



2023 | 72nd edition

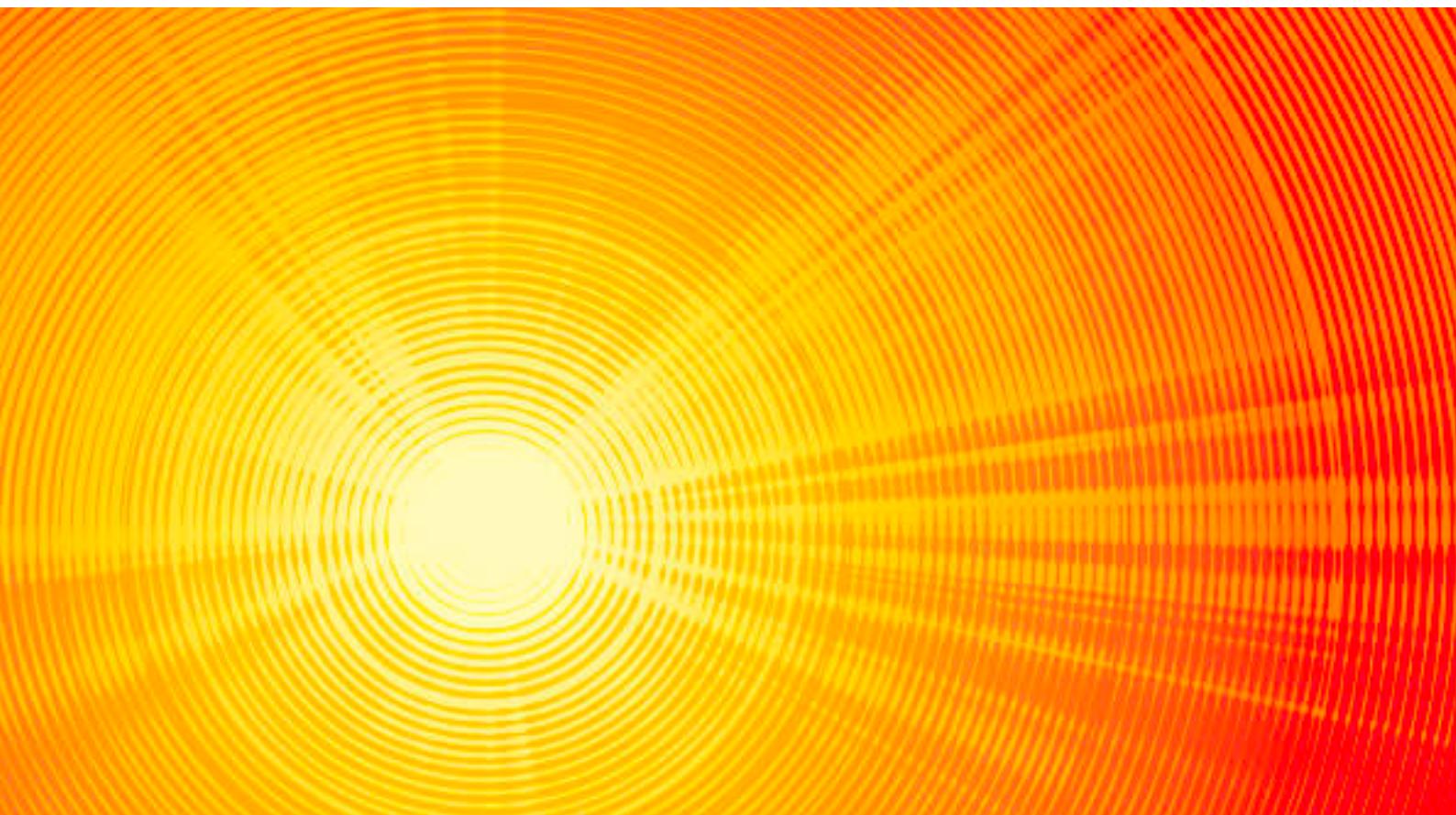
Statistical Review of World Energy

In partnership with



KEARNEY

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



Discover more online

All the tables and charts found in the printed edition are available at energyinst.org/statistical-review plus a number of extras, including:

- The energy charting tool – view predetermined reports or chart specific data according to energy type, region, country and year.
- Historical data from 1965 for many sections. Additional country and regional coverage for all consumption tables.
- An Excel workbook and database format of the data.

Download the Energy Statistical Review app

Explore the world of energy from your tablet or smartphone.

Customise charts and perform calculations. Review the data online and offline. Download the app for free from the Apple App Store and Google Play Store.



Apple App Store



Google Play Store.

Contents

Introduction	
2	Foreword
3	2022 Key highlights
4	2022 Key charts
P Primary energy	
8	Consumption
9	Consumption by fuel
11	Consumption per capita
CO₂ Carbon	
12	Carbon dioxide emissions from energy
13	Natural gas: flaring
14	Carbon dioxide equivalent emissions
Oil	
15	Production
19	Consumption
24	Prices
25	Refining
27	Trade movements
Natural gas	
30	Production
32	Consumption
34	Prices
37	Trade movements
Coal	
39	Production
41	Trade movements
42	Consumption
Atom Nuclear energy	
43	Consumption
Hydroelectricity	
44	Consumption
Renewable energy	
45	Consumption
46	Generation
47	Generation by source
48	Solar capacity
49	Wind capacity
50	Biofuels production
51	Biofuels consumption
Electricity	
52	Generation
53	Generation by fuel
Key minerals	
54	Production
54	Reserves
55	Prices
Methodology	
56	More detail on the methodology
Appendices	
58	Approximate conversion factors
59	Definitions
60	More information

Foreword

Publishing the 72nd Statistical Review of World Energy is a significant moment for the Energy Institute (EI).

As the chartered professional membership body for people who work across the world of energy, the EI and its precursor bodies date back more than a century. This major addition to our body of work underpins our determination to bring the best evidence to bear in the vital decisions made by the business community, policy makers and academics in energy.

With our partners KPMG and Kearney, the continuing involvement of Heriot-Watt University and with enormous thanks to bp for seven decades' work building one of the world's most respected energy data sources, we are opening a new chapter in the story of the Statistical Review.

It continues to be **full, first and free**: the fullest, most reliable account of energy production, consumption, trade and emissions; the first data source to provide a complete global picture of the previous year; and completely free to access for users.

This year more than ever, it provides insight into how our energy systems are adapting to escalating environmental and geopolitical crises. The data shed light on a year in energy defined by three crises layered one on top of the other – on **supply, price and climate**.

Just as the world emerged from the huge impact on energy demand caused by the global pandemic, 2022 witnessed energy markets again in crisis, as Russia's invasion of Ukraine upended assumptions about supply and sent out ripples around the world. That in turn precipitated a price crisis and profound cost-of-living pressures across many economies.

This year more than ever, it provides insight into how our energy systems are adapting to escalating environmental and geopolitical crises.

More fundamentally, we have seen further and ever more dangerous impacts of climate change across all continents. And despite broad consensus on the need to reach net zero, global energy-related greenhouse gas emissions are still heading in the wrong direction.

The Statistical Review provides a high level view of the global energy system, of how global markets are faring under these pressures, and how the energy transition is evolving.

At the EI, the Statistical Review has a new, long-term, independent home. Users will find all of the familiar elements – both in print and online. We look forward to working with the user community to ensure it stays relevant as we work together to accelerate the transition to a cleaner, more secure energy future.



Juliet Davenport
OBE HonFEI,
President, Energy Institute

Dr Nick Wayth
CEng FEI FIMechE,
CEO, Energy Institute



2022 Key highlights

Whilst 2022 saw energy demand continue to recover from the COVID-19 pandemic, legacy supply chain issues, along with conflict in Ukraine, continued to impact the global energy sector.

Energy developments

- 2022 saw a 1% increase in total primary energy consumption taking it to around 3% above the 2019 pre-COVID level.
- Renewables' (excluding hydroelectricity) share of primary energy consumption reached 7.5%, an increase of nearly 1% over the previous year.
- Fossil fuel consumption as a percentage of primary energy remained steady at 82%.

Carbon emissions

- Carbon dioxide emissions from energy use, industrial processes, flaring and methane (in carbon dioxide equivalent terms) continued to rise to a new high growing 0.8% in 2022 to 39.3 GtCO₂e, with emissions from energy use rising 0.9% to 34.4 GtCO₂e.
- In contrast, carbon dioxide emissions from flaring decreased by 3.8% and emissions from methane and industrial processes decreased by 0.2%.

Oil

- Brent crude oil prices averaged \$101/bbl in 2022, its highest level since 2013.
- Oil consumption continued to increase, rising by 2.9 million barrels per day (b/d) to 97.3 million barrels per day (b/d), a smaller increase than was seen between 2020 and 2021. Consumption remained 0.7% below 2019 levels.
- Regionally, OECD consumption increased by 1.4 million b/d and non-OECD by 1.5 million b/d. Most of the growth came from jet/kerosene (0.9 million b/d) and diesel/gasoil (0.7 million b/d).
- Global oil production increased by 3.8 million b/d in 2022, with OPEC+ accounting for more than 60% of the increase. Among all countries, Saudi Arabia (1,182,000 b/d) and the US (1,091,000 b/d), saw the largest increases. Nigeria reported the largest decline in production (184,000 b/d) with production in Libya declining by 181,000 b/d too.
- Refining capacity increased slightly by around 534,000 b/d last year driven by an increase in capacity in non-OECD countries.

Natural gas

- Natural gas prices reached record levels in Europe and Asia in 2022, rising nearly threefold in Europe (TTF averaging \$37/mmBtu) and doubling in the Asian LNG spot market (JKM averaging \$34/mmBtu). US Henry Hub prices rose over 50% to average \$6.5/mmBtu in 2022 – their highest annual level since 2008.
- Global natural gas demand declined by 3% in 2022 dropping just below the 4 Tcm mark achieved for the first time in 2021. Its share in primary energy in 2022 decreased slightly to 24% (from 25% in 2021).
- Global gas production remained relatively constant compared to 2021.
- LNG supply grew 5% (26 Bcm) to 542 Bcm in 2022, similar to 2021. LNG supply increases came mostly from North America (10 Bcm) and APAC (8 Bcm). All other regions made a positive contribution to LNG supply growth in 2022 (8 Bcm).
- The increase in global LNG demand was triggered by Europe (62 Bcm) in 2022. Countries in the Asia Pacific region reduced their LNG imports by 24 Bcm and those in South & Central America by 11 Bcm.

- Japan replaced China as the world's largest LNG importer and accounted for close to 60% of global LNG demand growth in 2022. The Asia Pacific region accounted for around 65% of global LNG demand but fell 6.5% compared to 2021 whilst Europe increased its LNG imports by 57%.
- Overall natural gas pipeline net trade fell ~15% globally in 2022 (78 Bcm). European pipeline imports fell by 35% (82 Bcm), almost entirely attributable to supplies from Russia. Overall, Russian total pipeline exports fell 38%. The Middle East increased its pipeline exports by 12%. China increased its pipeline imports by 5 Bcm.

Coal

- Coal prices reached record levels in 2022, with European prices averaging \$294/tonne and the Japan CIF spot price averaging \$225/tonne (increases of 145% and 45% over 2021 respectively).
- Coal consumption continued to increase, rising 0.6% in 2021 to 161 EJ; the highest level of coal consumption since 2014.
- The growth in demand was largely driven by China (1%) and India (4%). Their combined growth of 1.7 EJ was sufficient to offset declines in other regions by 0.6 EJ.
- Coal consumption in both North America and Europe declined by 6.8% and 3.1% respectively. In 2022, OECD consumption was around 10% less than its 2019 pre-COVID level and non-OECD coal consumption over 6% higher.
- Global coal production increased by over 7% compared to 2021, reaching a record high of 175 EJ. China, India, and Indonesia accounted for over 95% of the increase in global production.

Renewables, hydro and nuclear

- Renewable power (excluding hydro) rose 14% in 2022 to reach 40.9 EJ. This was slightly below the previous year's growth rate of 16%.
- Solar and wind capacity continued to grow rapidly in 2022 recording a record increase of 266 GW. Solar accounted for 72% (192 GW) of the capacity additions.
- The largest portion of solar and wind growth was in China accounting for about 37% and 41% of global capacity additions respectively.
- Hydroelectricity generation increased by 1.1% in 2022 whilst output from nuclear fell by 4.4%.

Electricity

- Global electricity generation increased by 2.3% in 2022 which was lower than the previous year's growth rate of 6.2%.
- Wind and solar reached a record high of 12% share of power generation with solar recording 25% and wind power 13.5% growth in output. The combined generation from wind and solar once again surpassed that of nuclear energy.
- Coal remained the dominant fuel for power generation in 2022, with a stable share around 35.4%, marginally down from 35.8% in 2021.
- Natural gas-fired power generation remained stable in 2022 with a share of around 23%.
- Renewables (excluding hydro) met 84% of net electricity demand growth in 2022.

Key minerals

- Lithium carbonate prices rose 335% to average a record high of \$47,000/tonne. Similarly, the price of cobalt increased 24% in 2021 to average \$64,000/tonne.
- Lithium and cobalt production rose sharply by 21%.

2022 Key charts

In 2022, the energy system switched from concerns around demand post-COVID to supply concerns arising from the conflict in Ukraine. These charts summarise some of the key highlights from this year's Statistical Review.

Primary energy

Primary energy demand growth slowed compared to 2021, increasing 1.1% (6.6 EJ) in 2022 versus 5.5% (30.9 EJ) in 2021. Primary energy in 2022 was 16.6 EJ above 2019 pre-COVID levels with consumption increasing in all regions except for Europe (-3.8%) and CIS (-5.8%).

Primary energy consumption in non-OECD countries increased by 20.5 EJ compared to their 2019 pre-COVID levels, driven largely by growth in China (14.6 EJ) accounting for 72% of the increase. Primary energy demand in OECD countries was slightly down against 2019 levels at 234 EJ in 2022 versus 238 EJ in 2019. The increase in primary energy supply between 2019 and 2022 was largely driven by renewable (excluding hydro) energy sources (13.5 EJ) and coal (10.6 EJ), with increased gas production (2.7 EJ) also evident.

Primary energy use in 2022 was 2.8% above 2019 levels.

CO₂ emissions

Emissions from energy continued to rebound strongly reaching a record high of 39.3 billion tonnes of carbon dioxide equivalent representing a 0.8% increase over 2021. Emissions from energy consumption contributed 87% of total global emissions.

Commodity prices

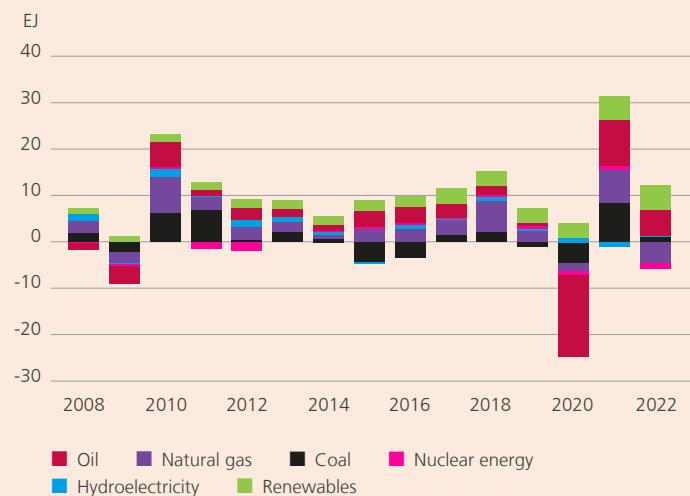
Global energy prices rose sharply in 2022 driven by energy supply concerns.

The most pronounced increase was in the price of lithium carbonate, which increased by over 300% in 2022. Oil prices rose by around 40%, with Brent ending the year averaging around \$101/bbl. Gas (Netherlands TFF) prices increased by over 130% to average around \$37/mmBtu, while coal prices also saw an increase with the Northwest Europe marker price increasing by 141% to \$294/tonne.

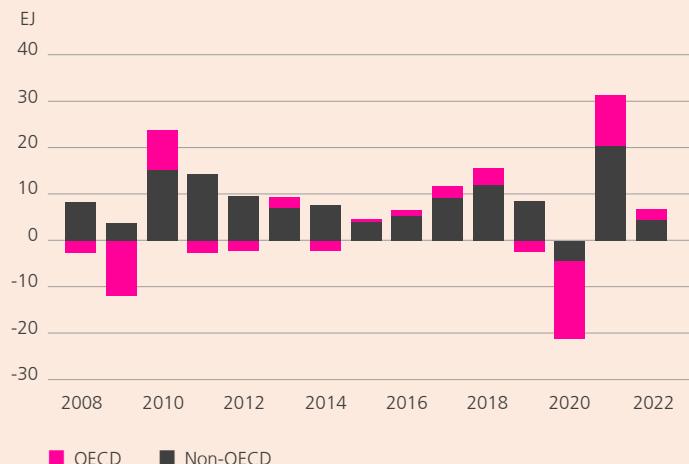
Global greenhouse gas emissions continue to rise, reaching record levels in 2022.

Primary energy in 2022 reached a record level with non-OECD countries accounting for most of the increase.

Change in primary energy by fuel

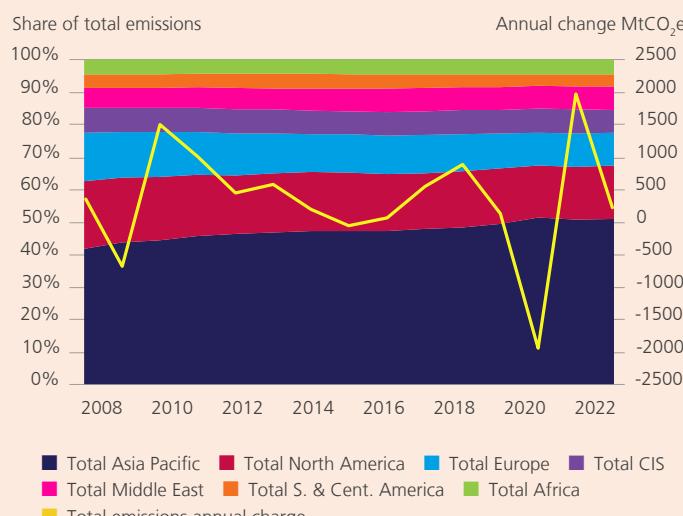


Change in primary energy by geography



Carbon emissions reached a record high in 2022

Asia Pacific region continues to increase its share of total global emissions



Energy and mineral prices rose sharply in 2022 with gas and lithium carbonate reaching record levels



Natural gas prices reached record levels in Europe and Asia Pacific regions.

Sources:

Brent: S&P Global Platts, ©2023, S&P Global Inc.

TTF: ICIS Heren Energy Ltd

Northwest Europe marker price: S&P Global Platts, ©2023, S&P Global Inc.

Cobalt: London Metal Exchange

Lithium carbonate: Benchmark Mineral Intelligence

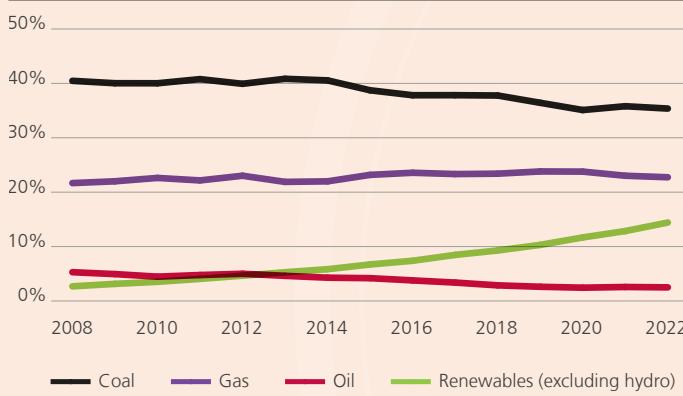
2022 vs 2021 percentage changes use the latest data available as of June 2023

2022 Key charts

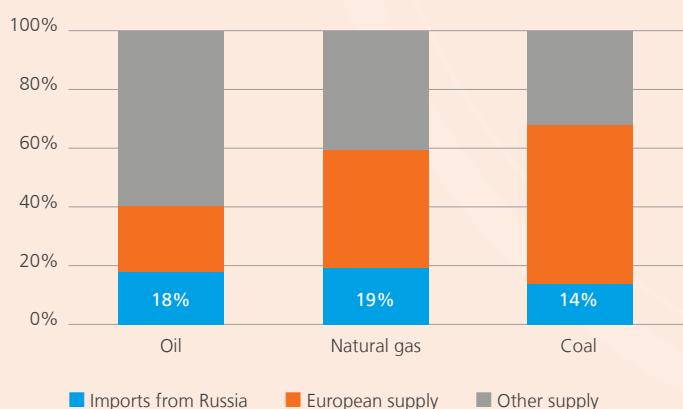
Refined product demand grew in 2022



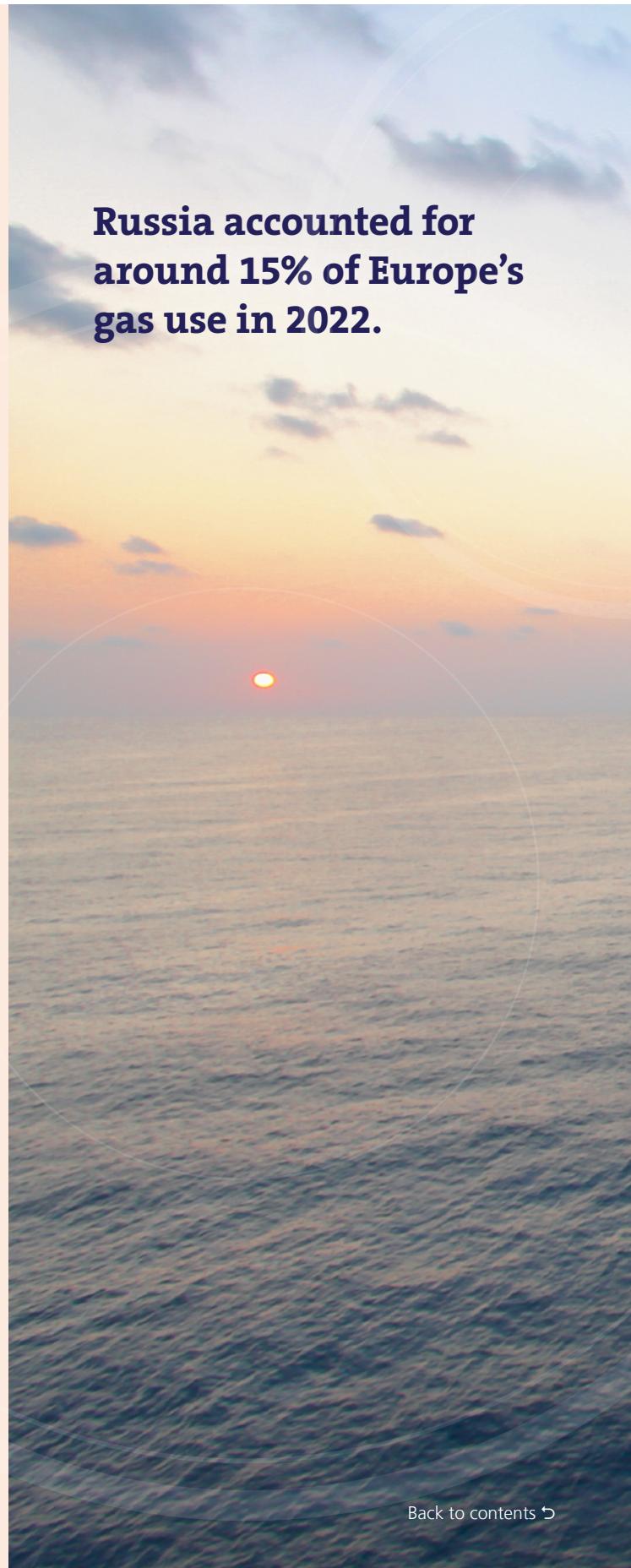
The share of renewables in global power generation continued to increase



Russian share of European crude oil, natural gas, and coal supply



Russia accounted for around 15% of Europe's gas use in 2022.



Despite a strong recovery, aviation-related oil demand remained below 2019 levels in 2022.

Oil demand

Oil demand in 2022 was 0.65 Mb/d (0.7%) below 2019 levels. Gasoline (25%) and diesel/gasoil (29%) accounted for just over half of total demand.

Although aviation-related oil demand exhibited the strongest growth, it remained more than 1.7 Mb/d below 2019 pre-COVID levels.

Demand for gasoline in 2022 was similar to pre-pandemic levels, whilst demand for naphtha, diesel/gasoil, fuel oil, and other oil products in 2022 were above their pre-pandemic levels.

Naphtha demand fell between 2021 and 2022, whilst demand for all other products increased.

Oil, gas and coal trade

Russian natural gas (pipeline and LNG) accounted for around 33% of Europe's total gas imports in 2022.

Crude oil from Russia made up 23% of total European crude oil imports.

Russian coal contributed 30% of Europe's coal imports in 2022.

Power by fuel

The share of renewables (excluding hydro) in global power generation continued its rising trend, driven by record new build of solar and wind. Their share of total global electricity production reached 14% in 2022, higher than that of nuclear energy (9%). The share of coal in the power sector stood at around 35% whilst the share of gas generation in 2022 remained close to its 10-year average level at 23%.

Solar and wind recorded a record increase of 266 GW in 2022 with solar accounting for 72% of the capacity additions.





Primary energy Consumption*

Exajoules	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012–22	
Canada	14.06	14.40	14.43	14.52	14.32	14.54	14.67	14.59	13.71	13.84	14.14	2.2%	0.1%	2.3%
Mexico	8.06	8.07	8.02	7.93	8.11	8.26	8.16	8.06	7.43	7.99	8.73	9.2%	0.8%	1.4%
US	90.17	92.62	93.59	92.69	92.60	92.95	96.35	95.67	88.57	93.40	95.91	2.7%	0.6%	15.9%
Total North America	112.30	115.09	116.03	115.14	115.04	115.76	119.18	118.32	109.71	115.23	118.78	3.1%	0.6%	19.7%
Argentina	3.40	3.53	3.53	3.59	3.57	3.57	3.54	3.34	3.13	3.48	3.60	3.7%	0.6%	0.6%
Brazil	12.21	12.51	12.83	12.66	12.36	12.47	12.51	12.72	12.22	12.85	13.41	4.3%	0.9%	2.2%
Chile	1.45	1.49	1.47	1.49	1.56	1.62	1.69	1.71	1.59	1.72	1.79	4.2%	2.1%	0.3%
Colombia	1.70	1.75	1.84	1.74	1.96	1.98	2.01	2.03	1.85	2.07	2.19	6.1%	2.6%	0.4%
Ecuador	0.63	0.65	0.68	0.68	0.67	0.70	0.74	0.76	0.66	0.76	0.79	3.1%	2.3%	0.1%
Peru	0.92	0.95	0.97	1.01	1.08	1.09	1.15	1.18	1.00	1.14	1.21	5.5%	2.7%	0.2%
Trinidad & Tobago	0.81	0.83	0.82	0.80	0.71	0.75	0.71	0.68	0.59	0.61	0.59	-3.1%	-3.1%	0.1%
Venezuela	3.65	3.69	3.54	3.49	3.04	3.06	2.59	2.21	1.82	2.10	2.21	5.2%	-4.9%	0.4%
Other S. & Cent. America	3.86	3.87	3.88	4.07	4.29	4.27	4.35	4.39	3.95	4.20	4.32	2.8%	1.1%	0.7%
Total S. & Cent. America	28.63	29.26	29.57	29.53	29.24	29.52	29.29	29.01	26.81	28.93	30.11	4.1%	0.5%	5.0%
Austria	1.49	1.48	1.42	1.42	1.47	1.50	1.47	1.54	1.44	1.45	1.37	-5.5%	-0.8%	0.2%
Belgium	2.47	2.53	2.34	2.37	2.55	2.58	2.57	2.66	2.39	2.66	2.45	-7.8%	-0.1%	0.4%
Czech Republic	1.80	1.76	1.73	1.69	1.67	1.77	1.76	1.72	1.59	1.68	1.67	-0.5%	-0.7%	0.3%
Finland	1.23	1.23	1.19	1.18	1.20	1.18	1.20	1.18	1.13	1.15	1.18	2.2%	-0.4%	0.2%
France	10.37	10.47	10.03	10.09	9.92	9.84	10.03	9.81	8.84	9.40	8.39	-10.8%	-2.1%	1.4%
Germany	13.54	13.93	13.36	13.61	13.83	14.01	13.66	13.31	12.41	12.78	12.30	-3.8%	-1.0%	2.0%
Greece	1.26	1.18	1.11	1.12	1.11	1.16	1.17	1.14	1.00	1.09	1.14	4.4%	-1.0%	0.2%
Hungary	0.90	0.86	0.86	0.90	0.92	0.97	0.98	0.99	0.97	1.02	0.96	-6.4%	0.6%	0.2%
Italy	7.00	6.69	6.34	6.53	6.56	6.64	6.67	6.55	5.95	6.34	6.14	-3.1%	-1.3%	1.0%
Netherlands	3.94	3.83	3.66	3.72	3.76	3.78	3.69	3.68	3.56	3.65	3.54	-3.1%	-1.1%	0.6%
Norway	2.02	1.90	1.95	1.97	2.00	2.01	1.98	1.86	2.01	2.05	1.90	-7.4%	-0.6%	0.3%
Poland	4.10	4.11	3.96	4.00	4.18	4.34	4.39	4.27	4.08	4.41	4.31	-2.2%	0.5%	0.7%
Portugal	0.96	1.05	1.07	1.05	1.12	1.09	1.11	1.05	0.96	0.96	0.93	-3.2%	-0.3%	0.2%
Romania	1.41	1.32	1.37	1.38	1.38	1.40	1.43	1.39	1.33	1.39	1.30	-6.9%	-0.9%	0.2%
Spain	6.01	5.71	5.60	5.67	5.72	5.79	5.89	5.73	5.18	5.55	5.76	3.6%	-0.4%	1.0%
Sweden	2.35	2.20	2.19	2.26	2.22	2.30	2.25	2.34	2.22	2.27	2.28	0.4%	-0.3%	0.4%
Switzerland	1.26	1.30	1.24	1.21	1.14	1.14	1.16	1.21	1.11	1.08	1.05	-2.4%	-1.8%	0.2%
Türkiye	5.15	5.11	5.26	5.78	6.07	6.43	6.36	6.60	6.49	6.96	7.01	0.7%	3.1%	1.2%
Ukraine	5.19	4.93	4.35	3.61	3.78	3.51	3.64	3.45	3.31	3.36	2.33	-30.7%	-7.7%	0.4%
United Kingdom	8.57	8.54	8.06	8.19	8.11	8.11	8.08	7.91	7.10	7.20	7.31	1.6%	-1.6%	1.2%
Other Europe	6.32	6.40	6.18	6.31	6.49	6.61	6.71	6.54	6.17	6.52	6.50	-0.3%	0.3%	1.1%
Total Europe	87.34	86.51	83.28	84.10	85.20	86.17	86.21	84.93	79.24	82.98	79.81	-3.8%	-0.9%	13.2%
Azerbaijan	0.54	0.56	0.57	0.62	0.61	0.60	0.62	0.65	0.66	0.70	0.70	-0.8%	2.5%	0.1%
Belarus	1.17	1.06	1.06	0.96	0.98	1.00	1.11	1.11	1.03	1.10	1.07	-2.9%	-0.9%	0.2%
Kazakhstan	2.64	2.65	2.78	2.31	2.60	2.80	2.89	2.93	2.71	2.93	3.12	6.4%	1.7%	0.5%
Russian Federation	29.26	28.92	29.01	28.55	29.13	29.31	30.39	30.16	29.07	31.48	28.89	-8.2%	-0.1%	4.8%
Turkmenistan	1.09	0.97	1.00	1.20	1.19	1.17	1.31	1.29	1.52	1.62	1.65	2.1%	4.3%	0.3%
Uzbekistan	1.96	1.96	2.03	1.94	1.85	1.91	1.92	1.92	1.91	2.03	2.11	3.9%	0.8%	0.3%
Other CIS	0.76	0.73	0.74	0.74	0.75	0.78	0.85	0.82	0.82	0.83	0.81	-2.3%	0.7%	0.1%
Total CIS	37.42	36.84	37.19	36.32	37.11	37.57	39.08	38.88	37.72	40.70	38.36	-5.8%	0.2%	6.4%
Iran	9.21	9.53	9.92	9.88	10.36	10.75	11.11	11.73	12.16	12.10	12.16	0.5%	2.8%	2.0%
Iraq	1.54	1.71	1.70	1.69	1.92	2.15	2.18	2.31	1.99	2.08	2.31	10.9%	4.1%	0.4%
Israel	1.02	0.96	0.94	0.99	1.01	1.03	1.05	1.09	1.03	1.04	1.09	4.8%	0.7%	0.2%
Kuwait	1.49	1.53	1.55	1.62	1.60	1.62	1.66	1.51	1.43	1.50	1.60	6.4%	0.7%	0.3%
Oman	1.02	1.14	1.14	1.21	1.22	1.27	1.35	1.34	1.29	1.42	1.50	5.4%	3.9%	0.2%
Qatar	1.59	1.73	1.87	2.13	2.09	2.02	2.02	2.10	1.83	1.93	1.88	-2.4%	1.7%	0.3%
Saudi Arabia	9.77	9.83	10.55	11.00	11.45	11.45	11.17	10.70	10.41	10.76	11.50	6.9%	1.6%	1.9%
United Arab Emirates	3.87	4.08	4.07	4.43	4.60	4.43	4.37	4.47	4.22	4.71	5.05	7.1%	2.7%	0.8%
Other Middle East	2.24	2.16	2.14	2.00	1.96	2.04	2.00	2.00	1.91	1.98	2.05	3.7%	-0.6%	0.3%
Total Middle East	31.75	32.68	33.89	34.96	36.20	36.77	36.91	37.25	36.26	37.52	39.13	4.3%	2.1%	6.5%
Algeria	1.83	1.93	2.11	2.22	2.25	2.41	2.50	2.34	2.34	2.53	2.47	-2.6%	3.0%	0.4%
Egypt	3.51	3.49	3.44	3.50	3.69	3.84	3.84	3.77	3.54	3.79	3.98	5.0%	1.3%	0.7%
Morocco	0.75	0.77	0.78	0.80	0.80	0.84	0.87	0.95	0.87	0.97	0.92	-4.3%	2.1%	0.2%
South Africa	5.12	5.14	5.20	5.10	5.33	5.31	5.11	5.33	4.99	5.00	4.82	-3.6%	-0.6%	0.8%
Other Africa	5.59	5.93	6.21	6.56	6.61	6.90	7.33	7.46	7.23	7.91	8.07	1.9%	3.7%	1.3%
Total Africa	16.80	17.27	17.74	18.18	18.66	19.14	19.56	20.02	18.96	20.20	20.26	0.3%	1.9%	3.4%
Australia	5.53	5.60	5.64	5.77	5.78	5.77	5.85	6.05	5.71	5.73	5.98	4.3%	0.8%	1.0%
Bangladesh	1.06	1.10	1.15	1.39	1.39	1.45	1.55	1.74	1.65	1.73	1.79	4.0%	5.4%	0.3%
China	117.45	121.87	125.03	126.49	127.00	131.94	138.30	144.74	149.45	157.94	159.39	0.9%	3.1%	26.4%
China Hong Kong SAR	1.14	1.17	1.14	1.18	1.21	1.29	1.31	1.24	0.93	0.88	0.79	-10.3%	-3.6%	0.1%
India	24.99	25.82	27.56	28.52	29.80	30.94	32.69	33.52	31.76	34.51	36.44	5.6%	3.8%	6.0%
Indonesia	6.82	6.59	6.67	6.78	6.80	7.04	7.72	8.22	7.61	7.76	9.77	26.0%	3.7%	1.6%
Japan	19.99	19.84	19.34	19.07	18.82	19.05	18.95	18.51	17.15	17.94	17.84	-0.6%	-1.1%	3.0%
Malaysia	3.74	3.91	3.95	4.01	4.22	4.28	4.35	4.47	4.30	4.58	4.84	5.6%	2.6%	0.8%
New Zealand	0.86	0.86	0.90	0.91	0.92	0.94	0.93	0.95	0.86	0.85	0.84	-1.0%	-0.2%	0.1%
Pakistan	2.48	2.71	2.79	2.94	3.20	3.39	3.50	3.54	3.52	3.90	3.60	-7.7%	3.8%	0.6%
Philippines	1.29	1.39	1.46	1.60	1.75	1.92	1.97	2.03						

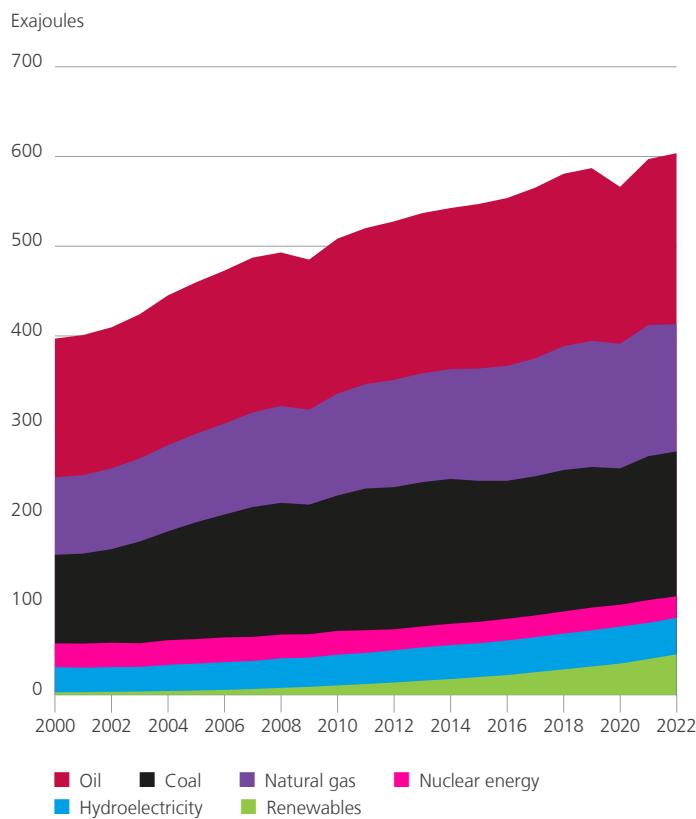


Primary energy Consumption by fuel*

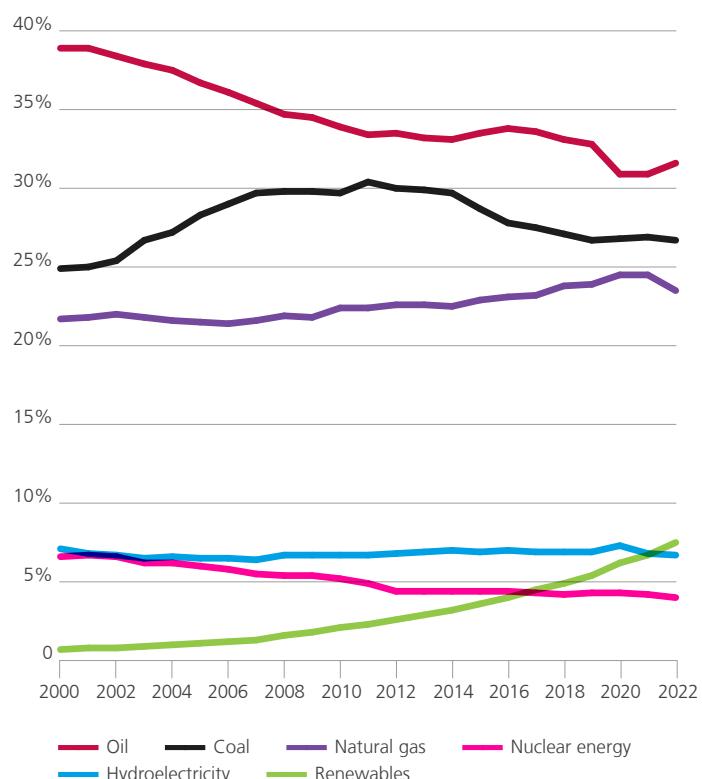
Exajoules	2021						2022							
	Oil	Natural gas	Coal	Nuclear energy	Hydro-electricity	Renewables	Total	Oil	Natural gas	Coal	Nuclear energy	Hydro-electricity	Renewables	Total
Canada	4.11	4.21	0.50	0.83	3.61	0.58	13.84	4.27	4.38	0.39	0.78	3.74	0.59	14.14
Mexico	3.39	3.50	0.20	0.11	0.33	0.46	7.99	4.12	3.48	0.25	0.10	0.34	0.45	8.73
US	35.51	30.09	10.57	7.42	2.35	7.47	93.40	36.15	31.72	9.87	7.31	2.43	8.43	95.91
Total North America	43.02	37.80	11.27	8.36	6.28	8.50	115.23	44.53	39.58	10.51	8.19	6.50	9.46	118.78
Argentina	1.29	1.65	0.05	0.09	0.19	0.21	3.48	1.38	1.64	0.05	0.07	0.22	0.24	3.60
Brazil	4.78	1.46	0.71	0.13	3.42	2.36	12.85	5.01	1.15	0.59	0.13	4.01	2.53	13.41
Chile	0.76	0.25	0.29	—	0.17	0.25	1.72	0.80	0.27	0.22	—	0.21	0.29	1.79
Colombia	0.86	0.45	0.11	—	0.57	0.07	2.07	0.96	0.45	0.10	—	0.60	0.07	2.19
Ecuador	0.49	0.02	^	—	0.24	0.01	0.76	0.53	0.02	^	—	0.23	0.01	0.79
Peru	0.48	0.29	0.02	—	0.30	0.05	1.14	0.50	0.35	0.03	—	0.28	0.05	1.21
Trinidad & Tobago	0.05	0.56	—	—	—	^	0.61	0.05	0.54	—	—	^	0.59	
Venezuela	0.45	1.01	^	—	0.64	^	2.10	0.53	1.05	^	—	0.63	^	2.21
Other S. & Cent. America	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total S. & Cent. America	11.67	6.04	1.41	0.22	6.30	3.28	28.93	12.37	5.82	1.19	0.20	7.00	3.53	30.11
Austria	0.50	0.32	0.11	—	0.37	0.16	1.45	0.48	0.28	0.10	—	0.33	0.17	1.37
Belgium	1.23	0.61	0.11	0.45	^	0.25	2.66	1.16	0.52	0.12	0.39	^	0.26	2.45
Czech Republic	0.41	0.33	0.54	0.28	0.02	0.10	1.68	0.41	0.27	0.59	0.28	0.02	0.10	1.67
Finland	0.33	0.07	0.12	0.21	0.15	0.26	1.15	0.33	0.04	0.12	0.23	0.13	0.32	1.18
France	2.92	1.55	0.23	3.43	0.55	0.72	9.40	2.91	1.38	0.21	2.65	0.42	0.81	8.39
Germany	4.18	3.30	2.24	0.62	0.19	2.25	12.78	4.26	2.78	2.33	0.31	0.16	2.45	12.30
Greece	0.55	0.25	0.07	—	0.06	0.16	1.09	0.62	0.22	0.07	—	0.04	0.18	1.14
Hungary	0.35	0.39	0.06	0.14	^	0.08	1.02	0.35	0.33	0.05	0.14	^	0.09	0.96
Italy	2.35	2.61	0.23	—	0.43	0.72	6.34	2.47	2.35	0.31	—	0.26	0.76	6.14
Netherlands	1.69	1.26	0.23	0.03	^	0.44	3.65	1.78	0.98	0.23	0.04	^	0.51	3.54
Norway	0.38	0.15	0.04	—	1.35	0.13	2.05	0.36	0.14	0.03	—	1.20	0.16	1.90
Poland	1.35	0.81	1.90	—	0.02	0.33	4.41	1.46	0.65	1.81	—	0.02	0.39	4.31
Portugal	0.42	0.21	0.01	—	0.11	0.21	0.96	0.46	0.20	^	—	0.06	0.21	0.93
Romania	0.44	0.42	0.17	0.10	0.16	0.10	1.39	0.45	0.35	0.17	0.10	0.13	0.11	1.30
Spain	2.42	1.24	0.13	0.51	0.28	0.98	5.55	2.66	1.19	0.17	0.53	0.17	1.04	5.76
Sweden	0.50	0.04	0.07	0.48	0.70	0.49	2.27	0.50	0.03	0.07	0.46	0.65	0.56	2.28
Switzerland	0.37	0.13	^	0.17	0.34	0.06	1.08	0.38	0.11	^	0.21	0.28	0.07	1.05
Türkiye	2.02	2.06	1.74	—	0.53	0.62	6.96	2.10	1.84	1.75	—	0.63	0.69	7.01
Ukraine	0.44	0.98	0.95	0.78	0.10	0.11	3.36	0.39	0.69	0.52	0.56	0.10	0.07	2.33
United Kingdom	2.45	2.80	0.24	0.41	0.05	1.24	7.20	2.67	2.59	0.21	0.43	0.05	1.36	7.31
Other Europe	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total Europe	27.70	20.63	10.39	7.98	6.17	10.12	82.98	28.72	17.96	10.07	6.68	5.32	11.06	79.81
Azerbaijan	0.23	0.46	^	0.01	—	0.70	—	0.25	0.44	^	—	0.01	^	0.70
Belarus	0.33	0.68	0.04	0.05	^	0.01	1.10	0.31	0.66	0.04	0.04	^	0.01	1.07
Kazakhstan	0.63	0.78	1.40	—	0.09	0.03	2.93	0.78	0.78	1.44	—	0.09	0.04	3.12
Russian Federation	6.88	17.09	3.43	2.01	2.02	0.06	31.48	7.05	14.69	3.19	2.01	1.86	0.08	28.89
Turkmenistan	0.29	1.32	—	—	^	^	1.62	0.30	1.35	—	—	^	^	1.65
Uzbekistan	0.22	1.67	0.09	—	0.05	^	2.03	0.22	1.74	0.10	—	0.05	^	2.11
Other CIS	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total CIS	8.76	22.21	5.05	2.08	2.50	0.11	40.70	9.10	19.84	4.87	2.08	2.33	0.14	38.36
Iran	3.33	8.51	0.07	0.03	0.14	0.02	12.10	3.69	8.24	0.08	0.06	0.07	0.02	12.16
Iraq	1.44	0.61	—	0.03	^	0.01	2.08	1.59	0.68	—	0.03	^	0.21	
Israel	0.41	0.42	0.16	—	^	0.05	1.04	0.46	0.41	0.16	—	^	0.07	1.09
Kuwait	0.78	0.71	^	—	—	^	1.50	0.81	0.78	—	—	^	0.10	1.60
Oman	0.40	1.01	^	—	—	0.01	1.42	0.45	1.03	^	—	—	0.01	1.50
Qatar	0.49	1.44	^	—	—	—	1.93	0.56	1.32	^	—	—	0.01	1.88
Saudi Arabia	6.62	4.12	^	—	—	0.01	10.76	7.15	4.33	^	—	—	0.01	11.50
United Arab Emirates	1.91	2.55	0.10	0.10	—	0.06	4.71	2.19	2.51	0.10	0.18	—	0.07	5.05
Other Middle East	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total Middle East	16.40	20.23	0.36	0.13	0.19	0.21	37.52	17.97	20.18	0.37	0.24	0.12	0.26	39.13
Algeria	0.80	1.72	0.01	—	^	0.01	2.53	0.86	1.59	0.01	—	^	0.01	2.47
Egypt	1.27	2.24	0.05	—	0.13	0.10	3.79	1.52	2.19	0.05	—	0.13	0.10	3.98
Morocco	0.56	0.03	0.31	—	0.01	0.07	0.97	0.57	0.01	0.28	—	^	0.06	0.92
South Africa	1.04	0.17	3.51	0.11	0.02	0.15	5.00	1.06	0.16	3.31	0.09	0.03	0.16	4.82
Other Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total Africa	7.95	6.06	4.18	0.11	1.44	0.47	20.20	8.39	5.85	3.97	0.09	1.47	0.49	20.26
Australia	1.93	1.44	1.63	—	0.15	0.59	5.73	2.07	1.50	1.55	—	0.16	0.70	5.98
Bangladesh	0.46	1.10	0.15	—	0.01	0.01	1.73	0.55	1.05	0.18	—	0.01	0.01	1.79
China	29.52	13.69	87.54	3.68	12.25	11.27	157.94	28.16	13.53	88.41	3.76	12.23	13.30	159.39
China Hong Kong SAR	0.55	0.17	0.15	—	—	^	0.88	0.47	0.16	0.15	—	—	0.79	
India	9.25	2.24	19.30	0.40	1.51	1.82	34.51	10.05	2.09	20.09	0.42	1.64	2.15	36.44
Indonesia	2.81	1.33	2.75	—	0.23	0.63	7.76	3.06	1.33	4.38	0.26	0.74	0.97	
Japan	6.61	3.73	4.93	0.55	0.75	1.37	17.94	6.61	3.62	4.92	0.47	0.70	1.53	17.84
Malaysia	1.48	1.78	0.94	—	0.29	0.08	4.58	1.73	1.78	0.94	—	0.31	0.09	4.84
New Zealand	0.30	0.14	0.07	—	0.23	0.11	0.85	0.30	0.13	0.05	—	0.25	0.11	0.84
Pakistan	1.02	1.62	0.72	0.14	0.35	0.05	3.90	0.99	1.38	0.64	0.20	0.33	0.06	3.60
Philippines	0.81	0.12	0.79	—	0.09	0.16	1.96	0.89	0.11	0.84	—	0.10	0.17	2.11
Singapore	2.77	0.48	0.02	—	—	0.01	3.28	2.66	0.47	0.02	—	—	0.02	3.16
South Korea	5.40	2.25	3.04	1.43	0.03	0.42	12.56	5.47	2.23	2.87	1.59	0.03	0.52	12.71
Sri Lanka	0.23	—	0.07	—	0.07	0.01	0.38	0.20	—	0.06	—	0.07	0.02	0.34
Taiwan	1.92	0.98	1.68	0.25	0.03	0.12	4.98							

P Primary energy World consumption*

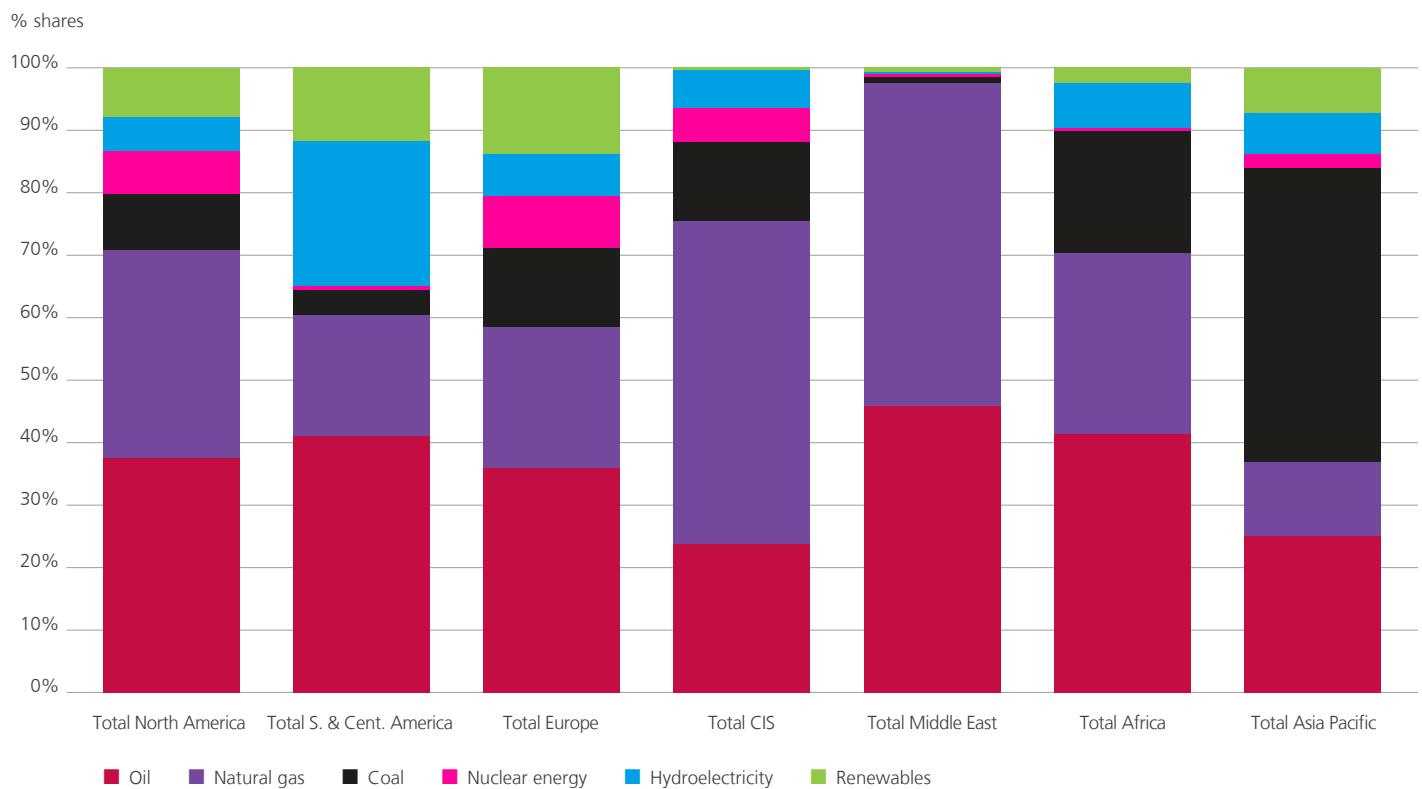
World consumption



Share of global primary energy



Regional consumption pattern 2022



* In this review, primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.



