0.4%	0.9%	0.4%
Other Southern Africa	54	56	57	56	56	59	58	53	54	58	**60**	3.1%	1.0%	0.1%
Total Africa	3753	3787	3896	3928	4030	4111	4113	3694	4032	4231	**4233**	†	1.2%	4.2%
Australia	1031	1025	1015	1016	1062	1075	1064	915	941	999	**1056**	5.8%	0.2%	1.1%
Bangladesh	117	128	155	160	181	208	204	171	233	283	**240**	-15.3%	7.5%	0.2%
China	10563	11018	11890	12297	13003	13641	14316	14404	14888	14970	**16577**	10.7%	4.6%	16.5%
China Hong Kong SAR	351	335	367	379	427	433	407	283	254	214	**268**	25.2%	-2.7%	0.3%
India	3743	3865	4181	4574	4754	5004	5179	4738	4841	5209	**5446**	4.6%	3.8%	5.4%
Indonesia	1574	1574	1508	1456	1567	1618	1584	1403	1464	1597	**1604**	0.4%	0.2%	1.6%
Japan	4605	4379	4235	4103	4084	3939	3846	3412	3485	3504	**3366**	-3.9%	-3.1%	3.4%
Malaysia	803	803	754	838	797	804	867	729	699	837	**930**	11.0%	1.5%	0.9%
New Zealand	151	154	160	165	174	175	179	148	148	147	**157**	6.8%	0.4%	0.2%
Pakistan	442	458	505	566	589	499	446	434	503	489	**394**	-19.6%	-1.2%	0.4%
Philippines	317	336	385	414	445	456	465	381	412	451	**471**	4.5%	4.1%	0.5%
Singapore	1147	1172	1232	1300	1320	1338	1310	1262	1247	1203	**1359**	13.0%	1.7%	1.4%
South Korea	2466	2458	2568	2793	2791	2783	2768	2630	2816	2856	**2797**	-2.1%	1.3%	2.8%
Sri Lanka	94	108	105	127	138	138	144	124	118	98	**108**	10.7%	1.4%	0.1%
Taiwan	965	995	1020	1021	1012	1014	958	916	968	888	**840**	-5.5%	-1.4%	0.8%
Thailand	1152	1169	1171	1197	1243	1272	1285	1146	1160	1221	**1221**	†	0.6%	1.2%
Vietnam	370	388	475	524	552	581	597	507	493	534	**602**	12.7%	5.0%	0.6%
Other Asia Pacific	353	368	434	418	476	529	566	576	581	610	**626**	2.7%	5.9%	0.6%
Total Asia Pacific	30245	30734	32160	33349	34615	35508	36184	34180	35250	36110	**38061**	5.4%	2.3%	38.0%
Total World	**90101**	**90893**	**92767**	**94680**	**96723**	**97964**	**98223**	**89448**	**94732**	**97683**	**100221**	**2.6%**	**1.1%**	**100.0%**
of which: OECD	45024	44623	45296	45849	46456	46759	46475	40887	43807	44770	**44731**	-0.1%	-0.1%	44.6%
Non-OECD	45077	46271	47471	48832	50267	51205	51748	48561	50925	52913	**55489**	4.9%	2.1%	55.4%
European Union	10961	10771	10982	11135	11439	11356	11318	9855	10390	10687	**10488**	-1.9%	-0.4%	10.5%

* Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol) and biodiesel are excluded while derivatives of coal and natural gas are included.
† Less than 0.05%.
Notes: Differences between these world consumption figures and world production statistics are accounted for by stock changes, consumption of non-petroleum additives and substitute fuels and unavoidable disparities in the definition, measurement or conversion of oil supply and demand data.
Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil Consumption in exajoules*

												Growth rate per annum		Share
Exajoules	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	2023	2013–23	2023
Canada	4.60	4.59	4.60	4.58	4.54	4.68	4.67	3.97	4.13	4.31	**4.35**	1.1%	-0.6%	2.2%
Mexico	4.23	4.04	3.92	4.02	3.93	3.68	3.51	3.02	3.44	3.77	**3.84**	1.7%	-1.0%	2.0%
US	34.66	34.89	35.61	35.88	36.23	37.09	37.04	32.53	35.53	35.75	**35.86**	0.3%	0.3%	18.3%
Total North America	43.49	43.52	44.12	44.48	44.69	45.45	45.21	39.51	43.10	43.83	**44.05**	0.5%	0.1%	22.4%
Argentina	1.38	1.37	1.40	1.35	1.34	1.28	1.16	1.04	1.26	1.48	**1.41**	-4.9%	0.2%	0.7%
Brazil	5.30	5.51	5.17	4.90	4.95	4.71	4.69	4.42	4.78	5.01	**5.11**	2.0%	-0.4%	2.6%
Chile	0.70	0.70	0.68	0.72	0.73	0.76	0.76	0.69	0.76	0.82	**0.83**	1.3%	1.7%	0.4%
Colombia	0.68	0.72	0.65	0.79	0.78	0.79	0.79	0.67	0.86	0.96	**0.98**	1.6%	3.7%	0.5%
Ecuador	0.50	0.53	0.51	0.48	0.47	0.51	0.49	0.40	0.49	0.54	**0.58**	6.8%	1.4%	0.3%
Peru	0.42	0.41	0.44	0.47	0.48	0.49	0.51	0.39	0.48	0.50	**0.52**	2.8%	2.1%	0.3%
Trinidad & Tobago	0.09	0.09	0.09	0.09	0.08	0.07	0.07	0.06	0.06	0.07	**0.07**	2.5%	-2.8%	†
Venezuela	1.76	1.63	1.42	1.25	1.08	0.86	0.84	0.49	0.52	0.65	**0.84**	30.6%	-7.1%	0.4%
Central America	0.78	0.80	0.88	0.91	0.94	0.93	1.01	0.79	0.91	0.96	**1.02**	6.3%	2.8%	0.5%
Other Caribbean	1.26	1.27	1.34	1.37	1.35	1.37	1.29	1.12	1.11	1.11	**1.16**	4.9%	-0.8%	0.6%
Other South America	0.40	0.40	0.40	0.43	0.43	0.45	0.46	0.41	0.48	0.49	**0.50**	0.9%	2.3%	0.3%
Total S. & Cent. America	13.26	13.41	12.99	12.78	12.63	12.21	12.08	10.48	11.72	12.59	**13.01**	3.4%	-0.2%	6.6%
Austria	0.52	0.51	0.51	0.53	0.53	0.54	0.55	0.48	0.50	0.49	**0.49**	†	-0.8%	0.2%
Belgium	1.25	1.22	1.25	1.27	1.29	1.38	1.29	1.11	1.23	1.19	**1.13**	-5.0%	-0.9%	0.6%
Bulgaria	0.16	0.17	0.19	0.20	0.20	0.20	0.21	0.19	0.20	0.22	**0.21**	-1.2%	3.0%	0.1%
Croatia	0.13	0.14	0.14	0.14	0.15	0.15	0.14	0.12	0.13	0.14	**0.15**	2.3%	1.1%	0.1%
Cyprus	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.09	0.10	0.10	**0.10**	-0.2%	0.5%	0.1%
Czech Republic	0.37	0.39	0.38	0.35	0.42	0.42	0.42	0.37	0.41	0.42	**0.42**	0.4%	1.3%	0.2%
Denmark	0.32	0.31	0.32	0.32	0.32	0.32	0.32	0.27	0.28	0.31	**0.32**	0.9%	†	0.2%
Estonia	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	**0.06**	-4.3%	-1.8%	†
Finland	0.41	0.39	0.39	0.41	0.40	0.40	0.39	0.35	0.33	0.35	**0.33**	-7.6%	-2.3%	0.2%
France	3.31	3.20	3.25	3.20	3.25	3.17	3.14	2.62	2.82	2.80	**2.76**	-1.3%	-1.8%	1.4%
Germany	4.80	4.67	4.67	4.76	4.85	4.61	4.65	4.21	4.16	4.25	**4.01**	-5.5%	-1.8%	2.0%
Greece	0.59	0.59	0.61	0.61	0.63	0.62	0.64	0.52	0.55	0.62	**0.62**	-0.1%	0.4%	0.3%
Hungary	0.25	0.28	0.30	0.30	0.33	0.35	0.35	0.32	0.35	0.35	**0.34**	-2.9%	2.9%	0.2%
Iceland	0.03	0.03	0.04	0.04	0.04	0.05	0.04	0.03	0.03	0.04	**0.04**	-6.1%	1.2%	†
Ireland	0.29	0.28	0.29	0.31	0.31	0.32	0.32	0.27	0.29	0.31	**0.30**	-1.2%	0.6%	0.2%
Italy	2.54	2.42	2.56	2.54	2.57	2.63	2.55	2.11	2.34	2.51	**2.47**	-1.3%	-0.3%	1.3%
Latvia	0.07	0.07	0.07	0.08	0.08	0.07	0.08	0.07	0.07	0.07	**0.07**	-0.2%	0.2%	†
Lithuania	0.11	0.11	0.12	0.13	0.13	0.14	0.14	0.13	0.13	0.13	**0.14**	1.7%	2.3%	0.1%
Luxembourg	0.12	0.11	0.11	0.11	0.12	0.12	0.13	0.10	0.11	0.10	**0.10**	-3.0%	-2.0%	†
Netherlands	1.91	1.87	1.82	1.86	1.88	1.83	1.78	1.70	1.69	1.66	**1.70**	2.5%	-1.1%	0.9%
North Macedonia	0.04	0.04	0.04	0.05	0.04	0.05	0.05	0.04	0.05	0.05	**0.05**	1.0%	2.8%	†
Norway	0.42	0.41	0.42	0.41	0.40	0.42	0.40	0.37	0.38	0.39	**0.38**	-0.4%	-1.0%	0.2%
Poland	1.00	1.00	1.05	1.16	1.31	1.34	1.37	1.29	1.35	1.40	**1.41**	0.2%	3.5%	0.7%
Portugal	0.47	0.47	0.48	0.49	0.49	0.49	0.50	0.41	0.42	0.46	**0.45**	-4.2%	-0.6%	0.2%
Romania	0.36	0.37	0.38	0.39	0.41	0.41	0.43	0.42	0.45	0.46	**0.46**	0.1%	2.4%	0.2%
Slovakia	0.15	0.14	0.15	0.16	0.18	0.18	0.17	0.17	0.18	0.18	**0.18**	0.6%	1.9%	0.1%
Slovenia	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.09	0.10	0.10	**0.09**	-11.3%	-1.3%	†
Spain	2.43	2.44	2.52	2.59	2.61	2.64	2.65	2.13	2.35	2.61	**2.57**	-1.6%	0.5%	1.3%
Sweden	0.57	0.56	0.55	0.57	0.58	0.51	0.52	0.48	0.53	0.48	**0.47**	-2.4%	-2.0%	0.2%
Switzerland	0.51	0.46	0.47	0.44	0.45	0.43	0.44	0.37	0.37	0.38	**0.39**	1.5%	-2.7%	0.2%
Türkiye	1.48	1.52	1.80	1.92	2.08	2.09	2.08	1.97	2.09	2.18	**2.30**	5.4%	4.5%	1.2%
Ukraine	0.55	0.48	0.43	0.45	0.45	0.47	0.46	0.44	0.44	0.39	**0.39**	1.6%	-3.2%	0.2%
United Kingdom	2.98	2.99	3.07	3.13	3.18	3.14	3.07	2.37	2.45	2.65	**2.69**	1.4%	-1.0%	1.4%
Other Europe	0.64	0.63	0.65	0.69	0.73	0.72	0.75	0.70	0.73	0.76	**0.77**	1.5%	1.9%	0.4%
Total Europe	29.04	28.54	29.30	29.88	30.67	30.47	30.33	26.37	27.68	28.60	**28.33**	-0.9%	-0.2%	14.4%
Azerbaijan	0.20	0.20	0.20	0.20	0.20	0.23	0.23	0.21	0.24	0.25	**0.26**	3.0%	2.5%	0.1%
Belarus	0.33	0.34	0.28	0.30	0.30	0.35	0.36	0.34	0.33	0.30	**0.30**	1.2%	-0.7%	0.2%
Kazakhstan	0.59	0.60	0.56	0.57	0.57	0.61	0.62	0.54	0.66	0.65	**0.69**	6.3%	1.6%	0.4%
Russian Federation	6.43	6.75	6.52	6.62	6.60	6.66	6.80	6.54	6.95	7.14	**7.21**	1.0%	1.2%	3.7%
Turkmenistan	0.27	0.30	0.25	0.35	0.28	0.30	0.26	0.35	0.27	0.28	**0.28**	†	0.4%	0.1%
Uzbekistan	0.16	0.17	0.16	0.19	0.18	0.20	0.21	0.22	0.22	0.22	**0.22**	0.3%	3.1%	0.1%
Other CIS	0.15	0.15	0.16	0.17	0.16	0.19	0.17	0.17	0.19	0.20	**0.20**	0.5%	2.8%	0.1%
Total CIS	8.12	8.51	8.13	8.41	8.30	8.55	8.65	8.37	8.85	9.03	**9.16**	1.4%	1.2%	4.7%
Iran	3.79	3.51	3.02	3.07	3.13	3.27	3.43	3.30	3.44	3.58	**3.50**	-2.1%	-0.8%	1.8%
Iraq	1.39	1.34	1.32	1.36	1.61	1.58	1.55	1.35	1.51	1.70	**1.80**	6.1%	2.6%	0.9%
Israel	0.42	0.39	0.42	0.43	0.45	0.45	0.46	0.40	0.41	0.45	**0.44**	-1.4%	0.5%	0.2%
Kuwait	0.88	0.84	0.86	0.82	0.84	0.88	0.84	0.78	0.81	0.77	**0.76**	-1.0%	-1.4%	0.4%
Oman	0.36	0.37	0.38	0.39	0.43	0.45	0.44	0.36	0.40	0.45	**0.47**	2.7%	2.6%	0.2%
Qatar	0.47	0.49	0.57	0.61	0.55	0.56	0.61	0.46	0.50	0.58	**0.61**	5.0%	2.8%	0.3%
Saudi Arabia	6.41	7.05	7.43	7.65	7.52	7.12	6.67	6.32	6.60	7.11	**7.43**	4.5%	1.5%	3.8%
United Arab Emirates	1.67	1.70	1.77	1.93	1.92	1.91	1.86	1.74	1.86	2.14	**2.20**	2.8%	2.8%	1.1%
Other Middle East	1.32	1.34	1.16	1.09	1.12	1.15	1.10	1.02	1.07	1.06	**1.06**	†	-2.2%	0.5%
Total Middle East	16.71	17.02	16.93	17.34	17.55	17.37	16.97	15.72	16.61	17.85	**18.28**	2.4%	0.9%	9.3%
Algeria	0.77	0.80	0.85	0.83	0.81	0.82	0.85	0.76	0.80	0.82	**0.86**	5.0%	1.1%	0.4%
Egypt	1.56	1.64	1.67	1.73	1.64	1.46	1.38	1.20	1.29	1.53	**1.49**	-2.4%	-0.4%	0.8%
Morocco	0.56	0.54	0.52	0.54	0.57	0.55	0.56	0.49	0.56	0.58	**0.57**	-0.8%	0.2%	0.3%
South Africa	1.15	1.13	1.25	1.20	1.20	1.20	1.19	0.96	1.04	1.06	**1.09**	2.2%	-0.6%	0.6%
Eastern Africa	1.02	1.07	1.16	1.20	1.28	1.34	1.34	1.23	1.32	1.22	**1.22**	†	1.8%	0.6%
Middle Africa	0.56	0.59	0.58	0.53	0.50	0.50	0.54	0.43	0.51	0.58	**0.61**	4.5%	0.8%	0.3%
Western Africa	1.19	1.11	1.13	1.26	1.37	1.60	1.62	1.59	1.75	1.82	**1.77**	-3.1%	4.0%	0.9%
Other Northern Africa	0.72	0.73	0.65	0.61	0.67	0.68	0.66	0.62	0.70	0.77	**0.77**	-0.6%	0.7%	0.4%
Other Southern Africa	0.11	0.11	0.12	0.12	0.11	0.12	0.12	0.11	0.11	0.12	**0.12**	3.1%	1.0%	0.1%
Total Africa	7.64	7.72	7.93	8.00	8.15	8.28	8.26	7.40	8.07	8.50	**8.49**	-0.1%	1.1%	4.3%
Australia	2.08	2.07	2.05	2.06	2.16	2.19	2.17	1.88	1.93	2.05	**2.17**	5.8%	0.4%	1.1%
Bangladesh	0.25	0.28	0.33	0.35	0.39	0.45	0.44	0.37	0.51	0.62	**0.52**	-16.1%	7.5%	0.3%
China	21.27	22.11	23.80	24.56	25.86	27.10	28.41	28.65	29.43	29.51	**32.73**	10.9%	4.4%	16.7%
China Hong Kong SAR	0.75	0.71	0.78	0.81	0.92	0.93	0.87	0.61	0.54	0.46	**0.57**	24.2%	-2.7%	0.3%
India	7.44	7.65	8.27	9.05	9.32	9.74	10.05	9.14	9.32	10.10	**10.57**	4.7%	3.6%	5.4%
Indonesia	3.11	3.10	2.95	2.85	3.06	3.15	3.07	2.71	2.82	3.09	**3.10**	0.2%	†	1.6%
Japan	9.19	8.72	8.41	8.17	8.08	7.80	7.60	6.76	6.88	6.94	**6.65**	-4.1%	-3.2%	3.4%
Malaysia	1.54	1.55	1.44	1.60	1.50	1.52	1.66	1.38	1.33	1.60	**1.79**	11.7%	1.5%	0.9%
New Zealand	0.31	0.32	0.33	0.34	0.36	0.36	0.37	0.30	0.30	0.30	**0.32**	6.8%	0.3%	0.2%
Pakistan	0.94	0.97	1.06	1.18	1.22	1.02	0.90	0.88	1.02	0.99	**0.78**	-21.1%	-1.8%	0.4%
Philippines	0.64	0.68	0.78	0.83	0.89	0.91	0.93	0.75	0.81	0.89	**0.93**	4.6%	3.8%	0.5%
Singapore	2.55	2.58	2.72	2.88	2.93	2.95	2.87	2.80	2.77	2.67	**2.99**	12.2%	1.6%	1.5%
South Korea	4.78	4.76	4.98	5.43	5.39	5.37	5.31	5.06	5.40	5.47	**5.36**	-1.9%	1.1%	2.7%
Sri Lanka	0.19	0.22	0.21	0.26	0.28	0.28	0.29	0.25	0.24	0.20	**0.22**	9.9%	1.2%	0.1%
Taiwan	1.88	1.94	1.99	2.00	1.98	1.97	1.86	1.78	1.88	1.73	**1.63**	-5.5%	-1.4%	0.8%
Thailand	2.10	2.13	2.18	2.25	2.32	2.37	2.40	2.15	2.16	2.32	**2.31**	-0.2%	0.9%	1.2%
Vietnam	0.75	0.79	0.96	1.06	1.11	1.17	1.20	1.02	0.98	1.07	**1.20**	12.2%	4.8%	0.6%
Other Asia Pacific	0.72	0.75	0.88	0.85	0.97	1.07	1.15	1.16	1.17	1.22	**1.26**	2.7%	5.7%	0.6%
Total Asia Pacific	60.49	61.32	64.12	66.53	68.73	70.34	71.54	67.63	69.47	71.21	**75.10**	5.5%	2.2%	38.2%
Total World	**178.76**	**180.04**	**183.52**	**187.42**	**190.72**	**192.68**	**193.03**	**175.48**	**185.51**	**191.62**	**196.43**	**2.5%**	**0.9%**	**100.0%**
of which: OECD	88.83	87.90	89.12	90.39	91.31	91.65	90.96	79.73	85.34	87.43	**87.15**	-0.3%	-0.2%	44.4%
Non-OECD	89.92	92.14	94.40	97.03	99.41	101.03	102.07	95.76	100.17	104.19	**109.29**	4.9%	2.0%	55.6%
European Union	22.48	22.06	22.49	22.85	23.40	23.23	23.16	20.20	21.23	21.88	**21.45**	-2.0%	-0.5%	10.9%

* Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol) and biodiesel are excluded while derivatives of coal and natural gas are included.
† Less than 0.05%.
Notes: Differences between these world consumption figures and world production statistics are accounted for by stock changes, consumption of non-petroleum additives and substitute fuels and unavoidable disparities in the definition, measurement or conversion of oil supply and demand data.
Annual changes and shares of total are calculated using exajoules figures. Growth rates are adjusted for leap years.

Oil Regional consumption – by product group

Thousand barrels daily	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
North America														
Light distillates	9871	9914	10138	10310	10244	10234	10142	8710	9424	9472	**9598**	1.3%	-0.3%	9.6%
of which: gasoline	9492	9566	9801	9965	9945	9932	9859	8445	9158	9248	**9364**	1.2%	-0.1%	9.3%
of which: naphtha	379	348	337	345	298	303	282	265	266	224	**234**	4.7%	-4.7%	0.2%
Middle distillates	6422	6678	6762	6619	6778	7076	6962	5745	6389	6656	**6546**	-1.6%	0.2%	6.5%
of which: diesel/gasoil	4791	5001	4995	4777	4859	5112	4963	4540	4863	4868	**4637**	-4.7%	-0.3%	4.6%
of which: jet/kerosene	1631	1676	1767	1842	1920	1964	1999	1205	1526	1788	**1909**	6.8%	1.6%	1.9%
Fuel oil	599	468	442	516	548	495	440	315	468	478	**427**	-10.7%	-3.3%	0.4%
Others	5682	5546	5626	5671	5721	6006	6184	6137	6492	6499	**6725**	3.5%	1.7%	6.7%
of which: ethane and LPG	3366	3292	3361	3428	3453	3789	3838	3959	4082	4027	**4169**	3.5%	2.2%	4.2%
Total North America	22573	22606	22968	23117	23291	23811	23727	20907	22774	23106	**23296**	0.8%	0.3%	23.2%
of which: US														
Light distillates	8263	8287	8503	8613	8621	8633	8579	7419	8103	8045	**8167**	1.5%	-0.1%	8.1%
of which: gasoline	7993	8056	8280	8394	8393	8400	8372	7235	7917	7907	**8025**	1.5%	†	8.0%
of which: naphtha	270	231	223	219	228	233	207	185	185	139	**142**	2.4%	-6.2%	0.1%
Middle distillates	5259	5519	5534	5438	5580	5815	5793	4793	5254	5417	**5322**	-1.7%	0.1%	5.3%
of which: diesel/gasoil	3819	4040	3979	3815	3893	4103	4043	3709	3878	3852	**3660**	-5.0%	-0.4%	3.7%
of which: jet/kerosene	1440	1479	1555	1623	1687	1712	1750	1084	1376	1565	**1663**	6.3%	1.5%	1.7%
Fuel oil	317	256	258	325	341	317	275	208	314	329	**275**	-16.5%	-1.4%	0.3%
Others	4153	4049	4204	4216	4303	4652	4777	4763	5114	5071	**5219**	2.9%	2.3%	5.2%
of which: ethane and LPG	2514	2447	2493	2516	2570	2921	2967	3056	3228	3148	**3235**	2.7%	2.6%	3.2%
Total US	17992	18111	18499	18593	18845	19417	19424	17183	18785	18862	**18984**	0.6%	0.5%	18.9%
S. & Cent. America														
Light distillates	1721	1752	1710	1724	1769	1651	1663	1322	1568	1730	**1770**	2.3%	0.3%	1.8%
of which: gasoline	1509	1539	1478	1503	1532	1438	1437	1154	1378	1503	**1566**	4.2%	0.4%	1.6%
of which: naphtha	212	213	232	221	237	213	226	168	190	227	**204**	-10.2%	-0.4%	0.2%
Middle distillates	2656	2675	2589	2554	2516	2548	2550	2189	2465	2661	**2720**	2.2%	0.2%	2.7%
of which: diesel/gasoil	2354	2353	2260	2231	2187	2198	2198	2014	2253	2365	**2381**	0.7%	0.1%	2.4%
of which: jet/kerosene	302	323	329	323	329	350	352	174	212	296	**339**	14.6%	1.2%	0.3%
Fuel oil	714	731	727	665	611	566	587	546	596	570	**621**	9.0%	-1.4%	0.6%
Others	1470	1482	1413	1398	1407	1319	1187	1126	1175	1283	**1334**	3.9%	-1.0%	1.3%
of which: ethane and LPG	798	812	810	836	846	786	691	674	693	740	**746**	0.8%	-0.7%	0.7%
Total S. & Cent. America	6561	6640	6440	6342	6302	6084	5986	5184	5805	6244	**6445**	3.2%	-0.2%	6.4%
of which: Brazil														
Light distillates	695	716	675	682	717	623	633	554	620	699	**716**	2.4%	0.3%	0.7%
of which: gasoline	547	576	522	541	556	483	481	450	495	542	**580**	6.9%	0.6%	0.6%
of which: naphtha	148	140	153	141	161	140	152	104	125	157	**136**	-13.1%	-0.8%	0.1%
Middle distillates	1139	1169	1100	1030	1027	1045	1043	981	1063	1121	**1149**	2.6%	0.1%	1.1%
of which: diesel/gasoil	1013	1039	973	913	911	915	922	918	987	1018	**1036**	1.8%	0.2%	1.0%
of which: jet/kerosene	126	129	127	117	116	130	121	63	76	103	**113**	9.6%	-1.1%	0.1%
Fuel oil	167	191	187	141	137	112	112	112	135	100	**96**	-4.2%	-5.4%	0.1%
Others	649	671	622	601	604	587	573	572	576	592	**605**	2.2%	-0.7%	0.6%
of which: ethane and LPG	339	339	324	326	322	322	318	319	313	311	**316**	1.6%	-0.7%	0.3%
Total Brazil	2651	2747	2583	2453	2485	2368	2361	2218	2394	2512	**2567**	2.2%	-0.3%	2.6%
Europe														
Light distillates	2999	2923	2863	2880	2932	2863	2836	2604	2787	2721	**2757**	1.3%	-0.8%	2.8%
of which: gasoline	2014	1983	1934	1936	1942	2011	2041	1759	1914	2012	**2114**	5.1%	0.5%	2.1%
of which: naphtha	985	941	929	944	990	853	795	846	873	708	**643**	-9.3%	-4.2%	0.6%
Middle distillates	7423	7368	7743	7891	8160	8161	8187	6796	7238	7681	**7635**	-0.6%	0.3%	7.6%
of which: diesel/gasoil	6173	6087	6398	6500	6684	6624	6617	6053	6383	6379	**6181**	-3.1%	†	6.2%
of which: jet/kerosene	1250	1282	1345	1391	1476	1537	1570	743	855	1302	**1454**	11.7%	1.5%	1.5%
Fuel oil	1049	985	916	920	978	980	943	790	794	828	**780**	-5.8%	-2.9%	0.8%
Others	2740	2707	2835	2925	2969	2944	2916	2735	2772	2780	**2732**	-1.7%	†	2.7%
of which: ethane and LPG	1299	1318	1358	1408	1437	1462	1466	1367	1359	1327	**1338**	0.8%	0.3%	1.3%
Total Europe	14211	13984	14358	14616	15040	14947	14882	12926	13591	14009	**13904**	-0.8%	-0.2%	13.9%
of which: European Union														
Light distillates	2404	2363	2333	2355	2420	2356	2309	2138	2316	2240	**2231**	-0.4%	-0.7%	2.2%
of which: gasoline	1467	1463	1439	1445	1461	1541	1570	1358	1467	1545	**1611**	4.3%	0.9%	1.6%
of which: naphtha	937	900	894	910	959	815	738	780	849	695	**620**	-10.8%	-4.1%	0.6%
Middle distillates	5600	5511	5749	5849	6035	6032	6081	5089	5383	5691	**5583**	-1.9%	†	5.6%
of which: diesel/gasoil	4780	4684	4889	4949	5072	5023	5049	4620	4818	4826	**4630**	-4.1%	-0.3%	4.6%
of which: jet/kerosene	820	827	860	900	962	1009	1032	468	565	865	**954**	10.3%	1.5%	1.0%
Fuel oil	906	852	794	788	813	822	797	666	681	703	**665**	-5.3%	-3.0%	0.7%
Others	2051	2046	2106	2143	2171	2146	2131	1963	2011	2053	**2008**	-2.2%	-0.2%	2.0%
of which: ethane and LPG	929	942	962	978	1002	1026	1026	951	955	952	**949**	-0.3%	0.2%	0.9%
Total European Union*	10961	10771	10982	11135	11439	11356	11318	9855	10390	10687	**10488**	-1.9%	-0.4%	10.5%
CIS														
Light distillates	1210	1221	1195	1212	1201	1233	1209	1157	1248	1254	**1257**	0.3%	0.4%	1.3%
of which: gasoline	1073	1087	1052	1071	1051	1064	1041	990	1076	1101	**1113**	1.1%	0.4%	1.1%
of which: naphtha	137	134	143	141	150	169	168	168	172	153	**144**	-5.6%	0.5%	0.1%
Middle distillates	1406	1441	1387	1426	1470	1512	1531	1443	1564	1667	**1742**	4.5%	2.2%	1.7%
of which: diesel/gasoil	1092	1149	1115	1079	1084	1149	1184	1147	1232	1386	**1438**	3.8%	2.8%	1.4%
of which: jet/kerosene	315	292	272	347	386	363	347	296	332	281	**304**	8.2%	-0.4%	0.3%
Fuel oil	450	521	422	431	364	377	393	357	330	316	**311**	-1.5%	-3.6%	0.3%
Others	999	1062	1081	1160	1159	1194	1236	1277	1352	1347	**1326**	-1.6%	2.9%	1.3%
of which: ethane and LPG	611	634	677	737	729	749	786	817	853	865	**835**	-3.4%	3.2%	0.8%
Total CIS	4066	4246	4085	4229	4195	4317	4369	4235	4494	4584	**4636**	1.1%	1.3%	4.6%
Middle East														
Light distillates	1880	1948	1960	1998	2120	2154	2113	1805	2019	2103	**2156**	2.5%	1.4%	2.2%
of which: gasoline	1587	1613	1639	1678	1784	1831	1830	1531	1692	1763	**1801**	2.2%	1.3%	1.8%
of which: naphtha	294	335	321	319	336	323	283	274	327	340	**355**	4.4%	1.9%	0.4%
Middle distillates	2631	2539	2465	2381	2259	2233	2344	2037	2174	2518	**2596**	3.1%	-0.1%	2.6%
of which: diesel/gasoil	2122	2068	1904	1793	1701	1686	1766	1709	1765	1917	**1930**	0.7%	-0.9%	1.9%
of which: jet/kerosene	509	471	561	588	558	547	578	328	409	601	**666**	10.8%	2.7%	0.7%
Fuel oil	2034	2110	2105	2094	2156	2036	1991	1994	2053	2155	**2163**	0.4%	0.6%	2.2%
Others	2147	2300	2332	2626	2713	2764	2513	2486	2540	2623	**2730**	4.1%	2.4%	2.7%
of which: ethane and LPG	1811	1917	1903	2027	2100	2139	2065	2062	2097	2154	**2228**	3.4%	2.1%	2.2%
Total Middle East	8693	8896	8861	9099	9249	9187	8961	8323	8786	9399	**9646**	2.6%	1.0%	9.6%

Thousand barrels daily	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Africa														
Light distillates	900	913	994	1080	1125	1229	1254	1177	1311	1357	**1312**	-3.3%	3.8%	1.3%
of which: gasoline	896	907	989	1074	1118	1222	1247	1170	1304	1350	**1305**	-3.4%	3.8%	1.3%
of which: naphtha	4	6	5	6	7	7	7	7	7	7	**7**	0.7%	6.8%	†
Middle distillates	1833	1864	1907	1848	1885	1900	1906	1654	1819	1865	**1911**	2.4%	0.4%	1.9%
of which: diesel/gasoil	1514	1565	1629	1587	1617	1637	1651	1507	1647	1653	**1665**	0.7%	1.0%	1.7%
of which: jet/kerosene	320	299	278	261	267	263	255	147	172	212	**246**	16.0%	-2.6%	0.2%
Fuel oil	420	423	406	400	379	321	278	201	226	321	**305**	-5.0%	-3.1%	0.3%
Others	600	587	588	599	642	661	675	662	677	688	**705**	2.6%	1.6%	0.7%
of which: ethane and LPG	403	396	402	414	444	467	477	470	479	492	**509**	3.4%	2.3%	0.5%
Total Africa	3753	3787	3896	3928	4030	4111	4113	3694	4032	4231	**4233**	†	1.2%	4.2%
Asia Pacific														
Light distillates	9254	9522	10340	10626	10994	11310	11583	11005	11829	11690	**12300**	5.2%	2.9%	12.3%
of which: gasoline	5520	5632	6197	6418	6624	6886	7135	6558	7008	6912	**7353**	6.4%	2.9%	7.3%
of which: naphtha	3733	3890	4143	4208	4371	4424	4449	4447	4821	4778	**4948**	3.6%	2.9%	4.9%
Middle distillates	10972	11029	11333	11462	11868	12075	11910	10179	10546	10999	**12151**	10.5%	1.0%	12.1%
of which: diesel/gasoil	8635	8656	8870	8851	9134	9229	9045	8281	8718	9233	**9727**	5.4%	1.2%	9.7%
of which: jet/kerosene	2337	2373	2463	2611	2735	2846	2865	1898	1828	1766	**2424**	37.2%	0.4%	2.4%
Fuel oil	3010	2850	2827	2874	2767	2609	2388	2352	2513	2617	**2758**	5.4%	-0.9%	2.8%
Others	7009	7333	7659	8387	8986	9514	10302	10644	10362	10805	**10852**	0.4%	4.5%	10.8%
of which: ethane and LPG	3179	3369	3483	3875	4148	4385	4504	4410	4614	4644	**4878**	5.0%	4.4%	4.9%
Total Asia Pacific	30245	30734	32160	33349	34615	35508	36184	34180	35250	36110	**38061**	5.4%	2.3%	38.0%
of which: China														
Light distillates	3057	3269	3716	3889	4060	4324	4571	4476	4944	4862	**5442**	11.9%	5.9%	5.4%
of which: gasoline	2143	2236	2601	2699	2791	2978	3125	2921	3280	3021	**3391**	12.3%	4.7%	3.4%
of which: naphtha	914	1032	1115	1190	1269	1346	1446	1555	1664	1841	**2051**	11.4%	8.4%	2.0%
Middle distillates	4049	4094	4197	4142	4257	4284	4095	3712	3906	3837	**4615**	20.3%	1.3%	4.6%
of which: diesel/gasoil	3503	3506	3538	3403	3440	3378	3128	2928	3132	3362	**3787**	12.7%	0.8%	3.8%
of which: jet/kerosene	546	588	659	739	817	906	967	784	774	476	**828**	74.0%	4.3%	0.8%
Fuel oil	564	584	591	558	530	532	574	602	648	676	**913**	35.0%	4.9%	0.9%
Others	2894	3071	3386	3708	4157	4502	5075	5613	5390	5595	**5606**	0.2%	6.8%	5.6%
of which: ethane and LPG	871	998	1120	1310	1456	1531	1539	1507	1698	1675	**1867**	11.5%	7.9%	1.9%
Total China	10563	11018	11890	12297	13003	13641	14316	14404	14888	14970	**16577**	10.7%	4.6%	16.5%
of which: India														
Light distillates	630	655	760	808	807	844	878	826	866	900	**962**	6.8%	4.3%	1.0%
of which: gasoline	379	414	475	520	569	606	653	589	647	701	**734**	4.7%	6.8%	0.7%
of which: naphtha	250	240	285	288	238	238	225	237	218	199	**227**	14.3%	-1.0%	0.2%
Middle distillates	1683	1693	1772	1846	1876	1955	1964	1610	1726	1904	**2010**	5.6%	1.8%	2.0%
of which: diesel/gasoil	1408	1416	1491	1571	1627	1701	1728	1478	1585	1740	**1826**	4.9%	2.6%	1.8%
of which: jet/kerosene	274	276	280	274	249	254	235	132	140	164	**184**	12.4%	-3.9%	0.2%
Fuel oil	117	107	113	136	122	120	114	104	111	124	**121**	-2.7%	0.3%	0.1%
Others	1314	1411	1536	1785	1949	2086	2224	2198	2139	2280	**2354**	3.2%	6.0%	2.3%
of which: ethane and LPG	558	613	661	749	857	971	1046	1079	1096	1098	**1116**	1.7%	7.2%	1.1%
Total India	3743	3865	4181	4574	4754	5004	5179	4738	4841	5209	**5446**	4.6%	3.8%	5.4%
of which: Japan														
Light distillates	1615	1553	1586	1537	1558	1485	1473	1352	1393	1319	**1287**	-2.4%	-2.2%	1.3%
of which: gasoline	948	915	905	895	881	864	842	777	765	758	**755**	-0.3%	-2.3%	0.8%
of which: naphtha	667	637	682	642	677	620	631	575	628	562	**532**	-5.3%	-2.2%	0.5%
Middle distillates	1360	1329	1291	1298	1308	1283	1263	1102	1105	1123	**1153**	2.7%	-1.6%	1.2%
of which: diesel/gasoil	825	808	789	787	783	782	772	725	733	737	**718**	-2.6%	-1.4%	0.7%
of which: jet/kerosene	535	522	502	511	525	501	492	377	372	386	**435**	12.9%	-2.0%	0.4%
Fuel oil	683	575	473	406	318	304	244	227	259	286	**245**	-14.3%	-9.7%	0.2%
Others	947	922	885	862	899	867	865	732	728	776	**680**	-12.3%	-3.3%	0.7%
of which: ethane and LPG	520	502	477	460	470	454	442	397	404	418	**402**	-3.8%	-2.5%	0.4%
Total Japan	4605	4379	4235	4103	4084	3939	3846	3412	3485	3504	**3366**	-3.9%	-3.1%	3.4%
World														
Light distillates	27836	28193	29200	29830	30386	30674	30799	27781	30187	30327	**31151**	2.7%	1.1%	31.1%
of which: gasoline	22092	22327	23090	23645	23997	24383	24589	21608	23530	23890	**24616**	3.0%	1.1%	24.6%
of which: naphtha	5744	5866	6110	6185	6389	6291	6210	6174	6657	6437	**6535**	1.5%	1.3%	6.5%
Middle distillates	33343	33595	34186	34182	34937	35505	35391	30043	32195	34047	**35301**	3.7%	0.6%	35.2%
of which: diesel/gasoil	26681	26879	27171	26818	27266	27635	27425	25253	26861	27801	**27960**	0.6%	0.5%	27.9%
of which: jet/kerosene	6662	6716	7016	7364	7670	7870	7966	4790	5335	6245	**7341**	17.5%	1.0%	7.3%
Fuel oil	8276	8089	7846	7901	7804	7384	7021	6556	6981	7284	**7365**	1.1%	-1.2%	7.3%
Others	20647	21017	21535	22768	23597	24401	25012	25067	25368	26025	**26404**	1.5%	2.5%	26.3%
of which: ethane and LPG	11468	11739	11995	12726	13157	13777	13825	13758	14177	14249	**14703**	3.2%	2.5%	14.7%
Total World	**90101**	**90893**	**92767**	**94680**	**96723**	**97964**	**98223**	**89448**	**94732**	**97683**	**100221**	**2.6%**	**1.1%**	**100.0%**
OECD														
Light distillates	16208	16178	16442	16648	16758	16602	16449	14472	15627	15567	**15644**	0.5%	-0.4%	15.6%
of which: gasoline	13079	13108	13307	13485	13481	13531	13480	11622	12565	12792	**12997**	1.6%	-0.1%	13.0%
of which: naphtha	3129	3070	3136	3163	3277	3071	2969	2850	3062	2775	**2647**	-4.6%	-1.7%	2.6%
Middle distillates	16440	16637	17076	17186	17655	17952	17836	14847	15998	16847	**16794**	-0.3%	0.2%	16.8%
of which: diesel/gasoil	12647	12774	13059	13015	13297	13493	13319	12263	12983	13032	**12579**	-3.5%	-0.1%	12.6%
of which: jet/kerosene	3792	3863	4017	4171	4357	4459	4517	2584	3015	3815	**4215**	10.5%	1.1%	4.2%
Fuel oil	2524	2181	1988	2031	1984	1914	1716	1436	1632	1711	**1568**	-8.4%	-4.7%	1.6%
Others	9852	9626	9789	9984	10060	10292	10473	10132	10550	10645	**10725**	0.8%	0.9%	10.7%
of which: ethane and LPG	5502	5425	5510	5652	5702	6041	6109	6086	6220	6176	**6292**	1.9%	1.4%	6.3%
Total OECD	45024	44623	45296	45849	46456	46759	46475	40887	43807	44770	**44731**	-0.1%	-0.1%	44.6%
Non-OECD														
Light distillates	11627	12015	12758	13183	13628	14073	14350	13310	14560	14761	**15507**	5.1%	2.9%	15.5%
of which: gasoline	9012	9219	9784	10160	10516	10853	11109	9986	10965	11098	**11619**	4.7%	2.6%	11.6%
of which: naphtha	2615	2796	2974	3023	3112	3220	3241	3324	3595	3662	**3888**	6.2%	4.0%	3.9%
Middle distillates	16903	16958	17111	16996	17282	17553	17555	15196	16197	17199	**18507**	7.6%	0.9%	18.5%
of which: diesel/gasoil	14033	14105	14112	13803	13969	14142	14106	12990	13878	14769	**15381**	4.1%	0.9%	15.3%
of which: jet/kerosene	2870	2853	2999	3193	3313	3411	3449	2206	2320	2430	**3126**	28.7%	0.9%	3.1%
Fuel oil	5751	5908	5858	5870	5820	5470	5304	5120	5349	5573	**5797**	4.0%	0.1%	5.8%
Others	10795	11390	11745	12783	13536	14109	14539	14936	14818	15380	**15678**	1.9%	3.8%	15.6%
of which: ethane and LPG	5966	6314	6485	7074	7456	7736	7717	7672	7957	8074	**8411**	4.2%	3.5%	8.4%
Total Non-OECD	45077	46271	47471	48832	50267	51205	51748	48561	50925	52913	**55489**	4.9%	2.1%	55.4%

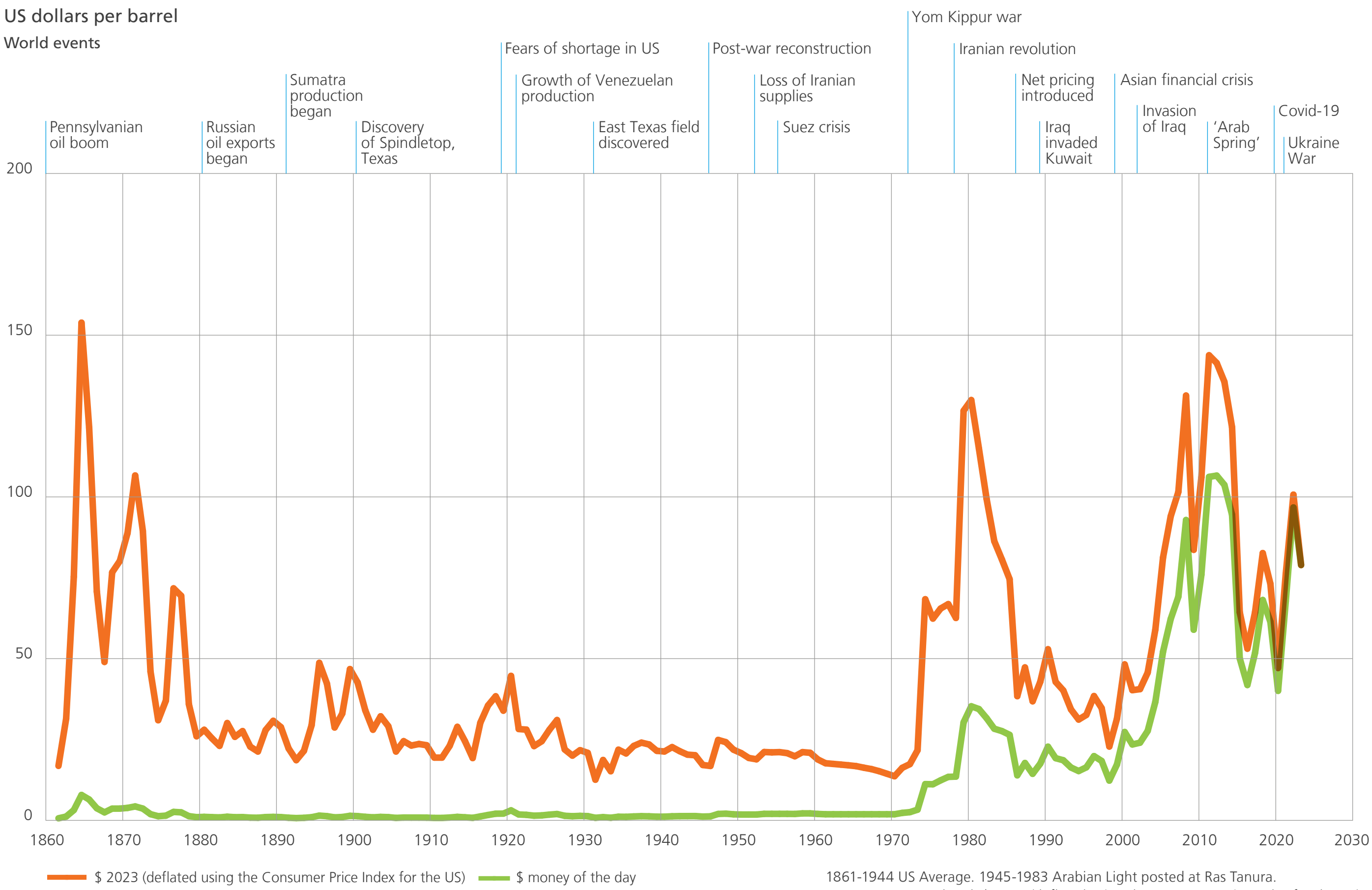
† Less than 0.05%.
Notes: 'Light distillates' consists of aviation and motor gasolines and light distillate feedstock (LDF).
'Middle distillates' consists of jet and heating kerosenes, and gas and diesel oils (including marine bunkers).
'Fuel oil' includes marine bunkers and crude oil used directly as fuel.
'Others' consists of refinery gas, solvents, petroleum coke, lubricants, bitumen, wax, other refined products and refinery fuel and loss.
Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil Spot crude prices

US dollars per barrel	Dubai $/bbl[1]	Brent $/bbl[2]	Nigerian Forcados $/bbl[3]	West Texas Intermediate $/bbl[4]
1972	1.90	–	–	–
1973	2.83	–	–	–
1974	10.41	–	–	–
1975	10.70	–	–	–
1976	11.63	12.80	12.87	12.23
1977	12.38	13.92	14.21	14.22
1978	13.03	14.02	13.65	14.55
1979	29.75	31.61	29.25	25.08
1980	35.69	36.83	36.98	37.96
1981	34.32	35.93	36.18	36.08
1982	31.80	32.97	33.29	33.65
1983	28.78	29.55	29.54	30.30
1984	28.06	28.78	28.14	29.39
1985	27.53	27.56	27.75	27.98
1986	13.10	14.43	14.46	15.05
1987	16.95	18.44	18.39	19.19
1988	13.18	14.92	15.00	15.98
1989	15.59	18.23	18.30	19.67
1990	20.21	23.73	23.85	24.46
1991	16.70	20.00	20.11	21.53
1992	17.18	19.32	19.61	20.57
1993	14.99	16.97	17.41	18.45
1994	14.69	15.82	16.25	17.21
1995	16.08	17.02	17.26	18.42
1996	19.26	20.67	21.16	22.16
1997	18.31	19.09	19.33	20.61
1998	12.30	12.72	12.63	14.39
1999	16.90	17.97	17.98	19.31
2000	26.27	28.50	28.42	30.37
2001	22.78	24.44	24.23	25.93
2002	23.60	25.02	25.04	26.16
2003	26.75	28.83	28.68	31.06
2004	33.51	38.27	38.13	41.49
2005	46.78	54.52	55.69	56.59
2006	61.48	65.14	67.07	66.04
2007	67.92	72.39	74.48	72.20
2008	94.28	97.26	101.43	100.06
2009	61.14	61.67	63.35	61.92
2010	77.78	79.50	81.05	79.45
2011	105.93	111.26	113.65	95.04
2012	109.06	111.67	114.21	94.13
2013	105.47	108.66	111.95	97.99
2014	97.02	98.95	101.35	93.28
2015	51.22	52.39	54.41	48.71
2016	41.02	43.73	44.54	43.34
2017	53.02	54.19	54.31	50.79
2018	70.15	71.31	72.47	65.20
2019	63.71	64.21	64.95	57.03
2020	42.41	41.84	42.31	39.25
2021	68.91	70.91	69.76	68.10
2022	96.38	101.32	101.40	94.58
2023	**82.09**	**82.64**	**83.60**	**78.88**

Source: S&P Global Commodity Insights, ©2024 by S&P Global Inc
[1] 1972-1985 Arabian Light, 1986-2023 Dubai dated.
[2] 1976-1983 Forties, 1984-2023 Brent dated.
[3] Forcados FOB Nigeria.
[4] 1976-1983 Posted WTI prices, 1984-2023 Spot WTI (Cushing) prices.

Crude oil prices 1861–2023



1861-1944 US Average. 1945-1983 Arabian Light posted at Ras Tanura.
1984-2023 Brent dated. $ 2023 (deflated using the Consumer Price Index for the US).

Oil Refining capacity

Thousand barrels daily*	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	1929	1929	1931	1934	1970	1939	2054	2065	1954	1954	**1954**	–	0.1%	1.9%
Mexico	1606	1522	1522	1522	1546	1558	1558	1558	1558	1558	**1558**	–	-0.3%	1.5%
US	17925	17967	18317	18617	18598	18808	18974	18143	17941	18061	**18429**	2.0%	0.3%	17.8%
Total North America	21460	21418	21770	22073	22113	22305	22586	21766	21453	21573	**21941**	1.7%	0.2%	21.2%
Argentina	657	657	657	657	657	580	580	580	580	580	**580**	–	-1.2%	0.6%
Brazil	2097	2238	2281	2289	2285	2285	2290	2290	2303	2304	**2290**	-0.6%	0.9%	2.2%
Chile	242	242	242	242	242	242	242	242	242	242	**242**	–	–	0.2%
Colombia	336	336	421	421	421	421	421	421	421	421	**501**	19.0%	4.1%	0.5%
Curaçao	320	320	320	320	320	320	320	320	320	320	**320**	–	–	0.3%
Ecuador	175	175	175	175	175	175	175	175	175	186	**196**	5.4%	1.1%	0.2%
Netherlands Antilles	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	253	253	253	253	253	253	253	253	276	283	**283**	–	1.1%	0.3%
Trinidad & Tobago	175	175	175	175	175	175	175	175	175	175	**140**	-20.0%	-2.2%	0.1%
Venezuela	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303	**1303**	–	–	1.3%
Other S. & Cent. America	655	657	675	675	675	675	675	855	580	400	**384**	-4.0%	-5.2%	0.4%
Total S. & Cent. America	6213	6356	6502	6510	6506	6429	6434	6614	6375	6214	**6239**	0.4%	†	6.0%
Austria	193	193	193	193	193	193	193	193	193	193	**193**	–	–	0.2%
Belgium	776	776	776	776	776	776	776	776	645	645	**645**	–	-1.8%	0.6%
Bulgaria	195	195	195	195	195	195	195	195	195	195	**195**	–	–	0.2%
Czech Republic	175	175	175	175	175	175	175	175	175	175	**175**	–	–	0.2%
Denmark	181	180	180	180	181	181	181	181	181	181	**181**	–	†	0.2%
Finland	261	261	261	261	261	261	261	261	220	206	**206**	–	-2.3%	0.2%
France	1375	1375	1375	1245	1245	1245	1245	1245	1170	1145	**1145**	–	-1.8%	1.1%
Germany	2061	2077	2049	2051	2069	2062	2062	2062	2121	2121	**2076**	-2.1%	0.1%	2.0%
Greece	498	498	528	528	528	528	528	528	528	528	**528**	–	0.6%	0.5%
Hungary	165	165	165	165	165	165	165	165	165	165	**165**	–	–	0.2%
Ireland	75	75	75	75	75	75	75	75	75	75	**75**	–	–	0.1%
Italy	1861	1900	1900	1900	1900	1900	1900	1900	1900	1794	**1794**	–	-0.4%	1.7%
Lithuania	241	241	241	241	241	241	241	241	240	240	**240**	–	†	0.2%
Netherlands	1279	1279	1298	1298	1299	1299	1291	1244	1238	1241	**1241**	–	-0.3%	1.2%
Norway	342	342	342	342	342	342	342	342	226	226	**226**	–	-4.1%	0.2%
Poland	582	582	581	581	568	581	581	581	581	581	**583**	0.3%	†	0.6%
Portugal	330	330	330	330	330	330	330	330	225	225	**225**	–	-3.8%	0.2%
Romania	235	228	239	256	247	254	252	239	252	252	**252**	–	0.7%	0.2%
Slovakia	122	122	122	122	122	122	122	122	122	122	**122**	–	–	0.1%
Spain	1546	1546	1562	1562	1562	1564	1586	1586	1591	1591	**1591**	–	0.3%	1.5%
Sweden	454	454	454	454	454	454	454	454	454	454	**454**	–	–	0.4%
Switzerland	140	140	68	68	68	68	68	68	68	68	**68**	–	-7.0%	0.1%
Türkiye	596	596	596	596	596	818	822	822	822	822	**822**	–	3.3%	0.8%
Ukraine	272	258	250	250	250	250	250	250	250	250	**250**	–	-0.9%	0.2%
United Kingdom	1498	1337	1337	1227	1227	1227	1227	1251	1251	1219	**1219**	–	-2.04%	1.2%
Other Europe	410	410	410	410	393	355	355	311	311	311	**207**	-33.3%	-6.6%	0.2%
Total Europe	15863	15735	15703	15482	15460	15660	15678	15597	15197	15023	**14876**	-1.0%	-0.6%	14.4%
Azerbaijan	325	325	325	325	205	163	120	120	135	150	**150**	–	-7.4%	0.1%
Belarus	460	460	460	460	490	520	520	520	520	520	**520**	–	1.2%	0.5%
Kazakhstan	350	350	350	350	360	390	400	400	400	400	**400**	–	1.3%	0.4%
Russian Federation	6229	6366	6472	6543	6545	6551	6676	6736	6861	6821	**6781**	-0.6%	0.9%	6.6%
Turkmenistan	251	251	271	271	271	271	271	271	271	271	**271**	–	0.8%	0.3%
Uzbekistan	232	232	232	232	232	232	232	232	232	232	**232**	–	–	0.2%
Other CIS	18	35	44	45	48	48	51	61	73	73	**67**	-8.2%	14.1%	0.1%
Total CIS	7865	8019	8154	8226	8151	8175	8270	8340	8492	8467	**8421**	-0.5%	0.7%	8.1%
Bahrain	260	260	260	260	260	260	260	260	260	260	**260**	–	–	0.3%
Iran	2075	2075	2075	2075	2220	2330	2495	2475	2520	2550	**2604**	2.1%	2.3%	2.5%
Iraq	917	791	763	779	779	849	919	919	919	1150	**1219**	6.0%	2.9%	1.2%
Israel	294	301	301	301	301	301	301	301	301	301	**301**	–	0.2%	0.3%
Kuwait	936	936	936	936	736	736	736	800	800	835	**1309**	56.8%	3.4%	1.3%
Oman	222	222	222	222	304	304	304	304	304	304	**435**	43.1%	7.0%	0.4%
Qatar	283	283	283	429	429	429	429	429	429	429	**429**	–	4.2%	0.4%
Saudi Arabia	2507	2899	2899	2901	2826	2835	2905	2947	2977	3224	**3289**	2.0%	2.8%	3.2%
United Arab Emirates	712	728	1149	1149	1229	1229	1307	1331	1246	1246	**1259**	1.0%	5.9%	1.2%
Other Middle East	496	496	496	496	496	496	496	496	496	496	**496**	–	–	0.5%
Total Middle East	8702	8991	9384	9548	9580	9769	10152	10262	10252	10795	**11601**	7.5%	2.9%	11.2%
Algeria	647	651	651	651	657	657	657	657	657	657	**657**	–	0.2%	0.6%
Egypt	810	810	810	810	810	795	795	795	795	795	**795**	–	-0.2%	0.8%
Morocco	201	201	201	201	201	201	–	–	–	–	**–**	–	-100.0%	–
Nigeria	446	449	449	449	449	454	460	460	475	475	**529**	11.4%	1.7%	0.5%
South Africa	520	520	520	520	520	520	520	520	395	384	**277**	-27.9%	-6.1%	0.3%
Other Africa	724	726	726	726	706	687	687	687	697	731	**698**	-4.5%	-0.4%	0.7%
Total Africa	3347	3357	3357	3357	3343	3314	3119	3119	3019	3042	**2956**	-2.8%	-1.2%	2.9%
Australia	662	536	443	452	454	454	455	456	311	235	**235**	–	-9.8%	0.2%
Bangladesh	43	43	43	43	43	43	43	48	43	43	**43**	–	–	†
China	14503	15253	15024	14895	15231	15655	16199	16691	16990	17259	**18484**	7.1%	2.5%	17.9%
India	4319	4319	4307	4620	4699	4972	4994	5018	5005	5045	**5085**	0.8%	1.6%	4.9%
Indonesia	1099	1099	1111	1111	1111	1094	1111	1094	1094	1180	**1242**	5.3%	1.2%	1.2%
Japan	4123	3749	3721	3600	3343	3343	3343	3285	3285	3164	**3069**	-3.0%	-2.9%	3.0%
Malaysia	612	612	612	618	625	625	625	625	955	955	**955**	–	4.6%	0.9%
New Zealand	136	136	136	136	136	136	136	136	135	76	**30**	-60.5%	-14.0%	†
Pakistan	390	390	389	389	401	401	401	430	430	430	**430**	–	1.0%	0.4%
Philippines	270	271	271	271	271	271	271	180	180	180	**180**	–	-4.0%	0.2%
Singapore	1414	1514	1514	1514	1514	1514	1514	1514	1461	1302	**1302**	–	-0.8%	1.3%
South Korea	2878	3123	3128	3259	3298	3346	3393	3334	3363	3363	**3363**	–	1.6%	3.2%
Taiwan	1197	1197	988	988	1083	1083	1083	1131	1131	1083	**1083**	–	-1.0%	1.0%
Thailand	1237	1252	1252	1235	1235	1235	1235	1245	1245	1245	**1244**	-0.1%	0.1%	1.2%
Vietnam	159	159	159	163	167	367	367	367	367	367	**367**	–	8.7%	0.4%
Other Asia Pacific	190	197	197	197	197	197	357	357	357	357	**351**	-1.7%	6.3%	0.3%
Total Asia Pacific	33231	33849	33294	33490	33808	34735	35527	35909	36351	36284	**37463**	3.2%	1.2%	36.2%
Total World	**96681**	**97726**	**98164**	**98686**	**98962**	**100388**	**101767**	**101609**	**101139**	**101399**	**103498**	**2.1%**	**0.7%**	**100.0%**
of which: OECD	44881	44485	44771	44853	44684	45154	45503	44543	43701	43391	**43654**	0.6%	-0.3%	42.2%
Non-OECD	51800	53241	53394	53832	54277	55235	56264	57066	57439	58008	**59844**	3.2%	1.5%	57.8%
European Union	12777	12824	12871	12761	12757	12735	12748	12643	12359	12217	**12154**	-0.5%	-0.5%	11.7%

Source: Includes data from ICIS.
* Atmospheric distillation capacity at year end on a calendar-day basis.
† Less than 0.05%.