Primary energy Consumption per capita*

Growth rate per annum

Gigajoule per capita	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22
Canada	405.3	410.6	407.5	406.4	396.7	397.8	396.2	388.7	361.8	362.7	367.8	1.4%	-1.0%
Mexico	69.7	68.8	67.5	66.0	66.7	67.3	65.8	64.5	59.0	63.1	68.4	8.5%	-0.2%
US	284.8	290.0	290.6	285.5	283.0	281.8	290.1	286.2	263.7	277.2	283.5	2.3%	+†
Total North America	240.4	244.0	243.7	239.6	237.3	236.6	241.7	238.1	219.5	229.6	235.6	2.6%	-0.2%
Argentina	81.0	83.3	82.4	83.0	81.8	81.0	79.8	74.6	69.5	76.8	79.2	3.1%	-0.2%
Brazil	61.1	62.0	63.1	61.7	59.7	59.8	59.5	60.1	57.3	60.0	62.3	3.8%	0.2%
Chile	83.6	85.1	83.4	83.4	86.4	88.3	90.1	89.6	82.5	88.1	91.2	3.6%	0.9%
Colombia	37.1	37.8	39.4	36.9	41.2	40.9	40.8	40.4	36.2	40.1	42.3	5.4%	1.3%
Ecuador	40.4	41.1	42.5	41.8	41.0	42.0	43.6	43.8	37.3	42.9	43.7	1.9%	0.8%
Peru	31.1	31.5	31.9	33.0	34.6	34.6	35.6	35.8	30.1	33.9	35.4	4.5%	1.3%
Trinidad & Tobago	569.1	575.5	568.6	548.1	483.2	509.6	473.9	445.4	391.7	399.8	386.2	-3.4%	-3.8%
Venezuela	124.0	123.5	117.2	114.3	98.9	100.2	86.7	76.4	63.8	74.5	78.1	4.8%	-4.5%
Other S. & Cent. America	36.1	35.8	35.5	36.8	38.3	37.8	38.1	38.1	33.9	35.7	36.4	1.9%	0.1%
Total S. & Cent. America	58.7	59.3	59.4	58.7	57.6	57.6	56.6	55.6	51.0	54.7	56.5	3.4%	-0.4%
Austria	177.0	174.6	166.3	164.5	168.1	170.7	166.3	173.9	162.1	162.9	153.7	-5.6%	-1.4%
Belgium	223.5	227.6	209.6	210.4	225.7	226.4	224.6	230.9	206.8	228.9	210.2	-8.2%	-0.6%
Czech Republic	171.1	167.8	164.3	161.0	158.8	167.7	167.1	163.3	151.3	159.8	159.3	-0.3%	-0.7%
Finland	226.4	226.2	217.4	216.1	218.9	213.9	217.9	213.2	203.9	208.0	212.3	2.1%	-0.6%
France	164.5	165.3	157.7	158.1	155.0	153.5	156.0	152.4	137.0	145.7	129.8	-10.9%	-2.3%
Germany	166.1	170.5	163.2	165.8	168.0	169.6	164.8	160.1	149.0	153.2	147.5	-3.7%	-1.2%
Greece	114.7	108.3	102.0	103.8	102.8	108.5	109.7	107.9	94.8	104.3	109.5	5.0%	-0.5%
Hungary	91.1	86.6	86.9	91.8	93.7	99.0	99.9	101.3	99.8	105.3	96.0	-8.8%	0.5%
Italy	116.3	110.9	105.2	108.5	109.1	110.6	111.4	109.7	99.9	107.0	104.1	-2.7%	-1.1%
Netherlands	235.0	226.9	215.8	218.5	219.4	220.0	213.7	211.8	204.1	208.8	201.6	-3.5%	-1.5%
Norway	403.1	373.4	380.3	380.1	382.3	381.2	372.8	347.0	374.0	379.2	348.9	-8.0%	-1.4%
Poland	106.2	106.5	102.7	103.9	108.4	112.7	114.0	110.8	106.3	115.2	108.2	-6.0%	0.2%
Portugal	90.9	100.4	103.0	101.1	108.5	105.4	107.6	102.5	92.8	93.2	90.3	-3.1%	-0.1%
Romania	70.3	65.8	68.5	69.2	69.6	71.1	72.8	71.4	68.4	72.1	66.0	-8.4%	-0.6%
Spain	128.5	122.4	120.5	122.1	123.2	124.3	126.0	121.6	109.4	117.0	121.0	3.5%	-0.6%
Sweden	245.8	228.1	224.7	230.0	223.5	228.3	221.4	227.8	213.8	216.7	215.7	-0.4%	-1.3%
Switzerland	158.0	160.3	151.1	146.1	135.9	135.0	136.1	141.0	128.8	123.7	120.1	-3.0%	-2.7%
Türkiye	68.4	66.7	67.4	72.6	75.0	78.4	76.8	79.1	77.2	82.1	82.2	+†	1.9%
Ukraine	114.4	108.8	96.4	80.3	84.3	78.6	82.0	78.0	75.3	77.3	58.7	-24.0%	-6.5%
United Kingdom	134.3	132.8	124.5	125.6	123.5	122.8	121.6	118.4	105.9	107.0	108.4	1.3%	-2.1%
Other Europe	103.1	104.7	101.4	103.8	106.8	109.0	110.8	108.1	102.1	108.4	108.2	-0.2%	0.5%
Total Europe	131.9	130.2	124.9	125.7	126.9	128.0	127.8	125.6	117.1	122.6	118.0	-3.7%	-1.1%
Azerbaijan	57.4	57.9	58.1	62.8	61.5	59.8	60.8	63.2	64.1	68.3	67.5	-1.2%	1.6%
Belarus	120.8	109.5	99.1	101.2	103.0	114.1	114.9	107.2	114.9	112.1	121.1	-2.4%	-0.7%
Kazakhstan	154.3	152.8	158.2	129.6	143.7	152.7	156.0	156.3	142.5	152.8	160.9	5.3%	0.4%
Russian Federation	203.7	200.9	201.0	197.3	200.8	201.5	208.6	207.0	199.6	210.6	199.7	-8.0%	-0.2%
Turkmenistan	199.1	173.7	176.7	207.8	202.2	196.7	215.5	208.7	243.5	255.1	256.9	0.7%	2.6%
Uzbekistan	66.3	65.5	66.7	62.6	58.9	59.9	59.2	58.4	57.1	59.6	60.9	2.3%	-0.8%
Other CIS	38.1	36.0	36.5	35.9	35.8	36.9	39.8	38.0	37.5	37.7	36.0	-4.5%	-0.6%
Total CIS	159.3	155.9	156.4	151.7	154.0	154.9	160.2	158.6	153.3	165.0	154.9	-6.1%	-0.3%
Iran	119.1	121.5	124.1	120.8	124.4	127.2	129.8	135.5	139.3	137.6	137.3	-0.2%	1.4%
Iraq	45.4	48.1	46.2	44.8	49.5	54.3	53.6	55.5	46.8	47.8	51.8	8.5%	1.3%
Israel	134.2	124.8	119.6	123.9	124.1	124.3	124.2	126.3	117.3	117.3	121.1	3.2%	-1.0%
Kuwait	440.0	419.2	413.3	413.3	394.2	393.5	385.0	340.6	328.1	353.0	374.0	5.9%	-1.6%
Oman	288.5	299.5	283.6	289.2	276.5	280.1	294.0	291.9	284.5	313.8	326.7	4.1%	1.3%
Qatar	836.3	850.3	844.3	883.0	803.7	744.8	729.3	748.9	662.7	719.7	699.2	-2.6%	-1.8%
Saudi Arabia	317.0	312.3	328.5	336.0	342.6	335.0	318.9	298.8	289.1	299.2	315.7	5.5%	+†
United Arab Emirates	446.3	466.2	460.7	496.4	511.6	488.2	478.0	485.6	453.9	503.4	534.9	6.3%	1.8%
Other Middle East	33.6	32.1	31.3	28.7	27.8	28.5	27.4	26.8	25.0	25.5	25.9	1.5%	-2.6%
Total Middle East	135.8	136.9	138.9	140.3	142.5	142.2	140.2	138.9	133.5	136.5	140.4	2.8%	0.3%
Algeria	49.0	50.9	54.4	56.2	55.1	54.6	57.5	58.5	53.8	57.3	54.9	-4.2%	1.1%
Egypt	38.5	37.3	36.0	35.8	37.0	37.7	37.0	35.7	33.0	34.7	35.9	3.3%	-0.7%
Morocco	22.5	22.8	22.8	22.9	22.9	23.7	24.2	26.2	23.6	26.1	24.7	-5.3%	0.9%
South Africa	96.4	95.5	95.1	91.3	94.5	93.7	89.1	91.8	84.8	84.2	80.5	-4.5%	-1.8%
Other Africa	6.2	6.4	6.6	6.7	6.6	6.7	6.9	6.9	6.5	6.9	6.9	-0.7%	1.0%
Total Africa	15.1	15.1	15.2	15.1	15.1	15.1	15.1	15.1	13.9	14.5	14.2	-2.1%	-0.6%
Australia	243.3	242.3	240.3	242.0	239.1	234.5	234.3	238.5	222.6	221.2	228.5	3.3%	-0.6%
Bangladesh	7.0	7.2	7.3	8.8	8.7	9.0	9.5	10.5	9.8	10.2	10.5	2.9%	4.2%
China	85.9	88.6	90.3	90.8	90.6	93.6	97.6	101.8	104.9	110.8	111.8	0.9%	2.7%
China Hong Kong SAR	157.5	160.4	155.3	158.8	162.2	173.4	175.0	165.6	123.9	116.9	104.9	-10.2%	-4.0%
India	19.6	20.0	21.1	21.6	22.3	22.8	23.9	24.2	22.7	24.5	25.7	4.9%	2.7%
Indonesia	27.3	26.0	26.0	26.2	26.0	26.6	28.9	30.5	28.0	28.3	35.5	25.2%	2.7%
Japan	156.3	155.4	151.7	149.8	148.2	150.4	150.1	147.1	136.9	144.0	143.9	+†	-0.8%
Malaysia	126.0	129.8	129.1	129.2	133.9	133.8	134.4	136.2	129.6	136.4	142.5	4.5%	1.2%
New Zealand	194.1	193.8	199.9	197.8	196.6	197.1	192.3	191.7	170.6	165.3	161.8	-2.1%	-1.8%
Pakistan	12.2	13.2	13.4	13.9	15.0	15.7	15.9	15.8	15.5	16.9	15.3	-9.4%	2.2%
Philippines	13.2	13.9	14.4	15.5	16.7	18.0	18.1	18.4	16.4	17.3	18.2	5.7%	3.3%
Singapore	538.1	533.9	535.3	559.7	584.1	593.3	588.7	571.2	555.3	551.9	529.5	-4.1%	-0.2%
South Korea	233.3	232.0	231.9	234.0	239.4	240.9	244.2	240.8	231.5	242.4	245.3	1.2%	0.5%
Sri Lanka	13.4	13.5	14.4	16.1	17.6	17.0	17.6	17.9	17.5	17.6	15.7	-11.0%	1.6%
Taiwan	199.6	203.0	206.7	205.7	206.4	205.5	207.7	203.6	197.5	208.8	200.2	-4.1%	+†
Thailand	67.7	67.7	69.5	70.8	71.9	73							



Carbon

Carbon dioxide emissions from energy

Million tonnes of carbon dioxide	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum	Share	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022
Canada	545.5	559.3	564.5	564.3	545.9	561.5	571.5	558.8	500.1	510.2	519.7	1.9%	-0.5%	1.5%
Mexico	499.4	496.7	482.8	480.9	491.1	503.3	489.0	480.1	417.8	449.8	505.9	12.5%	0.1%	1.5%
US	5089.1	5246.6	5251.7	5137.5	5038.0	4978.8	5132.3	4981.6	4462.7	4768.4	4825.8	1.2%	-0.5%	14.0%
Total North America	6134.1	6302.6	6299.0	6182.7	6075.0	6043.6	6193.7	6020.4	5380.6	5728.4	5851.4	2.1%	-0.5%	17.0%
Argentina	181.8	187.6	187.8	191.2	190.1	188.5	186.0	174.6	162.3	184.7	190.1	2.9%	0.4%	0.6%
Brazil	457.8	487.0	511.7	494.8	455.9	461.7	442.1	435.5	408.4	461.6	443.3	-4%	-0.3%	1.3%
Chile	85.5	88.9	87.2	87.4	92.2	93.9	93.5	94.8	85.1	93.7	89.7	-4.2%	0.5%	0.3%
Colombia	83.9	89.6	95.4	88.0	102.6	95.7	97.4	99.7	89.6	96.8	103.0	6.5%	2.1%	0.3%
Ecuador	34.2	36.5	38.4	37.6	35.4	34.3	37.1	35.7	29.1	36.1	38.5	6.5%	1.2%	0.1%
Peru	44.8	46.0	46.8	49.2	53.2	51.0	52.8	54.4	43.4	51.6	56.8	10%	2.4%	0.2%
Trinidad & Tobago	24.2	25.5	24.8	23.9	21.9	21.3	20.6	17.0	15.2	15.5	15.1	-2.4%	-4.6%	†
Venezuela	177.9	183.4	173.3	172.2	149.3	146.3	121.1	100.2	71.1	87.2	95.3	9.3%	-6.1%	0.3%
Central America	58.7	60.1	61.8	68.7	71.6	71.9	72.4	80.3	68.2	77.8	81.1	4.3%	3.3%	0.2%
Other Caribbean	106.4	103.1	104.1	108.1	111.1	107.0	109.7	112.1	102.5	101.4	103.3	1.9%	-0.3%	0.3%
Other South America	34.0	34.7	35.2	35.6	37.6	38.5	39.6	40.0	33.6	41.2	41.7	1.2%	2.1%	0.1%
Total S. & Cent. America	1289.1	1342.4	1366.6	1356.7	1320.9	1310.0	1272.3	1244.3	1108.6	1247.5	1257.9	0.8%	-0.2%	3.7%
Austria	62.3	62.8	58.6	60.6	61.5	64.3	62.3	63.9	56.2	58.5	55.7	-4.7%	-1.1%	0.2%
Belgium	116.3	117.3	109.0	115.2	116.9	118.8	125.5	121.8	105.3	113.5	108.2	-4.7%	-0.7%	0.3%
Bulgaria	45.8	40.7	43.2	45.9	43.1	45.9	42.6	41.5	36.1	41.9	46.4	10.8%	0.1%	
Croatia	16.6	16.1	15.8	16.2	16.7	17.1	16.3	16.3	14.9	15.4	15.8	2.3%	-0.5%	†
Cyprus	8.1	7.3	7.3	7.5	8.1	8.3	8.2	7.0	7.2	7.7	6.1%	-0.6%	†	
Czech Republic	109.3	105.0	102.0	102.8	104.8	104.8	103.8	98.2	88.4	92.9	95.0	2.2%	-1.4%	0.3%
Denmark	39.7	42.0	38.3	35.6	37.0	34.4	34.8	31.5	26.0	28.2	27.7	-1.9%	-3.5%	0.1%
Estonia	22.8	24.5	23.5	21.4	22.2	24.5	24.1	18.3	15.8	16.8	17.1	1.8%	-2.9%	†
Finland	51.0	52.0	47.7	44.9	47.7	45.1	46.5	43.3	36.8	36.2	34.1	-5.7%	-4.0%	0.1%
France	335.6	334.9	301.5	307.5	313.1	317.8	306.6	299.1	251.5	274.4	269.7	-1.7%	-2.2%	0.8%
Germany	773.0	797.6	751.1	755.6	770.5	760.9	733.1	680.1	605.5	642.8	634.9	-1.2%	-1.9%	1.8%
Greece	89.1	79.9	76.1	73.8	70.7	75.0	73.6	69.6	56.3	59.3	62.8	5.9%	-3.4%	0.2%
Hungary	44.6	42.0	41.3	43.8	44.7	46.9	47.3	47.1	44.7	46.1	42.9	-6.9%	-0.4%	0.1%
Iceland	2.5	2.7	2.7	2.9	2.8	3.1	3.3	2.8	1.8	1.8	2.5	37.4%	†	†
Ireland	38.5	37.5	37.2	38.7	40.4	39.3	39.1	37.6	33.5	35.5	36.5	2.6%	-0.6%	0.1%
Italy	371.0	341.4	318.8	334.4	331.4	335.5	336.1	328.6	286.3	314.4	317.7	1.1%	-1.5%	0.9%
Latvia	8.0	8.0	7.7	7.9	8.2	8.0	7.8	8.4	7.1	7.5	7.0	-6.5%	-1.4%	†
Lithuania	12.4	11.7	11.0	11.3	11.7	11.9	12.5	12.4	12.1	12.2	11.6	-4.6%	-0.7%	†
Luxembourg	11.4	10.9	10.5	10.1	10.0	10.3	10.8	10.9	9.0	9.7	8.7	-10%	-2.7%	†
Netherlands	215.7	211.4	202.5	209.9	208.0	204.5	198.0	193.6	172.8	177.0	169.1	-4.5%	-2.4%	0.5%
North Macedonia	9.0	8.0	7.5	7.2	7.1	7.5	7.1	8.1	6.6	6.7	7.2	7.4%	-2.2%	†
Norway	36.8	37.0	36.1	36.0	35.1	35.1	35.3	34.3	32.8	33.1	32.1	-3.2%	-1.4%	0.1%
Poland	308.1	310.4	293.3	293.3	306.0	315.4	320.0	301.8	283.6	309.9	295.7	-4.6%	-0.4%	0.9%
Portugal	50.7	49.3	49.6	53.1	52.4	57.3	54.3	50.3	40.7	39.3	41.8	6.4%	-1.9%	0.1%
Romania	81.7	69.8	71.1	71.9	69.5	72.9	73.4	71.7	64.4	68.8	65.7	-4.5%	-2.2%	0.2%
Slovakia	32.5	32.6	30.0	30.4	30.8	32.9	32.3	30.0	27.8	31.2	30.3	-2.7%	-0.7%	0.1%
Slovenia	14.7	14.1	12.6	12.7	13.6	13.9	13.9	13.3	11.9	12.1	12.1	0.5%	-1.9%	†
Spain	306.3	274.5	271.9	287.9	280.6	298.3	293.0	276.2	223.3	243.6	260.9	7.1%	-1.6%	0.8%
Sweden	49.0	47.9	46.0	46.3	46.4	45.4	44.6	47.1	42.7	39.9	40.8	2.2%	-1.8%	0.1%
Switzerland	41.4	43.6	38.7	39.5	38.0	38.8	37.2	38.1	32.7	33.4	32.9	-1.5%	-2.3%	0.1%
Turkiye	314.4	303.3	335.1	341.4	359.1	397.1	390.8	386.7	377.2	412.6	409.7	-0.7%	2.7%	1.2%
Ukraine	299.1	286.5	246.8	195.1	215.6	187.9	198.7	185.5	171.5	167.7	108.8	-35.1%	-9.6%	0.3%
United Kingdom	509.4	497.5	456.2	439.1	415.3	404.3	396.4	381.3	320.9	341.4	344.6	0.9%	-3.8%	1.0%
Other Europe	112.9	113.4	102.6	112.0	117.0	119.8	119.8	118.0	114.2	117.0	116.1	1.7%	0.3%	0.3%
Total Europe	4540.0	4433.4	4203.5	4212.1	4256.3	4304.0	4249.1	4077.5	3621.3	3845.2	3769.8	-2.0%	-1.8%	11.0%
Azerbaijan	30.2	30.7	31.4	33.9	33.4	32.4	33.8	34.4	35.2	37.6	37.5	-0.1%	2.2%	0.1%
Belarus	60.8	60.2	59.2	54.9	55.0	55.7	60.6	60.9	56.0	57.1	55.9	-2.0%	-0.8%	0.2%
Kazakhstan	212.0	211.9	219.0	176.7	199.3	214.0	221.8	220.5	202.8	217.2	230.2	6.0%	0.8%	0.7%
Russian Federation	1580.6	1548.8	1551.4	1520.8	1531.1	1518.5	1575.8	1559.2	1459.8	1584.2	1457.5	-8.0%	-0.8%	4.2%
Turkmenistan	65.2	58.3	60.5	71.5	70.9	70.1	77.6	76.4	89.7	95.2	97.2	2.1%	4.1%	0.3%
Uzbekistan	109.8	111.1	114.4	108.8	104.1	106.9	109.7	109.5	111.2	117.6	122.2	4.0%	1.1%	0.4%
Other CIS	26.6	25.5	27.4	28.4	29.0	29.4	33.1	31.2	31.3	33.2	32.4	-2.5%	2.0%	0.1%
Total CIS	2085.2	2046.4	2063.2	1995.1	2022.9	2026.9	2112.3	2092.1	1986.0	2142.0	2033.0	-5.1%	-0.3%	5.9%
Iran	522.0	543.0	552.6	547.2	567.4	575.9	601.7	626.7	653.0	656.2	667.4	1.7%	2.5%	1.9%
Iraq	103.5	115.2	116.6	116.8	131.0	148.4	148.2	151.8	129.8	137.8	153.1	11.1%	4.0%	0.4%
Israel	74.2	66.9	64.1	66.8	66.1	66.8	67.0	69.2	63.0	62.9	65.8	4.8%	-1.2%	0.2%
Kuwait	90.7	93.3	95.1	98.3	96.4	98.2	100.8	91.1	85.1	89.5	95.4	6.7%	0.5%	0.3%
Oman	57.0	65.2	64.7	69.0	69.4	72.2	74.9	74.7	69.8	76.5	80.6	5.3%	3.5%	0.2%
Qatar	89.2	99.6	109.6	123.4	123.1	115.7	119.0	124.3	107.0	114.7	110.8	-3.4%	2.2%	0.3%
Saudi Arabia	516.6	526.0	565.1	601.8	634.5	631.2	612.5	577.4	558.0	571.7	612.5	7.1%	1.7%	1.8%
United Arab Emirates	231.9	247.1	243.0	265.2	275.9	275.2	267.2	266.8	248.5	275.1	292.5	6.4%	2.3%	0.9%
Other Middle East	141.1	135.4	130.5	124.4	120.2	125.5	122.7	121.0	112.9	117.0	121.9	4.2%	-1.5%	0.4%
Total Middle East	1826.3	1892.0	1945.8	2012.7	2084.2	2101.2	2108.5	2103.0	2027.1	2101.3	2200.0	4.7%	1.9%	6.4%
Algeria	108.9	115.4	123.6	129.0	127.7	130.7	137.3	142.4	132.7	143.9	141.4	-1.8%	2.6%	0.4%
Egypt	199.6	201.3												



Carbon Natural gas: flaring

Billion cubic metres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share	
												2022	2012–22		
Canada	1.8	1.6	2.1	1.9	1.4	1.4	1.4	1.1	1.2	1.3	1.1	-9.7%	-4.4%	0.8%	
Mexico	1.4	5.1	5.7	6.0	5.8	4.5	4.5	5.3	6.7	7.8	6.8	-13.1%	17.5%	4.6%	
US	5.8	9.3	11.4	12.0	9.0	9.6	14.1	17.3	12.4	9.7	8.8	-9.3%	4.2%	6.0%	
Total North America	8.9	16.0	19.2	19.9	16.2	15.6	20.1	23.7	20.3	18.8	16.7	-10.9%	6.5%	11.4%	
Argentina	0.9	0.8	0.9	0.7	0.6	0.6	0.8	1.0	1.1	1.3	1.2	-7.6%	3.0%	0.8%	
Bolivia	0.2	^	^	0.1	^	^	^	^	0.1	^	0.1	17.4%	-13.1%	†	
Brazil	1.4	1.5	1.7	1.5	1.7	1.3	1.2	1.3	1.1	1.1	1.0	-7.2%	-3.3%	0.7%	
Colombia	0.8	0.9	0.8	0.8	0.6	0.5	0.5	0.5	0.4	0.3	0.3	-23.9%	-10.0%	0.2%	
Peru	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	7.1%	-0.7%	0.1%	
Trinidad & Tobago	0.6	0.4	0.3	0.3	0.2	0.2	0.2	0.4	0.2	0.2	0.2	3.8%	-12.8%	0.1%	
Venezuela	11.0	9.8	10.5	9.9	10.2	8.0	9.3	10.5	9.4	9.2	9.8	6.6%	-1.2%	6.7%	
Other S. & Cent. America	0.6	1.0	1.3	1.3	1.4	1.3	1.1	1.1	1.5	1.6	1.7	7.4%	11.4%	1.2%	
Total S. & Cent. America	15.7	14.5	15.8	14.9	14.9	12.1	13.2	15.0	14.0	13.8	14.3	3.5%	-0.9%	9.8%	
Denmark	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	^	-11.2%	-3.6%	†	
Germany	—	^	^	^	^	^	^	^	^	^	^	16.7%	—	†	
Italy	—	^	0.1	^	0.1	^	^	^	^	^	^	-15.3%	—	†	
Netherlands	—	^	^	^	^	^	^	^	^	^	^	24.4%	—	†	
Norway	0.7	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.1	0.2	0.2	-16.3%	-13.7%	0.1%	
Poland	—	^	^	^	0.1	^	0.1	^	0.1	^	^	-59.2%	—	†	
Romania	—	^	0.1	^	^	^	^	^	^	^	^	25.1%	—	†	
Ukraine	—	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	-29.9%	—	0.1%	
United Kingdom	1.2	1.4	1.4	1.4	1.4	1.2	1.2	1.1	0.9	0.6	0.6	-31.5%	-6.3%	0.4%	
Other Europe	—	0.4	0.5	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.4	-15.1%	—	0.2%	
Total Europe	1.9	2.8	2.8	2.7	2.8	2.3	2.2	2.1	2.0	1.9	1.4	-24.6%	-3.0%	1.0%	
Azerbaijan	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	31.8%	-10.0%	0.2%	
Kazakhstan	2.5	3.7	3.8	3.6	2.6	2.4	2.0	1.5	1.5	1.5	1.0	-31.9%	-8.7%	0.7%	
Russian Federation	17.8	20.9	19.5	21.1	23.9	21.0	21.2	23.8	25.1	26.4	26.0	-1.4%	3.9%	17.7%	
Turkmenistan	0.7	2.2	2.0	1.8	1.8	1.6	1.5	1.4	1.7	1.2	1.1	-8.8%	3.9%	0.7%	
Uzbekistan	0.8	1.5	1.3	1.1	1.0	0.8	0.8	0.6	0.5	0.5	0.4	-6.4%	-5.8%	0.3%	
Other CIS	—	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.4%	—	†	
Total CIS	22.5	28.8	27.0	27.8	29.6	26.1	25.8	27.7	28.9	29.8	28.8	-3.1%	2.5%	19.6%	
Bahrain	—	0.1	^	^	0.1	0.1	0.1	0.2	0.3	0.1	0.1	-28.6%	—	0.1%	
Iran	17.1	12.0	13.1	12.7	17.0	18.5	18.1	14.6	14.2	18.5	18.4	-0.5%	0.7%	12.5%	
Iraq	11.7	13.3	13.8	15.8	17.5	17.5	17.6	17.7	17.2	17.7	17.8	0.3%	4.3%	12.1%	
Kuwait	0.2	1.5	1.6	1.0	1.3	0.9	1.0	0.8	0.9	1.0	0.7	-30.3%	12.4%	0.5%	
Oman	1.3	2.3	2.5	2.4	2.8	2.6	2.6	2.6	2.5	2.6	2.1	-18.9%	5.1%	1.4%	
Qatar	0.7	1.7	1.6	1.4	1.4	1.3	1.3	1.6	1.3	1.3	1.3	-5.3%	6.6%	0.9%	
Saudi Arabia	—	2.7	2.5	2.7	3.1	2.9	2.9	2.6	2.8	2.8	2.5	-8.8%	—	1.7%	
Syria	0.1	0.4	0.4	0.5	0.6	1.2	0.7	1.0	1.0	1.1	1.1	2.1%	27.2%	0.7%	
United Arab Emirates	1.0	1.3	1.1	1.2	1.0	1.1	1.3	1.0	1.1	1.0	1.1	13.2%	1.1%	0.8%	
Yemen	0.3	1.1	1.2	0.6	0.3	0.4	0.5	0.7	0.9	0.9	0.7	-22.6%	9.3%	0.5%	
Other Middle East	—	^	^	^	^	^	^	^	^	^	^	260.6%	-8.3%	†	
Total Middle East	32.4	36.5	37.7	38.4	45.0	46.5	45.9	42.8	42.0	47.0	45.8	-2.7%	3.5%	31.2%	
Algeria	3.4	8.8	9.2	9.6	9.7	9.2	9.4	9.7	9.3	8.1	8.5	5.3%	9.6%	5.8%	
Egypt	0.4	2.6	3.0	3.0	2.5	2.4	2.5	2.5	2.3	2.2	2.2	-6.1%	18.8%	1.5%	
Libya	3.8	4.1	2.9	2.7	2.4	4.0	4.7	5.1	2.5	5.9	5.4	-8.6%	3.6%	3.7%	
Nigeria	12.9	9.2	8.3	7.5	7.2	7.5	7.3	7.8	7.0	6.5	5.3	-18.5%	-8.5%	3.6%	
Other Africa	12.1	9.3	9.7	10.4	10.4	9.4	8.5	8.2	7.8	7.4	7.9	6.5%	-4.2%	5.4%	
Total Africa	32.5	34.1	33.0	33.2	32.8	32.6	32.3	33.3	29.2	30.3	29.3	-3.1%	-1.0%	20.0%	
Australia	0.1	0.8	1.1	1.1	0.7	0.7	0.9	1.4	1.0	0.8	0.7	-13.3%	17.0%	0.5%	
Bangladesh	—	^	^	^	^	^	^	^	^	^	^	-25.7%	—	†	
Brunei	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.1	—	—	^	
China	1.9	2.4	2.5	2.5	2.3	1.8	2.0	2.2	2.9	2.7	2.5	-8.0%	2.7%	1.7%	
India	1.0	2.2	2.4	2.7	2.4	2.0	1.8	1.8	2.0	1.9	2.0	8.2%	7.1%	1.4%	
Indonesia	6.4	3.3	3.2	3.0	2.9	2.4	2.1	2.1	2.0	1.7	1.8	5.4%	-11.7%	1.2%	
Malaysia	1.3	3.1	3.6	3.9	3.4	3.1	2.5	2.7	2.7	2.1	1.7	-18.5%	3.3%	1.2%	
Myanmar	—	0.1	0.1	0.1	^	^	^	^	^	^	^	-37.4%	—	†	
Pakistan	0.1	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	6.9%	11.0%	0.2%	
Thailand	—	0.4	0.4	0.5	0.5	0.4	0.3	0.3	0.4	0.4	0.2	-37.0%	—	0.2%	
Vietnam	0.6	1.1	1.0	1.0	0.9	1.0	0.8	0.8	0.7	0.6	0.6	1.8%	-0.9%	0.4%	
Other Asia Pacific	0.5	0.7	0.9	0.7	0.7	0.5	0.4	0.3	0.3	0.4	0.4	14.7%	-0.6%	0.3%	
Total Asia Pacific	12.0	14.8	15.8	16.1	14.6	12.5	11.5	12.3	12.4	11.1	10.4	-5.9%	-1.4%	7.1%	
Total World	125.9	147.5	151.3	153.0	156.0	147.6	151.0	156.9	148.8	152.7	146.8	-3.8%	1.6%	100.0%	
of which:	OECD	11.9	20.3	23.8	24.4	20.3	19.1	23.7	27.7	23.6	21.8	19.1	-12.3%	4.8%	13.0%
Non-OECD	114.0	127.2	127.5	128.6	135.8	128.5	127.4	129.2	125.2	130.9	127.8	-2.4%	1.1%	87.0%	
European Union [#]	0.1	0.7	0.8	0.7	0.7	0.5	0.6	0.6	0.6	0.6	0.5	-17.0%	21.9%	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.

Data before 2013: Cedigaz. These data include flaring from upstream.

As far as possible, the calculation has used flared volumes based on 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 the original databases.

[†] Less than 0.05%.

[#] Excludes Estonia, Latvia and Lithuania prior to 1985 and Croatia and Slovenia prior to 1990.

Notes: 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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum	Share	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022
Canada	600.4	615.8	625.0	625.3	607.9	628.0	641.2	628.4	565.8	578.9	591.4	2.2%	-0.2%	1.5%
Mexico	566.9	570.3	557.6	553.9	563.6	569.4	554.5	544.3	487.1	524.0	577.5	10.2%	0.2%	1.5%
US	5433.9	5609.7	5647.6	5540.3	5414.4	5373.4	5577.7	5473.0	4908.7	5210.3	5297.7	1.7%	-0.3%	13.5%
Total North America	6601.2	6795.8	6830.3	6719.5	6585.9	6570.8	6773.4	6645.7	5961.5	6313.1	6466.6	2.4%	-0.2%	16.4%
Argentina	212.7	218.4	218.6	222.1	220.2	218.4	217.6	208.4	193.3	219.5	226.9	3.4%	0.6%	0.6%
Brazil	513.3	544.7	573.0	555.4	514.3	518.5	498.0	494.3	469.2	524.0	506.0	-3.4%	-0.1%	1.3%
Chile	87.1	90.4	88.7	88.9	93.8	95.2	94.8	96.2	86.5	95.0	91.0	-4.2%	0.4%	0.2%
Colombia	116.4	122.2	128.8	121.1	134.5	127.0	127.9	130.8	112.8	121.7	129.5	6.4%	1.1%	0.3%
Ecuador	44.3	47.7	50.5	49.2	47.2	45.6	47.9	46.6	39.0	46.3	49.1	5.9%	1.0%	0.1%
Peru	52.0	53.9	55.5	57.5	61.2	58.6	60.4	62.3	50.2	58.4	63.9	9.6%	2.1%	0.2%
Trinidad & Tobago	33.6	34.4	33.4	32.0	28.9	28.3	27.7	24.4	21.2	20.7	20.6	-0.8%	-4.8%	0.1%
Venezuela	356.5	361.7	350.9	342.8	310.4	284.2	241.5	203.4	149.8	168.0	185.4	10.4%	-6.3%	0.5%
Central America	63.0	64.5	66.3	73.2	75.9	76.4	76.5	84.2	71.6	81.1	84.5	4.1%	3.0%	0.2%
Other Caribbean	110.1	107.1	108.3	112.2	115.1	110.8	113.5	115.9	106.0	104.9	106.8	1.8%	-0.3%	0.3%
Other South America	42.6	43.7	44.8	45.4	47.2	47.8	48.5	48.3	41.9	49.7	51.2	3.0%	1.9%	0.1%
Total S. & Cent. America	1631.6	1688.8	1718.8	1699.8	1648.7	1610.9	1554.1	1514.9	1341.5	1489.3	1514.8	1.7%	-0.7%	3.9%
Austria	64.7	65.1	60.9	62.9	63.8	66.6	64.6	66.2	58.5	60.7	57.8	-4.7%	-1.1%	0.1%
Belgium	118.9	120.0	111.7	117.7	119.4	121.2	128.1	124.6	108.0	116.3	110.9	-4.6%	-0.7%	0.3%
Bulgaria	48.5	43.1	45.6	48.7	45.8	48.7	45.4	44.1	38.5	44.4	48.8	9.8%	0.1%	
Croatia	18.6	18.2	17.9	18.3	18.7	19.2	18.3	18.1	16.7	17.1	17.2	0.9%	-0.8%	†
Czech Republic	116.6	111.4	108.3	109.2	111.1	110.9	109.9	104.5	94.0	98.3	99.6	1.3%	-1.6%	0.3%
Denmark	42.1	44.3	40.6	37.9	39.5	36.8	37.0	33.5	27.9	30.1	29.5	-1.9%	-3.5%	0.1%
Estonia	23.3	25.0	24.0	21.7	22.5	24.9	24.5	18.7	15.9	16.9	17.2	1.8%	-3.0%	†
France	345.0	344.4	310.4	316.1	321.9	326.4	315.3	307.9	259.6	282.9	277.9	-1.8%	-2.1%	0.7%
Germany	791.0	815.0	768.2	772.5	787.6	779.0	750.8	697.8	623.2	660.9	652.4	-1.3%	-1.9%	1.7%
Greece	94.5	85.5	81.8	79.0	75.7	80.0	78.3	74.0	59.9	62.9	66.4	5.4%	-3.5%	0.2%
Hungary	46.5	43.7	43.0	45.6	46.5	48.8	49.3	49.5	47.0	48.3	44.8	-7.2%	-0.4%	0.1%
Ireland	39.9	39.0	38.9	40.6	43.1	42.1	42.0	40.3	35.9	38.1	38.8	2.0%	-0.3%	0.1%
Italy	386.3	355.3	331.7	347.4	343.8	348.1	348.7	341.3	298.1	327.1	329.8	0.8%	-1.6%	0.8%
Lithuania	12.8	12.1	11.4	11.8	12.1	12.3	13.1	13.0	12.6	12.8	12.3	-4.3%	-0.4%	†
Netherlands	216.3	212.0	203.1	210.5	208.5	205.0	198.5	193.8	173.0	177.2	169.3	-4.5%	-2.4%	0.4%
North Macedonia	9.4	8.3	7.8	7.5	7.3	7.8	8.5	8.4	6.9	7.4	6.8%	-2.4%	†	
Norway	39.6	39.3	38.2	38.2	37.3	37.1	37.1	36.0	34.6	34.9	33.9	-3.1%	-1.5%	0.1%
Poland	315.9	317.7	301.2	301.2	314.2	324.0	329.3	311.1	292.9	319.1	305.0	-4.4%	-0.3%	0.8%
Romania	91.8	79.3	80.9	82.0	79.0	82.8	83.4	81.8	74.3	78.8	75.6	-4.1%	-1.9%	0.2%
Slovakia	33.8	33.9	31.5	31.9	32.4	34.5	33.8	31.5	29.4	32.7	31.8	-2.7%	-0.6%	0.1%
Slovenia	15.1	14.5	13.1	13.1	14.0	14.3	14.4	13.8	12.4	12.6	12.6	0.4%	-1.7%	†
Spain	315.8	283.1	281.7	297.7	290.4	308.2	303.2	285.5	231.7	252.3	269.2	6.7%	-1.6%	0.7%
Sweden	50.5	49.4	47.4	47.9	48.0	46.9	46.3	48.5	44.0	41.3	42.1	2.1%	-1.8%	0.1%
Türkiye	351.4	342.4	375.1	380.4	401.8	441.7	435.9	425.7	424.8	463.8	453.2	-2.3%	2.6%	1.2%
Ukraine	310.0	297.9	257.4	204.9	225.7	197.5	208.8	195.6	181.4	177.7	117.8	-33.7%	-9.2%	0.3%
United Kingdom	521.0	509.5	468.3	451.8	428.5	417.2	409.1	393.9	332.7	352.4	354.8	0.7%	-3.8%	0.9%
Other Europe	299.6	301.3	280.9	292.0	297.8	306.0	301.6	296.1	268.1	263.2	263.6	0.2%	-1.3%	0.7%
Total Europe	4718.8	4610.7	4381.3	4388.1	4436.5	4487.9	4434.8	4255.3	3801.9	4029.8	3939.9	-2.2%	-1.8%	10.0%
Azerbaijan	40.8	41.1	41.4	43.4	42.7	41.3	43.3	44.1	44.2	47.1	47.4	0.7%	1.5%	0.1%
Belarus	64.6	64.1	63.1	58.2	58.4	59.3	64.6	65.1	59.5	60.6	59.1	-2.4%	-0.9%	0.2%
Kazakhstan	274.7	279.1	285.0	239.3	258.5	277.2	286.7	281.2	263.3	274.9	286.9	4.4%	0.4%	0.7%
Russian Federation	2084.7	2060.5	2055.2	2029.5	2056.7	2054.5	2138.6	2141.3	2014.2	2175.2	2024.0	-6.9%	-0.3%	5.1%
Turkmenistan	131.5	133.2	133.8	146.4	143.6	142.4	151.7	152.2	163.8	180.4	183.5	1.7%	3.4%	0.5%
Uzbekistan	138.0	139.5	140.4	134.3	130.2	132.9	139.1	140.1	148.2	150.9	150.9	1.8%	0.9%	0.4%
Other CIS	28.7	27.9	30.5	31.6	32.2	33.7	38.4	37.0	37.1	39.1	37.3	-4.8%	2.7%	
Total CIS	2762.8	2745.5	2749.5	2682.9	2722.3	2741.4	2862.4	2860.2	2722.3	2925.4	2789.0	-4.7%	0.1%	7.1%
Iran	722.2	729.2	750.9	746.1	800.2	823.5	848.2	840.1	864.5	888.4	904.8	1.8%	2.3%	
Iraq	207.6	226.4	232.8	251.9	282.9	302.1	307.7	315.3	281.2	291.1	314.5	8.0%	4.2%	0.8%
Israel	76.7	69.5	66.9	69.6	68.7	69.4	69.4	71.4	64.8	64.8	68.0	4.9%	-1.2%	0.2%
Kuwait	113.3	119.6	121.1	123.3	123.9	123.1	126.2	116.2	108.4	113.1	120.5	6.6%	0.6%	0.3%
Oman	76.7	87.8	87.4	91.8	94.2	95.9	99.9	99.8	94.6	102.6	106.8	4.1%	3.4%	0.3%
Qatar	111.9	125.1	134.5	148.0	147.9	140.0	143.3	148.8	130.4	138.4	134.6	-2.7%	1.9%	0.3%
Saudi Arabia	612.3	629.1	669.7	709.0	745.8	734.5	719.1	680.3	659.3	675.8	724.0	7.1%	1.7%	1.8%
United Arab Emirates	263.5	280.7	277.2	301.3	311.2	301.4	296.0	301.6	281.2	307.7	327.8	6.5%	2.2%	0.8%
Other Middle East	180.9	174.1	169.8	148.9	141.1	150.2	145.8	145.1	136.9	141.6	146.4	3.4%	-2.1%	0.4%
Total Middle East	2365.1	2441.5	2510.3	2589.9	2715.8	2740.2	2755.5	2719.4	2621.1	2723.4	2847.4	4.6%	1.9%	7.2%
Algeria	190.2	206.7	219.1	225.7	228.8	231.6	239.5	243.2	229.2	247.4	246.0	-0.6%	2.6%	0.6%
Egypt	244.2	248.5	248.7	251.9	265.9	269.7	266.5	258.2	249.7	268.0	284.3	6.1%	1.5%	0.7%
Morocco	60.0	60.6	61.9	62.2	62.5	65.3	66.8	73.0	66.7	74.2	71.7	-3.4%	1.8%	0.2%
South Africa	499.6	501.2	506.0	494.0	513.0	508.8	490.9	513.1	483.6	473.6	456.2	-3.7%	-0.9%	1.2%
Eastern Africa	96.6	109.3	123.3	128.7	127.4	137.5	143.3	143.5	134.7	143.8	149.4	3.9%	4.5%	0.4%
Middle Africa	104.0	100.1	106.6	110.3	108.9	102.2	100.8	100.9	93.1	92.0	89.0	-3.4%	-1.6%	0.2%
Western Africa	187.6	181.8	180.3	194.6	195.5	206.7	225.6	235.2	232.1	239.7	237.3	-1.0%	2.4%	0.6%
Other Northern Africa	153.7	14												



Oil Production in thousands of barrels per day*

Thousand barrels daily	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	3740	4000	4271	4388	4464	4813	5244	5372	5130	5414	5576	3.0%	4.1%	5.9%
Mexico	2912	2882	2792	2593	2461	2227	2072	1921	1912	1928	1944	0.9%	-4.0%	2.1%
US	8932	10103	11808	12784	12357	13142	15323	17139	16492	16679	17770	6.5%	7.1%	18.9%
Total North America	15584	16986	18870	19765	19281	20183	22638	24432	23534	24020	25290	5.3%	5.0%	26.9%
Argentina	657	644	638	646	610	590	591	620	601	628	706	12.4%	0.7%	0.8%
Brazil	2145	2110	2341	2525	2607	2731	2691	2890	3030	2990	3107	3.9%	3.8%	3.3%
Colombia	944	1010	990	1006	886	854	865	886	781	736	754	2.4%	-2.2%	0.8%
Ecuador	505	527	557	543	548	531	517	531	479	473	481	1.7%	-0.5%	0.5%
Peru	157	171	175	153	141	136	139	144	131	128	128	0.5%	-2.0%	0.1%
Trinidad & Tobago	117	116	114	109	97	99	87	82	76	77	74	-3.6%	-4.5%	0.1%
Venezuela	2704	2680	2692	2864	2566	2207	1641	1037	660	676	731	8.1%	-12.3%	0.8%
Other S. & Cent. America	148	152	154	146	135	133	128	122	187	226	381	68.5%	9.9%	0.4%
Total S. & Cent. America	7376	7411	7661	7991	7589	7282	6660	6313	5946	5933	6361	7.2%	-1.5%	6.8%
Denmark	204	178	167	158	142	138	116	103	72	66	65	-1.6%	-10.8%	0.1%
Italy	112	114	120	113	78	86	97	89	112	100	92	-7.9%	-1.9%	0.1%
Norway	1917	1838	1886	1946	1997	1972	1851	1763	2006	2028	1901	-6.3%	-0.1%	2.0%
Romania	83	86	84	83	79	76	75	75	72	70	65	-6.2%	-2.4%	0.1%
United Kingdom	947	865	854	964	1015	1005	1092	1118	1049	874	778	-11.0%	-2.0%	0.8%
Other Europe	337	345	340	332	314	304	309	303	290	289	230	-20.5%	-3.7%	0.2%
Total Europe	3600	3426	3451	3596	3624	3581	3539	3450	3601	3427	3131	-8.6%	-1.4%	3.3%
Azerbaijan	882	888	861	851	838	793	796	775	714	726	685	-5.6%	-2.5%	0.7%
Kazakhstan	1662	1720	1701	1672	1637	1813	1900	1903	1796	1805	1769	-2.0%	0.6%	1.9%
Russian Federation	10656	10807	10927	11087	11342	11374	11562	11679	10666	11000	11202	1.8%	0.5%	11.9%
Turkmenistan	244	256	263	271	270	269	259	254	219	242	244	1.0%	†	0.3%
Uzbekistan	72	69	63	60	57	61	64	67	61	63	63	-0.9%	–	0.1%
Other CIS	35	35	35	36	36	37	38	39	39	41	43	4.4%	1.9%	†
Total CIS	13552	13775	13850	13976	14181	14346	14618	14717	13496	13877	14006	0.9%	0.3%	14.9%
Iran	3810	3609	3714	3853	4578	4854	4620	3407	3120	3653	3822	4.6%	†	4.1%
Iraq	3079	3099	3239	3986	4423	4538	4632	4779	4114	4102	4520	10.2%	3.9%	4.8%
Kuwait	3173	3134	3106	3069	3150	3009	3050	2976	2721	2704	3028	12.0%	-0.5%	3.2%
Oman	918	942	943	981	1004	971	978	971	951	971	1064	9.6%	1.5%	1.1%
Qatar	1920	1934	1892	1844	1846	1783	1798	1737	1703	1736	1768	1.8%	-0.8%	1.9%
Saudi Arabia	11622	11393	11519	11998	12406	11892	12261	11832	11039	10954	12136	10.8%	0.4%	12.9%
Syria	171	59	33	27	25	25	24	34	43	96	93	-2.7%	-5.9%	0.1%
United Arab Emirates	3394	3540	3592	3876	4020	3880	3894	3984	3679	3640	4020	10.4%	1.7%	4.3%
Yemen	178	197	153	63	43	71	94	95	88	83	81	-2.4%	-7.6%	0.1%
Other Middle East	184	208	214	213	214	208	207	214	202	208	210	1.2%	1.4%	0.2%
Total Middle East	28448	28116	28405	29910	31709	31231	31558	30029	27661	28147	30743	9.2%	0.8%	32.8%
Algeria	1537	1485	1589	1558	1577	1540	1511	1487	1332	1353	1474	8.9%	-0.4%	1.6%
Angola	1734	1738	1701	1796	1745	1671	1519	1420	1325	1177	1190	1.1%	-3.7%	1.3%
Chad	101	91	89	111	117	98	116	127	126	116	124	6.2%	2.1%	0.1%
Republic of Congo	280	243	253	234	232	270	330	336	307	274	269	-1.7%	-0.4%	0.3%
Egypt	715	710	714	726	691	660	674	653	632	608	613	0.8%	-1.5%	0.7%
Equatorial Guinea	320	282	284	260	223	195	176	160	158	131	119	-9.2%	-9.4%	0.1%
Gabon	221	213	211	214	221	210	193	218	207	181	191	5.4%	-1.5%	0.2%
Libya	1539	1048	518	437	412	929	1165	1228	425	1269	1088	-14.3%	-3.4%	1.2%
Nigeria	2409	2276	2273	2199	1898	1966	2004	2100	1827	1634	1450	-11.2%	-5.0%	1.5%
South Sudan	31	100	155	148	137	147	144	172	165	153	141	-7.6%	16.3%	0.2%
Sudan	103	118	120	109	—	70	74	72	63	64	62	-3.3%	-5.0%	0.1%
Tunisia	73	68	63	57	54	46	44	41	37	45	40	-12.9%	-6.0%	†
Other Africa	208	242	247	276	270	317	315	348	331	293	283	-3.4%	3.1%	0.3%
Total Africa	9271	8612	8218	8123	7576	8121	8267	8361	6937	7298	7043	-3.5%	-2.7%	7.5%
Australia	472	401	420	378	353	322	343	458	454	444	420	-5.2%	-1.2%	0.4%
Brunei	159	135	126	127	121	113	112	121	110	107	92	-13.8%	-5.3%	0.1%
China	4155	4216	4246	4309	3999	3846	3802	3848	3901	3994	4111	2.9%	-0.1%	4.4%
India	926	921	915	904	895	898	893	851	794	766	737	-3.8%	-2.3%	0.8%
Indonesia	917	871	847	838	873	837	808	781	742	692	644	-6.9%	-3.5%	0.7%
Malaysia	663	627	649	696	726	718	713	672	622	577	567	-1.7%	-1.5%	0.6%
Thailand	471	466	464	481	489	486	475	475	421	401	331	-17.5%	-3.5%	0.4%
Vietnam	347	346	325	352	317	284	257	236	207	196	194	-1.2%	-5.7%	0.2%
Other Asia Pacific	288	270	292	293	277	269	230	227	204	198	177	-10.6%	-4.8%	0.2%
Total Asia Pacific	8397	8254	8284	8378	8051	7774	7632	7669	7456	7373	7273	-1.4%	-1.4%	7.7%
Total World	86228	86579	88739	91739	92012	92519	94914	94972	88630	90076	93848	4.2%	0.9%	100.0%
of which:														
OECD	20457	21669	23590	24608	24011	24811	27247	29084	28235	28493	29514	3.6%	3.7%	31.4%
Non-OECD	65770	64910	65149	67131	68000	67708	67666	65887	60396	61582	64333	4.5%	-0.2%	68.6%
OPEC	35820	34740	34693	36342	37449	37163	36997	34965	30915	31748	34038	7.2%	-0.5%	36.3%
Non-OPEC	50408	51839	54046	55397	54562	55356	57917	60007	57715	58328	59809	2.5%	1.7%	63.7%
European Union [#]	572	560	553	536	471	465	448	414	393	369	343	-7.0%	-5.0%	0.4%

* 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%.

† Less than 0.05%.

Excludes Estonia, Latvia and Lithuania prior to 1985 and Croatia and Slovenia prior to 1990.

Note: Annual changes and shares of total are calculated using thousand barrels daily figures.



Oil Production in million tonnes*

Million tonnes	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	182.9	195.4	209.8	216.1	218.8	236.6	257.7	263.5	252.0	266.6	274.0	2.8%	4.1%	6.2%
Mexico	143.9	142.1	137.3	127.7	121.5	109.6	102.4	95.0	95.1	96.5	97.7	1.2%	-3.8%	2.2%
US	395.3	448.7	524.7	567.1	542.8	574.3	669.7	751.2	713.3	715.2	759.5	6.2%	6.7%	17.2%
Total North America	722.1	786.2	871.8	911.0	883.1	920.5	1029.8	1109.6	1060.4	1078.3	1131.1	4.9%	4.6%	25.7%
Argentina	30.8	30.2	29.8	30.0	28.6	27.2	27.5	28.8	27.7	29.1	32.8	12.8%	0.6%	0.7%
Brazil	112.4	110.2	122.5	132.2	136.7	142.6	140.6	151.2	159.3	156.9	163.1	4.0%	3.8%	3.7%
Colombia	49.9	53.2	52.2	53.0	46.8	45.0	45.6	46.7	41.3	38.8	39.7	2.4%	-2.3%	0.9%
Ecuador	27.1	28.2	29.8	29.1	29.5	28.5	27.7	28.5	25.8	25.3	25.8	1.7%	-0.5%	0.6%
Peru	6.9	7.3	7.5	6.5	5.8	5.7	5.9	6.1	5.5	5.3	5.4	1.6%	-2.4%	0.1%
Trinidad & Tobago	5.2	5.1	5.1	4.8	4.3	4.4	3.9	3.7	3.4	3.5	3.4	-3.0%	-4.2%	0.1%
Venezuela	139.3	137.8	138.5	147.6	132.6	113.6	84.3	52.7	33.6	34.4	37.3	8.6%	-12.3%	0.8%
Other S. & Cent. America	7.5	7.6	7.7	7.4	6.8	6.7	6.4	6.2	9.4	11.3	19.0	68.2%	9.8%	0.4%
Total S. & Cent. America	379.0	379.6	393.1	410.7	391.2	373.7	341.9	323.9	305.9	304.6	326.5	7.2%	-1.5%	7.4%
Denmark	10.0	8.7	8.1	7.7	6.9	6.7	5.6	5.0	3.5	3.2	3.2	-1.6%	-10.8%	0.1%
Italy	5.4	5.5	5.8	5.5	3.8	4.1	4.7	4.3	5.4	4.8	4.5	-7.9%	-1.9%	0.1%
Norway	87.0	82.9	85.0	87.6	90.3	88.9	83.3	79.8	92.1	93.9	89.0	-5.2%	0.2%	2.0%
Romania	4.0	4.1	4.1	4.0	3.8	3.6	3.6	3.6	3.5	3.3	3.1	-6.0%	-2.4%	0.1%
United Kingdom	44.6	40.6	39.9	45.3	47.4	46.6	50.9	51.8	49.0	40.9	36.2	-11.3%	-2.0%	0.8%
Other Europe	16.7	17.1	17.0	16.6	15.7	15.1	15.3	15.0	14.4	14.3	11.6	-19.1%	-3.6%	0.3%
Total Europe	167.7	159.0	159.8	166.7	167.9	165.1	163.4	159.5	167.9	160.5	147.6	-8.1%	-1.3%	3.3%
Azerbaijan	43.7	43.8	42.5	42.0	41.4	39.1	39.2	38.0	35.0	35.3	33.3	-5.5%	-2.7%	0.8%
Kazakhstan	79.2	81.8	80.8	79.5	78.0	86.2	90.4	90.6	85.7	85.9	84.1	-2.0%	0.6%	1.9%
Russian Federation	526.7	532.2	537.4	544.6	558.5	558.5	567.9	573.4	524.4	538.8	548.5	1.8%	0.4%	12.4%
Turkmenistan	12.0	12.5	12.9	13.2	13.2	13.1	12.5	12.2	10.4	11.6	11.6	0.3%	-0.3%	0.3%
Uzbekistan	3.3	3.2	2.9	2.7	2.6	2.8	2.9	3.0	2.8	2.9	2.8	-0.8%	-1.6%	0.1%
Other CIS	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.1	4.4%	1.9%	+
Total CIS	666.8	675.2	678.2	683.8	695.5	701.5	714.7	719.1	660.2	676.4	682.6	0.9%	0.2%	15.5%
Iran	180.5	169.7	174.0	180.2	216.1	231.9	219.6	158.6	144.4	168.8	176.5	4.6%	-0.2%	4.0%
Iraq	151.3	151.9	158.8	195.6	217.6	222.4	227.0	234.2	202.0	200.8	221.3	10.2%	3.9%	5.0%
Kuwait	154.0	151.4	150.2	148.2	152.7	145.0	146.8	143.4	131.2	129.9	145.7	12.2%	-0.5%	3.3%
Oman	45.0	46.1	46.2	48.0	49.3	47.6	47.8	47.3	46.1	46.8	51.4	9.9%	1.3%	1.2%
Qatar	81.9	81.7	79.9	77.4	77.6	74.8	75.1	72.3	71.7	72.8	74.1	1.7%	-1.0%	1.7%
Saudi Arabia	549.2	538.4	543.8	568.0	586.7	559.3	576.8	556.6	519.6	515.0	573.1	11.3%	0.4%	13.0%
Syria	8.1	2.7	1.5	1.2	1.1	1.1	1.1	1.5	2.0	4.6	4.6	-0.8%	-5.6%	0.1%
United Arab Emirates	154.9	161.6	162.9	175.1	181.6	174.9	176.0	179.9	165.9	163.4	181.1	10.8%	1.6%	4.1%
Yemen	8.1	9.0	6.9	2.6	1.6	3.0	4.1	4.1	3.8	3.5	3.4	-2.7%	-8.3%	0.1%
Other Middle East	9.0	10.3	10.5	10.5	10.6	10.2	10.4	9.9	10.2	10.3	10.3	1.1%	1.3%	0.2%
Total Middle East	1342.1	1322.8	1334.8	1406.9	1495.0	1470.2	1484.4	1408.3	1296.5	1315.9	1441.6	9.5%	0.7%	32.7%
Algeria	67.2	64.8	68.8	67.2	68.4	66.6	65.3	64.3	57.6	58.2	63.6	9.4%	-0.5%	1.4%
Angola	85.3	85.2	83.3	88.2	85.8	81.6	74.1	69.1	64.6	57.1	57.8	1.1%	-3.8%	1.3%
Chad	5.3	4.8	4.7	5.8	6.1	5.2	6.1	6.7	6.6	6.1	6.5	6.2%	2.0%	0.1%
Republic of Congo	14.2	12.3	12.9	11.9	11.9	13.8	16.9	17.2	15.8	14.0	13.8	-1.7%	-0.3%	0.3%
Egypt	34.7	34.4	35.1	35.4	33.8	32.2	32.8	31.8	31.1	29.6	29.9	1.1%	-1.5%	0.7%
Equatorial Guinea	15.2	13.2	13.3	12.1	10.3	9.0	8.1	7.4	6.1	5.5	5.5	-9.8%	-9.7%	0.1%
Gabon	11.1	10.7	10.5	10.7	11.0	10.5	9.7	10.9	10.4	9.0	9.5	5.4%	-1.5%	0.2%
Libya	72.6	49.4	24.4	20.5	19.3	43.8	54.9	57.8	20.0	59.6	51.0	-14.5%	-3.5%	1.2%
Nigeria	116.4	109.4	109.2	105.7	91.3	94.4	96.3	101.1	88.4	78.4	69.0	-12.0%	-5.1%	1.6%
South Sudan	1.5	4.9	7.7	7.3	6.8	7.3	7.1	8.4	8.1	7.5	6.9	-7.6%	16.3%	0.2%
Sudan	5.1	5.8	5.9	5.4	—	3.4	3.7	3.6	3.1	3.2	3.1	-3.3%	-5.0%	0.1%
Tunisia	3.4	3.1	2.9	2.6	2.5	2.1	2.0	1.9	1.7	2.1	1.8	-13.2%	-6.0%	+
Other Africa	10.3	12.0	12.2	13.7	13.5	15.7	15.5	17.1	16.3	14.4	13.8	-3.7%	2.9%	0.3%
Total Africa	442.3	409.9	390.8	386.4	360.7	385.5	392.6	397.3	331.1	345.3	332.3	-3.8%	-2.8%	7.5%
Australia	21.2	17.6	18.6	16.8	15.4	13.9	14.7	19.3	19.1	18.4	17.5	-5.0%	-1.9%	0.4%
Brunei	7.8	6.6	6.2	6.2	5.9	5.5	5.4	5.9	5.4	5.2	4.5	-13.8%	-5.4%	0.1%
China	207.5	210.0	211.4	214.6	199.7	191.5	189.3	191.6	194.8	198.9	204.7	2.9%	-0.1%	4.6%
India	42.5	42.2	41.6	41.2	40.6	40.4	39.5	37.5	35.1	34.0	33.0	-2.8%	-2.5%	0.7%
Indonesia	44.6	42.4	41.0	40.6	42.6	40.9	39.5	38.2	36.4	33.8	31.4	-7.0%	-3.4%	0.7%
Malaysia	30.1	28.7	29.8	32.2	33.3	32.9	32.5	30.6	28.3	26.0	25.5	-2.0%	-1.6%	0.6%
Thailand	17.3	17.1	16.9	17.6	18.1	17.6	17.0	16.9	15.1	14.1	11.6	-17.6%	-3.9%	0.3%
Vietnam	17.0	16.9	15.9	17.2	15.5	13.9	12.4	11.4	10.0	9.5	9.3	-1.2%	-5.8%	0.2%
Other Asia Pacific	12.6	11.9	13.0	13.1	12.4	12.0	10.3	10.1	9.2	8.9	8.0	-10.6%	-4.5%	0.2%
Total Asia Pacific	400.5	393.4	394.4	399.4	383.5	368.6	360.7	361.5	353.4	348.7	345.6	-0.9%	-1.5%	7.8%
Total World	4120.5	4126.1	4222.9	4364.8	4377.0	4384.9	4487.6	4479.2	4175.5	4229.8	4407.2	4.2%	0.7%	100.0%
of which:														
OECD	953.7	1008.4	1095.3	1140.5	1106.6	1138.1	1246.7	1328.1	1282.1	1289.5	1331.8	3.3%	3.4%	30.2%
Non-OECD	3166.8	3117.7	3127.6	3224.2	3270.4	3246.8	3240.9	3151.0	2893.4	2940.2	3075.4	4.6%	-0.3%	69.8%
OPEC	1711.1	1655.8	1650.7	1731.1	1785.4	1766.8	1755.9	1653.2	1460.8	1494.8	1605.3	7.4%	-0.6%	36.4%
Non-OPEC	2409.3	2470.3	2572.2	2633.7	2591.6	2618.2	2731.7	2826.0	2714.7	2734.9	2801.9	2.4%	1.5%	63.6%
European Union [#]	28.0	27.4	27.0	26.1	23.1	22.7	21.9	20.2	19.2	18.0	16.7	-7.1%	-5.0%	0.4%

* 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.



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

Thousand barrels daily	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	3250	3486	3758	3863	3868	4216	4596	4690	4470	4745	4868	2.6%	4.1%	6.0%
Mexico	2548	2522	2429	2267	2154	1948	1833	1701	1705	1756	1785	1.6%	-3.5%	2.2%
US	6524	7497	8793	9442	8848	9359	10953	12315	11318	11254	11887	5.6%	6.2%	14.6%
Total North America	12322	13505	14980	15571	14869	15524	17383	18706	17493	17755	18539	4.4%	4.2%	22.8%
Argentina	549	540	532	532	511	480	489	509	481	514	582	13.4%	0.6%	0.7%
Brazil	2061	2024	2255	2437	2510	2622	2587	2788	2940	2905	3022	4.0%	3.9%	3.7%
Colombia	944	1010	990	1006	886	854	865	886	781	736	754	2.4%	-2.2%	0.9%
Ecuador	504	526	557	543	548	531	517	531	479	473	481	1.7%	-0.5%	0.6%
Peru	112	118	121	104	91	88	92	95	84	82	86	4.5%	-2.6%	0.1%
Trinidad & Tobago	82	81	81	79	71	72	63	59	57	60	58	-2.4%	-3.3%	0.1%
Venezuela	2580	2564	2578	2747	2461	2103	1553	958	608	627	684	9.1%	-12.4%	0.8%
Other S. & Cent. America	131	135	139	133	123	119	114	109	174	213	368	73.2%	10.9%	0.5%
Total S. & Cent. America	6963	6999	7254	7581	7200	6869	6281	5935	5604	5609	6036	7.6%	-1.4%	7.4%
Denmark	204	178	167	158	142	138	116	103	72	66	65	-1.6%	-10.8%	0.1%
Italy	112	114	120	113	78	86	97	89	112	100	92	-7.9%	-1.9%	0.1%
Norway	1612	1532	1562	1608	1647	1620	1516	1462	1715	1776	1704	-4.0%	0.6%	2.1%
Romania	79	83	82	80	76	73	72	71	68	66	62	-5.8%	-2.4%	0.1%
United Kingdom	885	810	791	903	933	913	1002	1019	961	807	711	-11.9%	-2.2%	0.9%
Other Europe	318	328	325	318	298	285	290	286	275	273	222	-18.8%	-3.5%	0.3%
Total Europe	3210	3046	3046	3180	3174	3115	3093	3030	3203	3089	2857	-7.5%	-1.2%	3.5%
Azerbaijan	872	877	849	840	826	781	783	762	702	707	668	-5.5%	-2.6%	0.8%
Kazakhstan	1662	1720	1701	1672	1637	1813	1900	1903	1796	1805	1769	-2.0%	0.6%	2.2%
Russian Federation	10395	10528	10479	10617	10863	10898	11083	11186	10192	10455	10669	2.0%	0.3%	13.1%
Turkmenistan	231	239	246	254	250	248	236	228	189	215	213	-0.6%	-0.8%	0.3%
Uzbekistan	72	69	63	60	57	61	64	67	61	63	63	-0.9%	-1.3%	0.1%
Other CIS	35	35	35	36	36	37	38	39	39	41	43	4.4%	1.9%	0.1%
Total CIS	13267	13468	13373	13478	13670	13839	14104	14185	12980	13287	13424	1.0%	0.1%	16.5%
Iran	3398	3192	3273	3392	4090	4490	4242	3023	2734	3184	3313	4.1%	-0.3%	4.1%
Iraq	3037	3058	3198	3945	4375	4473	4568	4712	4049	4032	4446	10.2%	3.9%	5.5%
Kuwait	2890	2847	2830	2782	2860	2704	2737	2678	2438	2415	2707	12.1%	-0.7%	3.3%
Orman	918	942	943	981	1004	971	978	971	951	971	1064	9.6%	1.5%	1.3%
Qatar	1484	1463	1426	1374	1373	1333	1328	1266	1276	1297	1318	1.6%	-1.2%	1.6%
Saudi Arabia	9987	9875	9941	10420	10688	10175	10533	10145	9430	9394	10509	11.9%	0.5%	12.9%
Syria	146	45	23	19	17	17	16	25	33	86	84	-2.8%	-5.4%	0.1%
United Arab Emirates	2915	3058	3053	3262	3366	3250	3293	3345	3072	3016	3364	11.5%	1.4%	4.1%
Yemen	154	173	128	38	16	44	67	67	60	55	53	-3.6%	-10.1%	0.1%
Other Middle East	173	199	204	203	204	198	196	196	184	193	195	0.8%	1.2%	0.2%
Total Middle East	25102	24850	25019	26416	27994	27655	27957	26427	24228	24643	27051	9.8%	0.8%	33.3%
Algeria	1320	1275	1329	1290	1316	1287	1259	1239	1099	1105	1220	10.4%	-0.8%	1.5%
Angola	1714	1716	1672	1780	1722	1632	1479	1373	1278	1130	1144	1.2%	-4.0%	1.4%
Chad	101	91	89	111	117	98	116	127	126	116	124	6.2%	2.1%	0.2%
Republic of Congo	268	234	245	227	225	263	323	329	300	267	262	-1.7%	-0.2%	0.3%
Egypt	649	643	667	662	631	603	617	597	587	561	568	1.3%	-1.3%	0.7%
Equatorial Guinea	299	261	266	242	204	174	157	144	143	119	107	-10.1%	-9.8%	0.1%
Gabon	221	213	211	214	221	210	193	218	207	181	191	5.4%	-1.5%	0.2%
Libya	1499	1025	510	422	397	909	1144	1201	410	1230	1048	-14.7%	-3.5%	1.3%
Nigeria	2330	2193	2188	2119	1822	1890	1922	2014	1765	1556	1350	-13.3%	-5.3%	1.7%
South Sudan	31	100	155	148	137	147	144	172	165	153	141	-7.6%	16.3%	0.2%
Sudan	103	118	120	109	—	70	74	72	63	64	62	-3.3%	-5.0%	0.1%
Tunisia	69	62	58	52	49	42	41	38	34	43	37	-13.6%	-5.9%	†
Other Africa	208	242	247	276	270	317	315	347	328	286	272	-4.8%	2.7%	0.3%
Total Africa	8813	8173	7756	7651	7109	7642	7784	7870	6507	6811	6526	-4.2%	-3.0%	8.0%
Australia	405	335	353	322	290	263	284	361	351	335	319	-4.8%	-2.4%	0.4%
Brunei	146	122	114	115	109	101	100	110	100	98	85	-13.8%	-5.3%	0.1%
China	4155	4216	4246	4309	3999	3846	3802	3848	3901	3994	4111	2.9%	-0.1%	5.1%
India	786	785	778	772	752	744	719	677	636	619	609	-1.5%	-2.5%	0.8%
Indonesia	859	825	789	786	829	801	772	745	708	659	612	-7.1%	-3.3%	0.8%
Malaysia	598	588	610	662	667	660	653	610	556	511	502	-1.7%	-1.7%	0.6%
Thailand	239	241	233	248	258	240	228	228	202	177	143	-19.1%	-5.0%	0.2%
Vietnam	339	337	315	342	308	275	243	225	195	185	182	-1.3%	-6.0%	0.2%
Other Asia Pacific	243	233	257	261	246	237	204	202	184	181	161	-10.8%	-4.0%	0.2%
Total Asia Pacific	7770	7681	7695	7816	7457	7167	7005	7006	6834	6758	6724	-0.5%	-1.4%	8.3%
Total World	77447	77722	79123	81693	81475	81811	83606	83158	76849	77952	81157	4.1%	0.5%	100.0%
of which:														
OECD	16735	17740	19225	19942	19090	19630	21490	22848	21698	21789	22386	2.7%	3.0%	27.6%
Non-OECD	60711	59982	59897	61752	62385	62181	62116	60311	55150	56163	58771	4.6%	-0.3%	72.4%
OPEC	32459	31511	31294	32841	33746	33560	33403	31378	27534	28255	30343	7.4%	-0.7%	37.4%
Non-OPEC	44988	46212	47829	48852	47729	48250	50203	51780	49314	49697	50814	2.2%	1.2%	62.6%
European Union	556	546	540	523	457	451	436	403	383	359	334	-7.0%	-5.0%	0.4%

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

Thousand barrels daily	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	490	514	513	525	595	597	647	682	660	669	708	5.9%	3.8%	5.6%
Mexico	364	360	363	326	307	279	238	220	206	171	160	-6.6%	-7.9%	1.3%
US	2408	2606	3015	3342	3509	3783	4369	4824	5175	5425	5883	8.4%	9.3%	46.4%
Total North America	3262	3480	3890	4194	4412	4659	5255	5726	6041	6265	6751	7.8%	7.5%	53.2%
Argentina	107	104	105	114	99	110	102	112	120	114	123	7.8%	1.4%	1.0%
Brazil	84	86	87	88	97	110	104	102	90	84	85	1.0%	0.2%	0.7%
Colombia	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ecuador	1	1	—	—	—	—	—	—	—	—	—	—	-100.0%	—
Peru	45	54	54	49	50	48	47	49	48	46	43	-6.6%	-0.7%	0.3%
Trinidad & Tobago	35	34	33	30	25	27	24	23	20	17	15	-7.9%	-7.9%	0.1%
Venezuela	124	116	114	117	105	104	88	80	52	49	47	-5.0%	-9.3%	0.4%
Other S. & Cent. America	16	17	14	13	12	15	14	13	13	13	12	-7.0%	-2.9%	0.1%
Total S. & Cent. America	413	412	407	411	389	414	379	378	342	323	325	0.6%	-2.4%	2.6%
Denmark	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Italy	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Norway	306	305	324	338	349	352	335	300	292	252	196	-22.0%	-4.3%	1.5%
Romania	4	3	3	3	4	3	3	4	4	4	3	-12.9%	-1.2%	†
United Kingdom	62	55	62	60	82	92	90	99	88	67	67	-0.8%	0.8%	0.5%
Other Europe	19	17	15	15	16	19	19	17	15	16	8	-48.6%	-7.9%	0.1%
Total Europe	390	380	405	416	451	466	447	420	399	339	275	-18.9%	-3.5%	2.2%
Azerbaijan	10	11	12	11	11	11	12	13	12	19	18	-6.0%	5.4%	0.1%
Kazakhstan	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Russian Federation	260	278	448	470	479	476	479	493	474	544	533	-2.0%	7.4%	4.2%
Turkmenistan	14	17	17	17	20	21	23	27	30	27	31	14.1%	8.6%	0.2%
Uzbekistan	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other CIS	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total CIS	284	307	477	498	510	508	514	533	516	590	582	-1.4%	7.4%	4.6%
Iran	412	418	441	461	488	364	378	384	386	469	509	8.5%	2.1%	4.0%
Iraq	42	41	40	41	48	64	64	68	64	70	74	5.8%	6.0%	0.6%
Kuwait	283	287	276	288	290	305	313	299	283	289	321	11.4%	1.3%	2.5%
Oman	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Qatar	437	471	466	470	473	450	471	470	427	439	450	2.5%	0.3%	3.5%
Saudi Arabia	1635	1518	1577	1578	1718	1717	1728	1687	1609	1560	1628	4.3%	†	12.8%
Syria	25	14	10	8	8	8	8	9	10	10	10	-1.8%	-8.9%	0.1%
United Arab Emirates	479	482	539	614	654	630	600	639	608	625	656	5.0%	3.2%	5.2%
Yemen	24	24	25	26	26	27	28	28	28	28	28	—	1.5%	0.2%
Other Middle East	10	10	10	10	10	10	11	19	18	15	16	6.5%	4.2%	0.1%
Total Middle East	3346	3266	3386	3494	3715	3575	3602	3602	3433	3504	3691	5.4%	1.0%	29.1%
Algeria	216	210	260	268	261	254	252	247	233	248	254	2.3%	1.6%	2.0%
Angola	20	22	30	16	23	39	40	47	47	47	47	-0.9%	8.9%	0.4%
Chad	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Republic of Congo	12	9	8	7	7	7	7	7	7	7	7	—	-4.8%	0.1%
Egypt	66	67	47	64	60	57	58	56	44	47	44	-4.3%	-3.9%	0.4%
Equatorial Guinea	20	21	19	17	19	21	19	17	15	12	12	-0.7%	-5.2%	0.1%
Gabon	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Libya	40	22	8	15	15	20	21	27	15	40	40	1.1%	†	0.3%
Nigeria	79	82	86	80	76	77	82	85	61	78	100	29.2%	2.4%	0.8%
South Sudan	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sudan	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tunisia	5	6	5	5	4	4	3	3	2	2	—	-6.4%	†	—
Other Africa	—	—	—	—	—	—	1	1	3	7	11	54.7%	—	0.1%
Total Africa	458	440	462	472	467	479	483	491	429	488	518	6.2%	1.2%	4.1%
Australia	67	66	67	56	64	59	60	97	103	109	101	-6.7%	4.2%	0.8%
Brunei	13	13	12	11	12	13	12	12	10	8	7	-13.8%	-5.5%	0.1%
China	—	—	—	—	—	—	—	—	—	—	—	—	—	—
India	140	136	136	133	143	153	174	174	158	147	128	-13.1%	-0.8%	1.0%
Indonesia	58	46	58	52	44	36	36	35	34	33	32	-2.7%	-5.7%	0.3%
Malaysia	65	39	39	35	59	58	60	62	67	66	64	-1.6%	-0.1%	0.5%
Thailand	232	225	231	233	231	247	247	246	219	224	188	-16.2%	-2.1%	1.5%
Vietnam	8	10	10	9	10	9	13	12	12	11	12	0.7%	3.5%	0.1%
Other Asia Pacific	45	38	36	33	31	32	26	26	21	17	16	-8.1%	-10.1%	0.1%
Total Asia Pacific	628	572	589	561	594	607	627	664	622	616	548	-10.9%	-1.3%	4.3%
Total World	8781	8857	9616	10046	10537	10708	11307	11813	11782	12124	12690	4.7%	3.8%	100.0%
of which: OECD	3722	3929	4364	4667	4922	5181	5757	6237	6536	6705	7128	6.3%	6.7%	56.2%
Non-OECD	5059	4928	5252	5379	5615	5527	5550	5577	5245	5419	5562	2.6%	1.0%	43.8%
OPEC	3362	3230	3398	3501	3704	3602	3594	3587	3381	3493	3695	5.8%	0.9%	29.1%
Non-OPEC	5420	5628	6218	6545	6833	7106	7714	8226	8401	8631	8995	4.2%	5.2%	70.9%
European Union	17	14	13	13	14	14	12	11	10	10	10	-7.3%	-5.3%	0.1%

Source: Includes data from FGE Iran Service, ICIS Heren Energy Ltd.

* Includes ethane, LPG and naphtha separated from the production of natural gas. Excludes condensates.

† Less than 0.05%.

‡ 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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	2478	2471	2467	2487	2494	2471	2542	2553	2185	2275	2352	3.4%	-0.5%	2.3%
Mexico	2231	2172	2093	2044	2091	2044	1925	1822	1610	1756	2106	19.9%	-0.6%	2.1%
US	18482	18967	19100	19532	19692	19952	20512	20543	18186	19890	20280	2.0%	0.9%	20.2%
Total North America	23191	23609	23660	24062	24277	24467	24978	24918	21980	23921	24738	3.4%	0.6%	24.7%
Argentina	666	711	709	729	713	713	684	608	527	658	711	8.1%	0.7%	0.7%
Brazil	2983	3127	3267	3192	3004	3045	3013	3076	2873	3039	3158	3.9%	0.6%	3.1%
Chile	350	348	347	340	359	366	379	378	346	380	399	4.9%	1.3%	0.4%
Colombia	333	352	373	341	410	406	413	416	350	448	499	11.3%	4.1%	0.5%
Ecuador	233	247	260	254	240	237	255	249	203	249	265	6.6%	1.3%	0.3%
Peru	212	224	221	236	251	257	264	272	211	260	269	3.6%	2.4%	0.3%
Trinidad & Tobago	40	45	41	45	47	44	41	24	24	24	24	1.5%	-4.8%	†
Venezuela	785	835	746	697	537	493	410	339	203	226	268	18.4%	-10.2%	0.3%
Central America	364	371	384	422	438	454	450	487	415	476	506	6.3%	3.3%	0.5%
Other Caribbean	620	590	590	619	637	616	623	613	525	515	535	3.9%	-1.5%	0.5%
Other South America	194	201	202	208	221	225	234	239	198	247	250	1.2%	2.5%	0.2%
Total S. & Cent. America	6780	7052	7141	7082	6855	6768	6702	5875	6522	6883	5.5%	0.2%	6.9%	
Austria	256	262	255	255	260	263	268	277	241	249	242	-2.7%	-0.6%	0.2%
Belgium	594	612	606	619	625	632	679	639	557	618	582	-5.8%	-0.2%	0.6%
Bulgaria	86	81	88	98	101	105	105	109	99	104	116	11.6%	3.0%	0.1%
Croatia	66	64	66	68	68	73	71	71	60	65	71	10.6%	0.9%	0.1%
Cyprus	51	46	46	47	51	53	52	44	46	49	49	6.6%	-0.5%	†
Czech Republic	196	188	199	191	179	213	214	218	190	209	212	1.5%	0.8%	0.2%
Denmark	149	150	150	152	153	152	154	154	128	141	145	2.9%	-0.3%	0.1%
Estonia	32	31	29	29	30	30	30	27	29	28	26	-7.8%	-2.2%	†
Finland	199	213	207	207	210	208	208	208	187	183	199	8.8%	†	0.2%
France	1669	1657	1610	1611	1596	1607	1605	1599	1371	1503	1510	0.5%	-1.0%	1.5%
Germany	2352	2404	2344	2336	2374	2443	2325	2339	2122	2117	2150	1.6%	-0.9%	2.1%
Greece	307	285	284	297	297	301	298	308	251	266	299	12.3%	-0.3%	0.3%
Hungary	133	131	147	157	155	168	180	181	168	182	180	-1.5%	3.1%	0.2%
Iceland	14	15	16	17	19	21	23	20	13	13	18	36.1%	2.2%	†
Ireland	139	141	141	146	152	153	158	159	134	145	158	8.8%	1.3%	0.2%
Italy	1401	1289	1220	1293	1284	1304	1331	1277	1064	1184	1245	5.1%	-1.2%	1.2%
Latvia	33	34	34	36	37	38	34	39	35	36	37	3.9%	1.0%	†
Lithuania	55	53	53	57	61	64	68	69	65	66	67	0.7%	2.0%	0.1%
Luxembourg	59	58	57	56	56	59	63	64	52	56	52	-7.3%	-1.2%	0.1%
Netherlands	990	953	944	935	939	947	932	906	866	866	907	4.7%	-0.9%	0.9%
North Macedonia	19	19	19	20	22	21	21	22	20	22	24	8.8%	2.4%	†
Norway	218	229	218	220	217	223	229	223	212	216	201	-6.9%	-0.8%	0.2%
Poland	570	537	538	558	605	662	685	702	664	701	750	6.9%	2.8%	0.7%
Portugal	231	241	247	246	248	246	245	253	209	216	231	6.8%	†	0.2%
Romania	191	174	187	191	202	213	219	230	216	227	229	1.0%	1.9%	0.2%
Slovakia	75	75	71	78	80	90	91	86	86	91	94	3.2%	2.3%	0.1%
Slovenia	54	51	50	49	52	54	56	54	46	49	56	13.8%	0.4%	0.1%
Spain	1285	1191	1188	1233	1278	1291	1325	1325	1087	1187	1298	9.3%	0.1%	1.3%
Sweden	309	307	305	303	319	320	305	325	285	284	283	-0.1%	-0.9%	0.3%
Switzerland	238	249	224	227	216	222	215	220	184	185	191	3.1%	-2.2%	0.2%
Turkey	704	756	774	922	976	1025	993	1003	939	1006	1045	3.9%	4.0%	1.0%
Ukraine	287	275	245	216	229	231	241	242	229	232	202	-12.8%	-3.4%	0.2%
United Kingdom	1524	1500	1506	1546	1589	1613	1597	1568	1222	1252	1363	8.9%	-1.1%	1.4%
Other Europe	300	298	295	305	326	342	339	349	325	317	331	4.4%	1.0%	0.3%
Total Europe	14787	14572	14362	14723	15005	15385	15359	15321	13409	14060	14561	3.6%	-0.2%	14.5%
Azerbaijan	92	99	98	98	97	98	102	101	100	115	122	6.7%	2.9%	0.1%
Belarus	214	161	164	138	147	147	171	175	167	160	152	-4.6%	-3.3%	0.2%
Kazakhstan	288	297	304	289	304	313	338	345	302	328	422	28.7%	3.9%	0.4%
Russian Federation	3184	3218	3365	3277	3339	3345	3379	3442	3299	3489	3580	2.6%	1.2%	3.6%
Turkmenistan	129	137	143	145	143	144	145	146	147	150	154	2.5%	1.8%	0.2%
Uzbekistan	88	83	82	83	86	87	95	95	100	111	111	0.3%	2.4%	0.1%
Other CIS	75	78	75	78	86	82	86	89	85	93	95	2.5%	2.4%	0.1%
Total CIS	4070	4074	4231	4108	4202	4217	4326	4392	4200	4446	4637	4.3%	1.3%	4.6%
Iran	1763	1879	1745	1564	1573	1628	1700	1780	1700	1735	1912	10.2%	0.8%	1.9%
Iraq	619	688	683	685	738	830	786	756	622	700	772	10.3%	2.2%	0.8%
Israel	274	213	200	211	217	227	230	232	201	210	233	11.1%	-1.6%	0.2%
Kuwait	457	468	479	465	439	457	473	451	424	422	431	2.3%	-0.6%	0.4%
Oman	154	176	182	186	189	211	224	217	176	200	226	12.9%	3.9%	0.2%
Qatar	260	303	312	356	369	335	347	367	289	313	347	10.6%	2.9%	0.3%
Saudi Arabia	3467	3468	3789	3964	4100	4052	3871	3642	3445	3610	3876	7.4%	1.1%	3.9%
United Arab Emirates	766	847	881	923	1006	990	988	960	904	990	1126	13.8%	3.9%	1.1%
Other Middle East	696	654	653	567	532	570	566	545	486	503	529	5.3%	-2.7%	0.5%
Total Middle East	8455	8694	8923	8921	9163	9301	9185	8950	8247	8681	9451	8.9%	1.1%	9.4%
Algeria	370	387	401	425	412	408	413	430	385	405	439	8.4%	1.7%	0.4%
Egypt	750	759	791	810	836	801	721	686	598	644	750	16.5%	†	0.7%
Morocco	277	282	272	268	275	291	287	293	258	291	296	2.0%	0.7%	0.3%
South Africa	543	554	546	602	577	578	577	569	467	505	516	2.1%	-0.5%	0.5%
Eastern Africa	469	496	517	565	581	622	641	657	599	655	668	2.0%	3.6%	0.7%
Middle Africa	230	262	278	272	247	225	229	242	207	219	208	-5.2%	-1.0%	0.2%
Western Africa	570	590	549	559	622	683	792	820	796	866	906	4.6%	4.7%	0.9%
Other Northern Africa	331	347	357	318	294	304	309	313	266	321	326	1.4%	-0.2%	0.3%
Other Southern Africa	51	54	56	57	56	59	58	53	57	594	58	4.4%	1.3%	0.1%
Total Africa	35													



Oil Consumption in thousands of barrels per day*

Thousand barrels daily	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	2420	2413	2408	2431	2439	2408	2476	2487	2124	2210	2288	3.5%	-0.6%	2.4%
Mexico	2228	2168	2087	2038	2085	2038	1918	1814	1601	1749	2098	20.0%	-0.6%	2.2%
US	17581	17992	18111	18499	18593	18845	19417	19424	17183	18785	19140	1.9%	0.9%	19.7%
Total North America	22229	22573	22606	22968	23117	23291	23811	23726	20909	22744	23527	3.4%	0.6%	24.2%
Argentina	645	685	678	695	677	672	645	567	504	632	678	7.2%	0.5%	0.7%
Brazil	2579	2651	2747	2583	2453	2485	2368	2361	2218	2394	2512	4.9%	-0.3%	2.6%
Chile	350	348	347	340	359	366	379	378	346	380	399	4.9%	1.3%	0.4%
Colombia	317	335	356	323	393	389	392	394	331	428	478	11.7%	4.2%	0.5%
Ecuador	233	247	260	254	239	236	255	249	203	248	264	6.6%	1.3%	0.3%
Peru	204	215	213	227	241	246	254	262	202	248	258	3.7%	2.4%	0.3%
Trinidad & Tobago	40	45	41	45	47	44	41	24	24	24	24	1.5%	-4.8%	†
Venezuela	785	835	746	697	537	493	410	339	203	226	268	18.4%	-10.2%	0.3%
Central America	364	370	383	421	437	452	449	485	414	474	504	6.3%	3.3%	0.5%
Other Caribbean	610	581	581	610	628	614	604	516	506	526	525	3.9%	-1.5%	0.5%
Other South America	191	197	197	202	214	218	226	231	190	238	242	1.9%	2.4%	0.2%
Total S. & Cent. America	6318	6511	6549	6396	6225	6207	6032	5894	5151	5799	6153	6.1%	-0.3%	6.3%
Austria	245	252	242	240	247	252	256	266	231	239	232	-2.7%	-0.5%	0.2%
Belgium	585	603	597	612	615	620	668	628	541	600	563	-6.2%	-0.4%	0.6%
Bulgaria	84	79	85	95	97	102	101	105	95	100	109	9.7%	2.6%	0.1%
Croatia	65	63	65	68	68	73	71	69	59	63	69	10.8%	0.7%	0.1%
Cyprus	51	46	45	46	51	52	52	44	45	48	48	6.6%	-0.6%	†
Czech Republic	189	181	192	184	172	205	207	209	181	201	204	1.7%	0.8%	0.2%
Denmark	144	144	145	146	147	146	148	148	122	134	138	3.1%	-0.4%	0.1%
Estonia	32	31	29	29	30	30	30	27	28	27	25	-8.1%	-2.5%	†
Finland	194	208	197	196	206	200	200	199	178	168	172	2.3%	-1.2%	0.2%
France	1609	1596	1544	1544	1529	1540	1538	1527	1306	1428	1420	-0.6%	-1.2%	1.5%
Germany	2276	2336	2273	2269	2307	2374	2255	2270	2049	2042	2075	1.6%	-0.9%	2.1%
Greece	305	282	281	294	293	298	294	304	246	261	294	12.8%	-0.4%	0.3%
Hungary	129	128	142	153	150	164	175	176	161	175	172	-1.8%	2.9%	0.2%
Iceland	14	15	16	17	19	21	23	19	13	12	17	37.1%	1.9%	†
Ireland	137	139	138	143	150	149	155	154	130	141	152	7.7%	1.1%	0.2%
Italy	1367	1261	1196	1264	1255	1274	1300	1259	1039	1158	1222	5.5%	-1.1%	1.3%
Latvia	33	33	34	35	36	37	34	38	33	34	36	4.4%	0.9%	†
Lithuania	53	52	51	56	60	62	66	67	62	63	64	1.2%	1.9%	0.1%
Luxembourg	58	57	55	54	54	57	60	61	49	53	49	-7.5%	-1.6%	0.1%
Netherlands	981	944	934	926	932	938	918	888	846	845	885	4.7%	-1.0%	0.9%
North Macedonia	19	19	19	20	22	21	21	22	20	22	24	8.8%	2.4%	†
Norway	215	226	216	217	210	212	221	213	203	207	192	-7.1%	-1.1%	0.2%
Poland	552	520	521	542	594	646	663	679	640	676	724	7.1%	2.7%	0.7%
Portugal	225	235	241	238	241	240	239	247	203	209	225	7.7%	-0.2%	0.2%
Romania	186	170	184	186	195	206	212	221	205	217	220	1.4%	1.7%	0.2%
Slovakia	72	73	68	74	77	86	87	83	83	87	90	3.1%	2.2%	0.1%
Slovenia	53	50	49	49	52	53	55	52	44	47	54	16.0%	0.3%	0.1%
Spain	1237	1169	1165	1209	1252	1260	1286	1287	1056	1156	1268	9.6%	0.2%	1.3%
Sweden	292	291	285	279	289	286	273	292	255	248	243	-2.1%	-1.8%	0.2%
Switzerland	238	249	224	226	214	219	212	216	179	181	187	3.2%	-2.4%	0.2%
Turkey	702	748	771	919	974	1022	989	999	937	1003	1042	3.8%	4.0%	1.1%
Ukraine	287	274	244	215	228	230	240	239	227	230	200	-12.8%	-3.5%	0.2%
United Kingdom	1500	1473	1476	1521	1563	1588	1564	1528	1184	1217	1317	8.2%	-1.3%	1.4%
Other Europe	300	298	295	305	326	342	339	348	325	317	331	4.4%	1.0%	0.3%
Total Europe	14429	14244	14014	14373	14655	15006	14947	14892	12973	13605	14062	3.4%	-0.3%	14.5%
Azerbaijan	92	99	98	98	97	98	102	101	100	115	122	6.7%	2.9%	0.1%
Belarus	213	160	164	138	147	147	171	174	167	159	152	-4.4%	-3.3%	0.2%
Kazakhstan	288	297	304	289	304	313	338	345	302	328	422	28.7%	3.9%	0.4%
Russian Federation	3184	3218	3365	3277	3338	3343	3376	3438	3294	3483	3570	2.5%	1.2%	3.7%
Turkmenistan	129	137	143	145	143	144	145	146	147	150	154	2.5%	1.8%	0.2%
Uzbekistan	88	83	82	83	86	87	95	95	100	111	111	0.3%	2.4%	0.1%
Other CIS	75	78	75	78	86	82	96	89	85	93	95	2.5%	2.4%	0.1%
Total CIS	4070	4073	4231	4107	4201	4214	4322	4388	4194	4439	4628	4.3%	1.3%	4.8%
Iran	1763	1879	1745	1564	1573	1628	1700	1780	1700	1735	1912	10.2%	0.8%	2.0%
Iraq	619	688	683	685	738	830	786	756	622	700	772	10.3%	2.2%	0.8%
Israel	274	212	199	211	216	226	229	231	199	209	232	11.1%	-1.7%	0.2%
Kuwait	457	468	479	465	439	457	473	451	424	422	431	2.3%	-0.6%	0.4%
Oman	154	176	182	186	189	211	224	217	176	200	226	12.9%	3.9%	0.2%
Qatar	260	303	312	356	369	335	347	367	289	313	347	10.6%	2.9%	0.4%
Saudi Arabia	3467	3468	3789	3964	4100	4052	3871	3642	3445	3610	3876	7.4%	1.1%	4.0%
United Arab Emirates	766	847	881	923	1006	990	988	960	904	990	1126	13.8%	3.9%	1.2%
Other Middle East	696	654	653	567	572	570	566	545	486	503	529	5.3%	-2.7%	0.5%
Total Middle East	8455	8694	8923	8921	9162	9301	9184	8949	8246	8680	9450	8.9%	1.1%	9.7%
Algeria	370	387	401	425	412	408	413	430	385	405	439	8.4%	1.7%	0.5%
Egypt	750	759	791	810	836	801	721	686	598	644	750	16.5%	0.8%	
Morocco	277	282	272	268	275	291	287	293	258	291	296	2.0%	0.7%	0.3%
South Africa	542	552	544	601	576	576	574	567	465	502	513	2.1%	-0.6%	0.5%
Eastern Africa	469	495	517	565	581	622	640	656	599	655	668	2.0%	3.6%	0.7%
Middle Africa	230	262	278	272	247	225	229	242	207	219	208	-5.2%	-1.0%	0.2%
Western Africa	570	590	549	559	622	683	792	820	796	866	906	4.6%	4.7%	0.9%
Other Northern Africa	331	347	357	318	294	304	309	313	266	321	326	1.4%	-0.2%	0.3%
Other Southern Africa	51	54	56	57	56	59	58	53	55	57	58	4.4%	1.3%	0.1%
Total Africa</b														



Oil Consumption in exajoules*

Exajoules	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	4.63	4.60	4.59	4.60	4.58	4.54	4.68	4.67	3.97	4.11	4.27	3.7%	-1.2%	2.2%
Mexico	4.37	4.23	4.04	3.92	4.02	3.93	3.68	3.50	3.02	3.39	4.12	21.3%	-2.5%	2.2%
US	34.10	34.66	34.90	35.61	35.86	36.21	37.08	37.02	32.52	35.51	36.15	1.8%	0.4%	19.0%
Total North America	43.10	43.49	43.52	44.12	44.47	44.67	45.44	45.19	39.51	43.02	44.53	3.5%	†	23.4%
Argentina	1.30	1.38	1.37	1.40	1.35	1.34	1.28	1.16	1.04	1.29	1.38	6.9%	-0.1%	0.7%
Brazil	5.16	5.30	5.51	5.17	4.90	4.95	4.71	4.69	4.42	4.78	5.01	4.7%	-0.8%	2.6%
Chile	0.71	0.70	0.70	0.68	0.72	0.73	0.76	0.76	0.69	0.76	0.80	4.7%	0.8%	0.4%
Colombia	0.65	0.68	0.72	0.65	0.79	0.78	0.79	0.79	0.67	0.86	0.96	12.0%	2.8%	0.5%
Ecuador	0.47	0.50	0.53	0.51	0.48	0.47	0.51	0.49	0.40	0.49	0.53	6.8%	0.4%	0.3%
Peru	0.40	0.42	0.41	0.44	0.47	0.48	0.49	0.51	0.39	0.48	0.50	3.8%	1.8%	0.3%
Trinidad & Tobago	0.09	0.10	0.09	0.09	0.10	0.09	0.09	0.05	0.05	0.05	0.05	1.4%	-5.6%	†
Venezuela	1.59	1.71	1.52	1.42	1.08	1.00	0.82	0.69	0.40	0.45	0.53	18.4%	-11.9%	0.3%
Central America	0.77	0.78	0.80	0.88	0.91	0.94	0.93	1.01	0.86	0.98	1.04	6.5%	2.4%	0.5%
Other Caribbean	1.31	1.23	1.23	1.29	1.33	1.28	1.30	1.28	1.10	1.06	1.10	3.6%	-2.1%	0.6%
Other South America	0.39	0.40	0.40	0.40	0.43	0.44	0.45	0.46	0.38	0.48	0.48	1.8%	2.1%	0.3%
Total S. & Cent. America	12.82	13.19	13.27	12.95	12.58	12.13	11.88	10.40	11.67	12.37	6.0%	-0.9%	6.5%	
Austria	0.51	0.53	0.50	0.50	0.52	0.53	0.53	0.55	0.48	0.50	0.48	-2.5%	-0.3%	0.3%
Belgium	1.22	1.25	1.22	1.25	1.27	1.29	1.38	1.29	1.11	1.23	1.16	-5.9%	0.1%	0.6%
Bulgaria	0.17	0.16	0.17	0.19	0.20	0.20	0.20	0.21	0.19	0.20	0.22	9.8%	1.7%	0.1%
Croatia	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.14	0.12	0.13	0.14	11.0%	-0.4%	0.1%
Cyprus	0.11	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.09	0.10	0.10	6.2%	-1.3%	0.1%
Czech Republic	0.38	0.37	0.39	0.38	0.35	0.42	0.42	0.42	0.37	0.41	0.41	1.7%	0.5%	0.2%
Denmark	0.30	0.30	0.30	0.31	0.31	0.30	0.31	0.31	0.25	0.27	0.28	4.1%	-1.0%	0.1%
Estonia	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	-7.9%	-1.8%	†
Finland	0.40	0.41	0.39	0.39	0.41	0.40	0.40	0.39	0.35	0.33	0.33	1.5%	-1.8%	0.2%
France	3.34	3.29	3.19	3.19	3.17	3.18	3.17	3.14	2.68	2.92	2.91	-0.2%	-1.3%	1.5%
Germany	4.70	4.80	4.67	4.67	4.76	4.87	4.63	4.66	4.22	4.18	4.26	1.9%	-1.2%	2.2%
Greece	0.64	0.59	0.59	0.61	0.61	0.63	0.62	0.64	0.52	0.55	0.62	12.5%	-1.6%	0.3%
Hungary	0.26	0.25	0.28	0.30	0.30	0.33	0.35	0.35	0.32	0.35	0.35	-0.8%	3.0%	0.2%
Iceland	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.04	0.03	0.03	0.04	36.5%	-1.4%	†
Ireland	0.28	0.29	0.28	0.29	0.31	0.31	0.32	0.32	0.27	0.29	0.32	7.2%	0.4%	0.2%
Italy	2.78	2.54	2.42	2.56	2.54	2.57	2.63	2.55	2.11	2.35	2.47	5.2%	-1.7%	1.3%
Latvia	0.07	0.07	0.07	0.07	0.08	0.08	0.07	0.08	0.07	0.07	0.07	4.3%	0.4%	†
Lithuania	0.11	0.11	0.11	0.12	0.13	0.13	0.14	0.14	0.13	0.13	0.13	1.2%	1.8%	0.1%
Luxembourg	0.12	0.12	0.11	0.11	0.12	0.12	0.13	0.10	0.11	0.10	0.10	-7.9%	-1.0%	0.1%
Netherlands	2.00	1.91	1.87	1.85	1.86	1.87	1.82	1.78	1.69	1.69	1.78	5.4%	-1.7%	0.9%
North Macedonia	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.05	0.04	0.05	0.05	10.3%	1.3%	†
Norway	0.42	0.44	0.41	0.41	0.40	0.40	0.41	0.39	0.37	0.38	0.36	-5.2%	-1.0%	0.2%
Poland	1.11	1.04	1.04	1.09	1.20	1.30	1.33	1.36	1.29	1.35	1.46	7.7%	2.0%	0.8%
Portugal	0.46	0.48	0.49	0.48	0.49	0.49	0.49	0.50	0.41	0.42	0.46	8.3%	-0.9%	0.2%
Romania	0.38	0.35	0.38	0.38	0.40	0.42	0.43	0.45	0.42	0.44	0.45	1.6%	1.4%	0.2%
Slovakia	0.15	0.15	0.14	0.15	0.16	0.18	0.18	0.17	0.17	0.18	0.18	3.2%	1.7%	0.1%
Slovenia	0.11	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.09	0.10	0.11	16.2%	-1.2%	0.1%
Spain	2.62	2.47	2.46	2.54	2.63	2.64	2.69	2.70	2.21	2.42	2.66	9.6%	-0.8%	1.4%
Sweden	0.60	0.59	0.58	0.57	0.59	0.58	0.55	0.59	0.53	0.50	0.50	-0.5%	-1.8%	0.3%
Switzerland	0.49	0.51	0.46	0.47	0.44	0.45	0.43	0.44	0.37	0.37	0.38	3.1%	-2.7%	0.2%
Turkey	1.41	1.51	1.55	1.86	1.98	2.07	2.00	2.01	1.89	2.02	2.10	4.1%	3.6%	1.1%
Ukraine	0.58	0.55	0.48	0.43	0.45	0.47	0.46	0.44	0.44	0.44	0.39	-12.9%	-2.6%	0.2%
United Kingdom	3.04	2.96	2.96	3.05	3.14	3.18	3.14	3.07	2.37	2.45	2.67	8.8%	-2.1%	1.4%
Other Europe	0.65	0.64	0.63	0.65	0.70	0.73	0.73	0.75	0.70	0.68	0.71	4.5%	0.5%	0.4%
Total Europe	29.69	29.13	28.62	29.36	29.99	30.62	30.49	30.38	26.47	27.70	28.72	3.7%	-0.7%	15.1%
Azerbaijan	0.19	0.20	0.20	0.20	0.20	0.21	0.20	0.20	0.23	0.25	7.6%	1.9%	0.1%	
Belarus	0.44	0.33	0.34	0.28	0.30	0.30	0.35	0.36	0.34	0.33	0.31	-4.4%	-2.8%	0.2%
Kazakhstan	0.59	0.60	0.62	0.58	0.60	0.62	0.66	0.67	0.59	0.63	0.78	23.1%	0.7%	0.4%
Russian Federation	6.41	6.43	6.75	6.52	6.64	6.62	6.70	6.83	6.52	6.88	7.05	2.6%	0.7%	3.7%
Turkmenistan	0.26	0.27	0.28	0.28	0.28	0.28	0.29	0.29	0.29	0.29	0.30	2.1%	1.2%	0.2%
Uzbekistan	0.18	0.17	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.22	0.22	0.4%	1.8%	0.1%
Other CIS	0.15	0.15	0.15	0.15	0.17	0.16	0.19	0.17	0.16	0.18	0.19	2.9%	2.0%	0.1%
Total CIS	8.22	8.15	8.49	8.18	8.37	8.35	8.58	8.70	8.31	8.76	9.10	3.9%	0.6%	4.8%
Iran	3.54	3.78	3.46	3.05	3.05	3.09	3.24	3.41	3.27	3.33	3.69	10.9%	-0.6%	1.9%
Iraq	1.27	1.41	1.40	1.41	1.53	1.72	1.63	1.56	1.28	1.44	1.59	10.7%	1.3%	0.8%
Israel	0.56	0.42	0.39	0.42	0.43	0.45	0.45	0.46	0.40	0.41	0.46	12.0%	-3.0%	0.2%
Kuwait	0.86	0.88	0.90	0.88	0.82	0.86	0.89	0.84	0.78	0.78	0.81	2.7%	-0.9%	0.4%
Oman	0.31	0.36	0.37	0.38	0.39	0.43	0.45	0.44	0.35	0.40	0.45	12.8%	2.6%	0.2%
Qatar	0.38	0.46	0.48	0.57	0.59	0.53	0.55	0.59	0.44	0.49	0.56	14.3%	2.4%	0.3%
Saudi Arabia	6.37	6.41	7.05	7.43	7.65	7.52	7.12	6.70	6.33	6.62	7.15	8.0%	0.4%	3.7%
United Arab Emirates	1.51	1.67	1.70	1.78	1.93	1.91	1.90	1.86	1.73	1.91	2.19	14.2%	2.4%	1.1%
Other Middle East	1.43	1.34	1.33	1.15	1.09	1.16	1.15	1.10	0.99	1.02	1.07	5.4%	-3.4%	0.6%
Total Middle East	16.22	16.72	17.09	17.06	17.48	17.67	17.39	16.95	15.58	16.40	17.97	9.5%	0.1%	9.4%
Algeria	0.74	0.77	0.80	0.85	0.83	0.81	0.82	0.85	0.76	0.80	0.86	7.9%	0.8%	0.5%
Egypt	1.52	1.54	1.62	1.66	1.71	1.62	1.45	1.37	1.18	1.27	1.52	19.4%	-1.8%	0.8%
Morocco	0.56	0.56	0.54	0.52	0.54	0.57	0.55	0.56	0.49	0.56	0.57	2.3%	†	0.3%</td



Oil Regional consumption – by product group

Thousand barrels daily	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012-22	
North America														
Light distillates	9687	9871	9914	10138	10310	10244	10234	10144	8714	9423	9464	0.4%	-0.3%	9.7%
of which: gasoline	9356	9492	9566	9801	9965	9945	9932	9861	8449	9156	9230	0.8%	-0.2%	9.5%
of which: naphtha	332	379	348	337	345	298	303	283	265	266	234	-12.3%	-2.2%	0.2%
Middle distillates	6366	6422	6678	6762	6619	6778	7076	6961	5745	6387	6837	7.0%	+	7.0%
of which: diesel/gasoil	4783	4791	5001	4995	4777	4858	5112	4963	4539	4861	5046	3.8%	0.2%	5.2%
of which: jet/kerosene	1582	1631	1676	1767	1842	1920	1964	1999	1205	1526	1791	17.3%	-0.4%	1.8%
Fuel oil	671	599	468	442	516	548	495	437	313	448	468	4.4%	-4.0%	0.5%
Others	5504	5682	5546	5626	5671	5721	6006	6183	6137	6486	6759	4.2%	1.7%	6.9%
of which: ethane and LPG	3189	3366	3292	3361	3428	3453	3789	3838	3959	4080	4205	3.1%	2.5%	4.3%
Total North America	22229	22573	22606	22968	23117	23291	23811	23726	20909	22744	23527	3.4%	0.2%	24.2%
of which: US														
Light distillates	8094	8263	8287	8503	8613	8621	8633	8579	7419	8103	8016	-1.1%	+	8.2%
of which: gasoline	7858	7993	8056	8280	8394	8393	8400	8372	7235	7917	7877	-0.5%	0.1%	8.1%
of which: naphtha	236	270	231	223	219	228	233	207	185	185	138	-25.2%	-2.4%	0.1%
Middle distillates	5215	5259	5519	5534	5438	5580	5815	5793	4793	5254	5395	2.7%	0.1%	5.5%
of which: diesel/gasoil	3811	3819	4040	3979	3815	3893	4103	4043	3709	3878	3833	-1.2%	0.2%	3.9%
of which: jet/kerosene	1403	1440	1479	1555	1623	1687	1712	1750	1084	1376	1562	13.5%	-0.2%	1.6%
Fuel oil	367	317	256	258	325	341	317	275	208	314	343	9.2%	-1.5%	0.4%
Others	3905	4153	4049	4204	4216	4303	4652	4777	4763	5114	5387	5.3%	2.7%	5.5%
of which: ethane and LPG	2312	2514	2447	2493	2516	2570	2921	2967	3056	3228	3351	3.8%	3.4%	3.4%
Total US	17581	17992	18111	18499	18593	18845	19417	19424	17183	18785	19140	1.9%	0.7%	19.7%
S. & Cent. America														
Light distillates	1677	1695	1720	1679	1697	1728	1627	1577	1276	1552	1726	11.2%	-0.8%	1.8%
of which: gasoline	1496	1514	1541	1481	1508	1520	1438	1373	1123	1376	1514	10.0%	-0.8%	1.6%
of which: naphtha	181	181	179	198	189	208	188	204	154	176	212	20.2%	-0.3%	0.2%
Middle distillates	2517	2646	2666	2579	2555	2531	2546	2520	2216	2494	2680	7.5%	-0.1%	2.8%
of which: diesel/gasoil	2221	2343	2344	2252	2226	2201	2195	2167	2042	2276	2386	4.8%	0.2%	2.5%
of which: jet/kerosene	297	303	322	327	329	330	351	353	174	218	294	34.9%	-3.0%	0.3%
Fuel oil	728	700	717	714	653	597	558	543	518	544	523	-4.0%	-2.9%	0.5%
Others	1396	1469	1446	1424	1320	1350	1302	1254	1141	1209	1225	1.3%	-1.4%	1.3%
of which: ethane and LPG	745	751	756	749	759	757	750	701	688	732	738	0.9%	-0.2%	0.8%
Total S. & Cent. America	6318	6511	6549	6396	6225	6207	6032	5894	5151	5799	6153	6.1%	-0.9%	6.3%
of which: Brazil														
Light distillates	714	695	716	675	682	717	623	633	554	620	699	12.7%	-1.4%	0.7%
of which: gasoline	547	547	576	522	541	556	483	481	450	495	542	9.4%	-1.0%	0.6%
of which: naphtha	167	148	140	153	141	161	140	152	104	125	157	25.4%	-2.8%	0.2%
Middle distillates	1082	1139	1169	1100	1030	1027	1045	1043	981	1063	1121	5.4%	-0.2%	1.2%
of which: diesel/gasoil	956	1013	1039	973	913	911	915	922	918	987	1018	3.1%	0.3%	1.0%
of which: jet/kerosene	126	126	129	127	117	116	130	121	63	76	103	35.9%	-5.0%	0.1%
Fuel oil	153	167	191	187	141	137	112	112	112	135	100	-25.5%	-1.3%	0.1%
Others	630	649	671	622	601	604	587	573	572	576	592	2.8%	-0.9%	0.6%
of which: ethane and LPG	328	339	339	324	326	322	318	319	313	311	311	-0.6%	-0.5%	0.3%
Total Brazil	2579	2651	2747	2583	2453	2485	2368	2361	2218	2394	2512	4.9%	-0.7%	2.6%
Europe														
Light distillates	3083	3009	2940	2869	2908	2950	2902	2865	2652	2866	2792	-2.6%	-0.7%	2.9%
of which: gasoline	2080	2009	1980	1930	1931	1937	2006	2037	1756	1910	1989	4.1%	-0.8%	2.0%
of which: naphtha	1004	1000	960	939	977	1013	897	828	897	956	803	-16.0%	-0.5%	0.8%
Middle distillates	7375	7450	7391	7745	7892	8125	8144	8198	6799	7219	7637	5.8%	-0.2%	7.8%
of which: diesel/gasoil	6147	6200	6110	6399	6501	6648	6603	6624	6057	6367	6342	-0.4%	0.4%	6.5%
of which: jet/kerosene	1228	1250	1281	1347	1391	1476	1541	1574	743	853	1295	51.9%	-3.6%	1.3%
Fuel oil	1157	1039	975	924	938	976	978	944	791	797	852	6.9%	-3.7%	0.9%
Others	2814	2745	2709	2835	2916	2956	2923	2885	2731	2723	2782	2.2%	-0.3%	2.9%
of which: ethane and LPG	1185	1272	1295	1335	1385	1410	1434	1434	1351	1350	1307	-3.2%	1.3%	1.3%
Total Europe	14429	14244	14014	14373	14655	15006	14947	14892	12973	13605	14062	3.4%	-0.6%	14.5%
of which: European Union														
Light distillates	2448	2401	2365	2303	2342	2387	2361	2319	2173	2370	2295	-3.2%	-0.3%	2.4%
of which: gasoline	1511	1464	1463	1438	1445	1460	1540	1572	1359	1469	1531	4.2%	-0.3%	1.6%
of which: naphtha	937	937	902	866	897	927	821	747	815	901	764	-15.3%	-0.4%	0.8%
Middle distillates	5609	5628	5543	5773	5875	6035	6053	6114	5102	5392	5687	5.5%	-0.4%	5.8%
of which: diesel/gasoil	4790	4809	4716	4913	4975	5072	5039	5078	4634	4827	4821	-0.1%	0.1%	5.0%
of which: jet/kerosene	819	820	827	860	900	962	1014	1036	469	565	866	53.3%	-3.6%	0.9%
Fuel oil	1002	900	844	796	804	832	850	825	689	703	748	6.5%	-3.5%	0.8%
Others	2136	2052	2044	2101	2122	2146	2126	2101	1969	1995	2072	3.8%	-0.7%	2.1%
of which: ethane and LPG	842	905	921	940	957	979	1000	1003	939	955	945	-1.0%	1.3%	1.0%
Total European Union *	11195	10981	10795	10974	11143	11400	11390	11359	9933	10460	10802	3.3%	-0.7%	11.1%
CIS														
Light distillates	1241	1214	1223	1203	1202	1204	1233	1214	1148	1247	1270	1.8%	+	1.3%
of which: gasoline	1050	1075	1087	1058	1060	1054	1064	1046	979	1074	1112	3.5%	0.2%	1.1%
of which: naphtha	192	139	135	144	142	151	169	167	169	173	157	-8.9%	-1.0%	0.2%
Middle distillates	1306	1409	1438	1391	1410	1470	1501	1533	1430	1546	1657	7.2%	1.7%	1.7%
of which: diesel/gasoil	988	1098	1149	1122	1066	1087	1146	1190	1134	1215	1382	13.8%	2.1%	1.4%
of which: jet/kerosene	318	311	289	269	344	383	355	343	296	331	275	-17.0%	0.4%	0.3%
Fuel oil	402	449	519	425	426	365	382	399	352	327	316	-3.4%	-2.0%	0.3%
Others	1120	1001	1051	1089	1163	1175	1206	1242	1264	1319	1392	5.6%	1.6%	1.4%



Oil Regional consumption – by product group (continued)