Oil Refinery throughput

Thousand barrels daily*	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	1719	1615	1640	1594	1757	1653	1822	1585	1653	1696	**1716**	1.1%	†	2.1%
Mexico	1223	1155	1064	933	767	612	592	591	712	816	**792**	-2.9%	-4.3%	1.0%
US	15312	15848	16188	16187	16590	16969	16563	14212	15148	15977	**15963**	-0.1%	0.4%	19.2%
Total North America	18254	18618	18892	18714	19114	19234	18977	16387	17513	18489	**18471**	-0.1%	0.1%	22.3%
Argentina	527	526	536	511	500	470	476	417	472	489	**519**	6.1%	-0.2%	0.6%
Brazil	2035	2085	1972	1812	1741	1733	1751	1769	1818	1935	**1987**	2.7%	-0.2%	2.4%
Chile	174	174	165	163	172	172	186	172	192	174	**183**	5.1%	0.5%	0.2%
Colombia	284	247	244	339	355	415	415	355	375	388	**398**	2.7%	3.4%	0.5%
Curaçao	170	189	178	156	84	29	4	–	–	–	**–**	–	-100.0%	–
Ecuador	141	125	121	150	156	159	142	116	163	170	**175**	3.0%	2.2%	0.2%
Netherlands Antilles	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	186	188	188	194	213	209	192	105	138	132	**131**	-0.7%	-3.4%	0.2%
Trinidad & Tobago	132	105	125	148	131	99	–	–	–	–	**–**	–	-100.0%	0.0%
Venezuela	952	920	863	654	544	306	135	123	135	138	**137**	-0.3%	-17.6%	0.2%
Other S. & Cent. America	286	277	275	231	197	240	234	240	283	230	**237**	3.1%	-1.9%	0.3%
Total S. & Cent. America	4887	4836	4667	4359	4093	3832	3537	3298	3577	3655	**3767**	3.1%	-2.6%	4.5%
Austria	174	173	179	164	162	180	183	162	166	113	**160**	42.3%	-0.8%	0.2%
Belgium	555	645	644	640	685	663	693	545	577	558	**606**	8.7%	0.9%	0.7%
Bulgaria	113	104	121	125	136	118	137	97	84	141	**126**	-10.8%	1.1%	0.2%
Czech Republic	134	151	145	109	158	151	158	122	143	150	**150**	0.5%	1.2%	0.2%
Denmark	144	139	147	140	151	152	154	142	150	145	**150**	3.3%	0.4%	0.2%
Finland	227	225	197	226	226	233	240	219	159	186	**197**	5.7%	-1.4%	0.2%
France	1117	1096	1152	1122	1149	1085	978	665	683	829	**913**	10.1%	-2.0%	1.1%
Germany	1857	1833	1875	1887	1870	1752	1763	1685	1690	1801	**1598**	-11.3%	-1.5%	1.9%
Greece	399	416	436	464	483	489	462	445	476	442	**469**	6.3%	1.6%	0.6%
Hungary	120	131	130	133	131	141	137	135	134	129	**139**	7.7%	1.5%	0.2%
Ireland	57	55	68	64	64	61	51	57	61	60	**56**	-7.6%	-0.2%	0.1%
Italy	1259	1198	1347	1293	1399	1346	1355	1105	1224	1317	**1292**	-1.9%	0.3%	1.6%
Lithuania	192	160	170	187	197	195	191	157	160	165	**182**	10.0%	-0.5%	0.2%
Netherlands	1065	1090	1157	1172	1180	1192	1217	1103	1151	1129	**1201**	6.5%	1.2%	1.4%
Norway	292	274	293	230	281	305	265	237	222	145	**158**	9.1%	-5.9%	0.2%
Poland	488	486	532	517	508	540	546	516	497	535	**503**	-5.9%	0.3%	0.6%
Portugal	239	217	278	279	284	252	223	218	191	204	**185**	-9.0%	-2.5%	0.2%
Romania	189	194	208	228	225	232	244	206	193	235	**207**	-11.9%	0.9%	0.2%
Slovakia	116	105	119	115	112	109	103	112	111	108	**105**	-3.1%	-1.0%	0.1%
Spain	1168	1185	1306	1302	1326	1363	1318	1105	1143	1273	**1243**	-2.4%	0.6%	1.5%
Sweden	332	380	401	395	392	406	337	349	366	369	**352**	-4.5%	0.6%	0.4%
Switzerland	97	98	56	59	57	61	55	56	46	61	**57**	-6.9%	-5.3%	0.1%
Türkiye	421	406	526	531	542	472	673	655	692	736	**726**	-1.4%	5.6%	0.9%
Ukraine	85	69	64	64	77	47	50	56	62	49	**51**	4.0%	-5.1%	0.1%
United Kingdom	1197	1125	1118	1071	1073	1041	1044	880	889	1017	**938**	-7.8%	-2.4%	1.1%
Other Europe	136	128	141	148	165	166	123	110	114	122	**113**	-6.8%	-1.8%	0.1%
Total Europe	12173	12082	12810	12666	13032	12751	12699	11139	11383	12018	**11878**	-1.2%	-0.2%	14.3%
Azerbaijan	132	135	130	120	118	122	124	118	133	126	**126**	-0.2%	-0.5%	0.2%
Belarus	425	448	462	372	364	366	359	326	327	306	**314**	2.7%	-3.0%	0.4%
Kazakhstan	341	361	342	339	355	374	392	367	391	457	**463**	1.2%	3.1%	0.6%
Russian Federation	5636	5926	5773	5715	5703	5864	5824	5504	5723	5534	**5668**	2.4%	0.1%	6.8%
Turkmenistan	146	136	127	118	125	117	122	118	117	120	**121**	0.8%	-1.8%	0.1%
Uzbekistan	61	50	57	57	58	70	60	57	46	48	**56**	16.7%	-0.8%	0.1%
Other CIS	2	4	7	8	9	11	7	4	7	7	**8**	6.6%	13.5%	†
Total CIS	6742	7060	6899	6730	6732	6924	6889	6494	6744	6599	**6756**	2.4%	†	8.1%
Bahrain	264	257	266	258	262	260	264	230	223	251	**246**	-2.1%	-0.7%	0.3%
Iran	2000	1941	1868	1875	1897	2087	2101	2193	2344	2391	**2578**	7.8%	2.6%	3.1%
Iraq	598	487	409	440	527	596	633	536	510	572	**449**	-21.6%	-2.8%	0.5%
Israel	221	226	232	213	223	238	242	243	238	275	**275**	0.0%	2.2%	0.3%
Kuwait	873	879	905	841	686	679	663	539	643	807	**1036**	28.2%	1.7%	1.2%
Oman	187	180	190	178	232	304	257	255	286	318	**322**	1.2%	5.6%	0.4%
Qatar	270	261	253	280	379	397	396	366	381	415	**409**	-1.6%	4.3%	0.5%
Saudi Arabia	1876	2201	2447	2753	2802	2770	2649	2397	2766	3020	**2810**	-7.0%	4.1%	3.4%
United Arab Emirates	650	643	1098	1078	1119	1096	1037	936	939	983	**1064**	8.2%	5.0%	1.3%
Other Middle East	238	230	181	144	161	153	159	144	136	164	**166**	1.2%	-3.5%	0.2%
Total Middle East	7177	7306	7847	8059	8287	8579	8400	7839	8466	9199	**9355**	1.7%	2.7%	11.3%
Algeria	492	615	591	584	573	601	569	585	588	649	**650**	0.1%	2.8%	0.8%
Egypt	514	530	530	509	508	522	565	605	600	623	**529**	-15.0%	0.3%	0.6%
Morocco	111	105	53	–	–	–	–	–	–	–	**–**	–	-100.0%	–
Nigeria	97	64	22	62	81	35	7	0	3	6	**18**	177.3%	-15.7%	†
South Africa	422	440	453	474	447	455	396	262	192	196	**199**	1.3%	-7.2%	0.2%
Other Africa	594	444	453	459	429	446	442	324	418	382	**410**	7.3%	-3.6%	0.5%
Total Africa	2230	2197	2101	2087	2038	2059	1980	1777	1801	1856	**1805**	-2.7%	-2.1%	2.2%
Australia	588	538	427	433	419	474	465	388	308	248	**248**	-0.2%	-8.3%	0.3%
Bangladesh	27	24	25	23	28	25	28	22	31	28	**28**	1.4%	0.3%	†
China	9599	10165	10824	11304	11844	12574	13433	13824	14461	13892	**15102**	8.7%	4.6%	18.2%
India	4462	4475	4561	4930	5010	5154	5119	4493	4792	5082	**5249**	3.3%	1.6%	6.3%
Indonesia	822	848	836	885	885	916	918	826	824	845	**895**	5.9%	0.8%	1.1%
Japan	3453	3289	3258	3280	3214	3059	3046	2492	2488	2694	**2545**	-5.6%	-3.0%	3.1%
Malaysia	557	552	514	574	570	566	586	491	571	584	**582**	-0.3%	0.4%	0.7%
New Zealand	105	101	109	107	108	103	110	76	74	18	**–**	-100.0%	-100.0%	–
Pakistan	223	232	257	242	261	275	243	210	240	231	**222**	-3.9%	-0.1%	0.3%
Philippines	158	168	212	216	211	237	180	106	78	87	**92**	5.2%	-5.3%	0.1%
Singapore	936	839	901	929	994	974	1000	861	871	888	**857**	-3.5%	-0.9%	1.0%
South Korea	2484	2516	2784	2928	3061	3031	2922	2679	2634	2811	**2758**	-1.9%	1.1%	3.3%
Taiwan	847	850	838	861	848	889	890	726	770	815	**807**	-1.0%	-0.5%	1.0%
Thailand	1017	961	1066	1022	1064	1093	990	982	976	1021	**1054**	3.3%	0.4%	1.3%
Vietnam	148	129	155	155	141	221	276	276	308	356	**287**	-19.3%	6.8%	0.3%
Other Asia Pacific	98	95	87	103	100	97	101	250	243	263	**231**	-12.1%	8.9%	0.3%
Total Asia Pacific	25524	25782	26855	27993	28759	29689	30308	28700	29670	29864	**30957**	3.7%	1.9%	37.3%
Total World	**76988**	**77881**	**80071**	**80608**	**82056**	**83068**	**82790**	**75634**	**79154**	**81680**	**82988**	**1.6%**	**0.8%**	**100.0%**
of which: OECD	37212	37297	38387	38279	39096	38914	38507	33460	34753	36570	**36258**	-0.9%	-0.3%	43.7%
Non-OECD	39776	40584	41684	42329	42960	44154	44282	42174	44401	45110	**46730**	3.6%	1.6%	56.3%
European Union	10005	10029	10670	10627	10907	10733	10542	9184	9396	9924	**9870**	-0.5%	-0.1%	11.9%

Source: Includes data from ICIS.
* Atmospheric distillation capacity on a calendar-day basis.
† Less than 0.05%.

Oil Trade movements

Thousand barrels daily	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Imports														
US	9859	9241	9451	10056	10147	9927	9142	7865	8474	8341	**8539**	2.4%	-1.4%	12.5%
Europe	12920	12957	14005	14337	14966	14338	14322	12836	12969	14128	**12811**	-9.3%	-0.1%	18.8%
China	6978	7398	8333	9215	10241	11028	11865	12598	12501	12143	**13717**	13.0%	7.0%	20.1%
India	4370	4155	4396	4945	4920	5196	5376	4898	5302	5753	**5770**	0.3%	2.8%	8.5%
Japan	4637	4383	4332	4180	4142	3940	3780	3310	3350	3465	**3332**	-3.8%	-3.2%	4.9%
Rest of World	20012	21193	22915	28418	25623	25580	25617	27867	23903	24567	**23955**	-2.5%	1.8%	35.2%
Total World	**58776**	**59328**	**63431**	**71151**	**70039**	**70009**	**70101**	**69374**	**66500**	**68397**	**68124**	**-0.4%**	**1.5%**	**100.0%**
Exports														
Canada	3296	3536	3837	3889	4233	4498	4667	4398	4656	4679	**4836**	3.4%	3.9%	7.1%
Mexico	1347	1293	1321	1405	1283	1302	1252	1247	1216	1173	**1271**	8.4%	-0.6%	1.9%
US	3563	4033	4562	5082	5881	7039	8010	8136	7959	8549	**9108**	6.5%	9.8%	13.4%
S. & Cent. America	3790	3939	4103	5736	3989	3711	3424	3567	3034	2843	**3417**	20.2%	-1.0%	5.0%
Europe	2545	2467	3065	4834	3384	3349	3240	3650	2848	2640	**2340**	-11.3%	-0.8%	3.4%
Russian Federation	7948	7792	8434	8811	8981	8026	8090	7397	7816	7821	**6736**	-13.9%	-1.6%	9.9%
Other CIS	2166	2092	2045	2097	2232	2051	2080	2069	2090	2069	**2170**	4.8%	0.0%	3.2%
Saudi Arabia	8365	7911	8008	8729	8352	8462	8349	8012	7778	8767	**8282**	-5.5%	-0.1%	12.2%
Middle East (ex Saudi Arabia)	12242	12699	13977	15902	16208	16038	14915	13693	14228	15346	**15018**	-2.1%	2.1%	22.0%
North Africa	2127	1743	1747	1736	2594	2765	2794	1836	2361	2061	**2025**	-1.8%	-0.5%	3.0%
West Africa	4590	4849	4889	4458	4490	4516	4728	4268	3953	3580	**3285**	-8.2%	-3.3%	4.8%
Asia Pacific (ex Japan)	6307	6450	5895	6348	6549	6440	6591	5705	6414	6575	**7294**	10.9%	1.5%	10.7%
Rest of World	491	524	1549	2124	1863	1811	1959	5398	2148	2295	**2341**	2.0%	16.9%	3.4%
Total World	**58776**	**59328**	**63431**	**71151**	**70039**	**70009**	**70101**	**69374**	**66500**	**68397**	**68124**	**-0.4%**	**1.5%**	**100.0%**

Notes: Unless otherwise stated, this table shows inter-regional trade based on the regional classification in the table 'Oil trade in 2022 and 2023'.
Does not include biofuels trade. Bunker fuel use is not included as exports. Intra-area movements (for example, between countries within Europe) are excluded.
Annual changes and shares of total are calculated using thousand barrels daily figures.

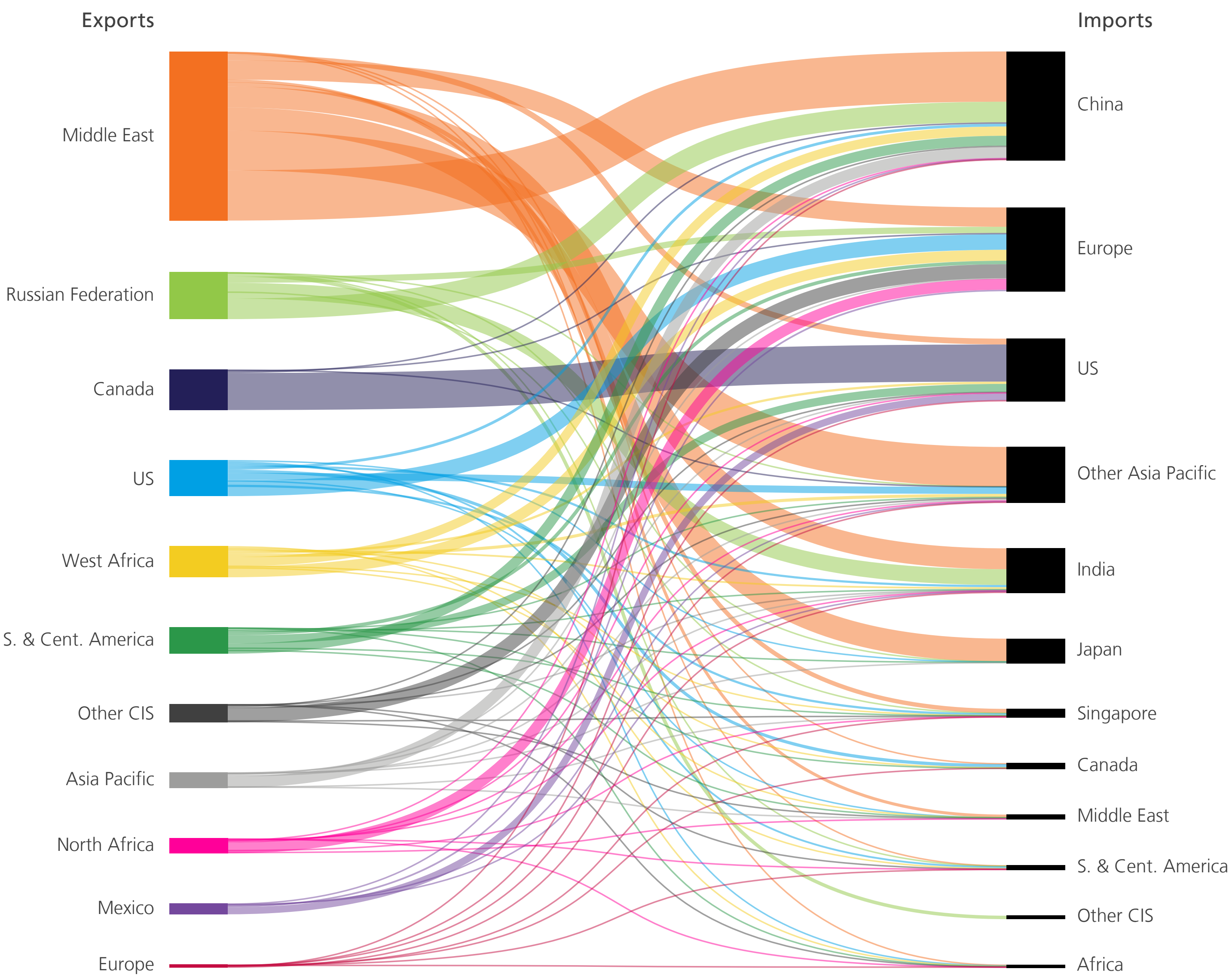
Oil Trade in 2022 and 2023

Million tonnes	2022 Crude imports	2022 Product imports	2022 Crude exports	2022 Product exports	2023 Crude imports	2023 Product imports	2023 Crude exports	2023 Product exports
Canada	25.8	29.7	198.9	32.8	25.0	27.3	207.2	32.3
Mexico	†	58.9	49.4	8.7	†	58.8	53.8	9.2
US	312.8	98.5	161.3	253.9	323.8	97.5	185.0	258.0
S. & Cent. America	23.9	113.7	111.8	28.6	20.7	105.9	141.2	27.9
Europe	488.8	206.2	19.7	107.3	436.6	193.4	12.1	100.3
Russian Federation	1.8	1.7	262.7	121.8	7.7	1.3	240.8	90.9
Other CIS	16.2	7.6	90.2	12.3	18.0	9.0	91.4	15.9
Iraq	†	10.8	191.1	16.6	†	9.5	184.2	19.8
Kuwait	0.3	0.3	96.0	28.4	0.4	0.3	81.1	37.4
Saudi Arabia	1.7	7.9	367.8	66.0	2.8	6.3	349.1	60.8
United Arab Emirates	7.5	29.9	178.4	90.1	5.3	30.1	170.7	92.5
Other Middle East	15.1	25.2	93.3	62.0	14.6	23.5	90.0	63.3
North Africa	8.9	35.0	76.5	25.1	3.6	35.1	75.6	24.2
West Africa	1.3	50.1	171.3	6.7	1.4	46.7	158.6	4.8
East & S. Africa	6.8	54.8	1.7	2.0	7.3	51.3	3.2	1.3
Australasia	10.4	45.0	11.2	4.5	8.4	54.9	10.0	4.9
China	508.2	92.7	1.7	54.3	563.9	114.4	1.2	61.5
India	231.2	53.1	2.2	87.3	231.0	54.0	1.9	93.3
Japan	132.5	38.5	0.4	16.3	125.5	38.8	†	12.5
Singapore	44.2	72.4	0.3	72.9	42.3	72.2	2.0	78.0
Other Asia Pacific	297.6	188.6	49.2	123.0	288.5	185.2	67.9	126.6
Total World	**2135.2**	**1220.7**	**2135.2**	**1220.7**	**2127.1**	**1215.5**	**2127.1**	**1215.5**

Thousand barrels daily	2022 Crude imports	2022 Product imports	2022 Crude exports	2022 Product exports	2023 Crude imports	2023 Product imports	2023 Crude exports	2023 Product exports
Canada	518	622	3994	685	503	571	4161	675
Mexico	1	1230	992	182	‡	1229	1080	192
US	6281	2060	3240	5308	6502	2038	3716	5393
S. & Cent. America	480	2377	2245	599	416	2213	2835	582
Europe	9817	4311	396	2243	8768	4043	243	2097
Russian Federation	37	36	5275	2546	154	28	4835	1901
Other CIS	325	160	1812	257	361	189	1836	333
Iraq	‡	225	3838	348	‡	198	3699	414
Kuwait	6	7	1928	595	9	6	1629	783
Saudi Arabia	35	166	7386	1381	56	131	7012	1270
United Arab Emirates	150	625	3584	1884	106	630	3429	1934
Other Middle East	304	527	1874	1296	294	490	1806	1324
North Africa	180	732	1537	525	73	734	1519	507
West Africa	25	1048	3440	139	29	975	3184	100
East & S. Africa	137	1146	35	41	147	1072	65	27
Australasia	209	941	225	93	168	1148	202	103
China	10206	1937	33	1135	11325	2391	24	1285
India	4642	1111	43	1826	4640	1130	38	1951
Japan	2661	804	9	340	2521	811	‡	261
Singapore	888	1514	6	1523	849	1509	40	1631
Other Asia Pacific	5977	3942	988	2571	5794	3872	1365	2646
Total World	**42879**	**25518**	**42879**	**25518**	**42716**	**25408**	**42716**	**25408**

† Less than 0.05.
‡ Less than 0.5.
Notes: Does not include biofuels trade. Bunker fuel use is not included as exports. Intra-area movements (for example, between countries within Europe) are excluded.
Crude imports and exports include condensates.

Oil Inter-area movements 2023 – Crude trade



International trade of crude oil was 2.1 billion tonnes in 2023, similar to 2022. The Middle East dominated exports accounting for 41% of the total. Although Russia's share dropped by 22 million tonnes, its share of the total remained the second highest at 11%. The US increased its share of total exports by 1%, rising to 9% in 2023. On the import side, China was the single largest importer at 0.6 billion tonnes, 27% of the global total. Europe had the second highest share at 21%, followed by the US at 15%. Collectively, China and India increased their imports of Russian crude oil by 53% whilst European reduced its imports by 72%.

Oil Inter-area movements 2023 crude trade

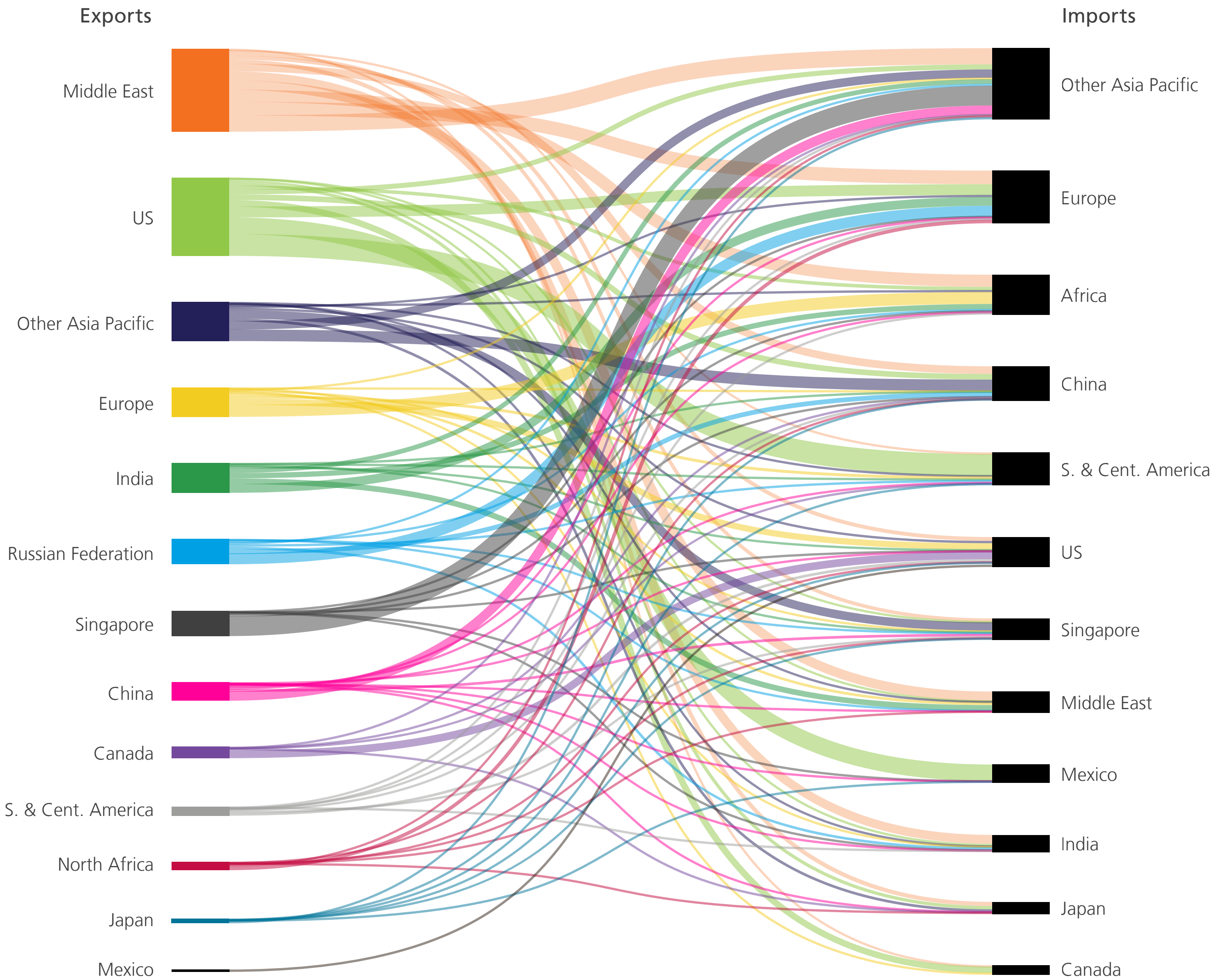
Crude (million tonnes) — To

From	Canada	Mexico	US	S. & Cent. America	Europe	Russian Federation	Other CIS	Middle East	Africa	Australasia	China	India	Japan	Singapore	Other Asia Pacific	**Total**
Canada	–	–	192.9	–	6.7	–	–	–	†	–	7.5	–	–	–	0.1	**207.2**
Mexico	–	–	36.5	†	8.0	–	–	–	–	–	1.6	3.4	–	–	4.3	**53.8**
US	16.9	–	–	9.6	80.4	–	–	0.1	0.7	1.4	14.3	11.3	2.4	11.6	36.5	**185.0**
S. & Cent. America	0.6	†	42.9	–	18.2	7.6	†	2.9	1.0	†	52.1	7.0	1.9	2.5	4.5	**141.2**
Europe	0.2	–	2.3	0.1	–	–	†	†	0.3	†	3.1	5.1	–	0.2	0.8	**12.1**
Russian Federation	–	–	†	0.3	32.4	–	18.0	–	†	–	107.0	81.8	0.1	0.3	0.9	**240.8**
Other CIS	–	–	1.6	0.1	72.7	†	–	2.4	0.8	†	6.4	0.4	–	0.1	6.7	**91.4**
Iraq	†	–	10.6	–	49.2	–	–	0.3	0.3	–	59.3	48.8	–	0.9	14.8	**184.2**
Kuwait	–	–	1.1	–	3.4	–	–	†	1.7	–	24.5	8.1	11.5	0.1	30.8	**81.1**
Saudi Arabia	2.5	–	17.4	3.2	40.7	–	–	11.7	2.9	–	85.9	35.3	51.4	4.9	93.3	**349.1**
UAE	†	–	0.8	†	5.4	–	†	†	0.1	†	41.8	13.2	48.6	11.1	49.7	**170.7**
Other Middle East	–	–	0.4	–	1.8	–	†	3.6	†	–	49.6	3.2	8.2	5.5	17.6	**90.0**
North Africa	†	–	5.1	1.9	56.5	–	–	1.6	0.3	0.6	3.5	2.2	–	0.2	3.7	**75.6**
West Africa	4.8	–	11.9	5.4	56.9	–	–	0.3	4.5	0.2	48.1	9.3	–	1.2	16.0	**158.6**
East & S. Africa	–	–	–	†	1.1	–	–	†	†	–	0.7	0.1	†	0.5	0.8	**3.2**
Australasia	–	–	0.1	–	0.1	–	–	0.2	–	–	2.0	–	0.5	1.5	5.6	**10.0**
China	–	–	–	–	0.4	–	–	–	–	–	–	–	–	†	0.8	**1.2**
India	†	–	–	†	1.9	–	–	–	†	–	–	–	–	–	†	**1.9**
Japan	–	–	–	†	†	–	–	†	–	–	–	–	–	†	–	**†**
Singapore	†	–	–	–	0.1	–	–	–	†	†	0.3	–	–	–	1.6	**2.0**
Other Asia Pacific	–	–	†	†	0.7	†	–	†	†	6.1	56.2	2.0	1.0	1.9	–	**67.9**
Total imports	**25.0**	**†**	**323.8**	**20.7**	**436.6**	**7.7**	**18.0**	**23.2**	**12.4**	**8.4**	**563.9**	**231.0**	**125.5**	**42.3**	**288.5**	**2127.1**

† Less than 0.05.

Notes: Does not include biofuels trade. Bunker fuel use is not included as exports. Intra-area movements (for example, between countries within Europe) are excluded. Crude imports and exports include condensates.

Oil Inter-area movements 2023 – Refined product



At 1.2 billion tonnes, international trade of refined product was around 57% that of crude oil trade in terms of volume and similar to 2022 levels. Between them, the Middle East and the US accounted for 44% of the total exports at 0.27 and 0.26 billion tonnes respectively. At 0.5 billion tonnes, Asia Pacific region accounted for around 43% of total imports. Europe was the second-largest importer of refined products at 0.2 billion tonnes, 16% of the total. It reduced its imports from Russia by 51%.

Oil Inter-area movements 2023 refined product

Product (million tonnes) — To

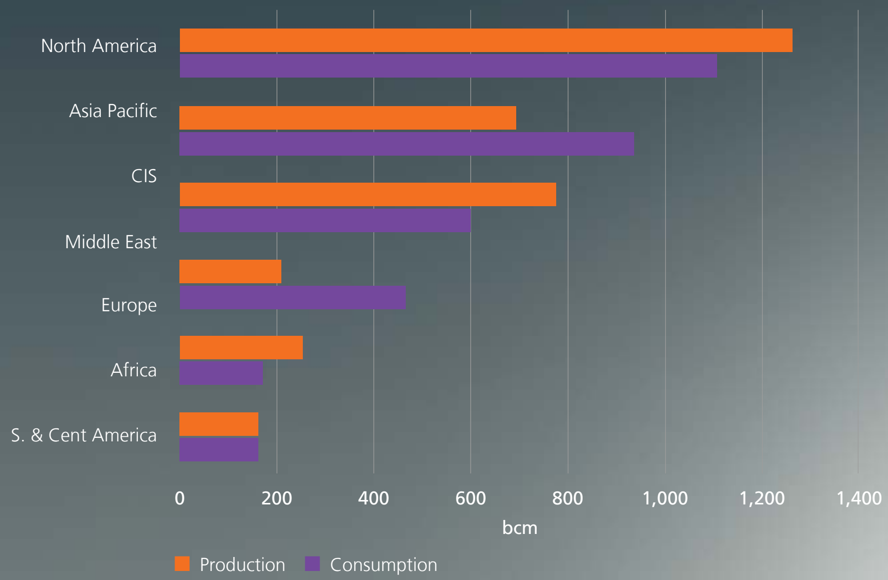
From	Canada	Mexico	US	S. & Cent. America	Europe	Russian Federation	Other CIS	Middle East	Africa	Australasia	China	India	Japan	Singapore	Other Asia Pacific	**Total**
Canada	–	0.1	26.3	1.7	0.5	–	†	†	†	†	0.6	0.2	2.2	†	0.9	**32.3**
Mexico	†	–	8.5	0.1	0.2	–	–	†	0.1	†	†	†	†	0.4	†	**9.2**
US	22.0	55.7	–	73.5	37.0	†	†	1.7	12.2	1.2	19.1	8.1	10.7	1.3	15.5	**258.0**
S. & Cent. America	0.1	0.1	9.2	–	3.1	†	†	0.5	2.3	†	4.4	0.8	0.4	5.9	1.0	**27.9**
Europe	4.2	0.3	21.1	10.0	–	0.2	2.0	9.4	40.6	†	1.9	2.0	0.5	4.4	3.8	**100.3**
Russian Federation	†	–	–	7.6	37.5	–	6.7	1.1	4.7	–	16.2	8.7	–	2.8	5.6	**90.9**
Other CIS	†	–	0.3	0.1	12.8	0.8	–	0.1	0.7	–	0.7	–	†	0.3	0.2	**15.9**
Iraq	–	–	4.9	†	5.0	–	†	5.1	0.1	–	0.5	1.4	†	0.3	2.5	**19.8**
Kuwait	0.4	–	1.2	0.5	11.0	–	–	3.9	3.0	†	2.2	3.4	2.9	2.6	6.4	**37.4**
Saudi Arabia	†	–	4.3	1.5	13.3	–	†	8.4	12.9	0.2	2.7	6.7	1.1	2.3	7.3	**60.8**
UAE	†	†	0.7	1.5	9.0	†	0.1	8.3	16.3	0.2	11.7	10.8	4.9	5.3	23.6	**92.5**
Other Middle East	0.1	†	1.7	0.6	7.5	–	0.1	6.3	9.0	0.1	9.2	7.9	4.7	1.3	14.9	**63.3**
North Africa	†	–	2.6	0.2	11.9	†	†	0.8	0.4	†	0.8	0.1	0.6	1.1	5.6	**24.2**
West Africa	†	–	1.2	0.3	1.0	†	†	0.1	0.3	†	0.9	†	–	0.2	0.7	**4.8**
East & S. Africa	†	†	†	†	0.1	†	†	0.2	0.4	†	†	†	†	0.5	†	**1.3**
Australasia	†	†	0.1	†	0.8	–	†	†	†	–	0.6	†	1.7	0.3	1.4	**4.9**
China	0.1	1.2	0.5	3.9	6.5	0.2	0.1	1.8	4.7	2.7	–	0.5	1.2	9.0	29.1	**61.5**
India	†	†	5.2	1.7	29.8	†	†	19.0	17.8	4.8	0.9	–	0.2	2.9	11.2	**93.3**
Japan	0.2	0.7	0.7	0.9	0.1	†	†	†	†	2.5	1.1	†	–	2.4	3.7	**12.5**
Singapore	†	0.5	1.3	0.3	1.4	†	†	0.4	2.6	15.1	2.8	1.5	0.2	–	51.8	**78.0**
Other Asia Pacific	0.1	0.2	7.7	1.4	4.9	0.1	†	2.6	5.1	28.1	38.2	1.9	7.5	28.8	–	**126.6**
Total imports	**27.3**	**58.8**	**97.5**	**105.9**	**193.4**	**1.3**	**9.0**	**69.7**	**133.0**	**54.9**	**114.4**	**54.0**	**38.8**	**72.2**	**185.2**	**1215.5**

† Less than 0.05.

Notes: Does not include biofuels trade. Bunker fuel use is not included as exports. Intra-area movements (for example, between countries within Europe) are excluded. Crude imports and exports include condensates.

Natural gas

Global gas demand remained stable in 2023 rising by just 1 bcm. This was not sufficient to recover the losses seen in 2022 when overall demand dropped by 0.4% (15 bcm). In Europe, natural gas demand fell by 7% (34 bcm) in 2023, down to its lowest level since 1994. Similarly, gas production in the region declined by around 7% driven by decreases in its top producing countries, Norway, UK, and the Netherlands. Gas demand in the Asia Pacific region grew nearly 2%, driven by China and India's 7% growth increases. When combining all trade routes, whether by sea or pipeline, Russia's share of EU gas imports fell from 45% in 2021 to 24% in 2022, and then a further 15% in 2023 to sit behind Norway and the US. In just eight years, LNG exports from the US rocketed from just 0.2 bcm in 2013 to 114 bcm in 2023, making it the world's leading LNG supplier, moving ahead of Qatar and Australia in 2023.



The top four regions responsible for 80% of gas production are also responsible for 85% of its consumption

Natural gas Production in billion cubic metres*

Billion cubic metres	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum		Share
												2023	2013–23	2023
Canada	151.9	159.0	160.8	165.0	171.3	176.8	169.6	165.6	172.3	184.8	**190.3**	2.9%	2.3%	4.7%
Mexico	52.5	51.3	47.9	43.7	38.3	37.9	36.7	35.5	32.1	33.7	**35.6**	5.5%	-3.8%	0.9%
US	655.7	704.7	740.3	727.4	746.2	840.9	928.1	924.8	944.5	993.4	**1035.3**	4.2%	4.7%	25.5%
Total North America	**860.1**	**915.0**	**949.0**	**936.0**	**955.7**	**1055.6**	**1134.4**	**1126.0**	**1148.9**	**1211.9**	**1261.1**	**4.1%**	**3.9%**	**31.1%**
Argentina	34.6	34.5	35.5	37.3	37.1	39.4	41.6	38.3	38.6	41.7	**41.6**	-0.2%	1.9%	1.0%
Bolivia	19.6	20.4	20.1	18.9	18.6	17.3	15.1	14.7	15.1	13.7	**11.9**	-12.9%	-4.8%	0.3%
Brazil	21.9	23.3	23.8	24.1	27.2	25.2	25.7	24.2	24.3	23.0	**23.4**	1.8%	0.7%	0.6%
Colombia	13.2	12.3	11.6	12.0	11.8	12.4	12.6	12.5	12.6	12.4	**12.1**	-3.0%	-0.9%	0.3%
Peru	12.4	13.1	12.7	14.0	13.0	12.8	13.5	13.2	12.4	15.0	**15.4**	3.1%	2.2%	0.4%
Trinidad & Tobago	38.7	38.1	36.0	31.3	31.9	34.0	34.6	29.5	24.7	26.0	**25.0**	-3.8%	-4.3%	0.6%
Venezuela	30.6	31.8	36.1	37.2	38.6	31.6	25.6	21.6	28.1	29.1	**29.7**	2.2%	-0.3%	0.7%
Other S. & Cent. America	2.7	2.6	2.9	3.1	3.1	3.1	3.3	2.7	2.6	2.8	**2.9**	3.0%	0.6%	0.1%
Total S. & Cent. America	**173.8**	**176.2**	**178.6**	**178.0**	**181.3**	**175.8**	**172.0**	**156.6**	**158.5**	**163.6**	**162.0**	**-1.0%**	**-0.7%**	**4.0%**
Denmark	5.0	4.8	4.8	4.7	5.1	4.3	3.2	1.4	1.5	1.4	**1.4**	-3.3%	-11.9%	†
Germany	8.6	8.1	7.5	6.9	6.4	5.5	5.3	4.5	4.5	4.3	**3.8**	-10.6%	-7.8%	0.1%
Italy	7.4	6.8	6.4	5.5	5.3	5.2	4.6	3.9	3.2	3.2	**2.8**	-9.9%	-9.1%	0.1%
Netherlands	72.4	60.4	45.9	44.3	37.9	32.5	27.7	20.1	18.0	15.0	**9.9**	-34.2%	-18.1%	0.2%
Norway	108.5	107.7	116.3	116.0	123.8	121.4	114.4	111.7	114.5	123.0	**116.6**	-5.2%	0.7%	2.9%
Poland	4.4	4.3	4.3	4.1	4.0	4.0	4.0	3.9	3.9	3.8	**3.6**	-5.5%	-2.1%	0.1%
Romania	10.0	10.2	10.2	9.1	10.0	10.0	9.6	8.6	8.6	8.8	**8.9**	1.4%	-1.2%	0.2%
Ukraine	20.2	20.2	18.8	19.0	19.4	19.7	19.4	19.1	18.7	17.5	**17.7**	0.9%	-1.3%	0.4%
United Kingdom	37.0	37.4	40.7	41.7	41.9	40.6	39.3	39.6	32.8	38.1	**34.5**	-9.6%	-0.7%	0.8%
Other Europe	7.2	6.3	6.1	8.7	9.0	8.4	7.4	6.3	5.4	5.1	**5.1**	0.2%	-3.2%	0.1%
Total Europe	**280.6**	**266.3**	**261.0**	**260.0**	**262.7**	**251.5**	**235.0**	**219.1**	**211.1**	**220.2**	**204.3**	**-7.2%**	**-3.1%**	**5.0%**
Azerbaijan	17.5	18.4	18.8	18.3	17.8	18.8	23.9	25.9	31.8	34.1	**35.6**	4.2%	7.4%	0.9%
Kazakhstan	30.4	32.8	27.1	30.9	36.4	39.2	33.5	30.6	26.7	27.6	**30.8**	11.7%	0.1%	0.8%
Russian Federation	614.5	591.2	584.4	589.3	635.6	669.1	679.0	638.4	702.1	618.4	**586.4**	-5.2%	-0.5%	14.4%
Turkmenistan	59.0	63.5	65.9	63.2	58.7	61.5	63.2	66.0	79.3	78.3	**76.3**	-2.5%	2.6%	1.9%
Uzbekistan	55.9	56.3	53.6	53.1	53.6	58.3	57.5	47.1	50.9	48.9	**44.2**	-9.6%	-2.3%	1.1%
Other CIS	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	**0.3**	-3.4%	-1.8%	†
Total CIS	**777.6**	**762.4**	**750.2**	**755.1**	**802.3**	**847.2**	**857.4**	**808.4**	**891.2**	**807.6**	**773.6**	**-4.2%**	**-0.1%**	**19.1%**
Bahrain	14.0	14.7	14.6	14.4	14.5	14.6	16.3	16.4	16.6	15.8	**16.7**	5.9%	1.8%	0.4%
Iran	157.5	175.5	183.5	199.3	213.9	220.1	228.3	235.8	242.8	247.7	**251.7**	1.6%	4.8%	6.2%
Iraq	7.1	7.5	7.3	9.9	10.1	10.6	11.0	7.0	9.1	9.3	**9.9**	6.9%	3.5%	0.2%
Israel	6.1	7.1	7.9	8.8	9.3	9.9	10.0	14.7	18.3	20.8	**23.5**	12.8%	14.5%	0.6%
Kuwait	15.5	14.3	16.1	16.4	16.2	16.9	13.3	12.2	12.1	13.2	**13.5**	2.6%	-1.3%	0.3%
Oman	30.8	29.3	30.7	31.5	32.3	36.3	36.7	36.9	40.3	42.1	**43.2**	2.5%	3.4%	1.1%
Qatar	167.9	169.4	175.9	174.8	170.5	175.2	177.2	174.9	177.0	178.5	**181.0**	1.4%	0.8%	4.5%
Saudi Arabia	95.0	97.3	99.2	105.3	109.3	112.1	111.2	113.1	114.5	116.7	**114.1**	-2.2%	1.8%	2.8%
Syria	5.0	4.6	4.1	3.5	3.5	3.5	3.3	2.9	3.1	2.9	**3.0**	2.1%	-5.1%	0.1%
United Arab Emirates	53.2	52.9	58.6	59.5	52.7	46.4	53.7	53.7	53.1	54.2	**55.6**	2.5%	0.4%	1.4%
Other Middle East	10.5	9.9	3.0	0.6	0.4	0.2	0.3	0.4	0.4	0.5	**0.6**	22.5%	-25.1%	†
Total Middle East	**562.5**	**582.5**	**600.8**	**624.2**	**632.7**	**645.9**	**661.1**	**667.9**	**687.4**	**701.7**	**712.7**	**1.6%**	**2.4%**	**17.6%**
Algeria	79.3	80.2	81.4	91.4	93.0	93.8	87.0	81.4	101.1	97.6	**101.5**	4.0%	2.5%	2.5%
Egypt	54.0	47.0	42.6	40.3	48.8	58.6	64.9	58.5	67.8	64.5	**57.1**	-11.5%	0.6%	1.4%
Libya	12.2	11.8	12.9	12.7	14.2	14.0	16.0	12.7	15.3	14.6	**16.3**	12.0%	3.0%	0.4%
Nigeria	33.1	40.0	47.6	42.6	47.2	48.3	49.3	49.4	52.4	47.1	**43.7**	-7.3%	2.8%	1.1%
Other Africa	20.4	20.6	21.7	22.8	27.0	28.0	28.4	29.9	30.1	32.0	**35.0**	9.5%	5.5%	0.9%
Total Africa	**199.0**	**199.5**	**206.2**	**209.8**	**230.1**	**242.6**	**245.6**	**231.9**	**266.7**	**255.8**	**253.6**	**-0.8%**	**2.5%**	**6.2%**
Australia	60.6	65.3	74.3	94.1	110.3	127.4	146.1	145.7	147.9	154.2	**151.7**	-1.6%	9.6%	3.7%
Bangladesh	22.0	23.0	25.9	26.5	26.6	26.6	25.3	23.7	23.6	22.5	**21.1**	-6.3%	-0.4%	0.5%
Brunei	11.9	12.7	13.3	12.9	12.9	12.6	13.0	12.6	11.5	10.6	**10.0**	-5.8%	-1.7%	0.2%
China	121.8	131.2	135.7	137.9	149.2	161.4	176.7	194.0	209.2	221.8	**234.3**	5.6%	6.8%	5.8%
India	31.1	29.4	28.1	26.6	27.7	27.5	26.9	23.8	28.5	29.8	**31.6**	6.0%	0.2%	0.8%
Indonesia	77.6	76.4	76.2	75.1	72.7	72.8	67.6	64.7	64.4	62.8	**64.3**	2.3%	-1.9%	1.6%
Malaysia	72.6	72.2	76.8	76.7	79.6	76.1	77.5	73.1	79.0	83.0	**81.1**	-2.3%	1.1%	2.0%
Myanmar	12.9	16.5	19.2	18.3	17.8	17.0	18.5	17.5	17.2	16.8	**15.2**	-10.1%	1.7%	0.4%
Pakistan	35.6	35.0	35.0	-	34.7	34.2	32.7	30.6	32.7	28.7	**27.8**	-3.1%	-2.4%	0.7%
Thailand	38.9	39.1	37.5	37.3	35.9	34.7	35.8	32.7	31.5	25.6	**25.7**	0.1%	-4.1%	0.6%
Vietnam	9.4	9.9	10.3	10.2	9.5	9.7	9.8	8.8	7.2	7.8	**7.2**	-7.4%	-2.6%	0.2%
Other Asia Pacific	18.2	23.1	27.9	29.0	29.2	26.9	28.7	29.0	27.2	24.0	**22.0**	-8.2%	1.9%	0.5%
Total Asia Pacific	**512.5**	**533.7**	**560.2**	**544.6**	**606.0**	**626.8**	**658.5**	**656.3**	**680.0**	**687.8**	**691.8**	**0.6%**	**3.0%**	**17.0%**
Total World	**3366.1**	**3435.6**	**3506.0**	**3507.7**	**3670.9**	**3845.3**	**3964.0**	**3866.2**	**4043.7**	**4048.6**	**4059.2**	**0.3%**	**1.9%**	**100.0%**
of which: OECD	1197.2	1242.6	1281.2	1289.8	1328.1	1434.4	1517.0	1497.3	1518.0	1599.6	**1632.5**	2.1%	3.1%	40.2%
Non-OECD	2168.9	2193.0	2224.8	2217.9	2342.8	2410.9	2447.1	2368.8	2525.7	2449.0	**2426.8**	-0.9%	1.1%	59.8%
European Union	113.9	99.9	84.3	82.4	76.8	69.0	61.0	47.9	44.3	40.8	**34.4**	-15.7%	-11.3%	0.8%

Source: Includes data from Cedigaz. FGE MENA gas service.
* Excludes gas flared or recycled. Includes natural gas produced for Gas-to-Liquids transformation.
† Less than 0.05%.
Notes: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar); as they are derived directly from measures of energy content using an average conversion factor and have been standardised using a Gross Calorific Value (GCV) of 40 MJ/m^3, they do not necessarily equate with gas volumes expressed in specific national terms.
Annual changes and shares of total are calculated using billion cubic metres figures.