Thousand barrels daily	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012–22	
Africa														
Light distillates	877	899	912	993	1078	1124	1228	1253	1151	1279	1323	3.5%	3.8%	1.4%
of which: gasoline	874	896	907	989	1073	1117	1221	1246	1145	1272	1316	3.5%	3.8%	1.4%
of which: naphtha	3	4	6	5	6	7	7	7	7	7	7	1.3%	8.9%	+
Middle distillates	1732	1832	1864	1906	1845	1880	1888	1914	1673	1835	1890	3.0%	0.6%	1.9%
of which: diesel/gasoil	1417	1513	1565	1629	1588	1617	1629	1663	1527	1667	1682	0.9%	1.6%	1.7%
of which: jet/kerosene	315	319	299	277	257	263	258	251	145	168	208	23.6%	-6.1%	0.2%
Fuel oil	414	420	424	407	402	380	322	290	211	242	328	35.8%	-5.2%	0.3%
Others	567	578	564	569	574	582	586	608	593	602	621	3.1%	0.6%	0.6%
of which: ethane and LPG	383	389	384	389	396	415	426	440	436	444	460	3.8%	1.5%	0.5%
Total Africa	3590	3729	3764	3875	3900	3966	4024	4065	3627	3958	4163	5.2%	1.0%	4.3%
Asia Pacific														
Light distillates	8721	9234	9495	10298	10601	10957	11265	11533	10960	11787	11638	-1.3%	3.1%	12.0%
of which: gasoline	5108	5488	5599	6153	6392	6589	6852	7094	6516	6970	6844	-1.8%	3.2%	7.0%
of which: naphtha	3613	3746	3896	4145	4209	4368	4412	4439	4444	4817	4794	-0.5%	2.9%	4.9%
Middle distillates	10788	10946	11021	11328	11455	11854	12201	12456	10741	11188	11270	0.7%	0.4%	11.6%
of which: diesel/gasoil	8531	8622	8653	8872	8850	9127	9361	9588	8851	9362	9483	1.3%	0.9%	9.7%
of which: jet/kerosene	2257	2323	2368	2456	2605	2727	2841	2869	1890	1826	1787	-2.2%	-2.1%	1.8%
Fuel oil	3223	2973	2806	2792	2829	2723	2560	2341	2306	2455	2576	5.0%	-2.7%	2.6%
Others	6846	6972	7305	7645	8379	8957	9365	9716	10032	9717	9847	1.3%	3.6%	10.1%
of which: ethane and LPG	3060	3153	3339	3463	3853	4116	4345	4425	4344	4556	4782	5.0%	4.1%	4.9%
Total Asia Pacific	29577	30126	30626	32063	33264	34491	35391	36046	34039	35147	35326	0.5%	1.7%	36.3%
of which: China														
Light distillates	2731	3057	3269	3716	3889	4060	4324	4571	4476	4944	4840	-2.1%	6.1%	5.0%
of which: gasoline	1863	2143	2236	2601	2699	2791	2978	3125	2921	3280	2974	-9.3%	5.8%	3.1%
of which: naphtha	868	914	1032	1115	1190	1269	1346	1446	1555	1664	1866	12.1%	6.7%	1.9%
Middle distillates	3947	4049	4094	4197	4142	4257	4421	4642	4283	4517	4108	-9.0%	1.4%	4.2%
of which: diesel/gasoil	3453	3503	3506	3538	3403	3440	3515	3674	3499	3743	3605	-3.7%	0.8%	3.7%
of which: jet/kerosene	495	546	588	659	739	817	906	967	784	774	503	-34.9%	4.6%	0.5%
Fuel oil	560	564	584	591	558	530	532	574	602	648	706	8.9%	1.5%	0.7%
Others	2823	2894	3071	3386	3708	4157	4367	4535	5046	4784	4641	-3.0%	5.4%	4.8%
Total China	10061	10563	11018	11890	12297	13003	13643	14322	14408	14893	14295	-4.0%	4.0%	14.7%
of which: India														
Light distillates	583	603	622	726	778	777	814	848	802	836	879	5.2%	3.7%	0.9%
of which: gasoline	321	353	382	441	490	539	575	623	557	610	679	11.3%	6.6%	0.7%
of which: naphtha	262	250	240	285	288	238	238	225	225	225	200	-11.3%	-1.5%	0.2%
Middle distillates	1684	1683	1692	1772	1846	1876	1955	1964	1610	1726	1902	10.2%	0.2%	2.0%
of which: diesel/gasoil	1404	1408	1416	1491	1571	1627	1701	1728	1478	1586	1738	9.6%	1.2%	1.8%
of which: jet/kerosene	279	274	276	280	274	249	254	235	132	140	163	16.6%	-6.7%	0.2%
Fuel oil	147	117	107	113	136	122	120	114	104	111	125	12.5%	-2.8%	0.1%
Others	1260	1314	1411	1536	1785	1949	2086	2225	2184	2126	2280	7.2%	5.4%	2.3%
of which: ethane and LPG	548	558	613	661	750	858	971	1047	1065	1083	1097	1.4%	7.1%	1.1%
Total India	3674	3717	3832	4147	4544	4724	4974	5150	4700	4798	5185	8.1%	2.7%	5.3%
of which: Japan														
Light distillates	1589	1611	1551	1584	1537	1553	1484	1471	1347	1381	1304	-5.6%	-1.4%	1.3%
of which: gasoline	975	944	914	904	894	879	864	840	775	756	755	-0.2%	-2.5%	0.8%
of which: naphtha	614	666	637	680	642	675	621	631	572	625	549	-12.1%	0.2%	0.6%
Middle distillates	1358	1345	1321	1286	1293	1300	1281	1271	1096	1097	1114	1.6%	-2.1%	1.1%
of which: diesel/gasoil	821	817	803	786	786	782	782	771	724	727	734	1.0%	-1.2%	0.8%
of which: jet/kerosene	537	528	517	500	507	518	500	500	372	370	380	2.7%	-3.7%	0.4%
Fuel oil	826	649	535	431	365	278	260	199	182	215	239	10.8%	-12.6%	0.2%
Others	903	895	876	816	788	817	790	751	650	645	680	5.4%	-3.3%	0.7%
of which: ethane and LPG	536	508	492	443	419	424	402	354	333	340	363	6.9%	-4.5%	0.4%
Total Japan	4676	4499	4283	4116	3983	3949	3815	3692	3276	3339	3337	†	-3.3%	3.4%
World														
Light distillates	27099	27803	28152	29139	29795	30335	30643	30697	27695	30171	30489	1.1%	1.1%	31.3%
of which: gasoline	21458	22061	22294	23050	23608	23954	24344	24486	21487	23449	23896	1.9%	0.9%	24.6%
of which: naphtha	5641	5742	5858	6089	6187	6381	6299	6211	6208	6722	6594	-1.9%	1.8%	6.8%
Middle distillates	32577	33342	33593	34172	34156	34905	35586	35936	30644	32800	34438	5.0%	0.1%	35.4%
of which: diesel/gasoil	26138	26698	26888	27171	26801	27249	27732	27972	25868	27485	28211	2.6%	0.5%	29.0%
of which: jet/kerosene	6439	6644	6704	7001	7355	7656	7854	7964	4777	5315	6227	17.2%	-1.9%	6.4%
Fuel oil	8588	8224	8070	7855	7934	7802	7352	6937	6442	6819	7213	5.8%	-2.3%	7.4%
Others	20403	20582	20898	21538	22639	23435	24129	24388	24557	24582	25181	2.4%	1.9%	25.9%
of which: ethane and LPG	10875	11341	11609	11883	12578	12980	13625	13682	13631	14108	14557	3.2%	2.6%	15.0%
Total World	88667	89950	90713	92703	94523	96476	97711	97959	89139	94372	97309	3.1%	0.6%	100.0%
OECD														
Light distillates	16049	16216	16195	16447	16678	16773	16643	16481	14522	15698	15625	-0.5%	-0.2%	16.1%
of which: gasoline	13008	13072	13106	13304	13482	13475	13528	13479	11623	12556	12758	1.6%	-0.4%	13.1%
of which: naphtha	3041	3144	3089	3144	3196	3298	3115	3002	2898	3143	2867	-8.8%	0.3%	2.9%
Middle distillates	16307	16454	16652	17073	17183	17611	17930	17850	14844	15974	16995	6.4%	-0.2%	17.5%
of which: diesel/gasoil	12589	12668	12793	13058	13016	13261	13472	13325	12265	12962	13189	1.7%	0.3%	13.6%
of which: jet/kerosene	3719	3787	3858	4015	4168	4350	4457	4525	2579	3012	3806	26.4%	-2.1%	3.9%
Fuel oil	2869	2477	2127	1949	2003	1937	1864	1667	1388	1576	1675	6.3%	-5.8%	1.7%
Others	9718	9822	9595	9737	9916	9976	10209	10349	10047	10425	10813	3.7%	0.7%	11.1%
of which:														

Oil Spot crude prices

US dollars per barrel	Dubai \$/bbl *	Brent \$/bbl †	Nigerian Forcados \$/bbl	West Texas Intermediate \$/bbl‡
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

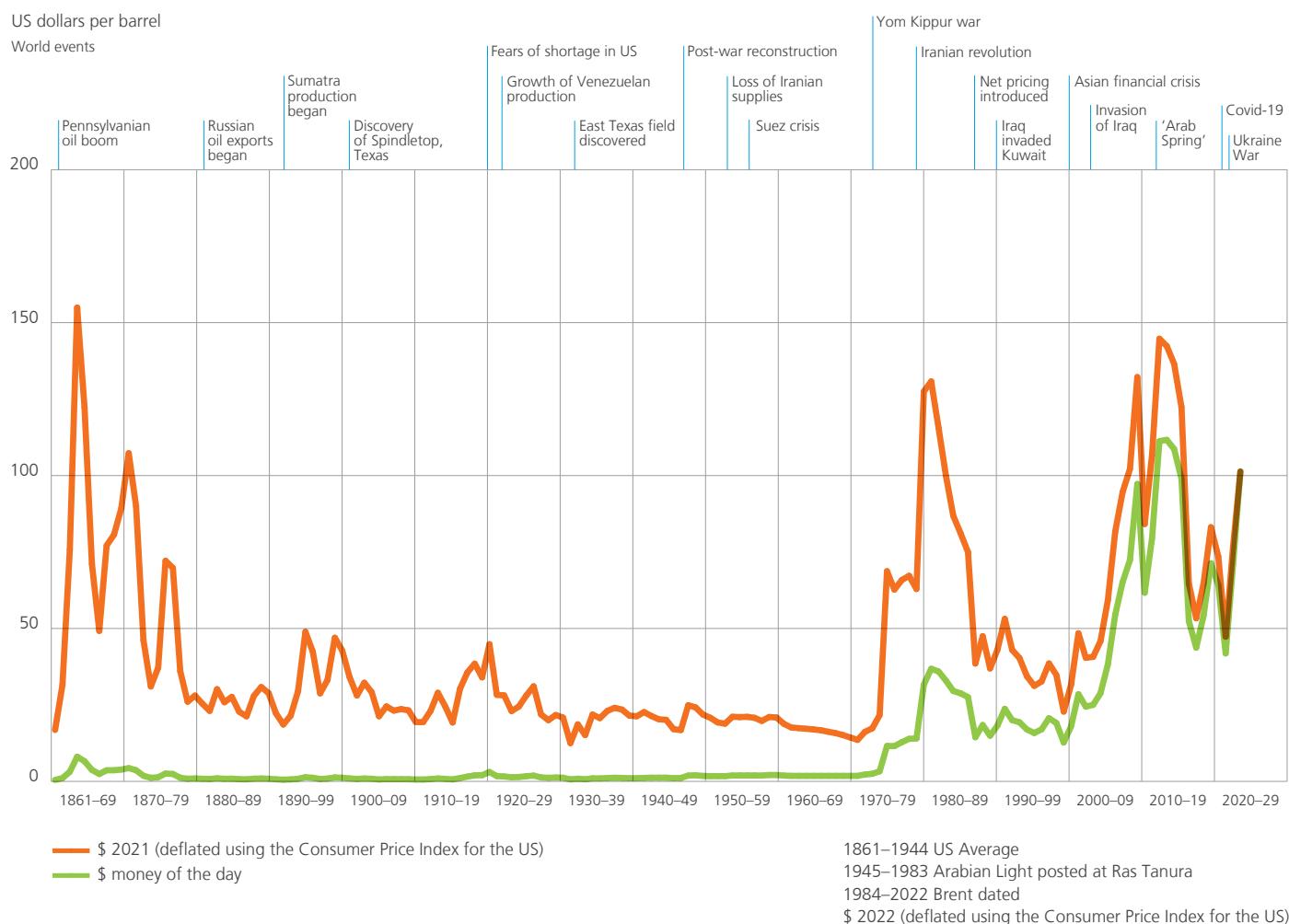
Source: S&P Global Platts, ©2023, S&P Global Inc.

* 1972 – 1985 Arabian Light, 1986 – 2021 Dubai dated.

† 1976 – 1983 Forties, 1984 – 2021 Brent dated.

‡ 1976 – 1983 Posted WTI prices, 1984 – 2021 Spot WTI (Cushing) prices.

Crude oil prices 1862-2022





Oil Refinery throughput

Thousand barrels daily*												Growth rate per annum		Share
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022
Canada	1753	1719	1615	1640	1594	1757	1653	1822	1585	1653	1696	2.6%	-0.3%	2.1%
Mexico	1199	1223	1155	1064	933	767	612	592	712	816	14.6%	-3.8%	1.0%	
US	14999	15312	15848	16188	16187	16590	16969	16563	14212	15148	15927	5.1%	0.6%	19.4%
Total North America	17951	18254	18618	18892	18714	19114	19234	18977	16387	17513	18439	5.3%	0.3%	22.5%
Argentina	530	527	526	536	511	500	470	476	417	472	489	3.6%	-0.8%	0.6%
Brazil	1889	2035	2085	1972	1812	1741	1733	1751	1769	1818	1935	6.4%	0.2%	2.4%
Chile	164	174	174	165	163	172	172	186	172	192	174	-9.2%	0.6%	0.2%
Colombia	305	284	247	244	339	355	415	415	355	375	388	3.2%	2.4%	0.5%
Curacao	165	170	189	178	156	84	29	4	—	—	—	—	-100.0%	0.0%
Ecuador	152	141	125	121	150	156	159	142	116	146	156	6.7%	0.3%	0.2%
Netherlands Antilles	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0%
Peru	190	186	188	188	194	213	209	192	105	138	132	-4.1%	-3.6%	0.2%
Trinidad & Tobago	107	132	105	125	148	131	99	—	—	—	—	—	-100.0%	0.0%
Venezuela	936	952	920	863	654	544	306	135	123	169	184	9.1%	-15.0%	0.2%
Other S. & Cent. America	326	286	277	275	231	197	246	238	245	285	269	-5.9%	-1.9%	0.3%
Total S. & Cent. America	4764	4887	4836	4667	4359	4093	3837	3541	3302	3596	3727	3.6%	-2.4%	4.5%
Austria	170	174	173	179	164	162	180	183	162	166	113	-31.7%	-4.0%	0.1%
Belgium	634	555	645	644	640	685	663	693	545	577	558	-3.4%	-1.3%	0.7%
Bulgaria	118	113	104	121	125	136	118	137	97	84	139	66.2%	1.7%	0.2%
Czech Republic	145	134	151	145	109	158	151	158	122	143	150	4.9%	0.3%	0.2%
Denmark	153	144	139	147	140	151	152	154	142	150	145	-3.8%	-0.5%	0.2%
Finland	215	227	225	197	226	226	233	240	219	159	186	17.2%	-1.4%	0.2%
France	1138	1117	1096	1152	1122	1149	1085	978	665	683	828	21.3%	-3.1%	1.0%
Germany	1901	1857	1833	1875	1887	1870	1752	1763	1990	1997	2111	5.7%	1.1%	2.6%
Greece	410	399	416	436	464	483	489	462	445	476	442	-7.2%	0.7%	0.5%
Hungary	122	120	131	130	133	131	141	137	135	134	129	-4.0%	0.6%	0.2%
Ireland	61	57	55	68	64	64	61	51	57	61	60	-0.7%	-0.2%	0.1%
Italy	1475	1259	1198	1347	1293	1399	1346	1355	1105	1224	1316	7.6%	-1.1%	1.6%
Lithuania	181	192	160	170	187	197	195	191	157	160	165	3.6%	-0.9%	0.2%
Netherlands	1110	1065	1090	1157	1172	1180	1192	1217	1103	1151	1129	-1.9%	0.2%	1.4%
Norway	287	292	274	293	230	281	305	265	237	222	152	-31.6%	-6.2%	0.2%
Poland	505	488	486	532	517	508	540	546	516	497	579	16.4%	1.4%	0.7%
Portugal	221	239	217	278	279	284	252	223	218	191	204	6.8%	-0.8%	0.2%
Romania	182	189	194	208	228	225	232	244	206	193	234	21.5%	2.5%	0.3%
Slovakia	108	116	105	119	115	112	109	103	112	111	108	-2.0%	0.0%	0.1%
Spain	1186	1168	1185	1306	1302	1326	1363	1318	1105	1143	1273	11.4%	0.7%	1.6%
Sweden	417	332	380	401	395	392	406	337	349	366	369	0.8%	-1.2%	0.5%
Switzerland	68	97	98	56	59	57	61	55	56	46	61	32.2%	-1.1%	0.1%
Türkiye	398	421	406	526	531	542	472	673	655	691	736	6.6%	6.3%	0.9%
Ukraine	108	85	69	64	64	77	59	64	68	73	53	-26.7%	-6.8%	0.1%
United Kingdom	1348	1197	1125	1118	1071	1073	1041	1044	880	889	1018	14.5%	-2.8%	1.2%
Other Europe	132	136	128	141	148	165	166	123	110	114	120	5.3%	-0.9%	0.1%
Total Europe	12793	12173	12082	12810	12666	13032	12764	12713	11455	11700	12379	5.8%	-0.3%	15.1%
Azerbaijan	124	132	135	130	120	118	122	124	118	133	139	4.3%	1.1%	0.2%
Belarus	434	425	448	462	372	364	366	359	326	315	307	-2.6%	-3.4%	0.4%
Kazakhstan	331	341	361	342	339	355	374	392	367	391	457	17.0%	3.3%	0.6%
Russian Federation	5438	5636	5926	5773	5715	5703	5864	5824	5504	5723	5533	-3.3%	0.2%	6.8%
Turkmenistan	156	146	136	127	118	125	117	122	118	120	124	3.3%	-2.3%	0.2%
Uzbekistan	62	61	50	57	57	58	70	60	57	46	48	3.7%	-2.4%	0.1%
Other CIS	2	2	4	7	8	9	11	7	4	7	7	9.8%	11.8%	0.0%
Total CIS	6548	6742	7060	6899	6730	6732	6924	6889	6494	6735	6616	-1.8%	0.1%	8.1%
Bahrain	263	264	257	266	258	262	260	264	230	223	251	12.9%	-0.4%	0.3%
Iran	1933	2000	1941	1868	1875	1897	2087	2101	2193	2344	2397	2.2%	2.2%	2.9%
Iraq	579	598	487	409	440	527	596	633	536	510	572	12.2%	-0.1%	0.7%
Israel	220	221	226	232	213	223	238	242	243	234	235	0.1%	0.7%	0.3%
Kuwait	916	873	879	905	841	686	679	663	539	643	807	25.7%	-1.2%	1.0%
Oman	193	187	180	190	178	232	304	257	221	253	262	3.5%	3.1%	0.3%
Qatar	292	270	261	253	280	379	397	396	366	381	415	9.1%	3.6%	0.5%
Saudi Arabia	1953	1876	2201	2447	2753	2802	2770	2649	2397	2766	2940	6.3%	4.2%	3.6%
United Arab Emirates	638	650	643	1098	1078	1119	1096	1037	936	939	983	4.7%	4.4%	1.2%
Other Middle East	268	238	230	181	144	161	153	159	144	136	163	19.6%	-4.9%	0.2%
Total Middle East	7254	7177	7306	7847	8059	8287	8579	8400	7805	8429	9026	7.1%	2.2%	11.0%
Algeria	478	492	615	591	584	573	601	569	585	588	606	3.0%	2.4%	0.7%
Egypt	534	514	530	530	509	508	522	565	605	600	629	4.8%	1.6%	0.8%
Morocco	111	111	105	53	—	—	—	—	—	—	—	—	-100.0%	0.0%
Nigeria	92	97	64	22	62	81	35	7	0	3	6	128.9%	-23.5%	0.0%
South Africa	413	422	440	453	474	447	455	396	262	282	292	3.6%	-3.4%	0.4%
Other Africa	586	594	444	453	459	429	446	422	324	420	379	-9.6%	-4.3%	0.5%
Total Africa	2214	2230	2197	2101	2087	2038	2059	1980	1777	1892	1912	1.0%	-1.5%	2.3%
Australia	600	588	538	427	433	419	474	465	388	286	228	-20.4%	-9.2%	0.3%
Bangladesh	24	27	24	25	23	28	25	28	22	31	28	-10.9%	1.5%	0.0%
China	9199	9599	10165	10824	11304	11844	12574	13433	13824	14461	13892	-3.9%	4.2%	17.0%
India	4302	4462	4475	4561	4930	5010	5154	5119	4493	4792	5082	6.0%	1.7%	6.2%
Indonesia	820	822	848	836	885	885	916	918	826	824	845	2.4%	0.3%	1.0%
Japan	3400	3453	3289	3258	3280	3214	3059	3046	2492	2488	2694	8.3%	-2.3%	3.3%
Malaysia	575	557	552	514	574	570	566	586	491	571	584	2.2%	0.2%	0.7%
New Zealand	109	105	101	109	107	108	103	110	76	74	18	-75.6%	-16.5%	0.0%
Pakistan	192	223	232	257	242	261	275	243	210	240	240	0.0%	2.3%	0.3%
Philippines	170	158	168	212</td										



Oil Refining capacity

Thousand barrels daily*												Growth rate per annum		Share
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022
Canada	2015	1929	1929	1931	1934	1970	1939	2054	2065	1954	1954	0.0%	-0.3%	1.9%
Mexico	1606	1606	1522	1522	1522	1546	1558	1558	1558	1558	0.0%	-0.3%	1.5%	
US	17823	17925	17967	18317	18617	18598	18808	18974	18143	17941	18061	0.7%	0.1%	17.7%
Total North America	21443	21460	21418	21770	22073	22113	22305	22586	21766	21453	21573	0.6%	0.1%	21.2%
Argentina	657	657	657	657	657	657	580	580	580	580	580	0.0%	-1.2%	0.6%
Brazil	2004	2097	2238	2281	2289	2285	2285	2290	2290	2303	2304	0.1%	1.4%	2.3%
Chile	242	242	242	242	242	242	242	242	242	242	242	0.0%	0.0%	0.2%
Colombia	336	336	336	421	421	421	421	421	421	421	421	0.0%	2.3%	0.4%
Curacao	320	320	320	320	320	320	320	320	320	320	320	0.0%	0.0%	0.3%
Ecuador	175	175	175	175	175	175	175	175	175	175	186	6.3%	0.6%	0.2%
Netherlands Antilles	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0%
Peru	252	253	253	253	253	253	253	253	276	283	2.5%	1.2%	0.3%	
Trinidad & Tobago	175	175	175	175	175	175	175	175	175	175	0.0%	0.0%	0.2%	
Venezuela	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303	0.0%	0.0%	1.3%
Other S. & Cent. America	490	655	670	678	678	678	678	678	858	583	403	-30.9%	-1.9%	0.4%
Total S. & Cent. America	5954	6213	6369	6505	6513	6509	6432	6437	6617	6378	6217	-2.5%	0.4%	6.1%
Austria	193	193	193	193	193	193	193	193	193	193	193	0.0%	0.0%	0.2%
Belgium	753	776	776	776	776	776	776	776	645	645	0.0%	-1.5%	0.6%	
Bulgaria	195	195	195	195	195	195	195	195	195	195	0.0%	0.0%	0.2%	
Czech Republic	175	175	175	175	175	175	175	175	175	175	175	0.0%	0.0%	0.2%
Denmark	181	181	180	180	180	181	181	181	181	181	181	0.0%	0.0%	0.2%
Finland	261	261	261	261	261	261	261	261	204	204	0.0%	-2.5%	0.2%	
France	1513	1375	1375	1375	1245	1245	1245	1245	1140	1140	0.0%	-2.8%	1.1%	
Germany	2097	2061	2077	2049	2051	2069	2062	2062	2121	2121	0.0%	0.1%	2.1%	
Greece	498	498	528	528	528	528	528	528	528	528	0.0%	0.6%	0.5%	
Hungary	165	165	165	165	165	165	165	165	165	165	0.0%	0.0%	0.2%	
Ireland	75	75	75	75	75	75	75	75	75	75	0.0%	0.0%	0.1%	
Italy	2098	1861	1900	1900	1900	1900	1900	1900	1900	1794	-5.6%	-1.6%	1.8%	
Lithuania	241	241	241	241	241	241	241	241	240	240	0.0%	0.0%	0.2%	
Netherlands	1279	1279	1279	1298	1298	1299	1299	1291	1244	1241	0.2%	-0.3%	1.2%	
Norway	342	342	342	342	342	342	342	342	226	226	0.0%	-4.1%	0.2%	
Poland	582	582	582	581	581	568	581	581	581	581	0.0%	0.0%	0.6%	
Portugal	330	330	330	330	330	330	330	330	225	225	0.0%	-3.8%	0.2%	
Romania	214	235	228	239	256	247	254	252	239	252	0.0%	1.7%	0.2%	
Slovakia	122	122	122	122	122	122	122	122	122	122	0.0%	0.0%	0.1%	
Spain	1546	1546	1546	1562	1562	1562	1564	1586	1586	1591	0.0%	0.3%	1.6%	
Sweden	454	454	454	454	454	454	454	454	454	454	0.0%	0.0%	0.4%	
Switzerland	106	140	140	68	68	68	68	68	68	68	0.0%	-4.3%	0.1%	
Türkiye	596	596	596	596	596	818	822	822	822	822	0.0%	3.3%	0.8%	
Ukraine	314	272	258	250	250	250	250	250	250	250	0.0%	-2.3%	0.2%	
United Kingdom	1526	1498	1337	1337	1227	1227	1227	1227	1251	1251	0.0%	-2.0%	1.2%	
Other Europe	460	410	410	410	393	355	355	311	311	311	0.0%	-3.8%	0.3%	
Total Europe	16315	15863	15735	15703	15482	15460	15660	15678	15597	15151	15048	-0.7%	-0.8%	14.8%
Azerbaijan	325	325	325	325	205	120	120	120	135	150	11.1%	-7.4%	0.1%	
Belarus	460	460	460	460	490	520	520	520	520	520	0.0%	1.2%	0.5%	
Kazakhstan	330	350	350	350	360	390	400	400	400	480	20.0%	3.8%	0.5%	
Russian Federation	5767	6229	6366	6472	6543	6545	6551	6676	6736	6861	6821	-0.6%	1.7%	6.7%
Turkmenistan	251	251	251	271	271	271	271	271	271	271	0.0%	0.8%	0.3%	
Other CIS	16	18	35	44	45	48	48	51	61	73	73	0.0%	16.2%	0.1%
Total CIS	7381	7865	8019	8154	8226	8151	8132	8270	8340	8492	8547	0.6%	1.5%	8.4%
Bahrain	260	260	260	260	260	260	260	260	260	260	0.0%	0.0%	0.3%	
Iran	2042	2075	2075	2075	2220	2330	2495	2475	2610	2670	2.3%	2.7%	2.6%	
Iraq	971	917	791	763	779	849	919	919	919	919	0.0%	-0.5%	0.9%	
Israel	292	294	301	301	301	301	301	301	301	301	0.0%	0.3%	0.3%	
Kuwait	936	936	936	936	936	736	736	736	800	800	1118	39.8%	1.8%	1.1%
Oman	222	222	222	222	222	304	304	304	304	304	0.0%	3.2%	0.3%	
Qatar	283	283	283	283	429	429	429	429	429	429	0.0%	4.2%	0.4%	
Saudi Arabia	2107	2507	2899	2899	2901	2826	2835	2905	2947	2977	3312	11.3%	4.6%	3.3%
United Arab Emirates	712	712	728	1149	1149	1229	1229	1307	1331	1246	1246	0.0%	5.8%	1.2%
Other Middle East	496	496	496	496	496	496	496	496	496	496	0.0%	0.0%	0.5%	
Total Middle East	8321	8702	8991	9384	9548	9580	9769	10152	10262	10342	11055	6.9%	2.9%	10.8%
Algeria	652	647	651	651	651	657	657	657	657	657	0.0%	0.1%	0.6%	
Egypt	810	810	810	810	810	795	795	795	795	825	3.8%	0.2%	0.8%	
Morocco	201	201	201	201	201	201	201	201	200	200	0.0%	0.0%	0.2%	
Nigeria	446	446	449	449	449	449	454	460	475	475	0.0%	0.6%	0.5%	
South Africa	520	520	520	520	520	520	520	520	395	384	-2.8%	-3.0%	0.4%	
Other Africa	1014	724	726	726	726	706	687	687	697	731	4.9%	-3.2%	0.7%	
Total Africa	3643	3347	3357	3357	3343	3314	3320	3319	3219	3272	1.6%	-1.1%	3.2%	
Australia	663	662	536	443	452	454	454	455	456	311	235	-24.4%	-9.9%	0.2%
Bangladesh	40	43	43	43	43	43	43	48	43	43	0.0%	0.7%	0.0%	
China	13681	14503	15253	15024	14895	15231	15655	16199	16691	16990	17259	1.6%	2.4%	16.9%
India	4279	4319	4319	4307	4620	4699	4972	4994	5018	5005	5045	0.8%	1.7%	5.0%
Indonesia	1099	1099	1099	1111	1111	1111	1094	1111	1094	1094	1104	1.0%	0.0%	1.1%
Japan	4254	4123	3749	3721	3600	3343	3343	3343	3285	3285	3164	-3.7%	-2.9%	3.1%
Malaysia	606	612	612	612	618	625	625	625	625	955	955	0.0%	4.7%	0.9%
New Zealand	136	136	136	136	136	136	136	136	136	76	-43.7%	-5.6%	0.1%	
Pakistan	275	390	390	389	389	401	401	401	411	411	0.0%	4.1%	0.4%	
Philippines	261	270	271	271	271	271	271	271	180	180	0.0%	-3.7%	0.2%	
Singapore	1422	1414	1514	1514	1514	1514	1514	1514	1461	1302	-10.9%	-0.9%	1.3%	
South Korea	2878	2878	3123	3128	3259	3298	3346	3393	3334	3363	3363	0.0%	1.6%	3.3%
Taiwan	1197	1197</td												



Oil Trade movements

Thousand barrels daily	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012-22	
Imports														
US	10587	9859	9241	9451	10056	10147	9928	9142	7865	8475	8330	-1.7%	-2.4%	12.1%
Europe	12721	12920	12957	14005	14337	14968	14338	14324	12817	12929	14383	11.2%	1.2%	20.9%
China	6675	6978	7398	8333	9215	10241	11028	11873	13032	12724	12156	-4.5%	6.2%	17.7%
India	4168	4370	4155	4396	4945	4920	5196	5394	4898	5302	5752	8.5%	3.3%	8.4%
Japan	4743	4637	4383	4332	4180	4142	3940	3780	3310	3350	3465	3.4%	-3.1%	5.0%
Rest of World	17812	20012	21193	22915	28418	25625	25580	25694	23064	23776	24729	4.0%	3.3%	35.9%
Total World	56706	58776	59328	63431	71151	70043	70009	70207	64986	66557	68815	3.4%	2.0%	100.0%
Exports														
Canada	3056	3296	3536	3837	3889	4233	4498	4666	4418	4663	4699	0.8%	4.4%	6.8%
Mexico	1366	1347	1293	1321	1405	1283	1302	1252	1247	1216	1172	-3.6%	-1.5%	1.7%
US	2682	3563	4033	4562	5082	5881	7039	8010	8138	7959	8761	10.1%	12.6%	12.7%
S. & Cent. America	3830	3790	3939	4103	5736	3993	3711	3457	3503	3003	2959	-1.5%	-2.5%	4.3%
Europe	2181	2545	2467	3065	4834	3384	3349	3225	2822	2983	2684	-10.0%	2.1%	3.9%
Russia	7457	7948	7792	8434	8811	8981	8026	8090	7398	7816	7948	1.7%	0.6%	11.5%
Other CIS	1962	2166	2092	2045	2097	2232	2051	2107	2070	2110	1976	-6.3%	0.1%	2.9%
Saudi Arabia	8468	8365	7911	8008	8729	8352	8462	8349	8011	7780	8874	14.1%	0.5%	12.9%
Middle East (ex Saudi Arabia)	11742	12242	12699	13977	15902	16208	16038	14943	13685	14160	15387	8.7%	2.7%	22.4%
North Africa	2602	2127	1743	1747	1736	2594	2765	2794	1837	2335	2073	-11.2%	-2.2%	3.0%
West Africa	4724	4590	4849	4889	4458	4490	4516	4743	4243	3921	3557	-9.3%	-2.8%	5.2%
Asia Pacific (ex Japan)	6299	6307	6450	5895	6348	6549	6440	6603	6150	6625	6548	-1.2%	0.4%	9.5%
Rest of World	338	491	524	1549	2124	1863	1811	1968	1463	1986	2177	9.6%	20.5%	3.2%
Total World	56706	58776	59328	63431	71151	70043	70009	70207	64986	66557	68815	3.4%	2.0%	100.0%

Notes: Unless otherwise stated, this table shows inter-regional trade based on the regional classification in the table 'Oil trade in 2019 and 2020'.

Does not include biofuels trade. Bunker fuel use is not included as exports.

Annual changes and shares of total are calculated using thousand barrels daily figures.



Oil Trade in 2021 and 2022

Million tonnes	2021				2022			
	Crude imports	Product imports	Crude exports	Product exports	Crude imports	Product imports	Crude exports	Product exports
Canada	24.0	30.6	197.6	33.3	23.7	27.9	200.3	32.3
Mexico	†	58.6	52.8	7.4	†	59.6	49.4	8.6
US	304.4	112.9	139.6	246.6	312.6	98.2	172.9	253.0
S. & Cent. America	22.1	104.3	124.8	23.8	24.4	115.8	117.2	28.9
Europe	448.2	187.9	214.2	107.4	501.3	206.5	19.6	109.5
Russia	†	1.9	244.1	139.4	0.1	1.7	264.7	125.9
Other CIS	15.9	6.5	87.1	17.3	16.2	7.6	85.7	12.2
Iraq	†	10.2	176.0	14.4	†	9.0	191.0	12.5
Kuwait	†	3.1	92.3	20.8	†	2.5	90.3	29.8
Saudi Arabia	0.1	15.9	323.5	61.4	0.9	12.9	364.8	74.1
United Arab Emirates	7.2	27.9	144.2	81.7	5.0	39.8	172.9	89.5
Other Middle East	18.1	19.7	99.4	68.7	16.3	22.5	92.2	79.4
North Africa	9.9	30.6	88.5	26.7	8.3	34.1	76.5	25.7
West Africa	0.5	42.6	186.7	8.2	0.7	53.1	169.7	7.1
East & S. Africa	12.1	45.8	4.4	43.3	6.8	53.6	1.7	1.9
Australasia	14.9	29.0	9.2	5.4	10.3	48.1	8.9	4.3
China	526.0	103.4	1.6	60.5	508.2	93.3	1.3	54.1
India	213.7	48.3	0.1	75.1	231.2	53.1	†	83.3
Japan	122.1	43.0	0.4	11.0	132.5	38.5	0.4	16.9
Singapore	47.0	91.8	1.2	68.9	44.4	72.5	0.5	72.3
Other Asia Pacific	261.9	202.3	38.1	134.0	286.3	196.5	49.0	125.1
Total World	2048.2	1216.2	2048.2	1216.2	2129.1	1246.6	2129.1	1246.6

Thousand barrels daily	2021				2022			
	Crude imports	Product imports	Crude exports	Product exports	Crude imports	Product imports	Crude exports	Product exports
Canada	482	639	3967	695	475	583	4023	676
Mexico	†	1226	1060	155	†	1247	992	181
US	6114	2361	2804	5155	6278	2052	3472	5289
S. & Cent. America	443	2180	2506	497	491	2421	2354	605
Europe	9001	3928	738	2245	10068	4316	394	2290
Russia	†	39	4903	2913	1	36	5315	2633
Other CIS	320	135	1748	361	325	158	1721	256
Iraq	†	212	3534	302	†	189	3836	261
Kuwait	†	64	1854	434	†	53	1814	623
Saudi Arabia	3	333	6496	1284	19	270	7325	1549
United Arab Emirates	144	583	2895	1709	100	831	3471	1871
Other Middle East	364	411	1997	1435	326	471	1852	1660
North Africa	198	640	1776	559	166	713	1536	536
West Africa	10	891	3749	172	14	1110	3408	148
East & S. Africa	243	958	88	90	137	1120	34	39
Australasia	300	606	186	112	207	1005	180	90
China	10562	2162	31	1266	10206	1950	27	1131
India	4293	1010	1	1570	4642	1109	†	1741
Japan	2451	899	8	229	2661	804	9	354
Singapore	944	1920	23	1441	891	1516	10	1512
Other Asia Pacific	5260	4228	765	2801	5749	4107	983	2616
Total World	41132	25424	41132	25424	42756	26059	42756	26059

† Less than 0.05.

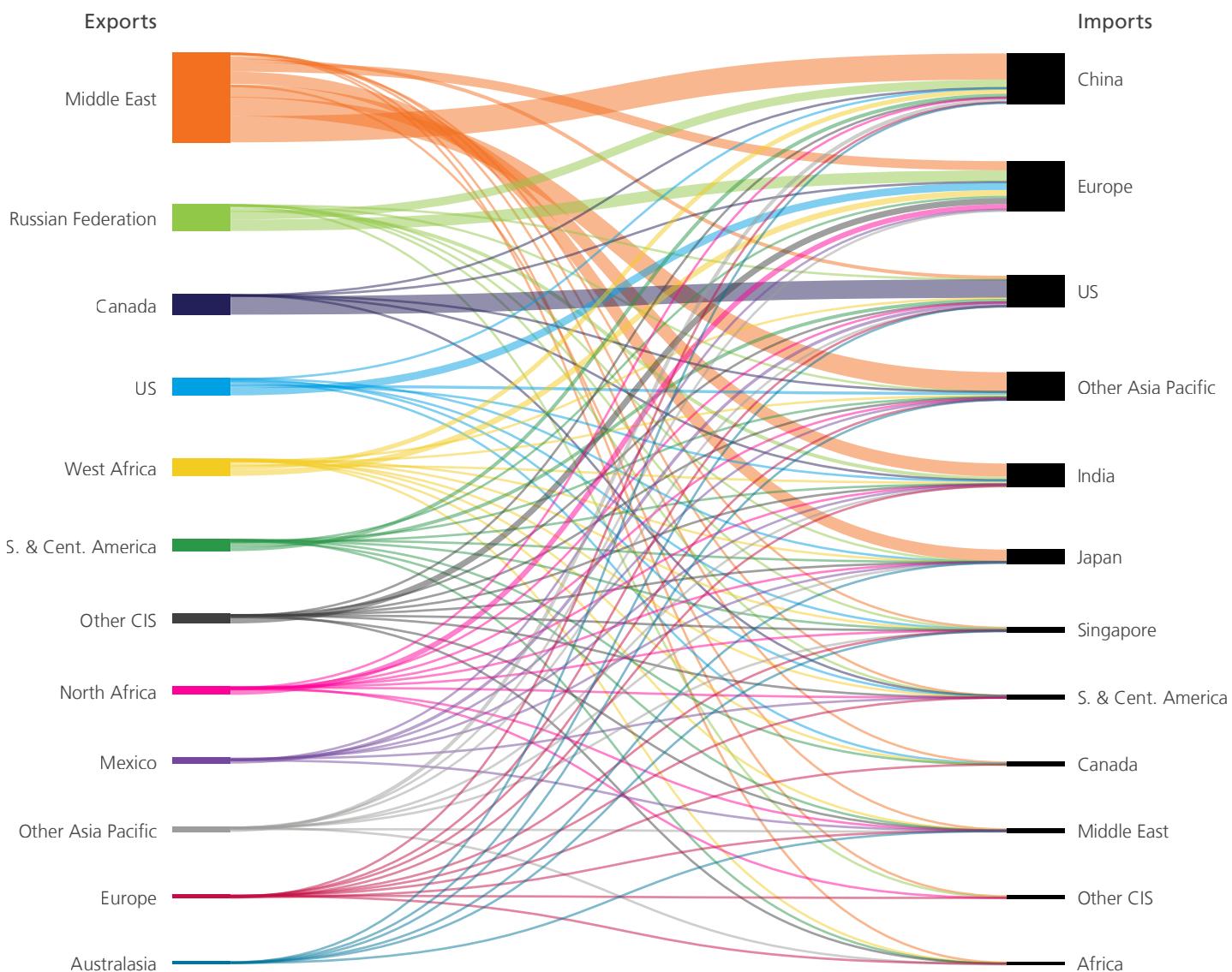
‡ Less than 0.5.

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 2022 – Crude trade



International trade of crude oil was 2.1 billion tonnes in 2022, an increase of around 4% over 2021. The Middle East dominated exports accounting for 43% of the total followed by Russia at 12%. On the import side, the Asia Pacific

region accounted for nearly 60% of the total. China, India, and Japan were responsible for nearly 75% of the regions' total. At 0.5 billion tonnes, Europe was the second largest destination, representing around 24% of the total.



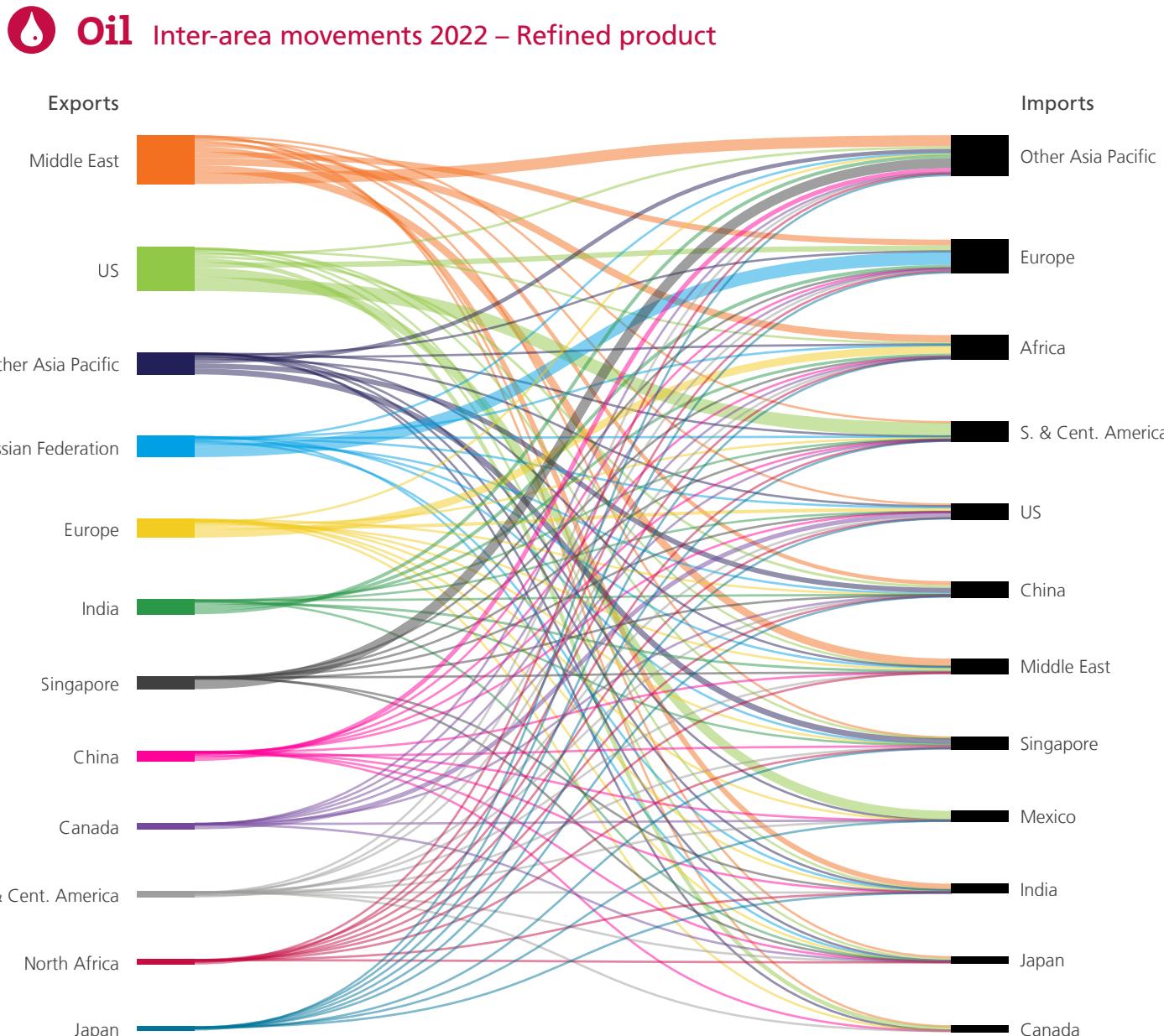
Oil Inter-area movements 2022 – Crude trade

From	Crude (million tonnes)													Total		
	Canada	Mexico	S. & Cent. America	Europe	Russia	Other CIS	Middle East	Africa	Australasia	China	India	Japan	Singapore			
Canada	–	–	188.9	0.3	6.3	–	–	†	†	–	4.0	0.2	–	†	0.5 200.3	
Mexico	–	–	31.7	0.1	6.1	–	–	0.1	–	–	5.1	0.6	–	–	5.7 49.4	
US	16.8	–	–	10.6	77.7	–	†	–	†	1.1	7.9	16.9	1.3	10.6	30.0 172.9	
S. & Cent. America	0.6	†	35.1	–	22.8	†	–	0.1	2.6	0.6	–	37.3	6.9	2.8	3.5	5.0 117.2
Europe	0.3	†	2.9	0.6	–	†	0.1	0.1	0.1	0.2	–	8.2	4.2	–	0.8	2.1 19.6
Russia	–	–	1.0	0.7	116.9	–	15.9	–	†	0.4	86.2	37.0	1.9	0.1	4.4	264.7 264.7
Other CIS	†	–	1.1	0.3	62.7	†	–	3.8	0.7	0.2	6.0	0.8	0.1	0.2	9.7	85.7 85.7
Iraq	–	–	12.2	–	53.4	†	†	0.2	1.3	–	55.5	52.4	–	1.3	14.7	191.0 191.0
Kuwait	†	–	1.3	–	†	–	–	†	3.2	–	33.3	11.7	11.2	†	29.6	90.3 90.3
Saudi Arabia	4.0	–	22.7	4.7	38.8	–	0.1	11.7	5.4	–	87.5	40.2	52.5	5.3	91.9	364.8 364.8
UAE	–	–	0.6	†	1.5	†	–	†	0.1	1.2	42.8	22.5	49.2	12.4	42.6	172.9 172.9
Other Middle East	†	–	0.1	†	0.6	–	†	1.6	†	–	48.7	7.2	11.5	4.5	18.1	92.2 92.2
North Africa	–	–	4.8	1.1	54.1	–	0.1	0.3	†	1.1	3.9	4.0	0.1	0.6	6.5	76.5 76.5
West Africa	2.0	–	10.0	6.0	59.5	†	†	1.3	4.1	0.5	46.5	19.4	0.1	1.0	19.3	169.7 169.7
East & S. Africa	†	–	†	†	0.7	†	–	†	†	–	0.4	–	0.1	0.1	0.3	1.7 1.7
Australasia	–	–	0.1	†	†	–	–	0.2	†	–	2.0	–	0.3	2.5	3.8	8.9 8.9
China	–	–	–	–	–	–	–	–	–	–	–	–	–	†	1.3	1.3 1.3
India	†	–	–	†	†	–	–	†	†	–	–	–	–	†	†	† †
Japan	†	–	–	†	†	–	–	†	†	–	–	–	–	–	0.4	0.4 0.4
Singapore	–	–	–	†	†	–	–	†	†	–	0.1	†	–	–	0.4	0.5 0.5
Other Asia Pacific	†	–	0.2	†	0.1	–	–	0.2	0.1	5.8	37.9	2.5	0.8	1.4	–	49.0 49.0
Total Imports	23.7	†	312.6	24.4	501.3	0.1	16.2	22.2	15.8	10.3	508.2	231.2	132.5	44.4	286.3	2129.1

† 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.



At 1.2 billion tonnes, international trade of refined product was around 40% that of crude oil in terms of volume and only 2.5% higher than it recorded in 2021. Between them, the Middle East and the US accounted for 45% of the total exports at 0.29 and 0.25 billion tonnes respectively. At 0.5

billion tonnes, Asia Pacific region accounted for around 40% of total imports. Europe was the second largest importer of refined products at 0.2 billion tonnes, 60% below Asia Pacific region.

Oil Inter-area movements 2022 – Refined product

From	Product (million tonnes)													Other Asia Pacific	Total	
	Canada	Mexico	S. & Cent. America	Europe	Russia	Other CIS	Middle East	Africa Australasia	China	India	Japan	Singapore				
Canada	–	0.1	26.8	1.0	0.6	†	†	0.1	†	0.7	†	2.0	†	1.1	32.3	
Mexico	–	–	8.1	0.1	0.1	–	†	†	0.1	†	†	†	0.1	†	8.6	
US	24.1	55.8	–	81.4	32.2	†	†	2.0	9.7	0.9	15.5	5.7	11.0	0.6	253.0	
S. & Cent. America	0.1	0.5	7.1	–	4.9	†	†	0.6	3.2	†	3.3	0.6	0.9	6.0	1.6	
Europe	2.9	2.0	20.5	11.8	–	0.4	1.5	9.4	47.0	0.1	2.0	2.5	0.8	4.1	109.5	
Russia	†	†	6.1	3.7	76.4	–	5.6	6.5	2.6	†	9.6	7.3	0.2	1.7	6.3	
Other CIS	†	†	0.6	0.1	7.6	0.9	–	0.3	1.0	†	0.4	†	–	0.4	1.0	
Iraq	–	–	3.2	†	2.4	†	†	0.5	0.1	–	0.5	2.1	–	0.5	3.2	
Kuwait	0.3	–	0.8	0.4	5.1	–	†	3.9	2.9	0.2	1.4	3.4	2.0	0.1	9.4	
Saudi Arabia	†	–	4.9	1.8	13.3	†	†	14.5	16.4	†	2.1	9.1	1.4	1.6	8.8	
UAE	†	–	1.3	3.0	6.9	†	†	8.8	16.2	0.1	11.0	9.5	4.8	5.4	22.5	
Other Middle East	†	†	1.7	0.8	7.1	†	0.2	17.9	7.2	0.2	8.8	7.3	4.2	1.5	22.4	
North Africa	†	–	2.3	0.8	11.7	†	†	0.7	0.4	†	1.4	0.1	0.7	1.0	6.7	
West Africa	†	†	0.9	1.2	2.1	†	†	†	0.8	†	1.0	†	–	0.1	7.1	
East & S. Africa	†	†	†	0.1	0.3	†	†	0.3	0.6	†	†	†	†	0.3	0.1	
Australasia	†	†	–	0.1	0.9	†	†	0.1	†	–	0.6	†	1.5	0.3	4.3	
China	0.1	0.5	0.3	4.2	6.3	0.2	0.1	1.5	5.1	2.3	–	0.6	0.6	7.7	24.5	
India	†	†	3.3	2.8	20.3	†	†	15.2	16.9	4.7	0.5	–	0.5	3.3	15.7	
Japan	†	0.5	1.3	0.8	0.9	†	†	†	0.1	3.4	1.1	0.1	–	3.1	5.5	
Singapore	†	†	1.0	0.7	1.9	†	†	1.0	2.3	12.5	3.1	2.1	0.6	–	47.1	
Other Asia Pacific	0.2	0.3	8.0	0.9	5.5	0.1	0.2	3.5	7.9	23.7	30.3	2.5	7.3	34.7	125.1	
Total imports	27.9	59.6	98.2	115.8	206.5	1.7	7.6	86.8	140.8	48.1	93.3	53.1	38.5	72.5	196.5	1246.6

† 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 Production in billion cubic metres*

Billion cubic metres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum	Share	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022
Canada	150.3	151.9	159.0	160.8	165.0	171.3	176.8	169.6	165.6	172.3	185.0	7.4%	2.1%	4.6%
Mexico	50.9	52.5	51.3	47.9	43.7	38.3	37.9	36.7	35.5	38.4	40.4	5.2%	-2.3%	1.0%
US	649.1	655.7	704.7	740.3	727.4	746.2	840.9	928.1	916.1	944.1	978.6	3.6%	4.2%	24.2%
Total North America	850.3	860.1	915.0	949.0	936.0	955.7	1055.6	1134.4	1117.2	1154.9	1203.9	4.2%	3.5%	29.8%
Argentina	36.7	34.6	34.5	35.5	37.3	37.1	39.4	41.6	38.3	38.6	41.6	7.7%	1.3%	1.0%
Bolivia	16.9	19.6	20.4	20.1	18.9	18.6	17.3	15.1	14.7	15.1	13.4	-11.5%	-2.3%	0.3%
Brazil	19.8	21.9	23.3	23.8	24.1	27.2	25.2	25.7	24.2	24.3	23.0	-5.6%	1.5%	0.6%
Colombia	11.5	13.2	12.3	11.6	12.0	11.8	12.4	12.6	12.5	12.6	12.4	-1.1%	0.8%	0.3%
Peru	12.0	12.4	13.1	12.7	14.0	13.0	12.8	13.5	12.2	11.5	13.8	20.5%	1.5%	0.3%
Trinidad & Tobago	38.5	38.7	38.1	36.0	31.3	31.9	34.0	34.6	29.5	24.7	26.0	5.1%	-3.9%	0.6%
Venezuela	31.9	30.6	31.8	36.1	37.2	38.6	31.6	25.6	21.6	28.1	29.2	4.0%	-0.9%	0.7%
Other S. & Cent. America	3.0	2.7	2.6	2.9	3.1	3.1	3.0	3.2	2.7	2.6	2.6	3.2%	-1.2%	0.1%
Total S. & Cent. America	170.3	173.8	176.2	178.6	178.0	181.3	175.7	171.9	155.5	157.5	162.0	2.9%	-0.5%	4.0%
Denmark	6.0	5.0	4.8	4.8	4.7	5.1	4.3	3.2	1.4	1.5	1.5	0.2%	-13.1%	†
Germany	9.5	8.6	8.1	7.5	6.9	6.4	5.5	5.3	4.5	4.5	4.3	-6.2%	-7.7%	0.1%
Italy	8.2	7.4	6.8	6.4	5.5	5.3	5.2	4.6	3.9	3.2	3.2	-0.8%	-9.1%	0.1%
Netherlands	68.4	72.4	60.4	45.9	44.3	37.9	32.5	27.7	20.1	18.0	15.1	-16.5%	-14.0%	0.4%
Norway	113.9	107.9	107.5	116.1	115.9	123.7	121.3	114.3	111.5	114.3	122.8	7.5%	0.8%	3.0%
Poland	4.5	4.4	4.3	4.3	4.1	4.0	4.0	4.0	3.9	3.9	4.0	3.0%	-1.3%	0.1%
Romania	10.1	10.0	10.2	10.2	9.1	10.0	10.0	9.6	8.6	8.6	8.8	2.3%	-1.3%	0.2%
Ukraine	19.4	20.2	20.2	18.8	19.0	19.4	19.7	19.4	19.1	18.7	17.5	-6.6%	-1.0%	0.4%
United Kingdom	39.2	37.0	37.4	40.7	41.7	41.9	40.6	39.3	39.6	32.8	38.2	16.4%	-0.3%	0.9%
Other Europe	8.4	7.2	6.3	6.1	8.7	9.0	8.4	7.4	6.3	5.4	5.1	-5.5%	-4.9%	0.1%
Total Europe	287.5	280.0	266.1	260.8	259.9	262.7	251.5	234.8	218.9	211.0	220.4	4.5%	-2.6%	5.4%
Azerbaijan	16.8	17.5	18.4	18.8	18.3	17.8	18.8	23.9	25.9	31.8	34.1	7.3%	7.3%	0.8%
Kazakhstan	29.0	30.4	32.8	27.1	30.9	36.4	39.2	33.5	30.6	26.7	26.0	-2.8%	-1.1%	0.6%
Russian Federation	601.9	614.5	591.2	584.4	589.3	635.6	669.1	679.0	638.4	702.1	618.4	-11.9%	0.3%	15.3%
Turkmenistan	59.0	59.0	63.5	65.9	63.2	58.7	61.5	63.2	66.0	79.3	78.3	-1.3%	2.9%	1.9%
Uzbekistan	56.5	55.9	56.3	53.6	53.1	53.6	58.3	57.5	47.1	50.9	48.9	-4.0%	-1.4%	1.2%
Other CIS	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-10.7%	-1.1%	†
Total CIS	763.5	777.6	762.4	750.2	755.1	802.3	847.2	857.4	808.4	891.2	805.9	-9.6%	0.5%	19.9%
Bahrain	13.1	14.0	14.7	14.6	14.4	14.5	14.6	16.3	16.4	17.2	17.1	-0.7%	2.7%	0.4%
Iran	156.9	157.5	175.5	183.5	199.3	213.9	224.9	232.9	249.5	256.7	259.4	1.1%	5.2%	6.4%
Iraq	6.3	7.1	7.5	7.3	9.9	10.1	10.6	11.0	7.0	9.1	9.4	3.5%	4.0%	0.2%
Kuwait	14.7	15.5	14.3	16.1	16.4	16.2	16.9	13.3	12.2	12.1	13.4	10.4%	-1.0%	0.3%
Oman	28.3	30.8	29.3	30.7	31.5	32.3	36.3	36.7	36.9	40.2	42.1	4.6%	4.0%	1.0%
Qatar	162.5	167.9	169.4	175.9	174.8	170.5	175.2	177.2	174.9	177.0	178.4	0.8%	0.9%	4.4%
Saudi Arabia	94.4	95.0	97.3	99.2	105.3	109.3	112.1	111.2	113.1	114.5	120.4	5.2%	2.5%	3.0%
Syria	6.1	5.0	4.6	4.1	3.5	3.5	3.5	3.3	2.9	3.1	3.1	-0.2%	-6.6%	0.1%
United Arab Emirates	52.9	53.2	52.9	58.6	59.5	54.3	52.9	56.2	50.6	58.3	58.0	-0.6%	0.9%	1.4%
Yemen	7.6	10.4	9.8	2.9	0.5	0.3	0.1	0.1	0.1	0.1	0.1	-	-33.4%	†
Other Middle East	2.5	6.3	7.3	8.1	9.0	9.5	10.1	10.3	15.0	17.9	20.0	11.4%	23.0%	0.5%
Total Middle East	545.5	562.6	582.6	600.9	624.3	634.4	657.2	668.3	678.8	706.2	721.3	2.1%	2.8%	17.8%
Algeria	78.4	79.3	80.2	81.4	91.4	93.0	93.8	87.0	81.4	101.1	98.2	-2.9%	2.3%	2.4%
Egypt	58.6	54.0	47.0	42.6	40.3	48.8	58.6	64.9	58.5	67.8	64.5	-4.9%	1.0%	1.6%
Libya	11.6	12.2	11.8	14.7	14.8	13.6	13.2	13.5	12.4	14.5	14.8	2.4%	2.5%	0.4%
Nigeria	39.2	33.1	40.0	47.6	42.6	47.2	48.3	49.3	49.4	45.2	40.4	-10.6%	0.3%	1.0%
Other Africa	18.9	20.5	20.7	21.8	22.8	27.0	27.9	28.4	29.8	30.4	31.1	2.1%	5.1%	0.8%
Total Africa	206.7	199.0	199.6	208.1	211.9	229.5	241.8	243.0	231.4	259.0	249.0	-3.9%	1.9%	6.2%
Australia	58.3	60.6	65.3	74.3	94.1	110.3	127.4	146.1	145.9	148.2	152.8	3.1%	10.1%	3.8%
Bangladesh	21.3	22.0	23.0	25.9	26.5	26.6	26.6	25.3	23.7	23.6	23.3	-1.5%	0.9%	0.6%
Brunei	12.3	11.9	12.7	13.3	12.9	12.9	12.6	13.0	12.6	11.5	10.6	-8.2%	-1.4%	0.3%
China	111.5	121.8	131.2	135.7	137.9	149.2	161.4	176.7	194.0	209.2	221.8	6.0%	7.1%	5.5%
India	37.3	31.1	29.4	28.1	26.6	27.7	27.5	26.9	23.8	28.5	29.8	4.4%	-2.2%	0.7%
Indonesia	78.3	77.6	76.4	76.2	75.1	72.7	72.8	67.6	59.5	59.3	57.7	-2.7%	-3.0%	1.4%
Malaysia	69.3	72.6	72.2	76.8	76.7	79.6	76.1	77.5	72.2	78.0	82.4	5.7%	1.8%	2.0%
Myanmar	12.5	12.9	16.5	19.2	18.3	17.8	17.0	18.5	17.5	17.2	16.9	-1.7%	3.0%	0.4%
Pakistan	36.6	35.6	35.0	35.0	34.7	34.7	34.2	32.7	30.6	32.7	28.7	-12.2%	-2.4%	0.7%
Thailand	38.4	38.9	39.1	37.5	37.3	35.9	34.7	35.8	32.7	31.5	25.6	-18.7%	-4.0%	0.6%
Vietnam	9.0	9.4	9.9	10.3	10.2	9.5	9.7	9.8	8.8	7.2	7.8	8.3%	-1.5%	0.2%
Other Asia Pacific	17.7	18.2	23.1	27.9	29.0	29.2	26.9	28.7	29.0	26.8	23.8	-11.0%	3.0%	0.6%
Total Asia Pacific	502.4	512.5	533.7	560.2	579.2	606.0	626.8	658.5	650.4	673.8	681.3	1.1%	3.1%	16.8%
Total World	3326.2	3365.7	3435.6	3507.8	3544.5	3671.9	3855.8	3968.4	3860.6	4053.4	4043.8	-0.2%	2.0%	100.0%
of which: OECD	1187.3	1196.8	1242.5	1281.2	1289.8	1328.2	1434.5	1516.9	1488.7	1523.5	1589.1	4.3%	3.0%	39.3%
Non-OECD	2138.8	2168.9	2193.1	2226.7	2254.7	2343.7	2421.3	2451.6	2371.9	2529.9	2454.7	-3.0%	1.4%	60.7%
European Union [#]	113.9	113.9	99.9	84.3	82.3	76.8	69.0	61.0	47.8	44.3	41.1	-7.2%	-9.7%	1.0%

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%.

Excludes Estonia, Latvia and Lithuania prior to 1985 and Croatia and Slovenia prior to 1990.

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/m³, 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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share	
												2022	2012–22		
Canada	5.41	5.47	5.72	5.79	5.94	6.17	6.36	6.11	5.96	6.20	6.66	7.4%	2.1%	4.6%	
Mexico	1.83	1.89	1.85	1.73	1.57	1.38	1.36	1.32	1.28	1.38	1.45	5.2%	-2.3%	1.0%	
US	23.37	23.60	25.37	26.65	26.18	26.86	30.27	33.41	32.98	33.99	35.23	3.6%	4.2%	24.2%	
Total North America	30.61	30.96	32.94	34.16	33.70	34.41	38.00	40.84	40.22	41.57	43.34	4.2%	3.5%	29.8%	
Argentina	1.32	1.24	1.24	1.28	1.34	1.34	1.42	1.50	1.38	1.39	1.50	7.7%	1.3%	1.0%	
Bolivia	0.61	0.70	0.74	0.72	0.68	0.67	0.62	0.54	0.53	0.55	0.48	-11.5%	-2.3%	0.3%	
Brazil	0.71	0.79	0.84	0.86	0.87	0.98	0.91	0.93	0.87	0.88	0.83	-5.6%	1.5%	0.6%	
Colombia	0.41	0.48	0.44	0.42	0.43	0.42	0.45	0.45	0.45	0.45	0.45	-1.1%	0.8%	0.3%	
Peru	0.43	0.45	0.47	0.46	0.50	0.47	0.46	0.49	0.44	0.41	0.50	20.5%	1.5%	0.3%	
Trinidad & Tobago	1.39	1.39	1.37	1.29	1.13	1.15	1.22	1.24	1.06	0.89	0.94	5.1%	-3.9%	0.6%	
Venezuela	1.15	1.10	1.14	1.30	1.34	1.39	1.14	0.92	0.78	1.01	1.05	4.0%	-0.9%	0.7%	
Other S. & Cent. America	0.11	0.10	0.09	0.10	0.11	0.11	0.11	0.12	0.10	0.09	0.10	3.2%	-1.2%	0.1%	
Total S. & Cent. America	6.13	6.26	6.34	6.43	6.41	6.53	6.33	6.19	5.60	5.67	5.83	2.9%	-0.5%	4.0%	
Denmark	0.22	0.18	0.17	0.17	0.18	0.15	0.12	0.05	0.05	0.05	0.05	0.2%	-13.1%	†	
Germany	0.34	0.31	0.29	0.27	0.25	0.23	0.20	0.19	0.16	0.16	0.15	-6.2%	-7.7%	0.1%	
Italy	0.30	0.27	0.25	0.23	0.20	0.19	0.19	0.17	0.14	0.11	0.11	-0.8%	-9.1%	0.1%	
Netherlands	2.46	2.61	2.17	1.65	1.59	1.37	1.17	1.00	0.72	0.65	0.54	-16.5%	-14.0%	0.4%	
Norway	4.10	3.89	3.87	4.18	4.17	4.45	4.37	4.11	4.01	4.12	4.42	7.5%	0.8%	3.0%	
Poland	0.16	0.16	0.16	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14	3.0%	-1.3%	0.1%	
Romania	0.36	0.36	0.37	0.37	0.33	0.36	0.36	0.35	0.31	0.31	0.32	2.3%	-1.3%	0.2%	
Ukraine	0.70	0.73	0.73	0.68	0.68	0.70	0.71	0.70	0.69	0.67	0.63	-6.6%	-1.0%	0.4%	
United Kingdom	1.41	1.33	1.35	1.46	1.50	1.51	1.46	1.41	1.42	1.18	1.37	16.4%	-0.3%	0.9%	
Other Europe	0.30	0.26	0.23	0.22	0.31	0.32	0.30	0.27	0.23	0.19	0.18	-5.5%	-4.9%	0.1%	
Total Europe	10.35	10.08	9.58	9.39	9.36	9.46	9.05	8.45	7.88	7.59	7.93	4.5%	-2.6%	5.4%	
Azerbaijan	0.61	0.63	0.66	0.68	0.66	0.64	0.68	0.86	0.93	1.15	1.23	7.3%	7.3%	0.8%	
Kazakhstan	1.04	1.10	1.18	0.98	1.11	1.31	1.41	1.21	1.10	0.96	0.93	-2.8%	-1.1%	0.6%	
Russian Federation	21.67	22.12	21.28	21.04	21.21	22.88	24.09	24.44	22.98	25.28	22.26	-11.9%	0.3%	15.3%	
Turkmenistan	2.12	2.12	2.29	2.37	2.28	2.11	2.21	2.27	2.38	2.85	2.82	-1.3%	2.9%	1.9%	
Uzbekistan	2.03	2.01	2.03	1.93	1.91	1.93	2.10	2.07	1.70	1.83	1.76	-4.0%	-1.4%	1.2%	
Other CIS	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-10.7%	-1.1%	†	
Total CIS	27.49	27.99	27.45	27.01	27.19	28.88	30.50	30.87	29.10	32.08	29.01	-9.6%	0.5%	19.9%	
Bahrain	0.47	0.50	0.53	0.53	0.52	0.52	0.53	0.59	0.62	0.62	0.62	-0.7%	2.7%	0.4%	
Iran	5.65	5.67	6.32	6.61	7.18	7.70	8.10	8.38	8.98	9.24	9.34	1.1%	5.2%	6.4%	
Iraq	0.23	0.25	0.27	0.26	0.36	0.36	0.38	0.39	0.25	0.33	0.34	3.5%	4.0%	0.2%	
Kuwait	0.53	0.56	0.51	0.58	0.59	0.58	0.61	0.48	0.44	0.44	0.48	10.4%	-1.0%	0.3%	
Oman	1.02	1.11	1.06	1.11	1.13	1.16	1.31	1.32	1.33	1.45	1.52	4.6%	4.0%	1.0%	
Qatar	5.85	6.04	6.10	6.33	6.29	6.14	6.31	6.38	6.30	6.37	6.42	0.8%	0.9%	4.4%	
Saudi Arabia	3.40	3.42	3.50	3.57	3.79	3.93	4.04	4.00	4.07	4.12	4.33	5.2%	2.5%	3.0%	
Syria	0.22	0.18	0.17	0.15	0.13	0.13	0.12	0.11	0.11	0.11	0.11	-0.2%	-6.6%	0.1%	
United Arab Emirates	1.91	1.92	1.90	2.11	2.14	1.95	1.91	2.02	2.10	2.09	2.09	-0.6%	0.9%	1.4%	
Yemen	0.27	0.37	0.35	0.10	0.02	0.01	^	^	^	^	^	-	-33.4%	†	
Other Middle East	0.09	0.23	0.26	0.29	0.33	0.34	0.36	0.37	0.54	0.65	0.72	11.4%	23.0%	0.5%	
Total Middle East	19.64	20.25	20.97	21.63	22.47	22.84	23.66	24.06	24.44	25.42	25.97	2.1%	2.8%	17.8%	
Algeria	2.82	2.86	2.89	2.93	3.29	3.35	3.38	3.13	2.93	3.64	3.53	-2.9%	2.3%	2.4%	
Egypt	2.11	1.94	1.69	1.53	1.45	1.76	2.11	2.34	2.10	2.44	2.32	-4.9%	1.0%	1.6%	
Libya	0.42	0.44	0.43	0.53	0.53	0.49	0.47	0.49	0.44	0.52	0.53	2.4%	2.5%	0.4%	
Nigeria	1.41	1.19	1.44	1.71	1.53	1.70	1.74	1.77	1.78	1.63	1.45	-10.6%	0.3%	1.0%	
Other Africa	0.68	0.74	0.74	0.78	0.82	0.97	1.01	1.02	1.07	1.10	1.12	2.1%	5.1%	0.8%	
Total Africa	7.44	7.17	7.19	7.49	7.63	8.26	8.70	8.75	8.33	9.32	8.96	-3.9%	1.9%	6.2%	
Australia	2.10	2.18	2.35	2.67	3.39	3.97	4.59	5.26	5.25	5.34	5.50	3.1%	10.1%	3.8%	
Bangladesh	0.77	0.79	0.83	0.93	0.95	0.96	0.96	0.91	0.85	0.85	0.84	-1.5%	0.9%	0.6%	
Brunei	0.44	0.43	0.46	0.48	0.47	0.46	0.45	0.47	0.46	0.42	0.38	-8.2%	-1.4%	0.3%	
China	4.01	4.39	4.72	4.88	4.97	5.37	5.81	6.36	6.98	7.53	7.99	6.0%	7.1%	5.5%	
India	1.34	1.12	1.06	1.01	0.96	1.00	0.99	0.97	0.86	1.03	1.07	4.4%	-2.2%	0.7%	
Indonesia	2.82	2.79	2.75	2.74	2.70	2.62	2.62	2.43	2.14	2.13	2.08	-2.7%	-3.0%	1.4%	
Malaysia	2.49	2.61	2.60	2.77	2.76	2.86	2.74	2.79	2.60	2.81	2.97	5.7%	1.8%	2.0%	
Myanmar	0.45	0.46	0.60	0.69	0.66	0.64	0.61	0.67	0.63	0.62	0.61	-1.7%	3.0%	0.4%	
Pakistan	1.32	1.28	1.26	1.26	1.25	1.25	1.23	1.18	1.10	1.18	1.03	-12.2%	-2.4%	0.7%	
Thailand	1.38	1.40	1.41	1.35	1.34	1.29	1.25	1.29	1.18	1.13	0.92	-18.7%	-4.0%	0.6%	
Vietnam	0.32	0.34	0.35	0.37	0.37	0.34	0.35	0.35	0.32	0.26	0.28	8.3%	-1.5%	0.2%	
Other Asia Pacific	0.64	0.66	0.83	1.01	1.04	1.05	0.97	1.03	1.04	0.96	0.86	-11.0%	3.0%	0.6%	
Total Asia Pacific	18.09	18.45	19.21	20.17	20.85	21.82	22.57	23.71	23.41	24.26	24.53	1.1%	3.1%	16.8%	
Total World	119.74	121.16	123.68	126.28	127.60	132.19	138.81	142.86	138.98	145.92	145.58	-0.2%	2.0%	100.0%	
of which:	OECD	42.74	43.08	44.73	46.12	46.43	47.81	51.64	54.61	53.59	54.85	57.21	4.3%	3.0%	39.3%
Non-OECD	77.00	78.08	78.95	80.16	81.17	84.37	87.17	88.26	85.39	91.08	88.37	-3.0%	1.4%	60.7%	
European Union [#]	4.10	4.10	3.60	3.03	2.96	2.76	2.48	2.19	1.72	1.60	1.48	-7.2%	-9.7%	1.0%	

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 0.005.

† Less than 0.05%.

Excludes Estonia, Latvia and Lithuania prior to 1985 and Croatia and Slovenia prior to 1990.

Notes: Annual changes and shares of total are calculated using exajoules figures.



Natural gas Consumption in billion cubic metres*

Billion cubic metres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum	Share
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22
Canada	99.4	105.4	109.8	110.3	105.2	109.8	116.2	116.9	113.6	117.0	121.6	4.0%	2.0%
Mexico	73.7	77.8	78.8	80.8	83.0	86.0	90.3	93.4	94.5	97.3	96.6	-0.8%	2.7%
US	688.1	707.0	722.3	743.6	749.1	740.0	822.0	851.0	832.9	835.8	881.2	5.4%	2.5%
Total North America	861.2	890.3	911.0	934.7	937.3	935.8	1028.4	1061.3	1041.0	1050.1	1099.4	4.7%	2.5%
Argentina	45.7	46.0	46.2	46.7	48.2	48.3	48.7	46.6	43.9	45.9	45.7	-0.5%	1.2%
Brazil	32.6	38.4	40.7	42.9	37.1	37.6	35.9	35.7	31.4	40.4	32.0	-20.9%	0.8%
Chile	5.3	5.3	4.4	4.8	5.9	5.6	5.6	6.5	6.2	6.8	7.5	9.3%	3.5%
Colombia	9.5	10.5	11.4	11.2	12.1	11.8	12.7	12.9	13.1	12.6	12.6	-0.3%	2.9%
Ecuador	0.7	0.9	0.9	0.8	0.9	0.8	0.7	0.6	0.6	0.6	0.5	-5.6%	-3.0%
Peru	6.9	6.7	7.4	7.6	8.5	7.5	8.0	8.2	7.1	8.0	9.6	19.9%	3.4%
Trinidad & Tobago	20.2	20.4	20.5	19.6	16.9	18.3	17.4	17.5	15.2	15.6	15.1	-3.5%	-2.9%
Venezuela	34.6	32.3	34.0	37.0	37.2	38.6	31.6	25.6	21.6	28.1	29.2	4.0%	-1.7%
Central America	—	—	—	—	—	—	0.2	0.5	0.4	0.3	0.6	122.9%	—
Other Caribbean	3.2	3.6	3.7	3.7	3.8	3.6	4.1	5.0	4.6	5.8	5.3	-8.6%	5.2%
Other South America	3.1	3.3	3.5	3.4	3.6	3.9	4.0	3.9	3.3	3.7	3.7	-1.2%	1.7%
Total S. & Cent. America	161.8	167.3	172.6	177.8	174.3	176.2	169.0	162.9	147.5	167.9	161.7	-3.7%	4.1%
Austria	8.6	8.2	7.5	8.0	8.3	9.1	8.7	8.9	8.5	9.0	7.9	-12.2%	-0.9%
Belgium	16.7	16.5	14.5	15.8	16.2	16.4	16.9	17.4	17.0	17.0	14.6	-14.2%	-1.4%
Bulgaria	2.9	2.8	2.7	3.0	3.1	3.2	3.0	2.8	2.9	3.3	2.7	-18.1%	-0.5%
Croatia	2.8	2.7	2.3	2.4	2.5	2.9	2.7	2.8	2.9	2.8	2.4	-13.7%	0.1%
Cyprus	—	—	—	—	—	—	—	—	—	—	—	—	—
Czech Republic	8.0	8.1	7.2	7.5	8.2	8.4	8.0	8.3	8.5	9.1	7.4	-18.7%	-0.8%
Denmark	4.1	3.8	3.3	3.3	3.4	3.2	3.1	2.9	2.3	2.4	1.7	-28.3%	-8.3%
Estonia	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	-25.5%	—
Finland	3.2	3.0	2.7	2.3	2.0	1.8	2.1	2.0	2.1	2.1	1.1	-47.9%	-10.3%
France	44.4	45.1	37.9	40.8	44.5	44.8	42.8	43.7	40.6	43.0	38.4	-10.8%	-1.5%
Germany	81.1	85.0	73.9	77.0	84.9	87.7	85.9	89.3	87.1	91.7	77.3	-15.7%	-0.5%
Greece	4.7	4.1	3.2	3.4	4.4	5.4	5.2	5.8	6.3	7.0	6.2	-11.2%	0.2%
Hungary	9.7	9.1	8.1	8.7	9.3	9.9	9.6	9.8	10.2	10.8	9.2	-15.1%	-0.6%
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	4.7	4.5	4.3	4.4	4.9	5.0	5.2	5.3	5.3	5.1	5.2	2.0%	1.0%
Italy	71.4	66.7	59.0	64.3	67.5	71.6	69.2	70.8	67.6	72.4	65.3	-9.8%	-0.9%
Latvia	1.4	1.4	1.3	1.3	1.3	1.2	1.4	1.3	1.1	1.2	0.8	-30.1%	-5.5%
Lithuania	3.1	2.5	2.4	2.4	2.1	2.2	2.2	2.2	2.4	2.2	1.6	-27.9%	-6.3%
Luxembourg	1.2	1.0	1.0	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.6	-21.4%	—
Netherlands	39.3	39.1	34.3	33.8	35.1	36.3	35.6	37.1	36.1	34.9	27.1	-22.2%	-3.6%
North Macedonia	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.4	0.3	-35.5%	7.2%
Norway	4.0	4.0	4.3	4.5	4.4	4.6	4.4	4.6	4.4	4.2	4.0	-5.4%	0.1%
Poland	17.4	17.4	17.0	17.1	18.3	19.2	19.9	20.9	21.1	22.4	17.9	-19.9%	0.3%
Portugal	4.6	4.3	4.1	4.8	5.1	6.3	5.8	6.1	6.0	5.8	5.6	-3.5%	0.1%
Romania	12.5	11.4	10.9	10.4	10.5	11.3	11.6	10.8	11.3	11.6	9.8	-15.6%	-2.5%
Slovakia	5.1	5.3	4.4	4.5	4.5	4.8	4.7	4.8	4.8	5.3	5.1	-2.8%	0.1%
Slovenia	0.8	0.8	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.8	-11.8%	-0.4%
Spain	33.2	30.3	27.5	28.5	29.1	31.7	31.5	36.0	32.5	34.3	33.1	-3.6%	0.8%
Sweden	1.1	1.0	0.8	0.9	1.0	1.0	1.0	1.0	1.0	1.1	0.7	-30.9%	-3.6%
Switzerland	3.4	3.6	3.1	3.3	3.5	3.5	3.3	3.4	3.3	3.6	3.0	-17.8%	-1.4%
Turkey	43.3	44.0	46.6	46.0	44.5	51.6	47.2	43.4	46.2	57.3	51.2	-10.6%	1.7%
Ukraine	51.8	47.7	40.3	32.0	31.4	30.2	30.6	28.3	29.3	27.3	19.3	-29.3%	-9.4%
United Kingdom	76.9	76.3	70.1	72.0	80.7	78.5	78.6	77.7	73.1	77.8	72.0	-7.5%	0.7%
Other Europe	3.9	4.2	4.1	4.5	4.6	5.3	5.3	5.5	5.5	6.0	6.2	3.5%	0.2%
Total Europe	566.2	554.8	500.2	509.2	537.9	559.5	548.0	555.2	541.7	573.1	498.8	-13.0%	-1.3%
Azerbaijan	9.4	9.4	9.9	11.1	10.9	10.6	10.8	11.8	12.4	12.8	12.1	-5.6%	2.6%
Belarus	19.4	19.3	19.1	17.9	17.8	18.2	19.3	19.2	17.8	18.8	18.5	-1.6%	0.5%
Kazakhstan	10.7	11.2	14.8	13.8	15.0	16.7	16.7	19.7	17.7	21.6	21.7	0.4%	7.3%
Russian Federation	428.6	424.9	422.2	408.7	420.6	431.1	454.5	444.3	423.5	474.6	408.0	-14.0%	-0.5%
Turkmenistan	22.9	19.3	20.0	25.4	25.1	24.8	28.4	27.7	34.3	36.8	37.5	2.1%	1.0%
Uzbekistan	46.2	46.2	48.5	46.3	43.3	44.8	44.4	44.6	43.6	46.5	48.3	3.9%	0.4%
Other CIS	5.7	4.8	5.3	5.2	5.1	5.9	5.6	5.9	5.8	5.1	5.1	-13.0%	-1.2%
Total CIS	543.0	535.0	539.8	528.4	538.0	551.2	580.0	572.9	555.0	616.9	551.2	-10.6%	0.2%
Iran	152.5	153.8	173.4	184.0	196.3	205.0	212.6	218.4	236.8	236.5	228.9	-3.2%	4.1%
Iraq	6.3	7.1	7.5	7.3	9.9	11.4	14.6	19.5	18.5	16.8	18.9	12.0%	0.5%
Israel	2.4	6.6	7.2	8.1	9.2	9.9	10.5	10.8	11.3	11.7	11.3	-3.2%	16.5%
Kuwait	17.5	17.8	17.9	20.3	21.1	21.0	21.2	18.4	17.9	19.8	21.8	10.3%	2.2%
Oman	19.7	21.7	21.3	23.0	22.9	23.4	25.0	25.0	25.9	28.0	28.5	2.0%	3.8%
Qatar	33.6	35.3	38.4	43.4	41.4	41.2	40.7	41.9	38.5	40.0	36.7	-8.3%	0.9%
Saudi Arabia	94.4	95.0	97.3	99.2	105.3	109.3	112.1	111.2	113.1	114.5	120.4	5.2%	2.5%
United Arab Emirates	63.9	64.7	63.4	71.5	71.9	67.2	66.1	69.7	64.7	70.8	69.8	-1.3%	0.9%
Other Middle East	20.6	21.3	20.9	22.5	23.1	23.2	22.0	23.2	23.3	24.1	24.3	0.7%	0.6%
Total Middle East	411.0	423.4	447.4	479.3	501.2	511.6	524.8	537.9	549.9	562.1	560.6	-0.3%	3.2%
Algeria	29.9	32.1	36.1	37.9	38.6	39.5	43.4	45.1	43.4	47.7	44.3	-7.2%	4.0%
Egypt	50.6	49.5	46.2	46.0	49.4	55.9	59.6	59.0	58.3	62.2	60.7	-2.3%	1.5%
Morocco	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.8	0.8	0.2	-71.8%	-15.8%
South Africa	4.4	4.1	4.3	4.3	3.7	4.0	4.4	4.3	4.0	4.6	4.6	-1.2%	0.5%
Eastern Africa	1.1	1.1	1.3	1.6	2.0	2.0	2.1	2.4	2.3	2.7	2.9	7.0%	0.1%
Middle Africa	3.7	4.1	4.0	4.3	5.5	5.5	5.5	5.1	5.3	5.9	5.3	-10.6%	3.7%
Western Africa	13.0	12.7	16.0	23.9	21.1	22.1	23.6	24.3	25.9	27.2	26.5	-2.7%	7.4%
Other Northern Africa	10.9	12.3	11.3	13.4	15.7	14.8	14.8	14.0	13.7	17.3	18.0	3.9%	5.1%
Other Southern Africa	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Africa	114.8	117.1	120.3	132.7	137.1	145.0	154.4	155.2	153.7	168.5	162.5	-3.5%	3.5%
Australia	33.3	35.0	37.6	39.0	38.0	37.3	37.2	44.1	42.5	39.9	41.6	4.3%	2.3%
Bangladesh</													



Natural gas Consumption in exajoules*

Exajoules	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	3.58	3.80	3.95	3.97	3.79	3.95	4.18	4.21	4.09	4.21	4.38	4.0%	2.1%	3.1%
Mexico	2.65	2.80	2.84	2.91	2.99	3.10	3.25	3.36	3.40	3.50	3.48	-0.8%	2.8%	2.5%
US	24.77	25.45	26.00	26.77	26.97	26.64	29.59	30.64	29.98	30.09	31.72	5.4%	2.5%	22.4%
Total North America	31.00	32.05	32.79	33.65	33.74	33.69	37.02	38.21	37.48	37.80	39.58	4.7%	2.5%	27.9%
Argentina	1.64	1.66	1.66	1.68	1.74	1.74	1.75	1.68	1.65	1.65	1.64	-0.5%	†	1.2%
Brazil	1.17	1.38	1.46	1.55	1.34	1.35	1.29	1.29	1.13	1.46	1.15	-20.9%	-0.2%	0.8%
Chile	0.19	0.19	0.16	0.17	0.21	0.20	0.20	0.23	0.22	0.25	0.27	9.3%	3.5%	0.2%
Colombia	0.34	0.38	0.41	0.40	0.43	0.43	0.46	0.46	0.47	0.45	0.45	-0.3%	2.9%	0.3%
Ecuador	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	-5.6%	-3.0%	†
Peru	0.25	0.24	0.27	0.28	0.31	0.27	0.29	0.30	0.26	0.29	0.35	19.9%	3.5%	0.2%
Trinidad & Tobago	0.73	0.73	0.74	0.71	0.61	0.66	0.63	0.63	0.55	0.56	0.54	-3.5%	-2.9%	0.4%
Venezuela	1.25	1.16	1.22	1.33	1.34	1.39	1.14	0.92	0.78	1.01	1.05	4.0%	-1.7%	0.7%
Central America	—	—	—	—	—	—	—	0.01	0.02	0.01	0.02	122.9%	—	†
Other Caribbean	0.12	0.13	0.13	0.13	0.14	0.13	0.15	0.18	0.17	0.21	0.19	-8.6%	5.2%	0.1%
Other South America	0.11	0.12	0.13	0.12	0.13	0.14	0.14	0.14	0.12	0.13	0.13	-1.2%	1.7%	0.1%
Total S. & Cent. America	5.82	6.02	6.21	6.40	6.27	6.34	6.08	5.86	5.31	6.04	5.82	-3.7%	†	4.1%
Austria	0.31	0.30	0.27	0.29	0.30	0.33	0.31	0.32	0.31	0.32	0.28	-12.2%	-0.9%	0.2%
Belgium	0.60	0.60	0.52	0.57	0.58	0.59	0.61	0.63	0.61	0.61	0.52	-14.2%	-1.4%	0.4%
Bulgaria	0.10	0.10	0.10	0.11	0.11	0.12	0.11	0.10	0.11	0.12	0.10	-18.1%	-0.5%	0.1%
Croatia	0.10	0.10	0.08	0.09	0.09	0.10	0.10	0.10	0.11	0.10	0.09	-13.7%	-1.4%	0.1%
Cyprus	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Czech Republic	0.29	0.29	0.26	0.27	0.29	0.30	0.29	0.30	0.30	0.33	0.27	-18.7%	-0.8%	0.2%
Denmark	0.15	0.14	0.12	0.12	0.12	0.11	0.10	0.08	0.09	0.06	0.06	-28.3%	-8.3%	†
Estonia	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	-25.5%	-5.5%	†
Finland	0.12	0.11	0.10	0.08	0.07	0.07	0.08	0.07	0.07	0.07	0.04	-47.9%	-10.3%	†
France	1.60	1.63	1.36	1.47	1.60	1.61	1.54	1.57	1.46	1.55	1.38	-10.8%	-1.5%	1.0%
Germany	2.92	3.06	2.66	2.77	3.06	3.16	3.09	3.21	3.14	3.30	2.78	-15.7%	-0.5%	2.0%
Greece	0.17	0.15	0.11	0.12	0.16	0.19	0.19	0.21	0.23	0.25	0.22	-11.2%	2.8%	0.2%
Hungary	0.35	0.33	0.29	0.31	0.34	0.36	0.35	0.35	0.37	0.39	0.33	-15.1%	-0.6%	0.2%
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	0.17	0.16	0.16	0.16	0.18	0.18	0.19	0.19	0.19	0.18	0.19	2.0%	1.0%	0.1%
Italy	2.57	2.40	2.12	2.32	2.43	2.58	2.49	2.55	2.43	2.61	2.35	-9.8%	-0.9%	1.7%
Latvia	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.04	0.04	0.04	0.03	-30.1%	-5.5%	†
Lithuania	0.11	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.06	-27.9%	-6.3%	†
Luxembourg	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	-21.4%	-6.7%	†
Netherlands	1.41	1.41	1.24	1.22	1.27	1.31	1.28	1.34	1.30	1.26	0.98	-22.2%	-3.6%	0.7%
North Macedonia	^	0.01	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-35.5%	7.2%	†
Norway	0.14	0.14	0.15	0.16	0.16	0.17	0.16	0.16	0.16	0.15	0.14	-5.4%	-0.1%	0.1%
Poland	0.63	0.63	0.61	0.62	0.66	0.69	0.72	0.75	0.76	0.81	0.65	-19.9%	0.3%	0.5%
Portugal	0.16	0.16	0.15	0.17	0.18	0.23	0.21	0.22	0.22	0.21	0.20	-3.5%	2.1%	0.1%
Romania	0.45	0.41	0.39	0.37	0.38	0.41	0.42	0.39	0.41	0.42	0.35	-15.6%	-2.5%	0.2%
Slovakia	0.18	0.19	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.19	0.19	-2.8%	0.1%	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	-11.8%	-0.4%	†
Spain	1.20	1.09	0.99	1.03	1.05	1.14	1.13	1.30	1.17	1.24	1.19	-3.6%	†	0.8%
Sweden	0.04	0.04	0.03	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.03	-30.9%	-3.6%	†
Switzerland	0.12	0.13	0.11	0.12	0.13	0.13	0.12	0.12	0.12	0.13	0.11	-17.8%	-1.4%	0.1%
Turkey	1.56	1.58	1.68	1.65	1.60	1.86	1.70	1.56	1.66	2.06	1.84	-10.6%	1.7%	1.3%
Ukraine	1.87	1.72	1.45	1.15	1.13	1.09	1.10	1.02	1.06	0.98	0.69	-29.3%	-9.4%	0.5%
United Kingdom	2.77	2.75	2.52	2.59	2.90	2.83	2.83	2.80	2.63	2.80	2.59	-7.5%	-0.7%	1.8%
Other Europe	0.14	0.15	0.15	0.16	0.17	0.19	0.19	0.20	0.20	0.22	0.22	3.5%	4.6%	0.2%
Total Europe	20.38	19.97	18.01	18.33	19.36	20.14	19.73	19.99	19.50	20.63	17.96	-13.0%	-1.3%	12.7%
Azerbaijan	0.34	0.34	0.35	0.40	0.39	0.38	0.39	0.42	0.45	0.46	0.44	-5.6%	2.6%	0.3%
Belarus	0.70	0.69	0.64	0.64	0.66	0.70	0.69	0.64	0.68	0.66	0.66	-1.6%	-0.5%	0.5%
Kazakhstan	0.39	0.40	0.53	0.50	0.54	0.60	0.60	0.71	0.64	0.78	0.78	0.4%	7.3%	0.6%
Russian Federation	15.43	15.30	15.20	14.71	15.14	15.52	16.36	16.00	15.25	17.09	14.69	-14.0%	-0.5%	10.4%
Turkmenistan	0.83	0.70	0.72	0.91	0.90	0.89	1.02	1.00	1.23	1.32	1.35	2.1%	5.0%	1.0%
Uzbekistan	1.66	1.66	1.75	1.67	1.56	1.61	1.60	1.61	1.57	1.67	1.74	3.9%	0.4%	1.2%
Other CIS	0.21	0.17	0.19	0.19	0.18	0.21	0.20	0.21	0.21	0.21	0.18	-13.0%	-1.2%	0.1%
Total CIS	19.55	19.26	19.43	19.02	19.37	19.84	20.88	20.62	19.98	22.21	19.84	-10.6%	0.2%	14.0%
Iran	5.49	5.54	6.24	6.62	7.07	7.38	7.66	7.86	8.52	8.51	8.24	-3.2%	4.1%	5.8%
Iraq	0.23	0.25	0.27	0.26	0.36	0.41	0.53	0.70	0.67	0.61	0.68	12.0%	11.5%	0.5%
Israel	0.09	0.24	0.26	0.29	0.33	0.36	0.38	0.39	0.41	0.42	0.41	-3.2%	16.5%	0.3%
Kuwait	0.63	0.64	0.64	0.73	0.76	0.76	0.76	0.66	0.64	0.71	0.78	10.3%	2.2%	0.6%
Oman	0.71	0.78	0.77	0.83	0.82	0.84	0.90	0.90	0.93	1.01	1.03	2.0%	3.8%	0.7%
Qatar	1.21	1.27	1.38	1.56	1.49	1.48	1.47	1.51	1.39	1.44	1.32	-8.3%	0.9%	0.9%
Saudi Arabia	3.40	3.42	3.50	3.57	3.79	3.93	4.04	4.00	4.07	4.12	4.33	5.2%	2.5%	3.1%
United Arab Emirates	2.30	2.33	2.28	2.57	2.59	2.42	2.38	2.51	2.33	2.55	2.51	-1.3%	0.9%	1.8%
Other Middle East	0.74	0.77	0.81	0.83	0.84	0.79	0.83	0.84	0.87	0.87	0.87	0.7%	1.7%	0.6%
Total Middle East	14.80	15.24	16.11	17.26	18.04	18.42	18.89	19.36	19.80	20.23	20.18	-0.3%	3.2%	14.2%
Algeria	1.08	1.16	1.30	1.37	1.42	1.56	1.62	1.56	1.72	1.59	1.59	-7.2%	4.0%	1.1%
Egypt	1.82	1.78	1.66	1.66	2.01	2.15	2.13	2.10	2.24	2.19	2.19	-2.3%	1.8%	1.5%
Morocco	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.01	-71.8%	-15.8%	†
South Africa	0.16	0.15	0.15	0.16	0.13	0.14	0.16	0.15	0.14					



Natural gas Prices

US dollars per million Btu	LNG			Natural gas				
	Japan CIF ¹	Japan Korea Marker (JKM) ²	Average German Import price ³	UK NBP (ICIS NBP Index) ⁴	Netherlands TTF (DA ICIS – Heren TTF index) ⁴	US Henry Hub	Canada (Alberta) ⁵	
1984	5.10	–	4.00	–	–	–	–	
1985	5.23	–	4.25	–	–	–	–	
1986	4.10	–	3.93	–	–	–	–	
1987	3.35	–	2.55	–	–	–	–	
1988	3.34	–	2.22	–	–	–	–	
1989	3.28	–	2.00	–	–	1.70	–	
1990	3.64	–	2.78	–	–	1.64	1.05	
1991	3.99	–	3.23	–	–	1.49	0.89	
1992	3.62	–	2.70	–	–	1.77	0.98	
1993	3.52	–	2.51	–	–	2.12	1.69	
1994	3.18	–	2.35	–	–	1.92	1.45	
1995	3.46	–	2.43	–	–	1.69	0.89	
1996	3.66	–	2.50	1.87	–	2.76	1.12	
1997	3.91	–	2.66	1.96	–	2.53	1.36	
1998	3.05	–	2.33	1.86	–	2.08	1.42	
1999	3.14	–	1.86	1.58	–	2.27	2.00	
2000	4.72	–	2.91	2.71	–	4.23	3.75	
2001	4.64	–	3.67	3.17	–	4.07	3.61	
2002	4.27	–	3.21	2.37	–	3.33	2.57	
2003	4.77	–	4.06	3.33	–	5.63	4.83	
2004	5.18	–	4.30	4.46	–	5.85	5.03	
2005	6.05	–	5.83	7.38	6.07	8.79	7.25	
2006	7.13	–	7.87	7.87	7.46	6.76	5.83	
2007	7.73	–	7.99	6.01	5.93	6.95	6.17	
2008	12.55	–	11.60	10.79	10.66	8.85	7.99	
2009	9.06	5.28	8.53	4.85	4.96	3.89	3.38	
2010	10.93	7.72	8.03	6.56	6.77	4.39	3.69	
2011	14.77	14.02	10.49	9.04	9.26	4.01	3.47	
2012	16.75	15.12	10.93	9.46	9.45	2.76	2.27	
2013	16.17	16.56	10.73	10.64	9.75	3.71	2.93	
2014	16.33	13.86	9.11	8.25	8.14	4.35	3.87	
2015	10.27	7.45	6.72	6.53	6.44	2.60	2.01	
2016	6.93	5.72	4.93	4.69	4.54	2.46	1.55	
2017	8.10	7.13	5.62	5.80	5.72	2.96	1.58	
2018	10.07	9.76	6.64	8.06	7.90	3.12	1.18	
2019	9.94	5.49	5.03	4.47	4.45	2.51	1.27	
2020	7.78	4.39	4.06	3.42	3.07	1.99	1.58	
2021	10.07	18.60	8.94	15.80	16.02	3.84	2.75	
2022	n/a	33.98	24.17	25.10	37.48	6.45	n/a	

¹ Source: EDMC Energy Trend, bp analysis.

² Source: S&P Global Platts ©2023, S&P Global Inc.

³ Source: 1986-1990 German Federal Statistical Office, 1991-2022 German Federal Office of Economics and Export Control (BAFA).

⁴ Source: ICIS Heren Energy Ltd.

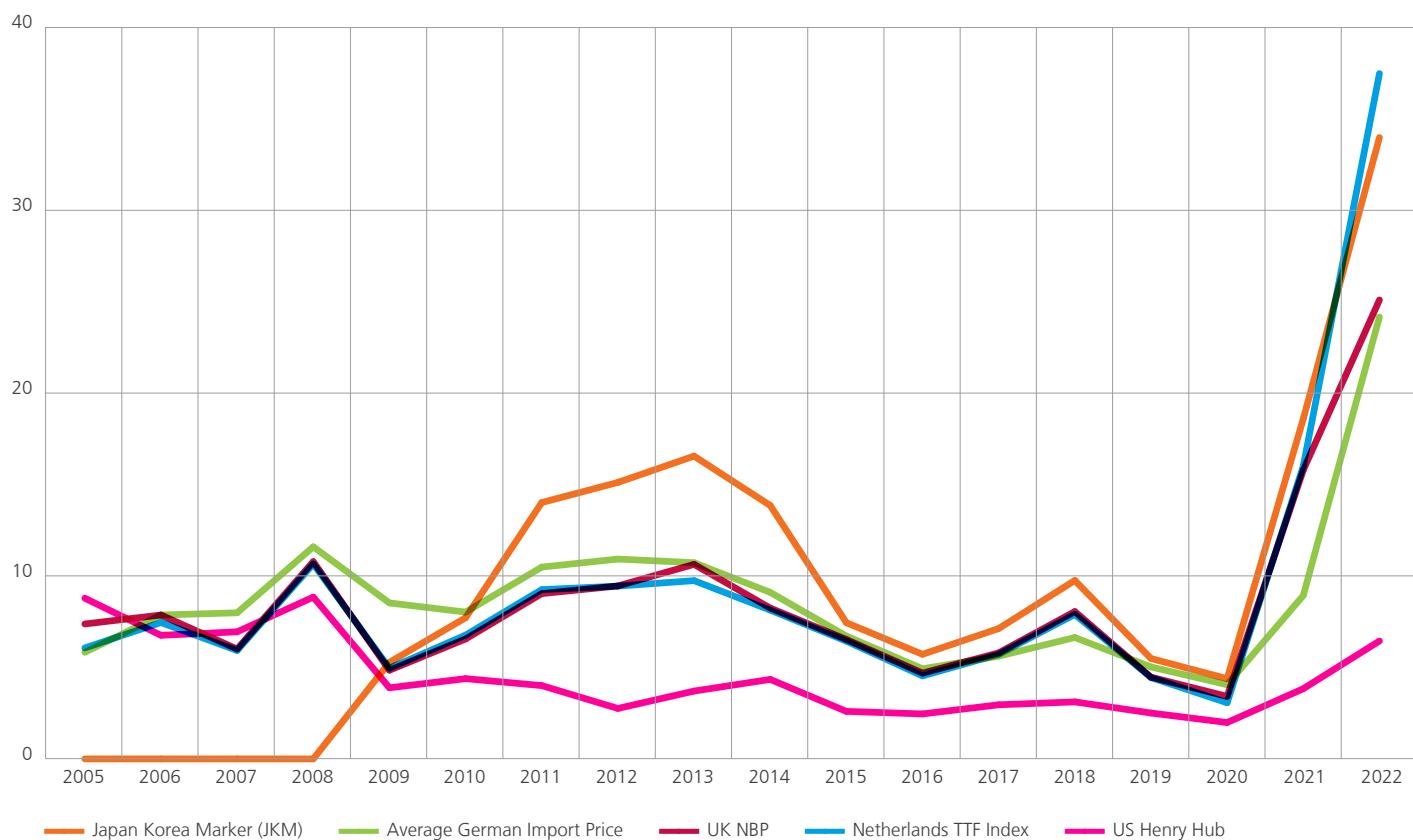
⁵ Source: Energy Intelligence Group, Natural gas Week.

Note: cif = cost+insurance+freight (average prices).

n/a: not available.

Prices

\$/mmBTU





Natural gas Inter-regional trade

Billion cubic metres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012–22	
US														
Pipeline imports	80.8	75.9	71.8	71.6	79.5	80.5	76.7	73.3	68.2	75.9	82.1	8.1%	0.2%	8.5%
LNG imports	4.9	2.7	2.5	2.4	2.2	2.1	1.5	1.3	0.6	0.7	11.1%	-18.2%	0.1%	
Total imports	85.6	78.6	73.5	74.1	82.0	82.7	78.8	74.7	69.5	76.5	82.7	8.1%	-0.3%	8.5%
Pipeline exports	45.3	42.5	40.4	47.2	58.7	65.7	67.8	77.4	78.9	84.3	82.7	-1.9%	6.2%	8.5%
LNG exports*	0.8	0.2	0.4	0.7	4.0	17.1	28.6	47.4	61.3	94.7	104.3	10.2%	63.3%	10.8%
Total exports	46.1	42.7	40.8	47.9	62.7	82.8	96.3	124.8	140.2	178.9	187.0	4.5%	15.0%	19.3%
Other North America														
Pipeline imports	45.3	42.5	40.4	47.2	58.7	65.7	67.8	77.4	78.9	84.3	82.7	-1.9%	6.2%	8.5%
LNG imports	6.5	8.8	9.8	7.4	5.9	7.0	7.5	7.1	3.4	1.6	0.7	-59.1%	-20.4%	0.1%
Total imports	51.7	51.3	50.2	54.7	64.5	72.7	75.3	84.5	82.2	85.9	83.4	-2.9%	4.9%	8.6%
Pipeline exports	80.8	75.9	71.8	71.6	79.5	80.5	76.7	73.3	68.2	75.9	82.1	8.1%	0.2%	8.5%
LNG exports*	—	—	^	^	^	^	^	0.1	^	^	^	-24.5%	—	+
Total exports	80.8	75.9	71.9	71.6	79.6	80.6	76.7	73.3	68.2	75.9	82.1	8.1%	0.2%	8.5%
Brazil														
Pipeline imports	9.5	11.0	11.4	11.2	9.8	8.4	7.6	6.4	6.2	7.1	6.1	-13.6%	-4.3%	0.6%
LNG imports	3.5	5.2	7.1	6.8	2.6	1.7	2.9	3.2	3.3	10.1	2.3	-77.2%	-4.1%	0.2%
Total imports	13.0	16.3	18.5	18.0	12.4	10.1	10.5	9.7	9.5	17.2	8.5	-51.0%	-4.2%	0.9%
TOTAL exports	0.5	0.1	0.2	^	0.6	0.2	0.1	—	—	0.1	—	-100.0%	-100.0%	—
Total exports	0.5	0.1	0.2	^	0.6	0.2	0.1	—	—	0.1	—	-100.0%	-100.0%	—
Other S&C America														
LNG imports	11.1	12.9	12.5	12.1	12.6	11.7	11.6	9.9	10.5	14.3	11.2	-21.8%	0.1%	1.2%
Total imports	11.1	12.9	12.5	12.1	12.6	11.7	11.6	9.9	10.5	14.3	11.2	-21.8%	0.1%	1.2%
Pipeline exports	9.5	11.0	11.4	11.2	9.8	8.4	7.6	6.4	6.2	7.1	6.1	-13.6%	-4.3%	0.6%
LNG exports*	23.4	24.1	23.3	21.4	19.9	19.1	21.4	22.5	19.8	13.2	15.2	15.3%	-4.2%	1.6%
Total exports	32.9	35.1	34.7	32.6	29.7	27.5	29.0	28.9	26.0	20.3	21.3	5.2%	-4.3%	2.2%
Europe														
Pipeline imports	228.5	234.1	209.4	215.0	230.6	247.2	247.4	236.9	211.0	231.7	150.8	-34.9%	-4.1%	15.6%
LNG imports	68.2	51.8	52.1	56.0	56.4	64.8	71.2	119.4	116.2	107.5	170.2	58.4%	9.6%	17.6%
Total imports	296.7	285.9	261.5	271.0	287.0	312.0	318.6	356.3	327.2	339.2	321.1	-5.3%	0.8%	33.2%
LNG exports*	8.1	9.0	13.0	11.0	10.6	7.9	11.7	8.8	7.0	3.9	7.5	95.1%	-0.8%	0.8%
Total exports	8.1	9.0	13.0	11.0	10.6	7.9	11.7	8.8	7.0	3.9	7.7	99.5%	-0.5%	0.8%
Russia														
Pipeline imports	39.7	32.9	33.1	26.5	24.3	28.6	24.6	30.3	10.7	14.8	8.1	-45.0%	-14.7%	0.8%
Total imports	39.7	32.9	33.1	26.5	24.3	28.6	24.6	30.3	10.7	14.8	8.1	-45.0%	-14.7%	0.8%
Pipeline exports	201.5	210.7	189.6	194.2	202.0	219.7	222.4	220.7	197.4	201.3	125.3	-37.7%	-4.6%	12.9%
LNG exports	14.3	14.5	13.6	14.6	14.6	15.4	24.9	39.1	41.8	39.5	40.2	1.6%	10.9%	4.1%
Total exports	215.8	225.2	203.2	208.8	216.7	235.2	247.3	259.8	239.2	240.9	165.5	-31.3%	-2.6%	17.1%
Other CIS														
Pipeline imports	25.2	24.0	26.3	25.4	26.3	28.8	30.4	29.8	26.7	27.8	25.7	-7.7%	0.2%	2.7%
Total imports	25.2	24.0	26.3	25.4	26.3	28.8	30.4	29.8	26.7	27.8	25.7	-7.7%	0.2%	2.7%
Pipeline exports	69.7	69.5	75.4	72.6	72.8	78.0	80.8	85.2	61.5	75.4	70.4	-6.5%	0.1%	7.3%
Total exports	69.7	69.5	75.4	72.6	72.8	78.0	80.8	85.2	61.5	75.4	70.4	-6.5%	0.1%	7.3%
Middle East														
Pipeline imports	5.3	6.3	7.6	9.6	7.3	4.6	2.1	1.6	0.6	0.8	1.0	31.6%	-14.9%	0.1%
LNG imports	4.2	4.3	5.3	9.8	13.7	13.0	9.4	9.4	9.1	9.6	9.4	-1.6%	8.5%	1.0%
Total imports	9.4	10.6	12.9	19.4	21.1	17.7	11.5	11.0	9.7	10.4	10.5	0.9%	1.0%	1.1%
Pipeline exports	9.0	8.9	9.3	8.1	8.0	11.0	8.8	8.0	7.7	13.9	15.5	11.6%	5.6%	1.6%
LNG exports	130.3	135.2	132.2	125.4	126.0	122.3	125.9	127.5	127.3	129.7	136.6	5.3%	0.5%	14.1%
Total exports	139.3	144.2	141.5	133.5	133.9	132.2	134.8	135.6	135.0	143.6	152.1	5.9%	0.9%	15.7%
Africa														
Pipeline imports	—	—	—	—	—	—	—	—	2.1	4.0	6.2	55.9%	—	0.6%
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	55.9%	—	0.6%
Pipeline exports	39.3	34.4	29.4	30.2	38.6	37.2	37.5	27.9	25.6	37.9	34.9	-7.8%	-1.2%	3.6%
LNG exports	54.2	47.0	49.5	48.5	46.2	55.7	53.5	61.6	56.0	58.0	53.9	-7.0%	-0.1%	5.6%
Total exports	93.6	81.4	78.9	78.7	84.8	92.9	91.0	89.5	81.6	95.9	88.8	-7.3%	-0.5%	9.2%
China														
Pipeline imports	20.8	26.4	30.3	32.4	36.8	39.9	47.9	47.7	45.1	53.2	58.4	9.7%	10.9%	6.0%
LNG imports	20.1	25.1	27.3	27.0	36.8	52.9	73.5	84.7	94.0	109.9	93.2	-15.2%	16.6%	9.6%
Total imports	40.8	51.5	57.5	59.4	73.5	92.8	121.3	132.5	139.1	163.1	151.6	-7.1%	14.0%	15.7%
LNG exports*	—	—	—	—	—	—	—	0.1	—	—	0.5	—	—	0.1%
Total exports	—	0.1	—	—	0.5	—	—	0.1%						
India														
LNG imports	18.4	18.0	19.1	20.0	24.3	26.0	30.5	32.4	36.6	33.5	28.4	-15.4%	4.4%	2.9%
Total imports	18.4	18.0	19.1	20.0	24.3	26.0	30.5	32.4	36.6	33.5	28.4	-15.4%	4.4%	2.9%
LNG exports*	—	—	—	0.4	0.1	0.1	—	0.1	—	—	—	—	—	—
Total exports	—	—	—	0.4	0.1	0.1	—	0.1	—	—	—	—	—	—
OECD Asia														
Pipeline imports	5.0	5.9	5.2	5.8	5.5	4.9	4.9	4.3	5.3	4.8	4.8	—	-0.5%	0.5%
LNG imports	169.6	175.7	173.6	161.6	159.9	165.4	173.2	161.1	157.2	165.5	162.2	-2.0%	-0.4%	16.7%
Total imports	174.6	181.6	178.8	167.4	165.3	170.2	178.1	165.5	162.5	170.2	166.9	-1.9%	-0.4%	17.2%
LNG exports*	28.3	30.6	32.2	40.1	60.5	76.8	91.9	104.7	106.1	108.7	112.3	3.3%	14.8%	11.6%



Natural gas LNG imports

Billion cubic metres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum	Share
	2022	2012–22	2022										
Canada	1.6	1.0	0.5	0.6	0.3	0.4	0.6	0.5	0.8	0.7	0.1	-85.0%	-23.7%
Mexico	4.9	7.8	9.3	6.8	5.6	6.6	6.9	6.6	2.5	0.9	0.6	-38.2%	-19.5%
US	4.9	2.7	1.7	2.5	2.4	2.2	2.1	1.5	1.3	0.6	0.7	11.1%	-18.2%
Total North America	11.4	11.4	11.5	10.0	8.3	9.2	9.6	8.6	4.6	2.2	1.3	-40.4%	-19.4%
Argentina	4.7	6.3	6.2	5.6	5.1	4.6	3.6	1.8	1.8	3.7	2.3	-38.8%	-7.0%
Brazil	3.5	5.2	7.1	6.8	2.6	1.7	2.9	3.2	3.3	10.1	2.3	-77.2%	-4.1%
Chile	4.0	3.8	3.5	3.7	4.5	4.4	4.3	3.3	3.7	4.5	3.3	-25.1%	-1.7%
Other S. & Cent. America	2.4	2.8	2.8	2.8	3.0	2.8	3.7	4.8	5.1	6.1	5.5	-9.1%	8.6%
Total S. & Cent. America	14.6	18.1	19.6	18.9	15.2	13.5	14.5	13.1	13.9	24.4	13.5	-44.8%	-0.8%
Belgium	4.1	3.1	2.9	3.6	2.4	1.3	3.3	7.3	6.4	5.5	12.4	127.8%	11.8%
France	9.8	8.3	6.9	6.4	9.1	10.9	12.7	23.2	19.1	17.6	35.1	99.7%	13.6%
Italy	7.1	5.8	4.5	5.9	5.9	8.3	8.2	13.5	12.5	9.5	14.3	50.0%	7.3%
Spain	21.4	15.7	16.2	13.7	13.8	16.6	15.0	22.0	20.9	20.4	28.8	41.2%	3.0%
Türkiye	7.6	5.9	7.1	7.5	7.6	10.9	11.4	12.9	14.8	13.9	15.1	8.3%	7.1%
United Kingdom	13.9	9.2	11.2	13.7	10.7	6.6	7.2	17.1	18.6	14.9	25.3	69.7%	6.2%
Other European Union	4.4	3.7	3.3	5.2	6.9	10.2	13.4	23.5	23.8	25.6	39.1	53.0%	24.5%
Rest of Europe	‡	—	‡	—	‡	0.1	†	‡	0.1	0.1	0.1	-27.6%	45.0%
Total Europe	68.2	51.8	52.1	56.0	56.4	64.8	71.2	119.4	116.2	107.5	170.2	58.4%	9.6%
Egypt	—	—	—	3.9	10.7	8.3	3.2	—	—	—	—	—	—
Kuwait	2.8	2.3	3.6	4.3	4.7	4.8	4.3	5.1	5.7	7.7	8.4	10.0%	11.7%
United Arab Emirates	1.4	1.6	1.6	2.9	4.2	3.0	1.0	1.6	1.5	1.7	0.9	-46.0%	-4.1%
Other Middle East & Africa	—	0.5	0.1	2.7	4.8	5.3	4.0	2.7	1.9	0.2	0.1	-61.4%	—
Total Middle East & Africa	4.2	4.3	5.3	13.7	24.5	21.4	12.5	9.4	9.1	9.6	9.4	-1.6%	8.5%
China	20.1	25.1	27.3	27.0	36.8	52.9	73.5	84.7	94.0	109.9	93.2	-15.2%	16.6%
India	18.4	18.0	19.1	20.0	24.3	26.0	30.5	32.4	36.6	33.5	28.4	-15.4%	4.4%
Japan	119.8	120.4	121.8	115.9	113.6	113.9	113.0	105.5	101.7	101.3	98.3	-3.0%	-2.0%
Malaysia	—	2.0	2.2	2.2	1.5	2.0	1.8	3.3	3.6	2.4	3.8	57.1%	—
Pakistan	—	—	—	1.5	4.0	6.1	9.4	11.8	10.6	12.2	9.7	-20.6%	—
Singapore	—	1.3	2.6	3.0	3.2	4.1	4.5	5.0	5.7	5.0	5.2	4.6%	—
South Korea	49.7	55.3	51.8	45.8	46.3	51.4	60.2	55.6	55.4	64.1	63.9	-0.4%	2.6%
Taiwan	17.1	17.2	18.6	19.6	20.4	22.7	22.9	22.8	24.3	26.7	27.4	2.6%	4.8%
Thailand	1.4	2.0	1.9	3.6	3.9	5.2	6.0	6.7	7.5	9.2	11.4	24.3%	23.7%
Other Asia Pacific	0.1	—	—	—	—	—	0.8	5.7	6.6	7.6	6.7	-11.8%	54.7%
Total Asia Pacific	226.6	241.2	245.2	238.5	253.9	284.5	322.6	333.6	346.2	372.0	347.9	-6.5%	4.4%
Total World	324.9	326.8	333.6	337.1	358.3	393.3	430.4	484.2	490.0	515.7	542.4	5.2%	5.3%
Source: statistics are taken from national statistical agencies, international organisations, and other proprietary sources. Includes data from GIGNL, S&P Global.													
Gross LNG trade.													
‡ Less than 0.05.													
† Less than 0.05%.													