Natural gas Production in exajoules*

Exajoules	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	5.47	5.72	5.79	5.94	6.17	6.36	6.11	5.96	6.20	6.65	**6.85**	2.9%	2.3%	4.7%
Mexico	1.89	1.85	1.73	1.57	1.38	1.36	1.32	1.28	1.15	1.21	**1.28**	5.5%	-3.8%	0.9%
US	23.60	25.37	26.65	26.18	26.86	30.27	33.41	33.29	34.00	35.76	**37.27**	4.2%	4.7%	25.5%
Total North America	30.96	32.94	34.16	33.70	34.41	38.00	40.84	40.53	41.36	43.63	**45.40**	4.1%	3.9%	31.1%
Argentina	1.24	1.24	1.28	1.34	1.34	1.42	1.50	1.38	1.39	1.50	**1.50**	-0.2%	1.9%	1.0%
Bolivia	0.70	0.74	0.72	0.68	0.67	0.62	0.54	0.53	0.55	0.49	**0.43**	-12.9%	-4.8%	0.3%
Brazil	0.79	0.84	0.86	0.87	0.98	0.91	0.93	0.87	0.88	0.83	**0.84**	1.8%	0.7%	0.6%
Colombia	0.48	0.44	0.42	0.43	0.42	0.45	0.45	0.45	0.45	0.45	**0.43**	-3.0%	-0.9%	0.3%
Peru	0.45	0.47	0.46	0.50	0.47	0.46	0.49	0.48	0.45	0.54	**0.56**	3.1%	2.2%	0.4%
Trinidad & Tobago	1.39	1.37	1.29	1.13	1.15	1.22	1.24	1.06	0.89	0.94	**0.90**	-3.8%	-4.3%	0.6%
Venezuela	1.10	1.14	1.30	1.34	1.39	1.14	0.92	0.78	1.01	1.05	**1.07**	2.2%	-0.3%	0.7%
Other S. & Cent. America	0.10	0.09	0.10	0.11	0.11	0.11	0.12	0.10	0.09	0.10	**0.10**	3.0%	0.6%	0.1%
Total S. & Cent. America	6.26	6.34	6.43	6.41	6.53	6.33	6.19	5.64	5.71	5.89	**5.83**	-1.0%	-0.7%	4.0%
Denmark	0.18	0.17	0.17	0.17	0.18	0.15	0.12	0.05	0.05	0.05	**0.05**	-3.3%	-11.9%	†
Germany	0.31	0.29	0.27	0.25	0.23	0.20	0.19	0.16	0.16	0.15	**0.14**	-10.6%	-7.8%	0.1%
Italy	0.27	0.25	0.23	0.20	0.19	0.19	0.17	0.14	0.11	0.11	**0.10**	-9.9%	-9.1%	0.1%
Netherlands	2.61	2.17	1.65	1.59	1.37	1.17	1.00	0.72	0.65	0.54	**0.35**	-34.2%	-18.1%	0.2%
Norway	3.90	3.88	4.19	4.17	4.46	4.37	4.12	4.02	4.12	4.43	**4.20**	-5.2%	0.7%	2.9%
Poland	0.16	0.16	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14	**0.13**	-5.5%	-2.1%	0.1%
Romania	0.36	0.37	0.37	0.33	0.36	0.36	0.35	0.31	0.31	0.32	**0.32**	1.4%	-1.2%	0.2%
Ukraine	0.73	0.73	0.68	0.68	0.70	0.71	0.70	0.69	0.67	0.63	**0.64**	0.9%	-1.3%	0.4%
United Kingdom	1.33	1.35	1.46	1.50	1.51	1.46	1.41	1.42	1.18	1.37	**1.24**	-9.6%	-0.7%	0.8%
Other Europe	0.26	0.23	0.22	0.31	0.32	0.30	0.27	0.23	0.19	0.18	**0.19**	0.2%	-3.2%	0.1%
Total Europe	10.10	9.59	9.40	9.36	9.46	9.05	8.46	7.89	7.60	7.93	**7.36**	-7.2%	-3.1%	5.0%
Azerbaijan	0.63	0.66	0.68	0.66	0.64	0.68	0.86	0.93	1.15	1.23	**1.28**	4.2%	7.4%	0.9%
Kazakhstan	1.10	1.18	0.98	1.11	1.31	1.41	1.21	1.10	0.96	0.99	**1.11**	11.7%	0.1%	0.8%
Russian Federation	22.12	21.28	21.04	21.21	22.88	24.09	24.44	22.98	25.28	22.26	**21.11**	-5.2%	-0.5%	14.4%
Turkmenistan	2.12	2.29	2.37	2.28	2.11	2.21	2.27	2.38	2.85	2.82	**2.75**	-2.5%	2.6%	1.9%
Uzbekistan	2.01	2.03	1.93	1.91	1.93	2.10	2.07	1.70	1.83	1.76	**1.59**	-9.6%	-2.3%	1.1%
Other CIS	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	**0.01**	-3.4%	-1.8%	†
Total CIS	27.99	27.45	27.01	27.19	28.88	30.50	30.87	29.10	32.08	29.07	**27.85**	-4.2%	-0.1%	19.1%
Bahrain	0.50	0.53	0.53	0.52	0.52	0.53	0.59	0.59	0.60	0.57	**0.60**	5.9%	1.8%	0.4%
Iran	5.67	6.32	6.61	7.18	7.70	7.92	8.22	8.49	8.74	8.92	**9.06**	1.6%	4.8%	6.2%
Iraq	0.25	0.27	0.26	0.36	0.36	0.38	0.39	0.25	0.33	0.33	**0.36**	6.9%	3.5%	0.2%
Israel	0.22	0.26	0.28	0.32	0.34	0.36	0.36	0.53	0.66	0.75	**0.85**	12.8%	14.5%	0.6%
Kuwait	0.56	0.51	0.58	0.59	0.58	0.61	0.48	0.44	0.44	0.47	**0.49**	2.6%	-1.3%	0.3%
Oman	1.11	1.06	1.11	1.13	1.16	1.31	1.32	1.33	1.45	1.52	**1.55**	2.5%	3.4%	1.1%
Qatar	6.04	6.10	6.33	6.29	6.14	6.31	6.38	6.30	6.37	6.43	**6.52**	1.4%	0.8%	4.5%
Saudi Arabia	3.42	3.50	3.57	3.79	3.93	4.04	4.00	4.07	4.12	4.20	**4.11**	-2.2%	1.8%	2.8%
Syria	0.18	0.17	0.15	0.13	0.13	0.12	0.12	0.11	0.11	0.10	**0.11**	2.1%	-5.1%	0.1%
United Arab Emirates	1.92	1.90	2.11	2.14	1.90	1.67	1.93	1.93	1.91	1.95	**2.00**	2.5%	0.4%	1.4%
Other Middle East	0.38	0.36	0.11	0.02	0.01	0.01	0.01	0.01	0.02	0.02	**0.02**	22.5%	-25.1%	†
Total Middle East	20.25	20.97	21.63	22.47	22.78	23.25	23.80	24.05	24.74	25.26	**25.66**	1.6%	2.4%	17.6%
Algeria	2.86	2.89	2.93	3.29	3.35	3.38	3.13	2.93	3.64	3.51	**3.66**	4.0%	2.5%	2.5%
Egypt	1.94	1.69	1.53	1.45	1.76	2.11	2.34	2.10	2.44	2.32	**2.06**	-11.5%	0.6%	1.4%
Libya	0.44	0.43	0.46	0.46	0.51	0.50	0.58	0.46	0.55	0.52	**0.59**	12.0%	3.0%	0.4%
Nigeria	1.19	1.44	1.71	1.53	1.70	1.74	1.77	1.78	1.89	1.70	**1.57**	-7.3%	2.8%	1.1%
Other Africa	0.74	0.74	0.78	0.82	0.97	1.01	1.02	1.08	1.08	1.15	**1.26**	9.5%	5.5%	0.9%
Total Africa	7.16	7.18	7.42	7.55	8.28	8.73	8.84	8.35	9.60	9.21	**9.13**	-0.8%	2.5%	6.2%
Australia	2.18	2.35	2.67	3.39	3.97	4.59	5.26	5.25	5.33	5.55	**5.46**	-1.6%	9.6%	3.7%
Bangladesh	0.79	0.83	0.93	0.95	0.96	0.96	0.91	0.85	0.85	0.81	**0.76**	-6.3%	-0.4%	0.5%
Brunei	0.43	0.46	0.48	0.47	0.46	0.45	0.47	0.46	0.42	0.38	**0.36**	-5.8%	-1.7%	0.2%
China	4.39	4.72	4.88	4.97	5.37	5.81	6.36	6.98	7.53	7.99	**8.43**	5.6%	6.8%	5.8%
India	1.12	1.06	1.01	0.96	1.00	0.99	0.97	0.86	1.03	1.07	**1.14**	6.0%	0.2%	0.8%
Indonesia	2.79	2.75	2.74	2.70	2.62	2.62	2.43	2.33	2.32	2.26	**2.31**	2.3%	-1.9%	1.6%
Malaysia	2.61	2.60	2.77	2.76	2.86	2.74	2.79	2.63	2.84	2.99	**2.92**	-2.3%	1.1%	2.0%
Myanmar	0.46	0.60	0.69	0.66	0.64	0.61	0.67	0.63	0.62	0.61	**0.55**	-10.1%	1.7%	0.4%
Pakistan	1.28	1.26	1.26	-	1.25	1.23	1.18	1.10	1.18	1.03	**1.00**	-3.1%	-2.4%	0.7%
Thailand	1.40	1.41	1.35	1.34	1.29	1.25	1.29	1.18	1.13	0.92	**0.92**	0.1%	-4.1%	0.6%
Vietnam	0.34	0.35	0.37	0.37	0.34	0.35	0.35	0.32	0.26	0.28	**0.26**	-7.4%	-2.6%	0.2%
Other Asia Pacific	0.66	0.83	1.01	1.04	1.05	0.97	1.03	1.04	0.98	0.86	**0.79**	-8.2%	1.9%	0.5%
Total Asia Pacific	18.45	19.21	20.17	19.60	21.82	22.57	23.71	23.63	24.48	24.76	**24.91**	0.6%	3.0%	17.0%
Total World	**121.18**	**123.68**	**126.22**	**126.28**	**132.15**	**138.43**	**142.71**	**139.18**	**145.57**	**145.75**	**146.13**	**0.3%**	**1.9%**	**100.0%**
of which: OECD	43.10	44.73	46.12	46.43	47.81	51.64	54.61	53.90	54.65	57.59	**58.77**	2.1%	3.1%	40.2%
Non-OECD	78.08	78.95	80.09	79.84	84.34	86.79	88.09	85.28	90.93	88.16	**87.36**	-0.9%	1.1%	59.8%
European Union	4.10	3.60	3.03	2.96	2.76	2.48	2.19	1.72	1.60	1.47	**1.24**	-15.7%	-11.3%	0.8%

Source: Includes data from Cedigaz. FGE MENA gas service.
* Excludes gas flared or recycled. Includes natural gas produced for Gas-to-Liquids transformation.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using exajoules figures.

Natural gas Consumption in billion cubic metres*

Billion cubic metres	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	105.4	109.8	110.3	105.6	109.6	117.7	118.7	115.3	118.6	123.8	**120.7**	-2.5%	1.4%	3.0%
Mexico	77.8	78.8	80.8	83.0	86.0	90.3	93.4	92.2	91.6	90.9	**97.6**	7.3%	2.3%	2.4%
US	707.0	722.3	743.6	749.1	740.0	822.0	851.0	834.5	836.4	879.6	**886.5**	0.8%	2.3%	22.1%
Total North America	**890.3**	**911.0**	**934.7**	**937.8**	**935.7**	**1029.9**	**1063.0**	**1042.1**	**1046.7**	**1094.3**	**1104.8**	**1.0%**	**2.2%**	**27.5%**
Argentina	46.0	46.2	46.7	48.2	48.3	48.7	46.6	43.9	45.9	45.9	**44.9**	-2.0%	-0.2%	1.1%
Brazil	38.4	40.7	42.9	37.1	37.6	35.9	35.7	31.4	40.4	32.0	**30.0**	-6.3%	-2.4%	0.7%
Chile	5.3	4.4	4.8	5.9	5.6	5.6	6.5	6.2	6.8	7.3	**7.0**	-3.5%	2.8%	0.2%
Colombia	10.5	11.4	11.2	12.1	11.8	12.7	12.9	13.1	12.6	12.6	**13.1**	3.7%	2.2%	0.3%
Ecuador	0.9	0.9	0.8	0.9	0.9	0.8	0.7	0.6	0.6	0.5	**0.5**	-7.9%	-5.3%	†
Peru	6.7	7.4	7.6	8.5	7.5	8.0	8.2	8.2	8.9	9.8	**10.1**	2.8%	4.2%	0.3%
Trinidad & Tobago	20.4	20.5	19.6	16.9	18.3	17.4	17.5	15.2	15.6	15.5	**14.5**	-6.2%	-3.3%	0.4%
Venezuela	32.3	34.0	37.0	37.2	38.6	31.6	25.6	21.6	28.1	29.1	**29.7**	2.2%	-0.8%	0.7%
Central America	–	–	–	–	–	0.2	0.5	0.4	0.3	0.6	**1.2**	83.6%	–	†
Other Caribbean	3.6	3.7	3.7	3.8	3.5	4.0	4.5	4.6	5.5	5.3	**6.4**	20.8%	5.9%	0.2%
Other South America	3.3	3.5	3.4	3.6	3.9	4.0	3.9	3.4	3.7	4.0	**4.4**	11.1%	2.9%	0.1%
Total S. & Cent. America	**167.3**	**172.6**	**177.8**	**174.3**	**176.1**	**169.0**	**162.5**	**148.6**	**168.5**	**162.4**	**161.7**	**-0.5%**	**-0.3%**	**4.0%**
Austria	8.2	7.5	8.0	8.3	9.1	8.7	8.9	8.5	9.0	7.9	**6.9**	-13.0%	-1.7%	0.2%
Belgium	16.5	14.5	15.8	16.2	16.4	16.9	17.4	17.0	17.0	14.6	**13.7**	-5.8%	-1.9%	0.3%
Bulgaria	2.8	2.7	3.0	3.1	3.2	3.0	2.8	2.9	3.3	2.7	**2.5**	-6.6%	-0.9%	0.1%
Croatia	2.7	2.3	2.4	2.5	2.9	2.7	2.8	2.9	2.8	2.5	**2.5**	0.8%	-0.6%	0.1%
Cyprus	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Czech Republic	8.1	7.2	7.5	8.2	8.4	8.0	8.3	8.5	9.1	7.4	**6.7**	-9.2%	-1.9%	0.2%
Denmark	3.8	3.3	3.3	3.4	3.2	3.1	2.9	2.3	2.4	1.7	**1.6**	-3.7%	-8.2%	†
Estonia	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	**0.4**	-8.4%	-5.4%	†
Finland	3.0	2.7	2.3	2.0	1.8	2.1	2.0	2.1	2.1	1.1	**1.2**	6.2%	-8.7%	†
France	45.1	37.9	40.8	44.5	44.8	42.8	43.7	40.6	43.0	38.4	**33.9**	-11.7%	-2.8%	0.8%
Germany	85.0	73.9	77.0	84.9	87.7	85.9	89.3	87.1	91.7	77.5	**75.7**	-2.4%	-1.2%	1.9%
Greece	4.1	3.2	3.4	4.4	5.4	5.2	5.8	6.3	7.0	6.2	**5.4**	-13.1%	2.6%	0.1%
Hungary	9.1	8.1	8.7	9.3	9.9	9.6	9.8	10.2	10.8	9.2	**8.2**	-10.9%	-1.0%	0.2%
Iceland	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ireland	4.5	4.3	4.4	4.9	5.0	5.2	5.3	5.3	5.1	5.2	**4.8**	-7.2%	0.8%	0.1%
Italy	66.7	59.0	64.3	67.5	71.6	69.2	70.8	67.6	72.4	65.2	**58.6**	-10.1%	-1.3%	1.5%
Latvia	1.4	1.3	1.3	1.3	1.2	1.4	1.3	1.1	1.2	0.8	**0.8**	-5.3%	-5.9%	†
Lithuania	2.5	2.4	2.4	2.1	2.2	2.2	2.2	2.4	2.2	1.6	**1.6**	-2.6%	-4.6%	†
Luxembourg	1.0	1.0	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.6	**0.6**	-6.3%	-5.7%	†
Netherlands	39.1	34.3	33.8	35.2	36.3	35.6	37.2	36.1	34.8	27.5	**25.8**	-6.4%	-4.1%	0.6%
North Macedonia	0.2	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.4	0.3	**0.4**	26.6%	8.9%	†
Norway	4.0	4.3	4.6	4.4	4.6	4.5	4.6	4.5	4.3	3.9	**3.8**	-3.4%	-0.6%	0.1%
Poland	17.4	17.0	17.1	18.3	19.2	19.9	20.9	21.1	22.4	18.6	**19.6**	5.3%	1.2%	0.5%
Portugal	4.3	4.1	4.8	5.1	6.3	5.8	6.1	6.0	5.8	5.6	**4.5**	-19.8%	0.4%	0.1%
Romania	11.4	10.9	10.4	10.5	11.3	11.6	10.8	11.3	11.6	9.7	**9.1**	-6.4%	-2.3%	0.2%
Slovakia	5.3	4.4	4.5	4.5	4.8	4.7	4.8	4.8	5.3	4.4	**4.2**	-4.8%	-2.3%	0.1%
Slovenia	0.8	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.8	**0.8**	-3.5%	-0.6%	†
Spain	30.3	27.5	28.5	29.1	31.7	31.5	36.0	32.5	34.3	33.0	**29.3**	-11.1%	-0.3%	0.7%
Sweden	1.0	0.8	0.9	1.0	1.0	1.0	1.0	1.0	1.1	0.8	**0.7**	-10.4%	-3.5%	†
Switzerland	3.6	3.1	3.3	3.5	3.5	3.3	3.4	3.3	3.6	3.0	**2.7**	-7.4%	-2.6%	0.1%
Türkiye	44.0	46.6	46.0	44.5	51.6	47.2	43.4	46.2	57.3	51.2	**48.4**	-5.5%	1.0%	1.2%
Ukraine	47.7	40.3	32.0	31.4	30.2	30.6	28.3	29.3	27.3	18.3	**18.7**	2.6%	-8.9%	0.5%
United Kingdom	76.3	70.1	72.0	79.9	78.2	78.8	77.9	73.1	76.9	70.9	**63.5**	-10.4%	-1.8%	1.6%
Other Europe	4.2	4.1	4.5	4.6	5.3	5.3	5.5	5.5	6.2	6.7	**7.0**	4.3%	5.2%	0.2%
Total Europe	**554.9**	**500.3**	**509.3**	**537.2**	**559.3**	**548.3**	**555.4**	**541.8**	**572.5**	**497.7**	**463.4**	**-6.9%**	**-1.8%**	**11.6%**
Azerbaijan	9.4	9.9	11.1	10.9	10.6	10.8	11.8	12.4	12.8	13.6	**15.1**	11.1%	4.8%	0.4%
Belarus	19.3	19.1	17.9	17.8	18.2	19.3	19.2	17.8	18.8	18.5	**16.8**	-9.1%	-1.4%	0.4%
Kazakhstan	11.2	14.8	13.8	15.0	16.7	16.7	19.7	17.7	21.6	21.3	**21.4**	0.7%	6.7%	0.5%
Russian Federation	424.9	422.2	408.7	420.6	431.1	454.5	444.3	423.5	431.5	448.4	**453.4**	1.1%	0.7%	11.3%
Turkmenistan	19.3	20.0	25.4	25.1	24.8	28.4	27.7	34.3	36.8	37.5	**36.8**	-2.1%	6.6%	0.9%
Uzbekistan	46.2	48.5	46.3	43.3	44.8	44.4	44.6	43.6	46.5	48.3	**46.6**	-3.6%	0.1%	1.2%
Other CIS	4.8	5.3	5.2	5.1	5.1	5.9	5.6	5.9	5.8	5.5	**6.0**	8.7%	2.3%	0.1%
Total CIS	**535.0**	**539.8**	**528.4**	**538.0**	**551.2**	**580.0**	**572.9**	**555.0**	**573.8**	**593.1**	**596.0**	**0.5%**	**1.1%**	**14.9%**
Iran	153.8	173.4	184.0	196.3	205.0	212.6	218.4	236.8	229.5	239.4	**245.6**	2.6%	4.8%	6.1%
Iraq	7.1	7.5	7.3	9.9	11.4	14.6	19.5	18.5	16.4	18.4	**18.7**	1.9%	10.2%	0.5%
Israel	6.6	7.2	8.0	9.2	9.8	10.6	10.7	11.3	11.7	12.1	**12.6**	3.5%	6.7%	0.3%
Kuwait	17.8	17.9	20.3	21.1	21.0	21.2	18.4	17.9	19.8	21.7	**22.5**	3.7%	2.4%	0.6%
Oman	21.7	21.3	23.1	22.9	23.4	25.0	25.0	25.9	28.0	28.5	**29.5**	3.4%	3.1%	0.7%
Qatar	35.3	38.4	43.3	41.3	41.1	40.3	41.4	38.4	40.1	40.3	**44.2**	9.6%	2.3%	1.1%
Saudi Arabia	95.0	97.3	99.2	105.3	109.3	112.1	111.2	113.1	114.5	116.7	**114.1**	-2.2%	1.8%	2.8%
United Arab Emirates	64.7	63.4	71.5	71.9	65.7	59.6	67.2	67.9	65.5	66.1	**66.9**	1.1%	0.3%	1.7%
Other Middle East	21.3	20.9	22.5	23.1	23.2	22.0	23.2	23.2	23.6	22.8	**23.7**	4.1%	1.1%	0.6%
Total Middle East	**423.3**	**447.4**	**479.3**	**501.1**	**509.8**	**517.9**	**534.8**	**552.9**	**549.1**	**566.1**	**577.7**	**2.0%**	**3.2%**	**14.4%**
Algeria	32.1	36.1	37.9	38.6	39.5	43.4	45.1	43.4	48.2	50.3	**46.3**	-8.0%	3.7%	1.2%
Egypt	49.5	46.2	46.0	49.4	55.9	59.6	59.0	58.3	62.1	60.6	**60.0**	-0.9%	1.9%	1.5%
Morocco	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.8	0.8	0.2	**0.9**	298.8%	-3.1%	†
South Africa	4.1	4.3	4.3	3.7	4.0	4.4	4.3	4.0	4.2	4.3	**4.7**	11.2%	1.6%	0.1%
Eastern Africa	1.1	1.3	1.6	2.0	2.0	2.1	2.4	2.3	2.7	2.9	**2.9**	3.0%	9.9%	0.1%
Middle Africa	4.0	3.9	4.2	5.5	5.5	5.6	5.0	5.4	6.0	5.7	**4.9**	-13.3%	2.1%	0.1%
Western Africa	12.7	16.0	23.9	21.1	22.1	23.6	24.3	26.0	34.5	33.0	**32.0**	-3.1%	9.7%	0.8%
Other Northern Africa	12.3	11.3	11.6	13.6	15.4	15.6	16.6	14.1	18.1	17.7	**19.4**	9.3%	4.6%	0.5%
Other Southern Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Africa	**117.0**	**120.2**	**130.8**	**135.0**	**145.6**	**155.3**	**157.7**	**154.2**	**176.6**	**174.7**	**171.2**	**-2.0%**	**3.9%**	**4.3%**
Australia	35.0	37.6	39.0	38.0	37.3	37.2	44.1	42.3	39.6	43.2	**40.1**	-7.2%	1.4%	1.0%
Bangladesh	22.0	23.0	25.9	26.5	26.6	27.4	30.9	29.9	30.6	28.7	**28.1**	-2.0%	2.5%	0.7%
China	171.9	188.4	194.7	209.4	241.3	283.9	308.4	336.6	380.3	377.6	**404.8**	7.2%	8.9%	10.1%
China Hong Kong SAR	2.5	2.4	3.0	3.1	3.1	3.0	3.1	4.9	4.8	4.5	**4.8**	6.9%	6.9%	0.1%
India	49.0	48.5	47.8	50.8	53.6	58.0	59.2	60.4	62.4	58.3	**62.6**	7.5%	2.5%	1.6%
Indonesia	42.5	42.6	44.0	45.4	44.5	45.3	45.5	42.6	42.9	44.0	**45.4**	3.2%	0.7%	1.1%
Japan	123.5	124.8	118.7	116.4	117.0	115.7	108.1	104.1	103.5	100.2	**92.4**	-7.8%	-2.9%	2.3%
Malaysia	44.6	44.7	46.8	45.0	45.0	44.7	45.2	43.6	51.4	51.9	**46.1**	-11.3%	0.3%	1.1%
New Zealand	4.7	5.2	4.8	4.8	5.0	4.5	4.8	4.6	3.9	3.6	**3.8**	5.1%	-2.1%	0.1%
Pakistan	35.6	35.0	36.5	4.0	40.7	43.6	44.5	41.2	44.9	38.2	**37.8**	-0.9%	0.6%	0.9%
Philippines	3.4	3.5	3.3	3.8	3.8	4.1	4.2	3.8	3.3	3.1	**3.2**	4.0%	-0.5%	0.1%
Singapore	10.0	10.4	11.6	11.9	12.3	12.3	12.5	12.6	13.4	13.1	**12.3**	-5.6%	2.1%	0.3%
South Korea	55.0	50.0	45.6	47.6	49.8	57.8	56.0	57.5	62.4	62.4	**60.1**	-3.7%	0.9%	1.5%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Taiwan	17.9	18.9	20.2	21.0	23.2	23.7	23.3	24.9	27.3	28.1	**27.9**	-0.4%	4.5%	0.7%
Thailand	48.9	49.9	51.0	50.6	50.1	50.0	50.9	46.9	47.0	44.3	**47.2**	6.4%	-0.4%	1.2%
Vietnam	9.4	9.9	10.3	10.2	9.5	9.7	9.8	8.8	7.2	7.8	**7.2**	-7.4%	-2.6%	0.2%
Other Asia Pacific	8.6	10.3	11.6	11.1	11.3	10.9	11.4	12.2	11.9	11.2	**11.3**	1.0%	2.8%	0.3%
Total Asia Pacific	**684.4**	**705.0**	**714.9**	**699.6**	**774.1**	**831.7**	**862.1**	**876.9**	**936.7**	**920.3**	**935.4**	**1.6%**	**3.2%**	**23.3%**
Total World	**3372.1**	**3396.2**	**3475.2**	**3522.9**	**3651.8**	**3832.1**	**3908.4**	**3871.4**	**4023.9**	**4008.7**	**4010.2**	**†**	**1.7%**	**100.0%**
of which: OECD	1616.8	1591.2	1623.8	1656.5	1678.0	1769.0	1811.1	1770.8	1808.1	1793.3	**1757.0**	-2.0%	0.8%	43.8%
Non-OECD	1755.2	1805.0	1851.4	1866.4	1973.7	2063.1	2097.3	2100.6	2215.8	2215.4	**2253.2**	1.7%	2.5%	56.2%
European Union	374.9	331.5	346.8	368.6	385.9	378.7	392.6	380.0	397.0	343.9	**319.5**	-7.1%	-1.6%	8.0%

Source: Includes data from Cedigaz, FGE MENA gas service.
* Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in Gas-to-Liquids transformation.
† Less than 0.05%.

Notes: As far as possible, the data above represent standard cubic metres (measured at 15°C and 1013 mbar); as they are derived directly from measures of energy content using an average conversion factor and have been standardised using a Gross Calorific Value (GCV) of 40 MJ/m³, they do not necessarily equate with gas volumes expressed in specific national terms. The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.
Annual changes and shares of total are calculated using billion cubic metres figures.

Natural gas Consumption in exajoules*

Exajoules	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	3.80	3.95	3.97	3.80	3.95	4.24	4.27	4.15	4.27	4.46	**4.35**	-2.5%	1.4%	3.0%
Mexico	2.80	2.84	2.91	2.99	3.10	3.25	3.36	3.32	3.30	3.27	**3.51**	7.3%	2.3%	2.4%
US	25.45	26.00	26.77	26.97	26.64	29.59	30.64	30.04	30.11	31.67	**31.91**	0.8%	2.3%	22.1%
Total North America	32.05	32.79	33.65	33.76	33.68	37.08	38.27	37.52	37.68	39.40	**39.77**	1.0%	2.2%	27.6%
Argentina	1.66	1.66	1.68	1.74	1.74	1.75	1.68	1.58	1.65	1.65	**1.62**	-2.0%	-0.2%	1.1%
Brazil	1.38	1.46	1.55	1.34	1.35	1.29	1.29	1.13	1.46	1.15	**1.08**	-6.3%	-2.4%	0.7%
Chile	0.19	0.16	0.17	0.21	0.20	0.20	0.23	0.22	0.25	0.26	**0.25**	-3.5%	2.8%	0.2%
Colombia	0.38	0.41	0.40	0.43	0.43	0.46	0.46	0.47	0.45	0.45	**0.47**	3.7%	2.2%	0.3%
Ecuador	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	**0.02**	-7.9%	-5.3%	†
Peru	0.24	0.27	0.28	0.31	0.27	0.29	0.30	0.29	0.32	0.35	**0.36**	2.8%	4.2%	0.3%
Trinidad & Tobago	0.73	0.74	0.71	0.61	0.66	0.63	0.63	0.55	0.56	0.56	**0.52**	-6.2%	-3.3%	0.4%
Venezuela	1.16	1.22	1.33	1.34	1.39	1.14	0.92	0.78	1.01	1.05	**1.07**	2.2%	-0.8%	0.7%
Central America	–	–	–	–	–	0.01	0.02	0.01	0.01	0.02	**0.04**	83.6%	–	†
Other Caribbean	0.13	0.13	0.13	0.14	0.12	0.14	0.16	0.17	0.20	0.19	**0.23**	20.8%	5.9%	0.2%
Other South America	0.12	0.13	0.12	0.13	0.14	0.14	0.14	0.12	0.13	0.14	**0.16**	11.1%	2.9%	0.1%
Total S. & Cent. America	6.02	6.21	6.40	6.27	6.34	6.08	5.85	5.35	6.07	5.85	**5.82**	-0.5%	-0.3%	4.0%
Austria	0.30	0.27	0.29	0.30	0.33	0.31	0.32	0.31	0.32	0.28	**0.25**	-13.0%	-1.7%	0.2%
Belgium	0.60	0.52	0.57	0.58	0.59	0.61	0.63	0.61	0.61	0.52	**0.49**	-5.8%	-1.9%	0.3%
Bulgaria	0.10	0.10	0.11	0.11	0.12	0.11	0.10	0.11	0.12	0.10	**0.09**	-6.6%	-0.9%	0.1%
Croatia	0.10	0.08	0.09	0.09	0.10	0.10	0.10	0.11	0.10	0.09	**0.09**	0.8%	-0.6%	0.1%
Cyprus	–	–	–	–	–	–	–	–	–	0.00	**0.00**	–	–	–
Czech Republic	0.29	0.26	0.27	0.29	0.30	0.29	0.30	0.30	0.33	0.27	**0.24**	-9.2%	-1.9%	0.2%
Denmark	0.14	0.12	0.12	0.12	0.12	0.11	0.10	0.08	0.09	0.06	**0.06**	-3.7%	-8.2%	†
Estonia	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	**0.01**	-8.4%	-5.4%	†
Finland	0.11	0.10	0.08	0.07	0.07	0.08	0.07	0.07	0.07	0.04	**0.04**	6.2%	-8.7%	†
France	1.63	1.36	1.47	1.60	1.61	1.54	1.57	1.46	1.55	1.38	**1.22**	-11.7%	-2.8%	0.8%
Germany	3.06	2.66	2.77	3.06	3.16	3.09	3.21	3.14	3.30	2.79	**2.72**	-2.4%	-1.2%	1.9%
Greece	0.15	0.11	0.12	0.16	0.19	0.19	0.21	0.23	0.25	0.22	**0.19**	-13.1%	2.6%	0.1%
Hungary	0.33	0.29	0.31	0.34	0.36	0.35	0.35	0.37	0.39	0.33	**0.29**	-10.9%	-1.0%	0.2%
Iceland	–	–	–	–	–	–	–	–	–	0.00	**0.00**	–	–	–
Ireland	0.16	0.16	0.16	0.18	0.18	0.19	0.19	0.19	0.18	0.19	**0.17**	-7.2%	0.8%	0.1%
Italy	2.40	2.12	2.32	2.43	2.58	2.49	2.55	2.43	2.61	2.35	**2.11**	-10.1%	-1.3%	1.5%
Latvia	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.04	0.04	0.03	**0.03**	-5.3%	-5.9%	†
Lithuania	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.06	**0.06**	-2.6%	-4.6%	†
Luxembourg	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	**0.02**	-6.3%	-5.7%	†
Netherlands	1.41	1.24	1.22	1.27	1.31	1.28	1.34	1.30	1.25	0.99	**0.93**	-6.4%	-4.1%	0.6%
North Macedonia	0.01	^	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	**0.01**	26.6%	8.9%	†
Norway	0.15	0.16	0.17	0.16	0.17	0.16	0.17	0.16	0.15	0.14	**0.14**	-3.4%	-0.6%	0.1%
Poland	0.63	0.61	0.62	0.66	0.69	0.72	0.75	0.76	0.81	0.67	**0.70**	5.3%	1.2%	0.5%
Portugal	0.16	0.15	0.17	0.18	0.23	0.21	0.22	0.22	0.21	0.20	**0.16**	-19.8%	0.4%	0.1%
Romania	0.41	0.39	0.37	0.38	0.41	0.42	0.39	0.41	0.42	0.35	**0.33**	-6.4%	-2.3%	0.2%
Slovakia	0.19	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.19	0.16	**0.15**	-4.8%	-2.3%	0.1%
Slovenia	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	**0.03**	-3.5%	-0.6%	†
Spain	1.09	0.99	1.03	1.05	1.14	1.13	1.30	1.17	1.24	1.19	**1.05**	-11.1%	-0.3%	0.7%
Sweden	0.04	0.03	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.03	**0.03**	-10.4%	-3.5%	†
Switzerland	0.13	0.11	0.12	0.13	0.13	0.12	0.12	0.12	0.13	0.11	**0.10**	-7.4%	-2.6%	0.1%
Türkiye	1.58	1.68	1.65	1.60	1.86	1.70	1.56	1.66	2.06	1.84	**1.74**	-5.5%	1.0%	1.2%
Ukraine	1.72	1.45	1.15	1.13	1.09	1.10	1.02	1.06	0.98	0.66	**0.67**	2.6%	-8.9%	0.5%
United Kingdom	2.75	2.52	2.59	2.88	2.82	2.84	2.80	2.63	2.77	2.55	**2.29**	-10.4%	-1.8%	1.6%
Other Europe	0.15	0.15	0.16	0.17	0.19	0.19	0.20	0.20	0.22	0.24	**0.25**	4.3%	5.2%	0.2%
Total Europe	19.98	18.01	18.34	19.34	20.13	19.74	20.00	19.50	20.61	17.92	**16.68**	-6.9%	-1.8%	11.6%
Azerbaijan	0.34	0.35	0.40	0.39	0.38	0.39	0.42	0.45	0.46	0.49	**0.54**	11.1%	4.8%	0.4%
Belarus	0.69	0.69	0.64	0.64	0.66	0.70	0.69	0.64	0.68	0.66	**0.60**	-9.1%	-1.4%	0.4%
Kazakhstan	0.40	0.53	0.50	0.54	0.60	0.60	0.71	0.64	0.78	0.77	**0.77**	0.7%	6.7%	0.5%
Russian Federation	15.30	15.20	14.71	15.14	15.52	16.36	16.00	15.25	15.54	16.14	**16.32**	1.1%	0.7%	11.3%
Turkmenistan	0.70	0.72	0.91	0.90	0.89	1.02	1.00	1.23	1.32	1.35	**1.32**	-2.1%	6.6%	0.9%
Uzbekistan	1.66	1.75	1.67	1.56	1.61	1.60	1.61	1.57	1.67	1.74	**1.68**	-3.6%	0.1%	1.2%
Other CIS	0.17	0.19	0.19	0.19	0.18	0.21	0.20	0.21	0.21	0.20	**0.22**	8.7%	2.3%	0.1%
Total CIS	19.26	19.43	19.02	19.37	19.84	20.88	20.62	19.98	20.66	21.35	**21.46**	0.5%	1.1%	14.9%
Iran	5.54	6.24	6.62	7.07	7.38	7.66	7.86	8.52	8.26	8.62	**8.84**	2.6%	4.8%	6.1%
Iraq	0.25	0.27	0.26	0.36	0.41	0.53	0.70	0.67	0.59	0.66	**0.67**	1.9%	10.2%	0.5%
Israel	0.24	0.26	0.29	0.33	0.35	0.38	0.39	0.41	0.42	0.44	**0.45**	3.5%	6.7%	0.3%
Kuwait	0.64	0.64	0.73	0.76	0.76	0.76	0.66	0.64	0.71	0.78	**0.81**	3.7%	2.4%	0.6%
Oman	0.78	0.77	0.83	0.83	0.84	0.90	0.90	0.93	1.01	1.03	**1.06**	3.4%	3.1%	0.7%
Qatar	1.27	1.38	1.56	1.49	1.48	1.45	1.49	1.38	1.44	1.45	**1.59**	9.6%	2.3%	1.1%
Saudi Arabia	3.42	3.50	3.57	3.79	3.93	4.04	4.00	4.07	4.12	4.20	**4.11**	-2.2%	1.8%	2.8%
United Arab Emirates	2.33	2.28	2.57	2.59	2.36	2.14	2.42	2.44	2.36	2.38	**2.41**	1.1%	0.3%	1.7%
Other Middle East	0.77	0.75	0.81	0.83	0.84	0.79	0.83	0.84	0.85	0.82	**0.85**	4.1%	1.1%	0.6%
Total Middle East	15.24	16.11	17.25	18.04	18.35	18.64	19.25	19.90	19.77	20.38	**20.80**	2.0%	3.2%	14.4%
Algeria	1.16	1.30	1.37	1.39	1.42	1.56	1.62	1.56	1.73	1.81	**1.67**	-8.0%	3.7%	1.2%
Egypt	1.78	1.66	1.66	1.78	2.01	2.15	2.13	2.10	2.24	2.18	**2.16**	-0.9%	1.9%	1.5%
Morocco	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.01	**0.03**	298.8%	-3.1%	†
South Africa	0.15	0.15	0.16	0.13	0.14	0.16	0.15	0.14	0.15	0.15	**0.17**	11.2%	1.6%	0.1%
Eastern Africa	0.04	0.05	0.06	0.07	0.07	0.08	0.09	0.08	0.10	0.10	**0.11**	3.0%	9.9%	0.1%
Middle Africa	0.14	0.14	0.15	0.20	0.20	0.20	0.18	0.20	0.22	0.20	**0.16**	-21.5%	1.1%	0.1%
Western Africa	0.46	0.58	0.86	0.76	0.79	0.85	0.87	0.93	1.24	1.19	**1.15**	-3.1%	9.7%	0.8%
Other Northern Africa	0.44	0.41	0.42	0.49	0.56	0.56	0.60	0.51	0.65	0.64	**0.70**	9.3%	4.6%	0.5%
Other Southern Africa	–	–	–	–	–	–	–	–	–	0.00	**0.00**	–	–	–
Total Africa	4.21	4.33	4.71	4.86	5.24	5.59	5.68	5.55	6.36	6.29	**6.15**	-2.3%	3.9%	4.3%
Australia	1.26	1.35	1.40	1.37	1.34	1.34	1.59	1.52	1.42	1.56	**1.44**	-7.2%	1.4%	1.0%
Bangladesh	0.79	0.83	0.93	0.95	0.96	0.99	1.11	1.08	1.10	1.03	**1.01**	-2.0%	2.5%	0.7%
China	6.19	6.78	7.01	7.54	8.69	10.22	11.10	12.12	13.69	13.60	**14.57**	7.2%	8.9%	10.1%
China Hong Kong SAR	0.09	0.09	0.11	0.11	0.11	0.11	0.11	0.18	0.17	0.16	**0.17**	6.9%	6.9%	0.1%
India	1.76	1.75	1.72	1.83	1.93	2.09	2.13	2.17	2.25	2.10	**2.25**	7.5%	2.5%	1.6%
Indonesia	1.53	1.53	1.59	1.64	1.60	1.63	1.64	1.53	1.55	1.59	**1.64**	3.2%	0.7%	1.1%
Japan	4.45	4.49	4.27	4.19	4.21	4.17	3.89	3.75	3.73	3.61	**3.33**	-7.8%	-2.9%	2.3%
Malaysia	1.60	1.61	1.69	1.62	1.62	1.61	1.63	1.57	1.85	1.87	**1.66**	-11.3%	0.3%	1.1%
New Zealand	0.17	0.19	0.17	0.17	0.18	0.16	0.17	0.16	0.14	0.13	**0.14**	5.1%	-2.1%	0.1%
Pakistan	1.28	1.26	1.32	0.14	1.47	1.57	1.60	1.48	1.62	1.38	**1.36**	-0.9%	0.6%	0.9%
Philippines	0.12	0.13	0.12	0.14	0.14	0.15	0.15	0.14	0.12	0.11	**0.12**	4.0%	-0.5%	0.1%
Singapore	0.36	0.37	0.42	0.43	0.44	0.44	0.45	0.45	0.48	0.47	**0.44**	-5.6%	2.1%	0.3%
South Korea	1.98	1.80	1.64	1.72	1.79	2.08	2.02	2.07	2.25	2.25	**2.16**	-3.7%	0.9%	1.5%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Taiwan	0.65	0.68	0.73	0.75	0.84	0.85	0.84	0.90	0.98	1.01	**1.01**	-0.4%	4.5%	0.7%
Thailand	1.76	1.80	1.83	1.82	1.80	1.80	1.83	1.69	1.69	1.60	**1.70**	6.4%	-0.4%	1.2%
Vietnam	0.34	0.35	0.37	0.37	0.34	0.35	0.35	0.32	0.26	0.28	**0.26**	-7.4%	-2.6%	0.2%
Other Asia Pacific	0.31	0.37	0.42	0.40	0.41	0.39	0.41	0.44	0.43	0.40	**0.41**	1.0%	2.8%	0.3%
Total Asia Pacific	24.64	25.38	25.74	25.19	27.87	29.94	31.04	31.57	33.72	33.13	**33.67**	1.6%	3.2%	23.3%
Total World	**121.39**	**122.26**	**125.11**	**126.83**	**131.46**	**137.96**	**140.70**	**139.37**	**144.86**	**144.31**	**144.35**	**†**	**1.7%**	**100.0%**
of which: OECD	58.21	57.28	58.46	59.64	60.41	63.68	65.20	63.75	65.09	64.56	**63.25**	-2.0%	0.8%	43.8%
Non-OECD	63.19	64.98	66.65	67.19	71.05	74.27	75.50	75.62	79.77	79.75	**81.10**	1.7%	2.5%	56.2%
European Union	13.50	11.94	12.48	13.27	13.89	13.63	14.13	13.68	14.29	12.38	**11.50**	-7.1%	-1.6%	8.0%

Source: Includes data from Cedigaz, FGE MENA gas service.
* Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in Gas-to-Liquids transformation.
^ Less than 0.005.
† Less than 0.05%.
Notes: The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.
Annual changes and share of total are calculated using exajoules figures.

Gas Prices

	LNG USD$/mmBTU			Natural gas USD$/mmBTU				Hydrogen USD$/kg				Ammonia USD$/mt			
	Japan[1]	China (mainland)[2]	South Korea[2]	Zeebrugge[2]	UK NBP[3]	Netherlands TTF[3]	US Henry Hub[4]	US Gulf Coast[5]	Northwest Europe[5]	Middle East[5]	Far East Asia[5]	US Gulf Coast[6]	Northwest Europe[7]	Middle East[8]	Far East Asia[9]
1984	5.10	–	–		–	–	–	–	–	–	–	–	–	–	–
1985	5.23	–	–		–	–	–	–	–	–	–	–	–	–	–
1986	4.10	–	–		–	–	–	–	–	–	–	–	–	–	–
1987	3.35	–	–		–	–	–	–	–	–	–	–	–	–	–
1988	3.34	–	–		–	–	–	–	–	–	–	–	–	–	–
1989	3.28	–	–		–	–	1.70	–	–	–	–	–	–	–	–
1990	3.64	–	–		–	–	1.64	–	–	–	–	–	–	–	–
1991	3.99	–	–		–	–	1.49	–	–	–	–	–	–	–	–
1992	3.62	–	–		–	–	1.77	–	–	–	–	–	–	–	–
1993	3.52	–	–		–	–	2.12	–	–	–	–	–	–	–	–
1994	3.18	–	–		–	–	1.92	–	–	–	–	–	–	–	–
1995	3.46	–	–		–	–	1.69	–	–	–	–	–	–	–	–
1996	3.66	–	–		1.87	–	2.76	–	–	–	–	–	–	–	–
1997	3.91	–	–		1.96	–	2.53	–	–	–	–	–	–	–	–
1998	3.05	–	–		1.86	–	2.08	–	–	–	–	–	–	–	–
1999	3.14	–	–		1.58	–	2.27	–	–	–	–	–	–	–	–
2000	4.72	–	–		2.71	–	4.23	–	–	–	–	–	–	–	–
2001	4.64	–	–		3.17	–	4.07	–	–	–	–	–	–	–	–
2002	4.27	–	–		2.37	–	3.33	–	–	–	–	–	–	–	–
2003	4.77	–	–		3.33	–	5.63	–	–	–	–	–	–	–	–
2004	5.18	–	–		4.46	–	5.85	–	–	–	–	–	–	–	–
2005	5.80	–	7.18	7.11	7.11	5.81	8.80	–	–	–	–	–	–	–	–
2006	6.86	–	8.64	7.63	7.49	7.26	6.74	–	–	–	–	–	–	–	–
2007	7.47	3.76	8.84	6.09	5.98	5.90	6.95	–	–	–	–	–	–	–	–
2008	12.24	4.79	13.27	10.78	10.66	10.67	8.84	–	–	–	–	–	–	–	–
2009	8.73	4.41	9.28	4.84	4.79	4.91	3.92	–	–	–	–	–	–	–	–
2010	10.55	6.19	9.74	6.61	6.52	6.69	4.38	–	–	–	–	–	–	–	–
2011	14.30	8.80	12.37	9.14	9.00	9.18	3.99	–	–	–	–	–	–	–	–
2012	16.17	10.69	14.37	9.39	9.42	9.37	2.75	–	–	–	–	–	–	–	–
2013	15.55	11.15	14.47	10.52	10.60	10.52	3.72	–	–	–	–	–	–	–	–
2014	15.73	11.76	15.84	8.13	8.22	8.11	4.34	–	–	–	–	–	–	–	–
2015	9.96	8.66	10.28	6.41	6.52	6.45	2.61	–	–	–	–	–	–	–	–
2016	6.73	6.54	6.69	4.50	4.65	4.53	2.81	–	–	–	–	–	–	–	–
2017	7.87	7.33	7.84	5.66	5.78	5.71	2.96	–	–	–	–	–	–	–	–
2018	9.78	9.43	9.96	7.84	7.97	7.88	3.12	–	–	–	–	–	–	–	–
2019	9.70	9.15	9.58	4.39	4.46	4.46	2.51	–	–	–	–	–	–	–	–
2020	7.65	6.73	7.41	3.07	3.17	3.13	1.99	–	–	–	–	–	–	–	–
2021	9.93	10.66	10.50	15.57	15.45	15.67	3.84	–	–	–	–	–	–	–	–
2022	16.98	15.59	20.00	30.96	24.55	37.09	6.38	2.25	–	4.67	7.78	1174.26	1241.78	1042.60	999.74
2023	**13.22**	**12.11**	**14.82**	**12.69**	**12.30**	**12.87**	**2.53**	**1.52**	**3.92**	**2.92**	**3.90**	**506.97**	**542.17**	**432.53**	**501.43**

[1] **Source:** EDMC Energy Trend, bp analysis to 2004. From 2005, S&P Global Commodity Insights, ©2024 by S&P Global Inc.
[2] **Source:** S&P Global Commodity Insights, ©2024 by S&P Global Inc.
[3] **Source:** ICIS Heren Energy Ltd to 2004. From 2005, S&P Global Commodity Insights, ©2024 by S&P Global Inc.
[4] **Source:** US Energy Information Administration (EIA) to 2004. From 2005, S&P Global Commodity Insights, ©2024 by S&P Global Inc.
[5] S&P Global Commodity Insights, ©2024 by S&P Global Inc, carbon neutral hydrogen ex-works \$/kg.
[6] S&P Global Commodity Insights, ©2024 by S&P Global Inc, CFR \$/mt.
[7] S&P Global Commodity Insights, ©2024 by S&P Global Inc, FOB \$/mt.
Note: cfr = cost+freight (average prices), fob = free on board (average prices).

Hydrogen

Production capacity thousand tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
North America														
Blue	1217.9	1217.9	1546.4	1546.4	1546.4	1546.4	1546.4	2090.1	2090.1	2090.1	**2091.6**	0.1%	5.6%	43.3%
Green	–	3.9	3.9	3.9	3.9	4.2	4.2	4.5	7.3	18.7	**19.4**	3.8%	–	0.4%
Total North America	1217.9	1221.8	1550.3	1550.3	1550.3	1550.5	1550.6	2094.6	2097.3	2108.8	2111.0	0.1%	5.7%	43.7%
S. & Cent. America														
Blue	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Green	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	**1.1**	309.3%	30.7%	†
Total S. & Cent. America	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1.1	309.3%	30.7%	†
Europe														
Blue	–	–	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	**44.1**	0.6%	–	0.9%
Green	1.9	2.1	2.1	2.2	14.9	15.6	16.2	18.8	21.2	27.3	**31.6**	16.1%	32.6%	0.7%
Total Europe	1.9	2.1	46.0	46.0	58.8	59.5	60.1	62.6	65.0	71.1	75.8	6.5%	44.7%	1.6%
CIS														
Blue	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Green	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total CIS	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Middle East														
Blue	291.4	291.4	428.2	428.2	428.2	428.2	428.2	428.2	428.2	621.9	**621.9**	–	7.9%	12.9%
Green	–	–	–	–	–	–	–	–	0.1	0.1	**0.1**	–	–	†
Total Middle East	291.4	291.4	428.2	428.2	428.2	428.2	428.2	428.2	428.3	622.0	622.0	–	7.9%	12.9%
Africa														
Blue	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Green	–	–	–	–	–	–	–	–	–	1.7	**1.7**	–	–	†
Total Africa	–	–	–	–	–	–	–	–	–	1.7	1.7	–	–	†
Asia Pacific														
Blue	1859.3	1859.3	1859.3	1934.3	1934.3	1934.3	1934.3	1859.3	1859.3	1929.3	**1929.7**	†	0.4%	39.9%
Green	0.3	0.4	0.4	0.6	0.6	0.9	1.4	3.3	8.6	40.1	**93.6**	133.3%	80.3%	1.9%
Total Asia Pacific	1859.6	1859.8	1859.8	1934.9	1934.9	1935.2	1935.7	1862.6	1867.9	1969.5	2023.3	2.7%	0.8%	41.8%
World														
Blue	3368.6	3368.6	3877.8	3952.8	3952.8	3952.8	3952.8	4421.6	4421.6	4685.2	**4687.3**	†	3.4%	96.9%
Green	2.2	6.5	6.5	6.7	19.5	20.7	21.9	26.6	37.1	88.2	**147.6**	67.4%	52.1%	3.1%
Total World	**3370.8**	**3375.1**	**3884.3**	**3959.5**	**3972.3**	**3973.5**	**3974.7**	**4448.1**	**4458.7**	**4773.4**	**4834.9**	**1.3%**	**3.7%**	**100.0%**
OECD														
Blue	1217.9	1217.9	1590.2	1665.2	1665.2	1665.2	1665.2	2134.0	2134.0	2134.0	**2136.1**	0.1%	5.8%	44.2%
Green	1.9	6.0	6.0	6.1	18.8	19.8	20.5	23.9	29.3	47.9	**53.9**	12.4%	39.8%	1.1%
Total OECD	1219.8	1223.9	1596.2	1671.3	1684.1	1685.0	1685.7	2157.9	2163.3	2181.9	2189.9	0.4%	6.0%	45.3%
Non-OECD														
Blue	2150.7	2150.7	2287.6	2287.6	2287.6	2287.6	2287.6	2287.6	2287.6	2551.2	**2551.2**	0.0%	1.7%	52.8%
Green	0.3	0.5	0.5	0.6	0.6	0.9	1.4	2.7	7.8	40.3	**93.8**	132.8%	75.6%	1.9%
Total Non-OECD	2151.1	2151.2	2288.1	2288.2	2288.2	2288.5	2289.0	2290.2	2295.4	2591.5	2645.0	2.1%	2.1%	54.7%

† Less than 0.05%.
Source: Rystad Energy. For further information please contact **billy.snaith@rystadenergy.com**

Natural gas Inter-regional trade

												Growth rate per annum		Share
Billion cubic metres	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	2023	2013–23	2023
US														
Pipeline imports	75.9	71.8	71.6	79.5	80.5	76.7	73.3	68.2	75.9	82.1	**79.0**	-3.8%	0.4%	8.4%
LNG imports	2.7	1.7	2.5	2.4	2.2	2.1	1.5	1.3	0.6	0.7	**0.5**	-33.4%	-16.1%	†
Total imports	78.6	73.5	74.1	82.0	82.7	78.8	74.7	69.5	76.5	82.8	**79.5**	-4.0%	0.1%	8.5%
Pipeline exports	42.5	40.4	47.2	58.7	65.7	67.8	77.4	78.9	84.3	82.8	**89.1**	7.6%	7.7%	9.5%
LNG exports*	0.2	0.4	0.7	4.0	17.1	28.6	47.4	61.3	94.5	104.5	**114.4**	9.4%	93.8%	12.2%
Total exports	42.7	40.8	47.9	62.7	82.8	96.3	124.8	140.2	178.8	187.3	**203.4**	8.6%	16.9%	21.7%
Other North America														
Pipeline imports	42.5	40.4	47.2	58.7	65.7	67.8	77.4	78.9	84.3	82.8	**89.1**	7.6%	7.7%	9.5%
LNG imports	8.8	9.8	7.4	5.9	7.0	7.5	7.1	3.4	1.6	0.9	**1.2**	30.6%	-18.4%	0.1%
Total imports	51.3	50.2	54.7	64.5	72.7	75.3	84.5	82.2	85.9	83.7	**90.2**	7.8%	5.8%	9.6%
Pipeline exports	75.9	71.8	71.6	79.5	80.5	76.7	73.3	68.2	75.9	82.1	**79.0**	-3.8%	0.4%	8.4%
LNG exports*	–	†	†	†	†	0.1	†	†	†	†	**0.1**	22.3%	–	†
Total exports	75.9	71.9	71.6	79.6	80.6	76.7	73.3	68.2	75.9	82.1	**79.1**	-3.7%	0.4%	8.4%
Brazil														
Pipeline imports	11.0	11.4	11.2	9.8	8.4	7.6	6.4	6.2	7.1	6.1	**5.4**	-11.8%	-6.9%	0.6%
LNG imports	5.2	7.1	6.8	2.6	1.7	2.9	3.2	3.3	10.1	2.3	**1.3**	-42.5%	-13.0%	0.1%
Total imports	16.3	18.5	18.0	12.4	10.1	10.5	9.7	9.5	17.2	8.4	**6.7**	-20.1%	-8.5%	0.7%
LNG exports*	0.1	0.2	†	0.6	0.2	0.1	–	–	0.1	–	**0.3**	–	15.5%	†
Total exports	0.1	0.2	†	0.6	0.2	0.1	–	–	0.1	–	**0.3**	–	15.5%	†
Other S&C America														
LNG imports	12.9	12.5	12.1	12.6	11.7	11.6	9.9	10.5	14.2	11.9	**14.5**	22.0%	1.2%	1.5%
Total imports	12.9	12.5	12.1	12.6	11.7	11.6	9.9	10.5	14.2	11.9	**14.5**	22.0%	1.2%	1.5%
Pipeline exports	11.0	11.4	11.2	9.8	8.4	7.6	6.4	6.2	7.1	6.1	**5.4**	-11.8%	-6.9%	0.6%
LNG exports*	24.1	23.3	21.4	19.9	19.1	21.4	22.5	19.8	13.2	16.4	**16.6**	1.0%	-3.7%	1.8%
Total exports	35.1	34.7	32.6	29.7	27.5	29.0	28.9	26.0	20.3	22.6	**22.0**	-2.5%	-4.6%	2.3%
Europe														
Pipeline imports	234.1	209.4	215.0	230.6	247.2	247.4	236.9	211.0	232.8	151.4	**111.6**	-26.3%	-7.1%	11.9%
LNG imports	51.8	52.1	56.0	56.4	64.8	71.2	119.4	116.2	107.5	172.1	**169.1**	-1.8%	12.6%	18.0%
Total imports	285.9	261.5	271.0	287.0	312.0	318.6	356.3	327.2	340.3	323.6	**280.7**	-13.2%	-0.2%	30.0%
LNG exports*	9.0	13.0	11.0	10.6	7.9	11.7	8.8	7.0	4.2	7.9	**9.2**	15.9%	0.2%	1.0%
Total exports	9.0	13.0	11.0	10.6	7.9	11.7	8.8	7.0	4.2	8.1	**10.2**	25.9%	1.3%	1.1%
Russia														
Pipeline imports	32.9	33.1	26.5	24.3	28.6	24.6	30.3	10.7	14.8	7.7	**5.7**	-26.2%	-16.1%	0.6%
Total imports	32.9	33.1	26.5	24.3	28.6	24.6	30.3	10.7	14.8	7.7	**5.7**	-26.2%	-16.1%	0.6%
Pipeline exports	210.7	189.6	194.2	202.0	219.7	222.4	220.7	197.4	201.3	125.0	**95.4**	-23.6%	-7.6%	10.2%
LNG exports	14.5	13.6	14.6	14.6	15.4	24.9	39.1	41.8	39.5	43.4	**42.7**	-1.8%	11.4%	4.6%
Total exports	225.2	203.2	208.8	216.7	235.2	247.3	259.8	239.2	240.9	168.4	**138.1**	-18.0%	-4.8%	14.7%
Other CIS														
Pipeline imports	24.0	26.3	25.4	26.3	28.8	30.4	29.8	26.7	26.7	24.7	**24.9**	0.9%	0.4%	2.7%
Total imports	24.0	26.3	25.4	26.3	28.8	30.4	29.8	26.7	26.7	24.7	**24.9**	0.9%	0.4%	2.7%
Pipeline exports	69.5	75.4	72.6	72.8	78.0	80.8	85.2	61.5	75.4	69.9	**65.7**	-6.0%	-0.6%	7.0%
Total exports	69.5	75.4	72.6	72.8	78.0	80.8	85.2	61.5	75.4	69.9	**65.7**	-6.0%	-0.6%	7.0%
Middle East														
Pipeline imports	6.3	7.6	9.6	7.3	4.6	2.1	1.6	0.6	0.8	1.0	**0.6**	-41.5%	-21.4%	0.1%
LNG imports	4.3	5.3	9.8	13.7	13.0	9.4	9.4	9.1	9.6	9.5	**10.1**	7.1%	8.9%	1.1%
Total imports	10.6	12.9	19.4	21.1	17.7	11.5	11.0	9.7	10.4	10.4	**10.7**	2.6%	0.1%	1.1%
Pipeline exports	8.9	9.3	8.1	8.0	11.0	8.8	8.0	7.7	13.9	15.5	**13.9**	-10.2%	4.6%	1.5%
LNG exports	135.2	132.2	125.4	126.0	122.3	125.9	127.5	127.3	129.6	133.3	**131.1**	-1.7%	-0.3%	14.0%
Total exports	144.2	141.5	133.5	133.9	133.2	134.8	135.6	135.0	143.5	148.9	**145.0**	-2.6%	0.1%	15.5%
Africa														
Pipeline imports	–	–	–	–	–	–	–	2.1	4.0	6.2	**9.2**	47.8%	–	1.0%
LNG imports	–	–	3.9	10.7	8.3	3.2	–	–	–	–	**†**	–	–	†
Total imports	–	–	3.9	10.7	8.3	3.2	–	2.1	4.0	6.2	**9.2**	48.0%	–	1.0%
Pipeline exports	34.4	29.4	30.2	38.6	37.2	37.5	27.9	25.6	37.8	34.8	**33.5**	-3.6%	-0.3%	3.6%
LNG exports	47.0	49.5	48.5	46.2	55.7	53.5	61.6	56.0	58.1	54.1	**55.5**	2.6%	1.7%	5.9%
Total exports	81.4	78.9	78.7	84.8	92.9	91.0	89.5	81.6	95.9	88.9	**89.0**	0.1%	0.9%	9.5%
China														
Pipeline imports	26.4	30.3	32.4	36.8	39.9	47.9	47.7	45.1	53.2	58.4	**61.3**	5.0%	8.8%	6.5%
LNG imports	25.1	27.3	27.0	36.8	52.9	73.5	84.7	94.0	110.1	87.0	**97.8**	12.4%	14.6%	10.4%
Total imports	51.5	57.5	59.4	73.5	92.8	121.3	132.5	139.1	163.4	145.4	**159.2**	9.4%	12.0%	17.0%
LNG exports*	–	–	–	–	–	–	0.1	–	–	0.8	**1.3**	68.6%	–	0.1%
Total exports	–	–	–	–	–	–	0.1	–	–	0.8	**1.3**	68.6%	–	0.1%
India														
LNG imports	18.0	19.1	20.0	24.3	26.0	30.5	32.4	36.6	33.8	28.4	**31.0**	9.1%	5.6%	3.3%
Total imports	18.0	19.1	20.0	24.3	26.0	30.5	32.4	36.6	33.8	28.4	**31.0**	9.1%	5.6%	3.3%
LNG exports*	–	–	0.4	0.1	0.1	–	0.1	–	–	–	**–**	–	–	–
Total exports	–	–	0.4	0.1	0.1	–	0.1	–	–	–	**–**	–	–	–
OECD Asia														
Pipeline imports	5.9	5.2	5.8	5.5	4.9	4.9	4.3	5.3	4.8	2.3	**0.9**	-62.0%	-17.3%	0.1%
LNG imports	175.7	173.6	161.6	159.9	165.4	173.2	161.1	157.2	165.3	161.8	**151.0**	-6.7%	-1.5%	16.1%
Total imports	181.6	178.8	167.4	165.3	170.2	178.1	165.5	162.5	170.1	164.1	**151.8**	-7.5%	-1.8%	16.2%
LNG exports*	30.6	32.2	40.1	60.5	76.8	91.9	104.7	106.1	108.7	107.5	**107.4**	-0.1%	13.4%	11.5%
Total exports	30.6	32.2	40.1	60.5	76.8	91.9	104.7	106.1	108.7	107.5	**107.4**	-0.1%	13.4%	11.5%
Other Asia														
LNG imports	22.4	25.2	29.8	33.0	40.2	45.5	55.3	58.4	63.0	64.7	**72.7**	12.5%	12.5%	7.8%
Total imports	22.4	25.2	29.8	33.0	40.2	45.5	55.3	58.4	63.0	64.7	**72.7**	12.5%	12.5%	7.8%
Pipeline exports	6.1	8.1	9.5	9.2	8.1	7.8	8.7	9.2	8.7	6.3	**4.5**	-27.6%	-2.8%	0.5%
LNG exports*	66.2	69.3	75.0	75.8	78.5	72.4	72.4	70.7	68.0	71.3	**70.3**	-1.4%	0.6%	7.5%
Total exports	72.3	77.5	84.5	85.0	86.6	80.2	81.1	79.9	76.7	77.5	**74.8**	-3.5%	0.4%	8.0%
World														
Inter-regional pipeline trade	459.1	435.5	444.7	478.6	508.7	509.3	507.7	454.7	504.5	422.8	**387.7**	-8.3%	-1.7%	41.4%
LNG trade	326.8	333.6	337.1	358.3	393.3	430.4	484.2	490.0	515.9	539.3	**549.2**	1.8%	5.3%	58.6%
Total trade	**785.9**	**769.1**	**781.8**	**836.9**	**902.0**	**939.8**	**991.8**	**944.6**	**1020.4**	**962.0**	**936.9**	**-2.6%**	**1.8%**	**100.0%**

* LNG exports include re-exports.
Pipeline trade excludes intra-regional trade.
† Less than 0.05%.
Note: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and has been standardised using a gross calorific value (GCV) of 40 MJ/m³.

Natural gas LNG imports

Billion cubic metres	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	1.0	0.5	0.6	0.3	0.4	0.6	0.5	0.8	0.7	0.3	**0.2**	-19.4%	-13.6%	†
Mexico	7.8	9.3	6.8	5.6	6.6	6.9	6.6	2.5	0.9	0.6	**0.9**	54.9%	-19.2%	0.2%
US	2.7	1.7	2.5	2.4	2.2	2.1	1.5	1.3	0.6	0.7	**0.5**	-33.4%	-16.1%	0.1%
Total North America	11.4	11.5	10.0	8.3	9.2	9.6	8.6	4.6	2.2	1.6	**1.6**	2.3%	-17.8%	0.3%
Argentina	6.3	6.2	5.6	5.1	4.6	3.6	1.8	1.8	3.7	2.4	**2.7**	14.5%	-8.1%	0.5%
Brazil	5.2	7.1	6.8	2.6	1.7	2.9	3.2	3.3	10.1	2.3	**1.3**	-42.5%	-13.0%	0.2%
Chile	3.8	3.5	3.7	4.5	4.4	4.3	3.3	3.7	4.5	3.3	**3.6**	6.8%	-0.6%	0.7%
Other S. & Cent. America	2.8	2.8	2.8	3.0	2.8	3.7	4.8	5.1	6.0	6.2	**8.2**	33.2%	11.4%	1.5%
Total S. & Cent. America	18.1	19.6	18.9	15.2	13.5	14.5	13.1	13.9	24.3	14.2	**15.8**	11.7%	-1.4%	2.9%
Belgium	3.1	2.9	3.6	2.4	1.3	3.3	7.3	6.4	5.4	12.5	**11.8**	-5.5%	14.2%	2.1%
France	8.3	6.9	6.4	9.1	10.9	12.7	23.2	19.1	17.6	35.5	**30.7**	-13.5%	14.0%	5.6%
Italy	5.8	4.5	5.9	5.9	8.3	8.2	13.5	12.5	9.5	14.7	**16.3**	11.4%	10.9%	3.0%
Spain	15.7	16.2	13.7	13.8	16.6	15.0	22.0	20.9	20.4	28.8	**24.9**	-13.5%	4.8%	4.5%
Türkiye	5.9	7.1	7.5	7.6	10.9	11.4	12.9	14.8	13.9	15.1	**14.8**	-2.3%	9.6%	2.7%
United Kingdom	9.2	11.2	13.7	10.7	6.6	7.2	17.1	18.6	15.0	26.1	**19.4**	-25.5%	7.7%	3.5%
Other European Union	3.7	3.3	5.2	6.9	10.2	13.4	23.5	23.8	25.5	39.4	**51.0**	29.5%	29.9%	9.3%
Rest of Europe	–	†	–	†	0.1	†	†	0.1	0.1	0.1	**0.1**	7.1%	–	†
Total Europe	51.8	52.1	56.0	56.4	64.8	71.2	119.4	116.2	107.5	172.1	**169.1**	-1.8%	12.6%	30.8%
Egypt	–	–	3.9	10.7	8.3	3.2	–	–	–	–	**†**	–	–	†
Kuwait	2.3	3.6	4.3	4.7	4.8	4.3	5.1	5.7	7.7	8.5	**8.9**	5.4%	14.6%	1.6%
United Arab Emirates	1.6	1.6	2.9	4.2	3.0	1.0	1.6	1.5	1.7	0.9	**1.1**	15.4%	-3.9%	0.2%
Other Middle East & Africa	0.5	0.1	2.7	4.8	5.3	4.0	2.7	1.9	0.2	0.1	**0.2**	92.4%	-9.5%	†
Total Middle East & Africa	4.3	5.3	13.7	24.5	21.4	12.5	9.4	9.1	9.6	9.5	**10.2**	7.2%	8.9%	1.9%
China	25.1	27.3	27.0	36.8	52.9	73.5	84.7	94.0	110.1	87.0	**97.8**	12.4%	14.6%	17.8%
India	18.0	19.1	20.0	24.3	26.0	30.5	32.4	36.6	33.8	28.4	**31.0**	9.1%	5.6%	5.6%
Japan	120.4	121.8	115.9	113.6	113.9	113.0	105.5	101.7	101.2	98.0	**90.3**	-7.8%	-2.8%	16.4%
Malaysia	2.0	2.2	2.2	1.5	2.0	1.8	3.3	3.6	2.3	3.9	**3.2**	-16.7%	4.9%	0.6%
Pakistan	–	–	1.5	4.0	6.1	9.4	11.8	10.6	12.2	9.5	**10.1**	5.6%	–	1.8%
Singapore	1.3	2.6	3.0	3.2	4.1	4.5	5.0	5.7	5.0	5.3	**6.8**	29.8%	18.3%	1.2%
South Korea	55.3	51.8	45.8	46.3	51.4	60.2	55.6	55.4	64.1	63.8	**60.6**	-5.0%	0.9%	11.0%
Taiwan	17.2	18.6	19.6	20.4	22.7	22.9	22.8	24.3	26.7	27.5	**27.4**	-0.5%	4.8%	5.0%
Thailand	2.0	1.9	3.6	3.9	5.2	6.0	6.7	7.5	9.2	11.5	**16.1**	39.4%	23.3%	2.9%
Other Asia Pacific	–	–	–	–	–	0.8	5.7	6.6	7.6	6.9	**9.2**	31.9%	–	1.7%
Total Asia Pacific	241.2	245.2	238.5	253.9	284.5	322.6	333.6	346.2	372.3	341.9	**352.5**	3.1%	3.9%	64.2%
Total World	**326.8**	**333.6**	**337.1**	**358.3**	**393.3**	**430.4**	**484.2**	**490.0**	**515.9**	**539.3**	**549.2**	**1.8%**	**5.3%**	**100.0%**

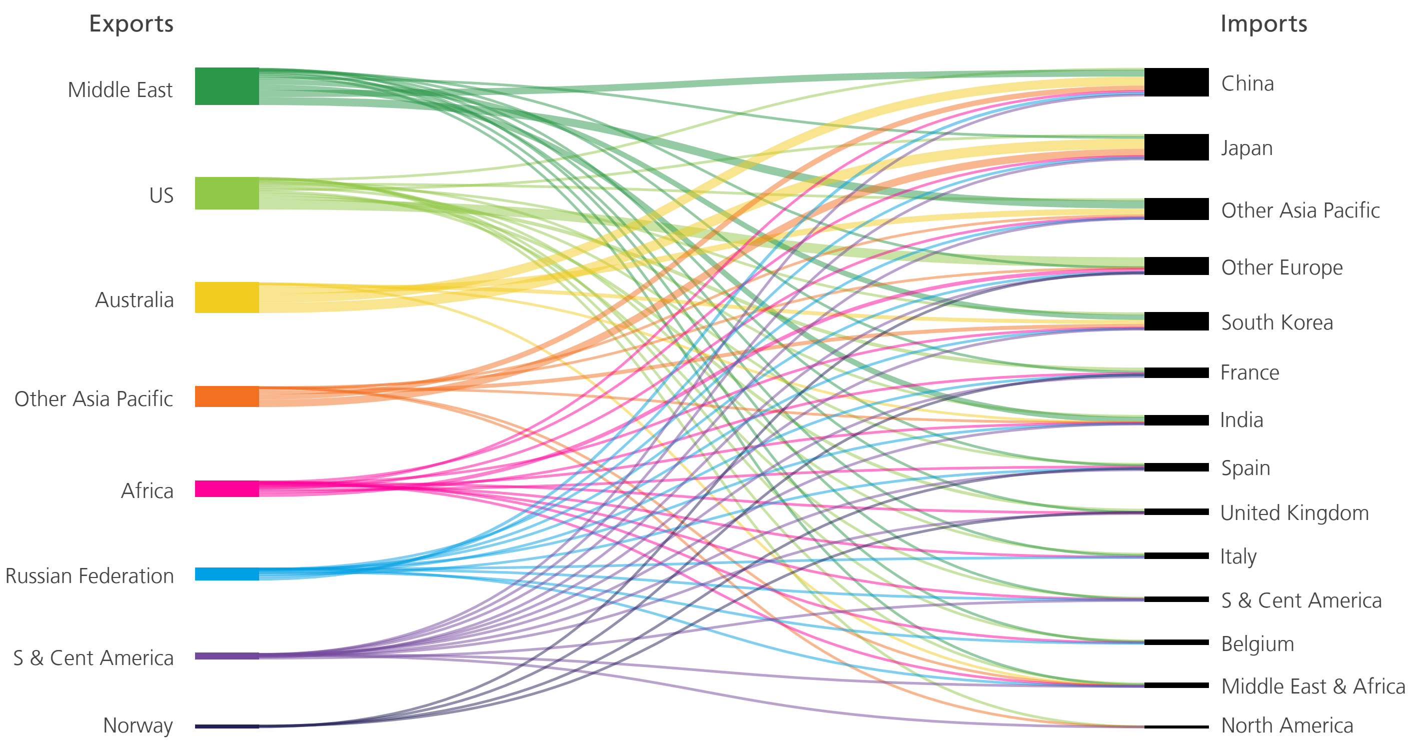
Source: Includes GIIGNL, S&P Global Commodity Insights.
Gross LNG trade.
† Less than 0.05%.

Natural gas LNG exports

Billion cubic metres	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
US	0.2	0.4	0.7	4.0	17.1	28.6	47.4	61.3	94.5	104.5	**114.4**	9.4%	93.8%	20.8%
Peru	5.7	5.7	5.0	5.5	5.5	4.8	5.3	5.0	3.5	5.1	**5.3**	3.9%	-0.7%	1.0%
Trinidad & Tobago	18.4	17.6	16.4	14.3	13.5	16.6	17.1	14.3	9.1	10.5	**10.5**	-0.2%	-5.5%	1.9%
Other Americas*	0.1	0.2	†	0.6	0.3	0.1	0.1	0.5	0.7	0.8	**1.1**	36.3%	31.6%	0.2%
Total Americas	24.3	23.9	22.1	24.5	36.5	50.1	69.9	81.2	107.8	121.0	**131.4**	8.6%	18.4%	23.9%
Russia	14.5	13.6	14.6	14.6	15.4	24.9	39.1	41.8	39.5	43.4	**42.7**	-1.8%	11.4%	7.8%
Norway	3.8	4.6	5.6	6.1	5.4	6.8	6.9	4.3	0.2	3.7	**5.5**	46.8%	3.6%	1.0%
Other Europe*	5.2	8.4	5.4	4.5	2.5	5.0	1.9	2.7	4.1	4.2	**3.7**	-11.5%	-3.3%	0.7%
Total Europe & CIS	23.5	26.6	25.6	25.3	23.4	36.7	47.9	48.8	43.7	51.3	**51.8**	1.0%	8.2%	9.4%
Oman	11.5	10.6	10.2	11.0	11.4	13.6	14.1	13.2	14.1	15.3	**15.3**	-0.1%	2.9%	2.8%
Qatar	105.8	103.6	105.6	107.3	103.6	104.9	105.8	106.5	106.8	110.5	**108.4**	-2.0%	0.2%	19.7%
United Arab Emirates	7.9	8.6	7.6	7.7	7.3	7.4	7.7	7.6	8.8	7.5	**7.7**	2.9%	-0.3%	1.4%
Yemen	9.9	9.4	1.9	–	–	–	–	–	–	–	**–**	–	-100.0%	†
Total Middle East	135.2	132.2	125.4	126.0	122.3	125.9	127.5	127.3	129.6	133.3	**131.4**	-1.5%	-0.3%	23.9%
Algeria	15.0	17.4	16.6	15.5	16.4	13.1	16.8	14.6	15.6	14.4	**19.0**	31.9%	2.4%	3.5%
Angola	0.4	0.4	–	0.9	5.0	5.2	5.8	6.1	4.7	4.2	**4.9**	17.9%	28.2%	0.9%
Egypt	3.9	0.4	–	0.8	1.2	2.0	4.7	1.8	9.1	9.2	**4.9**	-46.8%	2.3%	0.9%
Nigeria	22.5	26.1	26.9	24.6	28.3	27.8	28.8	28.4	23.4	20.0	**17.5**	-12.1%	-2.4%	3.2%
Other Africa	5.2	5.0	5.0	4.4	4.8	5.4	5.6	5.1	5.4	6.3	**9.2**	45.8%	5.8%	1.7%
Total Africa	47.0	49.5	48.5	46.2	55.7	53.5	61.6	56.0	58.1	54.1	**55.6**	2.8%	1.7%	10.1%
Australia	30.5	32.0	39.9	60.4	76.6	91.8	104.7	106.0	108.5	107.4	**107.4**	†	13.4%	19.6%
Brunei	9.5	8.6	8.7	8.6	9.1	8.5	8.8	8.4	7.5	6.5	**6.2**	-4.8%	-4.2%	1.1%
Indonesia	23.1	21.7	21.6	22.4	21.7	20.8	16.5	16.8	14.6	15.6	**16.1**	3.3%	-3.5%	2.9%
Malaysia	33.6	34.0	34.3	33.6	36.1	33.0	35.2	32.5	33.6	37.3	**36.3**	-2.7%	0.8%	6.6%
Papua New Guinea	–	5.0	10.1	10.9	11.1	9.5	11.6	11.5	11.5	11.4	**11.5**	1.0%	–	2.1%
Other Asia Pacific*	0.1	0.2	0.8	0.5	0.8	0.6	0.5	1.4	1.0	1.3	**1.5**	18.3%	32.1%	0.3%
Total Asia Pacific	96.8	101.5	115.5	136.4	155.4	164.3	177.3	176.8	176.7	179.5	**179.0**	-0.3%	6.3%	32.6%
Total LNG exports	**326.8**	**333.6**	**337.1**	**358.3**	**393.3**	**430.4**	**484.2**	**490.0**	**515.9**	**539.3**	**549.2**	**1.8%**	**5.3%**	**100.0%**

Source: Includes GIIGNL, S&P Global Commodity Insights.
Gross LNG trade.
* Largely consists of re-exports.
† Less than 0.05%.

Natural gas Major trade movements 2023 – LNG



Notes: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and has been standardised using a gross calorific value (GCV) of 40 MJ/m³.

International gas trade has been fluctuating between 900-1,000 bcm since 2017, with an overall fall of 2.7% to 936 bcm in 2023. LNG exports rose 1.8% to 549 bcm. LNG now accounts for nearly 59% of all globally traded gas. The US overtook both Australia and the Middle East to become the world's largest exporter of LNG. Collectively they represented 64% of total LNG exports. China overtook Japan to become the largest importer of LNG with one-third of its imports coming from Australia. Collectively, the Asia Pacific region accounted for 64% of all LNG imports. Europe increased its imports from the US by 6% whilst its LNG imports from the Russian Federation remained relatively stable at around 19 bcm.

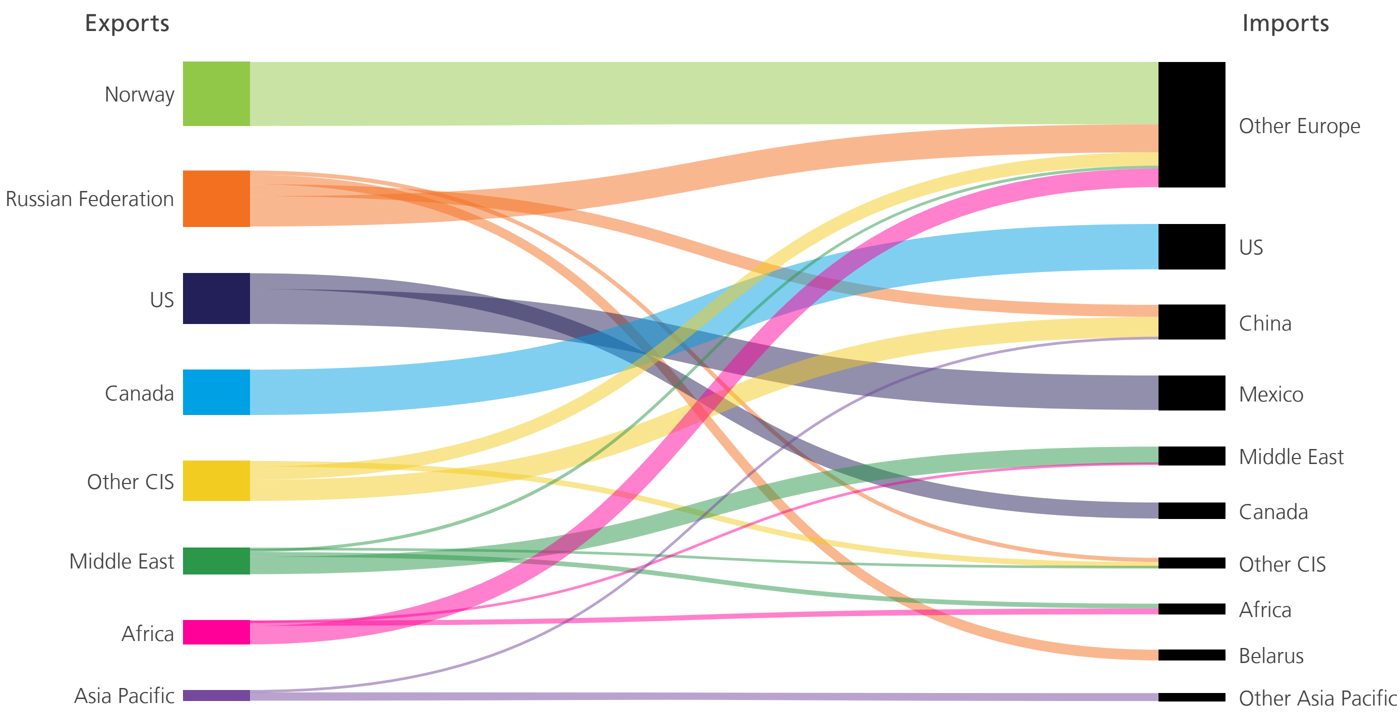
Natural gas Trade movements 2023 as LNG*

From

Billion cubic metres To	US	Peru	Trinidad & Tobago	Other Americas*	Norway	Other Europe*	Russian Federation	Oman	Qatar	United Arab Emirates	Yemen	Algeria	Angola	Egypt	Nigeria	Other Africa	Australia	Brunei	Indonesia	Malaysia	Papua New Guinea	Other Asia Pacific*	**Total imports**
Canada	†	0.1	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.2**
Mexico	0.4	0.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.3	–	–	–	**0.9**
US	–	–	0.3	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.5**
North America	**0.4**	**0.3**	**0.5**	**0.1**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**0.3**	**–**	**–**	**–**	**1.6**
Argentina	2.1	–	0.2	–	–	†	–	–	0.2	–	–	0.1	–	0.1	0.1	0.1	–	–	–	–	–	–	**2.7**
Brazil	1.0	–	†	–	–	0.1	0.1	–	–	–	–	0.1	–	–	–	–	–	–	–	–	–	–	**1.3**
Chile	0.9	–	2.0	–	–	†	–	–	–	–	–	–	–	0.1	–	0.6	–	–	–	–	–	–	**3.6**
Other S. & Cent. America	3.5	0.2	1.9	0.7	–	0.4	–	–	–	–	–	–	–	–	1.4	0.1	†	–	–	–	–	–	**8.2**
S. & Cent. America	**7.5**	**0.2**	**4.1**	**0.7**	**–**	**0.5**	**0.1**	**–**	**0.2**	**–**	**–**	**0.2**	**-**	**0.1**	**1.5**	**0.8**	**†**	**–**	**–**	**–**	**–**	**–**	**15.8**
Belgium	2.6	–	–	–	†	†	3.9	–	4.6	–	–	0.2	0.3	0.1	0.1	0.1	–	–	–	–	–	†	**11.8**
France	13.2	0.4	0.4	–	1.2	0.1	4.8	0.1	2.3	–	–	5.6	0.9	0.2	0.6	0.9	–	–	–	–	–	†	**30.7**
Italy	5.3	–	–	–	–	0.8	0.3	–	6.7	–	–	2.3	–	0.3	0.3	0.4	–	–	–	–	–	–	**16.3**
Spain	7.4	0.5	0.5	0.1	0.3	0.1	6.5	0.3	1.3	–	–	1.8	0.3	0.4	4.8	0.6	†	–	–	–	–	–	**24.9**
Türkiye	3.8	–	0.2	0.2	0.3	0.8	1.4	0.1	–	–	–	6.1	–	1.3	0.5	0.1	–	–	–	–	–	–	**14.8**
United Kingdom	11.6	2.1	0.4	–	0.4	†	–	–	2.8	–	–	0.5	0.8	0.3	0.5	–	–	–	–	–	–	–	**19.4**
Other European Union	32.4	0.1	2.7	†	3.2	0.4	2.5	0.3	3.2	0.1	–	0.7	1.4	0.6	2.5	0.7	–	–	0.1	–	–	0.2	**51.0**
Rest of Europe	–	–	–	–	–	0.1	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.1**
Europe	**76.2**	**3.1**	**4.2**	**0.3**	**5.5**	**2.3**	**19.4**	**0.8**	**20.8**	**0.1**	**–**	**17.2**	**3.7**	**3.2**	**9.3**	**2.7**	**†**	**–**	**0.1**	**–**	**–**	**0.2**	**169.1**
Egypt	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	†	–	–	–	**†**
Kuwait	0.9	–	0.2	–	–	–	0.1	0.5	5.2	0.1	–	0.1	–	–	1.2	0.3	0.1	–	–	0.2	–	0.1	**8.9**
United Arab Emirates	–	–	–	–	–	–	–	–	1.1	–	–	–	–	–	–	–	–	–	–	–	–	–	**1.1**
Other Middle East & Africa	0.1	–	–	–	–	†	–	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	†	**0.2**
Middle East & Africa	**1.0**	**–**	**0.2**	**–**	**–**	**†**	**0.1**	**0.6**	**6.2**	**0.1**	**–**	**0.1**	**–**	**–**	**1.2**	**0.3**	**0.1**	**–**	**†**	**0.2**	**–**	**0.1**	**10.2**
China	4.3	0.2	0.5	†	–	0.2	11.0	1.4	22.9	1.0	–	0.5	–	0.4	1.6	1.2	33.0	1.0	5.5	9.7	3.5	†	**97.8**
India	4.4	–	0.4	–	–	0.6	0.6	1.1	15.0	4.5	–	0.5	1.0	0.3	1.0	1.2	0.5	–	–	–	–	0.1	**31.0**
Japan	7.5	0.3	0.1	–	–	0.1	8.4	3.0	4.0	1.1	–	0.1	–	0.2	0.3	0.4	37.5	3.4	4.1	14.3	5.2	0.3	**90.3**
Malaysia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2.9	0.3	–	–	–	–	**3.2**
Pakistan	0.1	–	0.1	–	–	–	–	0.1	8.8	–	–	–	–	0.1	0.6	–	–	–	0.3	–	–	–	**10.1**
Singapore	0.6	–	0.1	–	–	†	0.1	–	1.8	–	–	–	–	†	–	0.3	3.6	–	0.2	0.1	–	†	**6.8**
South Korea	7.1	1.0	†	–	–	0.1	2.3	6.9	11.8	0.6	–	0.2	–	0.4	0.8	0.8	14.3	0.7	4.0	8.3	0.9	0.5	**60.6**
Taiwan	2.7	0.2	–	–	–	–	0.8	0.5	7.6	0.2	–	–	–	0.1	0.4	0.1	11.0	0.4	0.6	0.9	2.0	–	**27.4**
Thailand	1.6	–	0.3	–	–	–	–	0.8	3.9	–	–	0.1	–	–	0.4	1.3	3.8	0.5	0.6	2.6	–	0.3	**16.1**
Other Asia Pacific	0.9	–	0.1	–	–	–	–	0.2	5.3	0.1	–	0.3	0.3	0.2	0.3	0.2	0.8	–	0.3	0.3	–	0.1	**9.2**
Asia Pacific	**29.3**	**1.7**	**1.5**	**†**	**–**	**0.9**	**23.1**	**14.0**	**81.1**	**7.5**	**–**	**1.6**	**1.3**	**1.6**	**5.5**	**5.5**	**107.3**	**6.2**	**15.7**	**36.1**	**11.5**	**1.2**	**352.5**
Total exports	**114.4**	**5.3**	**10.5**	**1.1**	**5.5**	**3.7**	**42.7**	**15.3**	**108.4**	**7.7**	**–**	**19.0**	**4.9**	**4.9**	**17.5**	**9.2**	**107.4**	**6.2**	**16.1**	**36.3**	**11.5**	**1.5**	**549.2**

Source: Includes data from GIIGNL, S&P Global Commodity Insights.
* Includes re-exports.
† Less than 0.05.
Note: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and has been standardised using a gross calorific value (GCV) of 40 MJ/m³.

Natural gas Major trade movements 2023 – pipeline



Notes: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and has been standardised using a gross calorific value (GCV) of 40 MJ/m³.
Source: Includes data from FGE MENA gas service, IHS.

In 2023, pipeline trade of natural gas continued to decline falling 8% to 388 bcm. The fall in supply was most noticeable in the Russia Federation which saw its exports fall by 24% to 95 bcm. The global balance between LNG and pipeline trade is now almost the complete inverse of the position back in 2017 with pipeline gas now accounting for only 41% of traded gas. Norway remains the largest supplier of pipeline gas to its European counterparts where imports from the Russian Federation fell by 42% to 50 bcm. Although Russian pipeline exports experienced an overall decline, building on the 62% fall in 2022, its exports to China increased 45% to just over 21 bcm and by 53% to other CIS countries to 7 bcm.

Natural gas Trade movements 2023 by pipeline

	From																						
Billion cubic metres **To**	Canada	Mexico	US	Bolivia	Other S. & Cent. America	European Union	Norway	Other Europe	Azerbaijan	Kazakhstan	Russian Federation	Turkmenistan	Uzbekistan	Iran	Qatar	Other Middle East	Algeria	Libya	Other Africa	Indonesia	Myanmar	Other Asia Pacific	**Total imports**
Canada	–	–	28.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**28.0**
Mexico	–	–	61.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**61.1**
US	79.0	†	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**79.0**
North America	**79.0**	**†**	**89.1**	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**168.1**
Argentina	–	–	–	2.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**2.2**
Brazil	–	–	–	5.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**5.4**
Other S. & Cent. America	–	–	–	–	1.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1.6**
S. & Cent. America	–	–	–	**7.6**	**1.6**	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**9.2**
European Union	–	–	–	–	–	18.0	85.1	95.6	11.7	–	25.7	–	–	–	–	–	30.6	2.4	–	–	–	–	**269.1**
Rest of Europe	–	–	–	–	–	0.2	25.5	4.8	11.9	–	24.1	–	–	5.2	–	–	–	–	–	–	–	–	**71.7**
Europe	–	–	–	–	–	**18.2**	**110.7**	**100.3**	**23.6**	–	**49.8**	–	–	**5.2**	–	–	**30.6**	**2.4**	–	–	–	–	**340.8**
Belarus	–	–	–	–	–	–	–	–	–	–	16.8	–	–	–	–	–	–	–	–	–	–	–	**16.8**
Kazakhstan	–	–	–	–	–	–	–	–	–	–	0.2	0.4	–	–	–	–	–	–	–	–	–	–	**0.6**
Russian Federation	–	–	–	–	–	–	–	–	0.3	0.7	–	4.7	–	–	–	–	–	–	–	–	–	–	**5.7**
Other CIS	–	–	–	–	–	–	–	0.2	–	–	7.3	3.9	†	0.4	–	–	–	–	–	–	–	–	**11.9**
CIS	–	–	–	–	–	–	–	**0.2**	**0.3**	**0.7**	**24.3**	**9.0**	**†**	**0.4**	–	–	–	–	–	–	–	–	**34.9**
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18.0	–	–	–	–	–	–	–	**18.0**
Other Middle East	–	–	–	–	–	–	–	–	†	–	–	–	–	8.8	1.5	2.8	–	–	0.6	–	–	–	**13.6**
Middle East	–	–	–	–	–	–	–	–	**†**	–	–	–	–	**8.8**	**19.5**	**2.8**	–	–	**0.6**	–	–	–	**31.6**
South Africa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.1	–	–	–	**4.1**
Other Africa	–	–	–	–	–	–	–	0.9	–	–	–	–	–	–	–	8.4	3.9	–	1.0	–	–	–	**14.2**
Africa	–	–	–	–	–	–	–	**0.9**	–	–	–	–	–	–	–	**8.4**	**3.9**	–	**5.1**	–	–	–	**18.2**
Australia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.9	**0.9**
China	–	–	–	–	–	–	–	–	–	4.6	21.3	30.5	1.2	–	–	–	–	–	–	–	3.7	–	**61.3**
Malaysia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.4	–	–	**0.4**
Singapore	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.1	–	2.1	**6.2**
Thailand	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5.4	–	**5.4**
Asia Pacific	–	–	–	–	–	–	–	–	–	**4.6**	**21.3**	**30.5**	**1.2**	–	–	–	–	–	–	**4.5**	**9.0**	**3.0**	**74.2**
Total exports	**79.0**	**†**	**89.1**	**7.6**	**1.6**	**18.2**	**110.7**	**101.4**	**23.9**	**5.3**	**95.4**	**39.5**	**1.2**	**14.3**	**19.5**	**11.1**	**34.5**	**2.4**	**5.7**	**4.5**	**9.0**	**3.0**	**677.0**

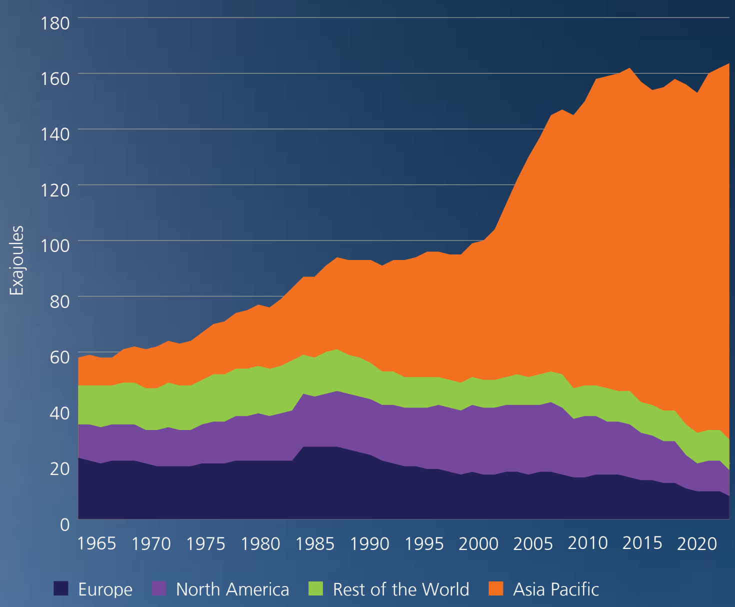
Source: Includes data from FGE MENA gas service, S&P Global Commodity Insights.
Note: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and has been standardized using a gross calorific value (GCV) of 40 MJ/m³.
† Less than 0.05.

Coal

In 2023, global coal production reached its highest ever level (179 EJ), beating the previous high set the year before. The Asia Pacific region accounted for nearly 80% of global output with activity concentrated in just four countries, Australia, China, India, and Indonesia (jointly responsible for 97% of the region's output). China alone was responsible for just over half of total global production. North America, Southern & Central America, Europe and the Commonwealth of Independent States all saw their production fall relative to 2022 levels.

Global coal consumption breached 164 EJ for the first time ever. An increase of 1.6% over 2022 was seven times higher than the previous ten-year average growth rate. Whilst China is by far the largest consumer of coal (56% of the world's total), in 2023 India exceeded the combined consumption of Europe and North America for the first time ever. Coal consumption in both Europe and North America each fell below 10 EJ, their lowest levels since 1965.

Global coal consumption



Coal consumption in India exceeded the combined consumption of Europe and North America for the first time ever

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Coal Production*

Million tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	68.4	68.3	62.4	62.4	60.6	55.0	53.2	46.1	47.6	46.7	**48.6**	4.0%	-3.3%	0.5%
Mexico	14.6	14.9	12.3	11.4	12.9	11.9	9.8	7.7	5.5	5.5	**5.6**	0.1%	-9.2%	0.1%
US	893.4	907.2	813.7	660.8	702.7	686.0	640.8	485.7	523.8	539.0	**526.5**	-2.3%	-5.1%	5.8%
Total North America	976.5	990.4	888.3	734.5	776.2	752.9	703.7	539.6	577.0	591.3	**580.6**	-1.8%	-5.0%	6.4%
Brazil	9.5	9.4	8.0	7.5	5.8	6.4	5.8	7.1	8.0	7.6	**6.8**	-10.1%	-3.2%	0.1%
Colombia	86.1	89.4	86.5	91.2	91.5	86.9	85.9	54.4	59.1	58.0	**54.5**	-5.9%	-4.4%	0.6%
Venezuela	1.2	0.8	0.8	0.7	0.7	0.7	0.4	0.3	0.2	0.8	**0.8**	–	-4.1%	†
Other S. & Cent. America	3.2	4.5	3.4	2.8	1.8	1.6	1.1	0.4	0.2	0.3	**0.3**	11.8%	-21.5%	†
Total S. & Cent. America	99.9	104.0	98.8	102.3	99.9	95.6	93.3	62.2	67.6	66.6	**62.5**	-6.2%	-4.6%	0.7%
Bulgaria	28.6	31.3	35.9	31.3	34.3	30.6	28.3	22.6	28.4	35.6	**21.0**	-40.9%	-3.0%	0.2%
Czech Republic	49.1	47.1	46.5	45.5	44.9	43.8	41.0	31.6	31.5	35.1	**30.0**	-14.7%	-4.8%	0.3%
Germany	190.6	185.8	184.3	175.4	175.1	168.8	131.3	107.4	126.3	130.8	**102.3**	-21.8%	-6.0%	1.1%
Greece	53.9	50.8	46.2	32.6	37.7	36.5	27.4	14.1	12.4	14.3	**10.9**	-23.6%	-14.8%	0.1%
Hungary	9.6	9.6	9.3	9.2	8.0	7.9	6.8	6.1	5.0	4.9	**4.1**	-17.4%	-8.2%	†
Poland	142.9	137.1	135.8	131.0	127.1	122.4	112.4	100.7	107.6	107.8	**88.7**	-17.7%	-4.6%	1.0%
Romania	24.7	23.6	25.5	23.0	25.8	23.7	21.7	15.0	17.7	18.2	**14.8**	-18.8%	-5.0%	0.2%
Serbia	40.3	29.8	37.8	38.5	39.8	37.6	38.9	39.7	36.4	35.1	**31.9**	-9.1%	-2.3%	0.4%
Spain	4.4	3.9	3.1	1.7	3.0	2.4	0.1	0.1	0.1	0.1	**0.1**	–	-33.7%	†
Türkiye	60.4	65.2	58.4	73.0	74.1	83.9	87.1	74.7	86.5	95.3	**66.4**	-30.4%	1.0%	0.7%
Ukraine	64.9	45.7	30.4	32.2	24.7	26.8	26.1	24.4	26.2	24.1	**23.3**	-3.3%	-9.7%	0.3%
United Kingdom	12.8	11.6	8.6	4.2	3.0	2.8	2.6	1.7	1.1	0.7	**0.5**	-22.3%	-27.6%	†
Other Europe	70.7	67.2	64.5	61.7	65.1	66.3	56.8	50.2	47.6	50.7	**46.2**	-8.9%	-4.2%	0.5%
Total Europe	752.8	708.8	686.3	659.4	662.6	653.5	580.5	488.3	526.7	552.6	**440.1**	-20.4%	-5.2%	4.8%
Kazakhstan	119.6	114.0	107.3	103.1	112.3	118.5	115.0	113.4	116.2	117.8	**116.4**	-1.2%	-0.2%	1.3%
Russian Federation	355.2	357.5	372.5	386.6	411.0	441.3	440.7	399.8	434.1	439.0	**432.5**	-1.5%	2.0%	4.8%
Uzbekistan	4.1	4.4	3.5	3.9	4.0	4.2	4.0	4.1	5.1	5.4	**6.2**	15.5%	4.3%	0.1%
Other CIS	4.2	4.1	4.0	4.6	5.7	7.7	7.9	6.2	6.6	8.6	**8.4**	-2.4%	7.2%	0.1%
Total CIS	483.1	480.0	487.3	498.1	533.0	571.6	567.6	523.5	561.9	570.8	**563.4**	-1.3%	1.6%	6.2%
Total Middle East	1.5	1.5	1.6	1.8	1.8	2.2	2.0	2.1	2.4	4.9	**10.3**	110.1%	21.1%	0.1%
South Africa	256.3	261.4	252.2	249.7	252.3	250.0	254.4	248.1	233.7	229.9	**228.5**	-0.6%	-1.1%	2.5%
Zimbabwe	3.1	5.8	4.3	2.7	2.9	3.3	2.6	2.7	3.2	3.9	**5.0**	26.6%	4.9%	0.1%
Other Africa	8.3	9.4	9.7	9.2	16.7	20.3	15.1	13.2	17.3	23.3	**23.6**	1.1%	11.1%	0.3%
Total Africa	267.7	276.6	266.2	261.7	271.9	273.7	272.2	264.0	254.3	257.2	**257.1**	†	-0.4%	2.8%
Australia	472.8	505.3	503.7	502.1	487.2	502.2	505.6	470.0	460.3	440.1	**455.8**	3.6%	-0.3%	5.0%
China	3974.3	3873.9	3746.5	3410.6	3523.6	3697.7	3846.3	3901.6	4125.8	4558.6	**4710.0**	3.3%	1.7%	51.8%
India	608.5	646.2	674.2	689.8	711.7	760.4	753.9	760.2	812.1	910.8	**1010.9**	11.0%	5.2%	11.1%
Indonesia	474.4	458.1	461.6	456.2	461.2	557.8	616.2	563.7	614.0	687.4	**775.2**	12.8%	5.1%	8.5%
Japan	1.2	1.3	1.2	1.3	1.4	1.0	0.8	0.8	0.7	0.7	**0.6**	-8.8%	-6.2%	†
Mongolia	33.3	24.4	24.1	35.1	49.5	54.6	57.1	43.1	32.3	39.3	**83.2**	111.6%	9.6%	0.9%
New Zealand	4.6	4.0	3.4	2.9	2.9	3.2	3.0	2.8	2.9	2.6	**2.6**	-1.4%	-5.6%	†
Pakistan	3.0	3.4	3.3	4.1	4.2	4.4	7.1	9.5	10.2	10.0	**17.1**	71.0%	19.1%	0.2%
South Korea	1.8	1.7	1.8	1.7	1.5	1.2	1.1	1.0	0.9	0.8	**0.6**	-21.1%	-9.8%	†
Thailand	18.1	18.0	15.2	17.0	16.3	14.9	14.1	13.3	14.2	13.6	**12.8**	-6.1%	-3.4%	0.1%
Vietnam	41.1	41.1	41.7	38.7	38.4	42.4	46.4	44.6	48.3	49.9	**48.2**	-3.4%	1.6%	0.5%
Other Asia Pacific	43.7	44.2	47.7	64.2	61.6	58.8	64.9	60.9	57.5	64.0	**64.6**	0.9%	4.0%	0.7%
Total Asia Pacific	5676.8	5621.7	5524.3	5223.8	5359.5	5698.5	5916.5	5871.5	6179.2	6777.9	**7181.6**	6.0%	2.4%	79.0%
Total World	**8258.3**	**8183.0**	**7952.8**	**7481.6**	**7704.9**	**8048.1**	**8135.7**	**7751.2**	**8169.1**	**8821.3**	**9095.7**	**3.1%**	**1.0%**	**100.0%**
of which: OECD	2111.9	2147.8	2016.5	1842.1	1872.1	1855.2	1738.4	1427.0	1491.7	1504.2	**1418.0**	-5.7%	-3.9%	15.6%
Non-OECD	6146.5	6035.3	5936.3	5639.5	5832.8	6192.9	6397.3	6324.2	6677.4	7317.1	**7677.6**	4.9%	2.3%	84.4%
European Union	543.9	527.3	521.3	481.6	492.2	473.4	397.3	318.8	348.9	368.2	**291.7**	-20.8%	-6.0%	3.2%

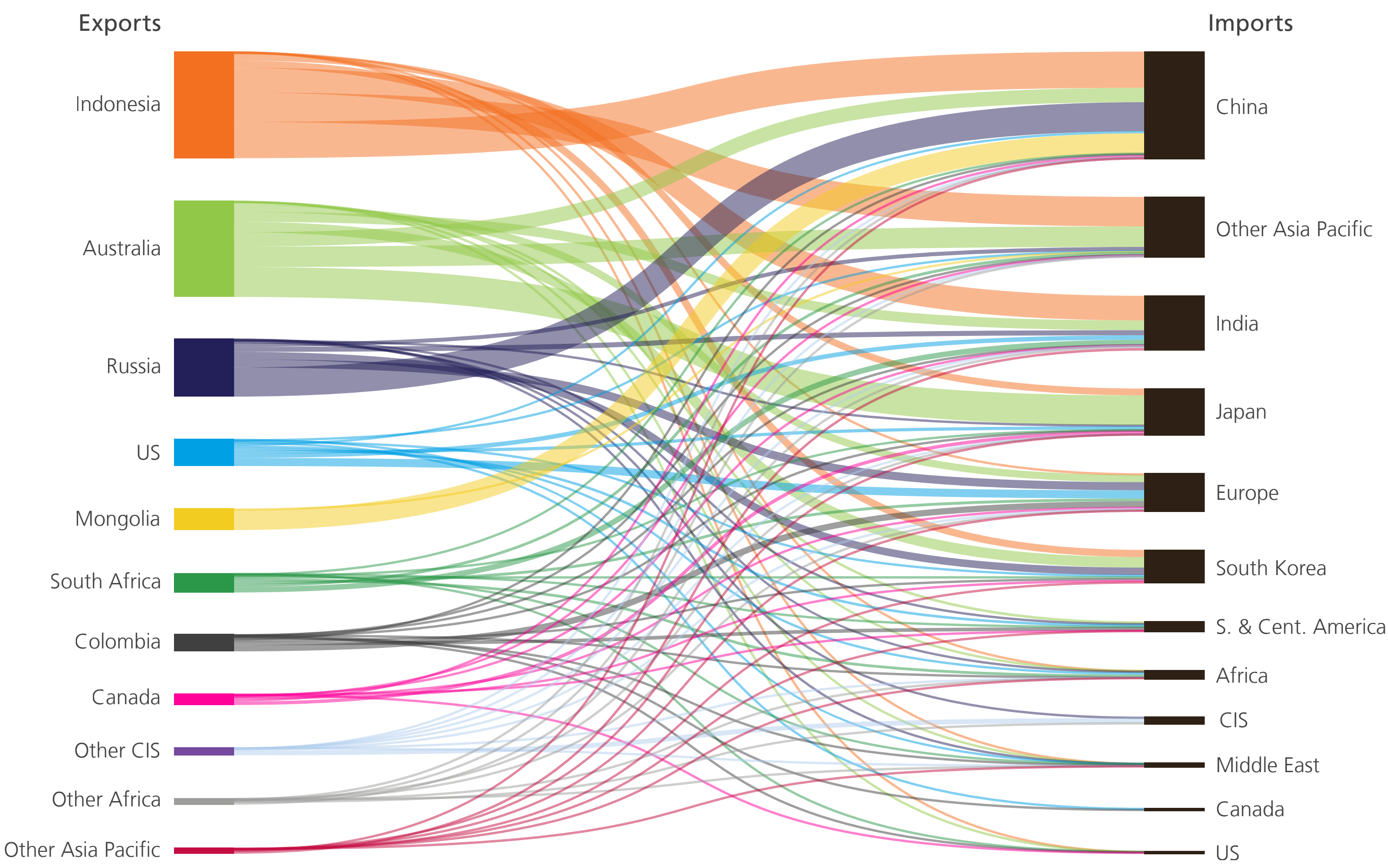
* Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels. Includes coal produced for Coal-to-Liquids and Coal-to-Gas transformations.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using million tonnes figures.

Coal Production*

Exajoules	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	1.53	1.51	1.36	1.37	1.33	1.22	1.20	1.15	1.21	1.19	**1.24**	4.1%	-2.0%	0.7%
Mexico	0.30	0.30	0.29	0.25	0.31	0.28	0.23	0.19	0.14	0.14	**0.14**	0.1%	-7.5%	0.1%
US	20.05	20.33	17.99	14.70	15.66	15.40	14.29	10.73	11.62	12.07	**11.84**	-1.9%	-5.1%	6.6%
Total North America	21.87	22.15	19.64	16.33	17.30	16.90	15.72	12.07	12.97	13.40	13.21	-1.4%	-4.9%	7.4%
Brazil	0.15	0.15	0.12	0.11	0.09	0.10	0.09	0.10	0.12	0.11	**0.10**	-11.1%	-4.4%	0.1%
Colombia	2.48	2.57	2.49	2.62	2.63	2.50	2.47	1.57	1.70	1.67	**1.57**	-5.9%	-4.4%	0.9%
Venezuela	0.04	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	**0.02**	–	-6.8%	†
Other S. & Cent. America	0.07	0.12	0.10	0.08	0.05	0.05	0.03	0.01	0.01	0.01	**0.01**	12.3%	-20.0%	†
Total S. & Cent. America	2.74	2.87	2.73	2.84	2.80	2.67	2.61	1.69	1.83	1.80	1.69	-6.1%	-4.7%	0.9%
Bulgaria	0.20	0.21	0.25	0.21	0.24	0.21	0.20	0.16	0.20	0.25	**0.15**	-40.9%	-3.1%	0.1%
Czech Republic	0.74	0.71	0.71	0.67	0.64	0.62	0.56	0.43	0.44	0.48	**0.40**	-15.2%	-5.9%	0.2%
Germany	1.89	1.85	1.79	1.66	1.65	1.58	1.19	0.98	1.15	1.19	**0.92**	-23.2%	-7.0%	0.5%
Greece	0.28	0.27	0.24	0.17	0.19	0.18	0.13	0.07	0.06	0.07	**0.05**	-23.6%	-15.4%	†
Hungary	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.03	0.03	**0.03**	-17.4%	-8.7%	†
Poland	2.39	2.26	2.22	2.18	2.08	1.98	1.87	1.68	1.76	1.71	**1.48**	-13.2%	-4.6%	0.8%
Romania	0.19	0.19	0.20	0.18	0.19	0.17	0.16	0.11	0.13	0.12	**0.09**	-18.8%	-7.0%	0.1%
Serbia	0.32	0.24	0.30	0.30	0.30	0.28	0.29	0.30	0.26	0.25	**0.23**	-9.1%	-3.4%	0.1%
Spain	0.07	0.07	0.05	0.03	0.05	0.04	^	^	^	^	**^**	–	-32.7%	†
Türkiye	0.65	0.68	0.54	0.65	0.63	0.69	0.73	0.66	0.75	0.83	**0.58**	-29.7%	-1.0%	0.3%
Ukraine	1.60	1.09	0.72	0.76	0.57	0.61	0.60	0.53	0.57	0.53	**0.51**	-3.3%	-10.8%	0.3%
United Kingdom	0.32	0.29	0.21	0.11	0.08	0.08	0.07	0.05	0.03	0.02	**0.01**	-22.3%	-26.8%	†
Other Europe	0.72	0.64	0.59	0.59	0.60	0.60	0.52	0.46	0.44	0.45	**0.42**	-8.3%	-5.2%	0.2%
Total Europe	9.45	8.57	7.88	7.58	7.28	7.08	6.36	5.47	5.82	5.92	4.88	-17.7%	-6.4%	2.7%
Kazakhstan	2.15	2.09	1.66	1.75	1.92	1.98	1.88	1.86	1.92	1.95	**1.92**	-1.2%	-1.1%	1.1%
Russian Federation	7.25	7.39	7.80	8.12	8.62	9.23	9.23	8.42	9.25	9.35	**9.21**	-1.5%	2.5%	5.1%
Uzbekistan	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.06	0.06	**0.07**	15.5%	4.3%	†
Other CIS	0.06	0.06	0.07	0.07	0.09	0.12	0.12	0.11	0.11	0.14	**0.13**	-3.6%	8.8%	0.1%
Total CIS	9.51	9.60	9.57	10.00	10.68	11.37	11.28	10.43	11.34	11.50	11.34	-1.4%	1.8%	6.3%
Total Middle East	0.03	0.03	0.03	0.04	0.04	0.05	0.04	0.04	0.04	0.06	0.09	37.4%	11.2%	†
South Africa	6.08	6.20	5.96	6.01	5.97	6.01	6.02	5.88	5.53	5.44	**5.41**	-0.6%	-1.1%	3.0%
Zimbabwe	0.08	0.16	0.12	0.07	0.08	0.09	0.07	0.07	0.09	0.11	**0.13**	26.6%	4.9%	0.1%
Other Africa	0.21	0.24	0.25	0.24	0.43	0.53	0.39	0.34	0.45	0.60	**0.61**	1.6%	11.0%	0.3%
Total Africa	6.38	6.59	6.33	6.32	6.49	6.63	6.48	6.29	6.06	6.15	6.15	0.1%	-0.3%	3.4%
Australia	11.97	12.81	12.80	12.83	12.50	13.10	13.18	12.09	11.75	11.24	**11.66**	3.8%	-0.2%	6.5%
China	79.32	78.05	76.59	70.82	73.17	76.87	79.76	80.51	83.44	91.32	**93.10**	2.0%	1.6%	51.9%
India	10.71	11.28	11.77	11.89	11.99	12.80	12.60	12.59	13.38	15.05	**16.75**	11.3%	4.6%	9.3%
Indonesia	10.44	10.15	10.19	9.87	9.69	11.44	12.84	11.78	12.68	13.95	**15.73**	12.8%	4.2%	8.8%
Japan	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	**0.02**	-5.0%	-5.8%	†
Mongolia	0.64	0.47	0.46	0.67	0.94	1.04	1.09	0.82	0.62	0.75	**1.59**	111.6%	9.6%	0.9%
New Zealand	0.12	0.10	0.09	0.07	0.07	0.08	0.07	0.07	0.07	0.07	**0.07**	-0.3%	-5.9%	†
Pakistan	0.06	0.06	0.06	0.08	0.08	0.08	0.13	0.18	0.19	0.19	**0.32**	71.0%	19.1%	0.2%
South Korea	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	**0.01**	-21.1%	-9.4%	†
Thailand	0.20	0.19	0.16	0.18	0.17	0.16	0.15	0.14	0.15	0.14	**0.13**	-6.1%	-3.8%	0.1%
Vietnam	0.96	0.96	0.98	0.91	0.90	0.99	1.09	1.05	1.13	1.17	**1.13**	-3.4%	1.6%	0.6%
Other Asia Pacific	1.08	1.09	1.13	1.40	1.33	1.22	1.38	1.30	1.21	1.35	**1.37**	1.1%	2.5%	0.8%
Total Asia Pacific	115.55	115.25	114.27	108.78	110.91	117.83	122.33	120.55	124.66	135.26	141.88	4.9%	2.1%	79.2%
Total World	**165.52**	**165.06**	**160.45**	**151.88**	**155.49**	**162.52**	**164.82**	**156.54**	**162.73**	**174.09**	**179.24**	**3.0%**	**0.8%**	**100.0%**
of which: OECD	43.40	44.41	41.32	37.85	38.33	38.21	36.37	29.95	30.95	30.93	**30.21**	-2.3%	-3.5%	16.9%
Non-OECD	122.12	120.65	119.13	114.03	117.16	124.31	128.45	126.59	131.78	143.16	**149.04**	4.1%	2.0%	83.1%
European Union	6.22	5.97	5.82	5.47	5.42	5.16	4.42	3.67	3.96	4.04	**3.31**	-18.2%	-6.1%	1.8%

* Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels. Includes coal produced for Coal-to-Liquids and Coal-to-Gas transformations.
^ Less than 0.005.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using exajoules figures.