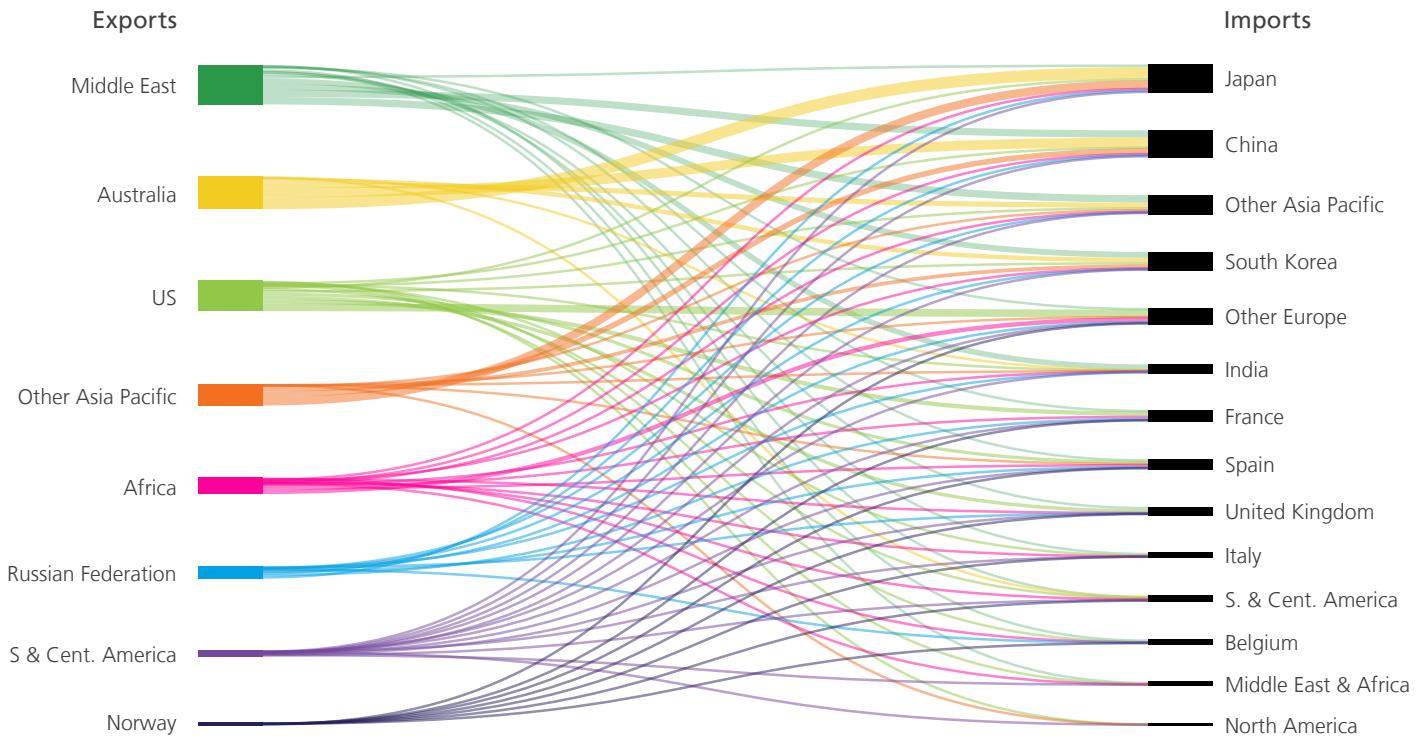


Natural gas LNG exports

Billion cubic metres	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum	Share
	2022	2012–22	2022										
US	0.8	0.2	0.4	0.7	4.0	17.1	28.6	47.4	61.3	94.7	104.3	10.2%	63.3%
Peru	5.1	5.7	5.7	5.0	5.5	4.8	5.3	5.0	3.5	4.2	21.8%	-1.9%	0.8%
Trinidad & Tobago	18.3	18.4	17.6	16.4	14.3	13.5	16.6	17.1	14.3	9.1	10.9	19.7%	-5.0%
Other Americas*	0.5	0.1	0.2	†	0.6	0.3	0.1	0.1	0.5	0.7	‡	-94.4%	-23.2%
Total Americas	24.7	24.3	23.9	22.1	24.5	36.5	50.1	69.9	81.2	107.9	119.5	10.7%	17.1%
Russia	14.3	14.5	13.6	14.6	14.6	15.4	24.9	39.1	41.8	39.5	40.2	1.6%	10.9%
Norway	4.6	3.8	4.6	5.6	6.1	5.4	6.8	6.9	4.3	0.2	3.7	2103.0%	-1.9%
Other Europe*	3.6	5.2	8.4	5.4	4.5	2.5	5.0	1.9	2.7	3.7	3.8	2.4%	0.6%
Total Europe & CIS	22.4	23.5	26.6	25.6	25.3	23.4	36.7	47.9	48.8	43.4	47.7	9.9%	7.9%
Oman	11.1	11.5	10.6	10.2	11.0	11.4	13.6	14.1	13.2	14.1	15.0	6.1%	3.0%
Qatar	104.0	105.8	103.6	105.6	107.3	103.6	104.9	105.8	106.5	106.9	114.1	6.7%	0.9%
United Arab Emirates	8.1	7.9	8.6	7.6	7.7	7.3	7.4	7.7	7.6	8.8	7.6	-13.3%	-0.6%
Yemen	7.1	9.9	9.4	1.9	—	—	—	—	—	—	—	-100.0%	—
Total Middle East	130.3	135.2	132.2	125.4	126.0	122.3	125.9	127.5	127.3	129.7	136.6	5.3%	0.5%
Algeria	14.9	15.0	17.4	16.6	15.5	16.4	13.1	16.8	14.6	15.6	14.4	-7.6%	-0.4%
Angola	—	0.4	0.4	—	0.9	5.0	5.2	5.8	6.1	4.7	4.1	-13.1%	—
Egypt	6.9	3.9	0.4	—	0.8	1.2	2.0	4.7	1.8	9.0	8.9	-0.8%	2.7%
Nigeria	27.9	22.5	26.1	26.9	24.6	28.3	27.8	28.8	28.4	23.4	19.6	-16.1%	-3.5%
Other Africa	4.6	5.2	5.0	5.0	4.4	4.8	5.4	5.6	5.1	5.4	7.0	28.8%	4.3%
Total Africa	54.2	47.0	49.5	48.5	46.2	55.7	53.5	61.6	56.0	58.0	53.9	-7.0%	-0.1%
Australia	28.3	30.5	32.0	39.9	60.4	76.6	91.8	104.7	106.0	108.5	112.3	3.5%	14.8%
Brunei	9.2	9.5	8.6	8.7	8.6	9.1	8.5	8.8	8.4	7.5	6.4	-14.8%	-3.5%
Indonesia	24.4	23.1	21.7	21.6	22.4	21.7	20.8	16.5	16.8	14.6	15.5	5.6%	-4.5%
Malaysia	31.4	33.6	34.0	34.3	33.6	36.1	33.0	35.2	32.5	33.5	37.4	11.8%	1.8%
Papua New Guinea	—	—	5.0	10.1	10.9	11.1	9.5	11.6	11.5	11.5	11.4	-1.2%	—
Other Asia Pacific*	—	0.1	0.2	0.8	0.5	0.8	0.6	0.5	1.4	1.0	1.7	72.4%	—
Total Asia Pacific	93.3	96.8	101.5	115.5	136.4	155.4	164.3	177.2	176.8	176.6	184.7	4.5%	7.1%
Total LNG exports	324.9	326.8	333.6	337.1	358.3	393.3	430.4	484.2	490.0	515.7	542.4	5.2%	5.3%
Source: Includes GIGNL, IHS.													
Gross LNG trade.													
* Largely consists of re-exports.													
† Less than 0.05%.													
‡ Less than 0.05%.													



Natural gas Major trade movements 2022 – LNG



In 2022, international trade of natural gas as liquified natural gas (LNG) represented 56% of all inter-regional traded gas. At a total of 542 Bcm, it was up 5% on the previous year. The Middle East was the largest exporter of LNG and, together with Australia and the US, represented 65% of total

LNG exports. At 98 Bcm, Japan was the largest importer of LNG. Along with China, it accounted for 35% of total global imports. As a region, Asia Pacific imported around 65% of total LNG, followed by Europe at just over 30%.

Natural gas Trade movements 2022 as LNG*

Billion cubic metres	From																				Total imports		
	US	Peru	Trinidad & Tobago	Other Americas*	Norway	Other Europe*	Russian Federation	Oman	Qatar	United Arab Emirates	Yemen	Algeria	Angola	Egypt	Nigeria	Other Africa	Australia	Brunet	Indonesia	Malaysia	Papua New Guinea	Other Asia Pacific*	
Canada	†	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.1	
Mexico	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.6	
US	–	–	0.6	†	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.7	
North America	0.1	0.1	0.6	†	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.3		
Argentina	1.8	–	0.1	–	0.1	–	–	0.1	–	–	0.1	–	–	–	–	0.2	–	–	–	–	–	2.3	
Brazil	1.9	–	–	–	–	0.1	–	–	0.1	–	–	–	–	0.1	0.1	–	–	–	–	–	–	2.3	
Chile	0.8	–	1.1	–	–	–	–	–	–	–	–	–	–	–	1.2	0.3	–	–	–	–	–	3.3	
Other S. & Cent. America	1.9	–	2.8	†	–	0.2	–	0.2	–	–	–	–	–	0.4	–	–	–	–	–	–	–	5.5	
S. & Cent. America	6.5	–	3.9	†	0.1	0.3	–	0.2	0.2	–	–	0.1	–	0.5	1.5	0.3	–	–	–	–	–	13.5	
Belgium	2.3	–	–	–	0.1	0.1	2.9	–	6.8	–	0.1	–	0.1	–	–	–	–	–	–	–	–	12.4	
France	15.5	0.1	0.4	–	1.3	0.1	7.4	–	2.2	–	4.8	1.0	0.8	1.3	0.2	–	–	–	–	–	–	35.1	
Italy	3.1	–	0.3	–	0.1	0.9	–	0.1	7.1	–	1.5	–	0.6	0.2	0.4	–	–	–	–	–	–	14.3	
Spain	11.6	0.2	1.2	–	0.1	†	5.0	0.5	1.4	–	0.4	0.3	1.4	5.7	0.9	†	–	†	†	–	0.1	28.8	
Türkiye	5.3	–	0.4	–	–	0.2	0.3	0.1	0.1	–	5.4	0.1	2.2	0.8	0.1	–	–	0.1	–	–	–	15.1	
United Kingdom	12.4	2.2	0.2	–	0.2	0.1	0.5	†	8.0	–	0.6	0.6	0.1	0.5	–	–	–	–	–	–	–	25.3	
Other European Union	21.8	–	1.7	–	1.8	0.9	3.4	–	2.5	–	0.7	0.9	1.4	3.5	0.7	–	–	–	–	–	–	39.1	
Rest of Europe	–	–	–	–	–	0.1	†	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.1	
Europe	72.1	2.4	4.1	–	3.7	2.4	19.6	0.8	28.0	–	13.4	2.9	6.5	12.0	2.2	†	–	0.1	†	–	0.1	170.2	
Egypt	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Kuwait	1.5	–	0.4	–	–	0.2	–	0.2	3.9	0.4	0.1	–	0.2	1.5	–	–	–	–	–	–	–	8.4	
United Arab Emirates	–	–	–	–	–	–	–	–	0.9	–	–	–	–	–	–	–	–	–	–	–	–	0.9	
Other Middle East & Africa	–	–	–	–	–	–	–	–	–	–	–	0.1	–	–	–	–	–	–	–	–	–	0.1	
Middle East & Africa	1.5	–	0.4	–	–	0.2	–	0.2	4.8	0.4	–	0.1	–	0.3	1.5	–	–	–	–	–	–	9.4	
China	2.6	0.3	0.6	–	–	0.2	6.1	0.9	24.8	0.3	–	0.1	–	0.4	0.6	1.5	35.0	0.5	5.1	10.2	3.2	0.8	93.2
India	3.3	–	0.2	–	–	0.4	0.6	1.3	14.7	3.8	–	0.3	0.9	0.2	1.3	0.7	0.6	0.1	0.1	–	–	–	28.4
Japan	5.6	0.3	0.1	–	–	–	9.2	3.4	3.9	1.8	–	0.2	–	0.2	1.3	0.2	41.9	4.4	3.5	16.3	5.4	0.4	98.3
Malaysia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2.8	1.0	–	–	–	–	3.8
Pakistan	0.1	–	–	–	–	–	–	–	8.6	0.2	–	0.1	0.1	0.1	0.4	–	–	–	–	0.1	–	–	9.7
Singapore	0.6	–	0.1	–	–	†	0.1	–	–	0.5	–	–	0.1	0.1	0.1	0.1	0.1	3.4	–	0.1	0.1	–	5.2
South Korea	7.8	0.9	0.2	–	–	0.2	2.7	6.9	13.4	0.6	–	0.1	–	0.7	0.8	0.4	15.9	0.3	4.4	7.5	0.8	0.4	63.9
Taiwan	2.9	0.2	–	–	–	–	1.5	0.5	7.2	0.3	–	–	–	–	0.4	0.2	10.1	0.1	1.5	0.8	1.8	–	27.4
Thailand	0.7	–	0.7	–	–	0.1	0.1	0.9	3.2	0.2	–	–	0.1	0.2	0.5	0.1	1.9	0.3	0.1	2.2	†	–	11.4
Other Asia Pacific	0.4	–	–	–	–	–	0.3	–	4.8	–	–	0.1	–	0.1	0.4	0.1	0.4	–	0.1	0.1	–	–	6.7
Asia Pacific	24.1	1.7	1.9	–	–	0.9	20.6	13.8	81.1	7.1	–	0.8	1.2	2.2	5.6	3.2	112.0	6.4	14.9	37.4	11.4	1.6	347.9
Total exports	104.3	4.2	10.9	†	3.7	3.8	40.2	15.0	114.1	7.6	–	14.4	4.1	8.9	19.6	7.0	112.3	6.4	15.5	37.4	11.4	1.7	542.4

Source: Includes data from GIGNL, IHS.

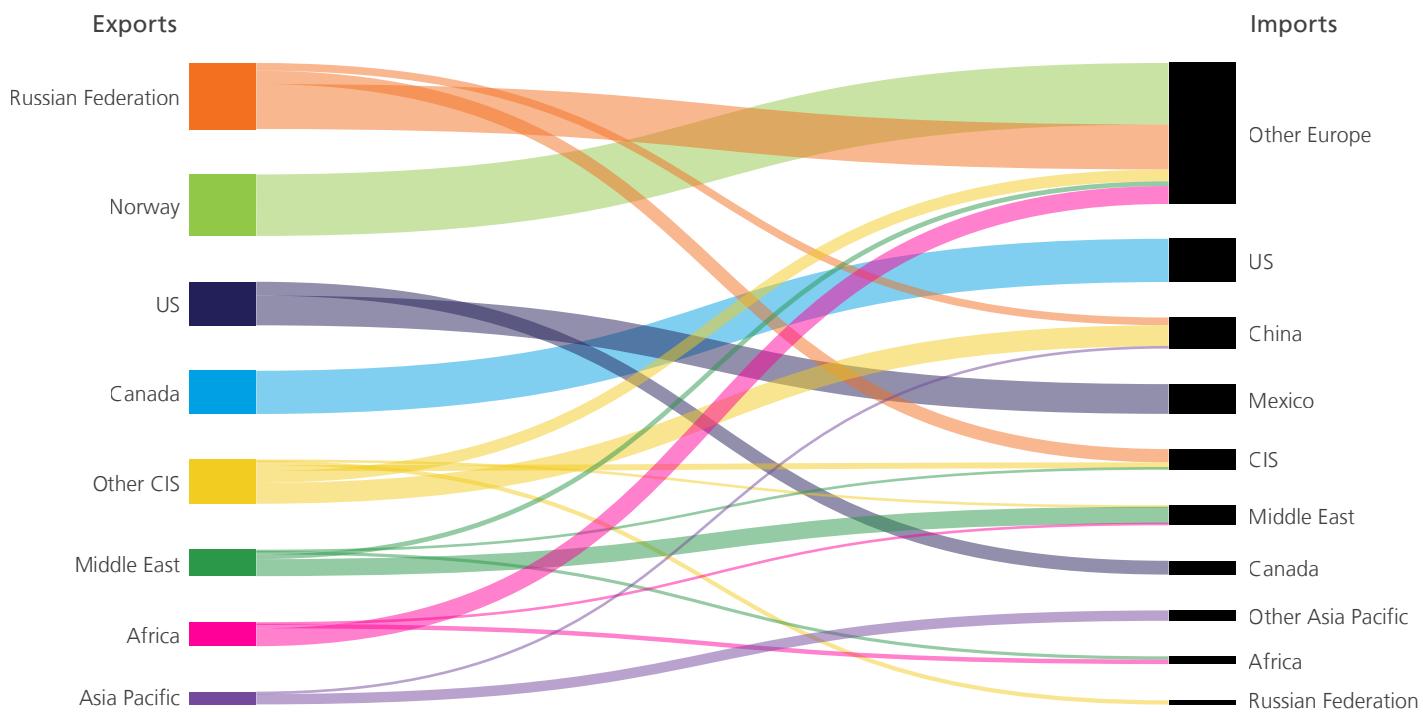
* Includes re-exports.

† 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 2022 – pipeline



Unlike LNG trade that grew in 2022, international trade of natural gas via pipelines declined by around 15%, falling 78 Bcm compared to 2021. Over the past 10 years Russia has, on average, been responsible for around 43% of total

global gas exports via pipelines. In 2022, its share of total global pipeline exports fell to 29%, a drop of around 76 Bcm. Despite this, it still ranked highest at 25% of total global exports, followed by Norway at 23%.

Natural gas Trade movements 2022 by pipeline

Billion cubic metres	From																				Total imports		
	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	
Canada	—	—	26.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.2		
Mexico	—	—	56.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	56.5		
US	82.1	‡	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	82.1		
North America	82.1	‡	82.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	164.8		
Argentina	—	—	—	3.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.7	
Brazil	—	—	—	6.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	
Other S. & Cent. America	—	—	—	—	1.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	
S. & Cent. America	—	—	9.8	1.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.7		
European Union	—	—	—	—	13.9	86.3	91.4	11.5	—	61.5	—	—	—	—	—	31.5	2.5	—	—	—	—	298.6	
Rest of Europe	—	—	—	—	—	0.3	30.5	5.3	10.9	—	23.9	—	—	9.1	—	—	—	—	—	—	—	79.9	
Europe	—	—	—	—	—	14.2	116.8	96.7	22.4	—	85.4	—	—	9.1	—	31.5	2.5	—	—	—	—	378.5	
Belarus	—	—	—	—	—	—	—	—	—	—	18.5	—	—	—	—	—	—	—	—	—	—	18.5	
Kazakhstan	—	—	—	—	—	—	—	—	—	—	2.0	0.3	—	—	—	—	—	—	—	—	—	2.4	
Russian Federation	—	—	—	—	—	—	—	—	—	—	3.4	—	4.7	—	—	—	—	—	—	—	—	8.1	
Other CIS	—	—	—	—	—	—	—	—	—	—	4.8	2.8	‡	0.4	—	—	—	—	—	—	—	8.0	
CIS	—	—	—	—	—	—	—	—	—	—	3.4	25.3	7.8	‡	0.4	—	—	—	—	—	—	37.0	
United Arab Emirates	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	
Other Middle East	—	—	—	—	—	—	—	—	0.2	—	—	—	—	9.4	1.6	2.8	—	—	0.9	—	—	14.8	
Middle East	—	—	—	—	—	—	—	—	0.2	—	—	—	—	9.4	20.1	2.8	—	—	0.9	—	—	33.4	
South Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.6	—	3.6	
Other Africa	—	—	—	—	—	—	—	0.2	—	—	—	—	—	6.1	4.0	—	1.0	—	—	—	—	11.2	
Africa	—	—	—	—	—	—	—	0.2	—	—	—	—	—	6.1	4.0	—	4.6	—	—	—	—	14.8	
Australia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.8	4.8	
China	—	—	—	—	—	—	—	—	—	4.4	14.7	32.9	2.5	—	—	—	—	—	—	—	4.0	—	58.4
Malaysia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	—	—	0.2	—	
Singapore	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.0	—	2.2	—	8.2	
Thailand	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.6	—	—	6.6	
Asia Pacific	—	—	—	—	—	—	—	—	—	4.4	14.7	32.9	2.5	—	—	—	—	—	6.3	10.6	6.9	78.2	
Total exports	82.1	†	82.7	9.8	1.9	14.2	116.8	96.9	22.5	7.8	125.3	40.7	2.5	18.9	20.1	8.8	35.5	2.5	5.5	6.3	10.6	6.9	718.4

Source: Includes data from FGE MENAgas service, IHS.

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.



Coal Production*

Million tonnes	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012–22	
Canada	67.3	68.4	68.3	62.4	62.4	60.6	55.0	53.2	46.1	47.6	45.1	-5.3%	-3.9%	0.6%
Mexico	15.2	14.6	14.9	12.3	11.4	12.9	11.9	9.8	7.7	5.5	5.5	0.1%	-9.6%	0.1%
US	922.1	893.4	907.2	813.7	660.8	702.7	686.0	640.8	485.7	523.8	539.4	3.0%	-5.2%	6.4%
Total North America	1004.6	976.5	990.4	888.3	734.5	776.2	752.9	703.7	539.6	577.0	590.0	2.3%	-5.2%	7.1%
Brazil	8.2	9.5	9.4	8.0	7.5	5.8	6.4	5.8	7.1	8.0	7.5	-6.8%	-0.9%	0.1%
Colombia	89.8	86.0	89.4	86.5	91.2	91.3	86.4	85.4	53.6	59.0	57.5	-2.5%	-4.3%	0.7%
Venezuela	1.9	1.2	0.8	0.8	0.7	0.7	0.7	0.4	0.3	0.2	0.2	-12.0%	-20.3%	†
Other S. & Cent. America	1.0	3.2	4.5	3.4	2.8	1.8	1.6	1.1	0.4	0.2	0.3	32.0%	-12.9%	†
Total S. & Cent. America	100.9	99.9	104.0	98.8	102.2	99.7	95.1	92.8	61.4	67.4	65.4	-3.0%	-4.2%	0.8%
Bulgaria	33.4	28.6	31.3	35.9	31.3	34.3	30.6	28.3	22.6	28.4	35.6	25.2%	0.7%	0.3%
Czech Republic	55.2	49.1	47.1	46.5	45.5	44.9	43.8	41.0	31.6	31.5	35.2	11.7%	-4.4%	0.4%
Germany	196.2	190.6	185.8	184.3	175.4	175.1	168.8	131.3	107.4	126.3	132.5	4.9%	-3.8%	1.5%
Greece	63.0	53.9	50.8	46.2	32.6	37.7	36.5	27.4	14.1	12.4	14.0	13.3%	-13.9%	0.2%
Hungary	9.3	9.6	9.6	9.3	9.2	8.0	7.9	6.8	6.1	5.0	4.9	-1.2%	-6.1%	0.1%
Poland	144.1	142.9	137.1	135.8	131.0	127.1	122.4	112.4	100.7	107.6	107.5	-0.2%	-2.9%	1.3%
Romania	33.9	24.7	23.6	25.5	23.0	25.8	23.7	21.7	15.0	17.7	18.2	2.4%	-6.0%	0.2%
Serbia	38.2	40.3	29.8	37.8	38.5	39.8	37.6	38.9	39.7	36.4	35.1	-3.5%	-0.8%	0.4%
Spain	6.2	4.4	3.9	3.1	1.7	3.0	2.4	0.1	0.1	0.1	0.1	—	-34.4%	†
Türkiye	71.5	60.4	65.2	58.4	73.0	74.1	83.9	87.1	74.7	86.5	96.1	11.1%	3.0%	1.1%
Ukraine	66.2	64.9	45.7	30.4	32.2	24.7	26.8	26.1	24.4	24.9	16.5	-33.7%	-12.9%	0.3%
United Kingdom	17.0	12.8	11.6	8.6	4.2	3.0	2.8	2.6	1.7	1.1	0.7	-38.2%	-27.8%	†
Other Europe	65.6	70.7	67.2	64.5	61.7	65.1	92.2	56.8	50.2	47.6	49.5	4.1%	-2.7%	0.6%
Total Europe	799.6	752.8	708.8	686.3	659.4	662.6	679.4	580.5	488.3	525.5	545.9	3.9%	-3.7%	6.4%
Kazakhstan	120.5	119.6	114.0	107.3	103.1	112.3	118.5	115.0	113.4	116.2	118.0	1.5%	-0.2%	1.4%
Russian Federation	358.3	355.2	357.4	372.5	386.6	411.0	441.3	440.7	399.8	434.1	439.0	1.1%	2.1%	5.3%
Uzbekistan	3.8	4.1	4.4	3.5	3.9	4.0	4.2	4.0	4.1	5.1	5.4	5.9%	3.6%	0.1%
Other CIS	4.3	4.2	4.1	4.0	4.6	5.7	7.7	7.9	6.2	6.6	8.4	27.4%	7.0%	0.1%
Total CIS	486.8	483.1	479.9	487.3	498.1	533.0	571.6	567.6	523.5	561.9	570.7	1.6%	1.6%	6.9%
Total Middle East	1.5	1.5	1.5	1.6	1.8	2.2	2.0	2.1	2.2	4.4	98.2%	11.7%	†	2.8%
South Africa	258.6	256.3	261.4	252.2	249.7	252.3	250.0	254.4	246.2	229.8	225.9	-1.7%	-1.3%	2.8%
Zimbabwe	1.6	3.1	5.8	4.3	2.7	2.9	3.3	2.6	2.7	3.2	3.9	21.7%	9.5%	†
Other Africa	7.1	8.3	9.4	9.7	9.2	15.9	20.0	14.6	12.3	15.7	21.2	35.3%	11.6%	0.2%
Total Africa	267.3	267.7	276.6	266.2	261.6	271.2	273.4	271.7	261.2	248.7	251.1	1.0%	-0.6%	3.0%
Australia	448.2	472.8	505.3	503.7	502.1	487.2	502.2	505.6	470.0	460.3	443.4	-3.7%	-0.1%	5.6%
China	3945.1	3974.3	3873.9	3746.5	3410.6	3523.6	3697.7	3846.3	3901.6	4125.8	4560.0	10.5%	1.5%	50.6%
India	605.6	608.5	646.2	674.2	689.8	711.7	760.4	753.9	760.2	812.3	910.9	12.1%	4.2%	10.0%
Indonesia	386.1	474.4	458.1	461.6	456.2	461.2	557.8	616.2	563.7	614.0	687.4	12.0%	6.0%	7.5%
Japan	1.3	1.2	1.3	1.2	1.3	1.4	1.0	0.8	0.8	0.7	0.7	3.3%	-6.2%	†
Mongolia	31.1	33.3	24.4	24.1	35.1	49.5	54.6	57.1	43.1	32.3	39.3	21.7%	2.4%	0.4%
New Zealand	4.9	4.6	4.0	3.4	2.9	2.9	3.2	3.0	2.8	2.9	2.6	-8.0%	-6.0%	†
Pakistan	3.0	3.0	3.4	3.3	4.1	4.2	4.4	7.1	9.5	10.2	9.9	-3.0%	12.6%	0.1%
South Korea	2.1	1.8	1.7	1.8	1.7	1.5	1.2	1.1	1.0	0.9	0.8	-8.7%	-8.9%	†
Thailand	18.1	18.1	18.0	15.2	17.0	16.3	14.9	14.1	13.3	14.2	13.6	-4.1%	-2.7%	0.2%
Vietnam	42.1	41.1	41.1	41.7	38.7	38.4	42.4	46.4	44.6	48.3	49.8	3.2%	1.7%	0.6%
Other Asia Pacific	39.6	39.8	40.4	44.9	61.4	54.2	52.6	39.5	54.1	54.8	57.2	4.3%	3.8%	0.7%
Total Asia Pacific	5527.3	5673.0	5617.8	5521.6	5221.0	5352.0	5692.3	5891.0	5864.6	6176.8	6775.8	9.7%	2.1%	75.7%
Total World	8188.0	8254.5	8179.1	7950.0	7478.7	7696.5	8066.9	8109.2	7740.8	8159.5	8803.4	7.9%	0.8%	100.0%
of which:														
OECD	2150.3	2111.8	2147.7	2016.4	1842.0	1871.9	1854.7	1737.9	1426.2	1491.6	1507.2	1.0%	-3.5%	18.3%
Non-OECD	6037.6	6142.7	6031.3	5933.5	5636.7	5824.6	6212.2	6371.3	6314.6	6667.9	7296.2	9.4%	1.9%	81.7%
European Union [#]	575.9	543.9	527.3	521.3	481.6	492.2	473.4	397.3	318.8	348.9	368.6	5.6%	-4.3%	4.3%

* Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels. Includes coal produced for Coal-to-Liquids and Coal-to-Gas transformations.

^{*} Less than 0.05.

[†] Less than 0.05%.

Excludes Estonia, Latvia and Lithuania prior to 1985 and Croatia and Slovenia prior to 1990.

Notes: Annual changes and shares of total are calculated using million tonnes figures.



Coal Production*

Exajoules	Growth rate per annum											Share		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022			
Canada	1.49	1.53	1.51	1.36	1.37	1.33	1.22	1.20	1.15	1.21	1.18	-2.7%	-2.3%	0.7%
Mexico	0.31	0.30	0.30	0.29	0.25	0.31	0.28	0.23	0.19	0.14	0.14	0.1%	-7.8%	0.1%
US	20.72	20.05	20.33	17.99	14.70	15.66	15.40	14.29	10.73	11.62	12.07	3.9%	-5.2%	6.9%
Total North America	22.53	21.87	22.15	19.64	16.33	17.30	16.90	15.72	12.07	12.97	13.39	3.2%	-5.0%	7.7%
Brazil	0.12	0.15	0.15	0.12	0.11	0.09	0.10	0.09	0.10	0.12	0.11	-11.3%	-1.2%	0.1%
Colombia	2.58	2.47	2.57	2.49	2.62	2.63	2.48	2.46	1.54	1.70	1.65	-2.5%	-4.3%	0.9%
Venezuela	0.06	0.04	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	^	-12.0%	-22.5%	†
Other S. & Cent. America	0.02	0.07	0.12	0.10	0.08	0.05	0.05	0.03	0.01	0.01	0.01	30.6%	-9.8%	†
Total S. & Cent. America	2.78	2.73	2.87	2.73	2.84	2.79	2.65	2.59	1.66	1.83	1.77	-3.0%	-4.4%	1.0%
Bulgaria	0.23	0.20	0.21	0.25	0.21	0.24	0.22	0.20	0.16	0.20	0.25	24.5%	0.6%	0.1%
Czech Republic	0.85	0.74	0.71	0.71	0.67	0.64	0.62	0.56	0.43	0.44	0.48	9.3%	-5.5%	0.3%
Germany	2.00	1.89	1.85	1.79	1.66	1.65	1.58	1.19	0.98	1.15	1.21	4.9%	-4.9%	0.7%
Greece	0.34	0.28	0.27	0.24	0.17	0.19	0.18	0.13	0.07	0.06	0.07	13.3%	-14.7%	†
Hungary	0.07	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	-1.2%	-7.1%	†
Poland	2.42	2.39	2.26	2.22	2.18	2.08	1.98	1.87	1.68	1.76	1.70	-3.2%	-3.4%	1.0%
Romania	0.27	0.19	0.19	0.20	0.18	0.19	0.17	0.16	0.11	0.13	0.13	2.4%	-6.9%	0.1%
Serbia	0.31	0.32	0.24	0.30	0.30	0.30	0.28	0.29	0.30	0.26	0.25	-3.5%	-1.8%	0.1%
Spain	0.10	0.07	0.07	0.05	0.03	0.05	0.04	^	^	^	^	-	-33.3%	†
Türkiye	0.71	0.65	0.68	0.54	0.65	0.63	0.69	0.73	0.66	0.75	0.83	10.9%	1.6%	0.5%
Ukraine	1.64	1.60	1.09	0.72	0.76	0.57	0.61	0.60	0.53	0.54	0.36	-33.7%	-14.0%	0.2%
United Kingdom	0.42	0.32	0.29	0.21	0.11	0.08	0.08	0.07	0.05	0.03	0.02	-38.2%	-27.0%	†
Other Europe	0.60	0.66	0.64	0.59	0.59	0.60	0.78	0.52	0.46	0.44	0.45	3.2%	-2.8%	0.3%
Total Europe	9.95	9.39	8.57	7.88	7.58	7.28	7.26	6.36	5.47	5.80	5.79	-0.1%	-5.2%	3.3%
Kazakhstan	2.16	2.15	2.09	1.65	1.53	1.67	1.76	1.70	1.75	1.78	1.81	1.5%	-1.7%	1.0%
Russian Federation	7.05	7.25	7.39	7.80	8.12	8.62	9.23	9.23	8.42	9.25	9.35	1.1%	2.9%	5.4%
Uzbekistan	0.04	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	5.9%	3.8%	†
Other CIS	0.05	0.06	0.06	0.07	0.07	0.09	0.12	0.12	0.11	0.11	0.14	22.9%	9.6%	0.1%
Total CIS	9.31	9.51	9.60	9.56	9.77	10.42	11.15	11.10	10.32	11.20	11.36	1.4%	2.0%	6.5%
Total Middle East	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.04	0.04	0.04	0.05	25.8%	5.2%	†
South Africa	6.14	6.08	6.20	5.96	6.01	5.97	6.01	6.02	5.83	5.44	5.35	-1.7%	-1.3%	3.1%
Zimbabwe	0.04	0.08	0.16	0.12	0.07	0.08	0.09	0.07	0.07	0.09	0.11	21.7%	9.5%	0.1%
Other Africa	0.18	0.21	0.24	0.25	0.41	0.52	0.38	0.31	0.40	0.55	0.55	35.6%	11.7%	0.3%
Total Africa	6.36	6.38	6.59	6.33	6.32	6.47	6.62	6.47	6.22	5.93	6.00	1.2%	-0.6%	3.4%
Australia	11.13	11.97	12.81	12.80	12.83	12.50	13.10	13.18	12.14	11.89	11.46	-3.6%	0.3%	6.6%
China	78.44	79.32	78.05	76.59	70.82	73.17	76.87	79.76	80.51	83.44	92.22	10.5%	1.7%	52.8%
India	10.68	10.71	11.28	11.77	11.89	11.99	12.80	12.60	12.59	13.38	15.02	12.2%	3.5%	8.6%
Indonesia	8.56	10.44	10.15	10.19	9.87	9.69	11.44	12.84	11.78	12.68	13.95	10.0%	5.0%	8.0%
Japan	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	3.3%	-5.1%	†
Mongolia	0.59	0.64	0.47	0.46	0.67	0.94	1.04	1.09	0.82	0.62	0.75	21.7%	2.4%	0.4%
New Zealand	0.13	0.12	0.10	0.09	0.07	0.07	0.08	0.07	0.07	0.07	0.07	-6.4%	-6.3%	†
Pakistan	0.06	0.06	0.06	0.06	0.08	0.08	0.08	0.13	0.18	0.19	0.19	-3.0%	12.6%	0.1%
South Korea	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	-8.7%	-8.5%	†
Thailand	0.20	0.20	0.19	0.16	0.18	0.17	0.16	0.15	0.14	0.15	0.14	-4.1%	-3.3%	0.1%
Vietnam	0.99	0.96	0.96	0.98	0.91	0.90	0.99	1.09	1.05	1.13	1.17	3.2%	1.7%	0.7%
Other Asia Pacific	0.96	0.98	0.99	1.06	1.33	1.14	1.06	0.71	1.12	1.15	1.20	5.0%	2.4%	0.7%
Total Asia Pacific	111.80	115.45	115.15	114.20	108.70	110.72	117.67	121.66	120.43	124.73	136.21	9.2%	2.0%	78.0%
Total World	162.75	165.37	164.96	160.37	151.58	155.01	162.30	163.95	156.22	162.50	174.56	7.4%	0.7%	100.0%
of which:												0.2%	-3.3%	17.8%
OECD	43.71	43.40	44.41	41.32	37.85	38.32	38.20	36.36	29.98	31.09	31.15	9.1%	1.9%	82.2%
Non-OECD	119.04	121.97	120.55	119.05	113.74	116.69	124.10	127.59	126.24	131.41	143.41	2.7%	-4.7%	2.3%
European Union [#]	6.59	6.22	5.97	5.82	5.47	5.42	5.16	4.42	3.68	3.96	4.07			

* 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%.

Excludes Estonia, Latvia and Lithuania prior to 1985 and Croatia and Slovenia prior to 1990.

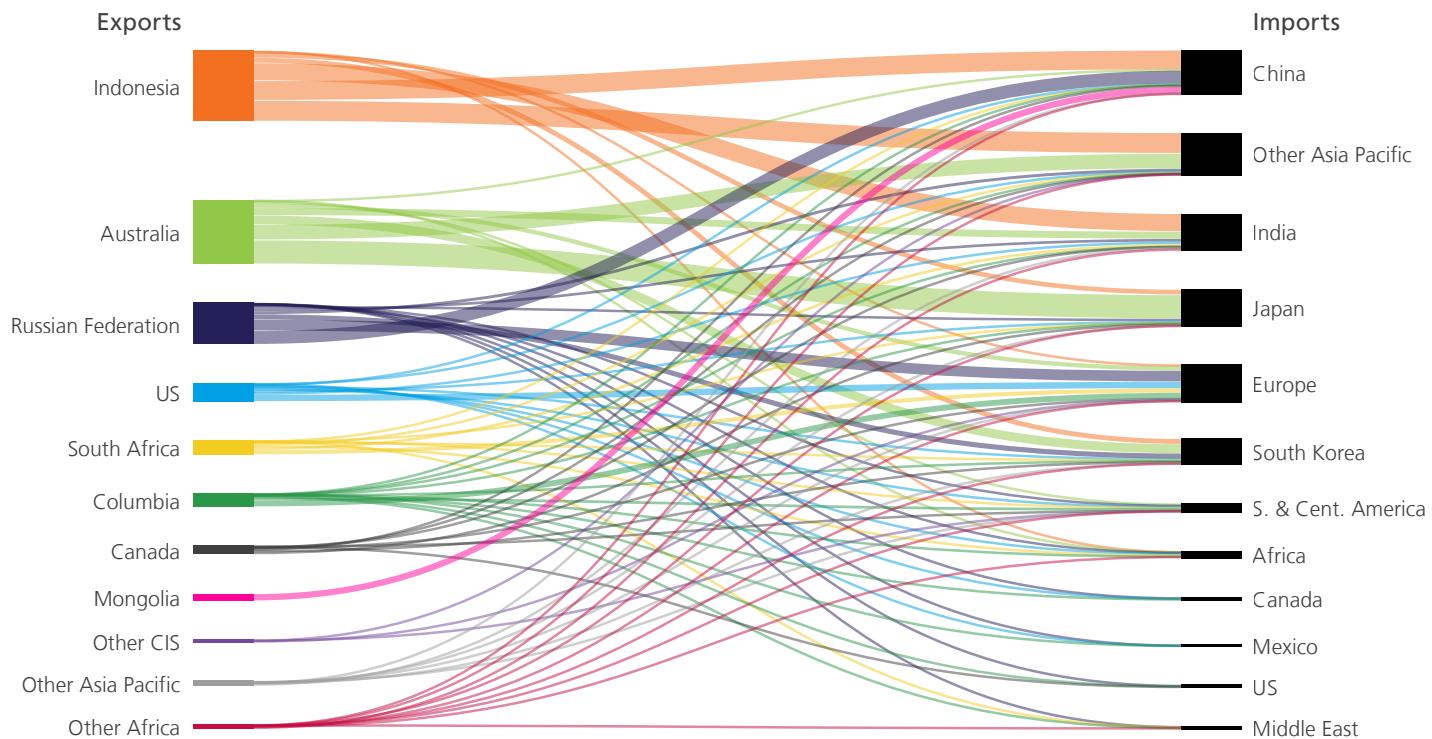
Notes: Annual changes and shares of total are calculated using exajoules figures.

From	To												Total	
	Canada	Mexico	US	S. & Cent. America	Europe	CIS	Middle East	Africa	China	India	Japan	South Korea	Other Asia Pacific	
Canada	—	^	0.04	0.02	0.09	^	^	^	0.22	0.05	0.27	0.22	0.07	0.97
US	0.13	0.02	—	0.24	0.89	^	^	0.16	0.12	0.29	0.26	0.13	0.01	2.25
Colombia	0.03	0.01	0.10	0.38	0.81	^	0.12	0.02	0.01	0.01	0.04	0.05	0.02	1.59
Europe	^	^	^	0.01	—	^	^	0.02	^	0.08	^	0.01	0.02	0.16
Russia	0.01	0.01	0.01	0.08	1.48	0.04	0.01	0.14	1.79	0.37	0.31	0.71	0.41	5.36
Other CIS	—	—	—	0.01	0.17	0.44	^	^	^	^	^	^	0.02	0.64
South Africa	^	—	^	0.01	0.57	^	0.04	0.27	0.03	0.39	0.03	0.17	0.24	1.75
Other Africa	^	—	^	0.02	0.05	—	0.01	0.08	0.01	0.17	0.01	0.04	0.01	0.40
Australia	^	^	^	0.25	0.60	^	^	0.02	0.08	0.97	3.21	1.24	2.02	8.39
China	^	0.01	0.01	0.03	0.03	^	0.01	0.01	—	0.02	0.04	0.02	0.14	0.32
Indonesia	—	—	^	0.12	—	—	0.01	2.61	2.37	0.65	0.68	2.76	9.19	
Mongolia	—	—	—	—	^	—	—	0.87	—	—	^	—	0.87	
Other Asia Pacific	^	^	^	0.01	0.03	^	^	0.07	0.23	0.03	0.07	—	—	0.44
Rest of World	^	^	^	0.01	0.03	^	0.01	0.02	0.05	^	0.01	0.01	0.01	0.15
Total imports	0.17	0.05	0.16	1.07	4.87	0.49	0.22	0.73	5.83	5.01	4.82	3.34	5.72	32.47

^ Less than 0.05%.



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.

International coal trade fell by nearly 4% in 2022, its lowest level since 2017. Together Indonesia, Australia, and Russia were responsible for just over 71% of total global exports. Within this, Russia's coal exports fell by 12% relative to 2022. China was the largest importer of coal at nearly 6 EJ and,

whilst its imports from Indonesia fell by 0.5 EJ, it increased its imports from Russia and Mongolia by 1.5 EJ and 0.5 EJ respectively. Whilst Asia Pacific accounted for 74% of global coal imports, Europe was the second largest region seeing its coal imports increase by 10% over 2021.



Coal Trade movements

Exajoules	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum			Share
												2022	2012-22	2022	
Imports															
Canada	0.22	0.26	0.22	0.19	0.22	0.23	0.22	0.21	0.17	0.19	0.17	-10.9%	-2.4%	0.5%	
Mexico	0.20	0.22	0.23	0.21	0.34	0.22	0.20	0.24	0.13	0.05	0.05	4.5%	-13.2%	0.2%	
US	0.24	0.28	0.28	0.25	0.19	0.27	0.24	0.17	0.15	0.14	0.16	18.2%	-3.6%	0.5%	
S. & Cent. America	1.06	1.06	1.00	1.06	1.23	0.88	1.06	1.12	1.04	1.29	1.07	-16.8%	0.1%	3.3%	
Europe	5.85	6.09	6.03	5.40	5.86	6.09	5.85	5.10	3.91	4.43	4.87	10.0%	-1.8%	15.0%	
CIS	0.56	0.56	0.53	0.48	0.60	0.53	0.56	0.70	0.66	0.64	0.49	-23.6%	-1.3%	1.5%	
Middle East	0.44	0.49	0.38	0.34	0.37	0.49	0.44	0.32	0.36	0.33	0.22	-33.5%	-6.8%	0.7%	
Africa	0.81	0.37	0.44	0.50	0.63	0.31	0.81	0.92	0.53	0.71	0.73	2.8%	-1.1%	2.2%	
China	7.63	6.62	4.69	5.65	5.87	6.71	7.63	6.40	6.61	6.67	5.83	-12.6%	-2.7%	18.0%	
India	3.66	4.65	4.92	6.46	5.25	3.09	3.66	4.70	4.79	4.69	5.01	6.7%	3.2%	15.4%	
Japan	5.06	5.00	5.05	5.01	5.06	4.87	5.06	4.90	4.56	4.84	4.82	-0.5%	-0.5%	14.8%	
South Korea	3.32	3.43	3.54	3.53	3.89	3.30	3.32	3.73	3.28	3.35	3.34	-0.3%	0.1%	10.3%	
Other Asia Pacific	3.61	2.73	3.96	4.60	5.00	3.65	3.61	5.26	6.39	6.33	5.72	-9.7%	4.7%	17.6%	
Total World	32.65	31.76	31.27	33.69	34.50	30.61	32.65	33.78	32.59	33.65	32.47	-3.5%	-0.1%	100.0%	
Exports															
Canada	0.99	1.13	1.00	0.86	0.94	0.99	1.13	1.02	0.95	0.97	0.97	0.7%	-0.1%	3.0%	
US	3.02	2.88	2.38	1.89	2.39	3.02	2.88	2.21	1.74	2.18	2.25	2.9%	-2.9%	6.9%	
Colombia	2.25	2.05	2.27	2.19	2.48	2.25	2.05	2.08	1.82	1.69	1.59	-5.7%	-3.4%	4.9%	
Europe	0.20	0.68	0.13	0.10	0.19	0.20	0.68	0.24	0.22	0.25	0.16	-35.0%	-2.0%	0.5%	
Russia	3.23	3.55	3.78	4.11	5.09	3.23	3.55	5.79	5.67	6.09	5.36	-12.1%	5.2%	16.5%	
Other CIS	0.50	0.51	0.51	0.48	0.51	0.50	0.51	0.55	0.60	0.60	0.64	7.6%	2.5%	2.0%	
South Africa	2.22	2.10	2.18	2.30	2.71	2.22	2.10	1.42	1.76	1.69	1.75	3.6%	-2.4%	5.4%	
Other Africa	0.13	0.11	0.18	0.26	0.66	0.13	0.11	0.28	0.28	0.32	0.40	24.6%	12.0%	1.2%	
Australia	7.96	9.19	9.12	9.95	9.70	7.96	9.19	9.63	9.35	9.65	8.39	-13.0%	0.5%	25.8%	
China	0.28	0.28	0.36	0.45	0.42	0.28	0.28	0.34	0.18	0.28	0.32	12.8%	1.3%	1.0%	
Indonesia	8.16	8.57	8.42	7.48	8.08	8.16	8.57	8.50	8.79	9.00	9.19	2.1%	1.2%	28.3%	
Mongolia	0.63	0.49	0.53	0.41	0.95	0.63	0.49	1.04	0.83	0.49	0.87	76.9%	3.3%	2.7%	
Other Asia Pacific	0.90	0.92	0.77	0.65	0.32	0.90	0.92	0.60	0.34	0.37	0.44	18.2%	-6.9%	1.4%	
Rest of World	0.15	0.19	0.14	0.14	0.06	0.15	0.19	0.07	0.06	0.08	0.15	81.2%	0.1%	0.5%	
Total World	30.61	32.65	31.76	31.27	34.50	30.61	32.65	33.78	32.59	33.65	32.47	-3.5%	0.6%	100.0%	

▲ Less than 0.005.

† Less than 0.05.

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.



Coal Consumption*

Exajoules													Growth rate per annum		Share
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022	
Canada	0.88	0.86	0.82	0.82	0.77	0.80	0.65	0.61	0.53	0.50	0.39	-22.4%	-7.9%	0.2%	
Mexico	0.54	0.53	0.53	0.53	0.52	0.64	0.57	0.54	0.24	0.20	0.25	26.6%	-7.3%	0.2%	
US	17.42	18.08	18.04	15.58	14.26	13.87	13.28	11.34	9.20	10.57	9.87	-6.7%	-5.5%	6.1%	
Total North America	18.84	19.48	19.39	16.94	15.55	15.30	14.50	12.50	9.98	11.27	10.51	-6.8%	-5.6%	6.5%	
Argentina	0.05	0.05	0.06	0.06	0.04	0.05	0.05	0.03	0.04	0.05	0.05	2.5%	0.5%	†	
Brazil	0.64	0.69	0.73	0.74	0.67	0.70	0.69	0.65	0.59	0.71	0.59	-17.8%	-0.9%	0.4%	
Chile	0.28	0.32	0.32	0.31	0.31	0.32	0.31	0.31	0.26	0.29	0.22	-24.6%	-2.4%	0.1%	
Colombia	0.20	0.21	0.22	0.21	0.23	0.17	0.16	0.19	0.17	0.11	0.10	-9.4%	-6.3%	0.1%	
Ecuador	^	^	^	^	^	^	^	^	^	^	^	45.5%	19.9%	†	
Peru	0.04	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.02	0.02	0.03	36.1%	-2.2%	†	
Trinidad & Tobago	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Venezuela	0.01	0.01	0.01	0.01	0.01	^	^	^	^	^	^	-12.0%	-16.2%	†	
Central America	0.03	0.04	0.04	0.05	0.06	0.04	0.05	0.07	0.06	0.07	0.05	-34.1%	4.4%	†	
Other Caribbean	0.07	0.08	0.09	0.08	0.07	0.08	0.11	0.15	0.14	0.14	0.14	-0.1%	7.4%	0.1%	
Other South America	^	^	^	^	^	^	^	^	^	^	^	26.2%	10.8%	†	
Total S. & Cent. America	1.31	1.44	1.51	1.48	1.40	1.37	1.39	1.29	1.41	1.19	-15.9%	-1.0%	0.7%		
Austria	0.14	0.14	0.13	0.14	0.13	0.13	0.12	0.12	0.10	0.11	0.10	-5.5%	-2.8%	0.1%	
Belgium	0.14	0.15	0.14	0.14	0.13	0.13	0.13	0.13	0.10	0.11	0.12	3.4%	-1.8%	0.1%	
Bulgaria	0.29	0.25	0.27	0.27	0.24	0.26	0.23	0.21	0.17	0.22	0.26	19.4%	-1.0%	0.2%	
Croatia	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-1.0%	-4.2%	†	
Cyprus	^	^	^	^	^	^	^	^	^	^	^	-20.7%	63.5%	†	
Czech Republic	0.74	0.71	0.69	0.68	0.69	0.67	0.67	0.60	0.52	0.54	0.59	8.5%	-2.3%	0.4%	
Denmark	0.11	0.14	0.11	0.08	0.09	0.07	0.07	0.04	0.03	0.04	0.04	-3.3%	-8.6%	†	
Estonia	0.16	0.17	0.17	0.15	0.16	0.18	0.18	0.13	0.10	0.11	0.12	7.1%	-2.4%	0.1%	
Finland	0.19	0.21	0.19	0.16	0.18	0.17	0.18	0.15	0.11	0.12	0.12	-0.1%	-4.2%	0.1%	
France	0.46	0.48	0.36	0.36	0.35	0.38	0.34	0.27	0.19	0.23	0.21	-6.1%	-7.4%	0.1%	
Germany	3.37	3.47	3.33	3.29	3.20	3.01	2.90	2.25	2.44	2.24	2.33	4.1%	-3.6%	1.4%	
Greece	0.34	0.29	0.28	0.24	0.18	0.20	0.20	0.13	0.08	0.07	0.07	0.5%	-14.4%	†	
Hungary	0.11	0.10	0.09	0.10	0.09	0.09	0.09	0.08	0.07	0.06	0.05	-13.4%	-7.5%	†	
Iceland	^	^	^	^	^	^	^	^	—	—	—	-100.0%	—	—	
Ireland	0.09	0.09	0.08	0.09	0.09	0.08	0.06	0.04	0.04	0.05	0.04	-14.0%	-7.7%	†	
Italy	0.66	0.57	0.55	0.52	0.46	0.40	0.37	0.28	0.21	0.23	0.31	30.1%	-7.4%	0.2%	
Latvia	^	^	^	^	^	^	^	^	^	^	^	8.6%	-13.9%	†	
Lithuania	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	3.5%	-1.9%	†	
Luxembourg	^	^	^	^	^	^	^	^	^	^	^	5.1%	-1.9%	†	
Netherlands	0.34	0.34	0.38	0.46	0.43	0.39	0.35	0.27	0.17	0.23	0.23	-0.8%	-3.8%	0.1%	
North Macedonia	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	17.2%	-6.4%	†	
Norway	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	-4.6%	-0.2%	†	
Poland	2.14	2.23	2.07	2.04	2.07	2.08	2.09	1.86	1.72	1.90	1.81	-5.2%	-1.7%	1.1%	
Portugal	0.12	0.11	0.11	0.14	0.12	0.14	0.11	0.05	0.02	0.01	0.01	-95.4%	-43.9%	†	
Romania	0.32	0.25	0.24	0.25	0.22	0.23	0.21	0.21	0.15	0.17	0.17	-2.7%	-6.3%	0.1%	
Slovakia	0.14	0.14	0.14	0.14	0.13	0.14	0.14	0.11	0.10	0.12	0.11	-10.4%	-3.0%	0.1%	
Slovenia	0.06	0.06	0.04	0.04	0.05	0.05	0.05	0.04	0.04	0.04	0.03	-23.1%	-6.4%	†	
Spain	0.65	0.48	0.49	0.57	0.44	0.56	0.48	0.21	0.12	0.13	0.17	31.3%	-12.6%	0.1%	
Sweden	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	6.2%	-1.8%	†	
Switzerland	0.01	0.01	0.01	0.01	^	^	^	^	^	^	^	-3.3%	—	—	
Turkey	1.53	1.32	1.51	1.45	1.61	1.65	1.71	1.76	1.70	1.74	1.75	0.5%	1.4%	1.1%	
Ukraine	1.79	1.73	1.49	1.14	1.36	1.08	1.17	1.09	0.96	0.95	0.52	-45.6%	-11.6%	0.3%	
United Kingdom	1.62	1.57	1.26	1.00	0.51	0.41	0.35	0.25	0.23	0.24	0.21	-10.8%	-18.4%	0.1%	
Other Europe	0.59	0.61	0.50	0.58	0.60	0.59	0.59	0.57	0.59	0.56	0.55	-1.3%	-0.7%	0.3%	
Total Europe	16.33	15.82	14.86	14.24	13.74	13.28	12.96	11.05	9.55	10.39	10.07	-3.1%	-4.7%	6.2%	
Azerbaijan	^	^	^	^	^	^	^	^	^	^	^	-28.2%	—	†	
Belarus	0.03	0.04	0.03	0.03	0.03	0.04	0.05	0.06	0.04	0.04	0.04	8.3%	1.6%	†	
Kazakhstan	1.58	1.57	1.55	1.14	1.34	1.47	1.52	1.44	1.37	1.40	1.44	2.2%	-1.0%	0.9%	
Russian Federation	4.12	3.79	3.67	3.86	3.74	3.51	3.63	3.57	3.29	3.43	3.19	-6.8%	-2.5%	2.0%	
Turkmenistan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Uzbekistan	0.05	0.07	0.07	0.05	0.06	0.06	0.09	0.08	0.10	0.09	0.10	11.1%	8.0%	0.1%	
Other CIS	0.05	0.06	0.07	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	3.6%	6.4%	0.1%	
Total CIS	5.84	5.52	5.39	5.17	5.25	5.16	5.38	5.23	4.88	5.05	4.87	-3.6%	-1.8%	3.0%	
Iran	0.04	0.03	0.04	0.05	0.04	0.04	0.06	0.07	0.08	0.07	0.08	8.0%	7.1%	†	
Iraq	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Israel	0.37	0.30	0.28	0.27	0.23	0.21	0.20	0.21	0.18	0.16	0.16	-1.2%	-8.2%	0.1%	
Kuwait	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	^	^	^	66.4%	5.2%	†	
Oman	^	^	^	^	^	^	^	^	^	^	^	-	10.6%	†	
Qatar	^	^	^	^	^	^	^	^	^	^	^	302.0%	8.1%	†	
Saudi Arabia	^	^	^	^	^	^	^	^	^	^	^	-	3.6%	†	
United Arab Emirates	0.06	0.07	0.08	0.07	0.08	0.09	0.08	0.07	0.09	0.10	0.10	3.8%	5.9%	0.1%	
Other Middle East	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02	25.4%	-0.3%	†	
Total Middle East	0.50	0.44	0.44	0.42	0.38	0.38	0.37	0.38	0.37	0.36	0.37	3.9%	-2.8%	0.2%	
Algeria	0.01	0.01	0.01	0.01	^	0.01	0.02	0.02	0.01	0.01	0.01	-51.8%	-7.8%	†	
Egypt	0.02	0.02	0.02	0.03	0.05	0.05	0.09	0.08	0.03	0.05	0.05	1.1%	12.2%	†	
Morocco	0.13	0.13	0.17	0.19	0.18	0.19	0.22	0.28	0.28	0.31	0.28	-9.1%	8.3%	0.2%	
South Africa	3.70	3.70	3.75	3.52	3.78	3.72	3.53	3.76	3.51	3.31	3.31	-5.6%	-1.1%	2.1%	
Eastern Africa	0.11	0.16	0.24	0.21	0.16	0.20	0.22	0.19	0.18	0.19	0.21	8.6%	7.1%	0.1%	
Middle Africa	^	^	^	^	^	^	^	^	^	^	^	8.6%	16.3%	†	
Western Africa	0.01	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.03	-5.2%	7.4%	†	
Other Northern Africa	^	—	—	—	—	—	—	—	—	—	—	-	-13.6%	†	
Other Southern Africa	0.05	0.05	0.06	0.06	0.07	0.07	0.06	0.05	0.06	0.06	0.08	18.6%	3.7%	†	
Total Africa	4.03	4.													