Coal Trade movements



Notes: Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels. Intra-area movements (for example, between countries in Europe) are excluded.

Overall, international coal trade increased by almost 10% in 2023 reaching its highest level since 2018. Indonesia, Australia, and Russia were jointly responsible for around 70% of total global exports with Indonesia alone accounting for around 40% of that (over a quarter of total global exports). China was by far the largest importer of coal at around 10 EJ, almost double that of India, the second-highest ranked country. Russian exports increased by 1.5% with China accounting for just over half of its overseas markets. Overall, the Asia Pacific region accounted for 82% of global coal imports. Europe's imports fell to their lowest level since 2000.

Coal Inter-area movements 2023

From	To													
Exajoules	Canada	Mexico	US	S. & Cent. America	Europe	CIS	Middle East	Africa	China	India	Japan	South Korea	Other Asia Pacific	**Total**
Canada	–	†	0.02	0.02	0.09	–	†	†	0.22	0.05	0.32	0.20	0.06	**0.99**
US	0.15	0.01	–	0.25	0.76	†	0.01	0.19	0.18	0.42	0.30	0.13	0.07	**2.47**
Colombia	0.04	0.06	0.07	0.34	0.59	–	0.11	0.02	0.12	0.01	0.04	0.15	0.03	**1.59**
Europe	†	†	0.01	0.01	–	†	0.01	0.08	0.01	0.10	†	†	0.01	**0.23**
Russia	–	–	–	0.04	0.77	0.04	0.01	0.13	2.75	0.48	0.09	0.71	0.38	**5.39**
Other CIS	–	–	†	–	0.16	0.46	0.01	0.01	0.01	†	†	†	0.01	**0.65**
South Africa	†	–	†	0.02	0.27	–	0.07	0.26	0.05	0.52	0.09	0.18	0.28	**1.74**
Other Africa	–	–	†	–	0.04	–	0.03	0.10	0.02	0.21	†	0.05	0.08	**0.53**
Australia	†	†	†	0.25	0.68	–	0.01	0.02	1.36	0.92	2.83	0.99	1.94	**9.00**
China	†	0.01	†	0.02	0.03	†	0.01	0.01	–	0.02	0.03	0.01	0.16	**0.31**
Indonesia	†	–	†	†	0.10	–	†	†	3.43	2.33	0.65	0.68	2.79	**10.00**
Mongolia	–	–	–	–	†	†	–	–	1.92	–	–	†	0.04	**1.96**
Other Asia Pacific	†	†	†	0.01	0.03	†	†	†	0.08	0.23	0.02	0.08	–	**0.46**
Rest of World	†	†	†	0.01	0.02	†	†	†	0.01	0.05	†	0.01	0.01	**0.13**
Total imports	**0.19**	**0.08**	**0.11**	**0.96**	**3.56**	**0.50**	**0.27**	**0.82**	**10.16**	**5.35**	**4.39**	**3.19**	**5.86**	**35.43**

Note: Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels. Intra-area movements (for example, between countries in Europe) are excluded.
† Less than 0.05%.

Exajoules	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Imports														
Canada	0.22	0.26	0.22	0.19	0.22	0.23	0.21	0.17	0.19	0.18	**0.19**	6.7%	-1.3%	0.5%
Mexico	0.20	0.22	0.23	0.21	0.32	0.32	0.25	0.13	0.05	0.05	**0.08**	72.5%	-8.4%	0.2%
US	0.24	0.28	0.28	0.25	0.19	0.15	0.17	0.65	0.14	0.16	**0.11**	-34.8%	-7.6%	0.3%
S. & Cent. America	1.08	1.08	1.03	1.08	1.20	1.18	1.12	1.04	1.25	1.05	**0.96**	-8.3%	-1.1%	2.7%
Europe	5.84	6.08	6.02	5.38	5.83	6.34	5.08	3.93	4.44	4.94	**3.56**	-27.9%	-4.8%	10.0%
CIS	0.58	0.59	0.58	0.52	0.60	0.65	0.70	0.66	0.64	0.49	**0.50**	1.3%	-1.6%	1.4%
Middle East	0.44	0.49	0.39	0.34	0.36	0.37	0.34	0.38	0.34	0.24	**0.27**	9.4%	-4.9%	0.8%
Africa	0.82	0.37	0.46	0.50	0.63	0.82	0.92	0.52	0.68	0.73	**0.82**	11.7%	†	2.3%
China	7.62	6.62	4.69	5.65	5.87	6.00	6.40	6.61	6.68	5.83	**10.16**	74.3%	2.9%	28.7%
India	3.66	4.65	4.92	10.11	5.25	5.68	4.70	4.74	4.67	4.99	**5.35**	7.3%	3.9%	15.1%
Japan	5.06	5.00	5.05	5.01	5.06	5.00	4.90	4.56	4.84	4.82	**4.39**	-9.0%	-1.4%	12.4%
South Korea	3.32	3.43	3.54	3.53	3.89	3.90	3.73	3.28	3.35	3.36	**3.19**	-4.9%	-0.4%	9.0%
Other Asia Pacific	3.49	3.58	3.79	4.47	4.90	5.34	5.22	6.36	6.22	5.53	**5.86**	6.0%	5.3%	16.5%
Total World	**32.57**	**32.66**	**31.19**	**37.25**	**34.32**	**35.99**	**33.72**	**33.03**	**33.51**	**32.37**	**35.43**	**9.5%**	**0.8%**	**100.0%**
Exports														
Canada	1.12	1.03	0.85	0.78	0.95	1.03	1.02	0.95	0.96	0.97	**0.99**	1.5%	-1.3%	2.8%
US	2.88	2.37	1.90	1.53	2.41	2.89	2.21	1.74	2.18	2.23	**2.47**	10.6%	-1.5%	7.0%
Colombia	2.05	2.27	2.19	2.33	2.48	2.42	2.09	1.82	1.67	1.59	**1.59**	†	-2.5%	4.5%
Europe	0.68	0.13	0.10	0.13	0.19	0.25	0.24	0.21	0.22	0.15	**0.23**	49.4%	-10.4%	0.6%
Russian Federation	3.54	3.91	4.10	4.45	5.09	5.76	5.79	5.66	6.03	5.31	**5.39**	1.4%	4.3%	15.2%
Other CIS	0.53	0.54	0.53	0.48	0.50	0.49	0.55	0.63	0.65	0.72	**0.65**	-8.9%	2.1%	1.8%
South Africa	2.11	2.19	2.27	2.14	2.68	2.95	1.41	1.73	1.62	1.72	**1.74**	1.0%	-1.9%	4.9%
Other Africa	0.11	0.18	0.28	5.68	0.66	0.24	0.28	0.74	0.37	0.47	**0.53**	12.5%	16.5%	1.5%
Australia	9.16	9.89	9.91	9.84	9.63	9.71	9.60	9.33	9.60	8.21	**9.00**	9.6%	-0.2%	25.4%
China	0.28	0.37	0.45	0.50	0.40	0.41	0.31	0.18	0.28	0.31	**0.31**	-0.2%	1.1%	0.9%
Indonesia	8.51	8.35	7.41	7.69	8.01	8.49	8.49	8.79	8.98	9.19	**10.00**	8.8%	1.6%	28.2%
Mongolia	0.49	0.53	0.41	0.73	0.95	0.99	1.04	0.83	0.49	0.90	**1.96**	116.8%	14.8%	5.5%
Other Asia Pacific	0.96	0.80	0.67	0.79	0.32	0.29	0.60	0.34	0.36	0.44	**0.46**	5.5%	-7.1%	1.3%
Rest of World	0.15	0.09	0.13	0.17	0.06	0.08	0.09	0.08	0.08	0.14	**0.13**	-13.0%	-1.6%	0.4%
Total World	**32.57**	**32.66**	**31.19**	**37.25**	**34.32**	**35.99**	**33.72**	**33.03**	**33.51**	**32.37**	**35.43**	**9.5%**	**0.8%**	**100.0%**

† Less than 0.05.
Note: Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels.
Intra-area movements (for example between countries in Europe) are excluded.

Mined energy resource prices

	Coal $/te								Uranium $/lb
	United States[1]	Colombia[2]	Northwest Europe[3]	South Africa[4]	Indonesia[5]	South China[6]	Japan[7]	Australia[8]	Canada[9]
1987	–	–	31.30		–	–	–	–	–
1988	–	–	39.94		–	–	–	–	–
1989	–	–	42.08		–	–	–	–	–
1990	31.59	–	43.48		–	–	–	–	–
1991	29.01	–	42.80		–	–	–	–	–
1992	28.53	–	38.53		–	–	–	–	–
1993	29.85	–	33.68		–	–	–	–	–
1994	31.72	–	37.18		–	–	–	–	–
1995	27.01	–	44.50		–	–	–	–	–
1996	29.86	–	41.25		–	–	–	–	–
1997	29.76	–	38.92		–	–	–	–	–
1998	31.00	–	32.00		–	–	–	–	–
1999	31.29	–	28.79		–	–	–	–	–
2000	29.90	–	35.99		–	27.52	–	–	–
2001	50.15	–	39.03		–	31.78	37.69	–	–
2002	33.20	–	31.65		–	33.19	31.47	–	–
2003	38.52	–	43.60		–	31.74	39.61	–	–
2004	64.90	–	72.13		–	42.76	74.22	–	–
2005	70.12	–	60.54		–	51.34	64.62	–	–
2006	57.82	–	64.11		–	53.53	65.22	–	–
2007	49.73	–	88.79		–	61.23	95.59	–	–
2008	117.42	–	147.67		–	104.97	157.88	–	–
2009	60.73	–	70.39		–	87.86	83.59	–	–
2010	67.87	59.21	92.50		–	110.08	108.47	–	–
2011	84.75	79.73	121.48		–	127.27	126.13	–	–
2012	67.28	65.02	92.50		–	111.89	100.30	–	–
2013	69.72	54.18	81.69		–	95.42	90.07	–	–
2014	67.08	50.25	75.38	62.80	–	84.12	76.13	–	–
2015	51.57	47.31	56.79	47.48	–	67.53	60.10	–	–
2016	51.45	52.62	60.09	53.04	–	71.35	71.66	–	–
2017	63.83	68.75	84.51	71.59	–	94.72	96.02	–	–
2018	72.84	72.76	91.83	78.03	–	99.45	112.73	71.13	–
2019	57.16	51.26	60.17	55.67	50.53	35.20	73.57	54.24	–
2020	42.77	45.16	50.13	48.30	45.22	30.64	61.03	44.75	30.46
2021	68.54	100.39	122.60	96.49	95.22	124.70	114.59	83.26	35.16
2022	157.57	248.37	291.28	212.99	127.65	177.78	214.57	174.49	49.78
2023	**73.59**	**99.87**	**129.54**	**99.66**	**84.61**	**120.65**	**130.25**	**103.59**	**60.37**

[1]**Source:** S&P Global Commodity Insights, ©2024 by S&P Global Inc. Prices are for CAPP 12,500 Btu, 1.2 SO2 coal, fob. Prices for 1996-2000 are by coal price publication date, 2001-2005 by coal price assessment date. From 2006, average daily OTC.
[2]**Source:** S&P Global Commodity Insights, ©2024 by S&P Global Inc 6,000 kcal/kg NAR FOB.
[3]**Source:** IHS Northwest Europe prices for 1990-2000 average monthly marker prices, 2001-2018 average weekly prices. From 2019, monthly average of S&P Global Commodity Insights, ©2024 by S&P Global Inc Thermal Coal CIF ARA 6,000 kcal/kg NAR.
[4]**Source:** S&P Global Commodity Insights, ©2024 by S&P Global Inc FOB Richards Bay 5500 kcal/kg NAR 7-45 Day $/mt.
[5]**Source:** S&P Global Commodity Insights, ©2024 by S&P Global Inc FOB Kalimantan 5,000 kcal/kg GAR.
[6]South China prices are the average monthly price for 2000-2005, weekly prices 2006 -2018, from 2019 monthly average of S&P Global Commodity Insights, ©2024 by S&P Global Inc CFR South China 5,500 kilocalories per kilogram NAR.
[7]**Source:** 2001-2018 IHS Japan prices basis = 6,000 kilocalories per kilogram NAR CIF. From 2019, monthly average of S&P Global Commodity Insights, ©2024 by S&P Global Inc NEAT 5,750 kcal/kg NAR.
[8]**Source:** S&P Global Commodity Insights, ©2024 by S&P Global Inc FOB Newcastle High Ash 5500 kcal/kg NAR 7-45 Day $/mt.
[9] S&P Global Commodity Insights, ©2024 by S&P Global Inc Uranium U3O8 Spot Canada Mo01 $/lb.
Note: CAPP = Central Appalachian, CIF = cost+insurance+freight (average prices); FOB = free on board, NAR = net as received, CFR = cost+freight.

Coal Consumption*

Exajoules	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	0.86	0.82	0.77	0.77	0.80	0.65	0.61	0.53	0.47	0.39	**0.37**	-3.7%	-8.1%	0.2%
Mexico	0.53	0.53	0.53	0.52	0.64	0.57	0.54	0.24	0.20	0.24	**0.26**	8.1%	-6.8%	0.2%
US	18.08	18.04	15.58	14.26	13.87	13.28	11.34	9.20	10.57	9.91	**8.20**	-17.3%	-7.6%	5.0%
Total North America	19.48	19.39	16.89	15.55	15.30	14.50	12.49	9.97	11.24	10.54	**8.83**	-16.2%	-7.6%	5.4%
Argentina	0.05	0.06	0.06	0.04	0.05	0.05	0.03	0.04	0.05	0.05	**0.05**	-14.1%	-1.5%	†
Brazil	0.69	0.73	0.74	0.67	0.70	0.69	0.65	0.59	0.71	0.59	**0.57**	-2.2%	-1.8%	0.3%
Chile	0.32	0.32	0.31	0.31	0.32	0.31	0.31	0.26	0.29	0.24	**0.18**	-26.4%	-5.7%	0.1%
Colombia	0.21	0.22	0.21	0.23	0.17	0.16	0.19	0.17	0.11	0.10	**0.16**	52.9%	-3.0%	0.1%
Ecuador	^	^	^	^	^	^	^	^	^	^	**^**	-13.9%	16.8%	†
Peru	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.02	0.03	0.03	**0.03**	-3.4%	-2.2%	†
Venezuela	0.01	0.01	0.01	0.01	0.01	^	^	^	^	0.01	**0.01**	–	-2.6%	†
Central America	0.04	0.04	0.05	0.06	0.04	0.06	0.07	0.06	0.07	0.05	**0.05**	15.1%	3.3%	†
Other Caribbean	0.08	0.08	0.08	0.08	0.07	0.07	0.10	0.12	0.11	0.12	**0.12**	1.7%	4.6%	0.1%
Other South America	^	^	^	^	^	^	^	^	^	^	**^**	11.4%	6.2%	†
Total S. & Cent. America	1.43	1.50	1.48	1.43	1.40	1.38	1.39	1.27	1.38	1.19	**1.16**	-1.8%	-2.0%	0.7%
Austria	0.14	0.13	0.14	0.13	0.13	0.12	0.12	0.10	0.11	0.10	**0.10**	-6.6%	-3.5%	0.1%
Belgium	0.15	0.14	0.14	0.13	0.13	0.13	0.13	0.10	0.11	0.12	**0.10**	-14.9%	-3.9%	0.1%
Bulgaria	0.25	0.27	0.27	0.24	0.26	0.23	0.21	0.17	0.22	0.26	**0.16**	-38.7%	-4.3%	0.1%
Croatia	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	**0.01**	-17.4%	-6.7%	†
Cyprus	^	^	^	^	^	^	^	^	^	^	**^**	-9.0%	60.9%	†
Czech Republic	0.71	0.69	0.68	0.69	0.67	0.67	0.60	0.52	0.54	0.56	**0.47**	-15.3%	-4.0%	0.3%
Denmark	0.14	0.11	0.08	0.09	0.07	0.07	0.04	0.03	0.04	0.04	**0.03**	-33.6%	-14.2%	†
Estonia	0.17	0.17	0.15	0.16	0.18	0.18	0.13	0.10	0.11	0.12	**0.10**	-19.7%	-5.5%	0.1%
Finland	0.21	0.19	0.16	0.18	0.17	0.18	0.15	0.11	0.12	0.12	**0.09**	-26.1%	-8.2%	0.1%
France	0.53	0.39	0.37	0.36	0.39	0.36	0.29	0.20	0.27	0.23	**0.18**	-23.3%	-10.3%	0.1%
Germany	3.47	3.33	3.29	3.20	3.01	2.90	2.25	1.85	2.24	2.31	**1.83**	-21.0%	-6.2%	1.1%
Greece	0.29	0.28	0.24	0.18	0.20	0.20	0.13	0.08	0.07	0.07	**0.05**	-28.3%	-16.6%	†
Hungary	0.10	0.09	0.10	0.09	0.09	0.09	0.08	0.07	0.06	0.05	**0.04**	-30.2%	-9.2%	†
Iceland	^	^	^	^	^	^	^	^	^	^	**^**	-28.1%	-2.7%	†
Ireland	0.09	0.08	0.09	0.09	0.08	0.06	0.04	0.04	0.05	0.04	**0.03**	-31.7%	-10.8%	†
Italy	0.57	0.55	0.52	0.46	0.40	0.37	0.28	0.21	0.23	0.31	**0.22**	-30.3%	-9.1%	0.1%
Latvia	^	^	^	^	^	^	^	^	^	^	**^**	-45.4%	-20.1%	†
Lithuania	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	**^**	-38.7%	-8.3%	†
Luxembourg	^	^	^	^	^	^	^	^	^	^	**^**	-18.5%	-3.5%	†
Netherlands	0.34	0.38	0.46	0.43	0.39	0.35	0.27	0.17	0.23	0.23	**0.16**	-31.6%	-7.4%	0.1%
North Macedonia	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.04	**0.04**	5.5%	-2.7%	†
Norway	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	**0.03**	2.7%	0.7%	†
Poland	2.23	2.07	2.04	2.07	2.08	2.09	1.86	1.72	1.90	1.78	**1.51**	-15.6%	-3.8%	0.9%
Portugal	0.11	0.11	0.14	0.12	0.14	0.11	0.05	0.02	0.01	^	**^**	-28.6%	-46.6%	†
Romania	0.25	0.24	0.25	0.22	0.23	0.21	0.21	0.15	0.17	0.15	**0.11**	-24.5%	-7.4%	0.1%
Slovakia	0.14	0.14	0.14	0.13	0.14	0.14	0.11	0.10	0.12	0.10	**0.10**	-4.5%	-3.9%	0.1%
Slovenia	0.06	0.04	0.04	0.05	0.05	0.05	0.04	0.04	0.04	0.03	**0.03**	-8.5%	-6.4%	†
Spain	0.48	0.49	0.57	0.44	0.56	0.48	0.21	0.12	0.13	0.16	**0.12**	-24.2%	-13.0%	0.1%
Sweden	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	**0.07**	-1.8%	-2.9%	†
Switzerland	0.01	0.01	0.01	^	^	^	^	^	^	^	**^**	–	-3.6%	†
Türkiye	1.32	1.51	1.45	1.61	1.65	1.71	1.76	1.70	1.74	1.76	**1.65**	-6.3%	2.3%	1.0%
Ukraine	1.73	1.49	1.14	1.36	1.08	1.17	1.09	0.96	0.95	0.54	**0.49**	-10.5%	-11.9%	0.3%
United Kingdom	1.57	1.26	1.00	0.51	0.41	0.35	0.25	0.23	0.23	0.21	**0.18**	-12.6%	-19.3%	0.1%
Other Europe	0.61	0.50	0.58	0.60	0.59	0.59	0.57	0.59	0.56	0.54	**0.51**	-5.6%	-1.7%	0.3%
Total Europe	15.86	14.88	14.24	13.74	13.29	12.98	11.06	9.57	10.44	10.02	**8.39**	-16.2%	-6.1%	5.1%
Azerbaijan	^	^	^	^	^	^	^	^	^	^	**^**	–	-32.3%	†
Belarus	0.04	0.03	0.03	0.03	0.04	0.05	0.06	0.04	0.04	0.04	**0.04**	3.5%	1.5%	†
Kazakhstan	1.57	1.55	1.14	1.34	1.47	1.52	1.44	1.37	1.40	1.41	**1.39**	-1.7%	-1.2%	0.8%
Russian Federation	3.79	3.67	3.86	3.74	3.51	3.63	3.57	3.29	3.43	3.84	**3.83**	-0.2%	0.1%	2.3%
Uzbekistan	0.07	0.07	0.05	0.06	0.06	0.09	0.08	0.10	0.09	0.11	**0.14**	28.0%	6.7%	0.1%
Other CIS	0.06	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.09	**0.09**	1.5%	4.5%	0.1%
Total CIS	5.52	5.39	5.17	5.25	5.16	5.38	5.23	4.88	5.05	5.49	**5.49**	†	†	3.3%
Iran	0.03	0.04	0.05	0.04	0.04	0.06	0.07	0.08	0.08	0.08	**0.08**	1.8%	9.5%	†
Israel	0.30	0.28	0.27	0.23	0.21	0.20	0.21	0.18	0.16	0.16	**0.14**	-13.5%	-7.3%	0.1%
Kuwait	0.01	0.01	0.01	0.01	0.01	0.01	0.01	^	^	0.01	**0.01**	–	-7.0%	†
Oman	^	^	^	^	^	^	^	^	^	0.01	**0.01**	–	10.5%	†
Qatar	^	^	^	^	^	^	^	^	^	^	**^**	14.1%	5.7%	†
Saudi Arabia	^	0.01	^	^	^	^	^	^	^	^	**^**	–	0.9%	†
United Arab Emirates	0.07	0.08	0.07	0.08	0.09	0.08	0.07	0.09	0.11	0.10	**0.10**	1.8%	3.3%	0.1%
Other Middle East	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.03	**0.04**	76.5%	7.9%	†
Total Middle East	0.44	0.44	0.42	0.38	0.38	0.37	0.38	0.37	0.38	0.38	**0.38**	0.2%	-1.5%	0.2%
Algeria	0.01	0.01	0.01	^	0.01	0.02	0.02	0.01	0.01	0.01	**0.01**	-11.1%	0.5%	†
Egypt	0.02	0.02	0.03	0.05	0.05	0.09	0.08	0.03	0.05	0.04	**0.05**	13.7%	12.0%	†
Morocco	0.13	0.17	0.19	0.18	0.19	0.22	0.28	0.29	0.31	0.31	**0.29**	-6.2%	8.8%	0.2%
South Africa	3.70	3.75	3.52	3.78	3.72	3.53	3.76	3.68	3.59	3.38	**3.33**	-1.6%	-1.0%	2.0%
Eastern Africa	0.16	0.24	0.21	0.16	0.20	0.22	0.18	0.18	0.20	0.22	**0.24**	11.6%	4.4%	0.1%
Middle Africa	^	^	^	^	0.01	0.01	0.01	0.01	0.01	0.02	**0.02**	33.9%	33.4%	†
Western Africa	0.02	0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.07	0.07	**0.07**	-5.6%	13.9%	†
Other Northern Africa	-	-	-	-	-	^	^	^	^	^	**^**	–	–	†
Other Southern Africa	0.05	0.06	0.06	0.06	0.07	0.07	0.06	0.05	0.07	0.07	**0.08**	1.2%	4.4%	†
Total Africa	4.08	4.27	4.04	4.29	4.29	4.21	4.45	4.30	4.31	4.12	**4.08**	-1.0%	†	2.5%
Australia	1.89	1.88	1.95	1.94	1.88	1.83	1.75	1.69	1.63	1.54	**1.51**	-2.3%	-2.2%	0.9%
Bangladesh	0.05	0.03	0.11	0.08	0.09	0.10	0.17	0.19	0.15	0.20	**0.28**	41.3%	18.2%	0.2%
China	82.45	82.10	80.38	78.03	78.90	80.47	82.52	84.25	87.54	87.83	**91.94**	4.7%	1.1%	56.0%
China Hong Kong SAR	0.33	0.34	0.28	0.28	0.26	0.27	0.26	0.14	0.15	0.15	**0.15**	-2.3%	-7.6%	0.1%
India	14.44	15.84	16.17	16.52	17.05	17.93	17.96	16.97	19.27	20.03	**21.98**	9.8%	4.3%	13.4%
Indonesia	1.59	1.69	1.92	1.96	2.04	2.36	2.88	2.76	2.75	4.38	**4.32**	-1.4%	10.6%	2.6%
Japan	5.07	4.99	5.03	5.02	5.10	4.99	4.91	4.57	4.93	4.92	**4.54**	-7.7%	-1.1%	2.8%
Malaysia	0.63	0.64	0.73	0.78	0.87	0.93	0.88	1.04	0.96	0.95	**0.98**	3.8%	4.6%	0.6%
New Zealand	0.06	0.06	0.06	0.05	0.05	0.06	0.06	0.06	0.07	0.05	**0.04**	-10.6%	-4.4%	†
Pakistan	0.13	0.20	0.20	0.22	0.30	0.50	0.56	0.65	0.72	0.64	**0.62**	-4.0%	16.5%	0.4%
Philippines	0.42	0.45	0.49	0.55	0.65	0.68	0.73	0.73	0.79	0.80	**0.88**	10.4%	7.8%	0.5%
Singapore	0.01	0.02	0.02	0.02	0.04	0.02	0.02	0.02	0.02	0.02	**0.01**	-18.9%	2.5%	†
South Korea	3.41	3.53	3.58	3.41	3.61	3.63	3.44	3.02	3.04	2.87	**2.69**	-6.1%	-2.3%	1.6%
Sri Lanka	0.02	0.04	0.05	0.05	0.06	0.05	0.06	0.07	0.07	0.07	**0.06**	-10.2%	11.5%	†
Taiwan	1.68	1.70	1.65	1.67	1.70	1.70	1.67	1.56	1.68	1.58	**1.49**	-5.8%	-1.2%	0.9%
Thailand	0.68	0.75	0.73	0.75	0.75	0.80	0.71	0.76	0.78	0.71	**0.60**	-15.0%	-1.1%	0.4%
Vietnam	0.72	0.87	1.10	1.19	1.19	1.58	2.09	2.20	2.09	1.90	**2.32**	22.2%	12.5%	1.4%
Other Asia Pacific	0.55	0.62	0.57	0.67	1.15	1.13	1.26	1.23	1.13	1.17	**1.27**	8.8%	8.8%	0.8%
Total Asia Pacific	114.14	115.74	115.00	113.21	115.67	119.05	121.94	121.91	127.75	129.80	**135.70**	4.5%	1.8%	82.7%
Total World	160.95	161.62	157.25	153.85	155.50	157.87	156.95	152.27	160.56	161.53	**164.03**	1.6%	0.2%	100.0%
of which: OECD	43.69	42.97	40.22	38.01	37.73	36.40	32.28	27.58	29.96	28.88	**25.15**	-12.9%	-5.3%	15.3%
Non-OECD	117.26	118.64	117.03	115.85	117.77	121.47	124.67	124.69	130.60	132.65	**138.88**	4.7%	1.7%	84.7%
European Union	10.54	10.02	9.99	9.59	9.47	9.08	7.31	6.03	6.89	6.89	**5.48**	-20.4%	-6.3%	3.3%

* Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels.
Excludes coal converted to liquid or gaseous fuels, but includes coal consumed in transformation processes.
^ Less than 0.005.
† Less than 0.05%.

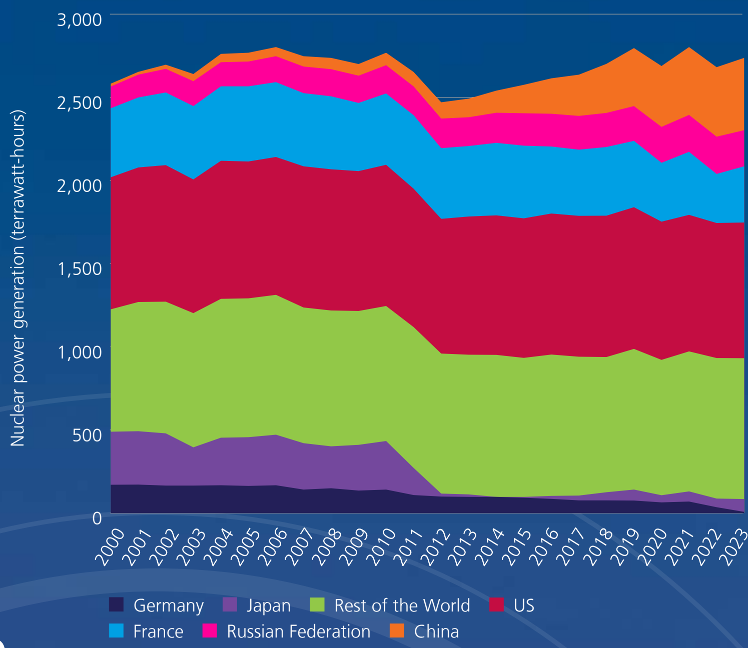
Notes: Differences between these consumption figures and the world production statistics are accounted for by stock changes, and unavoidable disparities in the definition, measurement or conversion of coal supply and demand data. Annual changes and share of total are calculated using exajoules figures.

Nuclear energy

Despite a small drop in total installed capacity, electricity generation from nuclear power plant increased in 2023 by 2%. However, it was still 58 terawatt-hours below its 2019 pre-COVID level and 2% below its peak output in 2006. Output from nuclear in Europe fell by 1% with the recovery of France's nuclear fleet from prolonged outages in 2022 offset by Germany's closure of its last three remaining units early in the year. China continues to lead the way in building new capacity. Since 2000 it has built around 60% of all new nuclear capacity additions.

In late 2023, commercial operations began at its onshore small modular reactor (SMR) demonstration project, a world first featuring the latest Generation IV technology and incorporating inherent safety systems. Following events in Fukushima in 2011, Japan has gradually returned units to service and, in 2023 output increased by 50%. Whilst output from nuclear in the US remained relatively flat, it was still equal to the combined outputs of China and France, operators of the second and third-largest fleets.

Before Fukshima in 2011, nuclear met 25% of Japan's electricity demand and 23% of Germany's. In 2023, it met only around 8% in Japan and just 2% in Germany



China commissioned the world's first onshore demonstration of a small modular reactor (SMR)

Nuclear energy Generation*

Terawatt-hours	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	102.7	106.5	101.1	100.7	100.6	100.0	100.5	97.5	92.0	86.6	**89.0**	2.8%	-1.4%	3.3%
Mexico	11.8	9.7	11.6	10.6	10.9	13.6	11.2	11.2	11.9	10.8	**12.4**	14.2%	0.5%	0.5%
US	830.5	839.1	839.1	848.1	847.3	849.6	852.0	831.5	820.7	812.1	**816.2**	0.5%	-0.2%	29.8%
Total North America	945.1	955.3	951.8	959.4	958.8	963.1	963.7	940.1	924.6	909.6	**917.6**	0.9%	-0.3%	33.5%
Argentina	6.2	5.5	7.0	8.3	6.1	6.9	8.4	10.0	10.2	7.5	**9.0**	20.0%	3.7%	0.3%
Brazil	15.4	15.4	14.7	15.9	15.7	15.7	16.1	14.1	14.7	14.6	**14.5**	-0.3%	-0.6%	0.5%
Chile	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Colombia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ecuador	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Central America	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Caribbean	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other South America	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total S. & Cent. America	21.7	20.9	21.8	24.1	21.8	22.5	24.6	24.1	24.9	22.0	**23.5**	6.6%	0.8%	0.9%
Austria	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Belgium	42.6	33.7	26.1	43.5	42.2	28.6	43.5	34.4	50.3	43.9	**32.9**	-25.0%	-2.6%	1.2%
Bulgaria	14.2	15.9	15.4	15.8	15.5	16.1	16.6	16.6	16.5	16.5	**16.2**	-1.7%	1.3%	0.6%
Croatia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Cyprus	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Czech Republic	30.7	30.3	26.8	24.1	28.3	29.9	30.2	30.0	30.7	31.0	**30.4**	-2.0%	-0.1%	1.1%
Denmark	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Estonia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Finland	23.6	23.6	23.2	23.2	22.5	22.8	23.9	23.3	23.6	25.3	**34.2**	35.2%	3.8%	1.3%
France	423.7	436.5	437.4	403.2	398.4	412.9	399.0	353.8	379.4	294.7	**338.2**	14.7%	-2.2%	12.4%
Germany	97.3	97.1	91.8	84.6	76.3	76.0	75.1	64.4	69.1	34.7	**7.2**	-79.2%	-22.9%	0.3%
Greece	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Hungary	15.4	15.6	15.8	16.1	16.1	15.7	16.3	16.1	16.0	15.8	**15.9**	0.7%	0.4%	0.6%
Iceland	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ireland	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Italy	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Latvia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Lithuania	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Luxembourg	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Netherlands	2.9	4.1	4.1	4.0	3.4	3.5	3.9	4.1	3.8	4.2	**4.0**	-4.1%	3.3%	0.1%
North Macedonia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Norway	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Poland	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Portugal	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Romania	11.6	11.7	11.6	11.3	11.5	11.4	11.3	11.5	11.3	11.1	**11.2**	0.9%	-0.4%	0.4%
Slovakia	15.7	15.5	15.1	14.8	15.1	14.8	15.3	15.4	15.7	15.9	**18.3**	15.2%	1.6%	0.7%
Slovenia	5.3	6.4	5.6	5.7	6.3	5.8	5.8	6.4	5.7	5.6	**5.6**	–	0.6%	0.2%
Spain	56.7	57.3	57.3	58.6	58.1	55.8	58.3	58.3	56.6	58.6	**56.8**	-3.0%	–	2.1%
Sweden	66.5	64.9	56.3	63.1	65.7	68.5	66.1	49.2	53.0	51.9	**48.4**	-6.8%	-3.1%	1.8%
Switzerland	26.2	27.8	23.3	21.3	20.5	24.4	25.3	23.0	18.5	23.1	**23.3**	1.0%	-1.1%	0.9%
Türkiye	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ukraine	83.2	88.4	87.6	81.0	85.6	84.4	83.0	76.2	86.2	62.1	**52.4**	-15.6%	-4.5%	1.9%
United Kingdom	70.6	63.7	70.3	71.7	70.3	65.1	56.2	50.3	45.9	47.7	**40.7**	-14.6%	-5.3%	1.5%
Other Europe	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Europe	986.2	992.4	968.0	941.9	935.9	935.8	929.7	833.0	882.3	742.2	**735.9**	-0.8%	-2.9%	26.9%
Azerbaijan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Belarus	–	–	–	–	–	–	–	0.3	5.8	4.7	**11.7**	150.5%	–	0.4%
Kazakhstan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Russian Federation	172.5	180.8	195.5	196.6	203.1	204.6	209.0	215.9	222.4	223.7	**217.4**	-2.8%	2.3%	7.9%
Turkmenistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Uzbekistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other CIS	2.4	2.5	2.8	2.4	2.6	2.1	2.2	2.8	2.0	2.8	**2.7**	-4.8%	1.4%	0.1%
Total CIS	174.9	183.2	198.3	199.0	205.8	206.7	211.2	219.0	230.2	231.2	**231.8**	0.3%	2.9%	8.5%
Iran	4.3	4.1	3.5	6.5	7.0	6.9	6.4	6.3	3.5	6.6	**6.6**	1.1%	4.5%	0.2%
Iraq	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Israel	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Kuwait	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Oman	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
United Arab Emirates	–	–	–	–	–	–	–	1.6	10.5	20.1	**32.3**	60.5%	–	1.2%
Other Middle East	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Middle East	4.3	4.1	3.5	6.5	7.0	6.9	6.4	8.0	14.1	26.7	**38.9**	45.9%	24.8%	1.4%
Algeria	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Egypt	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Morocco	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Africa	14.1	13.8	12.2	15.0	14.2	11.6	13.3	9.9	12.4	10.1	**8.9**	-11.9%	-4.5%	0.3%
Eastern Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Middle Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Western Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Northern Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Southern Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Africa	14.1	13.8	12.2	15.0	14.2	11.6	13.3	9.9	12.4	10.1	**8.9**	-11.9%	-4.5%	0.3%
Australia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Bangladesh	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
China	111.5	133.2	171.4	213.2	248.1	295.0	348.7	366.2	407.5	417.8	**434.7**	4.1%	14.6%	15.9%
China Hong Kong SAR	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
India	33.3	34.7	38.3	37.9	37.4	39.1	45.2	44.6	43.9	46.2	**48.2**	4.4%	3.8%	1.8%
Indonesia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Japan	14.6	-	4.5	17.7	29.1	49.1	65.6	43.0	61.2	51.8	**77.5**	49.6%	18.2%	2.8%
Malaysia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
New Zealand	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Pakistan	4.3	4.7	4.3	5.3	8.1	9.2	9.2	9.5	15.7	22.2	**22.4**	0.6%	18.0%	0.8%
Philippines	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Singapore	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Korea	138.8	156.4	164.8	162.0	148.4	133.5	145.9	160.2	158.0	176.1	**180.5**	2.5%	2.7%	6.6%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Taiwan	41.6	42.4	36.5	31.7	22.4	27.7	32.3	31.4	27.8	23.8	**17.8**	-25.1%	-8.1%	0.7%
Thailand	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Vietnam	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Asia Pacific	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Asia Pacific	344.1	371.4	419.7	467.7	493.6	553.6	646.9	655.0	714.1	737.8	**781.1**	5.9%	8.5%	28.5%
Total World	2490.3	2541.1	2575.3	2613.7	2637.0	2700.2	2795.8	2689.0	2802.5	2679.6	**2737.7**	2.2%	1.0%	100.0%
of which: OECD	1975.7	1988.3	1974.5	1973.0	1959.6	1969.7	1994.1	1872.0	1912.2	1790.0	**1831.7**	2.3%	-0.8%	66.9%
Non-OECD	514.6	552.9	600.9	640.7	677.4	730.5	801.6	817.0	890.4	889.6	**906.0**	1.8%	5.8%	49.5%
European Union	806.2	812.5	786.8	767.9	759.5	761.9	765.3	683.5	731.7	609.3	**619.4**	1.7%	-2.6%	68.4%

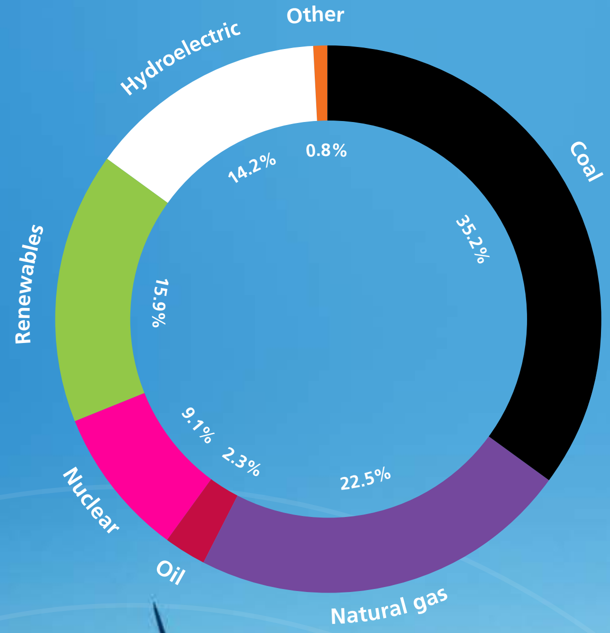
* Based on gross generation and not accounting for cross-border electricity supply.
Note: Annual changes and shares of total are calculated using terawatt-hours figures.

Electricity and renewables

Global electricity generation increased by 2.5% in 2023 to reach a record level of 29,925 TWh. Recording a growth rate that was 25% faster than total global primary energy consumption suggests that the world's energy system is increasingly electrifying. Whilst electricity demand in Asia Pacific and the Middle East increased by around 5%, demand in both Europe and North America fell by 2.4% and 1% respectively.

Coal retained its position as the dominant fuel for power generation with fossil fuels overall forming 60% of global electricity generation. Renewables share of total power generation rose from 29% to 30%. At a regional level, Southern & Central America recorded the highest contribution from renewables at 72%. The share of nuclear remained flat at around 9% with new build in China and returns to service of plant in France and Japan being offset by the closure of Germany's remaining plant. In 2023, grid-scale battery electricity storage system (BESS) capacity stood at 56 GW, nearly 50% of which was installed in China.

Fossil fuels contributed 60% of total global electricity generated in 2023



Electricity Generation*

Terawatt-hours	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	655.7	653.0	661.1	668.2	669.6	661.5	656.0	653.9	649.9	658.9	**633.2**	-3.9%	-0.3%	2.1%
Mexico	297.1	303.3	310.3	320.3	329.1	349.3	344.6	325.7	330.0	340.1	**354.9**	4.3%	1.8%	1.2%
US	4330.3	4363.3	4349.9	4348.9	4303.8	4464.5	4414.1	4287.6	4400.9	4537.7	**4494.0**	-1.0%	0.4%	15.0%
Total North America	5283.1	5319.5	5321.3	5337.4	5302.5	5475.3	5414.7	5267.2	5380.9	5536.8	**5482.0**	-1.0%	0.4%	18.3%
Argentina	139.4	138.6	145.4	147.2	145.6	146.8	139.5	144.6	153.2	145.6	**146.4**	0.6%	0.5%	0.5%
Brazil	570.8	590.5	581.2	578.9	589.3	601.4	633.3	628.8	656.1	677.2	**710.0**	4.8%	2.2%	2.4%
Chile	73.0	71.6	74.5	77.7	78.6	82.3	83.6	83.7	87.4	88.0	**88.2**	0.2%	1.9%	0.3%
Colombia	69.8	72.7	75.0	74.4	75.0	78.3	80.4	79.4	86.0	89.5	**93.9**	4.9%	3.0%	0.3%
Ecuador	23.3	24.3	26.0	27.3	28.0	29.2	32.3	31.2	32.2	33.0	**35.4**	7.1%	4.3%	0.1%
Peru	43.3	45.5	48.3	51.7	52.7	55.0	57.0	52.8	57.5	59.7	**62.1**	3.9%	3.7%	0.2%
Trinidad & Tobago	9.5	9.4	9.6	9.4	9.3	9.2	9.2	9.2	9.3	9.8	**9.7**	-0.7%	0.2%	†
Venezuela	132.6	131.0	126.3	116.2	110.3	92.3	78.1	81.6	83.9	87.6	**85.8**	-2.2%	-4.3%	0.3%
Central America	48.1	49.4	52.2	53.8	54.5	56.4	59.3	57.2	61.6	63.0	**65.3**	3.5%	3.1%	0.2%
Other Caribbean	76.8	76.0	77.8	78.7	74.4	76.2	79.5	78.7	80.0	79.3	**84.5**	6.7%	1.0%	0.3%
Other South America	84.2	80.9	82.7	91.3	87.9	87.9	80.1	74.4	72.1	75.0	**83.3**	11.1%	-0.1%	0.3%
Total S. & Cent. America	1270.9	1290.0	1299.0	1306.6	1305.8	1314.9	1332.4	1321.6	1379.3	1407.7	**1464.5**	4.0%	1.4%	4.9%
Austria	68.4	65.6	65.5	68.5	71.3	68.6	74.2	72.6	70.8	68.5	**72.6**	6.0%	0.6%	0.2%
Belgium	83.5	72.5	69.7	85.6	86.6	75.0	93.6	89.5	100.5	95.9	**81.9**	-14.7%	-0.2%	0.3%
Bulgaria	43.8	47.5	49.2	45.3	45.6	46.8	44.3	40.8	47.6	50.5	**39.9**	-21.0%	-0.9%	0.1%
Croatia	14.1	13.6	11.4	12.8	12.0	13.6	12.8	13.4	15.2	14.2	**17.3**	21.9%	2.1%	0.1%
Cyprus	4.3	4.4	4.5	4.9	5.0	5.0	5.1	4.8	5.1	5.3	**5.4**	1.9%	2.3%	†
Czech Republic	86.9	86.0	83.9	83.3	87.0	88.0	87.0	81.4	84.9	84.5	**76.1**	-9.9%	-1.3%	0.3%
Denmark	34.7	32.2	28.9	30.5	31.0	30.4	29.5	28.7	33.1	35.1	**33.6**	-4.4%	-0.3%	0.1%
Estonia	13.3	12.4	10.4	12.2	13.2	12.4	7.6	6.1	7.1	8.9	**7.0**	-21.6%	-6.2%	†
Finland	71.3	68.1	68.6	68.8	67.5	70.3	68.7	69.3	72.1	72.2	**81.3**	12.6%	1.3%	0.3%
France	575.3	564.8	571.6	556.2	554.0	573.9	562.7	524.3	547.2	466.5	**519.7**	11.4%	-1.0%	1.7%
Germany	637.7	626.6	647.0	649.2	652.3	641.4	608.2	574.7	587.1	577.9	**513.7**	-11.1%	-2.1%	1.7%
Greece	57.2	50.5	51.9	54.4	55.3	53.3	48.6	48.3	54.7	52.6	**49.8**	-5.4%	-1.4%	0.2%
Hungary	30.3	29.4	30.4	31.9	32.9	32.1	34.3	34.9	36.1	35.8	**34.9**	-2.4%	1.4%	0.1%
Iceland	18.1	18.1	18.8	18.5	19.2	19.8	19.5	19.1	19.6	20.1	**20.2**	0.6%	1.1%	0.1%
Ireland	26.1	26.3	28.4	30.5	30.9	31.1	31.0	32.3	31.9	33.9	**31.1**	-8.1%	1.8%	0.1%
Italy	289.8	279.8	283.0	289.8	295.8	289.7	293.9	280.5	289.1	284.0	**265.3**	-6.6%	-0.9%	0.9%
Latvia	6.2	5.1	5.5	6.4	7.5	6.7	6.4	5.7	5.8	5.0	**6.2**	23.1%	-0.1%	†
Lithuania	4.8	4.4	4.9	4.3	4.2	3.5	4.0	5.5	5.1	4.8	**5.4**	13.6%	1.3%	†
Luxembourg	2.9	3.0	2.8	2.2	2.2	2.2	1.9	2.2	2.2	2.2	**2.3**	4.7%	-2.1%	†
Netherlands	100.9	103.4	110.2	115.2	117.2	114.4	121.4	123.3	122.1	121.8	**122.3**	0.4%	1.9%	0.4%
North Macedonia	6.1	5.4	5.6	5.6	5.6	5.6	5.9	5.3	5.5	5.9	**6.9**	17.1%	1.3%	†
Norway	134.1	142.0	144.5	149.1	149.6	147.1	134.9	155.2	157.9	146.7	**154.8**	5.5%	1.4%	0.5%
Poland	164.6	159.1	164.9	166.6	170.5	170.0	164.0	158.0	179.6	179.7	**167.0**	-7.1%	0.1%	0.6%
Portugal	51.7	52.8	52.4	60.3	59.4	59.6	53.2	53.1	51.0	48.8	**49.2**	0.7%	-0.5%	0.2%
Romania	58.9	63.3	66.3	65.1	64.3	64.8	59.5	55.8	59.3	55.9	**58.2**	4.1%	-0.1%	0.2%
Slovakia	28.8	27.4	26.9	27.1	27.7	27.0	28.4	28.8	30.0	26.8	**30.3**	12.8%	0.5%	0.1%
Slovenia	16.1	17.4	15.1	16.5	16.3	16.3	16.1	17.2	15.9	13.6	**15.9**	16.8%	-0.1%	0.1%
Spain	285.3	278.8	281.0	274.6	275.6	274.5	267.5	263.4	274.3	292.5	**282.0**	-3.6%	-0.1%	0.9%
Sweden	153.2	153.7	162.1	156.1	164.3	163.4	168.4	163.8	171.8	173.1	**166.5**	-3.8%	0.8%	0.6%
Switzerland	70.4	72.0	67.9	63.3	63.3	67.6	71.9	70.2	64.7	64.1	**73.6**	14.8%	0.4%	0.2%
Türkiye	240.2	252.0	261.8	274.4	297.3	304.8	303.9	306.7	334.7	328.4	**328.0**	-0.1%	3.2%	1.1%
Ukraine	194.4	182.8	163.7	164.6	156.0	159.9	154.1	147.8	155.5	112.7	**103.4**	-8.3%	-6.1%	0.3%
United Kingdom	358.3	338.1	338.9	339.2	338.2	333.7	327.1	314.7	308.9	322.0	**285.6**	-11.3%	-2.2%	1.0%
Other Europe	90.1	80.2	85.2	89.0	82.9	92.5	87.6	86.7	94.8	89.3	**97.6**	9.3%	0.8%	0.3%
Total Europe	4021.5	3938.5	3983.1	4022.0	4061.9	4065.0	3997.2	3884.2	4041.3	3899.4	**3805.1**	-2.4%	-0.6%	12.7%
Azerbaijan	23.4	24.7	24.7	25.0	24.3	25.2	26.1	25.8	27.9	29.0	**29.3**	0.9%	2.3%	0.1%
Belarus	31.5	34.7	34.2	33.6	34.5	38.9	40.5	38.7	41.2	39.7	**41.8**	5.3%	2.9%	0.1%
Kazakhstan	92.6	94.6	91.6	94.6	103.1	107.3	106.5	108.6	115.1	113.5	**113.0**	-0.4%	2.0%	0.4%
Russian Federation	1059.1	1064.2	1067.5	1091.0	1091.2	1109.2	1118.1	1085.4	1157.1	1166.9	**1178.2**	1.0%	1.1%	3.9%
Turkmenistan	18.9	20.1	21.5	22.6	22.8	24.2	22.5	25.8	28.4	32.6	**33.5**	2.7%	5.9%	0.1%
Uzbekistan	54.9	55.4	57.3	59.1	60.8	62.9	63.5	66.5	71.4	74.3	**78.0**	5.0%	3.6%	0.3%
Other CIS	43.3	44.1	44.0	43.5	46.3	48.6	49.2	49.1	50.2	49.8	**51.0**	2.4%	1.6%	0.2%
Total CIS	1323.7	1337.9	1340.9	1369.3	1383.0	1416.4	1426.4	1400.0	1491.2	1505.8	**1524.8**	1.3%	1.4%	5.1%
Iran	258.9	275.6	280.2	286.1	305.2	312.4	318.9	337.2	356.4	367.1	**382.9**	4.3%	4.0%	1.3%
Iraq	62.1	71.2	75.3	86.3	93.6	99.0	115.2	116.8	118.1	131.4	**139.4**	6.1%	8.4%	0.5%
Israel	61.4	61.3	64.3	67.4	67.7	69.3	72.4	72.8	73.8	76.0	**77.2**	1.6%	2.3%	0.3%
Kuwait	61.0	65.1	68.3	70.1	72.8	74.2	75.1	74.8	80.8	83.5	**88.3**	5.7%	3.8%	0.3%
Oman	26.2	29.1	32.8	34.2	36.1	37.7	38.8	38.3	41.0	41.7	**44.3**	6.4%	5.4%	0.1%
Qatar	34.7	38.7	41.5	42.3	45.6	47.9	49.9	49.3	51.6	50.0	**54.4**	8.7%	4.6%	0.2%
Saudi Arabia	294.7	328.2	350.6	357.7	395.0	374.8	378.5	380.9	392.9	401.3	**422.9**	5.4%	3.7%	1.4%
United Arab Emirates	110.0	116.5	127.4	129.6	134.6	136.0	138.5	137.3	149.1	153.3	**165.0**	7.6%	4.1%	0.6%
Other Middle East	99.5	97.1	93.9	93.0	95.7	103.4	108.6	102.4	98.2	88.0	**89.1**	1.3%	-1.1%	0.3%
Total Middle East	1008.4	1083.0	1134.4	1166.8	1246.2	1254.7	1295.9	1309.8	1361.9	1392.2	**1463.4**	5.1%	3.8%	4.9%
Algeria	59.9	64.2	68.8	71.0	76.0	76.7	81.5	79.2	85.4	91.2	**85.9**	-5.8%	3.7%	0.3%
Egypt	165.1	171.2	181.8	188.2	193.2	199.4	200.6	198.6	209.7	216.7	**220.1**	1.6%	2.9%	0.7%
Morocco	28.1	29.3	30.3	30.7	31.6	34.4	40.1	38.5	41.0	41.2	**42.2**	2.6%	4.1%	0.1%
South Africa	256.1	254.8	250.4	253.1	255.4	256.3	252.6	239.5	244.3	234.8	**224.4**	-4.4%	-1.3%	0.7%
Eastern Africa	87.0	93.5	98.6	97.1	103.4	108.6	110.7	110.7	117.1	123.8	**127.9**	3.3%	3.9%	0.4%
Middle Africa	28.4	31.3	33.8	34.4	35.6	39.6	42.0	43.6	44.8	44.4	**45.3**	2.0%	4.8%	0.2%
Western Africa	60.4	64.1	64.4	69.1	71.7	74.3	80.4	85.9	91.1	92.4	**99.0**	7.0%	5.1%	0.3%
Other Northern Africa	56.4	57.0	57.3	51.4	54.0	55.3	56.8	51.2	53.0	52.7	**52.0**	-1.3%	-0.8%	0.2%
Other Southern Africa	4.1	5.0	5.0	4.7	5.7	5.0	4.5	4.9	4.7	5.5	**6.1**	10.4%	3.9%	†
Total Africa	745.5	770.5	790.4	799.6	826.6	849.7	869.2	852.1	891.1	902.7	**902.9**	†	1.9%	3.0%
Australia	249.6	247.6	254.0	258.2	259.0	262.6	265.9	265.2	267.5	272.9	**273.1**	0.1%	0.9%	0.9%
Bangladesh	54.6	57.6	62.1	70.2	73.7	79.7	84.6	84.7	94.9	99.6	**99.9**	0.3%	6.2%	0.3%
China	5431.6	5794.5	5814.6	6133.2	6604.4	7166.1	7503.4	7779.1	8534.2	8848.7	**9456.4**	6.9%	5.7%	31.6%
China Hong Kong SAR	39.1	39.9	38.0	38.2	37.0	36.5	36.9	35.2	37.2	36.4	**37.9**	4.0%	-0.3%	0.1%
India	1146.1	1262.2	1322.1	1401.7	1471.3	1579.2	1622.1	1581.9	1695.5	1829.3	**1958.2**	7.0%	5.5%	6.5%
Indonesia	216.2	228.6	234.0	247.9	254.7	283.8	295.4	291.8	309.1	333.5	**350.6**	5.1%	5.0%	1.2%
Japan	1087.8	1062.7	1030.1	1063.7	1076.9	1082.9	1047.4	1011.0	1034.7	1040.6	**1013.3**	-2.6%	-0.7%	3.4%
Malaysia	141.0	147.5	150.1	156.7	160.6	170.6	178.5	174.0	175.2	183.6	**187.8**	2.3%	2.9%	0.6%
New Zealand	43.3	44.0	44.7	44.2	44.6	44.7	45.1	44.5	44.6	44.7	**44.6**	-0.2%	0.3%	0.1%
Pakistan	101.0	106.3	110.5	115.6	127.1	137.1	136.8	134.8	147.7	146.6	**136.7**	-6.7%	3.1%	0.5%
Philippines	75.3	77.3	82.4	90.8	94.4	101.0	107.5	103.3	107.8	113.3	**119.0**	5.0%	4.7%	0.4%
Singapore	48.0	49.3	50.3	51.6	52.2	52.9	54.1	53.1	55.8	57.1	**57.4**	0.5%	1.8%	0.2%
South Korea	537.2	540.4	547.8	561.0	576.4	592.9	586.8	577.1	607.8	624.6	**617.9**	-1.1%	1.4%	2.1%
Sri Lanka	12.0	12.9	13.2	14.4	15.0	16.2	16.8	16.9	17.9	17.5	**16.9**	-3.2%	3.5%	0.1%
Taiwan	252.3	260.0	258.1	264.1	270.3	275.5	274.2	280.0	291.0	288.2	**282.1**	-2.1%	1.1%	0.9%
Thailand	168.6	173.8	177.8	179.8	176.7	177.8	186.5	176.5	176.4	180.4	**190.5**	5.6%	1.2%	0.6%
Vietnam	124.5	141.3	161.9	179.2	194.7	217.2	236.9	244.0	253.6	265.1	**276.4**	4.3%	8.3%	0.9%
Other Asia Pacific	88.3	91.1	93.6	112.2	122.9	130.6	132.5	144.5	152.0	161.3	**163.1**	1.2%	6.3%	0.5%
Total Asia Pacific	9816.4	10336.8	10445.4	10982.6	11611.9	12407.3	12811.6	12997.7	14002.9	14543.4	**15282.0**	5.1%	4.5%	51.1%
Total World	23469.4	24076.2	24314.6	24984.3	25738.0	26783.3	27147.3	27032.5	28548.5	29188.1	**29924.8**	2.5%	2.5%	100.0%
of which: OECD	11025.1	10971.7	11019.7	11129.6	11182.5	11376.6	11235.7	10942.0	11253.4	11351.2	**11178.6**	-1.5%	0.1%	37.4%
Non-OECD	12444.3	13104.5	13294.9	13854.7	14555.5	15406.7	15911.6	16090.5	17295.1	17836.8	**18746.2**	5.1%	4.2%	62.6%
European Union	2912.1	2850.3	2898.0	2919.1	2951.4	2936.0	2894.4	2780.6	2901.7	2812.4	**2737.2**	-2.7%	-0.6%	9.1%

* Based on gross output.
† Less than 0.05%.

Electricity Generation by fuel*

Terawatt-hours	2022 Oil	2022 Natural gas	2022 Coal	2022 Nuclear energy	2022 Hydro-electric	2022 Renew-ables	2022 Other‡	2022 Total	2023 Oil	2023 Natural Gas	2023 Coal	2023 Nuclear energy	2023 Hydro-electric	2023 Renew-ables	2023 Other‡	2023 Total
Canada	5.2	84.7	26.2	86.6	397.7	54.5	3.9	658.9	4.8	89.9	23.6	89.0	364.2	57.0	4.7	633.2
Mexico	32.7	192.1	21.4	10.8	35.6	47.6	–	340.1	33.4	204.9	27.9	12.4	20.4	55.9	–	354.9
US	24.7	1814.1	906.7	812.1	251.3	717.3	11.6	4537.7	17.7	1937.7	738.4	816.2	236.3	737.3	10.3	4494.0
Total North America	62.6	2090.9	954.3	909.6	684.6	819.5	15.4	5536.8	55.9	2232.5	789.8	917.6	620.9	850.2	15.1	5482.0
Argentina	16.1	76.6	2.3	7.5	22.8	19.5	0.8	145.6	9.0	75.9	1.8	9.0	29.9	20.0	0.8	146.4
Brazil	10.1	42.1	14.2	14.6	427.1	166.8	2.3	677.2	9.8	37.7	14.2	14.5	428.7	202.8	2.4	710.0
Other S. & Cent. America	68.5	114.4	37.0	–	295.2	69.8	–^	584.9	74.5	127.6	37.7	–	291.4	76.9	^	608.1
Total S. & Cent. America	94.8	233.1	53.6	22.0	745.1	256.0	3.1	1407.7	93.2	241.3	53.7	23.5	749.9	299.7	3.2	1464.5
France	2.4	47.1	3.1	294.7	44.3	66.8	8.2	466.5	1.8	32.3	0.9	338.2	55.5	84.3	6.7	519.7
Germany	5.7	79.1	180.0	34.7	17.6	237.0	23.8	577.9	4.9	77.7	127.8	7.2	19.6	252.8	23.6	513.7
Italy	12.8	141.4	24.2	–	28.4	72.1	5.0	284.0	10.6	117.5	20.0	–	38.9	75.1	3.2	265.3
Netherlands	1.6	47.7	17.4	4.2	^	48.3	2.6	121.8	1.6	45.9	10.7	4.0	0.1	58.1	2.1	122.3
Poland	2.4	11.4	126.7	–	2.0	35.7	1.7	179.7	2.0	16.4	100.2	–	2.4	44.0	2.0	167.0
Spain	10.6	86.0	8.7	58.6	17.6	105.3	5.8	292.5	10.7	61.7	4.3	56.8	25.5	116.5	6.5	282.0
Türkiye	0.4	75.1	113.7	–	66.8	71.0	1.4	328.4	0.7	69.7	118.3	–	63.9	74.1	1.4	328.0
Ukraine	0.5	7.2	24.3	62.1	11.1	7.5	–	112.7	0.9	8.1	21.6	52.4	12.7	7.7	–	103.4
United Kingdom	2.2	125.0	5.6	47.7	5.6	129.4	6.5	322.0	2.4	97.9	3.5	40.7	5.2	129.8	6.1	285.6
Other Europe	19.5	129.8	155.1	240.2	370.7	270.6	28.0	1214.0	17.8	109.7	122.4	236.6	414.9	288.3	28.2	1218.0
Total Europe	58.1	749.7	658.8	742.2	564.1	1043.7	82.9	3899.4	53.3	636.9	529.9	735.9	638.7	1130.6	79.8	3805.1
Kazakhstan	2.4	32.7	65.0	–	9.2	4.1	–	113.5	2.4	32.3	63.9	–	8.8	5.6	–	113.0
Russian Federation	7.0	527.1	198.6	223.7	197.7	7.4	5.4	1166.9	6.8	528.4	211.1	217.4	200.9	8.2	5.4	1178.2
Other CIS	2.3	163.1	8.5	7.5	41.3	2.1	0.6	225.4	2.1	161.6	9.1	14.4	43.3	2.4	0.6	233.6
Total CIS	11.7	723.0	272.1	231.2	248.2	13.6	5.9	1505.8	11.4	722.3	284.1	231.8	253.0	16.3	5.9	1524.8
Iran	30.2	313.4	0.9	6.6	14.0	2.0	–	367.1	26.9	323.6	0.9	6.6	22.7	2.1	–	382.9
Saudi Arabia	153.0	246.0	–	–	–	2.3	–	401.3	152.1	265.0	–	–	–	5.8	–	422.9
United Arab Emirates	^	125.5	–	20.1	–	7.8	–	153.3	^	118.9	–	32.3	–	13.8	–	165.0
Other Middle East	124.7	306.9	17.7	–	4.1	16.8	0.2	470.5	129.9	320.5	17.4	–	4.9	19.6	0.2	492.6
Total Middle East	307.9	991.8	18.6	26.7	18.2	28.8	0.2	1392.2	308.9	1028.1	18.4	38.9	27.6	41.3	0.2	1463.4
Egypt	16.2	176.3	–	–	13.3	10.9	–	216.7	16.6	178.7	–	–	13.8	11.0	–	220.1
South Africa	3.6	–	197.2	10.1	3.1	16.3	4.5	234.8	4.8	–	185.9	8.9	1.7	18.4	4.7	224.4
Other Africa	44.0	203.3	40.3	–	139.9	23.3	0.6	451.2	40.8	204.7	38.8	–	146.1	27.4	0.6	458.4
Total Africa	63.8	379.5	237.4	10.1	156.3	50.6	5.1	902.7	62.2	383.4	224.7	8.9	161.6	56.7	5.3	902.9
Australia	4.7	50.8	129.2	–	16.7	70.8	0.7	272.9	4.9	46.7	125.6	–	15.3	80.0	0.7	273.1
China	11.5	275.6	5412.7	417.8	1298.1	1372.5	60.5	8848.7	11.2	297.8	5753.9	434.7	1226.0	1668.1	64.7	9456.4
India	2.4	46.5	1354.2	46.2	174.9	203.8	1.3	1829.3	2.8	52.6	1471.3	48.2	149.2	232.8	1.3	1958.2
Indonesia	6.1	56.1	205.3	–	27.3	38.1	0.6	333.5	6.6	61.0	216.8	–	24.6	40.6	1.1	350.6
Japan	42.5	351.5	325.6	51.8	74.9	138.3	56.0	1040.6	33.4	320.9	304.3	77.5	74.5	149.0	53.7	1013.3
Malaysia	1.6	68.5	77.8	–	31.8	4.0	–	183.6	1.2	69.2	81.4	–	31.5	4.5	–	187.8
South Korea	8.3	174.4	206.2	176.1	3.5	51.9	4.1	624.6	7.7	167.0	202.8	180.5	3.7	52.0	4.2	617.9
Taiwan	4.4	112.0	121.0	23.8	5.8	16.2	4.9	288.2	3.8	111.6	119.2	17.8	4.0	21.1	4.7	282.1
Thailand	1.7	114.6	35.5	–	6.6	21.9	^	180.4	0.9	129.4	30.4	–	6.6	23.2	^	190.5
Vietnam	0.1	29.2	104.0	–	95.9	35.2	0.7	265.1	1.3	26.3	129.6	–	80.9	37.9	0.5	276.4
Other Asia Pacific	60.4	221.6	157.9	22.2	171.5	41.8	1.1	676.5	39.5	219.3	177.2	22.4	172.0	44.3	0.8	675.5
Total Asia Pacific	143.8	1500.9	8129.6	737.8	1907.1	1994.5	129.8	14543.4	113.2	1501.8	8612.4	781.1	1788.2	2353.5	131.8	15282.0
Total World	742.6	6668.9	10324.4	2679.6	4323.4	4206.7	242.4	29188.1	698.1	6746.3	10513.0	2737.7	4240.0	4748.4	241.3	29924.8
of which: OECD	171.6	3475.7	2211.4	1790.0	1394.8	2149.4	158.3	11351.2	150.5	3463.5	1904.5	1831.7	1385.5	2290.5	152.5	11178.6
Non-OECD	571.0	3193.1	8113.0	889.6	2928.7	2057.2	84.2	17836.8	547.6	3282.8	8608.6	906.0	2854.5	2457.9	88.7	18746.2
European Union	52.1	534.8	469.5	609.3	274.2	805.3	67.1	2812.4	46.3	452.2	343.0	619.4	325.7	886.0	64.7	2737.2

* Based on gross output.
‡ Includes uncategorised generation, statistical differences and sources not specified elsewhere e.g. pumped hydro, non-renewable waste and heat from chemical sources.
^ Less than 0.05.

Electricity Grid-scale battery energy storage systems (BESS)

Installed capacity (Gigawatts)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	^	^	^	^	^	^	^	0.1	0.1	0.1	0.4	426.1%	69.7%	0.7%
Mexico	–	–	–	–	–	–	–	–	–	^	^	–	–	†
US	0.2	0.2	0.4	0.6	0.7	0.9	1.1	1.7	5.1	9.3	15.8	70.0%	55.0%	28.3%
Total North America	0.2	0.2	0.4	0.6	0.8	1.0	1.2	1.8	5.2	9.4	16.2	72.8%	55.2%	29.0%
Brazil	–	–	–	–	–	–	–	–	^	^	^	900.0%	–	0.1%
Chile	^	^	^	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	98.0%	18.3%	0.3%
Other S. & Cent. America	^	^	^	^	^	^	^	^	^	^	0.1	206.6%	38.7%	0.1%
Total S. & Cent. America	^	^	^	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	145.2%	23.3%	0.5%
Germany	^	^	^	0.2	0.3	0.4	0.5	0.6	0.7	1.3	1.7	27.9%	54.9%	3.1%
Ireland	–	–	–	–	–	–	–	^	0.2	0.3	0.4	27.6%	–	0.8%
United Kingdom	^	^	^	^	0.2	0.6	0.8	1.0	1.7	2.3	3.6	54.2%	111.7%	6.5%
Other Europe	^	^	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.9	1.2	36.0%	59.2%	2.2%
Total Europe	^	0.1	0.1	0.3	0.6	1.1	1.4	1.8	2.9	4.9	7.0	41.9%	69.7%	12.5%
Kazakhstan	–	–	–	–	–	–	–	–	^	^	^	–	–	†
Other CIS	^	^	^	^	^	^	^	^	^	^	^	–	5.2%	†
Total CIS	^	^	^	^	^	^	^	^	^	^	^	–	25.9%	0.1%
United Arab Emirates	^	^	^	^	^	^	0.1	0.1	0.1	0.1	0.1	–	30.8%	0.2%
Other Middle East	–	–	–	–	–	–	–	–	^	^	^	100.0%	–	0.1%
Total Middle East	^	^	^	^	^	^	0.1	0.1	0.1	0.1	0.2	14.6%	34.7%	0.3%
South Africa	–	–	–	–	–	–	–	–	^	^	0.3	29300.0%	–	0.5%
Other Africa	–	–	–	^	^	^	^	^	0.1	0.2	0.3	17.9%	–	0.5%
Total Africa	–	–	–	^	^	^	^	^	0.1	0.2	0.5	153.4%	–	1.0%
Australia	–	–	–	^	0.1	0.2	0.3	0.4	0.7	0.9	1.8	95.1%	–	3.2%
China	^	^	0.1	0.1	0.1	0.2	0.4	0.8	1.8	7.8	27.1	249.1%	93.4%	48.6%
Japan	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.6	76.7%	21.3%	1.0%
South Korea	^	^	0.1	0.2	0.2	0.3	0.3	0.8	1.0	1.0	1.0	–	70.4%	1.8%
Other Asia Pacific	^	^	^	^	^	^	^	0.1	0.1	0.4	1.1	150.8%	101.1%	1.9%
Total Asia Pacific	0.1	0.2	0.3	0.5	0.7	1.0	1.3	2.3	4.0	10.5	31.6	201.7%	73.7%	56.6%
Total World	0.4	0.5	0.9	1.5	2.1	3.1	4.1	6.1	12.5	25.2	55.7	120.8%	63.6%	100.0%
of which: OECD	0.4	0.5	0.8	1.4	1.9	2.8	3.5	5.1	10.2	16.6	26.8	60.8%	54.1%	48.0%
Non-OECD	0.1	0.1	0.1	0.1	0.1	0.3	0.6	1.1	2.3	8.6	29.0	236.8%	88.2%	52.0%
European Union	^	0.1	0.1	0.3	0.4	0.5	0.6	0.8	1.3	2.6	3.4	30.7%	59.2%	6.0%

^ Less than 0.05.
† Less than 0.05%.
Source: Rystad Energy. For further information please contact **billy.snaith@rystadenergy.com**

Hydroelectricity Generation*

Terawatt-hours	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	391.8	382.5	382.2	385.4	394.6	385.9	381.8	386.5	382.4	397.7	**364.2**	-8.4%	-0.7%	8.6%
Mexico	28.0	38.9	30.9	30.0	30.9	32.2	23.6	26.8	34.7	35.6	**20.4**	-42.6%	-3.1%	0.5%
US	266.5	255.8	246.5	263.8	296.8	289.5	285.5	282.8	249.0	251.3	**236.3**	-6.0%	-1.2%	5.6%
Total North America	686.3	677.1	659.5	679.2	722.3	707.6	690.8	696.1	666.1	684.6	**620.9**	-9.3%	-1.0%	14.6%
Argentina	32.8	32.4	32.3	29.8	31.6	32.3	27.5	23.7	19.6	22.8	**29.9**	31.3%	-0.9%	0.7%
Brazil	391.0	373.4	359.7	380.9	370.9	389.0	397.9	396.4	362.8	427.1	**428.7**	0.4%	0.9%	10.1%
Chile	19.9	23.0	23.6	19.7	21.3	23.4	21.4	21.7	18.1	20.4	**24.0**	17.9%	1.9%	0.6%
Colombia	44.4	44.7	44.7	46.8	57.3	56.7	54.4	49.8	60.5	64.3	**59.8**	-7.0%	3.0%	1.4%
Ecuador	11.0	11.5	13.1	15.8	20.1	20.7	24.6	24.3	25.6	24.6	**25.3**	2.9%	8.7%	0.6%
Peru	22.3	22.2	23.7	24.1	29.1	30.7	31.5	30.5	31.9	29.7	**29.1**	-2.3%	2.7%	0.7%
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	81.5	80.4	74.7	63.0	70.0	65.3	62.8	67.2	67.8	68.5	**65.6**	-4.3%	-2.1%	1.5%
Central America	21.9	21.6	22.5	22.8	27.1	26.8	21.6	26.9	29.8	31.4	**25.4**	-19.3%	1.5%	0.6%
Other Caribbean	2.5	1.8	1.4	1.9	2.7	2.4	1.6	1.8	2.0	2.0	**1.6**	-17.2%	-3.9%	†
Other South America	72.5	68.2	67.4	74.6	70.9	69.9	62.2	54.8	50.8	54.2	**60.5**	11.7%	-1.8%	1.4%
Total S. & Cent. America	699.8	679.2	663.2	679.3	701.1	717.2	705.5	697.1	669.0	745.1	**749.9**	0.6%	0.7%	17.7%
Austria	42.0	41.0	37.2	40.0	38.3	37.6	40.8	42.0	38.8	34.0	**38.9**	14.4%	-0.8%	0.9%
Belgium	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.3	**0.4**	44.7%	0.3%	†
Bulgaria	4.0	4.6	5.7	3.9	2.8	5.1	2.9	2.8	4.8	3.8	**3.1**	-17.7%	-2.5%	0.1%
Croatia	8.6	9.0	6.4	6.9	5.3	7.7	5.8	5.7	7.1	5.5	**8.2**	49.7%	-0.5%	0.2%
Cyprus	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Czech Republic	2.7	1.9	1.8	2.0	1.9	1.6	2.0	2.1	2.4	2.1	**2.3**	11.9%	-1.5%	0.1%
Denmark	^	^	^	^	^	^	^	^	^	^	**^**	31.7%	3.9%	†
Estonia	^	^	^	^	^	^	^	^	^	^	**^**	15.5%	0.2%	†
Finland	12.8	13.4	16.8	15.8	14.8	13.3	12.4	15.9	15.8	13.5	**15.2**	12.5%	1.7%	0.4%
France	70.8	62.8	54.6	59.9	49.0	63.9	56.0	61.7	58.7	44.3	**55.5**	25.4%	-2.4%	1.3%
Germany	23.0	19.6	19.0	20.5	20.2	17.7	19.7	18.3	19.7	17.6	**19.6**	11.4%	-1.6%	0.5%
Greece	6.3	4.5	6.1	5.5	4.0	5.7	4.0	3.3	5.9	3.9	**3.9**	2.4%	-4.6%	0.1%
Hungary	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	**0.2**	24.7%	0.4%	†
Iceland	12.9	12.9	13.8	13.5	14.1	13.8	13.5	13.2	13.8	14.2	**14.2**	0.2%	1.0%	0.3%
Ireland	0.6	0.7	0.8	0.7	0.7	0.7	0.9	0.9	0.7	0.7	**0.9**	33.2%	4.5%	†
Italy	52.8	58.5	45.5	42.4	36.2	48.8	46.4	47.6	45.4	28.4	**38.9**	37.1%	-3.0%	0.9%
Latvia	2.9	2.0	1.9	2.5	4.4	2.4	2.1	2.6	2.7	2.7	**3.8**	38.2%	2.7%	0.1%
Lithuania	0.5	0.4	0.3	0.5	0.6	0.4	0.3	0.3	0.4	0.5	**0.5**	-3.0%	-1.5%	†
Luxembourg	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	40.9%	-2.7%	†
Netherlands	0.1	0.1	0.1	0.1	0.1	0.1	0.1	^	0.1	^	**0.1**	36.0%	-5.1%	†
North Macedonia	1.6	1.2	1.9	1.9	1.1	1.8	1.2	1.3	1.5	1.3	**1.6**	20.6%	0.2%	†
Norway	128.1	135.5	137.3	142.8	142.4	139.0	125.3	140.9	143.3	127.6	**136.1**	6.6%	0.6%	3.2%
Poland	2.4	2.2	1.8	2.1	2.6	2.0	2.0	2.1	2.3	2.0	**2.4**	21.8%	-0.2%	0.1%
Portugal	13.7	15.6	8.7	15.7	5.9	12.4	8.8	12.1	11.9	6.5	**12.1**	84.8%	-1.3%	0.3%
Romania	14.8	18.5	16.6	18.0	14.5	17.7	15.6	15.4	17.4	14.0	**18.2**	30.5%	2.1%	0.4%
Slovakia	4.8	4.2	3.9	4.4	4.3	3.6	4.4	4.5	4.3	3.7	**4.7**	29.0%	-0.2%	0.1%
Slovenia	4.6	6.1	3.8	4.5	3.9	4.7	4.5	4.9	4.7	3.1	**5.0**	57.9%	0.7%	0.1%
Spain	36.8	39.2	28.1	36.4	18.3	34.3	22.5	30.5	29.6	17.6	**25.5**	44.8%	-3.6%	0.6%
Sweden	61.4	63.8	75.3	62.1	65.1	62.1	65.3	72.3	73.8	69.8	**66.0**	-5.4%	0.7%	1.6%
Switzerland	38.5	38.0	38.3	34.6	34.1	34.6	37.6	37.5	36.6	29.6	**37.0**	25.1%	-0.4%	0.9%
Türkiye	59.4	40.6	67.1	67.2	58.2	59.9	88.8	78.1	55.9	66.8	**63.9**	-4.4%	0.7%	1.5%
Ukraine	13.8	8.5	5.4	7.7	8.9	10.4	6.5	7.6	10.4	11.1	**12.7**	14.6%	-0.8%	0.3%
United Kingdom	4.7	5.9	6.3	5.4	5.9	5.4	5.9	6.9	5.4	5.6	**5.2**	-7.9%	1.0%	0.1%
Other Europe	36.0	32.6	32.3	35.7	28.8	38.8	32.3	29.7	40.3	33.6	**42.4**	26.0%	1.6%	1.0%
Total Europe	661.7	644.0	637.4	653.5	586.7	646.5	628.3	660.9	654.4	564.1	**638.7**	13.2%	-0.4%	15.1%
Azerbaijan	1.5	1.3	1.6	2.0	1.7	1.8	1.6	1.1	1.3	1.6	**1.8**	10.5%	1.7%	†
Belarus	0.1	0.1	0.1	0.1	0.4	0.3	0.4	0.4	0.4	0.4	**0.3**	-18.9%	8.1%	†
Kazakhstan	7.7	8.3	9.3	11.6	11.2	10.4	10.0	9.7	9.2	9.2	**8.8**	-4.4%	1.3%	0.2%
Russian Federation	181.2	173.4	168.0	184.6	185.2	190.6	194.4	212.4	214.5	197.7	**200.9**	1.6%	1.0%	4.7%
Turkmenistan	^	^	^	^	^	^	^	^	^	^	**^**	–	†	†
Uzbekistan	6.3	6.2	6.0	6.9	7.9	5.9	6.5	5.0	5.0	5.3	**7.0**	31.7%	1.1%	0.2%
Other CIS	32.7	31.9	30.4	30.7	33.9	35.3	35.7	34.1	34.4	34.1	**34.3**	0.6%	0.5%	0.8%
Total CIS	229.4	221.1	215.4	235.9	240.3	244.3	248.5	262.7	264.8	248.2	**253.0**	1.9%	1.0%	6.0%
Iran	14.6	14.5	13.3	15.4	17.2	9.8	33.9	23.2	13.8	14.0	**22.7**	61.8%	4.5%	0.5%
Iraq	4.6	2.8	2.5	3.4	2.2	1.8	5.0	4.2	3.3	2.7	**3.4**	27.8%	-3.0%	0.1%
Israel	^	^	^	^	^	^	^	^	^	^	**^**	-1.0%	-1.7%	†
Kuwait	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Oman	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Middle East	4.2	2.6	0.9	1.4	1.2	1.1	1.7	1.8	1.4	1.5	**1.5**	2.9%	-9.8%	†
Total Middle East	23.5	19.9	16.8	20.2	20.6	12.8	40.6	29.2	18.6	18.2	**27.6**	51.9%	1.6%	0.7%
Algeria	0.1	0.2	0.1	0.1	0.1	0.1	0.2	^	^	^	**0.1**	329.9%	-3.6%	†
Egypt	13.2	13.6	13.7	13.2	12.8	12.9	14.1	14.9	13.9	13.3	**13.8**	4.0%	0.4%	0.3%
Morocco	2.8	1.6	1.9	1.3	1.2	1.7	1.3	0.9	0.8	0.4	**0.2**	-53.5%	-24.7%	†
South Africa	1.1	1.8	0.7	0.6	0.8	1.1	0.7	1.5	2.0	3.1	**1.7**	-45.6%	4.3%	†
Eastern Africa	61.5	65.7	65.0	61.5	64.5	68.4	68.5	73.5	77.1	79.6	**82.1**	3.2%	2.9%	1.9%
Middle Africa	19.4	20.7	21.0	22.0	24.9	28.0	29.6	32.2	32.7	32.8	**33.7**	2.9%	5.7%	0.8%
Western Africa	17.1	17.9	16.0	18.4	18.8	19.9	22.5	22.4	24.0	25.6	**28.0**	9.3%	5.1%	0.7%
Other Northern Africa	0.1	0.1	0.1	^	^	^	0.1	^	^	^	**^**	-38.3%	-17.1%	†
Other Southern Africa	2.0	2.3	2.3	2.0	2.2	1.9	1.6	2.2	1.8	1.5	**2.1**	34.8%	0.3%	†
Total Africa	117.2	123.9	120.7	119.1	125.2	134.1	138.5	147.7	152.5	156.3	**161.6**	3.4%	3.3%	3.8%
Australia	19.1	14.5	14.1	17.6	13.5	17.3	14.0	14.4	15.9	16.7	**15.3**	-8.4%	-2.2%	0.4%
Bangladesh	0.7	0.6	0.9	0.9	1.0	0.9	0.8	0.7	0.7	0.8	**0.7**	-11.8%	-0.6%	†
China	909.6	1059.7	1114.5	1153.3	1165.1	1198.9	1272.5	1321.7	1300.0	1298.1	**1226.0**	-5.6%	3.0%	28.9%
China Hong Kong SAR	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
India	132.0	139.0	133.3	128.4	135.8	139.8	162.1	163.7	160.3	174.9	**149.2**	-14.7%	1.2%	3.5%
Indonesia	16.9	15.2	13.7	18.7	18.6	21.6	21.2	24.3	24.7	27.3	**24.8**	-9.2%	3.9%	0.6%
Japan	79.3	81.7	85.8	79.4	79.2	81.0	73.9	78.3	79.6	74.9	**74.5**	-0.5%	-0.6%	1.8%
Malaysia	11.8	13.4	13.9	20.0	26.8	26.3	26.2	27.3	30.2	31.8	**31.5**	-0.9%	10.3%	0.7%
New Zealand	23.0	24.3	24.5	25.9	25.2	26.3	25.6	24.3	24.2	26.3	**26.5**	0.9%	1.4%	0.6%
Pakistan	31.5	32.4	32.8	34.6	30.2	29.5	36.1	40.0	37.6	34.5	**37.4**	8.4%	1.7%	0.9%
Philippines	10.0	9.1	8.7	8.1	9.6	9.4	8.0	7.2	9.2	10.1	**10.2**	0.5%	0.2%	0.2%
Singapore	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Korea	4.3	2.8	2.1	2.8	2.8	3.4	2.8	3.9	3.1	3.5	**3.7**	4.9%	-1.4%	0.1%
Sri Lanka	6.9	4.6	6.0	4.2	4.0	6.4	4.8	5.0	7.2	6.9	**5.9**	-14.7%	-1.7%	0.1%
Taiwan	5.4	4.3	4.5	6.6	5.4	4.5	5.5	3.0	3.5	5.8	**4.0**	-32.1%	-3.1%	0.1%
Thailand	5.4	5.2	3.8	3.5	4.7	7.6	6.3	4.5	4.5	6.6	**6.6**	-0.2%	2.0%	0.2%
Vietnam	57.8	62.2	56.1	63.9	85.9	83.1	66.1	72.9	78.7	95.9	**80.9**	-15.6%	3.4%	1.9%
Other Asia Pacific	56.1	54.6	51.0	60.3	63.9	69.9	64.9	74.4	83.9	93.0	**91.4**	-1.7%	5.0%	2.2%
Total Asia Pacific	1370.0	1523.4	1565.7	1628.3	1671.9	1725.7	1790.9	1865.7	1863.4	1907.1	**1788.4**	-6.2%	2.7%	42.2%
Total World	**3787.9**	**3888.8**	**3878.7**	**4015.5**	**4068.2**	**4188.2**	**4243.1**	**4359.4**	**4288.8**	**4323.4**	**4240.2**	**-1.9%**	**1.1%**	**100.0%**
of which: OECD	1466.0	1444.5	1431.6	1459.1	1455.6	1488.9	1454.9	1495.3	1449.6	1394.8	**1385.5**	-0.7%	-0.6%	32.7%
Non-OECD	2321.9	2444.3	2447.2	2556.4	2612.6	2699.3	2788.2	2864.1	2839.2	2928.7	**2854.7**	-2.5%	2.1%	67.3%
European Union	366.7	368.8	335.0	344.8	293.2	342.7	317.2	345.9	347.3	274.2	**325.7**	18.8%	-1.2%	7.7%

* Based on gross generation and not accounting for cross-border electricity supply. 'Input-equivalent' energy is the amount of fuel that would be required by thermal power stations to generate the reported electricity output.
^ Less than 0.005.
† Less than 0.05%.
Note: Annual changes and share of total are calculated using exajoules figures.

Renewable energy Combined renewable electricity and biofuels primary energy input consumption

												Growth rate per annum		Share
Exajoules (input-equivalent)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2023	2013–23	2023
Canada	4.17	4.07	4.18	4.25	4.33	4.24	4.18	4.23	4.22	4.37	4.08	-6.6%	-0.2%	4.5%
Mexico	0.40	0.53	0.48	0.48	0.50	0.54	0.56	0.67	0.78	0.79	0.73	-8.2%	6.2%	0.8%
US	6.61	6.80	6.92	7.67	8.44	8.64	8.91	9.32	9.81	10.78	10.99	2.0%	5.2%	12.2%
Total North America	11.18	11.40	11.58	12.41	13.27	13.41	13.65	14.22	14.81	15.94	15.80	-0.9%	3.5%	17.5%
Argentina	0.39	0.39	0.39	0.36	0.39	0.40	0.40	0.39	0.39	0.45	0.52	14.6%	3.0%	0.6%
Brazil	4.99	4.98	5.07	5.31	5.32	5.68	5.95	5.95	5.77	6.56	6.98	6.4%	3.4%	7.7%
Chile	0.28	0.30	0.33	0.32	0.36	0.41	0.40	0.41	0.42	0.49	0.55	12.9%	7.1%	0.6%
Colombia	0.48	0.49	0.48	0.50	0.60	0.60	0.58	0.54	0.64	0.68	0.65	-4.0%	3.1%	0.7%
Ecuador	0.11	0.12	0.13	0.16	0.20	0.20	0.24	0.24	0.25	0.24	0.24	2.9%	8.1%	0.3%
Peru	0.25	0.25	0.26	0.27	0.31	0.34	0.34	0.34	0.35	0.33	0.33	-0.5%	2.8%	0.4%
Trinidad & Tobago	^	^	^	^	^	^	^	^	^	^	^	-0.4%	-0.4%	†
Venezuela	0.80	0.79	0.73	0.61	0.67	0.62	0.60	0.64	0.64	0.64	0.61	-4.6%	-2.6%	0.7%
Central America	0.30	0.31	0.34	0.36	0.39	0.41	0.38	0.42	0.46	0.46	0.41	-11.1%	3.0%	0.5%
Other Caribbean	0.06	0.05	0.05	0.06	0.07	0.07	0.07	0.08	0.08	0.09	0.09	1.5%	3.8%	0.1%
Other South America	0.74	0.71	0.72	0.79	0.76	0.76	0.69	0.62	0.59	0.61	0.68	10.9%	-0.8%	0.8%
Total S. & Cent. America	8.40	8.38	8.50	8.73	9.08	9.50	9.65	9.61	9.59	10.55	11.07	4.9%	2.8%	12.3%
Austria	0.52	0.52	0.49	0.52	0.52	0.51	0.55	0.55	0.52	0.49	0.56	12.6%	0.6%	0.6%
Belgium	0.14	0.14	0.16	0.17	0.18	0.19	0.21	0.26	0.25	0.27	0.29	6.9%	7.7%	0.3%
Bulgaria	0.07	0.08	0.09	0.08	0.07	0.10	0.08	0.08	0.11	0.10	0.11	4.6%	4.0%	0.1%
Croatia	0.09	0.10	0.07	0.08	0.07	0.10	0.08	0.09	0.11	0.09	0.11	31.8%	2.2%	0.1%
Cyprus	^	^	^	^	^	^	0.01	0.01	0.01	0.01	0.01	19.8%	11.0%	†
Czech Republic	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.13	0.12	0.12	-1.6%	1.0%	0.1%
Denmark	0.17	0.19	0.20	0.20	0.23	0.22	0.24	0.24	0.27	0.29	0.30	2.7%	5.7%	0.3%
Estonia	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	-1.3%	8.6%	†
Finland	0.28	0.29	0.33	0.32	0.34	0.35	0.35	0.38	0.41	0.41	0.43	4.3%	4.4%	0.5%
France	1.08	1.03	1.01	1.07	1.01	1.20	1.19	1.29	1.27	1.21	1.47	21.6%	3.1%	1.6%
Germany	1.68	1.78	2.03	2.03	2.28	2.34	2.50	2.62	2.43	2.62	2.78	6.1%	5.2%	3.1%
Greece	0.15	0.13	0.15	0.15	0.14	0.16	0.16	0.18	0.22	0.22	0.24	7.0%	4.9%	0.3%
Hungary	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	12.2%	10.7%	0.1%
Iceland	0.18	0.17	0.18	0.18	0.18	0.19	0.18	0.18	0.18	0.19	0.19	0.2%	0.7%	0.2%
Ireland	0.06	0.07	0.08	0.08	0.09	0.11	0.12	0.14	0.12	0.13	0.15	8.2%	9.2%	0.2%
Italy	1.18	1.25	1.14	1.13	1.09	1.18	1.17	1.19	1.18	1.02	1.15	12.1%	-0.3%	1.3%
Latvia	0.04	0.03	0.03	0.04	0.05	0.04	0.03	0.04	0.04	0.04	0.05	21.8%	2.4%	0.1%
Lithuania	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	19.4%	8.8%	†
Luxembourg	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	1.9%	10.2%	†
Netherlands	0.14	0.14	0.15	0.16	0.19	0.21	0.26	0.36	0.44	0.52	0.61	18.3%	15.6%	0.7%
North Macedonia	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.02	35.9%	2.6%	†
Norway	1.29	1.35	1.36	1.41	1.42	1.38	1.26	1.45	1.48	1.36	1.44	5.8%	1.1%	1.6%
Poland	0.21	0.24	0.26	0.25	0.27	0.26	0.30	0.33	0.35	0.42	0.50	20.0%	8.9%	0.6%
Portugal	0.31	0.32	0.26	0.33	0.23	0.30	0.28	0.30	0.32	0.28	0.34	22.3%	1.1%	0.4%
Romania	0.20	0.25	0.26	0.27	0.25	0.26	0.25	0.25	0.27	0.24	0.28	15.9%	3.2%	0.3%
Slovakia	0.07	0.07	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.06	0.08	21.9%	1.5%	0.1%
Slovenia	0.05	0.07	0.04	0.05	0.04	0.05	0.05	0.06	0.06	0.04	0.06	52.1%	1.9%	0.1%
Spain	1.15	1.14	1.00	1.08	0.92	1.10	1.02	1.17	1.28	1.25	1.41	13.3%	2.1%	1.6%
Sweden	0.85	0.88	1.05	0.92	0.97	0.94	1.01	1.13	1.17	1.20	1.16	-3.2%	3.1%	1.3%
Switzerland	0.40	0.40	0.40	0.37	0.37	0.38	0.41	0.41	0.40	0.34	0.43	25.9%	0.8%	0.5%
Türkiye	0.70	0.52	0.82	0.88	0.84	0.94	1.27	1.22	1.13	1.31	1.31	-0.2%	6.5%	1.5%
Ukraine	0.15	0.10	0.07	0.09	0.11	0.13	0.12	0.16	0.21	0.18	0.20	9.3%	2.6%	0.2%
United Kingdom	0.60	0.72	0.90	0.90	1.05	1.17	1.28	1.41	1.30	1.43	1.43	†	9.1%	1.6%
Other Europe	0.36	0.32	0.32	0.35	0.28	0.38	0.33	0.31	0.41	0.35	0.43	24.7%	2.0%	0.5%
Total Europe	12.31	12.51	13.16	13.39	13.49	14.46	15.04	16.16	16.31	16.38	17.83	8.9%	3.8%	19.8%
Azerbaijan	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02	8.8%	2.1%	†
Belarus	^	^	^	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-10.6%	13.3%	†
Kazakhstan	0.08	0.08	0.09	0.12	0.11	0.10	0.11	0.11	0.12	0.12	0.13	8.0%	5.9%	0.1%
Russian Federation	1.78	1.70	1.64	1.79	1.79	1.83	1.87	2.05	2.09	1.94	1.97	1.8%	1.0%	2.2%
Turkmenistan	^	^	^	^	^	^	^	^	^	^	^	-0.4%	6.8%	†
Uzbekistan	0.06	0.06	0.06	0.07	0.08	0.06	0.06	0.05	0.05	0.05	0.07	32.6%	1.1%	0.1%
Other CIS	0.32	0.31	0.29	0.30	0.33	0.34	0.34	0.32	0.33	0.33	0.33	1.1%	0.3%	0.4%
Total CIS	2.26	2.17	2.10	2.29	2.33	2.36	2.40	2.56	2.61	2.47	2.54	2.6%	1.2%	2.8%
Iran	0.15	0.14	0.13	0.15	0.17	0.10	0.33	0.24	0.15	0.15	0.23	54.5%	4.7%	0.3%
Iraq	0.05	0.03	0.03	0.03	0.02	0.02	0.05	0.04	0.04	0.03	0.04	23.5%	-2.5%	†
Israel	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.05	0.06	0.08	25.0%	29.5%	0.1%
Kuwait	^	^	^	^	^	^	^	^	^	^	^	-8.6%	96.5%	†
Oman	^	^	^	^	^	^	^	^	0.01	0.01	0.01	2.0%	104.3%	†
Qatar	^	^	^	^	^	^	^	^	^	^	0.01	239.6%	31.3%	†
Saudi Arabia	^	^	^	^	^	^	^	^	0.01	0.02	0.05	152.0%	62.6%	0.1%
United Arab Emirates	^	^	^	^	0.01	0.01	0.03	0.05	0.06	0.07	0.13	77.8%	65.2%	0.1%
Other Middle East	0.04	0.03	0.01	0.02	0.03	0.04	0.05	0.07	0.07	0.09	0.09	0.5%	7.7%	0.1%
Total Middle East	0.24	0.21	0.19	0.23	0.25	0.20	0.51	0.44	0.39	0.44	0.65	45.9%	10.4%	0.7%
Algeria	^	^	^	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	7.4%	18.5%	†
Egypt	0.15	0.14	0.15	0.15	0.15	0.16	0.19	0.23	0.23	0.23	0.23	2.2%	4.8%	0.3%
Morocco	0.04	0.03	0.04	0.04	0.04	0.06	0.07	0.07	0.07	0.07	0.08	22.8%	7.7%	0.1%
South Africa	0.02	0.04	0.07	0.08	0.12	0.12	0.12	0.14	0.17	0.19	0.19	3.0%	24.7%	0.2%
Eastern Africa	0.65	0.70	0.71	0.67	0.69	0.74	0.75	0.79	0.83	0.86	0.89	4.0%	3.3%	1.0%
Middle Africa	0.19	0.20	0.20	0.21	0.24	0.27	0.28	0.31	0.31	0.31	0.32	2.9%	5.4%	0.4%
Western Africa	0.17	0.18	0.16	0.19	0.19	0.20	0.23	0.23	0.25	0.26	0.29	10.1%	5.3%	0.3%
Other Northern Africa	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	10.8%	4.8%	†
Other Southern Africa	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	26.8%	1.8%	†
Total Africa	1.24	1.34	1.37	1.38	1.47	1.58	1.69	1.80	1.90	1.95	2.05	5.3%	5.1%	2.3%
Australia	0.36	0.34	0.36	0.42	0.39	0.48	0.54	0.62	0.74	0.83	0.90	8.4%	9.5%	1.0%
Bangladesh	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	19.1%	7.3%	†
China	10.92	12.79	13.71	14.89	16.22	17.79	19.47	21.03	23.51	25.55	27.60	8.0%	9.7%	30.6%
China Hong Kong SAR	^	^	^	^	^	^	^	^	0.01	0.01	0.01	13.6%	16.2%	†
India	1.89	2.02	2.04	2.08	2.32	2.60	2.99	3.10	3.27	3.74	3.78	1.0%	7.1%	4.2%
Indonesia	0.29	0.31	0.26	0.38	0.39	0.60	0.69	0.80	0.86	0.99	1.06	6.1%	13.8%	1.2%
Japan	1.23	1.35	1.55	1.52	1.62	1.73	1.74	1.90	2.04	2.09	2.19	4.7%	6.0%	2.4%
Malaysia	0.14	0.15	0.16	0.22	0.29	0.29	0.30	0.32	0.35	0.38	0.38	1.0%	10.7%	0.4%
New Zealand	0.32	0.34	0.35	0.36	0.35	0.35	0.35	0.34	0.34	0.36	0.36	0.8%	1.3%	0.4%
Pakistan	0.31	0.32	0.33	0.35	0.32	0.33	0.39	0.42	0.40	0.39	0.41	6.1%	2.8%	0.5%
Philippines	0.21	0.20	0.22	0.23	0.24	0.24	0.23	0.22	0.24	0.25	0.26	3.6%	2.5%	0.3%
Singapore	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	5.3%	8.3%	†
South Korea	0.13	0.16	0.18	0.21	0.25	0.32	0.37	0.44	0.51	0.59	0.59	1.2%	16.5%	0.7%
Sri Lanka	0.07	0.05	0.06	0.05	0.05	0.07	0.06	0.06	0.09	0.09	0.08	-7.6%	1.2%	0.1%
Taiwan	0.10	0.09	0.09	0.11	0.11	0.11	0.13	0.13	0.15	0.21	0.24	12.7%	9.4%	0.3%
Thailand	0.19	0.21	0.21	0.24	0.28	0.35	0.38	0.36	0.36	0.37	0.39	5.4%	7.8%	0.4%
Vietnam	0.57	0.61	0.55	0.62	0.83	0.80	0.68	0.80	1.02	1.23	1.11	-9.6%	6.9%	1.2%
Other Asia Pacific	0.56	0.54	0.51	0.59	0.63	0.68	0.64	0.73	0.82	0.90	0.89	-1.3%	4.8%	1.0%
Total Asia Pacific	17.30	19.49	20.59	22.29	24.29	26.77	28.97	31.28	34.75	38.02	40.29	6.0%	8.8%	44.7%
Total World	52.93	55.51	57.49	60.72	64.18	68.28	71.91	76.08	80.36	85.76	90.23	5.2%	5.5%	100.0%
of which: OECD	25.48	26.12	27.27	28.34	29.67	30.92	31.93	33.87	34.87	36.56	37.91	3.7%	4.1%	42.0%
Non-OECD	27.44	29.39	30.22	32.38	34.52	37.37	39.98	42.21	45.49	49.20	52.32	6.3%	6.7%	58.0%
European Union	8.63	8.92	9.09	9.20	9.23	9.89	10.18	11.01	11.19	11.22	12.39	10.5%	3.7%	13.7%

* Based on gross generation and not accounting for cross-border electricity supply. 'Input-equivalent' energy is the amount of fuel that would be required by thermal power stations to generate the reported electricity output.
Details on thermal efficiency assumptions are available in the appendices and definitions page and at **https://www.energyinst.org/statistical-review**.
^ Less than 0.005.
† Less than 0.05%.
Note: Annual changes and share of total are calculated using exajoules figures and incorporate adjustments for assumed changes in thermal efficiency.

Renewable energy

Renewable power primary energy input consumption (including hydro)*

Exajoules (input-equivalent)*	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	4.09	3.99	4.11	4.18	4.24	4.15	4.09	4.15	4.13	4.26	**3.96**	-7.1%	-0.3%	**4.6%**
Mexico	0.39	0.52	0.47	0.47	0.49	0.53	0.55	0.66	0.77	0.78	**0.72**	-8.3%	6.2%	**0.8%**
US	5.33	5.50	5.56	6.20	6.97	7.18	7.41	7.96	8.32	9.20	**9.21**	0.1%	5.6%	**10.8%**
Total North America	9.82	10.01	10.14	10.85	11.70	11.86	12.05	12.77	13.22	14.25	**13.88**	-2.5%	3.5%	16.2%
Argentina	0.34	0.34	0.34	0.31	0.33	0.34	0.33	0.35	0.35	0.40	**0.47**	17.6%	3.2%	**0.6%**
Brazil	4.37	4.30	4.27	4.58	4.58	4.82	5.00	5.06	4.90	5.69	**6.02**	5.9%	3.3%	**7.0%**
Chile	0.28	0.30	0.33	0.32	0.36	0.41	0.40	0.41	0.42	0.49	**0.55**	12.9%	7.1%	**0.6%**
Colombia	0.45	0.46	0.45	0.47	0.57	0.56	0.55	0.51	0.61	0.64	**0.61**	-5.4%	3.0%	**0.7%**
Ecuador	0.11	0.12	0.13	0.16	0.20	0.20	0.24	0.24	0.25	0.24	**0.24**	2.9%	8.0%	**0.3%**
Peru	0.23	0.24	0.25	0.25	0.30	0.32	0.33	0.32	0.33	0.31	**0.31**	-0.7%	2.9%	**0.4%**
Trinidad & Tobago	^	^	^	^	^	^	^	^	^	^	**^**	-0.4%	-0.4%	†
Venezuela	0.80	0.79	0.73	0.61	0.67	0.62	0.60	0.64	0.64	0.64	**0.61**	-4.6%	-2.6%	**0.7%**
Central America	0.30	0.31	0.34	0.35	0.39	0.41	0.37	0.42	0.45	0.46	**0.41**	-11.2%	3.0%	**0.5%**
Other Caribbean	^	^	^	^	0.06	0.06	0.06	0.07	0.07	0.08	**0.08**	2.3%	4.8%	**0.1%**
Other South America	0.73	0.70	0.71	0.78	0.75	0.75	0.68	0.61	0.58	0.60	**0.67**	11.0%	-0.9%	**0.8%**
Total S. & Cent. America	7.68	7.59	7.58	7.88	8.21	8.50	8.55	8.62	8.60	9.56	**9.98**	4.5%	2.7%	11.7%
Austria	0.50	0.50	0.47	0.50	0.50	0.49	0.53	0.53	0.51	0.48	**0.54**	13.2%	0.7%	**0.6%**
Belgium	0.12	0.13	0.15	0.15	0.16	0.17	0.20	0.23	0.22	0.24	**0.26**	7.9%	7.7%	**0.3%**
Bulgaria	0.07	0.07	0.09	0.07	0.06	0.09	0.07	0.07	0.10	0.10	**0.10**	2.8%	3.7%	**0.1%**
Croatia	0.09	0.10	0.07	0.08	0.07	0.09	0.08	0.08	0.10	0.09	**0.11**	32.1%	2.3%	**0.1%**
Cyprus	^	^	^	^	^	^	^	^	^	^	**^**	21.6%	12.0%	†
Czech Republic	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11	**0.11**	-0.9%	1.0%	**0.1%**
Denmark	0.16	0.18	0.19	0.19	0.22	0.21	0.23	0.23	0.26	0.28	**0.29**	2.8%	5.9%	**0.3%**
Estonia	^	^	^	^	^	^	^	^	^	^	**^**	-1.6%	8.3%	†
Finland	0.27	0.28	0.32	0.31	0.32	0.33	0.33	0.36	0.39	0.39	**0.41**	6.4%	4.3%	**0.5%**
France	0.97	0.91	0.89	0.95	0.89	1.08	1.07	1.18	1.15	1.06	**1.33**	25.0%	3.2%	**1.6%**
Germany	1.57	1.66	1.91	1.92	2.16	2.22	2.39	2.48	2.31	2.50	**2.65**	6.2%	5.4%	**3.1%**
Greece	0.14	0.12	0.14	0.14	0.13	0.15	0.15	0.17	0.21	0.21	**0.23**	7.3%	4.9%	**0.3%**
Hungary	^	^	^	^	^	^	^	0.06	0.07	0.08	**0.09**	13.3%	11.0%	**0.1%**
Iceland	0.18	0.17	0.18	0.18	0.18	0.19	0.18	0.18	0.18	0.19	**0.19**	0.2%	0.6%	**0.2%**
Ireland	0.06	0.06	0.08	0.07	0.09	0.10	0.11	0.13	0.11	0.12	**0.13**	5.6%	8.9%	**0.2%**
Italy	1.13	1.21	1.09	1.07	1.03	1.13	1.14	1.14	1.13	0.98	**1.10**	12.0%	-0.3%	**1.3%**
Latvia	^	^	^	^	0.05	^	^	^	^	^	**^**	22.8%	2.5%	**0.1%**
Lithuania	^	^	^	^	^	^	^	^	^	^	**^**	22.2%	8.9%	†
Luxembourg	^	^	^	^	^	^	^	^	^	^	**^**	1.2%	10.6%	†
Netherlands	0.13	0.12	0.14	0.15	0.18	0.19	0.23	0.33	0.40	0.47	**0.56**	18.4%	15.8%	**0.7%**
North Macedonia	^	^	^	^	^	^	^	^	^	^	**^**	35.9%	2.6%	†
Norway	1.28	1.35	1.36	1.40	1.39	1.36	1.25	1.43	1.46	1.34	**1.41**	5.2%	1.0%	**1.7%**
Poland	0.18	0.21	0.24	0.23	0.24	0.22	0.26	0.28	0.30	0.37	**0.45**	22.2%	9.5%	**0.5%**
Portugal	0.29	0.31	0.24	0.32	0.22	0.29	0.27	0.29	0.31	0.27	**0.33**	22.3%	1.1%	**0.4%**
Romania	0.20	0.25	0.25	0.26	0.23	0.25	0.23	0.23	0.25	0.22	**0.26**	17.8%	2.9%	**0.3%**
Slovakia	0.06	0.06	0.06	0.07	0.07	0.06	0.07	0.07	0.07	0.06	**0.07**	24.4%	1.2%	**0.1%**
Slovenia	0.05	0.06	^	^	^	0.05	^	0.05	0.05	^	**0.06**	55.4%	1.8%	**0.1%**
Spain	1.10	1.08	0.95	1.02	0.85	1.00	0.93	1.09	1.20	1.17	**1.34**	14.7%	2.0%	**1.6%**
Sweden	0.83	0.85	1.01	0.88	0.93	0.89	0.96	1.08	1.12	1.13	**1.10**	-3.2%	2.8%	**1.3%**
Switzerland	0.40	0.40	0.40	0.37	0.37	0.37	0.40	0.40	0.40	0.34	**0.43**	26.2%	0.6%	**0.5%**
Türkiye	0.68	0.51	0.81	0.87	0.84	0.93	1.26	1.22	1.13	1.31	**1.30**	-0.2%	6.7%	**1.5%**
Ukraine	0.15	0.10	0.07	0.09	0.10	0.12	0.11	0.16	0.21	0.18	**0.19**	9.4%	2.7%	**0.2%**
United Kingdom	0.55	0.67	0.86	0.86	1.01	1.12	1.21	1.35	1.23	1.34	**1.34**	-0.6%	9.2%	**1.6%**
Other Europe	0.36	0.32	0.32	0.35	0.28	0.38	0.33	0.30	0.41	0.35	**0.43**	24.8%	2.0%	**0.5%**
Total Europe	11.74	11.91	12.56	12.78	12.84	13.74	14.29	15.38	15.51	15.54	**16.96**	9.2%	3.8%	19.8%
Azerbaijan	^	^	^	^	^	^	^	^	^	^	**^**	8.8%	2.1%	†
Belarus	^	^	^	^	^	^	^	^	^	^	**^**	-10.6%	17.2%	†
Kazakhstan	0.08	0.08	0.09	0.12	0.11	0.10	0.11	0.11	0.12	0.12	**0.13**	8.0%	5.9%	**0.2%**
Russian Federation	1.78	1.70	1.64	1.79	1.79	1.83	1.86	2.05	2.08	1.93	**1.96**	1.6%	0.9%	**2.3%**
Turkmenistan	^	^	^	^	^	^	^	^	^	^	**^**	-0.4%	6.8%	†
Uzbekistan	0.06	0.06	0.06	0.07	0.08	0.06	0.06	^	^	0.05	**0.07**	32.6%	1.1%	**0.1%**
Other CIS	0.32	0.31	0.29	0.30	0.33	0.34	0.34	0.32	0.33	0.33	**0.33**	1.1%	0.3%	**0.4%**
Total CIS	2.26	2.17	2.10	2.29	2.32	2.35	2.39	2.55	2.60	2.46	**2.52**	2.5%	1.1%	2.9%
Iran	0.15	0.14	0.13	0.15	0.17	0.10	0.33	0.24	0.15	0.15	**0.23**	54.5%	4.7%	**0.3%**
Iraq	^	^	^	^	^	^	0.05	^	^	^	**^**	23.5%	-2.5%	†
Israel	^	^	^	^	^	^	^	^	0.05	0.06	**0.08**	25.7%	29.8%	**0.1%**
Kuwait	^	^	^	^	^	^	^	^	^	^	**^**	-8.6%	96.5%	†
Oman	^	^	^	^	^	^	^	^	^	^	**^**	2.0%	104.3%	†
Qatar	^	^	^	^	^	^	^	^	^	^	**^**	239.6%	31.3%	†
Saudi Arabia	^	^	^	^	^	^	^	^	^	^	**0.05**	152.0%	62.6%	**0.1%**
United Arab Emirates	^	^	^	^	^	^	^	^	0.06	0.07	**0.13**	77.8%	65.2%	**0.2%**
Other Middle East	^	^	^	^	^	^	0.05	0.07	0.07	0.09	**0.09**	0.5%	7.7%	**0.1%**
Total Middle East	0.24	0.21	0.19	0.23	0.25	0.20	0.51	0.44	0.39	0.44	**0.39**	-12.3%	4.8%	0.5%
Algeria	^	^	^	^	^	^	^	^	^	^	**^**	7.4%	18.5%	†
Egypt	0.15	0.14	0.15	0.15	0.15	0.16	0.19	0.23	0.23	0.23	**0.23**	2.2%	4.8%	**0.3%**
Morocco	^	^	^	^	^	0.06	0.07	0.07	0.07	0.07	**0.08**	22.8%	7.7%	**0.1%**
South Africa	^	^	0.07	0.08	0.12	0.12	0.12	0.13	0.17	0.18	**0.19**	3.0%	25.8%	**0.2%**
Eastern Africa	0.65	0.70	0.71	0.67	0.69	0.74	0.75	0.79	0.83	0.86	**0.89**	4.0%	3.3%	**1.0%**
Middle Africa	0.19	0.20	0.20	0.21	0.24	0.27	0.28	0.31	0.31	0.31	**0.32**	2.9%	5.4%	**0.4%**
Western Africa	0.17	0.18	0.16	0.19	0.19	0.20	0.23	0.23	0.25	0.26	**0.29**	10.1%	5.3%	**0.3%**
Other Northern Africa	^	^	^	^	^	^	^	^	^	^	**^**	10.8%	4.8%	†
Other Southern Africa	^	^	^	^	^	^	^	^	^	^	**^**	26.8%	1.8%	†
Total Africa	1.24	1.33	1.36	1.38	1.47	1.58	1.68	1.80	1.90	1.95	**2.05**	5.3%	5.1%	2.4%
Australia	0.35	0.33	0.35	0.41	0.38	0.48	0.53	0.61	0.73	0.83	**0.90**	8.5%	9.7%	**1.0%**
Bangladesh	^	^	^	^	^	^	^	^	^	^	**^**	19.1%	7.3%	†
China	10.79	12.65	13.61	14.79	16.12	17.66	19.34	20.93	23.41	25.45	**27.49**	8.0%	9.8%	**32.2%**
China Hong Kong SAR	^	^	^	^	^	^	^	^	^	^	**^**	4.9%	23.3%	†
India	1.88	2.01	2.03	2.05	2.30	2.56	2.94	3.05	3.20	3.64	**3.65**	0.4%	6.9%	**4.3%**
Indonesia	0.26	0.24	0.23	0.29	0.30	0.48	0.47	0.52	0.55	0.65	**0.65**	0.1%	9.8%	**0.8%**
Japan	1.22	1.34	1.54	1.50	1.60	1.71	1.72	1.88	2.03	2.07	**2.17**	4.8%	6.0%	**2.5%**
Malaysia	0.13	0.14	0.15	0.20	0.27	0.27	0.28	0.29	0.32	0.34	**0.34**	0.2%	10.1%	**0.4%**
New Zealand	0.32	0.34	0.35	0.36	0.35	0.35	0.35	0.34	0.34	0.36	**0.36**	0.8%	1.3%	**0.4%**
Pakistan	0.31	0.32	0.33	0.35	0.32	0.33	0.39	0.42	0.40	0.39	**0.41**	6.1%	2.8%	**0.5%**
Philippines	0.19	0.19	0.20	0.21	0.22	0.22	0.21	0.20	0.22	0.23	**0.24**	3.4%	2.2%	**0.3%**
Singapore	^	^	^	^	^	^	^	^	^	^	**^**	5.3%	8.3%	†
South Korea	0.11	0.14	0.16	0.19	0.23	0.29	0.34	0.41	0.49	0.56	**0.56**	0.7%	18.2%	**0.7%**
Sri Lanka	0.07	^	0.06	^	^	0.07	0.06	0.06	0.09	0.09	**0.08**	-7.6%	1.2%	**0.1%**
Taiwan	0.09	0.08	0.09	0.11	0.11	0.11	0.13	0.13	0.15	0.21	**0.24**	12.7%	9.8%	**0.3%**
Thailand	0.13	0.15	0.15	0.17	0.21	0.27	0.29	0.26	0.28	0.30	**0.31**	4.1%	8.7%	**0.4%**
Vietnam	0.57	0.61	0.55	0.62	0.83	0.80	0.68	0.80	1.02	1.23	**1.11**	-9.6%	6.9%	**1.3%**
Other Asia Pacific	0.56	0.54	0.51	0.59	0.63	0.68	0.64	0.73	0.82	0.90	**0.89**	-1.3%	4.8%	**1.0%**
Total Asia Pacific	17.00	19.16	20.31	21.91	23.94	26.31	28.39	30.67	34.08	37.28	**39.45**	5.8%	8.8%	46.1%
Total World	49.97	52.39	54.25	57.33	60.73	64.54	67.88	72.23	76.29	81.46	**85.49**	4.9%	5.5%	100.0%
of which: OECD	23.50	24.07	25.18	26.13	27.40	28.57	29.53	31.59	32.43	33.96	**35.06**	3.2%	4.1%	**41.0%**
Non-OECD	26.48	28.31	29.07	31.20	33.33	35.96	38.35	40.64	43.86	47.50	**50.43**	6.2%	6.7%	**59.0%**
European Union	8.13	8.38	8.55	8.66	8.66	9.25	9.54	10.33	10.48	10.48	**11.65**	11.2%	3.7%	**13.6%**

* Based on gross generation and not accounting for cross-border electricity supply. 'Input-equivalent' energy is the amount of fuel that would be required by thermal power stations to generate the reported electricity output.