Nuclear energy Consumption*

Exajoules (input-equivalent)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share	
												2022	2012–22		
Canada	0.89	0.97	1	0.94	0.93	0.92	0.91	0.92	0.88	0.83	0.78	-6.2%	-1.3%	3.2%	
Mexico	0.08	0.11	0.09	0.11	0.1	0.1	0.12	0.1	0.1	0.11	0.1	-9.3%	1.6%	0.4%	
US	7.67	7.82	7.85	7.81	7.84	7.79	7.76	7.76	7.54	7.42	7.31	-1.4%	-0.5%	30.3%	
Total North America	8.65	8.9	8.94	8.85	8.87	8.81	8.8	8.78	8.53	8.36	8.19	-2.0%	-0.5%	34.0%	
Argentina	0.06	0.06	0.05	0.07	0.08	0.06	0.06	0.08	0.09	0.09	0.07	-26.8%	1.0%	0.3%	
Brazil	0.15	0.15	0.14	0.14	0.15	0.14	0.14	0.15	0.13	0.13	0.13	-1.4%	-1.5%	0.5%	
Chile	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Colombia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Ecuador	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Peru	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Trinidad & Tobago	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Venezuela	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Central America	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Other Caribbean	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Other South America	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Total S. & Cent. America	0.21	0.2	0.2	0.2	0.22	0.2	0.21	0.22	0.22	0.22	0.2	-11.8%	-0.7%	0.8%	
Austria	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Belgium	0.38	0.4	0.32	0.24	0.4	0.39	0.26	0.4	0.31	0.45	0.39	-13.4%	0.3%	1.6%	
Bulgaria	0.15	0.13	0.15	0.14	0.15	0.14	0.15	0.15	0.15	0.15	0.15	-0.6%	-0.1%	0.6%	
Croatia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Cyprus	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Czech Republic	0.29	0.29	0.28	0.25	0.22	0.26	0.27	0.28	0.27	0.28	0.28	0.6%	-0.3%	1.2%	
Denmark	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Estonia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Finland	0.22	0.22	0.22	0.22	0.21	0.21	0.21	0.22	0.21	0.21	0.23	6.6%	0.4%	0.9%	
France	4.03	3.99	4.08	4.07	3.73	3.66	3.77	3.63	3.21	3.43	2.65	-22.6%	-4.1%	11.0%	
Germany	0.94	0.92	0.91	0.85	0.78	0.7	0.69	0.68	0.58	0.62	0.31	-50.0%	-10.4%	1.3%	
Greece	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Hungary	0.15	0.14	0.15	0.15	0.15	0.15	0.14	0.15	0.15	0.14	0.14	-1.5%	-0.5%	0.6%	
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Ireland	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Italy	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Latvia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Lithuania	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Luxembourg	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Netherlands	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.04	0.04	0.04	^	^	8.2%	0.1%	0.2%
North Macedonia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Norway	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Poland	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Romania	0.11	0.11	0.11	0.11	0.1	0.11	0.1	0.1	0.1	0.1	0.1	-2.1%	-0.8%	0.4%	
Slovakia	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.7%	-0.2%	0.6%	
Slovenia	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	-2.1%	-0.4%	0.2%	
Spain	0.58	0.53	0.54	0.53	0.54	0.53	0.51	0.53	0.53	0.51	0.53	3.2%	-1.0%	2.2%	
Sweden	0.61	0.63	0.61	0.52	0.58	0.6	0.63	0.6	0.45	0.48	0.46	-3.0%	-2.6%	1.9%	
Switzerland	0.24	0.25	0.26	0.22	0.2	0.19	0.22	0.23	0.21	0.17	0.21	24.3%	-1.5%	0.9%	
Turkey	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Ukraine	0.85	0.78	0.83	0.82	0.75	0.79	0.77	0.76	0.69	0.78	0.56	-28.3%	-4.1%	2.3%	
United Kingdom	0.67	0.66	0.6	0.65	0.66	0.59	0.51	0.46	0.41	0.43	3.6%	-4.3%	1.8%	†	
Other Europe	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Total Europe	9.45	9.29	9.29	9.01	8.71	8.6	8.55	8.47	7.56	7.98	6.68	-16.3%	-3.4%	27.7%	
Azerbaijan	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Belarus	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2%	
Kazakhstan	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Russian Federation	1.68	1.62	1.69	1.82	1.82	1.87	1.87	1.9	1.96	2.01	2.01	0.2%	1.8%	8.4%	
Turkmenistan	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Uzbekistan	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Other CIS	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	^	41.9%	1.6%	0.1%	
Total CIS	1.7	1.65	1.71	1.84	1.84	1.89	1.89	1.92	1.99	2.08	2.08	0.1%	2.0%	8.6%	
Iran	0.01	0.04	0.04	0.03	0.06	0.06	0.06	0.06	0.06	0.06	0.06	85.0%	15.7%	0.2%	
Iraq	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Israel	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Kuwait	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Oman	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Qatar	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Saudi Arabia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
United Arab Emirates	—	—	—	—	—	—	—	—	0.01	0.1	0.18	89.9%	—	0.8%	
Other Middle East	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Total Middle East	0.01	0.04	0.04	0.03	0.06	0.06	0.06	0.06	0.07	0.13	0.24	88.7%	33.1%	1.0%	
Algeria	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Egypt	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Morocco	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
South Africa	0.12	0.13	0.13	0.11	0.14	0.13	0.11	0.12	0.09	0.11	0.09	-18.5%	-3.0%	0.4%	
Eastern Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Middle Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Western Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Other Northern Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Other Southern Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Total Africa	0.12	0.13	0.13	0.11	0.14	0.13	0.11	0.12	0.09	0.11	0.09	-18.5%	-3.0%	0.4%	
Australia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Bangladesh	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
China	0.93	1.05	1.25	1.59	1.97	2.28	2.7	3.18	3.32	3.68	3.76	2.2%	15.0%	15.6%	
China Hong Kong SAR	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
India	0.31	0.31	0.32	0.36	0.35	0.34	0.36	0.41	0.4	0.4	0.42	4.8%	2.9%	1.7%	
Indonesia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Japan	0.17	0.14	—	0.04	0.16	0.27	0.45	0.6	0.39	0.55	0.47	-15.7%	10.6%	1.9%	
Malaysia	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
New Zealand	—	—	—	—	—	—	—	—	—	—	—	—	—	†	
Pakistan	0.03	0.04	0.04	0.04	0.05	0.07	0.08	0.08	0.09	0.14	0.2	41.5%	22.8%		



Hydroelectricity Consumption*

Exajoules (input-equivalent)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum	Share	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012-22	2022
Canada	3.75	3.84	3.73	3.71	3.71	3.78	3.68	3.62	3.65	3.61	3.7	3.7%	+†	9.2%
Mexico	0.31	0.27	0.38	0.3	0.3	0.31	0.31	0.22	0.25	0.33	0.3	2.1%	0.6%	0.8%
US	2.7	2.62	2.49	2.39	2.54	2.84	2.76	2.71	2.67	2.35	2.4	3.5%	-1.1%	6.0%
Total North America	6.77	6.73	6.6	6.39	6.55	6.93	6.74	6.56	6.58	6.28	6.5	3.5%	-0.4%	16.0%
Argentina	0.29	0.32	0.32	0.31	0.29	0.3	0.31	0.26	0.22	0.19	0.2	21.1%	-2.5%	0.6%
Brazil	4.1	3.84	3.64	3.49	3.67	3.55	3.7	3.78	3.75	3.42	4	17.3%	-0.2%	9.9%
Chile	0.2	0.2	0.22	0.23	0.19	0.2	0.22	0.2	0.21	0.17	0.2	22.7%	0.5%	0.5%
Colombia	0.47	0.44	0.44	0.43	0.45	0.55	0.54	0.52	0.47	0.57	0.6	6.0%	2.5%	1.5%
Ecuador	0.12	0.11	0.11	0.13	0.15	0.19	0.2	0.23	0.23	0.24	0.2	-4.0%	6.7%	0.6%
Peru	0.22	0.22	0.22	0.23	0.23	0.28	0.29	0.3	0.29	0.3	0.3	-7.2%	2.5%	0.7%
Trinidad & Tobago	—	—	—	—	—	—	—	—	—	—	—	—	—	+†
Venezuela	0.81	0.8	0.78	0.72	0.61	0.67	0.62	0.6	0.64	0.64	0.6	-2.2%	-2.5%	1.5%
Central America	0.22	0.21	0.21	0.22	0.22	0.26	0.26	0.2	0.25	0.28	0.3	5.6%	3.0%	0.7%
Other Caribbean	0.02	0.02	0.02	0.01	0.02	0.03	0.02	0.02	0.02	0.02	— [▲]	-3.2%	-2.5%	+†
Other South America	0.68	0.71	0.67	0.65	0.72	0.68	0.67	0.59	0.52	0.48	0.5	6.7%	-3.0%	1.2%
Total S. & Cent. America	7.13	6.87	6.62	6.43	6.55	6.72	6.83	6.7	6.59	6.3	7	11.2%	-0.2%	17.2%
Austria	0.43	0.41	0.4	0.36	0.39	0.37	0.36	0.39	0.4	0.37	0.3	-8.6%	-2.6%	0.8%
Belgium	— [▲]	-24.8%	-1.7%	+†										
Bulgaria	0.03	0.04	0.04	0.05	0.04	0.03	0.05	0.03	0.03	0.05	— [▲]	-22.1%	1.1%	0.1%
Croatia	0.05	0.08	0.09	0.06	0.07	0.05	0.07	0.06	0.05	0.07	0.1	-24.2%	0.6%	0.1%
Cyprus	—	—	—	—	—	—	—	—	—	—	—	—	—	+†
Czech Republic	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	— [▲]	-13.4%	-0.7%	+†
Denmark	— [▲]	-10.4%	-2.2%	+†										
Estonia	— [▲]	1.5%	-6.1%	+†										
Finland	0.17	0.13	0.13	0.16	0.15	0.14	0.13	0.12	0.15	0.15	0.1	-13.8%	-2.6%	0.3%
France	0.58	0.7	0.61	0.53	0.58	0.47	0.61	0.53	0.58	0.55	0.4	-24.3%	-3.2%	1.0%
Germany	0.21	0.23	0.19	0.18	0.2	0.19	0.17	0.19	0.17	0.19	0.2	-11.3%	-2.6%	0.4%
Greece	0.04	0.06	0.04	0.06	0.05	0.04	0.05	0.04	0.03	0.06	— [▲]	-23.2%	-0.2%	0.1%
Hungary	— [▲]	-17.2%	-2.4%	+†										
Iceland	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.13	0.1	2.3%	0.9%	0.3%
Ireland	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	— [▲]	-6.0%	-1.8%	+†
Italy	0.41	0.52	0.57	0.44	0.41	0.35	0.47	0.44	0.45	0.43	0.3	-38.2%	-4.4%	0.6%
Latvia	0.04	0.03	0.02	0.02	0.02	0.04	0.02	0.02	0.02	0.03	— [▲]	1.2%	-3.4%	0.1%
Lithuania	— [▲]	0.01	— [▲]	21.2%	0.5%	+†								
Luxembourg	— [▲]	-35.5%	-3.9%	+†										
Netherlands	— [▲]	-43.4%	-7.5%	+†										
North Macedonia	0.01	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.01	— [▲]	-7.7%	2.1%	+†
Norway	1.4	1.26	1.32	1.33	1.38	1.36	1.32	1.19	1.33	1.35	1.2	-11.3%	-1.5%	2.9%
Poland	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	— [▲]	-16.2%	-0.8%	+†
Portugal	0.06	0.13	0.15	0.08	0.15	0.06	0.12	0.08	0.11	0.11	0.1	-45.6%	1.0%	0.2%
Romania	0.12	0.15	0.18	0.16	0.17	0.14	0.17	0.15	0.15	0.16	0.1	-20.9%	0.9%	0.3%
Slovakia	0.04	0.05	0.04	0.04	0.04	0.04	0.03	0.04	0.04	0.04	— [▲]	-16.5%	-1.9%	0.1%
Slovenia	0.04	0.05	0.06	0.04	0.04	0.04	0.04	0.05	0.04	0.04	— [▲]	-33.4%	-2.6%	0.1%
Spain	0.2	0.36	0.38	0.27	0.35	0.18	0.33	0.21	0.29	0.28	0.2	-38.7%	-1.7%	0.4%
Sweden	0.78	0.6	0.62	0.73	0.6	0.62	0.59	0.62	0.68	0.7	0.7	-5.8%	-1.7%	1.6%
Switzerland	0.38	0.38	0.37	0.37	0.33	0.33	0.33	0.36	0.35	0.34	0.3	-19.4%	-3.1%	0.7%
Turkey	0.57	0.58	0.4	0.65	0.65	0.56	0.57	0.84	0.74	0.53	0.6	19.7%	1.0%	1.6%
Ukraine	0.1	0.14	0.08	0.05	0.07	0.09	0.1	0.06	0.07	0.1	0.1	6.1%	0.1%	0.3%
United Kingdom	0.05	0.05	0.06	0.06	0.05	0.06	0.05	0.06	0.06	0.05	— [▲]	-3.6%	-0.5%	0.1%
Other Europe	0.27	0.35	0.32	0.31	0.34	0.28	0.37	0.31	0.28	0.38	0.3	-16.6%	1.5%	0.8%
Total Europe	6.18	6.49	6.28	6.18	6.3	5.62	6.16	5.96	6.25	6.17	5.3	-13.7%	-1.5%	13.1%
Azerbaijan	0.02	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	— [▲]	24.4%	-1.8%	+†
Belarus	— [▲]	-0.4%	16.3%	+†										
Kazakhstan	0.08	0.08	0.08	0.09	0.11	0.11	0.1	0.09	0.09	0.09	0.1	-0.4%	1.4%	0.2%
Russian Federation	1.61	1.78	1.69	1.63	1.78	1.77	1.82	1.84	2.01	2.02	1.9	-8.2%	1.4%	4.6%
Turkmenistan	— [▲]	-0.4%	5.7%	+†										
Uzbekistan	0.06	0.06	0.06	0.06	0.07	0.08	0.06	0.06	0.05	0.05	— [▲]	5.7%	-2.3%	0.1%
Other CIS	0.33	0.32	0.31	0.29	0.3	0.32	0.34	0.34	0.33	0.33	0.3	-3.0%	-0.5%	0.8%
Total CIS	2.1	2.25	2.16	2.09	2.27	2.3	2.33	2.36	2.49	2.5	2.3	-6.8%	1.0%	5.7%
Iran	0.12	0.14	0.14	0.13	0.15	0.17	0.09	0.32	0.22	0.14	0.1	-50.1%	-5.5%	0.2%
Iraq	0.04	0.05	0.03	0.02	0.03	0.02	0.02	0.05	0.04	0.03	— [▲]	-1.9%	-3.3%	0.1%
Israel	— [▲]	-1.7%	-3.8%	+†										
Kuwait	—	—	—	—	—	—	—	—	—	—	—	—	—	+†
Oman	—	—	—	—	—	—	—	—	—	—	—	—	—	+†
Qatar	—	—	—	—	—	—	—	—	—	—	—	—	—	+†
Saudi Arabia	—	—	—	—	—	—	—	—	—	—	—	—	—	+†
United Arab Emirates	—	—	—	—	—	—	—	—	—	—	—	—	—	+†
Other Middle East	0.04	0.04	0.03	0.01	0.01	0.01	0.01	0.02	0.02	0.02	— [▲]	-0.1%	-10.1%	+†
Total Middle East	0.21	0.23	0.19	0.16	0.19	0.2	0.12	0.39	0.28	0.19	0.1	-37.9%	-5.8%	0.3%
Algeria	— [▲]	722.6%	-15.4%	+†										
Egypt	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.13	0.14	0.13	0.1	-3.8%	0.1%	0.3%
Morocco	0.02	0.03	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.01	— [▲]	-57.4%	-14.7%	+†
South Africa	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	— [▲]	53.1%	11.2%	0.1%
Eastern Africa	0.57	0.61	0.64	0.63	0.6	0.62	0.65</							



Renewable energy Consumption*

Exajoules (input-equivalent)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022		
												2022	2012–22			
Canada	0.32	0.33	0.34	0.48	0.54	0.55	0.56	0.56	0.57	0.58	0.59	2.2%	6.2%	1.3%		
Mexico	0.11	0.12	0.14	0.17	0.18	0.2	0.23	0.33	0.41	0.46	0.45	-2.2%	15.3%	1.0%		
US	3.5	3.99	4.3	4.53	5.13	5.6	5.88	6.2	6.65	7.47	8.43	12.8%	9.2%	18.7%		
Total North America	3.94	4.44	4.78	5.18	5.85	6.35	6.67	7.09	7.64	8.5	9.46	11.3%	9.2%	20.9%		
Argentina	0.06	0.06	0.07	0.08	0.08	0.09	0.09	0.14	0.16	0.21	0.24	15.3%	15.2%	0.5%		
Brazil	0.99	1.16	1.34	1.58	1.64	1.76	1.98	2.18	2.2	2.36	2.53	7.2%	9.8%	5.6%		
Chile	0.07	0.08	0.08	0.1	0.13	0.16	0.19	0.2	0.21	0.25	0.29	18.6%	15.0%	0.7%		
Colombia	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.07	2.4%	5.3%	0.2%		
Ecuador	^	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-3.8%	5.5%	†		
Peru	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.05	0.05	2.7%	9.4%	0.1%		
Trinidad & Tobago	^	^	^	^	^	^	^	^	^	^	^	-0.4%	1.8%	†		
Venezuela	^	^	^	^	^	^	^	^	^	^	^	-0.3%	13.1%	†		
Central America	0.08	0.09	0.1	0.12	0.13	0.13	0.16	0.17	0.16	0.17	0.17	-3.9%	7.5%	0.4%		
Other Caribbean	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.06	-0.3%	7.9%	0.1%		
Other South America	0.02	0.03	0.04	0.06	0.07	0.08	0.09	0.1	0.11	0.11	0.1	-2.5%	16.0%	0.2%		
Total S. & Cent. America	1.33	1.53	1.76	2.07	2.18	2.36	2.66	2.95	3.02	3.28	3.53	7.4%	10.3%	7.8%		
Austria	0.1	0.11	0.12	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.17	6.3%	5.1%	0.4%		
Belgium	0.12	0.13	0.14	0.16	0.16	0.18	0.19	0.21	0.26	0.25	0.26	3.7%	7.7%	0.6%		
Bulgaria	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.05	0.06	0.07	0.07	9.2%	11.1%	0.2%		
Croatia	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.04	0.04	7.1%	22.1%	0.1%		
Cyprus	^	^	^	^	^	^	^	0.01	0.01	0.01	0.01	14.1%	11.2%	†		
Czech Republic	0.08	0.08	0.09	0.09	0.09	0.1	0.1	0.1	0.1	0.1	0.1	1.5%	3.3%	0.2%		
Denmark	0.16	0.17	0.19	0.2	0.2	0.23	0.22	0.24	0.24	0.27	0.29	6.8%	6.1%	0.6%		
Estonia	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	2.9%	7.8%	0.1%		
Finland	0.14	0.15	0.16	0.17	0.17	0.2	0.22	0.23	0.22	0.26	0.32	23.9%	8.7%	0.7%		
France	0.36	0.38	0.42	0.48	0.49	0.54	0.59	0.67	0.71	0.72	0.81	11.7%	8.4%	1.8%		
Germany	1.4	1.45	1.59	1.84	1.83	2.08	2.17	2.32	2.45	2.25	2.45	9.0%	5.8%	5.4%		
Greece	0.06	0.08	0.08	0.09	0.1	0.11	0.12	0.14	0.16	0.18	0.18	12.4%	11.4%	0.4%		
Hungary	0.03	0.03	0.04	0.04	0.04	0.04	0.05	0.06	0.07	0.08	0.09	7.5%	9.9%	0.2%		
Iceland	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.05	0.05	0.05	0.05	1.8%	1.0%	0.1%		
Ireland	0.05	0.05	0.06	0.07	0.07	0.09	0.1	0.11	0.13	0.11	0.13	17.0%	10.5%	0.3%		
Italy	0.58	0.66	0.68	0.7	0.72	0.74	0.72	0.73	0.74	0.72	0.76	4.4%	2.7%	1.7%		
Latvia	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-5.4%	9.1%	†		
Lithuania	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.02	-12.8%	8.8%	0.1%		
Luxembourg	^	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-1.4%	13.3%	†		
Netherlands	0.15	0.14	0.14	0.15	0.16	0.19	0.21	0.26	0.36	0.44	0.51	16.5%	13.1%	1.1%		
North Macedonia	^	^	^	^	^	^	^	^	^	^	^	-5.1%	46.8%	†		
Norway	0.02	0.03	0.03	0.03	0.04	0.05	0.05	0.08	0.11	0.13	0.16	22.2%	20.5%	0.4%		
Poland	0.19	0.19	0.22	0.24	0.23	0.24	0.24	0.28	0.3	0.33	0.39	18.2%	7.1%	0.9%		
Portugal	0.15	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19	0.21	0.21	0.2%	3.2%	0.5%		
Romania	0.04	0.06	0.07	0.1	0.1	0.11	0.09	0.1	0.11	0.1	0.11	3.0%	11.4%	0.2%		
Slovakia	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	9.3%	7.0%	0.1%		
Slovenia	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-4.9%	5.1%	†		
Spain	0.75	0.77	0.74	0.72	0.71	0.73	0.75	0.78	0.86	0.98	1.04	6.5%	3.3%	2.3%		
Sweden	0.24	0.26	0.27	0.33	0.34	0.37	0.36	0.41	0.45	0.49	0.56	15.0%	8.9%	1.2%		
Switzerland	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	20.6%	12.3%	0.2%		
Türkiye	0.08	0.11	0.12	0.17	0.24	0.29	0.38	0.43	0.5	0.62	0.69	11.6%	24.7%	1.5%		
Ukraine	0.01	0.01	0.02	0.02	0.02	0.03	0.06	0.09	0.11	0.07	-35.7%	24.6%	0.2%			
United Kingdom	0.42	0.55	0.66	0.84	0.84	0.99	1.12	1.22	1.35	1.24	1.36	10.1%	12.6%	3.0%		
Other Europe	^	^	^	^	^	0.01	0.01	0.02	0.02	0.03	0.03	7.0%	38.5%	0.1%		
Total Europe	5.3	5.81	6.23	6.99	7.1	7.89	8.32	9.09	9.9	10.12	11.06	9.4%	7.6%	24.5%		
Azerbaijan	-	^	^	^	^	^	^	^	^	^	^	1.7%	-	†		
Belarus	^	^	^	^	^	^	^	0.01	0.01	0.01	0.01	15.5%	12.9%	†		
Kazakhstan	^	^	^	^	^	^	^	0.01	0.01	0.02	0.03	24.7%	107.7%	0.1%		
Russian Federation	^	^	^	0.01	0.01	0.01	0.01	0.02	0.02	0.04	0.08	30.5%	32.7%	0.2%		
Turkmenistan	^	^	^	^	^	^	^	^	^	^	^	-0.4%	21.0%			
Uzbekistan	-	-	-	-	^	^	^	^	^	^	^	267.5%	-	†		
Other CIS	^	^	^	^	^	^	^	^	^	^	^	49.5%	55.1%	†		
Total CIS	0.01	0.01	0.01	0.01	0.02	0.02	0.04	0.05	0.08	0.12	0.17	0.21	0.26	19.8%	39.9%	0.6%
Iran	^	^	^	^	^	^	^	0.01	0.01	0.02	0.02	12.5%	19.9%	†		
Iraq	-	^	^	^	^	^	^	^	^	^	^	11.7%	-	†		
Israel	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.05	0.07	30.6%	30.2%	0.2%		
Kuwait	-	^	^	^	^	^	^	^	^	^	^	-0.4%	-	†		
Oman	-	^	^	^	^	^	^	^	^	^	^	64.9%	-	†		
Qatar	^	^	^	^	^	^	^	^	^	^	^	233.4%	46.3%	†		
Saudi Arabia	^	^	^	^	^	^	^	^	^	^	^	-0.3%	41.0%	†		
United Arab Emirates	^	^	^	^	^	^	0.01	0.01	0.03	0.05	0.06	0.07	11.0%	75.2%	0.1%	
Other Middle East	^	^	^	^	^	^	0.01	0.02	0.03	0.05	0.06	0.07	12.2%	76.3%	0.1%	
Total Middle East	0.01	0.01	0.02	0.02	0.04	0.05	0.08	0.12	0.17	0.21	0.26	19.8%	39.9%	0.6%		
Algeria	^	^	^	^	^	^	^	0.01	0.01	0.01	0.01	2.3%	37.8%	†		
Egypt	0.02	0.02	0.01	0.02	0.03	0.03	0.06	0.09	0.1	0.1	0.1	-3.1%	18.0%	0.2%		
Morocco	0.01	0.01	0.02	0.02	0.03	0.03	0.05	0.06	0.07	0.06	-2.1%	24.4%	0.1%			
South Africa	0.01	0.01	0.03	0.06	0.08	0.11	0.11	0.12	0.12	0.15	0.16	2.5%	34.6%	0.3%		
Eastern Africa	0.04	0.04	0.06	0.08	0.08	0.09	0.09	0.11	0.1	0.11	0.12	11.0%	12.1%	0.3%		
Middle Africa	^	^	^	^	^	^	^	^	^	^	^	270.0%	17.0%	†		
Western Africa	^	^	^	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	6.9%	19.8%	†		
Other Northern Africa	^	^	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	8.0%	16.2%	†		
Other Southern Africa	^	^														



Renewable energy

Renewable power generation*

Exajoules (input-equivalent)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share 2022
												2022	2012–22	
Canada	0.25	0.25	0.26	0.4	0.47	0.46	0.48	0.47	0.49	0.49	0.51	3.5%	7.5%	1.2%
Mexico	0.1	0.11	0.13	0.16	0.18	0.19	0.22	0.32	0.4	0.45	0.44	-2.4%	15.5%	1.1%
US	2.35	2.71	3	3.18	3.66	4.12	4.42	4.7	5.29	5.97	6.87	15.0%	11.3%	16.8%
Total North America	2.69	3.08	3.4	3.74	4.3	4.78	5.12	5.5	6.18	6.91	7.81	13.0%	11.2%	19.1%
Argentina	^	^	^	^	^	^	^	0.07	0.13	0.17	0.19	11.2%	24.8%	0.5%
Brazil	0.46	0.54	0.66	0.78	0.91	1.02	1.12	1.23	1.32	1.48	1.66	11.9%	13.6%	4.1%
Chile	0.07	0.08	0.08	0.1	0.13	0.16	0.19	0.2	0.21	0.25	0.29	18.6%	15.0%	0.7%
Colombia	^	^	^	^	^	^	^	^	^	^	^	2.4%	8.3%	0.1%
Ecuador	^	^	^	^	^	^	^	^	^	^	^	-5.1%	4.7%	†
Peru	^	^	^	^	^	^	^	^	^	^	^	2.9%	15.7%	0.1%
Trinidad & Tobago	^	^	^	^	^	^	^	^	^	^	^	-0.4%	1.8%	†
Venezuela	^	^	^	^	^	^	^	^	^	^	^	-0.3%	13.1%	†
Central America	0.08	0.09	0.1	0.12	0.13	0.13	0.15	0.17	0.16	0.17	0.16	-4.0%	7.4%	0.4%
Other Caribbean	^	^	^	^	^	^	^	^	^	0.05	0.05	-1.0%	11.0%	0.1%
Other South America	^	^	^	^	0.05	0.06	0.07	0.08	0.09	0.1	0.1	-0.5%	17.4%	0.2%
Total S. & Cent. America	0.7	0.81	0.96	1.15	1.33	1.49	1.67	1.86	2.03	2.29	2.53	10.3%	13.7%	6.2%
Austria	0.08	0.09	0.1	0.11	0.12	0.13	0.13	0.14	0.14	0.14	0.15	7.7%	6.4%	0.4%
Belgium	0.11	0.12	0.12	0.15	0.14	0.16	0.17	0.19	0.23	0.22	0.23	3.1%	7.6%	0.6%
Bulgaria	^	^	^	^	^	^	^	^	^	^	^	0.06	0.06	0.1%
Croatia	^	^	^	^	^	^	^	^	^	^	^	2.5%	10.9%	0.1%
Cyprus	^	^	^	^	^	^	^	^	^	^	^	7.4%	23.8%	0.1%
Czech Republic	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	2.6%	3.5%	0.2%
Denmark	0.15	0.16	0.18	0.19	0.19	0.22	0.21	0.23	0.23	0.26	0.28	7.2%	6.3%	0.7%
Estonia	^	^	^	^	^	^	^	^	^	^	^	3.1%	7.3%	0.1%
Finland	0.13	0.15	0.15	0.15	0.16	0.18	0.2	0.21	0.21	0.24	0.28	16.8%	7.5%	0.7%
France	0.25	0.27	0.3	0.36	0.37	0.42	0.47	0.54	0.6	0.6	0.66	10.2%	10.0%	1.6%
Germany	1.27	1.34	1.47	1.73	1.72	2.05	2.2	2.3	2.12	2.33	9.5%	6.2%	5.7%	
Greece	0.06	0.08	0.08	0.09	0.09	0.09	0.1	0.12	0.14	0.15	0.18	13.7%	11.9%	0.4%
Hungary	^	^	^	^	^	^	^	^	0.05	0.07	0.07	7.8%	10.6%	0.2%
Iceland	^	^	^	^	^	^	^	0.05	0.05	0.05	0.05	1.7%	0.8%	0.1%
Ireland	^	0.05	0.06	0.07	0.07	0.08	0.09	0.11	0.12	0.1	0.12	14.6%	10.4%	0.3%
Italy	0.51	0.61	0.64	0.65	0.67	0.68	0.66	0.7	0.69	0.67	0.71	5.6%	3.3%	1.7%
Latvia	^	^	^	^	^	^	^	^	^	^	^	-1.8%	9.7%	†
Lithuania	^	^	^	^	^	^	^	^	^	^	^	-13.5%	9.5%	†
Luxembourg	^	^	^	^	^	^	^	^	^	^	^	1.6%	15.3%	†
Netherlands	0.13	0.13	0.12	0.14	0.15	0.18	0.19	0.23	0.33	0.4	0.47	17.5%	13.4%	1.2%
North Macedonia	^	^	^	^	^	^	^	^	^	^	^	-5.1%	51.1%	†
Norway	^	^	^	^	^	^	^	0.06	0.1	0.12	0.14	25.8%	22.4%	0.4%
Poland	0.16	0.16	0.19	0.22	0.21	0.22	0.2	0.24	0.25	0.28	0.34	20.7%	7.7%	0.8%
Portugal	0.14	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.19	0.2	1.5%	3.4%	0.5%
Romania	^	0.05	0.06	0.09	0.09	0.09	0.08	0.09	0.09	0.09	0.09	4.9%	12.1%	0.2%
Slovakia	^	^	^	^	^	^	^	^	^	^	^	10.4%	7.3%	0.1%
Slovenia	^	^	^	^	^	^	^	^	^	^	^	7.6%	5.7%	†
Spain	0.66	0.74	0.7	0.68	0.67	0.68	0.68	0.71	0.8	0.92	0.98	7.0%	4.0%	2.4%
Sweden	0.21	0.23	0.23	0.28	0.28	0.31	0.3	0.34	0.4	0.42	0.48	15.3%	8.7%	1.2%
Switzerland	^	^	^	^	^	^	^	^	^	^	^	-0.4%	23.3%	11.4%
Turkey	0.07	0.1	0.12	0.16	0.23	0.29	0.37	0.43	0.5	0.61	0.69	11.5%	25.1%	1.7%
Ukraine	^	^	^	^	^	^	^	0.05	0.09	0.11	0.07	-36.2%	24.2%	0.2%
United Kingdom	0.38	0.51	0.61	0.8	0.8	0.95	1.06	1.15	1.29	1.18	1.29	9.2%	13.0%	3.2%
Other Europe	^	^	^	^	^	^	^	^	^	^	^	7.1%	39.2%	0.1%
Total Europe	4.68	5.24	5.63	6.39	6.49	7.23	7.6	8.34	9.14	9.33	10.21	9.4%	8.1%	25.0%
Azerbaijan	-	^	^	^	^	^	^	^	^	^	^	1.7%	-	†
Belarus	^	^	^	^	^	^	^	^	^	^	^	16.9%	20.5%	†
Kazakhstan	^	^	^	^	^	^	^	^	^	^	^	24.7%	107.7%	0.1%
Russian Federation	^	^	^	^	^	^	^	^	^	^	^	0.05	0.07	29.4%
Turkmenistan	^	^	^	^	^	^	^	^	^	^	^	-0.4%	21.0%	†
Uzbekistan	-	-	-	-	^	^	^	^	^	^	^	267.5%	-	†
Other CIS	^	^	^	^	^	^	^	^	^	^	^	49.5%	55.1%	†
Total CIS	^	28.0%	35.2%	0.3%										
Iran	^	^	^	^	^	^	^	^	^	^	^	12.5%	19.9%	†
Iraq	-	^	^	^	^	^	^	^	^	^	^	11.7%	-	†
Israel	^	^	^	^	^	^	^	^	^	^	^	0.05	0.07	31.0%
Kuwait	-	^	^	^	^	^	^	^	^	^	^	-0.4%	-	†
Oman	-	^	^	^	^	^	^	^	^	^	^	64.9%	-	†
Qatar	^	^	^	^	^	^	^	^	^	^	^	^	233.4%	46.3%
Saudi Arabia	^	^	^	^	^	^	^	^	^	^	^	-0.3%	41.0%	†
United Arab Emirates	^	^	^	^	^	^	^	^	^	^	^	0.06	0.07	11.0%
Other Middle East	^	^	^	^	^	^	^	^	^	^	^	0.06	0.07	12.2%
Total Middle East	^	28.0%	35.2%	0.3%										
Algeria	^	^	^	^	^	^	^	^	^	^	^	2.3%	37.8%	†
Egypt	^	^	^	^	^	^	^	0.06	0.09	0.1	0.1	-3.1%	18.0%	0.2%
Morocco	^	^	^	^	^	^	^	0.06	0.06	0.07	0.06	-2.1%	24.4%	0.2%
South Africa	^	^	^	0.06	0.08	0.08	0.08	0.09	0.1	0.1	0.12	2.5%	38.2%	0.4%
Eastern Africa	^	^	^	0.06	0.08	0.08	0.08	0.09	0.1	0.1	0.11	11.0%	12.1%	0.3%
Middle Africa	^	^	^	^	^	^	^	^	^	^	^	270.0%	17.0%	†
Western Africa	^	^	^	^	^	^	^	^	^	^	^	6.9%	19.8%	†
Other Northern Africa	^	^	^	^	^	^	^	^	^	^	^	8.0%	16.2%	†
Other Southern Africa	^	^	^	^	^	^	^	^	^	^	^	-0.7%	8.0%	†
Total Africa	0.08	0.09	0.13	0.19	0.23	0.28	0.3	0.37	0.41	0.46	0.48	3.6%	19.7%	1.2%
Australia	0.14	0.17	0.18	0.22	0.24	0.25	0.31	0.4	0.48	0.58	0.7	19.5%	17.8%	1.7%
Bangladesh	^	^	^	^	^	^	^	^	^	^	^	11.3%	20.6%	†
China	1.4	1.87	2.32	2.8	3.68	4.96	6.25	7.27	8.44	11.16	13.2	18.3%	25.2%	32.3%
China Hong Kong SAR	^	^	^	^	^	^	^	^	^	^	^	-2.1%	11.5%	†
India	0.52	0.59	0.66	0.73	0.82	1	1.23	1.4	1.5	1.71	2.02	18.2%	14.5%	4.9%
Indonesia	0.09	0.09	0.1	0.1	0.11	0.12	0.27	0.27	0.29	0.				



Renewable energy Generation by source*

Terawatt-hours	2021				2022				2022 Growth rate			
	Wind	Solar	Other renewables‡	Total	Wind	Solar	Other renewables‡	Total	Wind	Solar	Other renewables‡	Total
Canada	34.8	5.2	9.9	49.8	37.5	6.0	8.5	52.1	8.0%	16.4%	-13.6%	4.6%
Mexico	21.1	20.2	6.0	47.3	20.3	19.3	6.6	46.2	-3.6%	-4.6%	10.4%	-2.2%
US	382.0	166.1	73.9	622.0	439.2	206.2	74.2	719.5	15.0%	24.1%	0.3%	15.7%
Total North America	437.8	191.4	89.8	719.1	497.0	231.5	89.3	817.8	13.5%	20.9%	-0.5%	13.7%
Argentina	12.9	2.2	2.3	17.4	14.2	2.9	2.3	19.4	9.5%	33.4%	3.9%	11.8%
Brazil	72.3	16.8	55.7	144.8	81.6	30.1	52.8	164.5	12.9%	79.8%	-5.3%	13.7%
Chile	7.6	10.8	6.6	25.0	9.4	14.5	6.2	30.1	22.8%	34.5%	-5.2%	20.4%
Colombia	0.1	0.3	3.0	3.4	0.1	0.5	2.9	3.5	23.8%	55.6%	-2.6%	3.4%
Ecuador	0.1	^	0.4	0.5	0.1	^	0.4	0.5	-2.3%	4.4%	-6.1%	-4.9%
Peru	1.8	0.9	0.8	3.5	1.9	0.9	0.8	3.6	6.0%	2.5%	-1.3%	3.5%
Trinidad & Tobago	^	^	—	^	^	—	^	^	—	—	—	—
Venezuela	^	^	^	^	^	—	^	^	—	—	—	—
Central America	4.0	3.0	10.0	17.1	3.6	3.0	9.8	16.4	-8.5%	-2.6%	-2.2%	-3.7%
Other Caribbean	2.3	1.7	1.3	5.3	2.2	1.9	1.2	5.3	-3.1%	15.0%	-13.1%	†
Other South America	5.1	0.9	3.4	9.4	5.2	0.9	3.3	9.4	2.2%	1.5%	-3.7%	†
Total S. & Cent. America	106.2	36.6	83.5	226.3	118.4	54.8	79.6	252.8	11.4%	49.8%	-4.6%	11.7%
Austria	6.7	2.8	4.5	14.0	7.2	3.2	4.7	15.2	7.5%	15.7%	4.6%	8.2%
Belgium	12.0	5.6	4.7	22.3	11.9	6.8	4.5	23.1	-0.8%	20.5%	-4.9%	3.7%
Bulgaria	1.4	1.5	2.6	5.5	1.5	2.0	2.2	5.7	4.5%	36.6%	-13.9%	4.4%
Croatia	2.1	0.1	1.2	3.4	2.3	0.2	1.2	3.7	11.5%	8.4%	1.7%	8.0%
Cyprus	0.2	0.5	0.1	0.8	0.2	0.6	^	0.9	-9.0%	36.8%	-35.0%	16.7%
Czech Republic	0.6	2.2	5.4	8.1	0.6	2.3	5.4	8.4	6.6%	6.6%	1.1%	2.9%
Denmark	16.1	1.3	8.7	26.1	19.0	1.9	7.5	28.4	18.4%	48.1%	-14.0%	9.0%
Estonia	0.7	0.4	1.8	2.9	0.7	0.6	1.8	3.0	-9.8%	67.3%	-2.7%	4.0%
Finland	8.2	0.3	13.6	22.1	11.9	0.3	14.0	26.2	45.5%	5.8%	3.0%	18.8%
France	36.8	15.3	9.3	61.4	38.0	20.1	9.8	68.0	3.4%	32.0%	5.2%	10.7%
Germany	114.6	49.3	50.4	214.4	125.3	60.8	50.4	236.5	9.3%	23.2%	0.1%	10.3%
Greece	10.5	5.3	0.5	16.2	10.9	7.2	0.5	18.5	3.8%	36.2%	1.5%	14.2%
Hungary	0.7	3.8	2.2	6.7	0.6	4.6	2.1	7.3	-9.0%	22.5%	-8.0%	9.2%
Iceland	^	—	5.8	5.8	^	—	5.9	5.9	-5.8%	—	2.1%	2.1%
Ireland	9.8	0.1	1.0	10.9	11.3	0.1	1.0	12.5	16.1%	45.8%	3.9%	15.2%
Italy	20.9	25.0	22.2	68.2	20.7	27.5	23.8	72.0	-1.3%	9.9%	7.2%	5.6%
Latvia	0.1	^	0.9	1.0	0.2	^	0.8	1.0	37.7%	—	-7.1%	-0.8%
Lithuania	1.4	0.2	0.7	2.2	1.5	0.2	0.3	2.0	11.0%	8.2%	-57.5%	-10.2%
Luxembourg	0.3	0.2	0.4	0.9	0.3	0.2	0.4	0.9	6.5%	20.2%	-8.4%	2.7%
Netherlands	18.0	11.5	10.9	40.4	21.2	17.7	9.5	48.3	17.5%	53.8%	-12.7%	19.7%
North Macedonia	0.1	^	0.1	0.2	0.1	^	^	0.2	4.2%	31.0%	-32.7%	-3.0%
Norway	11.8	0.2	0.2	12.2	14.8	0.3	0.3	15.4	25.9%	56.5%	20.6%	26.3%
Poland	16.2	3.9	8.1	28.2	19.4	8.1	7.2	34.7	19.8%	106.8%	-11.3%	23.0%
Portugal	13.2	2.2	4.2	19.6	13.3	3.1	3.7	20.1	0.9%	37.6%	-11.3%	2.5%
Romania	6.6	1.7	0.7	8.9	7.0	1.8	0.6	9.4	6.5%	4.1%	-2.8%	5.4%
Slovakia	^	0.7	1.8	2.5	^	0.7	2.1	2.8	—	-2.7%	14.5%	9.9%
Slovenia	^	0.5	0.3	0.7	^	0.5	0.3	0.8	2.5%	18.4%	-6.1%	9.0%
Spain	62.1	27.1	6.9	96.1	62.7	33.8	6.8	103.3	1.0%	24.6%	-1.1%	7.5%
Sweden	27.1	1.5	13.1	41.7	32.6	2.6	13.3	48.6	20.3%	74.6%	1.9%	16.5%
Switzerland	0.1	2.8	2.0	5.0	0.2	3.7	2.3	6.2	4.2%	31.2%	15.9%	24.3%
Turkey	31.4	13.9	18.6	64.0	35.1	15.9	20.3	71.4	11.8%	14.1%	9.3%	11.6%
Ukraine	3.9	6.3	0.8	11.0	1.5	5.1	0.5	7.0	-62.5%	-19.6%	-36.0%	-36.0%
United Kingdom	64.7	12.1	39.9	116.7	80.2	13.9	35.5	129.5	24.0%	14.7%	-11.1%	11.0%
Other Europe	2.1	0.4	0.4	2.8	2.2	0.5	0.4	3.1	6.0%	15.9%	5.7%	7.5%
Total Europe	500.4	198.7	243.7	942.9	554.5	246.4	239.2	1040.1	10.8%	24.0%	-1.9%	10.3%
Azerbaijan	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	-8.9%	10.3%	6.3%	1.5%
Belarus	0.2	0.2	0.3	0.6	0.2	0.3	0.3	0.7	—	68.1%	—	18.7%
Kazakhstan	1.7	1.6	^	3.4	2.5	1.7	^	4.2	44.9%	4.1%	-19.6%	25.1%
Russian Federation	2.6	2.3	0.8	5.7	4.2	2.4	0.8	7.4	62.5%	3.7%	2.7%	30.2%
Turkmenistan	—	^	—	^	—	^	—	^	—	—	—	—
Uzbekistan	^	^	—	0.1	^	0.2	—	0.2	275.4%	—	268.8%	—
Other CIS	0.1	0.2	^	0.3	0.1	0.3	0.1	0.4	38.0%	44.9%	94.6%	48.8%
Total CIS	4.7	4.4	1.2	10.3	7.1	4.9	1.3	13.3	51.7%	11.1%	4.9%	28.8%
Iran	1.1	0.6	^	1.8	1.2	0.7	^	2.0	10.3%	18.3%	—	12.9%
Iraq	—	0.4	—	0.4	—	0.4	—	—	—	12.1%	—	12.1%
Israel	^	5.4	0.1	5.5	^	7.1	0.1	7.2	—	32.6%	—	31.7%
Kuwait	^	0.2	—	0.2	^	0.2	—	0.2	—	—	—	—
Oman	0.1	0.8	—	1.0	0.1	1.5	—	1.6	—	74.7%	—	65.5%
Qatar	—	^	0.1	0.1	—	0.4	0.1	0.5	—	4826.9%	—	282.8%
Saudi Arabia	^	0.8	—	0.8	^	0.8	—	0.8	—	0.1%	—	0.1%
United Arab Emirates	^	6.3	^	6.3	^	7.0	^	7.0	—	11.3%	1740.0%	11.4%
Other Middle East	1.6	4.7	^	6.4	1.6	5.6	^	7.2	-1.2%	17.4%	—	12.7%
Total Middle East	2.9	19.2	0.3	22.4	3.0	23.7	0.3	27.0	3.3%	23.2%	2.3%	20.4%
Algeria	^	0.7	—	0.7	^	0.7	—	0.7	—	2.7%	—	2.6%
Egypt	5.4	5.1	—	10.5	5.1	5.0	—	10.2	-4.4%	-1.0%	—	-2.8%
Morocco	5.1	1.8	—	6.9	5.4	1.4	—	6.8	4.9%	-20.5%	—	-1.8%
South Africa	8.7	6.8	0.4	15.9	9.7	6.2	0.4	16.3	12.1%	-8.6%	—	2.9%
Eastern Africa	2.6	1.5	7.0	11.1	2.7	2.0	7.6	12.4	6.2%	33.9%	8.6%	11.5%
Middle Africa	^	0.1	0.1	0.1	^	0.5	0.1	0.5	—	552.5%	—	295.0%
Western Africa	0.6	1.1	0.2	2.0	0.6	1.3	0.2	2.1	-0.2%	13.4%	—	7.5%
Other Northern Africa	0.4	0.5	—	0.9	0.3	0.7	—	1.0	-24.9%	38.3%	—	8.4%
Other Southern Africa	—	0.4	0.4	0.7	—	0.4	0.3	0.7	—	8.4%	-8.4%	0.3%
Total Africa	22.8	17.9	8.1	48.8	23.9	18.2	8.7	50.8	4.9%	1.5%	7.1%	4.0%
Australia	26.8	31.2	3.3	61.3	31.7	38.8	3.2	73.7	18.1%	24.5%	-2.9%	20.2%
Bangladesh	^	0.6	^	0.6	^	0.7	^	0.7	—	11.9%	—	11.7%
China	655.8	327.0	165.9	1148.7	762.7	427.7	176.6	1367.0	16.3%	30.8%	6.5%	19.0%
China Hong Kong SAR	^	0.1	0.1	0.1	^	0.1	0.1	0.1	—	—	-2.9%	-1.8%
India	68.1	68.3	36.8	173.2	70.0	95.2	40.7	205.9	2.9%	39.3%	10.8%	18.9%
Indonesia	0.4	0.2	30.9	31.5	0.4	0.3	37.3	38.0	-18.5%	55.6%	20.8%	20.5%
Japan	8.2	92.4	35.8	136.4	8.2	102.4	41.5	152.1	-0.9%	10.8%	16.0%	11.5%
Malaysia	—	2.5	1.2	3.7	—	2.7	1.2	3.9	—	8.2%	—	5.6%
New Zealand	2.6	0.2	9.2	12.0	2.9	0.3	9.2	12.4	8.4%	34.2%	0.7%	3.0%
Pakistan	3.4	0.7	4.9	12.2	4.7	0.9	0.9	6.4	35.5%	24.1%	27.4%	32.6%
Philippines	1.4	1.5	11.8	14.7	1.1	1.8	12.6	15.5	-21.8%	21.2%	6.6%	5.5%
Singapore	—	0.4	0.7	1.1	—	0.7	1.0	1.7	—	68.2%	49.2%	56.2%
South Korea	3.2	24.7	11.9	39.8	3.4	27.0	17.3	47.7	5.6%	9.1%	45.7%	19.8%
Sri Lanka	0.5	0.9	0.1	1.5	0.5	1.0	0.1	1.6	—	14.4%	—	8.7%
Taiwan	2.2	8.0	2.0	12.2	3.5	10.7	2.0	16.2	60.4%	34.0%	-1.1%	33.0%



Renewable energy Solar – Installed photovoltaic (PV) power*

Megawatts	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012–22	
Canada	766	1210	1843	2519	2665	2932	3095	3327	3342	3630	4401	21.3%	19.1%	0.4%
Mexico	73	109	174	287	633	1126	2582	4742	6709	8171	9026	10.5%	61.9%	0.9%
US	8613	12326	18112	24237	35434	43770	51987	61587	76441	95391	113015	18.5%	29.4%	10.7%
Total North America	9452	13645	20129	27043	38731	47828	57664	69656	86492	107192	126442	18.0%	29.6%	12.0%
Argentina	6	8	8	9	9	9	191	442	764	1071	1104	3.0%	67.8%	0.1%
Brazil	7	13	21	46	128	1207	2435	4635	8291	14197	24079	69.6%	127.1%	2.3%
Chile	2	15	221	576	1125	1809	2137	2654	3205	4468	6250	39.9%	123.6%	0.6%
Honduras	5	5	5	396	417	454	514	518	525	529	529	0.0%	58.9%	0.1%
Other S. & Cent. America	342	434	543	926	1148	1798	2210	2808	3178	4112	4798	16.7%	30.2%	0.5%
Total S. & Cent. America	362	475	798	1952	2827	5277	7487	11057	15963	24377	36760	50.8%	58.7%	3.5%
Austria	337	626	785	937	1096	1269	1455	1702	2043	2783	3548	27.5%	26.5%	0.3%
Belgium	2647	2902	3015	3132	3329	3621	4000	4637	5573	6012	6898	14.7%	10.1%	0.7%
Bulgaria	922	1039	1029	1028	1030	1033	1044	1100	1275	1948	52.8%	7.8%	0.2%	
Czech Republic	2022	2064	2067	2075	2068	2075	2081	2111	2172	2246	2627	17.0%	2.7%	0.2%
Denmark	402	571	607	782	851	906	998	1080	1304	1704	2490	46.1%	20.0%	0.2%
France	4359	5277	6034	7138	7702	8610	9672	10817	12065	14819	17419	17.5%	14.9%	1.7%
Germany	34077	36710	37900	39224	40679	42293	45158	48914	53671	59373	66554	12.1%	6.9%	6.3%
Greece	1536	2579	2596	2604	2606	2652	2834	3288	4277	5557	29.9%	13.7%	0.5%	
Hungary	12	35	89	172	235	344	728	1400	2131	2968	2988	0.7%	73.6%	0.3%
Italy	16790	18190	18600	18907	19289	19688	20114	20871	21656	22600	25083	11.0%	4.1%	2.4%
Netherlands	287	650	1007	1526	2135	2911	4608	7226	11108	14911	22590	51.5%	54.7%	2.1%
Poland	1	2	27	108	187	287	562	1539	3955	7416	11167	50.6%	147.4%	1.1%
Portugal	238	296	415	447	513	579	667	901	1100	1646	2536	54.1%	26.7%	0.2%
Romania	41	761	1293	1326	1372	1374	1386	1398	1383	1394	1414	1.4%	42.5%	0.1%
Slovakia	513	533	533	533	528	472	590	535	537	537	0.0%	0.5%	0.1%	
Spain	6569	6994	7001	7008	7017	7027	7068	11111	12440	16019	20518	28.1%	12.1%	1.9%
Sweden	24	43	60	104	153	244	428	714	1107	1606	2606	62.3%	59.8%	0.2%
Switzerland	437	756	1061	1394	1664	1906	2173	2498	2973	3449	4134	19.9%	25.2%	0.4%
Türkiye	12	19	41	250	834	3422	5064	5996	6668	7817	9426	20.6%	95.3%	0.9%
Ukraine	372	748	819	841	955	1200	2003	5936	7331	8062	8062	0.0%	36.0%	0.8%
United Kingdom	1754	2937	5528	9601	11914	12760	13059	13224	13462	13799	14412	4.4%	23.4%	1.4%
Other Europe	293	476	622	710	799	958	1131	1569	2238	3092	4443	43.7%	31.2%	0.4%
Total Europe	73644	84207	91131	99847	106958	115639	126511	148112	169305	197804	236957	19.8%	12.4%	22.5%
Russian Federation	^	1	5	61	76	225	535	1276	1428	1661	1816	9.3%	169.5%	0.2%
Other CIS	1	2	9	13	78	116	213	246	310	543	897	65.3%	97.4%	0.1%
Total CIS	1	3	14	74	154	341	748	1522	1737	2204	2713	23.1%	118.6%	0.3%
Israel	286	446	656	796	906	1006	1346	2138	2652	3591	4411	22.8%	31.5%	0.4%
Jordan	^	^	^	6	287	397	700	1186	1448	1521	1914	25.9%	177.8%	0.2%
United Arab Emirates	13	126	133	134	141	355	598	1918	2061	2733	3040	11.3%	72.3%	0.3%
Other Middle East	17	61	95	167	277	479	817	1019	1271	1837	3517	91.4%	70.0%	0.3%
Total Middle East	317	633	884	1103	1610	2236	3461	6261	7433	9681	12882	33.1%	44.8%	1.2%
Algeria	25	25	28	91	330	423	448	448	448	448	460	2.7%	33.8%	0.0%
Egypt	35	35	35	36	59	180	764	1647	1643	1663	1724	3.7%	47.7%	0.2%
Morocco	35	35	40	200	202	204	734	734	774	854	858	0.5%	37.6%	0.1%
South Africa	12	262	1164	1353	2176	3451	4805	4908	5995	6316	6326	0.2%	87.6%	0.6%
Other Africa	290	359	443	562	688	941	1399	1755	1960	2347	3272	39.4%	27.4%	0.3%
Total Africa	397	716	1709	2242	3455	5200	8150	9493	10819	11628	12641	8.7%	41.4%	1.2%
Australia	3799	4568	5287	5946	6689	7354	8626	12970	17986	22870	26792	17.1%	21.6%	2.5%
China	6719	17759	28399	43549	77819	130833	175263	205060	254055	307068	393127	28.0%	50.2%	37.3%
India	982	1599	3773	5693	9979	18252	27453	35203	39385	49684	63146	27.1%	51.6%	6.0%
Japan	6632	13599	23339	34150	42040	49500	56162	63192	69764	74191	78833	6.3%	28.1%	7.5%
Malaysia	32	139	205	266	344	394	545	894	1483	1787	1933	8.2%	50.9%	0.2%
Pakistan	46	101	165	266	590	655	680	755	854	1077	1243	15.4%	39.1%	0.1%
Philippines	2	3	28	173	784	908	917	982	1058	1377	1625	18.0%	95.2%	0.2%
South Korea	1024	1555	2481	3615	4502	5835	8099	11952	14575	18161	20975	15.5%	35.2%	2.0%
Taiwan	231	410	636	884	1245	1768	2738	4150	5817	7700	9724	26.3%	45.3%	0.9%
Thailand	382	829	1304	1425	2451	2702	2967	2988	3065	3065	3065	0.0%	23.2%	0.3%
Viet Nam	5	5	5	5	8	105	4993	16660	16660	18474	18474	10.9%	129.7%	1.8%
Other Asia Pacific	186	268	425	686	898	1216	1728	3005	4055	5012	5783	15.4%	41.0%	0.5%
Total Asia Pacific	20039	40834	66047	96658	147347	219426	285284	346144	428680	508652	624720	22.8%	41.1%	59.3%
Total World	104212	140515	180712	228920	301082	395947	489306	592245	720429	861537	1053115	22.2%	26.0%	100.0%

Source: IRENA (2023), Renewable Energy Statistics 2023, The International Renewable Energy Agency, Abu Dhabi.

* End of year.

^ Less than 0.05.