Details on thermal efficiency assumptions are available in the appendices and definitions page and at **https://www.energyinst.org/statistical-review**.

^ Less than 0.005.

† Less than 0.05%.

Note: Annual changes and share of total are calculated using exajoules figures and incorporate adjustments for assumed changes in thermal efficiency.

Renewable energy

Solar – Installed photovoltaic (PV) power and concentrated solar power (CSP)*

Megawatts	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	1210	1843	2519	2665	2932	3095	3327	3609	4554	5312	**5757**	8.4%	16.9%	0.4%
Mexico	109	174	287	633	1126	2583	4744	6712	8180	9364	**10910**	16.5%	58.5%	0.8%
US	13246	18112	24237	35434	43770	51987	61587	76441	95391	114361	**139205**	21.7%	26.5%	9.8%
Total North America	**14565**	**20129**	**27043**	**38731**	**47828**	**57665**	**69658**	**86762**	**108125**	**129037**	**155873**	**20.8%**	**26.7%**	**11.0%**
Argentina	16	16	16	16	16	198	447	769	1080	1116	**1408**	26.2%	57.0%	0.1%
Brazil	12	21	46	128	1207	2453	4698	8452	14499	25520	**37449**	46.7%	122.8%	2.6%
Chile	12	203	545	1050	1829	2294	2673	3229	4516	6525	**8475**	29.9%	93.1%	0.6%
Honduras	5	5	396	412	455	515	518	525	529	529	**529**	–	58.9%	^
The Dominican Republic	7	13	22	70	93	188	331	382	580	732	**1073**	46.7%	65.7%	0.1%
Other S. & Cent. America	405	506	882	1064	1666	1885	2415	2829	3494	4039	**4669**	15.6%	27.7%	0.3%
Total S. & Cent. America	**457**	**764**	**1907**	**2739**	**5265**	**7531**	**11083**	**16186**	**24699**	**38462**	**53603**	**39.4%**	**61.1%**	**3.8%**
Austria	626	785	937	1096	1269	1455	1702	2043	2783	3792	**6832**	80.2%	27.0%	0.5%
Belgium	2902	3015	3132	3329	3621	4000	4637	5573	6012	6756	**8549**	26.5%	11.4%	0.6%
Bulgaria	1039	1029	1028	1030	1031	1033	1044	1100	1275	1737	**2937**	69.1%	11.0%	0.2%
Czech Republic	2064	2067	2075	2068	2075	2081	2111	2172	2246	2420	**2499**	3.3%	1.9%	0.2%
Denmark	571	607	782	851	906	998	1080	1304	1704	3070	**3529**	15.0%	20.0%	0.2%
France	5277	6034	7138	7702	8610	9629	10738	11926	14612	17350	**20551**	18.4%	14.6%	1.4%
Germany	36710	37900	39224	40679	42293	45158	48914	53671	60038	67479	**81739**	21.1%	8.3%	5.8%
Greece	2579	2596	2604	2604	2606	2651	2834	3288	4277	5430	**7030**	29.5%	10.5%	0.5%
Hungary	35	89	172	235	344	728	1400	2131	2968	4235	**5835**	37.8%	66.8%	0.4%
Italy	18190	18600	18907	19289	19688	20114	20871	21656	22600	24561	**29795**	21.3%	5.1%	2.1%
Lithuania	68	69	69	70	74	82	103	164	255	572	**1165**	103.7%	32.9%	0.1%
Netherlands	650	1007	1526	2135	2911	4608	7228	11110	14823	19600	**23904**	22.0%	43.4%	1.7%
Poland	2	27	108	187	287	562	1539	3955	7416	12170	**15809**	29.9%	141.0%	1.1%
Portugal	296	415	447	513	579	667	901	1100	1646	2646	**3876**	46.5%	29.3%	0.3%
Romania	761	1293	1326	1372	1374	1386	1398	1383	1394	1809	**1917**	6.0%	9.7%	0.1%
Slovakia	533	533	533	533	528	471	590	535	537	549	**631**	15.0%	1.7%	^
Slovenia	187	224	239	232	247	247	278	370	461	626	**1034**	65.2%	18.7%	0.1%
Spain	6994	7001	7008	7017	7027	7068	11111	12440	16019	25615	**31016**	21.1%	16.1%	2.2%
Sweden	43	60	104	153	244	428	714	1107	1606	2388	**3488**	46.1%	55.2%	0.2%
Switzerland	756	1061	1394	1664	1906	2173	2498	2973	3655	4340	**5840**	34.6%	22.7%	0.4%
Türkiye	19	41	250	834	3422	5064	5996	6668	7817	9426	**11293**	19.8%	89.7%	0.8%
Ukraine	748	819	841	955	1200	2003	5936	7331	8062	8062	**8062**	–	26.8%	0.6%
United Kingdom	2937	5528	9601	11914	12760	13060	13345	13551	13915	14651	**15657**	6.9%	18.2%	1.1%
Other Europe	221	331	404	500	647	817	1217	1758	2479	3713	**6211**	67.3%	39.6%	0.4%
Total Europe	**84208**	**91133**	**99849**	**106962**	**115649**	**126483**	**148184**	**169308**	**198600**	**242999**	**299200**	**23.1%**	**13.5%**	**21.1%**
Russian Federation	1	5	61	76	225	535	1276	1428	1661	1816	**2170**	19.5%	110.7%	0.2%
Kazakhstan	^	5	57	57	59	209	542	912	1038	1146	**1306**	13.9%	119.6%	0.1%
Other CIS	2	8	12	75	114	210	212	250	461	812	**1209**	49.0%	89.7%	0.1%
Total CIS	**4**	**18**	**130**	**209**	**398**	**954**	**2030**	**2589**	**3160**	**3774**	**4685**	**24.2%**	**104.0%**	**0.3%**
Israel	446	656	796	906	1006	1346	2138	2652	3591	4411	**4524**	2.6%	26.1%	0.3%
Jordan	^	^	57	311	418	760	971	1541	1811	1966	**1990**	1.2%	160.0%	0.1%
Saudi Arabia	22	24	24	24	34	84	109	109	439	440	**2285**	419.5%	58.8%	0.2%
United Arab Emirates	126	130	132	135	353	600	1935	2333	3002	3588	**5925**	65.1%	47.0%	0.4%
Other Middle East	38	72	145	245	438	744	923	1172	1417	3579	**3819**	6.7%	58.4%	0.3%
Total Middle East	**633**	**883**	**1154**	**1621**	**2250**	**3535**	**6077**	**7807**	**10261**	**13983**	**18543**	**32.6%**	**40.2%**	**1.3%**
Algeria	25	28	61	261	354	366	366	366	366	451	**451**	–	33.5%	^
Egypt	35	35	36	59	180	764	1647	1643	1663	1724	**1856**	7.7%	48.7%	0.1%
Morocco	35	40	200	202	204	734	734	774	854	854	**934**	9.4%	38.8%	0.1%
South Africa	262	1164	1353	2176	3451	4805	4908	5994	6316	6326	**6164**	-2.6%	37.1%	0.4%
Tunisia	10	17	28	38	47	64	80	95	95	197	**506**	156.8%	48.8%	^
Other Africa	307	384	493	610	870	1290	1677	1883	2342	3150	**3568**	13.3%	27.8%	0.3%
Total Africa	**674**	**1668**	**2171**	**3346**	**5106**	**8023**	**9412**	**10756**	**11635**	**12702**	**13479**	**6.1%**	**34.9%**	**0.9%**
Australia	4568	5287	5946	6689	7291	11365	16147	20838	25757	29958	**33683**	12.4%	22.1%	2.4%
China	17759	28399	43549	77819	130832	175262	204971	253864	306973	393032	**609921**	55.2%	42.4%	43.0%
India	1603	3776	5697	9982	18257	27485	35250	39705	49950	63390	**73109**	15.3%	46.5%	5.2%
Japan	13599	23339	34150	42040	49500	56162	63192	71868	78413	83057	**87068**	4.8%	20.4%	6.1%
Malaysia	139	205	266	344	394	545	894	1483	1787	1933	**1933**	–	30.1%	0.1%
Pakistan	101	165	265	589	655	680	756	855	1078	1244	**1244**	–	28.6%	0.1%
Philippines	3	28	172	784	908	919	982	1058	1378	1625	**1675**	3.0%	87.9%	0.1%
South Korea	1555	2620	3845	4882	6435	8921	12717	17323	21264	24078	**27046**	12.3%	33.1%	1.9%
Taiwan	410	636	884	1245	1768	2738	4150	5817	7700	9724	**12418**	27.7%	40.6%	0.9%
Thailand	829	1304	1425	2451	2702	2967	2988	2984	3065	3185	**3186**	^	14.4%	0.2%
Vietnam	5	5	5	5	8	105	4994	16661	16661	16698	**17077**	2.3%	127.9%	1.2%
Other Asia Pacific	303	400	600	747	1070	1301	2007	2541	3352	4255	**5226**	22.8%	32.9%	0.4%
Total Asia Pacific	**40872**	**66164**	**96805**	**147578**	**219821**	**288450**	**349048**	**434998**	**517378**	**632180**	**873586**	**38.2%**	**35.8%**	**61.6%**
Total World	**141412**	**180759**	**229058**	**301186**	**396316**	**492641**	**595492**	**728405**	**873858**	**1073136**	**1418969**	**32.2%**	**25.9%**	**100.0%**

Source: IRENA (2024), Renewable Capacity Statistics 2024, The International Renewable Energy Agency, Abu Dhabi.
* End of year.
^ Less than 0.05.

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Megawatts	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	7801	9694	11214	11973	12250	12816	13220	13735	14259	15265	**16989**	11.3%	8.1%	1.7%
Mexico	2122	2569	3271	4051	4180	4180	6541	6995	7155	7318	**7318**	^	13.2%	0.7%
US	60198	64430	72767	81502	87831	94666	103836	118664	133019	141674	**148020**	4.5%	9.4%	14.6%
Total North America	70121	76693	87252	97526	104261	111662	123597	139394	154433	164257	**172327**	4.9%	9.4%	16.9%
Argentina	163	188	188	188	228	751	1609	2624	3292	3310	**3706**	12.0%	36.7%	0.4%
Brazil	2202	4888	7633	10129	12304	14843	15438	17198	21161	24163	**29135**	20.6%	29.5%	2.9%
Chile	295	732	907	1034	1305	1524	1620	2340	3137	3830	**4510**	17.8%	31.4%	0.4%
Costa Rica	148	196	278	319	378	408	411	394	390	390	**408**	4.5%	10.7%	^
Uruguay	59	481	857	1211	1513	1513	1516	1516	1516	1516	**1516**	^	38.3%	0.1%
Other S. & Cent. America	675	962	1346	1569	1635	1864	2080	2147	2275	2519	**2742**	8.9%	15.1%	0.3%
Total S. & Cent. America	3542	7448	11209	14451	17363	20903	22675	26220	31772	35729	**42018**	17.6%	28.1%	4.1%
Austria	1675	2110	2489	2730	2887	3133	3224	3226	3408	3579	**3977**	11.1%	9.0%	0.4%
Belgium	1769	1933	2181	2334	2779	3305	3864	4673	4948	5303	**5504**	3.8%	12.0%	0.5%
Bulgaria	683	699	699	699	698	699	703	703	704	702	**702**	–	0.3%	0.1%
Denmark	4819	4886	5077	5245	5489	6123	6111	6259	7004	7084	**7482**	5.6%	4.5%	0.7%
Finland	447	627	1005	1565	2044	2041	2284	2586	3257	5677	**6957**	22.5%	31.6%	0.7%
France	8160	9201	10298	11567	13499	14900	16427	17535	18551	20811	**22196**	6.7%	10.5%	2.2%
Germany	33477	38614	44580	49435	55580	58721	60742	62201	63711	66163	**69459**	5.0%	7.6%	6.8%
Greece	1809	1978	2091	2370	2624	2877	3589	4119	4649	4702	**5220**	11.0%	11.2%	0.5%
Ireland	1923	2283	2451	2802	3319	3674	4126	4307	4339	4536	**4807**	6.0%	9.6%	0.5%
Italy	8542	8683	9137	9384	9737	10230	10679	10871	11254	11821	**12308**	4.1%	3.7%	1.2%
Netherlands	2713	2865	3391	4257	4202	4393	4484	6648	7674	8755	**10749**	22.8%	14.8%	1.1%
Norway	818	859	867	883	1207	1710	2914	4030	5049	5062	**5065**	0.1%	20.0%	0.5%
Poland	3429	3836	4886	5747	5759	5766	5838	6298	6967	8150	**9307**	14.2%	10.5%	0.9%
Portugal	4610	4857	4937	5124	5124	5172	5223	5122	5427	5538	**5617**	1.4%	2.0%	0.6%
Romania	2773	3244	3130	3025	3030	3032	3038	3013	3015	3015	**3087**	2.4%	1.1%	0.3%
Spain	22958	22925	22943	22990	23124	23405	25590	26819	27908	30114	**31028**	3.0%	3.1%	3.1%
Sweden	4194	5088	5819	6435	6611	7300	8681	9976	12116	14279	**16252**	13.8%	14.5%	1.6%
Türkiye	2760	3630	4503	5751	6516	7005	7591	8832	10607	11396	**11697**	2.6%	15.5%	1.1%
Ukraine	362	514	514	526	553	621	1258	1402	1761	1761	**1761**	–	17.1%	0.2%
United Kingdom	11282	13074	14305	16126	19585	21606	23887	24458	25748	28762	**30215**	5.1%	10.4%	3.0%
Other Europe	1724	1913	2193	2442	2700	3007	3358	3560	3936	4365	**5318**	21.8%	11.9%	0.5%
Total Europe	120927	133819	147496	161436	177068	188721	203610	216638	232034	251575	**268708**	6.8%	8.3%	26.4%
Russian Federation	10	10	11	11	11	52	102	945	1955	2218	**2518**	13.5%	73.8%	0.2%
Other CIS	12	14	33	81	103	162	182	182	181	188	**192**	2.4%	31.6%	^
Total CIS	22	24	44	92	114	214	284	1127	2136	2406	**2710**	12.6%	61.6%	0.3%
Iran	108	149	153	191	259	282	305	308	310	342	**365**	6.7%	13.0%	^
Jordan	1	1	118	184	198	295	384	529	632	614	**614**	–	83.7%	0.1%
Other Middle East	13	14	14	34	37	47	97	97	97	608	**892**	46.6%	53.2%	0.1%
Total Middle East	122	165	286	409	494	623	786	934	1040	1564	**1871**	19.6%	31.4%	0.2%
Egypt	555	555	755	755	755	1130	1132	1380	1640	1643	**1890**	15.1%	13.0%	0.2%
Morocco	495	797	797	902	1022	1225	1225	1435	1471	1558	**1858**	19.3%	14.1%	0.2%
South Africa	257	569	1079	1473	2094	2094	2094	2516	2495	3163	**3442**	8.8%	29.6%	0.3%
Tunisia	200	233	240	240	240	245	245	245	245	245	**245**	–	2.1%	^
Other Africa	235	245	449	461	467	777	832	938	1058	1136	**1219**	7.2%	17.9%	0.1%
Total Africa	1742	2399	3320	3831	4578	5471	5528	6514	6909	7745	**8654**	11.7%	17.4%	0.9%
Australia	3221	3797	4181	4324	5407	6409	7881	10207	10555	10555	**11327**	7.3%	13.4%	1.1%
China	76731	96819	131048	148517	164374	184665	209582	281993	328973	365964	**441895**	20.7%	19.1%	43.4%
India	18420	22465	25088	28700	32848	35288	37505	38559	40067	41930	**44736**	6.7%	9.3%	4.4%
Japan	2646	2753	2809	3205	3483	3498	3952	4120	4262	4372	**5232**	19.7%	7.1%	0.5%
New Zealand	623	682	689	690	690	690	690	690	913	994	**1059**	6.5%	5.4%	0.1%
Pakistan	106	206	308	591	789	1186	1236	1236	1335	1845	**1845**	–	33.1%	0.2%
Philippines	33	337	427	427	427	427	443	443	443	443	**443**	–	29.7%	^
South Korea	576	612	847	1067	1215	1420	1494	1645	1724	1908	**2167**	13.6%	14.2%	0.2%
Taiwan	614	637	647	682	692	713	845	937	1033	1581	**2674**	69.1%	15.8%	0.3%
Thailand	223	225	234	507	628	1103	1507	1507	1545	1545	**1545**	–	21.4%	0.2%
Other Asia Pacific	245	336	450	501	611	847	1160	1556	5427	6818	**7988**	17.2%	41.7%	0.8%
Total Asia Pacific	103438	128868	166727	189211	211165	236246	266294	342892	396278	437956	**520912**	18.9%	17.5%	51.2%
Total World	299914	349417	416335	466956	515045	563840	622773	733719	824602	901231	**1017199**	12.9%	13.0%	100.0%

Source: IRENA (2024), Renewable Energy Statistics 2024, The International Renewable Energy Agency, Abu Dhabi.
* End of year.
^ Less than 0.05.
Note: Capacity figures in this table include both onshore and offshore wind and are on an AC basis.

Renewable energy Solar & Wind – Installed capacity by type*

Megawatts	2022 Solar PV	2022 CSP	2022 Total	2023 Solar PV	2023 CSP	2023 Total
Canada	5312	–	**5312**	5757	–	**5757**
Mexico	9347	17	**9364**	10893	17	**10910**
US	112881	1480	**114361**	137725	1480	**139205**
Total North America	127540	1497	129037	154376	1497	155873
Argentina	1116	–	**1116**	1408	–	**1408**
Brazil	25520	–	**25520**	37449	–	**37449**
Chile	6417	108	**6525**	8366	108	**8475**
Honduras	529	–	**529**	529	–	**529**
The Dominican Republic	732	–	**732**	1073	–	**1073**
Other S. & Cent. America	4039	–	**4039**	4669	–	**4669**
Total S. & Cent. America	38354	108	38462	53495	108	53603
Austria	3792	–	**3792**	6832	–	**6832**
Belgium	6756	–	**6756**	8549	–	**8549**
Bulgaria	1737	–	**1737**	2937	–	**2937**
Czech Republic	2420	–	**2420**	2499	–	**2499**
Denmark	3070	–	**3070**	3529	–	**3529**
France	17341	9	**17350**	20542	9	**20551**
Germany	67477	2	**67479**	81737	2	**81739**
Greece	5430	–	**5430**	7030	–	**7030**
Hungary	4235	–	**4235**	5835	–	**5835**
Italy	24555	6	**24561**	29789	6	**29795**
Lithuania	572	–	**572**	1165	–	**1165**
Netherlands	19600	–	**19600**	23904	–	**23904**
Poland	12170	–	**12170**	15809	–	**15809**
Portugal	2646	–	**2646**	3876	–	**3876**
Romania	1809	^	**1809**	1917	^	**1917**
Slovakia	549	–	**549**	631	–	**631**
Slovenia	626	–	**626**	1034	–	**1034**
Spain	23311	2304	**25615**	28712	2304	**31016**
Sweden	2388	–	**2388**	3488	–	**3488**
Switzerland	4340	–	**4340**	5840	–	**5840**
Türkiye	9425	1	**9426**	11292	1	**11293**
Ukraine	8062	–	**8062**	8062	–	**8062**
United Kingdom	14651	–	**14651**	15657	–	**15657**
Other Europe	3713	–	**3713**	6211	–	**6211**
Total Europe	240676	2322	242999	296878	2322	299200
Russian Federation	1816	–	**1816**	2170	–	**2170**
Kazakhstan	1146	–	**1146**	1306	–	**1306**
Other CIS	812	–	**812**	1209	–	**1209**
Total CIS	3774	–	3774	4685	–	4685
Israel	4169	242	**4411**	4282	242	**4524**
Jordan	1966	–	**1966**	1990	–	**1990**
Saudi Arabia	390	50	**440**	2235	50	**2285**
United Arab Emirates	3288	300	**3588**	5325	600	**5925**
Other Middle East	3527	52	**3579**	3767	52	**3819**
Total Middle East	13340	644	13983	17599	944	18543
Algeria	426	25	**451**	426	25	**451**
Egypt	1704	20	**1724**	1836	20	**1856**
Morocco	314	540	**854**	394	540	**934**
South Africa	5826	500	**6326**	5664	500	**6164**
Tunisia	197	–	**197**	506	–	**506**
Other Africa	3150	–	**3150**	3568	–	**3568**
Total Africa	11617	1085	12702	12394	1085	13479
Australia	29955	3	**29958**	33680	3	**33683**
China	392462	570	**393032**	609351	570	**609921**
India	63048	343	**63390**	72767	343	**73109**
Japan	83057	–	**83057**	87068	–	**87068**
Malaysia	1933	–	**1933**	1933	–	**1933**
Pakistan	1244	–	**1244**	1244	–	**1244**
Philippines	1625	–	**1625**	1675	–	**1675**
South Korea	24078	–	**24078**	27046	–	**27046**
Taiwan	9724	–	**9724**	12418	–	**12418**
Thailand	3180	5	**3185**	3181	5	**3186**
Vietnam	16698	–	**16698**	17077	–	**17077**
Other Asia Pacific	4255	–	**4255**	5226	–	**5226**
Total Asia Pacific	631259	921	632180	872665	921	873586
Total World	1066559	6576	1073136	1412093	6876	1418969

Megawatts	2022 Onshore	2022 Offshore	2022 Total	2023 Onshore	2023 Offshore	2023 Total
Canada	15265	–	**15265**	16989	–	**16989**
Mexico	7318	–	**7318**	7318	–	**7318**
US	141633	41	**141674**	147979	41	**148020**
Total North America	164215	41	164257	172286	41	172327
Argentina	3310	–	**3310**	3706	–	**3706**
Brazil	24163	–	**24163**	29135	–	**29135**
Chile	3830	–	**3830**	4510	–	**4510**
Costa Rica	390	–	**390**	408	–	**408**
Uruguay	1516	–	**1516**	1516	–	**1516**
Other S. & Cent. America	2519	–	**2519**	2742	–	**2742**
Total S. & Cent. America	35729	–	35729	42018	–	42018
Austria	3579	–	**3579**	3977	–	**3977**
Belgium	3042	2262	**5303**	3242	2262	**5504**
Bulgaria	702	–	**702**	702	–	**702**
Denmark	4778	2306	**7084**	4832	2650	**7482**
Finland	5604	73	**5677**	6884	73	**6957**
France	20809	2	**20811**	22194	2	**22196**
Germany	58014	8149	**66163**	61052	8407	**69459**
Greece	4702	–	**4702**	5220	–	**5220**
Ireland	4511	25	**4536**	4782	25	**4807**
Italy	11821	–	**11821**	12308	–	**12308**
Netherlands	6185	2570	**8755**	6771	3978	**10749**
Norway	5060	2	**5062**	5063	2	**5065**
Poland	8150	–	**8150**	9307	–	**9307**
Portugal	5513	25	**5538**	5592	25	**5617**
Romania	3015	–	**3015**	3087	–	**3087**
Spain	30109	5	**30114**	31021	7	**31028**
Sweden	14086	193	**14279**	16059	193	**16252**
Türkiye	11396	–	**11396**	11697	–	**11697**
Ukraine	1761	–	**1761**	1761	–	**1761**
United Kingdom	14835	13928	**28762**	15470	14746	**30215**
Other Europe	4365	–	**4365**	5318	–	**5318**
Total Europe	222036	29539	251575	236338	32369	268708
Russian Federation	2218	–	**2218**	2518	–	**2518**
Other CIS	188	–	**188**	192	–	**192**
Total CIS	2406	–	2406	2710	–	2710
Iran	342	–	**342**	365	–	**365**
Jordan	614	–	**614**	614	–	**614**
Other Middle East	608	–	**608**	892	–	**892**
Total Middle East	1564	–	1564	1871	–	1871
Egypt	1643	–	**1643**	1890	–	**1890**
Morocco	1558	–	**1558**	1858	–	**1858**
South Africa	3163	–	**3163**	3442	–	**3442**
Tunisia	245	–	**245**	245	–	**245**
Other Africa	1136	–	**1136**	1219	–	**1219**
Total Africa	7745	–	7745	8654	–	8654
Australia	10555	–	**10555**	11327	–	**11327**
China	335504	30460	**365964**	404605	37290	**441895**
India	41930	–	**41930**	44736	–	**44736**
Japan	4320	52	**4372**	5079	154	**5232**
New Zealand	994	–	**994**	1059	–	**1059**
Pakistan	1845	–	**1845**	1845	–	**1845**
Philippines	443	–	**443**	443	–	**443**
South Korea	1772	136	**1908**	2031	136	**2167**
Taiwan	836	745	**1581**	1105	1569	**2674**
Thailand	1545	–	**1545**	1545	–	**1545**
Other Asia Pacific	5824	994	**6818**	6884	1104	**7988**
Total Asia Pacific	405569	32387	437956	480659	40253	520912
Total World	839263	61967	901231	944536	72663	1017199

Source: IRENA (2024), Renewable Capacity Statistics 2024, The International Renewable Energy Agency, Abu Dhabi.
* End of year.
^ Less than 0.05.
Note: Capacity figures in this table for both onshore and offshore wind are on an AC basis.

Renewable energy Generation by source*

Terawatt-hours	2022 Wind	2022 Solar	2022 Hydro	2022 Other renewables‡	2022 Total	2023 Wind	2023 Solar	2023 Hydro	2023 Other renewables‡	2023 Total	2023 Growth rate Wind	2023 Growth rate Solar	2023 Growth rate Hydro	2023 Growth rate Other renewables‡	2023 Growth rate Total
Canada	38.4	7.1	397.7	9.1	452.3	38.9	7.6	364.2	10.4	421.2	1.5%	8.4%	-8.4%	13.8%	-6.9%
Mexico	20.5	20.3	35.6	6.7	83.1	21.7	27.1	20.4	7.1	76.3	5.5%	33.4%	-42.6%	6.0%	-8.2%
US	438.7	207.2	251.3	71.5	968.6	429.5	240.5	236.3	67.3	973.7	-2.1%	16.1%	-6.0%	-5.9%	0.5%
Total North America	497.6	234.5	684.6	87.3	1504.0	490.1	275.3	620.9	84.8	1471.1	-1.5%	17.4%	-9.3%	-2.9%	-2.2%
Argentina	14.2	2.9	22.8	2.4	42.2	14.5	3.3	29.9	2.3	49.9	2.2%	11.3%	31.3%	-3.3%	18.2%
Brazil	81.6	30.1	427.1	55.0	593.9	95.5	51.5	428.7	55.8	631.5	17.0%	70.9%	0.4%	1.5%	6.3%
Chile	8.9	15.7	20.4	6.1	51.1	9.8	18.2	24.0	6.0	58.0	9.6%	15.7%	17.9%	-0.7%	13.5%
Colombia	0.1	0.5	64.3	2.9	67.8	0.2	1.2	59.8	3.1	64.3	171.9%	138.7%	-7.0%	6.3%	-5.2%
Ecuador	0.1	^	24.6	0.4	25.1	0.2	^	25.3	0.4	26.0	244.2%	-0.4%	2.9%	-8.0%	3.3%
Peru	1.9	0.9	29.7	0.5	33.1	2.4	1.1	29.1	0.5	33.0	21.9%	16.5%	-2.3%	2.5%	-0.3%
Trinidad & Tobago	^	^	–	–	^	^	^	–	–	^	–	–	–	–	–
Venezuela	^	^	68.5	–	68.5	^	^	65.6	–	65.6	–	14.8%	-4.3%	–	-4.3%
Central America	3.6	3.2	31.4	9.8	48.0	4.3	3.3	25.4	9.7	42.7	18.0%	4.8%	-19.3%	-0.8%	-11.1%
Other Caribbean	2.2	2.4	2.0	1.2	7.8	2.1	3.0	1.6	1.2	8.0	-4.8%	29.0%	-17.2%	-1.9%	2.8%
Other South America	5.2	0.9	54.2	3.3	63.6	5.2	1.0	60.5	4.0	70.8	0.4%	1.8%	11.7%	24.0%	11.2%
Total S. & Cent. America	117.9	56.7	745.1	81.5	1001.1	134.2	82.6	749.9	83.0	1049.7	13.8%	45.6%	0.6%	1.9%	4.8%
Austria	7.2	3.8	34.0	4.7	49.7	8.0	5.2	38.9	4.6	56.6	10.9%	36.2%	14.4%	-3.0%	13.9%
Belgium	12.4	6.9	0.3	4.9	24.4	15.7	7.3	0.4	3.5	26.9	26.9%	6.6%	44.7%	-29.6%	10.0%
Bulgaria	1.5	2.1	3.8	2.2	9.6	1.6	3.4	3.1	1.9	10.0	5.7%	63.8%	-17.7%	-15.8%	4.1%
Croatia	2.1	0.2	5.5	1.2	9.0	2.3	0.4	8.2	1.1	12.0	9.9%	148.1%	49.7%	-11.6%	33.6%
Cyprus	0.2	0.6	–	0.1	0.9	0.2	0.8	–	^	1.1	-7.0%	37.2%	–	-14.9%	22.6%
Czech Republic	0.6	2.3	2.1	5.4	10.4	0.7	2.2	2.3	5.2	10.4	9.4%	-4.6%	11.9%	-4.5%	-0.4%
Denmark	19.0	2.2	^	7.3	28.5	19.4	3.5	^	6.7	29.6	1.9%	57.9%	31.7%	-8.1%	3.7%
Estonia	0.7	0.6	^	1.6	2.9	0.7	0.7	^	1.4	2.9	4.2%	22.8%	15.5%	-10.9%	-0.2%
Finland	12.0	0.4	13.5	12.8	38.7	15.0	0.7	15.2	11.0	41.9	25.1%	69.6%	12.5%	-13.9%	8.2%
France	37.9	19.1	44.3	9.7	111.0	52.3	22.2	55.5	9.7	139.8	38.0%	16.2%	25.4%	-0.3%	25.9%
Germany	124.8	60.3	17.6	51.9	254.6	142.1	61.2	19.6	49.5	272.4	13.8%	1.5%	11.4%	-4.6%	7.0%
Greece	10.9	7.1	3.9	0.6	22.4	11.0	8.5	3.9	0.7	24.2	1.2%	19.0%	2.4%	23.2%	7.6%
Hungary	0.6	4.7	0.2	2.1	7.7	0.6	6.5	0.2	1.5	8.9	5.6%	38.1%	24.7%	-29.3%	16.4%
Iceland	^	^	14.2	5.9	20.1	^	^	14.2	6.0	20.2	26.3%	374.3%	0.2%	1.5%	0.6%
Ireland	11.2	0.1	0.7	1.0	13.1	11.6	0.4	0.9	0.9	13.9	3.4%	180.0%	33.2%	-7.2%	6.2%
Italy	20.5	28.1	28.4	23.5	100.5	23.5	31.2	38.9	20.3	114.0	14.8%	11.0%	37.1%	-13.4%	13.5%
Latvia	0.2	^	2.7	0.8	3.8	0.3	^	3.8	0.6	4.7	40.5%	13.9%	38.2%	-22.0%	25.3%
Lithuania	1.5	0.3	0.5	0.7	3.0	2.5	0.4	0.5	0.5	3.8	65.8%	4.7%	-3.0%	-31.8%	25.5%
Luxembourg	0.3	0.3	0.1	0.4	1.0	0.5	0.3	0.1	0.2	1.1	48.9%	9.3%	40.9%	-43.0%	5.0%
Netherlands	21.4	17.1	^	9.8	48.3	28.9	21.2	0.1	8.0	58.2	35.0%	24.0%	36.0%	-17.9%	20.4%
North Macedonia	0.1	0.1	1.3	^	1.6	0.2	0.3	1.6	0.1	2.2	46.4%	234.6%	20.6%	80.2%	36.2%
Norway	14.8	0.3	127.6	0.2	143.0	14.0	0.5	136.1	0.3	150.9	-5.7%	72.0%	6.6%	42.0%	5.6%
Poland	19.8	8.3	2.0	7.6	37.7	24.1	11.7	2.4	8.2	46.4	22.0%	40.4%	21.8%	8.2%	23.2%
Portugal	13.2	3.5	6.5	4.3	27.6	13.2	5.5	12.1	3.5	34.3	-0.7%	55.6%	84.8%	-17.7%	24.1%
Romania	7.0	2.0	14.0	0.6	23.6	7.6	1.9	18.2	0.3	28.0	9.0%	-6.3%	30.5%	-55.6%	18.7%
Slovakia	^	0.7	3.7	1.5	5.8	^	0.6	4.7	1.9	7.2	–	-7.1%	29.0%	27.7%	24.5%
Slovenia	^	0.6	3.1	0.3	4.1	^	1.1	5.0	0.3	6.4	12.1%	67.2%	57.9%	15.67%	56.5%
Spain	62.8	35.7	17.6	6.8	122.8	64.2	46.8	25.5	5.4	142.0	2.3%	31.1%	44.8%	-19.9%	15.6%
Sweden	33.1	2.0	69.8	13.1	117.9	34.3	3.1	66.0	11.3	114.8	3.8%	57.8%	-5.4%	-13.4%	-2.7%
Switzerland	0.2	3.9	29.6	2.0	35.6	0.2	6.0	37.0	2.0	45.2	12.0%	56.7%	25.1%	-1.2%	27.0%
Türkiye	34.9	16.9	66.8	19.2	137.8	34.1	20.5	63.9	19.5	137.9	-2.5%	21.5%	-4.4%	1.5%	0.1%
Ukraine	1.6	5.2	11.1	0.8	18.6	0.9	5.7	12.7	1.0	20.4	-39.2%	9.8%	14.6%	34.5%	9.6%
United Kingdom	80.3	13.3	5.6	35.8	135.0	82.0	13.8	5.2	34.0	135.0	2.2%	4.1%	-7.9%	-5.1%	†
Other Europe	2.2	0.6	33.6	0.4	36.9	2.4	1.1	42.4	0.4	46.2	5.9%	72.2%	26.0%	-1.1%	25.3%
Total Europe	555.1	249.4	564.1	239.2	1607.8	614.1	294.9	638.7	221.6	1769.3	10.6%	18.2%	13.2%	-7.4%	10.0%
Azerbaijan	0.1	0.1	1.6	0.1	1.8	0.1	0.1	1.8	0.1	2.0	-32.1%	30.4%	10.5%	8.6%	9.1%
Belarus	0.2	0.2	0.4	0.5	1.3	0.2	0.2	0.3	0.5	1.1	-1.7%	-26.5%	-18.9%	-2.6%	-11.1%
Kazakhstan	2.3	1.8	9.2	^	13.3	3.7	2.0	8.8	^	14.4	58.0%	10.4%	-4.4%	52.6%	8.4%
Russian Federation	4.2	2.4	197.7	0.8	205.1	4.7	2.6	200.9	0.8	209.1	13.0%	9.8%	1.6%	0.9%	1.9%
Turkmenistan	–	^	^	–	^	–	^	^	–	^	–	–	–	–	–
Uzbekistan	–	0.2	5.3	–	5.5	–	0.3	7.0	–	7.3	–	73.4%	31.7%	–	33.1%
Other CIS	0.1	0.6	34.1	^	34.8	0.2	0.8	34.3	^	35.3	22.8%	46.7%	0.6%	–	1.5%
Total CIS	6.9	5.2	248.2	1.5	261.8	8.8	6.0	253.0	1.5	269.3	27.3%	15.1%	1.9%	0.3%	2.9%
Iran	1.2	0.7	14.0	^	16.0	1.3	0.8	22.7	^	24.8	6.7%	10.3%	61.8%	–	55.1%
Iraq	–	0.4	2.7	–	3.1	–	0.4	3.4	–	3.8	–	–	27.8%	–	24.0%
Israel	0.2	6.1	^	0.1	6.4	0.4	7.5	^	0.1	8.1	132.1%	23.5%	-1.0%	–	26.2%
Kuwait	^	0.1	–	–	0.2	^	0.1	–	–	0.2	–	-10.3%	–	–	-8.3%
Oman	0.1	1.4	–	–	1.6	0.1	1.5	–	–	1.6	–	2.6%	–	–	2.4%
Qatar	–	0.3	–	0.1	0.4	–	1.3	–	0.1	1.5	–	386.7%	–	–	258.6%
Saudi Arabia	1.5	0.8	–	–	2.3	1.5	4.3	–	–	5.8	–	419.5%	–	–	152.9%
United Arab Emirates	^	7.7	–	^	7.8	0.1	13.7	–	^	13.8	100.0%	77.6%	–	159.6%	78.4%
Other Middle East	1.8	6.1	1.5	^	9.3	1.7	6.2	1.5	^	9.4	-4.4%	1.9%	2.9%	†	0.9%
Total Middle East	4.8	23.7	18.2	0.3	47.0	5.1	35.9	27.6	0.3	68.9	6.5%	51.3%	51.9%	6.8%	46.7%
Algeria	^	0.6	^	–	0.7	^	0.6	0.1	–	0.7	–	–	329.9%	–	7.8%
Egypt	5.5	5.4	13.3	–	24.2	5.7	5.2	13.8	–	24.8	4.1%	-2.6%	4.0%	–	2.6%
Morocco	5.4	1.4	0.4	–	7.2	6.5	2.1	0.2	–	8.8	22.2%	45.8%	-53.5%	–	23.3%
South Africa	9.7	6.2	3.1	0.4	19.4	11.6	6.4	1.7	0.4	20.1	19.3%	3.3%	-45.6%	–	3.4%
Eastern Africa	2.8	1.7	79.6	7.3	91.3	2.6	1.9	82.1	8.5	95.2	-7.6%	14.8%	3.2%	17.4%	4.2%
Middle Africa	^	0.5	32.8	0.1	33.3	^	0.6	33.7	0.1	34.4	–	30.2%	2.9%	-5.1%	3.3%
Western Africa	0.6	1.2	25.6	0.3	27.7	1.0	1.4	28.0	0.3	30.7	64.8%	13.0%	9.3%	0.2%	10.5%
Other Northern Africa	0.3	0.3	^	–	0.7	0.3	0.4	^	–	0.7	5.0%	19.6%	-38.3%	–	11.2%
Other Southern Africa	–	0.4	1.5	0.3	2.3	–	0.5	2.1	0.3	2.9	–	20.3%	34.8%	4.5%	27.9%
Total Africa	24.3	17.8	156.3	8.4	206.8	27.8	19.2	161.6	9.7	218.4	14.3%	8.0%	3.4%	15.1%	5.6%
Australia	30.1	37.5	16.7	3.2	87.4	31.9	45.0	15.3	3.1	95.2	6.0%	19.8%	-8.40%	-1.9%	8.9%
Bangladesh	^	0.9	0.8	^	1.6	^	1.3	0.7	^	2.0	226.4%	46.5%	-11.80%	–	19.5%
China	762.7	427.3	1298.1	182.5	2670.6	885.9	584.2	1226.0	198.1	2894.1	16.2%	36.7%	-5.56%	8.5%	8.4%
China Hong Kong SAR	^	0.2	–	0.1	0.3	^	0.2	–	0.1	0.4	–	3.4%	–	8.0%	4.9%
India	70.0	95.2	174.9	38.6	378.7	82.1	113.4	149.2	37.3	382.0	17.2%	19.2%	-14.7%	-3.3%	0.9%
Indonesia	0.4	0.4	27.3	37.3	65.4	0.5	0.7	24.6	39.4	65.2	35.1%	60.7%	-9.9%	5.7%	-0.3%
Japan	9.4	91.1	74.9	37.8	213.2	10.0	97.0	74.5	42.0	223.5	6.3%	6.5%	-0.5%	11.1%	4.9%
Malaysia	–	2.8	31.8	1.2	35.8	–	3.2	31.5	1.2	36.0	–	17.7%	-0.9%	–	0.6%
New Zealand	2.9	0.3	26.3	9.2	38.6	3.2	0.4	26.5	8.9	39.1	12.7%	33.9%	0.9%	-2.7%	1.1%
Pakistan	4.6	0.8	34.5	1.0	41.0	4.4	1.2	37.4	0.7	43.7	-5.6%	45.8%	8.4%	-29.5%	6.7%
Philippines	1.1	1.8	10.1	11.7	24.8	1.3	2.5	10.2	11.8	25.7	23.0%	37.3%	0.5%	0.1%	4.0%
Singapore	–	0.7	–	1.0	1.6	–	0.9	–	0.8	1.8	–	39.7%	–	-13.7%	8.1%
South Korea	3.4	30.7	3.5	17.8	55.5	3.4	29.4	3.7	19.2	55.7	0.6%	-4.4%	4.0%	7.8%	0.4%
Sri Lanka	0.7	1.4	6.9	0.2	9.2	0.8	1.7	5.9	0.2	8.5	6.0%	20.8%	-14.7%	–	-7.3%
Taiwan	3.6	10.7	5.8	2.0	22.1	6.2	12.9	4.0	1.9	25.0	73.3%	20.9%	-32.1%	-1.9%	13.3%
Thailand	3.0	5.0	6.6	13.9	28.5	3.6	5.4	6.6	14.1	29.8	20.8%	7.9%	-0.2%	2.1%	4.5%
Vietnam	9.1	25.8	95.9	0.4	131.1	11.4	25.7	80.9	0.9	118.8	25.0%	-0.2%	-15.6%	125.7%	-9.4%
Other Asia Pacific	0.5	2.0	93.0	0.7	96.2	0.6	2.6	91.4	0.7	95.2	5.0%	28.4%	-1.7%	1.5%	-1.0%
Total Asia Pacific	901.4	734.6	1907.1	358.5	3901.6	1045.2	927.7	1788.2	380.6	4141.7	15.9%	26.3%	-6.2%	6.2%	6.2%
Total World	2108.0	1321.9	4323.4	776.8	8530.1	2325.3	1641.6	4240.0	781.5	8988.4	10.3%	24.2%	-1.9%	0.6%	5.4%
of which: OECD	1094.1	655.1	1394.8	400.1	3544.2	1149.4	755.3	1385.5	385.9	3676.0	5.0%	15.3%	-0.7%	-3.6%	3.7%
Non-OECD	1013.8	666.8	2928.7	376.6	4985.9	1175.9	886.3	2854.5	395.6	5312.4	16.0%	32.9%	-2.5%	5.0%	6.5%
European Union	421.0	209.4	274.2	174.9	1079.5	480.5	247.2	325.7	158.3	1211.7	14.1%	18.0%	18.8%	-9.4%	12.2%

* Based on gross generation and not accounting for cross-border electricity supply.
‡ Includes electricity generated from: geothermal, biomass and other sources of renewable energy (not already itemised).
^ Less than 0.05.
† Less than 0.05%.
A more extensive time series of renewables by source is available at **https://www.energyinst.org/statistical-review**.

Thousand barrels of oil equivalent per day	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	19	22	22	23	22	21	23	22	22	22	**23**	8.8%	2.3%	1.1%
Mexico	–	–	–	0	0	0	0	0	1	1	**1**	–	–	†
US	562	597	614	655	678	701	693	632	685	729	**804**	10.3%	3.6%	38.8%
Total North America	580	618	637	679	701	723	717	655	708	751	**828**	10.2%	3.6%	40.0%
Argentina	38	49	38	53	58	51	46	27	38	43	**25**	-42.0%	-4.3%	1.2%
Brazil	313	329	353	331	334	401	429	411	391	390	**455**	16.6%	3.8%	21.9%
Colombia	12	13	13	13	12	14	13	12	15	14	**16**	8.0%	2.5%	0.8%
Other S. & Cent. America	6	7	7	8	7	8	10	9	11	11	**11**	0.8%	6.4%	0.5%
Total S. & Cent. America	369	398	410	404	411	475	498	459	456	458	**506**	10.5%	3.2%	24.4%
Austria	6	7	8	7	7	7	7	7	7	8	**7**	-7.7%	2.2%	0.3%
Belgium	8	11	7	7	8	8	8	9	8	8	**8**	1.6%	-0.5%	0.4%
Finland	6	7	11	4	4	11	13	13	14	15	**17**	13.3%	10.4%	0.8%
France	46	47	49	45	44	50	47	43	36	35	**34**	-3.2%	-3.0%	1.6%
Germany	58	64	59	60	61	63	66	63	66	67	**72**	7.5%	2.2%	3.5%
Italy	9	10	10	10	12	13	15	17	21	20	**23**	14.7%	10.2%	1.1%
Netherlands	28	33	32	28	37	35	38	37	39	37	**37**	0.2%	3.0%	1.8%
Poland	13	14	15	17	17	17	18	18	19	20	**20**	0.6%	4.5%	1.0%
Portugal	5	6	6	6	6	6	7	6	5	6	**6**	-7.2%	0.7%	0.3%
Spain	14	19	21	22	35	40	39	33	31	31	**28**	-9.4%	7.3%	1.4%
Sweden	4	4	4	4	3	7	8	8	9	9	**7**	-22.8%	5.1%	0.3%
United Kingdom	9	7	6	10	14	13	11	12	12	13	**14**	4.0%	3.6%	0.7%
Other Europe	26	26	28	30	32	35	40	39	39	40	**41**	2.8%	4.8%	2.0%
Total Europe	232	255	256	250	281	305	316	305	307	308	**313**	1.5%	3.0%	15.1%
Total CIS	0	0	0	0	0	0	0	^	^	^	**^**	29.0%	-10.6%	†
Total Middle East	0	0	0	0	0	0	0	0	1	1	**2**	44.3%	17.9%	0.1%
Total Africa	2	2	2	2	2	1	2	2	2	2	**2**	14.0%	-1.0%	0.1%
Australia	5	5	4	2	2	2	3	2	2	2	**2**	4.4%	-6.7%	0.1%
China	42	47	40	39	31	44	53	56	58	72	**78**	8.5%	6.3%	3.8%
India	5	5	10	12	11	19	21	23	35	44	**49**	9.9%	26.9%	2.4%
Indonesia	41	59	24	54	50	91	124	126	151	174	**194**	11.1%	16.7%	9.4%
South Korea	7	7	8	8	8	13	13	13	11	13	**13**	-2.2%	6.1%	0.6%
Thailand	30	34	36	33	36	40	44	44	39	36	**39**	9.3%	2.7%	1.9%
Other Asia Pacific	28	33	37	33	31	35	53	45	46	46	**47**	2.8%	5.3%	2.3%
Total Asia Pacific	158	189	159	180	170	243	311	310	342	388	**422**	8.9%	10.3%	20.4%
Total World	1342	1463	1465	1516	1564	1748	1844	1731	1815	1907	**2072**	8.6%	4.4%	100.0%
of which: OECD	832	895	914	948	998	1053	1054	980	1036	1079	**1163**	7.7%	3.4%	56.1%
Non-OECD	510	569	551	568	566	695	790	751	780	828	**909**	9.8%	5.9%	43.9%
European Union	220	246	248	237	262	288	300	290	291	291	**295**	1.4%	3.0%	14.2%

Biofuels production by fuel type

Thousand barrels of oil equivalent per day	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Biogasoline														
Canada & Mexico	16	17	16	17	17	17	18	16	16	17	**17**	1.4%	0.4%	1.5%
US	479	516	534	554	575	580	569	501	542	554	**563**	1.7%	1.6%	50.7%
Brazil	269	278	294	275	270	322	341	315	291	297	**343**	15.5%	2.4%	30.8%
Other S. & Cent. America	13	16	18	19	20	22	22	18	22	22	**23**	4.7%	5.7%	2.1%
Europe	52	51	52	52	55	56	55	52	57	59	**61**	2.8%	1.6%	5.5%
CIS	^	^	^	^	^	^	^	^	^	0	**0**	29.0%	61.7%	†
Middle East	0	0	0	0	–	–	–	–	–	–	**–**	–	-100.0%	–
Africa	2	2	2	2	2	1	2	2	2	2	**2**	14.0%	-0.9%	0.2%
Asia Pacific	47	53	57	52	58	69	80	76	86	98	**102**	4.3%	8.1%	9.2%
Total World	879	934	974	971	997	1067	1087	980	1015	1049	**1112**	6.0%	2.4%	100.0%
of which: OECD	554	591	608	628	652	661	647	575	620	634	**647**	1.9%	1.6%	58.2%
Non-OECD	326	343	365	343	345	407	439	405	395	415	**465**	12.2%	3.6%	41.8%
European Union	46	45	48	46	48	50	50	48	52	54	**55**	1.7%	1.8%	4.9%
Biodiesel														
Canada & Mexico	2	5	6	7	6	5	5	7	6	5	**7**	30.4%	11.7%	0.7%
US	82	80	80	101	104	121	124	131	144	175	**240**	37.6%	11.3%	25.0%
Brazil	43	51	58	56	64	79	88	95	100	93	**112**	20.4%	9.9%	11.6%
Other S. & Cent. America	43	53	40	54	57	52	47	30	43	46	**28**	-38.8%	-4.2%	2.9%
Europe	180	204	204	199	225	249	262	253	250	249	**252**	1.2%	3.4%	26.2%
CIS	0	0	0	0	0	0	0	–	–	–	**–**	–	-100.0%	–
Middle East	^	^	0	0	0	0	0	0	1	1	**2**	44.3%	48.5%	0.2%
Africa	^	^	0	0	^	^	^	^	^	^	**^**	–	-19.0%	†
Asia Pacific	111	136	102	128	112	174	231	235	256	290	**320**	10.4%	11.1%	33.3%
Total World	463	529	491	545	567	681	758	751	800	858	**960**	11.9%	7.6%	100.0%
of which: OECD	278	304	306	320	347	392	407	406	416	445	**516**	16.0%	6.4%	53.7%
Non-OECD	185	225	186	225	221	289	351	346	384	413	**444**	7.5%	9.2%	46.3%
European Union	174	201	200	191	214	238	250	242	239	237	**240**	1.4%	3.3%	25.0%

Source: Includes data from S&P Global Commodity Insights; US Energy Information Administration.
* Includes biogasoline (such as ethanol) and biodiesel. Volumes have been adjusted for energy content.
^ Less than 0.5.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using thousand barrels a day oil equivalent figures.

Renewable energy Biofuels consumption*

Thousand barrels of oil equivalent per day	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Canada	35	36	34	32	38	39	40	37	39	47	**54**	14.7%	4.6%	2.6%
Mexico	2	3	3	3	4	4	4	5	4	4	**4**	2.0%	8.9%	0.2%
US	573	581	608	658	661	652	670	608	670	705	**799**	13.2%	3.4%	37.6%
Total North America	609	620	645	693	703	695	715	650	714	757	**857**	13.2%	3.5%	40.4%
Argentina	19	22	24	26	30	28	29	16	17	23	**21**	-8.8%	0.7%	1.0%
Brazil	278	305	357	324	332	385	426	396	392	390	**429**	10.0%	4.4%	20.2%
Colombia	12	13	13	13	12	15	16	13	15	16	**20**	20.5%	4.9%	0.9%
Other S. & Cent. America	15	15	17	18	19	18	19	18	20	18	**18**	0.8%	1.9%	0.8%
Total S. & Cent. America	324	356	411	380	393	447	489	442	444	446	**487**	9.0%	4.1%	22.9%
Austria	8	8	9	9	9	8	8	7	8	7	**7**	-3.3%	-1.6%	0.3%
Belgium	6	8	5	8	9	9	9	12	13	14	**14**	-0.8%	7.9%	0.6%
Finland	4	8	8	3	7	6	7	7	12	10	**7**	-33.4%	5.7%	0.3%
France	49	52	53	53	54	53	55	50	56	65	**63**	-3.4%	2.6%	2.9%
Germany	50	53	50	50	51	53	52	63	56	56	**58**	3.5%	1.5%	2.7%
Italy	24	20	25	25	25	26	15	21	22	20	**23**	14.9%	-0.3%	1.1%
Netherlands	6	7	6	5	6	10	13	15	15	19	**22**	17.3%	14.2%	1.1%
Poland	14	13	12	8	11	17	18	19	20	21	**22**	3.0%	4.7%	1.0%
Portugal	5	5	7	5	5	5	5	5	6	5	**6**	21.1%	2.2%	0.3%
Spain	22	23	24	27	31	41	40	36	36	35	**32**	-8.3%	3.9%	1.5%
Sweden	10	12	14	18	17	20	20	21	23	28	**27**	-2.3%	10.3%	1.3%
United Kingdom	19	22	17	18	17	24	31	29	29	37	**41**	9.8%	7.9%	1.9%
Other Europe	38	37	38	42	50	51	60	62	62	61	**68**	11.3%	5.9%	3.2%
Total Europe	256	269	267	270	291	324	334	346	358	379	**390**	2.9%	4.3%	18.4%
Total CIS	^	^	^	1	2	2	3	3	5	6	**8**	27.3%	33.7%	0.4%
Total Middle East	^	^	^	^	1	1	1	1	1	1	**1**	9.9%	24.0%	0.1%
Total Africa	1	1	1	1	1	2	1	1	2	1	**1**	1.0%	3.4%	0.1%
Australia	5	5	4	3	3	3	2	2	2	2	**2**	-4.2%	-7.8%	0.1%
China	57	60	44	45	42	54	58	44	46	47	**50**	5.6%	-1.4%	2.3%
India	6	5	6	12	9	17	21	20	32	45	**55**	22.6%	25.9%	2.6%
Indonesia	15	27	13	44	38	55	94	123	137	154	**181**	17.6%	27.9%	8.5%
South Korea	10	9	8	8	8	13	13	13	11	13	**14**	11.2%	3.3%	0.7%
Thailand	23	28	30	31	34	37	42	42	38	34	**38**	10.4%	5.0%	1.8%
Other Asia Pacific	16	18	22	24	25	27	31	33	34	37	**39**	5.5%	9.4%	1.8%
Total Asia Pacific	132	151	127	167	158	206	261	276	300	332	**379**	14.1%	11.1%	17.8%
Total World	**1323**	**1397**	**1451**	**1513**	**1547**	**1676**	**1805**	**1720**	**1823**	**1923**	**2124**	**10.4%**	**4.8%**	**100.0%**
of which: OECD	890	914	936	987	1015	1048	1075	1019	1095	1163	**1279**	10.0%	3.7%	60.2%
Non-OECD	433	483	515	526	532	628	729	701	728	760	**845**	11.1%	6.9%	39.8%
European Union	226	241	243	242	258	286	287	304	316	329	**332**	0.9%	3.9%	15.6%

Biofuels consumption by fuel type

Thousand barrels of oil equivalent per day	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023
Biogasoline														
Canada & Mexico	477	485	503	516	522	520	525	456	503	506	**514**	1.6%	0.8%	46.3%
US	28	30	30	30	32	34	34	30	32	36	**42**	16.2%	4.0%	3.8%
Brazil	236	255	299	268	269	305	339	301	291	296	**317**	6.9%	3.0%	28.5%
Other S. & Cent. America	18	20	23	25	26	28	29	24	27	28	**32**	14.4%	5.9%	2.9%
Europe	51	52	53	51	53	56	60	59	70	78	**80**	1.6%	4.5%	7.2%
CIS	–	–	–	^	1	1	2	2	3	4	**5**	25.9%	–	0.5%
Middle East	^	^	^	^	^	^	^	^	^	0	**0**	1.5%	1.2%	†
Africa	1	1	1	1	1	2	1	1	2	1	**1**	1.0%	3.4%	0.1%
Asia Pacific	51	54	61	70	65	80	91	84	96	109	**120**	9.4%	8.9%	10.8%
Total World	**862**	**897**	**970**	**962**	**970**	**1026**	**1082**	**957**	**1024**	**1060**	**1111**	**4.8%**	**2.6%**	**100.0%**
of which: OECD	565	577	596	608	619	623	632	557	616	631	**650**	3.0%	1.4%	58.5%
Non-OECD	297	321	373	353	351	403	450	400	408	428	**461**	7.6%	4.5%	41.5%
European Union	42	42	43	41	43	46	49	50	57	62	**63**	0.7%	4.1%	5.6%
Biodiesel														
Canada & Mexico	96	96	105	141	138	132	145	152	167	199	**285**	42.7%	11.5%	28.1%
US	8	8	7	6	9	10	10	11	12	16	**17**	7.7%	7.6%	1.6%
Brazil	43	50	59	56	63	80	88	95	101	94	**112**	19.5%	10.1%	11.0%
Other S. & Cent. America	28	30	31	32	34	34	34	23	25	29	**26**	-8.6%	-0.7%	2.6%
Europe	204	217	215	219	237	268	274	288	288	300	**310**	3.3%	4.3%	30.6%
CIS	^	^	^	1	1	1	1	1	2	2	**3**	30.0%	20.6%	0.3%
Middle East	–	–	–	^	^	1	1	1	1	1	**1**	11.3%	–	0.1%
Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Asia Pacific	81	97	66	97	94	126	170	193	204	223	**259**	16.4%	12.3%	25.6%
Total World	**461**	**500**	**482**	**551**	**577**	**650**	**723**	**763**	**799**	**864**	**1013**	**17.3%**	**8.2%**	**100.0%**
of which: OECD	325	337	340	378	397	425	443	462	480	532	**629**	18.2%	6.8%	62.1%
Non-OECD	136	163	142	173	181	225	280	301	319	332	**384**	15.8%	10.9%	37.9%
European Union	184	198	200	201	215	240	237	254	259	266	**269**	0.9%	3.9%	26.5%

* Includes biogasoline (such as ethanol) and biodiesel. Volumes have been adjusted for energy content.
^ Less than 0.5.
† Less than 0.05%.
Note: Annual changes and shares of total are calculated using thousand barrels a day oil equivalent figures.

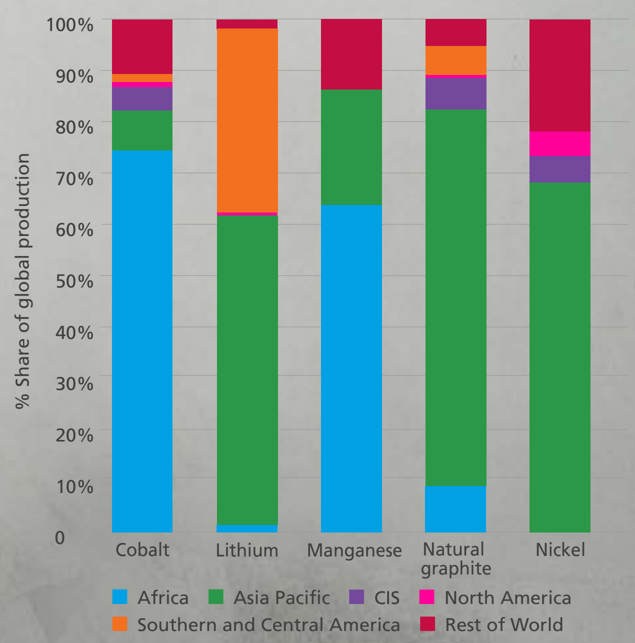
Key minerals

Whilst production of copper has grown at an average rate of just under 2% over the past ten years (it dropped by 1.6% in 2023), production of other minerals critical to the global energy system, continued to grow on average at around 4% per annum. The Asia Pacific region produced nearly 70% of the metals and materials critical to the manufacture of Li-ion batteries. Within this, China was both the world's leading producer of refined cobalt and the world's leading consumer of it, with nearly 87% of consumption used by the lithium-ion battery industry. As well as producing nearly 20% of the world's lithium production, China also produced around 74% of its graphite supply.

Portugal holds the largest lithium reserve in Europe (around 60,000 metric tons). Whilst historically it has primarily focused on ceramics for glassware production, it is increasingly looking to enter the lithium market.

Although prices for metals and materials have fallen across the board from their 2022 highs, lithium carbonate prices sat at around 400% higher than their 2019 pre-COVID levels and copper some 140% above its.

In 2023, the Asia Pacific region produced nearly 70% of the metals and materials critical to the manufacture of Li-ion batteries



Global production and prices of key metals and minerals now sit above their 2019 pre-COVID levels

Cobalt production and reserves

Mine production

Thousand tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Australia	6.4	6.2	6.0	5.5	5.8	4.9	5.7	5.6	5.3	5.8	**4.6**	-20.6%	-3.2%	2.3%	1700	16.0%	370
Canada	4.0	3.9	4.3	4.2	3.7	3.5	3.3	4.5	4.4	3.1	**2.1**	-31.4%	-6.3%	1.1%	230	2.2%	110
China	2.6	2.8	2.6	2.3	2.5	2.0	2.5	2.2	2.2	1.8	**1.8**	0.0%	-3.9%	0.9%	140	1.3%	80
DR Congo	76.6	76.5	84.4	69.0	90.3	109.4	78.0	86.6	93.1	115.4	**139.8**	21.2%	6.2%	71.0%	6000	56.4%	43
Cuba	4.0	3.7	4.0	3.9	3.9	3.5	3.8	3.8	4.0	3.8	**3.2**	-14.6%	-2.1%	1.6%	500	4.7%	154
Madagascar	2.4	3.4	4.0	3.8	3.1	2.9	2.9	0.8	2.0	3.3	**3.6**	9.1%	4.1%	1.8%	100	0.9%	28
Morocco	2.0	2.2	2.3	2.7	2.5	1.8	2.4	2.4	1.8	1.7	**1.7**	0.0%	-1.7%	0.9%	13	0.1%	8
New Caledonia	3.2	4.0	3.6	3.2	2.8	2.1	1.7	2.2	1.5	1.8	**1.8**	0.0%	-5.7%	0.9%	56	0.5%	32
Papua New Guinea	1.0	2.1	2.5	2.2	3.3	3.3	2.9	2.9	3.0	3.0	**2.9**	-3.0%	11.1%	1.5%	49	0.5%	17
Philippines	2.8	4.6	4.3	4.0	4.6	4.8	5.1	4.9	4.3	4.7	**4.5**	-3.8%	4.8%	2.3%	260	2.4%	58
Russian Federation	6.3	6.3	6.2	5.5	5.9	6.1	6.3	9.7	8.0	9.2	**8.8**	-4.3%	3.4%	4.5%	250	2.3%	28
South Africa	3.0	3.0	2.9	2.3	2.3	2.3	2.1	1.8	1.2	1.0	**1.0**	0.0%	-10.4%	0.5%	37	0.3%	37
Zambia	5.9	4.6	3.0	5.0	2.6	1.6	0.4	0.3	0.2	0.3	**0.3**	0.0%	-27.1%	0.1%	270	2.5%	1071
Rest of World	11.4	7.5	7.1	4.8	4.0	2.8	3.0	3.7	6.5	13.7	**20.9**	52.8%	6.3%	10.6%	1037	9.7%	50
Total World	**131.6**	**130.7**	**137.2**	**118.4**	**137.3**	**150.9**	**120.0**	**131.5**	**137.5**	**168.3**	**196.9**	**17.0%**	**4.1%**	**100.0%**	**10642**	**100.0%**	**54**

Sources: includes data from US Geological Survey, British Geological Survey ©UKRI and World Mining Data.
^ less than 0.05%. Rest of World is the sum of only recorded reserves.

Lithium production and reserves

Mine production

Thousand tonnes of Lithium content	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Argentina	2.5	3.2	3.6	5.8	5.7	6.4	6.3	5.9	6.0	6.4	**9.6**	50.5%	14.4%	4.8%	3600	13.8%	375
Australia	10.1	12.4	11.9	14.0	21.3	57.0	45.0	39.7	55.3	74.7	**86.0**	15.1%	23.9%	43.4%	6200	23.8%	72
Brazil	0.4	0.2	0.1	0.2	0.3	1.0	2.2	1.4	1.7	2.6	**4.9**	86.3%	28.5%	2.5%	390	1.5%	80
Chile	10.5	10.8	9.8	13.6	14.2	17.0	19.2	21.6	28.2	48.8	**56.5**	15.8%	18.3%	28.5%	9300	35.7%	165
China	4.7	2.3	2.0	2.3	6.8	7.1	10.8	13.3	14.0	22.6	**33.0**	46.0%	21.5%	16.7%	3000	11.5%	91
Portugal	0.3	0.3	0.3	0.4	0.8	1.2	0.9	0.3	0.9	0.4	**0.4**	0.0%	2.4%	0.2%	60	0.2%	158
US	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.6	**0.6**	0.0%	-3.4%	0.3%	1100	4.2%	1789
Zimbabwe	1.0	0.9	0.9	1.0	0.8	1.6	1.2	0.4	0.7	1.0	**3.4**	230.1%	13.0%	1.7%	310	1.2%	91
Rest of World	–	^	–	^	0.1	3.0	0.4	0.1	0.1	0.7	**3.6**	447.1%	–	1.8%	2068	7.9%	576
Total World	**30.4**	**31.0**	**29.5**	**38.2**	**50.9**	**95.1**	**86.9**	**83.7**	**107.9**	**157.8**	**198.0**	**25.5%**	**20.6%**	**100.0%**	**26028**	**100.0%**	**131**

Sources: includes data from US Geological Survey, British Geological Survey ©UKRI and World Mining Data.
^ less than 0.05. Rest of World is the sum of only recorded reserves.

Natural Graphite production and reserves

Mine production

Thousand tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Brazil[1]	91.9	87.0	75.1	61.7	79.8	95.0	96.0	95.0	95.0	96.0	**96.0**	0.0%	0.4%	5.8%	74000	20.3%	771
Canada	20.0	30.0	30.0	21.0	14.0	11.0	11.0	7.6	12.0	13.0	**3.5**	-73.1%	-16.0%	0.2%	5700	1.6%	1629
China	750.0	780.0	725.0	625.0	625.0	693.0	700.0	762.0	820.0	1210.0	**1230.0**	1.7%	5.1%	73.7%	78000	21.4%	63
India[2]	146.4	116.7	134.6	137.3	46.4	44.5	30.5	31.8	57.3	82.4	**82.4**	0.0%	-5.6%	4.9%	8600	2.4%	104
Madagascar	4.3	5.3	8.1	9.2	13.3	48.1	53.4	48.5	91.1	116.7	**55.2**	-52.7%	29.1%	3.3%	24000	6.6%	435
Mexico	7.0	9.2	6.5	3.8	1.7	4.1	1.6	1.5	1.8	1.7	**2.0**	16.8%	-11.7%	0.1%	3100	0.9%	1538
Mozambique	–	–	–	–	0.3	104.0	153.0	12.0	72.0	163.0	**94.0**	-42.3%	–	5.6%	25000	6.9%	266
Norway	6.2	8.3	9.2	9.6	9.6	12.0	9.8	5.5	6.3	10.4	**6.5**	-37.5%	0.4%	0.4%	600	0.2%	93
Russian Federation	20.2	17.6	15.9	19.4	19.5	11.9	17.5	12.9	15.3	14.3	**16.0**	11.7%	-2.3%	1.0%	25645	7.0%	1603
Sri Lanka	3.1	4.0	4.2	4.0	3.5	4.0	4.0	4.0	3.0	2.6	**2.2**	-15.4%	-3.5%	0.1%	1500	0.4%	682
Türkiye	28.7	3.9	–	–	–	16.8	10.0	15.2	28.3	27.7	**27.7**	0.0%	-0.4%	1.7%	69000	18.9%	2490
Ukraine	2.0	8.0	7.9	6.1	13.9	12.2	1.5	4.1	3.2	1.0	**2.0**	100.0%	0.0%	0.1%	13750	3.8%	6875
Rest of World[3]	45.7	57.8	56.5	59.0	59.4	56.6	51.1	53.5	53.9	50.9	**50.8**	-0.2%	1.1%	3.0%	35500	9.7%	699
Total World	**1125.6**	**1127.8**	**1073.0**	**956.2**	**886.4**	**1113.1**	**1139.4**	**1053.6**	**1259.1**	**1789.8**	**1668.3**	**-6.8%**	**4.0%**	**100.0%**	**364395**	**100.0%**	**218**

Sources: includes data from US Geological Survey, British Geological Survey ©UKRI and World Mining Data.
^ less than 0.05. [1]Including beneficiated and directly shipped material. [2]Run of the mine. [3]Rest of World is the sum of only recorded reserves.

Rare Earth metals production and reserves

Mine production

Thousand tonnes[1]	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Australia	1.3	6.2	11.9	13.9	17.3	18.6	17.6	21.1	22.5	16.0	**16.8**	5.1%	29.5%	4.7%	5700	4.9%	340
Brazil	0.3	–	0.9	2.7	1.7	1.2	0.7	0.6	0.5	0.1	**0.1**	0.0%	-13.2%	0.0%	21000	18.2%	262500
China	93.8	105.0	105.0	105.0	105.0	120.0	132.0	140.0	168.0	210.0	**240.0**	14.3%	9.9%	67.9%	44000	38.1%	183
India	0.3	1.7	1.0	1.1	1.4	2.1	2.5	2.5	2.6	2.6	**2.6**	0.0%	24.3%	0.7%	6900	6.0%	2654
Madagascar	–	–	–	–	–	2.0	4.0	2.8	3.9	2.6	**2.6**	0.0%	–	0.7%	162	0.1%	62
Russian Federation	1.4	2.1	2.3	3.1	2.5	2.6	2.6	2.6	2.6	2.6	**2.6**	0.0%	6.1%	0.7%	10000	8.7%	3846
Thailand	0.1	1.9	0.8	1.6	1.3	1.0	1.9	3.6	8.2	7.1	**7.1**	0.0%	49.2%	2.0%	–	0.0%	–
US	5.5	5.4	5.9	–	–	18.0	28.0	39.0	42.0	42.0	**43.0**	2.4%	22.8%	12.2%	1800	1.6%	42
Rest of World[2]	0.3	0.2	0.9	4.8	15.4	25.5	26.6	32.1	35.6	13.5	**38.9**	188.0%	63.8%	11.0%	26040	22.5%	669
Total World	**103.0**	**122.6**	**128.6**	**132.2**	**144.6**	**191.0**	**215.9**	**244.3**	**286.0**	**296.5**	**353.7**	**19.3%**	**13.1%**	**100.0%**	**115602**	**100.0%**	**327**

Sources: includes data from US Geological Survey, British Geological Survey ©UKRI and World Mining Data.
^ less than 0.05. [1]Thousand tonnes of rare earth oxide equivalent. [2]Rest of World is the sum of only recorded reserves.

Copper production and reserves

Mine production

Thousand tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Australia	990	1000.0	971.0	970.0	860.0	950.0	934.0	885.0	900.0	819.0	**810.0**	-1.1%	-2.0%	3.8%	100000	10.0%	123
Chile	5780	5800.0	5760.0	5500.0	5500.0	5800.0	5790.0	5730.0	5600.0	5330.0	**5000.0**	-6.2%	-1.4%	23.2%	190000	19.0%	38
China	1600	1620.0	1710.0	1740.0	1710.0	1600.0	1680.0	1720.0	1800.0	1940.0	**1700.0**	-12.4%	0.6%	7.9%	41000	4.1%	24
Democratic Republic of Congo	970	1100.0	1020.0	910.0	1090.0	1200.0	1290.0	1600.0	1800.0	2350.0	**2500.0**	6.4%	9.9%	11.6%	80000	8.0%	32
Indonesia	504	400.0	474.0	548.0	622.0	780.0	642.5	505.0	810.0	941.0	**840.0**	-10.7%	5.2%	3.9%	24000	2.4%	29
Peru	1380	1400.0	1700.0	2300.0	2450.0	2400.0	2460.0	2150.0	2200.0	2450.0	**2600.0**	6.1%	6.5%	12.1%	120000	12.0%	46
United States	1250	1370.0	1380.0	1410.0	1260.0	1200.0	1260.0	1200.0	1200.0	1230.0	**1100.0**	-10.6%	-1.3%	5.1%	50000	5.0%	45
Rest of World	5780	6035.0	7793.1	7826.1	8277.5	8400.3	6947.0	6766.0	6670.0	6843.0	**7000.0**	2.3%	1.9%	32.5%	395600	39.5%	57
Total World	**18254.0**	**18725.0**	**20808.1**	**21204.1**	**21769.5**	**22330.3**	**21003.5**	**20556.0**	**20980.0**	**21903.0**	**21550.0**	**-1.6%**	**1.7%**	**100.0%**	**1000600**	**100.0%**	**46**

Sources: includes data from US Geological Survey and Kearney Energy Transition Institute.
^ less than 0.05. Rest of World is the sum of only recorded reserves.

Key minerals Production and reserves

Platinum group metals production and reserves*

Mine production

Thousand tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Canada	23.5	28.5	28.6	33.6	26.5	26.5	27.8	27.0	21.0	21.5	**21.5**	0.0%	-0.9%	5.6%	310	0.4%	14
Russia	105.5	106.0	103.0	102.4	107.0	106.0	122.0	116.0	107.0	107.0	**115.0**	7.5%	0.9%	30.1%	5500	7.7%	48
South Africa	206.0	152.4	222.0	209.3	229.8	178.0	213.7	185.5	226.3	197.1	**191.0**	-3.1%	-0.8%	50.1%	63000	88.0%	330
United States	16.3	16.1	16.2	17.0	17.6	18.1	18.5	18.8	17.7	13.1	**12.7**	-3.1%	-2.5%	3.3%	820	1.1%	65
Zimbabwe	22.0	22.6	22.6	26.9	26.0	26.0	24.9	27.9	27.1	31.3	**34.0**	8.6%	4.4%	8.9%	1200	1.7%	35
Rest of World	12.7	14.8	12.3	11.5	17.3	17.1	6.2	7.0	6.8	7.3	**7.3**	0.3%	-5.4%	1.9%	800	1.1%	110
Total World	**386.0**	**340.4**	**404.7**	**400.7**	**424.2**	**371.7**	**413.0**	**382.2**	**405.9**	**377.3**	**381.5**	**1.1%**	**-0.1%**	**100.0%**	**71630**	**100.0%**	**188**

Sources: includes data from US Geological Survey and Kearney Energy Transition Institute.
* Platinum and Palladium. ^ less than 0.05. Rest of World is the sum of only recorded reserves.

Manganese production and reserves

Mine production

Thousand tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Australia	3.0	3.1	2.5	2.2	2.8	3.5	3.2	3.3	3.3	3.0	**3.0**	-1.3%	0.1%	15.1%	500	26.2%	167
China	3.0	3.0	3.0	2.3	1.7	1.2	1.3	1.0	1.0	0.7	**0.7**	-0.4%	-13.1%	3.7%	280	14.7%	378
Gabon	2.0	1.9	2.0	1.6	2.2	2.3	2.5	4.3	4.6	4.7	**4.6**	-1.5%	8.9%	23.2%	61	3.2%	13
Ghana	0.5	0.4	0.4	0.6	0.8	1.4	1.6	0.9	0.9	0.8	**0.8**	-0.5%	4.7%	4.2%	13	0.7%	15
India	0.9	0.9	0.9	0.7	0.7	1.0	0.8	0.5	0.5	0.7	**0.7**	-0.1%	-2.4%	3.6%	34	1.8%	47
South Africa	4.3	5.2	5.9	5.3	5.4	5.8	5.8	7.2	7.2	7.3	**7.2**	-1.4%	5.3%	36.3%	600	31.4%	83
Rest of World	4.0	4.1	3.7	3.8	4.6	3.9	4.2	2.9	2.5	2.7	**2.7**	-0.1%	-3.6%	13.8%	420	22.0%	153
Total World	**17.7**	**18.6**	**18.4**	**16.6**	**18.2**	**19.0**	**19.3**	**20.0**	**20.0**	**20.1**	**19.8**	**-1.1%**	**1.2%**	**100.0%**	**1908**	**100.0%**	**96**

Sources: includes data from US Geological Survey and Kearney Energy Transition Institute.
^ less than 0.05. Rest of World is the sum of only recorded reserves.

Nickel production and reserves

Mine production

Thousand tonnes	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Growth rate per annum 2023	Growth rate per annum 2013–23	Share 2023	Reserves at end of 2023	Reserves Share	R/P ratio
Australia	234.0	245.0	234.0	204.0	190.0	170.0	180.0	160.0	151.0	155.0	**160.0**	3.2%	-3.7%	4.2%	24000	16.6%	150
Canada	223.0	235.0	240.0	236.0	210.0	176.0	180.0	130.0	134.0	143.0	**180.0**	25.9%	-2.1%	4.7%	2200	1.5%	12
Indonesia	440.0	177.0	170.0	199.0	400.0	606.0	800.0	1000.0	1040.0	1580.0	**1800.0**	13.9%	15.1%	47.3%	55000	38.0%	31
New Caledonia	164.0	178.0	190.0	207.0	210.0	216.0	220.0	190.0	186.0	200.0	**230.0**	15.0%	3.4%	6.0%	7100	4.9%	31
Philippines	446.0	523.0	530.0	347.0	230.0	345.0	420.0	370.0	387.0	345.0	**400.0**	15.9%	-1.1%	10.5%	4800	3.3%	12
Russia	275.0	239.0	240.0	222.0	180.0	272.0	270.0	250.0	205.0	222.0	**200.0**	-9.9%	-3.1%	5.3%	8300	5.7%	42
Rest of World	885.6	900.2	974.2	671.0	686.6	871.8	873.8	892.5	924.2	910.3	**836.9**	-8.1%	-0.6%	22.0%	43470	30.0%	52
Total World	**2667.6**	**2497.2**	**2578.2**	**2086.0**	**2106.6**	**2656.8**	**2943.8**	**2992.5**	**3027.2**	**3555.3**	**3806.9**	**7.1%**	**3.6%**	**100.0%**	**144870**	**100.0%**	**38**

Sources: includes data from US Geological Survey and Kearney Energy Transition Institute.
^ less than 0.05. Rest of World is the sum of only recorded reserves.

Key minerals Prices

Minerals, materials, and battery prices

	USD$1000/te						USD$1000/te	
Year	Cobalt[1]	Lithium carbonate[2]	Nickel Sulphate[3]	Pet Needle Coke[4]	Natural Graphite[5]	Copper[6]	Lithium Iron Phosphate Cells[7]	Lithium Nickel Manganese Cobalt Oxide Cells[8]
2000	33.42	4.47				1.81		
2001	23.26	1.49				1.58		
2002	15.23	1.59				1.56		
2003	23.37	1.55				1.78		
2004	52.76	1.72				2.86		
2005	35.19	1.46				3.68		
2006	37.96	2.32				6.73		
2007	67.35	3.53				7.13		
2008	86.00	4.44				6.96		
2009	39.38	5.94			0.91	5.16		
2010	45.97	5.19			1.08	7.54		
2011	39.66	5.10			1.35	8.82		
2012	31.02	5.42			1.43	7.96		
2013	27.07	5.70			0.99	7.33		
2014	30.79	5.72			0.92	6.86		
2015	28.46	6.55			0.69	5.51		
2016	25.47	12.02			0.58	4.87		
2017	55.79	17.04			0.65	6.17		
2018	81.17	13.04			0.78	6.53		
2019	35.91	10.29	17.47		0.67	6.01		
2020	33.95	6.49	16.63		0.53	6.17		
2021	52.93	15.17	24.42	1.02	0.56	9.32	0.07	0.10
2022	67.06	59.43	27.11	1.38	0.76	8.83	0.10	0.14
2023	35.44	40.30	20.39	0.89	0.65	8.49	0.09	0.10

[1] 2000-2012 spot grade for cathodes, source US Geological Survey. 2013-2017 source London Metal Exchange. Data from 2018 onwards: min purity 99.8%, Cobalt metal EXW Europe, min. 99.8% purity, source Benchmark Mineral Intelligence.
[2] 2000-2008 unit value, data series 140, source US Geological Survey. Data from 2009 onwards: Lithium carbonate global weighted average, min 99% purity, source Benchmark Mineral Intelligence.
[3] Nickel sulphate CIF Asia, min 22% (100% Nickel contained basis), source Benchmark Mineral Intelligence.
[4] Pre-calcined pet needle coke DDP China, sulphur <0.5%, source Benchmark Mineral Intelligence.
[5] Flake graphite FOB China, -194 mesh, source Benchmark Mineral Intelligence
[6] Copper, grade A cathode, LME spot price, CIF European ports, source International Monetary Fund (IMF)
[7] Global weighted LFP cell, source Benchmark Mineral Intelligence.
[8] Global weighted NCM cell, source Benchmark Mineral Intelligence

Methodology

The Statistical Review provides a globally consistent data time series. Here we outline the definitions, conversion factors and calculations we use to produce the report.

Primary energy

Traditionally, in the Statistical Review of World Energy, the primary energy of non-fossil based electricity (nuclear, hydro, wind, solar, geothermal, biomass in power and other renewables sources) has been calculated on an 'input-equivalent' basis – i.e. based on the equivalent amount of fossil fuel input required to generate that amount of electricity in a standard thermal power plant. For example, if nuclear power output for a country was 100 TWh, and the efficiency of a standard thermal power plant was 38%, the input equivalent primary energy would be 100/0.38 = 263 TWh or about 0.95 EJ.

For many years, the efficiency of this standard power plant has been assumed to be 38%. However, in reality, the world average efficiency of fossil fuel-based power changes over time and has risen from around 36% in 2000 to over 40% today. Moreover, given the much higher efficiency of the most modern power plant (e.g. the thermal efficiency of a modern gas turbine plant is above 55%), the global average is expected to increase in the future.

Therefore, to better assess primary energy trends, we use a time-dependent thermal equivalence model. The conversion factor used each year to calculate the 'input-equivalent' consumption for a given level of generation is based on a simplified representation of measured average efficiency levels:

1965-2000: assumed constant efficiency of 36%

2000-2017: a linear increase from 36% to 40% based on observed data

2018 onwards: the annual rate of efficiency improvement is based on the simplified assumption that efficiency will increase linearly to 45% by 2050.

The table below quantifies these assumptions (rounded to 1 decimal place):

Thermal equivalent efficiency factors used to convert non-fossil electricity (excluding biomass powered electricity) to primary energy.

Thermal equivalent efficiency factors used to convert non-fossil electricity to primary energy

Year(s)	Efficiency factor	Year(s)	Efficiency factor
2001	36.2%	2013	39.1%
2002	36.5%	2014	39.3%
2003	36.7%	2015	39.5%
2004	36.9%	2016	39.8%
2005	37.2%	2017	40.0%
2006	37.4%	2018	40.2%
2007	37.6%	2019	40.4%
2008	37.9%	2020	40.5%
2009	38.1%	2021	40.7%
2010	38.4%	2022	40.8%
2011	38.6%	2023	41.0%
2012	38.8%		

*1965-2000 = 36.0%

In this year's Statistical Review, we use the updated thermal equivalent efficiency factor to convert electricity generation from biomass to primary energy equivalent. Prior to 2022, the same factor was used for biomass as for all non-fossil electricity. From 2022 onwards, we assume a constant efficiency of 32% for biomass power to better reflect the actual efficiency of biomass power plants.

Primary energy consumption is reported in net terms. The gross calorific value to net calorific value adjustment is fuel-specific.

Fuels used as inputs for conversion technologies (gas-to-liquids, coal-to-liquids and coal-to-gas) are counted as production for the source fuel and the outputs are counted as consumption for the converted fuel.

Oil

Oil reserves

Total proved reserves of oil are generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and geological conditions.

The data series for proved oil reserves in this year's review does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level, for instance as published by the US Securities and Exchange Commission nor does it necessarily represent the EI's view of proved reserves by country. Rather the data series has been compiled using a combination of primary official sources and third-party data.

Oil reserves include field condensate and natural gas liquids as well as crude oil. This inclusive approach helps to develop consistency with the oil production numbers published in the Review, which also include these categories of oil. The reserves and R/P ratio for Canada includes Canadian oil sands and the reserves and R/P ratio for Venezuela includes the Orinoco Belt.

Liquid hydrocarbon fuels from non-hydrocarbon sources, such as ethanol from corn or sugar or synthetic oil derived from natural gas (so-called GTL or gas-to-liquids), are not included in either the reserves or production series.

We have provided a detailed explanatory note on reserves clarifying current definitions and terminology.

R/P ratios represent the length of time that those remaining reserves would last if production were to continue at the previous year's rate. They are calculated by dividing remaining reserves at the end of the year by the production in that year.

Reserves-to-production (R/P) ratios are available by country and feature in the table of oil reserves. There is a time series of crude oil reserves from 1980, which can be found in the Excel workbook. Data are measured in thousand million barrels.

Please note that these reserves tables have not been updated this year.

Oil production

Oil production data includes crude oil, shale oil, oil sands, condensates (lease condensate or gas condensates that require further refining) and NGLs (natural gas liquids – ethane, LPG and naphtha separated from the production of natural gas). Excludes liquid fuels from other sources such as biofuels and synthetic derivatives of coal and natural gas. This also excludes liquid fuel adjustment factors such as refinery processing gain. Excludes oil shales/kerogen extracted in solid form.

The split of crude/condensate and natural gas liquids figures are available. The crude condensate table includes crude oil, shale/tight oil, oil sands, lease condensate or gas condensates that require further refining. Excludes liquid fuels from other sources such as biomass and synthetic derivatives of coal and natural gas. The NGL's table includes ethane, LPG and naphtha separated from the production of natural gas. Excludes condensates.

World oil production tables are available in both thousand barrels daily and million tonnes.

Liquids, oil and oil product consumption

Oil consumption as defined in previous Statistical Reviews (i.e. including biofuels) has been renamed 'liquids' consumption and a table is still included on this original basis. In addition, more granularity has been included on the product split of both oil products and biofuels (breaking out ethane & LPG and naphtha in oil products and the ethanol/biodiesel split of biofuels).

Total liquids consumption comprises inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol), biodiesel and derivatives of coal and natural gas are also included.

Oil consumption figures include inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol), biodiesel and derivatives of coal and natural gas are excluded. Derivatives of coal and natural gas are included.

Oil product consumption – Gasoline includes motor and aviation gasoline, gasolines and light distillate feedstock (LDF). Diesel/gasoil includes marine gasoil. 'Fuel oil' includes marine bunkers and crude oil used directly for fuel. 'Others' consists of refinery gas, solvents, petroleum coke, lubricants, bitumen, wax, other refined products and refinery fuel and loss.

Data are supplied in both exajoules and thousand barrels daily figures.

Oil prices

The key crudes quoted are Brent, West Texas Intermediate (WTI), Nigerian Focados and Dubai in US$ per barrel.

The spot crude price history from 1972 and annual crude price history from 1861 are available in the historical data Excel workbook.

Using S&P Global Platts data

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Refining

The refinery capacity data presented in this Review represents the sum of reported atmospheric crude distillation and condensate splitting capacity. Capacity should comprise the amount of input that a distillation facility can process under usual operating conditions, taking into account scheduled downtime. Figures are in thousand barrels daily at year end per calendar day.

Refinery throughputs are based on the quantity of crude and condensate processed in atmospheric distillation units and condensate splitters. Figures are in thousands of barrels per day.

The refining margins presented are benchmark margins for three major global refining centres: US Gulf Coast (USGC), North West Europe (NWE – Rotterdam) and Singapore. In each case they are based on a single crude oil appropriate for that region and have optimised product yields based on a generic refinery configuration (cracking, hydrocracking or coking), again appropriate for that region. The margins are on a semi-variable basis, i.e. the margin after all variable costs and fixed energy costs.

Methodology

Oil trade movements
The tables exclude the intra-area movements of oil (for example, crude oil and products moving between countries within Europe). They do not include biofuels. Bunkers fuel is not included as exports. Crude imports and exports include condensates. Saudi Arabian exports from 1980 are also available in the oil trade movements table in the Excel workbook. The split of crude oil and products are detailed. Data in the tables are in million tonnes and thousand barrels per day.

Natural gas

Natural gas reserves
Total proved reserves of natural gas are generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.

The data series for proved natural gas reserves in this year's Review does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level, for instance as published by the US Securities and Exchange Commission nor does it necessarily represent the EI's view of proved reserves by country. Rather, the data series has been compiled using a combination of primary official sources and third-party data.

Although every effort is made to come up with a consistent series for reserves based on a common definition, different countries use different methodologies and the data have varying levels of reliability.

R/P ratios represent the length of time that those remaining reserves would last if production were to continue at the previous year's rate. They are calculated by dividing remaining reserves at the end of the year by the production in that year.

As far as possible, the data represents standard cubic metres (measured at 15°C and 1013 mbar) and have been standardised using a gross calorific value (GCV) of 40 MJ/m^3.

There is a time series of natural gas reserves, which can be found in the Excel workbook. Data are measured in billion cubic metres.

Please note that these reserves tables have not been updated this year.

Natural gas production

Gas production comprises marketed production and excludes gas flared or recycled gas. Includes natural gas produced for gas-to-liquids transformation.

As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar); as they are derived directly from tonnes of oil equivalent using an average conversion factor and have been standardised using a gross calorific value (GCV) of 40 MJ/m^3, they do not necessarily equate with gas volumes expressed in specific national terms.

Natural gas production is provided in three different units of measurement to accommodate regional customary usage. World natural gas production PDF tables are in both billion cubic metres, and exajoules. Data in the Excel workbook are also in billion cubic feet per day (bcf/d).

Natural gas consumption
Natural gas consumption excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in gas-to-liquids transformation.

As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar); as they are derived directly from tonnes of oil equivalent using an average conversion factor and have been standardised using a gross calorific value (GCV) of 40 MJ/m^3 they do not necessarily equate with gas volumes expressed in specific national terms. The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.

Consumption data in the PDF data table is in billion cubic meters (bcm) and exajoules, data in billion cubic feet per day (bcf/d) can be found in the Excel workbook.

Natural gas prices
Annual prices are given for benchmark natural gas hubs together with contracted pipeline and LNG imports. The benchmark hub prices incorporate US (Henry Hub), Canada (Alberta), Netherlands TTF index and the UK (NBP). Contract prices are represented by LNG imports into Japan, the Japan Korea Marker (JKM) and Average German Import Prices.

The prices for LNG and European border are calculated as CIF prices, where CIF = cost + insurance + freight (average freight prices) in US dollars per million British thermal units (Btu).

Natural gas trade movements
Trade flows are on a contractual basis and may not correspond to physical gas flows in all cases. The data illustrates the flow of pipeline natural gas and LNG between sources of production and the regions of consumption. LNG trade. As far as possible, the data represents standard cubic metres (measured at 15°C and 1013 mbar) and has been standardised using a gross calorific value (GCV) of 40 MJ/m^3.

Coal

Coal reserves
Total proved reserves of coal are generally taken to be those quantities that geological and engineering information indicates with reasonable certainly can be recovered in the future from known deposits under existing economic and operating conditions.

Total proved coal reserves are shown for anthracite and bituminous (including brown coal) and sub-bituminous and lignite.

Reserves-to-production (R/P) ratios represent the length of time that those remaining reserves would last if production were to continue at the previous year's rate. They are calculated by dividing remaining reserves at the end of the year by the production in that year. The R/P ratios are calculated excluding other solid fuels in reserves and production.

R/P ratios are available by country and feature in the table of coal reserves. R/P ratios for the region and the world are depicted in the chart above and the Energy charting tool.

Coal reserve data is in million tonnes.

Please note that these reserves tables have not been updated this year.

Coal production
Coal production includes data for commercial solid fuels only. Included in the hard coal category are bituminous and anthracite (hard coal). The sub-bituminous coal includes lignite and brown coal. Other commercial solid fuels are also included. The data includes coal produced for coal-to-liquids and coal-to-gas transformations.

In the coal production PDF table, the units are in exajoules. The data can also be downloaded from the Excel workbook in million tonnes.

Coal consumption
Coal consumption includes data for solid fuels only. Included in the hard coal category are bituminous and anthracite. The sub-bituminous coal includes lignite and brown coal. Other commercial solid fuels are also included. The figures exclude coal converted to liquid or gaseous fuels, but includes coal consumed in transformation processes.

Differences between world consumption figures and the world production statistics are accounted for by stock changes, and unavoidable disparities in the definition, measurement or conversion of coal supply and demand data.

Coal prices
Annual prices quoted include the Northwest Europe marker price, Japan steam spot CIF price, China Qinhuangdao spot price and the US Central Appalachian coal spot price index. Coal prices except for the US Central Appalachian price are calculated as CIF prices, where CIF = cost + insurance + freight (average freight prices). The US Central Appalachian price is FOB = free on board. All prices are quoted in US dollars per tonne.

IHS Northwest Europe prices for 1996-2000 are the average of the monthly marker, 2001-2017 the average of weekly prices. IHS Japan prices basis = 6,000 kilocalories per kilogram NAR CIF. Chinese prices are the average monthly price for 2000-2005, weekly prices 2006-2017, 5,500 kilocalories per kilogram NAR, including cost and freight (CFR).

Coal trade movements
Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels. Intra-area movements (for example, between countries in Europe, Other CIS, Other Africa, Other Asia Pacific) are excluded.

Nuclear energy

The data are based on gross generation and not accounting for cross-border electricity supply. 'Input-equivalent' energy is the amount of fuel that would be required by thermal power stations to generate the reported electricity output. Details on thermal efficiency assumptions are available online.

Data for the units are in exajoules in the PDF. The data are available in the Excel workbook in terawatt–hours (TWh).

Hydroelectricity

The data are based on gross generation and not accounting for cross-border electricity supply. 'Input-equivalent' energy is the amount of fuel that would be required by thermal power stations to generate the reported electricity output.

Details on thermal efficiency assumptions are available online.

In the hydroelectricity consumption PDF table, the units are in exajoules. The data are available in the Excel workbook in terawatt-hours (TWh).

Methodology

Renewable energy

The data are based on gross generation and not accounting for cross-border electricity supply. 'Input-equivalent' energy is the amount of fuel that would be required by thermal power stations to generate the reported electricity output. Details on thermal efficiency assumptions are available online.

Renewable power is based on gross generation from renewable sources including wind, geothermal, solar, biomass and waste, and not accounting for cross-border electricity supply.

Biofuels production and consumption
The data includes biogasoline (such as ethanol) and biodiesel. Volumes have been adjusted for energy content.

The biofuels PDF tables are in thousand barrels of oil equivalent per day figures. The data are available in additional units in the Excel workbook.

Electricity

Electricity generation is based on gross output.

Carbon

Carbon emissions from primary energy use are estimated by applying the Default CO_2 Emission Factors for Combustion to the consumption of each energy product type (coal, natural gas and various oil products) from the list of IPCC emission factors. Biofuels are considered as not emitting CO_2, consistent with the practice of the IEA. Second, the revised method takes account of fuel consumption used for non-combustion purposes, such as the use of oil products and natural gas in the petrochemicals industry or of oil to produce bitumen for road construction. Estimates of the share of non-combusted fossil fuels taken from the IEA's energy balances are subtracted from the total consumption of fossil fuels before applying the relevant emission factors.

Carbon emissions from flared natural gas are calculated using data series on volumes of gas flared from two sources: Cedigaz up to 2012, and the Payne Institute for Public Policy, Colorado School of Mines, from 2013 onward. Payne Institute's data include flaring from upstream, downstream oil and gas, while Cedigaz include flaring from upstream only. Volumes of gas flared have been standardised using a Gross Calorific Value (GCV) of 40 MJ/m^3. The IPCC Default CO_2 Emission Factor for Combustion for natural gas (56,100 kg CO_2 per TJ) is used and perfect combustion has been assumed. These emissions represent around 1% of total CO_2 emissions.

Data for methane emissions associated with the production, transportation and distribution of fossil fuels for 1990-2020 are sourced, where available, from IEA (2023) Greenhouse Gas Emissions from Energy (all rights reserved). For countries not covered by the IEA, additional data has been sourced from Kayrros. For a selected number of fossil fuel producing countries where methane emission data is not currently available through either provider, an estimate of historical methane emissions has been derived using regional average methane intensity of production. For 2023, methane emission estimates are derived for all countries using methane intensity of fossil fuel production in 2022. Total methane emissions at a global and regional level show a discrepancy with IEA data due to non-inclusion of residual emissions i.e. emissions which have not been allocated to named countries. There is a wide range of uncertainty with respect to both current estimates of methane emissions and the global warming potential of methane emissions. To ensure alignment with financial and government reporting standards, the methane to CO_2e factor is a 100-year Global Warming Potential (GWP) of 25, recommended by the IPCC in AR4. Carbon emissions from industrial processes refer only to non-energy CO_2 emissions from cement production and are sourced for 1990-2023 from Andrew, R. M. (2019) Global CO_2 emissions from cement production, 1928-2018. Earth System Science Data 11, 1675-1710, (updated dataset May 2023).

Minerals

Total proved reserves of minerals are generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known resources under existing economic and geological conditions.

The data series for mineral reserves in this year's review does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level nor does it necessarily represent the EI's view of proved reserves by country. Rather the data series has been compiled using a combination of primary official sources and third-party data.

Revisions and corrections

Each year revisions are made to historical data when updated or more reliable data sources become available. Corrections are also made when errors are identified in data. In this Statistical Review corrections have been made to the emissions, biofuels, historic oil prices and oil refinery throughput tables.

Appendices

Approximate conversion factors

Crude oil*

From	To: tonnes (metric)	kilolitres	barrels	US gallons	tonnes per year
	Multiply by				
Tonnes (metric)	1	1.165	7.33	307.86	–
Kilolitres	0.8581	1	6.2898	264.17	–
Barrels	0.1364	0.159	1	42	–
US gallons	0.00325	0.0038	0.0238	1	–
Barrels/day	–	–	–	–	49.8

*Based on worldwide average gravity.

Oil products

From	To convert: barrels to tonnes	tonnes to barrels	kilolitres to tonnes	tonnes to kilolitres	tonnes to gigajoules	tonnes to barrels oil equivalent
	Multiply by					
Ethane	0.059	16.850	0.373	2.679	49.400	8.073
Liquefied petroleum gas (LPG)	0.086	11.600	0.541	1.849	46.150	7.542
Gasoline	0.120	8.350	0.753	1.328	44.750	7.313
Kerosene	0.127	7.880	0.798	1.253	43.920	7.177
Gas oil/diesel	0.134	7.460	0.843	1.186	43.380	7.089
Residual fuel oil	0.157	6.350	0.991	1.010	41.570	6.793
Product basket	0.124	8.058	0.781	1.281	43.076	7.039

*Based on worldwide average gravity.

Natural gas (NG) and liquefied natural gas (LNG)

From	To convert: billion cubic metres NG	billion cubic feet NG	petajoules NG	million toe	million tonnes LNG	tonnes to gigajoules	tonnes to barrels oil equivalent
	Multiply by						
1 billion m³ NG	1.000	35.315	36.000	0.860	0.735	34.121	5.883
1 billion ft³ NG	0.028	1.000	1.019	0.024	0.021	0.966	0.167
1 petajoule NG	0.028	0.981	1.000	0.024	0.021	0.952	0.164
1 million toe	1.163	41.071	41.868	1.000	0.855	39.683	6.842
1 million tonnes LNG	1.360	48.028	48.747	1.169	1.000	46.405	8.001
1 trillion Btu	0.029	1.035	1.050	0.025	0.022	1.000	0.172
1 million boe	0.170	6.003	6.093	0.146	0.125	5.800	1.000

Units

1 metric tonne	= 2204.62 lb. = 1.1023 short tons
1 kilolitre	= 6.2898 barrels
1 kilolitre	= 1 cubic metre
1 kilocalorie (kcal)	= 4.1868 kJ = 3.968 Btu
1 kilojoule (kJ)	= 1,000 joules = 0.239 kcal = 0.948 Btu
1 petajoule (PJ)	= 1 quadrillion joules (1 x 1015)
1 exajoule (EJ)	= 1 quintillion joules (1 x 1018)
1 British thermal unit (Btu)	= 0.252 kcal = 1.055 kJ
1 barrel of oil equivalent (boe)	= 5.8 million Btu = 6.119 million kJ
1 kilowatt-hour (kWh)	= 860 kcal = 3600 kJ = 3412 Btu

Calorific equivalents
One exajoule equals approximately:

Heat units	239 trillion kilocalories 948 trillion Btu
Solid fuels	40 million tonnes of hard coal 95 million tonnes of lignite and sub-bituminous coal
Gaseous fuels	See Natural gas and LNG table
Electricity	278 terawatt-hours

All fuel energy content is net or lower heating value (i.e., net of heat of vaporisation of water generated from combustion).

1 barrel of ethanol = 0.58 barrels of oil equivalent
1 barrel of biodiesel = 0.86 barrels of oil equivalent
1 tonne of ethanol = 0.68 tonne of oil equivalent
1 tonne of biodiesel = 0.88 tonne of oil equivalent

Other terms
Tonnes: Metric equivalent of tons

Percentages
Calculated before rounding of actuals.

Rounding differences
Because of rounding, some totals may not agree exactly with the sum of their component parts.

Definitions

Regional definitions
Country groupings are made purely for statistical purposes and are not intended to imply any judgment about political or economic standings.

North America
US (excluding US territories), Canada, Mexico.

Caribbean
Atlantic islands between the US Gulf Coast and South America, including Puerto Rico, US Virgin Islands and Bermuda.

Central America
Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama.

South and Central America
Caribbean (including Puerto Rico and US Virgin Islands), Bermuda, Central and South America.

Europe
European members of the OECD plus Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Georgia, Gibraltar, Latvia, Lithuania, Malta, Montenegro, North Macedonia, Romania, Serbia and Ukraine.

Commonwealth of Independent States (CIS)
Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Uzbekistan.

Middle East
Arabian Peninsula, Iran, Iraq, Israel, Jordan, Lebanon, Syria.

Northern Africa
Territories on the north coast of Africa from Egypt to Western Sahara.

Eastern Africa
Territories on the east coast of Africa from Sudan to Mozambique. Also Madagascar, Malawi, Uganda, Zambia, Zimbabwe.

Middle Africa
Angola, Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Republic of Congo, Equatorial Guinea, Gabon, Sao Tome & Principe.

Western Africa
Territories on the west coast of Africa from Mauritania to Nigeria, including Burkina Faso, Cape Verde, Mali and Niger.

Southern Africa
Botswana, Eswatini, Lesotho, Namibia, South Africa.

Asia Pacific
Brunei, Cambodia, China†, China Hong Kong SAR*, China Macau SAR*, Indonesia, Japan, Laos, Malaysia, Mongolia, North Korea, Philippines, Singapore, South Asia (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka), Myanmar, South Korea, Taiwan, Thailand, Vietnam, Australia, New Zealand, Papua New Guinea and Oceania.
† Mainland China
* Special Administrative Region

Australasia
Australia, New Zealand.

OECD members (Organization For Economic Co-operation and Development)
Europe: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye, UK.

Other member countries: Australia, Canada, Chile, Colombia, Costa Rica, Israel, Japan, Mexico, New Zealand, South Korea, US.

OPEC members (Organization of the Petroleum Exporting Countries)
Middle East: Iran, Iraq, Kuwait, Saudi Arabia, United Arab Emirates.
North Africa: Algeria, Libya.
West Africa: Angola, Equatorial Guinea, Gabon, Nigeria, Republic of Congo.
South America: Venezuela.

European Union members
Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Republic of Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

Non-OECD (Organization for Economic Co-operation and Development)
All countries that are not members of the OECD.

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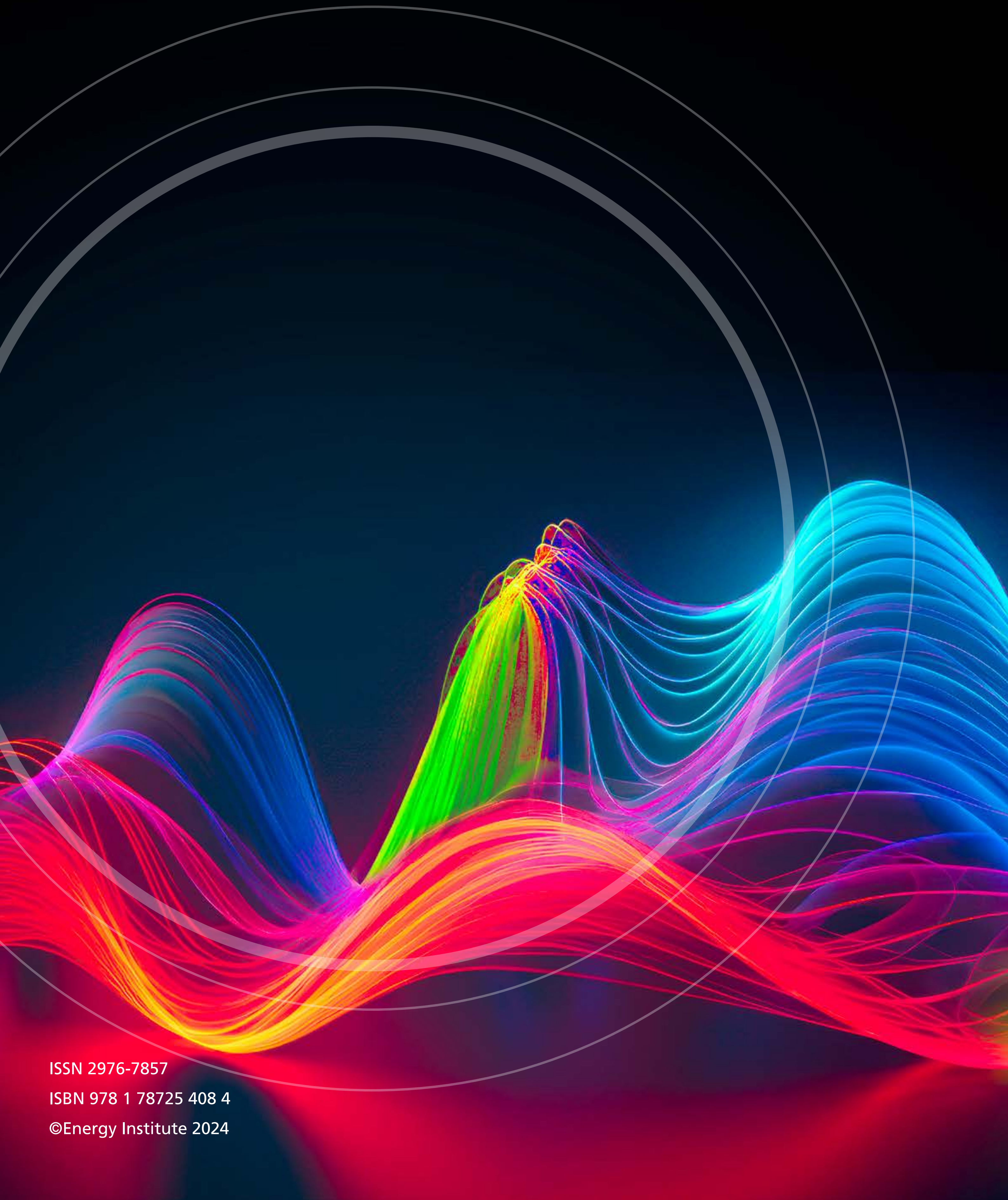

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