Renewable energy

Wind – Installed wind turbine capacity*

Megawatts	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012–22	
Canada	6201	7801	9694	11214	11973	12250	12816	13413	13627	14304	15295	6.9%	9.4%	1.7%
Mexico	1815	2122	2569	3271	4051	4180	5887	6073	6504	7154	7312	2.2%	15.0%	0.8%
US	59453	60198	64430	72767	81502	87831	94666	103836	118664	133019	140862	5.9%	9.0%	15.7%
Total North America	67469	70121	76693	87252	97526	104261	113369	123322	138795	154477	163469	5.8%	9.3%	18.2%
Argentina	137	190	215	187	227	750	1609	2624	3292	3309	0.5%	37.5%	0.4%	
Brazil	1894	2202	4888	7633	10129	12304	14843	15438	17198	21161	24163	14.2%	29.0%	2.7%
Chile	202	301	736	910	1039	1305	1524	1620	2149	3137	3830	22.1%	34.2%	0.4%
Costa Rica	144	144	193	272	365	378	408	411	394	394	390	-0.8%	10.5%	0.0%
Uruguay	53	59	481	857	1211	1511	1511	1514	1514	1514	1514	0.0%	39.9%	0.2%
Other S. & Cent. America	636	765	985	1365	1537	1604	1816	2043	2122	2249	2301	2.3%	13.7%	0.3%
Total S. & Cent. America	3065	3661	7499	11224	14469	17329	20852	22636	26000	31747	35507	11.8%	27.8%	4.0%
Austria	1337	1675	2110	2489	2730	2887	3133	3224	3226	3408	3736	9.6%	10.8%	0.4%
Belgium	1367	1769	1933	2181	2334	2779	3305	3864	4673	4948	5251	6.1%	14.4%	0.6%
Bulgaria	677	683	699	699	698	699	703	703	704	704	0.0%	0.4%	0.1%	
Denmark	4162	4819	4886	5077	5245	5489	6123	6111	6267	7021	7088	1.0%	5.5%	0.8%
Finland	257	447	627	1005	1565	2044	2041	2284	2586	3257	5614	72.4%	36.1%	0.6%
France	7608	8156	9201	10298	11567	13499	14900	16427	17514	18740	21120	12.7%	10.8%	2.3%
Germany	30979	33477	38614	44580	49435	55580	58721	60742	62201	63833	66315	3.9%	7.9%	7.4%
Greece	1753	1809	1978	2091	2370	2624	2878	3589	4119	4649	4879	4.9%	10.8%	0.5%
Ireland	1704	1923	2283	2451	2802	3319	3674	4126	4307	4339	4619	6.5%	10.5%	0.5%
Italy	8102	8542	8683	9137	9384	9737	10230	10679	10871	11254	11780	4.7%	3.8%	1.3%
Netherlands	2433	2713	2865	3391	4257	4202	4393	4484	6648	7769	9309	19.8%	14.4%	1.0%
Norway	705	818	859	867	883	1207	1710	2914	4030	5049	5134	1.7%	22.0%	0.6%
Poland	2564	3429	3836	4886	5747	5759	5766	5837	6298	6967	7987	14.6%	12.0%	0.9%
Portugal	4412	4610	4857	4937	5124	5124	5172	5223	5122	5427	5455	0.5%	2.1%	0.6%
Romania	1822	2773	3244	3130	3025	3030	3032	3038	3013	3015	3015	0.0%	5.2%	0.3%
Spain	22789	22958	22925	22943	22990	23124	23405	25590	26819	27908	29308	5.0%	2.5%	3.3%
Sweden	3606	4194	5088	5819	6435	6611	7300	8681	9976	12116	14557	20.1%	15.0%	1.6%
Türkiye	2261	2760	3630	4503	5751	6516	7005	7591	8832	10607	11396	7.4%	17.6%	1.3%
Ukraine	248	362	514	514	526	553	621	1258	1402	1761	1761	0.0%	21.7%	0.2%
United Kingdom	9030	11282	13074	14306	16126	19585	21605	23882	24485	25730	28537	10.9%	12.2%	3.2%
Other Europe	1633	1723	1912	2192	2440	2691	2974	3323	3519	3974	4269	7.4%	10.1%	0.5%
Total Europe	109448	120922	133818	147495	161434	177059	188688	203569	216611	232477	251836	8.3%	8.7%	28.0%
Russian Federation	10	10	10	11	11	52	102	945	1955	2218	13.5%	71.6%	0.2%	
Other CIS	10	13	15	34	82	113	195	217	223	255	283	11.1%	40.2%	0.0%
Total CIS	20	23	25	45	93	123	247	319	1168	2210	2501	13.2%	62.4%	0.3%
Iran	106	108	149	153	191	259	282	305	308	310	342	10.3%	12.4%	0.0%
Jordan	1	1	1	118	198	198	280	373	518	622	614	-1.2%	83.7%	0.1%
Other Middle East	8	13	14	14	34	47	47	97	97	97	97	0.1%	28.7%	0.0%
Total Middle East	115	122	165	286	423	504	609	775	923	1029	1053	2.4%	24.8%	0.1%
Egypt	555	555	755	755	755	1130	1132	1380	1640	1643	0.2%	11.5%	0.2%	
Morocco	255	495	797	797	902	1022	1225	1435	1471	1556	5.8%	19.8%	0.2%	
South Africa	10	257	569	1079	1473	2094	2094	2094	2516	2956	3103	5.0%	77.2%	0.3%
Tunisia	173	200	233	240	240	240	245	245	245	245	245	0.0%	3.5%	0.0%
Other Africa	134	235	245	449	461	467	778	833	939	1059	1139	7.6%	23.8%	0.1%
Total Africa	1128	1742	2399	3320	3831	4578	5472	5529	6515	7370	7685	4.3%	21.2%	0.9%
Australia	2561	3221	3797	4181	4324	4812	5442	6279	8603	8951	10134	13.2%	14.7%	1.1%
China	61597	76731	96819	131048	148517	164375	184666	209583	282113	328974	365965	11.2%	19.5%	40.7%
India	17300	18420	22465	25088	28700	32848	35288	37505	38559	40067	41930	4.6%	9.3%	4.7%
Japan	2562	2646	2753	2808	3247	3483	3498	3954	4367	4467	4577	2.5%	6.0%	0.5%
New Zealand	622	622	681	688	689	689	689	689	689	912	912	0.0%	3.9%	0.1%
Pakistan	56	106	206	308	591	789	1186	1236	1236	1335	1435	7.5%	38.3%	0.2%
Philippines	33	33	337	427	427	427	427	443	443	443	443	0.0%	29.7%	0.0%
South Korea	464	576	612	847	1067	1215	1420	1494	1636	1708	1893	10.8%	15.1%	0.2%
Taiwan	571	614	637	647	682	692	713	845	937	1033	1581	53.0%	10.7%	0.2%
Thailand	112	223	225	234	507	628	1103	1507	1507	1545	1545	0.0%	30.0%	0.2%
Other Asia Pacific	166	245	335	449	500	610	846	1158	1555	5425	6359	17.2%	44.0%	0.7%
Total Asia Pacific	86043	103437	128867	166725	189251	210569	235277	264693	341644	394861	436774	10.6%	17.6%	48.6%
Total World	267289	300027	349466	416347	467029	514423	564513	620841	731656	824171	898824	9.1%	12.9%	100.0%

Source: IRENA (2023), Renewable Energy Statistics 2023, 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 Biofuels production*

Thousand barrels of oil equivalent per day												Growth rate per annum		Share
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012-22	2022
Canada	17	19	22	22	23	22	21	23	22	22	21	-1.8%	2.1%	1.1%
Mexico	—	—	—	—	0	0	0	0	1	1	—	16.7%	—	†
US	534	562	597	614	655	678	701	693	632	685	728	6.3%	3.2%	38.1%
Total North America	551	580	618	637	679	701	723	717	655	708	750	6.0%	3.1%	39.2%
Argentina	43	38	49	38	53	58	51	46	27	40	45	11.7%	0.4%	2.3%
Brazil	268	313	329	353	331	334	401	429	411	391	409	4.6%	4.3%	21.4%
Colombia	12	12	13	13	13	12	14	13	12	15	15	0.9%	2.7%	0.8%
Other S. & Cent. America	3	4	6	6	7	6	7	9	8	9	9	-6.6%	9.6%	0.5%
Total S. & Cent. America	326	368	397	409	403	410	474	497	458	456	478	4.9%	3.9%	25.0%
Austria	6	6	7	8	7	7	7	7	7	7	6	-16.2%	-0.6%	0.3%
Belgium	8	8	11	7	7	8	8	9	8	9	9	12.5%	0.8%	0.5%
Finland	5	6	7	8	2	6	6	7	7	7	7	0.3%	4.1%	0.4%
France	49	46	47	49	45	44	50	46	43	36	35	-3.5%	-3.4%	1.8%
Germany	54	58	64	59	60	61	63	66	63	66	62	-6.1%	1.3%	3.2%
Italy	6	9	10	10	10	12	13	15	17	21	19	-9.5%	12.4%	1.0%
Netherlands	24	28	33	32	28	37	35	38	37	39	39	0.2%	5.1%	2.0%
Poland	12	13	14	15	17	17	18	18	19	20	20	3.5%	5.2%	1.0%
Portugal	5	5	6	6	6	6	7	6	5	6	6	13.1%	1.6%	0.3%
Spain	11	14	19	21	22	35	40	39	33	31	31	1.3%	10.6%	1.6%
Sweden	4	4	4	4	4	3	7	8	8	9	10	5.5%	8.9%	0.5%
United Kingdom	6	9	7	6	10	14	13	11	10	10	11	2.9%	6.6%	0.6%
Other Europe	24	26	26	28	30	32	35	40	39	39	43	9.0%	5.8%	2.2%
Total Europe	215	232	255	254	249	282	300	310	297	299	298	-0.4%	3.3%	15.6%
Total CIS	1	0	^	^	^	—	-42.8%	†						
Total Middle East	0	0	0	0	0	—	-100.0%	—						
Total Africa	2	0.1%	-0.5%	0.1%										
Australia	4	5	5	4	2	2	2	3	2	2	2	6.4%	-6.9%	0.1%
China	38	42	47	40	39	31	44	53	56	58	66	14.4%	5.7%	3.5%
India	5	5	5	10	12	11	19	21	23	35	43	24.5%	24.8%	2.3%
Indonesia	33	41	59	24	54	50	91	124	126	151	174	15.6%	18.2%	9.1%
South Korea	7	7	8	8	8	13	13	13	11	12	12	5.5%	5.8%	0.6%
Thailand	24	30	34	36	33	36	40	44	39	36	36	-8.5%	4.4%	1.9%
Other Asia Pacific	21	28	33	37	33	31	35	53	46	48	52	8.4%	9.2%	2.7%
Total Asia Pacific	132	158	189	159	180	170	243	312	311	344	386	12.1%	11.4%	20.2%
Total World	1226	1340	1462	1462	1513	1565	1742	1837	1723	1808	1914	5.8%	4.6%	100.0%
of which: OECD	786	832	895	912	946	1000	1047	1048	972	1027	1068	3.9%	3.1%	55.8%
Non-OECD	440	508	567	550	567	565	695	789	750	781	846	8.4%	6.8%	44.2%
European Union	208	220	246	245	235	264	282	294	283	285	283	-0.7%	3.1%	14.8%

Biofuels production by fuel type

Thousand barrels of oil equivalent per day	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012-22	2022
Biogasoline														
Canada & Mexico	16	16	17	16	17	17	18	16	16	17	17	3.5%	0.5%	1.6%
US	475	479	516	534	554	575	580	569	501	542	554	2.3%	1.5%	51.9%
Brazil	228	269	278	294	275	270	322	341	315	291	317	8.8%	3.3%	29.7%
Other S. & Cent. America	9	12	15	17	18	19	21	21	17	21	21	2.4%	9.2%	2.0%
Europe	46	52	51	52	52	55	56	54	50	55	58	5.9%	2.3%	5.4%
CIS	—	^	^	^	^	^	^	^	^	^	^	—	—	†
Middle East	0	0	0	0	0	—	—	—	—	—	—	—	-100.0%	—
Africa	2	2	2	2	2	2	2	2	2	2	2	0.1%	-0.4%	0.1%
Asia Pacific	40	47	53	57	52	58	69	80	76	88	98	12.5%	9.3%	9.2%
Total World	817	878	933	973	970	996	1066	1085	977	1014	1067	5.3%	2.7%	100.0%
of which: OECD	543	554	591	608	628	652	660	647	572	618	633	2.5%	1.5%	59.4%
Non-OECD	273	324	342	365	342	345	406	438	405	396	433	9.5%	4.7%	40.6%
European Union	44	46	45	48	46	48	50	50	47	52	55	5.8%	2.1%	5.1%
Biodiesel														
Canada & Mexico	1	2	5	6	7	6	5	5	7	6	5	-14.0%	13.8%	0.6%
US	58	82	80	80	101	104	121	124	131	144	174	21.1%	11.6%	20.6%
Brazil	40	43	51	58	56	64	79	88	95	100	93	-7.5%	8.7%	11.0%
Other S. & Cent. America	49	43	53	40	54	57	52	47	30	43	47	8.6%	-0.4%	5.5%
Europe	169	180	204	202	197	227	244	256	248	244	240	-1.8%	3.5%	28.3%
CIS	1	0	0	0	0	0	0	0	—	—	—	—	-100.0%	—
Middle East	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Africa	^	^	^	^	0	0	^	^	^	^	^	0.3%	-15.8%	†
Asia Pacific	91	111	136	102	128	112	174	231	236	257	288	12.0%	12.2%	34.0%
Total World	410	463	529	489	543	569	676	752	746	794	847	6.6%	7.5%	100.0%
of which: OECD	243	278	304	303	318	349	387	401	400	410	434	6.0%	6.0%	51.3%
Non-OECD	167	185	225	186	225	221	289	350	346	385	412	7.2%	9.5%	48.7%
European Union	164	174	201	198	189	216	233	244	236	233	228	-2.1%	3.4%	26.9%

Source: Includes data from F.O. Lichten; US Energy Information Administration (March 2021).

* Includes biogasoline (such as ethanol) and biodiesel. Volumes have been adjusted for energy content.

† Less than 0.05%.

Notes: 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												Growth rate per annum		Share
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022
Canada	35	35	36	34	32	38	39	40	37	40	38	-4.9%	0.7%	2.0%
Mexico	2	2	3	3	4	4	4	5	4	4	4	7.2%	8.7%	0.2%
US	518	573	581	608	658	661	652	670	608	670	699	4.3%	3.1%	36.2%
Total North America	555	609	620	645	693	703	695	715	650	714	742	3.8%	2.9%	38.4%
Argentina	17	19	22	24	26	30	28	29	16	17	22	33.7%	3.0%	1.2%
Brazil	237	278	305	357	324	332	385	426	396	392	390	-0.6%	5.1%	20.2%
Colombia	12	12	13	13	13	12	15	16	13	15	15	2.4%	2.7%	0.8%
Other S. & Cent. America	14	15	15	17	18	19	19	19	17	20	19	-3.2%	3.5%	1.0%
Total S. & Cent. America	279	324	356	411	380	393	447	490	442	444	447	0.7%	4.8%	23.1%
Austria	10	8	10	12	10	9	9	9	8	8	8	-4.4%	-2.1%	0.4%
Belgium	6	6	8	5	8	9	9	9	12	13	14	8.0%	8.3%	0.7%
Finland	3	4	8	8	3	7	6	7	7	12	22	87.8%	20.5%	1.1%
France	48	49	52	53	53	54	53	55	50	56	67	18.9%	3.5%	3.5%
Germany	56	50	53	50	50	51	53	52	63	56	56	-0.6%	-0.1%	2.9%
Italy	28	24	20	25	25	25	26	15	21	22	20	-11.6%	-3.5%	1.0%
Netherlands	6	6	7	6	5	6	10	13	15	15	16	4.5%	9.6%	0.8%
Poland	14	14	13	12	8	11	17	18	19	20	20	2.3%	3.6%	1.0%
Portugal	5	5	5	7	5	5	5	5	6	5	5	-18.5%	-0.1%	0.3%
Spain	39	17	18	18	21	24	31	31	26	26	25	-2.5%	-4.4%	1.3%
Sweden	12	12	16	19	25	28	27	27	25	29	33	13.1%	10.7%	1.7%
United Kingdom	17	19	22	17	18	17	24	31	29	26	33	28.8%	7.1%	1.7%
Other Europe	31	38	36	37	42	49	51	60	61	62	64	2.9%	7.6%	3.3%
Total Europe	276	252	269	270	272	295	322	334	340	352	383	8.8%	3.4%	19.8%
Total CIS	1	^	^	^	1	2	2	3	3	5	6	35.2%	27.3%	0.3%
Total Middle East	^	^	^	^	1	17.4%	17.5%	0.1%						
Total Africa	1	1	1	1	1	1	2	1	1	2	2	1.1%	6.4%	0.1%
Australia	5	5	5	4	3	3	3	2	2	2	2	7.8%	-7.7%	0.1%
China	42	57	60	42	46	42	55	49	37	45	45	-1.2%	0.8%	2.3%
India	19	19	22	23	28	25	33	37	36	51	58	14.9%	11.6%	3.0%
Indonesia	11	17	28	15	46	39	56	95	125	139	156	12.3%	30.0%	8.1%
South Korea	7	10	9	8	8	13	13	13	11	14	14	24.5%	7.6%	0.7%
Thailand	18	24	28	30	31	34	37	42	42	38	34	-10.2%	6.6%	1.7%
Other Asia Pacific	13	16	18	21	24	25	26	31	33	39	44	11.9%	13.3%	2.3%
Total Asia Pacific	114	148	170	144	185	177	224	270	287	325	353	8.6%	11.9%	18.2%
Total World	1226	1336	1417	1472	1533	1570	1692	1813	1726	1842	1933	4.9%	4.7%	100.0%
of which: OECD	852	887	915	939	989	1021	1047	1075	1015	1090	1151	5.6%	3.1%	59.5%
Non-OECD	374	449	502	532	544	549	645	737	711	752	782	4.0%	7.7%	40.5%
European Union	255	223	241	246	245	263	284	286	298	313	336	7.6%	2.8%	17.4%

Biofuels production by fuel type

Thousand barrels of oil equivalent per day	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022	2012–22	2022
Biogasoline														
Canada & Mexico	463	477	485	503	516	522	520	525	456	503	504	0.3%	0.9%	47.0%
US	28	28	30	30	30	32	34	34	31	32	35	7.4%	2.2%	3.2%
Brazil	197	236	255	299	268	269	305	339	301	291	296	1.7%	4.2%	27.7%
Other S. & Cent. America	15	18	20	23	25	27	28	30	24	28	29	3.4%	6.9%	2.7%
Europe	55	52	52	53	51	54	56	61	58	67	78	16.1%	3.6%	7.3%
CIS	—	—	—	—	—	1	1	2	2	3	4	45.3%	—	0.4%
Middle East	^	^	^	^	^	^	^	^	^	^	^	2.5%	-7.8%	†
Africa	1	1	1	1	1	1	2	1	1	2	2	1.1%	6.4%	0.2%
Asia Pacific	61	66	74	79	89	84	98	100	95	117	124	5.7%	7.4%	11.5%
Total World	820	878	917	988	981	990	1044	1092	969	1044	1072	2.7%	2.7%	100.0%
of which: OECD	556	566	577	597	609	621	623	633	558	614	630	2.6%	1.3%	58.7%
Non-OECD	264	312	339	391	371	369	421	458	411	430	442	2.8%	5.3%	41.3%
European Union	48	43	42	43	41	44	46	50	50	56	63	11.8%	2.8%	5.9%
Biodiesel														
Canada & Mexico	54	96	96	105	141	138	132	145	152	167	195	16.6%	13.7%	22.6%
US	9	8	8	7	6	9	10	10	11	12	8	-34.2%	-1.7%	0.9%
Brazil	41	43	50	59	56	63	80	88	95	101	94	-7.4%	8.7%	10.9%
Other S. & Cent. America	27	28	30	31	32	34	34	34	22	24	28	18.7%	0.4%	3.3%
Europe	220	200	217	217	221	241	266	272	282	285	305	7.1%	3.3%	35.4%
CIS	1	^	^	^	1	1	1	1	1	2	2	20.0%	14.9%	0.3%
Middle East	—	—	—	—	—	—	—	—	—	—	1	19.1%	—	0.1%
Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Asia Pacific	53	82	97	65	96	93	125	169	192	208	229	10.2%	15.7%	26.6%
Total World	405	458	500	484	552	580	648	721	757	798	861	7.8%	7.8%	100.0%
of which: OECD	296	321	337	342	380	400	424	442	457	476	521	9.5%	5.8%	60.5%
Non-OECD	110	137	163	141	173	180	224	279	300	322	340	5.5%	12.0%	39.5%
European Union	207	180	199	203	203	219	239	236	248	256	273	6.6%	2.8%	31.7%

Source: Includes data from F.O. Lichten, US Energy Information Administration (March 2021).

* Includes biogasoline (such as ethanol) and biodiesel. Volumes have been adjusted for energy content.

^ Less than 0.5.

† Less than 0.05%.

Notes: Annual changes and shares of total are calculated using thousand barrels a day oil equivalent figures.



Electricity Generation*

Terawatt-hours	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate per annum		Share
												2022	2012–22	
Canada	636.5	655.7	653.0	661.1	668.2	669.6	661.5	656.0	653.4	646.8	659.6	2.0%	0.4%	2.3%
Mexico	296.4	297.1	303.3	310.3	319.4	329.1	349.3	344.6	325.7	330.0	340.7	3.2%	1.4%	1.2%
US	4310.6	4330.3	4363.3	4349.9	4348.9	4303.8	4464.5	4414.1	4287.6	4400.9	4547.7	3.3%	0.5%	15.6%
Total North America	5243.5	5283.1	5319.5	5321.3	5336.5	5302.5	5475.3	5414.7	5266.7	5377.7	5548.0	3.2%	0.6%	19.0%
Argentina	136.0	139.4	138.6	145.4	147.2	145.6	146.8	139.5	144.6	153.2	150.8	-1.5%	1.0%	0.5%
Brazil	552.5	570.8	590.5	581.2	578.9	589.3	601.4	633.3	628.8	656.1	677.2	3.2%	2.1%	2.3%
Chile	69.7	73.0	71.6	74.5	77.7	78.6	82.3	83.6	83.7	87.4	89.3	2.2%	2.5%	0.3%
Colombia	67.7	69.8	72.7	75.0	74.4	75.0	78.3	80.4	79.4	86.0	89.5	4.0%	2.8%	0.3%
Ecuador	22.8	23.3	24.3	26.0	27.3	28.0	29.2	32.3	31.2	32.2	33.0	2.5%	3.7%	0.1%
Peru	41.0	43.3	45.5	48.3	51.7	52.7	55.0	57.0	52.8	57.5	59.7	3.9%	3.8%	0.2%
Trinidad & Tobago	9.1	9.5	9.9	10.3	10.0	9.9	9.2	9.2	9.2	9.6	10.2	5.7%	1.1%	†
Venezuela	127.9	132.6	131.0	126.3	116.2	110.3	92.3	78.1	81.6	83.9	82.8	-1.3%	-4.2%	0.3%
Central America	46.1	47.5	48.9	51.7	53.3	53.7	56.5	59.1	56.8	61.2	63.1	3.1%	3.2%	0.2%
Other Caribbean	76.1	76.7	75.9	77.8	78.6	74.5	76.2	79.9	79.0	80.2	80.1	-0.1%	0.5%	0.3%
Other South America	82.3	84.2	80.9	82.7	91.3	87.9	87.9	80.0	74.2	71.6	74.7	4.3%	-1.0%	0.3%
Total S. & Cent. America	1231.4	1270.3	1289.9	1299.2	1306.7	1305.7	1315.1	1332.5	1321.4	1378.9	1410.4	2.3%	1.4%	4.8%
Austria	72.7	68.4	65.6	65.5	68.5	71.3	68.6	74.2	72.6	70.8	68.5	-3.2%	-0.6%	0.2%
Belgium	83.0	83.5	72.5	69.7	85.6	86.6	75.0	93.6	89.5	100.5	95.2	-5.3%	1.4%	0.3%
Bulgaria	47.3	43.8	47.5	49.2	45.3	45.6	46.8	44.3	40.8	47.6	50.3	5.8%	0.6%	0.2%
Croatia	10.8	14.1	13.6	11.4	12.8	12.0	13.6	12.8	13.4	15.2	14.3	-5.9%	2.9%	†
Cyprus	4.7	4.3	4.4	4.5	4.9	5.0	5.0	5.1	4.8	5.1	5.3	3.4%	1.2%	†
Czech Republic	87.4	86.9	86.0	83.9	83.3	87.0	88.0	87.0	81.4	84.9	84.5	-0.4%	-0.3%	0.3%
Denmark	30.7	34.7	32.2	28.9	30.5	31.0	30.4	29.5	28.7	33.0	34.3	3.8%	1.1%	0.1%
Estonia	12.0	13.3	12.4	10.4	12.2	13.2	12.4	7.6	6.0	7.4	8.4	14.3%	-3.5%	†
Finland	70.4	71.3	68.1	68.6	68.8	67.5	70.3	68.7	69.3	72.1	73.0	1.2%	0.4%	0.3%
France	565.2	575.3	564.8	571.7	556.2	554.0	574.0	562.9	524.3	547.6	467.7	-14.6%	-1.9%	1.6%
Germany	628.9	637.6	625.7	646.9	650.6	653.7	643.5	609.3	574.6	589.3	577.3	-2.0%	-0.9%	2.0%
Greece	61.0	57.2	50.5	51.9	54.4	55.3	53.3	48.6	48.3	54.7	50.8	-7.1%	-1.8%	0.2%
Hungary	34.6	30.3	29.4	30.4	31.9	32.9	32.1	34.3	34.9	36.1	35.4	-2.0%	0.2%	0.1%
Iceland	17.5	18.1	18.8	18.5	19.2	19.8	19.5	19.1	19.6	20.1	20.1	2.5%	1.4%	0.1%
Ireland	27.6	26.1	26.3	28.4	30.5	30.9	31.1	31.0	32.3	31.9	34.5	8.1%	2.2%	0.1%
Italy	299.3	289.8	279.8	283.0	289.8	295.8	289.7	293.9	280.5	289.1	287.3	-0.6%	-0.4%	1.0%
Latvia	6.2	6.2	5.1	5.5	6.4	7.5	6.7	6.4	5.7	5.8	5.0	-14.8%	-2.1%	†
Lithuania	5.0	4.8	4.4	4.9	4.3	4.2	3.5	4.0	5.5	5.1	4.7	-7.0%	-0.6%	†
Luxembourg	3.8	2.9	3.0	2.8	2.2	2.2	2.2	1.9	2.2	2.2	2.2	0.5%	-5.3%	†
Netherlands	102.5	100.9	103.4	110.2	115.2	117.2	114.3	121.4	123.3	122.1	122.0	-0.1%	1.8%	0.4%
North Macedonia	6.3	6.1	5.4	5.6	5.6	5.6	5.6	5.9	5.5	5.5	5.8	5.4%	-0.7%	†
Norway	147.8	134.1	142.0	144.5	149.1	149.6	147.1	134.9	155.3	158.0	146.8	-7.1%	-0.1%	0.5%
Poland	162.1	164.6	159.1	164.9	166.6	170.5	170.0	164.0	157.1	179.6	179.1	-0.3%	1.0%	0.6%
Portugal	46.6	51.7	52.8	52.4	60.3	59.4	59.6	53.2	53.1	51.0	48.7	-4.5%	0.4%	0.2%
Romania	59.0	58.9	63.3	66.3	65.1	64.3	64.8	59.5	55.8	59.3	54.0	-9.0%	-0.9%	0.2%
Slovakia	28.7	28.8	27.4	26.9	27.1	27.7	27.0	28.4	28.8	30.0	27.4	-8.7%	-0.4%	0.1%
Slovenia	15.7	16.1	17.4	15.1	16.5	16.3	16.3	16.1	17.2	15.9	13.5	-15.3%	-1.6%	†
Spain	297.6	285.3	278.8	281.0	274.6	275.6	274.5	267.5	263.4	274.3	293.7	7.1%	-0.1%	1.0%
Sweden	166.3	153.2	153.7	162.1	156.1	164.3	168.4	163.8	171.8	172.7	0.5%	0.4%	0.6%	
Switzerland	70.0	70.4	72.0	66.3	61.9	61.8	67.6	71.9	70.2	64.6	64.4	-0.4%	-0.8%	0.2%
Turkey	239.5	240.2	252.0	261.8	274.4	297.3	304.8	303.9	306.7	334.7	326.2	-2.5%	3.1%	1.1%
Ukraine	198.9	194.4	182.8	163.7	164.6	156.0	159.9	154.1	147.8	155.5	112.7	-27.5%	-5.5%	0.4%
United Kingdom	363.9	358.3	338.1	338.9	339.2	338.2	332.7	323.9	312.3	308.7	326.0	5.6%	-1.1%	1.1%
Other Europe	79.3	90.1	80.2	85.2	89.0	82.9	92.5	87.6	94.7	89.1	89.1	-5.9%	1.2%	0.3%
Total Europe	4052.5	4021.5	3981.4	3981.4	4022.0	4062.0	4066.1	3995.2	3880.6	4043.6	3900.9	-3.5%	-0.4%	13.4%
Azerbaijan	23.0	23.4	24.7	24.7	25.0	24.3	25.2	26.1	25.8	27.9	29.0	4.1%	2.4%	0.1%
Belarus	30.8	31.5	34.7	34.2	33.6	34.5	38.9	40.5	38.7	41.2	39.6	-3.7%	2.6%	0.1%
Kazakhstan	90.6	92.6	94.6	91.6	94.6	103.1	107.3	106.5	108.6	115.1	114.0	-1.0%	2.3%	0.4%
Russian Federation	1069.3	1059.1	1064.2	1067.5	1091.0	1091.2	1109.2	1118.1	1085.4	1157.1	1166.9	0.9%	0.9%	4.0%
Turkmenistan	17.8	18.9	20.1	21.5	22.6	22.8	24.2	22.5	25.8	28.4	31.5	11.0%	5.9%	0.1%
Uzbekistan	53.0	54.9	55.4	57.3	59.1	60.8	62.9	63.1	66.1	71.1	71.0	-0.2%	3.0%	0.2%
Other CIS	46.0	43.3	44.1	44.0	43.5	46.3	48.6	49.2	49.5	50.1	49.5	-1.3%	0.7%	0.2%
Total CIS	1330.4	1323.7	1337.9	1340.9	1369.3	1383.0	1416.4	1425.9	1400.0	1490.9	1501.6	0.7%	1.2%	5.1%
Iran	248.8	258.9	275.6	280.2	286.1	305.2	312.4	318.9	337.2	345.3	348.1	0.8%	3.4%	1.2%
Iraq	47.8	62.1	71.2	75.3	86.3	93.6	100.2	106.0	105.5	110.8	117.2	5.8%	9.4%	0.4%
Israel	63.0	61.4	61.3	64.3	67.4	67.7	69.3	72.4	72.8	73.8	76.5	3.6%	2.0%	0.3%
Kuwait	61.1	61.0	65.1	68.3	70.1	72.8	74.2	75.1	74.8	80.8	83.0	2.7%	3.1%	0.3%
Oman	25.0	26.2	29.1	32.8	34.2	36.1	37.7	38.8	38.3	41.0	41.4	0.9%	5.2%	0.1%
Qatar	34.8	34.7	38.7	41.5	42.3	45.6	47.9	49.9	49.3	51.7	50.0	-3.1%	3.7%	0.2%
Saudi Arabia	281.6	294.7	328.2	350.6	357.7	395.0	374.8	378.5	380.9	392.9	401.6	2.2%	3.6%	1.4%
United Arab Emirates	106.2	110.0	116.5	127.4	129.6	134.6	136.0	138.5	137.3	149.0	154.7	3.8%	3.8%	0.5%
Other Middle East	105.5	99.5	97.1	93.9	93.0	95.7	102.8	106.8	101.8	97.1	92.6	-4.6%	-1.3%	0.3%
Total Middle East	973.8	1008.4	1083.0	1134.4	1166.8	1246.2	1255.3	1284.9	1297.9	1342.4	1365.1	1.7%	3.4%	4.7%
Algeria	57.4	59.9	64.2	68.8	71.0	76.0	76.7	81.5	79.2	85.4	91.6	7.3%	4.8%	0.3%
Egypt	162.8	165.1	171.2	181.8										



Electricity Generation by fuel*

Terawatt-hours	2021							2022								
	Oil	Natural gas	Coal	Nuclear energy	Hydro-electricity	Renewables	Other†	Total	Oil	Natural Gas	Coal	Nuclear energy	Hydro-electricity	Renewables	Other†	Total
Canada	2.9	80.1	34.4	92.0	382.8	49.8	4.8	646.8	2.7	81.0	34.1	86.6	398.4	52.1	4.7	659.6
Mexico	32.9	189.5	13.6	11.9	34.9	47.3	^	330.0	34.2	191.8	21.9	10.8	35.7	46.2	—	340.7
US	20.6	1698.1	977.8	820.7	249.0	622.0	12.7	4400.9	25.1	1816.6	904.2	812.1	258.6	719.5	11.5	4547.7
Total North America	56.5	1967.6	1025.8	924.6	666.6	719.1	17.5	5377.7	62.0	2089.4	960.2	909.6	692.7	817.8	16.2	5548.0
Argentina	13.1	89.9	2.4	10.2	19.6	17.4	0.5	153.2	16.7	80.4	2.1	7.5	23.9	19.4	0.8	150.8
Brazil	20.2	87.0	24.2	14.7	362.8	144.8	2.4	656.1	10.1	42.1	16.5	14.6	427.1	164.5	2.3	677.2
Other S. & Cent. America	65.7	106.7	46.9	—	286.3	64.1	—	569.7	66.3	114.0	38.0	—	295.2	68.8	—	582.4
Total S. & Cent. America	99.0	283.6	73.5	24.9	668.7	226.3	2.9	1378.9	93.1	236.5	56.6	22.0	746.2	252.8	3.1	1410.4
France	2.0	35.3	4.1	379.4	58.7	61.4	6.8	547.6	2.3	46.9	3.1	294.7	44.6	68.0	8.1	467.7
Germany	4.6	90.3	164.7	69.1	19.7	214.4	26.5	589.3	4.4	79.8	180.6	34.7	17.5	236.5	23.8	577.3
Italy	12.0	144.0	16.0	—	45.4	68.2	3.5	289.1	9.7	156.3	17.6	—	28.2	72.0	3.6	287.3
Netherlands	1.3	56.7	17.3	3.8	0.1	40.4	2.5	122.1	1.6	47.8	17.3	4.2	0.1	48.3	2.7	122.0
Poland	2.0	15.8	129.8	—	2.3	28.2	1.4	179.6	1.7	11.6	127.4	—	2.0	34.7	1.7	179.1
Spain	10.0	71.5	6.0	56.6	29.6	96.1	4.5	274.3	10.1	89.3	9.4	58.6	18.2	103.3	4.9	293.7
Türkiye	0.3	111.2	103.4	—	55.9	64.0	^	334.7	3.1	71.8	112.8	—	67.2	71.4	—	326.2
Ukraine	0.8	10.3	36.8	86.2	10.4	11.0	—	155.5	0.5	7.2	24.8	62.1	11.1	7.0	—	112.7
United Kingdom	1.8	123.2	6.5	45.9	5.5	116.7	9.1	308.7	2.1	125.3	5.6	47.7	5.3	129.5	10.5	326.0
Other Europe	17.8	141.7	146.9	241.3	426.9	242.6	25.5	1242.8	17.1	132.0	151.4	239.5	372.8	269.4	26.6	1208.8
Total Europe	52.7	799.9	631.5	882.3	654.5	942.9	79.8	4043.6	52.6	768.0	650.0	741.5	566.9	1040.1	81.9	3900.9
Kazakhstan	0.1	27.1	75.2	—	9.2	3.4	0.2	115.1	0.1	23.7	76.8	—	9.2	4.2	—	114.0
Russian Federation	8.1	519.9	181.2	222.4	214.5	5.7	5.2	1157.1	6.7	533.9	192.3	223.7	197.7	7.4	5.3	1166.9
Other CIS	4.6	156.9	6.4	7.8	41.2	1.2	0.6	218.7	4.0	159.8	6.2	7.5	40.9	1.6	0.6	220.7
Total CIS	12.8	703.9	262.8	230.2	265.0	10.3	6.0	1490.9	10.7	717.3	275.4	231.2	247.8	13.3	5.8	1501.6
Iran	33.8	290.6	0.8	3.5	14.9	1.8	—	345.3	31.2	300.2	0.8	6.6	7.5	2.0	—	348.1
Saudi Arabia	157.9	234.2	—	—	—	0.8	—	392.9	131.4	269.4	—	—	—	0.8	—	401.6
United Arab Emirates	^	132.2	—	10.5	—	6.3	—	149.0	^	127.7	—	20.1	—	7.0	—	154.7
Other Middle East	135.4	283.8	17.2	—	5.0	13.6	0.2	455.1	134.8	285.8	17.8	—	4.9	17.2	0.2	460.6
Total Middle East	327.1	940.9	17.9	14.1	19.9	22.4	0.2	1342.4	297.3	983.0	18.5	26.7	12.4	27.0	0.2	1365.1
Egypt	10.9	174.0	—	—	14.3	10.5	—	209.7	17.6	159.3	—	—	13.8	10.2	—	200.8
South Africa	3.2	—	206.1	12.4	2.0	15.9	4.7	244.3	3.6	—	197.2	10.1	3.1	16.3	4.5	234.8
Other Africa	45.0	202.0	36.9	—	136.1	22.5	0.5	442.9	49.4	203.9	39.2	—	139.8	24.3	0.5	457.1
Total Africa	59.1	376.0	243.1	12.4	152.4	48.8	5.2	896.9	70.6	363.2	236.4	10.1	156.7	50.8	5.0	892.7
Australia	4.7	47.6	137.4	—	15.9	61.3	0.4	267.5	5.0	46.3	130.9	—	17.1	73.7	0.5	273.6
China	11.8	287.1	5328.8	407.5	1300.0	1148.7	50.3	8534.3	11.9	290.6	5397.8	417.8	1303.1	1367.0	60.4	8848.7
India	2.3	59.8	1274.1	43.9	160.3	173.2	1.1	1714.8	2.5	47.0	1380.1	46.2	174.9	205.9	1.3	1858.0
Indonesia	6.6	56.3	190.0	—	24.7	31.5	0.3	309.4	6.1	56.1	205.3	—	27.3	38.0	0.6	333.4
Japan	34.0	326.1	301.9	61.2	79.6	136.4	80.6	1019.7	40.6	319.7	309.0	51.8	74.9	152.1	85.4	1033.6
Malaysia	1.3	60.9	78.0	—	30.9	3.7	—	174.7	1.8	68.4	76.4	—	32.5	3.9	—	182.9
South Korea	7.2	178.1	211.7	158.0	3.1	39.8	4.2	601.9	6.9	173.3	208.7	176.1	3.5	47.7	4.2	620.3
Taiwan	5.3	108.3	128.9	27.8	3.5	12.2	5.0	291.0	4.5	111.8	121.2	23.8	5.8	16.2	4.9	288.1
Thailand	0.7	113.1	36.1	—	4.5	21.9	^	176.4	1.7	114.6	35.5	—	6.6	21.9	^	180.4
Vietnam	0.2	26.2	114.2	—	75.9	28.3	^	244.9	0.7	27.8	100.8	—	96.0	34.8	—	260.0
Other Asia Pacific	52.3	230.1	155.5	15.7	163.3	37.8	0.7	655.4	60.5	218.2	154.4	22.3	169.7	41.5	1.0	667.6
Total Asia Pacific	126.4	1493.7	7956.4	714.1	1861.7	1694.8	142.5	13989.7	142.2	1473.9	8120.1	737.9	1911.5	2002.6	158.3	14546.4
Total World	733.5	6565.6	10211.1	2802.5	4288.8	3664.6	254.2	28520.2	728.6	6631.4	10317.2	2679.0	4334.2	4204.3	270.5	29165.1
of which: OECD	153.5	3370.9	2247.8	1912.2	1450.2	1916.1	181.3	11232.0	163.0	3454.1	2197.3	1789.3	1408.2	2157.8	187.5	11357.3
Non-OECD	580.0	3194.6	7963.3	890.4	2838.5	1748.5	72.9	17288.2	565.6	3177.3	8119.8	889.7	2926.0	2046.6	83.0	17807.9
European Union	47.3	548.7	439.8	731.7	347.3	725.5	64.3	2904.6	43.9	556.2	461.2	608.6	276.9	801.7	63.5	2812.0

* Includes electricity generated from: geothermal, biomass and other sources of renewable energy (not already itemized).

† Based on gross output. Includes unclassified generation, statistical differences and sources not specified elsewhere e.g. pumped hydro, non-renewable waste and heat from chemical sources.

^ Less than 0.05.



Key minerals Production and reserves

Cobalt production and reserves

Mine production

Thousand tonnes	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Reserves		
												Growth rate per annum	Share at end of	
Australia	5.9	6.4	6.2	6.0	5.5	5.8	4.9	5.7	5.6	5.3	5.9	11.4%	†	
Canada	3.7	4.0	3.9	4.3	4.2	3.7	3.5	3.3	4.5	4.4	3.9	-10.6%	0.5%	
China	2.2	2.6	2.8	2.6	2.3	2.5	2.0	2.5	2.2	2.2	2.2	-	-1.3%	
DR Congo	86.4	76.6	76.5	84.4	69.0	90.3	109.4	78.0	86.6	93.0	111.3	19.7%	2.6%	
Cuba	4.7	4.0	3.7	4.0	3.9	3.9	3.5	3.8	3.8	4.0	3.8	-4.5%	-2.1%	
Madagascar	0.6	2.4	3.4	4.0	3.8	3.1	2.9	2.9	0.8	2.0	2.4	20.0%	14.9%	
Morocco	2.0	2.0	2.2	2.3	2.7	2.5	2.1	2.3	2.3	2.3	2.3	-	1.4%	
New Caledonia	2.7	3.2	4.0	3.6	3.2	2.8	2.1	1.7	2.2	1.5	2.0	30.0%	-3.1%	
Papua New Guinea	0.5	1.0	2.1	2.5	2.2	3.3	3.3	2.9	2.9	3.0	3.0	1.6%	20.4%	
Philippines	2.7	2.8	4.6	4.3	4.0	4.6	4.8	5.1	4.9	4.3	4.7	7.4%	5.6%	
Russian Federation	6.3	6.3	6.3	6.2	5.5	5.9	6.1	6.3	9.7	8.0	8.9	11.2%	3.5%	
South Africa	2.5	3.0	3.0	2.9	2.3	2.3	2.3	2.1	1.8	1.2	1.0	-16.5%	-8.8%	
Zambia	5.4	5.9	4.6	3.0	5.0	2.6	1.6	0.4	0.3	0.2	0.2	-	-26.6%	
Rest of World	9.9	11.4	7.5	7.1	4.8	4.0	2.8	3.0	3.7	6.5	14.7	127.0%	4.1%	
Total World	135.4	131.6	130.7	137.2	118.4	137.3	151.2	119.9	131.4	137.8	166.2	20.6%	2.1%	
												100.0%	8532.7	
													100.0%	51

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

Thousand tonnes of Lithium content

Thousand tonnes	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Reserves		
												Growth rate per annum	Share at end of	
Argentina	2.7	2.5	3.2	3.6	5.8	5.7	6.4	6.3	5.9	6.0	6.2	3.9%	8.7%	
Australia	12.7	10.1	12.4	11.9	14.0	21.3	57.0	45.0	39.7	55.3	61.0	10.3%	17.0%	
Brazil	0.2	0.4	0.2	0.1	0.2	0.3	1.0	2.2	1.4	1.7	2.2	29.4%	30.8%	
Chile	12.3	10.5	10.8	9.8	13.6	14.2	17.0	19.2	21.6	28.3	39.0	37.8%	12.2%	
China	4.5	4.7	2.3	2.0	2.3	6.8	7.1	10.8	13.3	14.0	19.0	35.7%	15.5%	
Portugal	0.3	0.3	0.3	0.3	0.4	0.8	1.2	0.9	0.3	0.9	0.6	-33.3%	6.8%	
US	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	-	-0.6%	
Zimbabwe	1.1	1.0	0.9	0.9	1.0	0.8	1.6	1.2	0.4	0.7	0.8	12.7%	-2.8%	
Rest of World	—	—	—	—	—	—	—	—	—	—	0.6	420.8%	—	
Total World	34.7	30.4	31.0	29.5	38.2	50.9	95.1	86.9	83.7	107.9	130.4	20.8%	14.1%	
												100.0%	23024	
													100.0%	177

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

Thousand tonnes

Thousand tonnes	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Reserves		
												Growth rate per annum	Share at end of	
Brazil ¹	88.1	91.9	87.0	75.1	61.7	79.8	95.0	96.0	95.0	95.0	95.0	—	0.8%	
Canada	24.0	20.0	30.0	30.0	21.0	14.0	11.0	11.0	7.6	12.0	15.0	25.0%	-4.6%	
China	820.0	750.0	780.0	725.0	625.0	625.0	693.0	700.0	762.0	820.0	850.0	3.7%	0.4%	
India ²	134.7	146.4	116.7	134.6	137.3	46.4	44.5	30.5	31.8	57.3	57.3	—	-8.2%	
Madagascar	2.9	4.3	5.3	8.1	9.2	13.3	48.1	53.4	48.5	91.1	88.2	-3.2%	40.8%	
Mexico	7.5	7.0	9.2	6.5	3.8	1.7	4.1	1.6	1.5	1.8	1.7	-2.9%	-13.7%	
Mozambique	—	—	—	—	—	—	0.3	104.0	153.0	12.0	163.0	126.4%	—	
Norway	7.0	6.2	8.3	9.2	9.6	9.6	12.0	9.8	5.5	6.3	10.4	64.9%	4.0%	
Russian Federation	14.3	20.2	17.6	15.9	19.4	19.5	11.9	17.5	12.9	15.3	14.3	-6.3%	†	
Sri Lanka	4.2	3.1	4.0	4.2	4.0	3.5	4.0	4.0	4.0	3.0	3.0	—	-3.2%	
Türkiye	31.5	28.7	3.9	—	—	—	16.8	10.0	15.2	28.3	28.3	—	-1.1%	
Ukraine	7.0	2.0	8.0	7.9	6.1	13.9	12.2	1.5	4.1	3.2	3.0	-5.8%	-8.1%	
Rest of World ³	52.2	45.7	57.8	56.5	59.0	59.4	56.6	51.1	53.5	53.9	61.8	14.7%	1.7%	
Total World	1193.5	1125.6	1127.8	1073.0	956.2	886.4	1113.1	1139.4	1053.6	1259.1	1391.0	10.5%	1.5%	
												100%	355692	
													100%	256

Sources: includes data from US Geological Survey, British Geological Survey ©UKRI and World Mining Data.

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	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Reserves		
												Growth rate per annum	Share at end of	
Australia	3.2	1.3	6.2	11.9	13.9	17.3	18.6	17.6	21.1	22.5	16.0	-29.1%	17.4%	
Brazil	1.6	0.3	-	0.9	2.7	1.7	1.2	0.7	0.6	0.5	0.1	-84.0%	-26.0%	
China	93.8	93.8	105.0	105.0	105.0	105.0	120.0	132.0	140.0	168.0	210.0	25.0%	8.4%	
India	—	0.3	1.7	1.0	1.1	1.4	2.1	2.5	2.5	2.6	2.6	—	0.9%	
Madagascar	—	—	—	—	—	—	2.0	4.0	2.8	4.1	1.0	-76.6%	—	
Russian Federation	2.1	1.4	2.1	2.3	3.1	2.5	2.6	2.6	2.6	2.6	—	2.0%	0.9%	
Thailand	0.1	0.1	1.9	0.8	1.6	1.3	1.0	1.9	3.6	8.2	7.1	-13.4%	50.4%	
US	3.0	5.5	5.4	5.9	—	—	18.0	28.0	39.0	42.0	43.0	2.4%	30.5%	
Rest of World ²	0.3	0.3	0.2	0.9	4.8	15.4	25.5	26.6	32.1	35.6	16.3	-54.2%	49.1%	
Total World	104.2	103.0	122.6	128.6	132.2	144.6	191.0	215.9	244.3	286.2	298.6	4.4%	11.1%	
												100%	125620	
													100%	421

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.



Key minerals Prices

Cobalt and lithium prices

Thousand US dollars per tonne	Cobalt*	Lithium carbonate†
2000	33.42	4.47
2001	23.26	1.49
2002	15.23	1.59
2003	23.37	1.55
2004	52.76	1.72
2005	35.19	1.46
2006	37.96	2.32
2007	67.35	3.53
2008	86.00	4.44
2009	39.38	5.16
2010	45.97	4.30
2011	39.66	4.29
2012	31.02	4.45
2013	27.07	4.75
2014	30.79	4.68
2015	28.46	5.11
2016	25.47	8.84
2017	55.79	12.07
2018	72.79	14.66
2019	33.20	11.31
2020	31.44	6.80
2021	51.39	10.76
2022	63.52	46.82

* 2000-2012 spot grade for cathodes, source US Geological Survey. Data from 2013 onwards: min purity 99.8%,

source London Metal Exchange.

† 2000-2008 unit value, data series 140, source US Geological Survey. Data from 2009 onwards: FOB South America,

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%	2012	38.8%
2002	36.5%	2013	39.1%
2003	36.7%	2014	39.3%
2004	36.9%	2015	39.5%
2005	37.2%	2016	39.8%
2006	37.4%	2017	40.0%
2007	37.6%	2018	40.2%
2008	37.9%	2019	40.4%
2009	38.1%	2020	40.5%
2010	38.4%	2021	40.6%
2011	38.6%	2022	40.7%

*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

The redistribution or reproduction of data whose source is S&P Global Platts is strictly prohibited without prior authorisation from S&P Global Platts. Email: support@platts.com

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 IEA'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/m³.

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/m³, 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/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.

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/m³.

Coal

Coal reserves

Total proved reserves of coal are generally taken to be those quantities that geological and engineering information indicates with reasonable certainty 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 CO₂ 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 CO₂, 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: Ceditgaz 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 Ceditgaz include flaring from upstream only. Volumes of gas flared have been standardised using a Gross Calorific Value (GCV) of 40 MJ/m³. The IPCC Default CO₂ Emission Factor for Combustion for natural gas (56,100 kg CO₂ per TJ) is used and perfect combustion has been assumed. These emissions represent around 1% of total CO₂ emissions.

Data for methane emissions associated with the production, transportation and distribution of fossil fuels for 1990-2020 are sourced, where available, from IEA (2021, 2022) Greenhouse Gas Emissions from Energy (all rights reserved). For a selected number of fossil fuel-producing countries where methane emission data is not currently available, an estimate of historical methane emissions has been derived using regional average methane intensity of production. For 2021, methane emission estimates are derived for all countries using methane intensity of fossil fuel production in 2020. 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 CO₂e 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 CO₂ emissions from cement production and are sourced for 1990-2021 from Andrew, R. M. (2019) Global CO₂ emissions from cement production, 1928-2018. Earth System Science Data 11, 1675-1710, (updated dataset May 2022).

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 m ³ NG	1.000	35.315	36.000	0.860	0.735	34.121	5.883
1 billion ft ³ 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. = 1,023 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 10 ¹⁵)
1 exajoule (EJ)	= 1 quintillion joules (1 x 10 ¹⁸)
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:	239 trillion kilocalories 948 trillion Btu
Heat units	40 million tonnes of hard coal
Solid fuels	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, India, Myanmar, Nepal, Pakistan and Sri Lanka), 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.

More information

Quoting from the review

Publishers are welcome to quote from this review provided that they attribute the source to Energy Institute Statistical Review of World Energy 2023.

However, for extensive reproduction of tables and/or charts, permission must first be obtained from:

EI Statistical Review of World Energy
61 New Cavendish Street

London W1G 7AR

statisticalreview@energyinst.org

The redistribution or reproduction of data whose source is S&P Global Platts is strictly prohibited without prior authorisation from S&P Global Platts.

The Energy Institute disclaims any obligation to update this review or to correct any inaccuracies which may become apparent. Neither the Energy Institute (nor their respective officers, employees and agents) accept liability for any inaccuracies or omissions or for any direct, indirect, special, consequential or other losses

or damages of whatsoever kind in connection to this review or any information contained in it.

Statistics published in this Review are taken from government sources and published data. No use is made of confidential information obtained by the Energy Institute or its partners in the course of their business.

Acknowledgements

Produced by



The Energy Institute (EI) is the chartered professional membership body for people who work across the world of energy. Our purpose is creating a better energy future for our members and society by accelerating a just global energy transition to net zero.

www.energyinst.org

In partnership with



KPMG firms offer audit, tax and advisory services in 143 countries and territories across the globe. It's our people who make the difference. Every day, they're helping organisations across every sector accelerate their digital transformation, manage risks, drive forward with their ESG strategies and drive sustainable growth.

www.kpmg.com



Kearney is a leading global management consulting firm. For nearly 100 years, we have been a trusted advisor to C-suites, government bodies, and nonprofit organizations. Our people make us who we are. Driven to be the difference between a big idea and making it happen, we help our clients break through.

www.kearney.com

Data compilation by

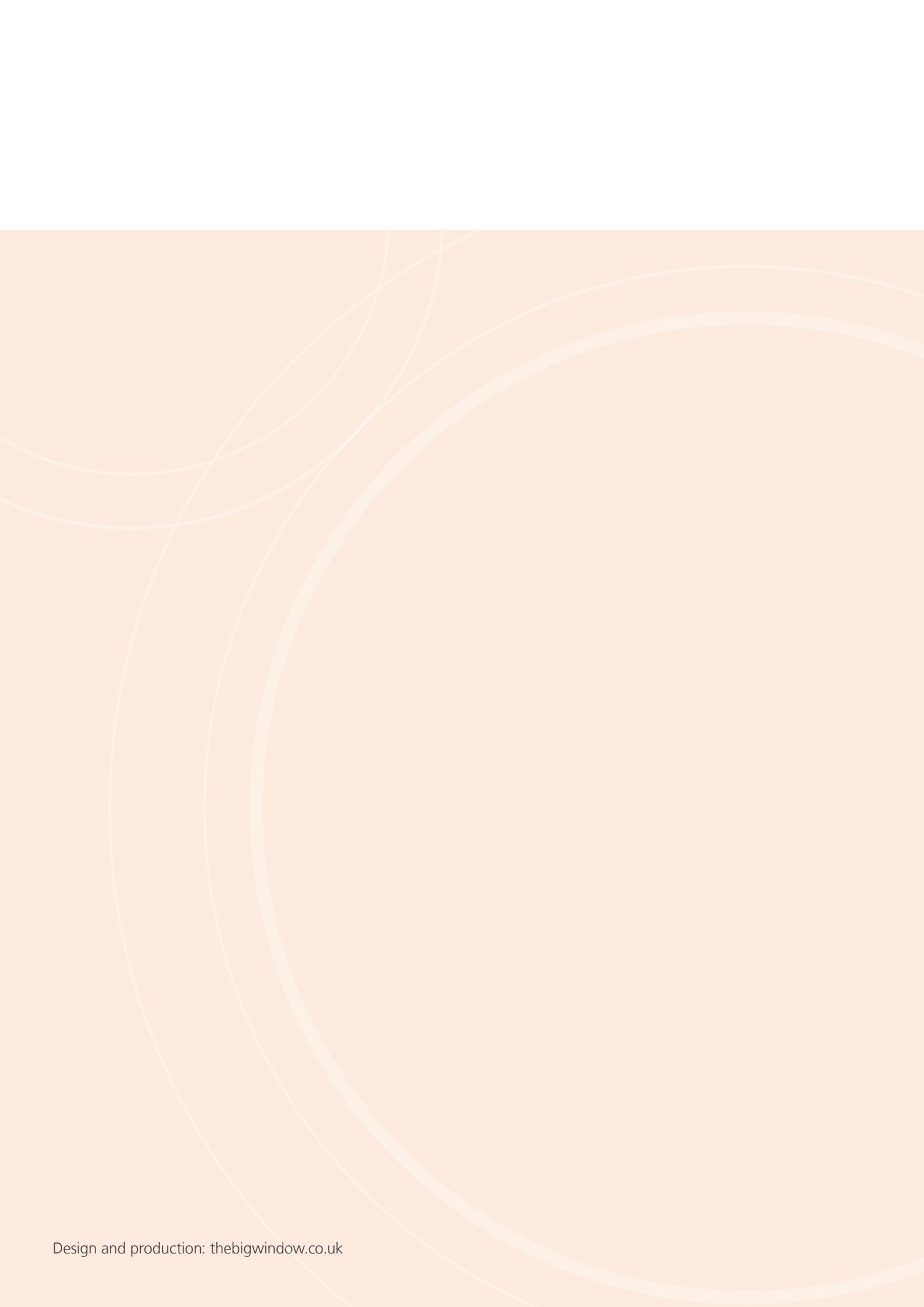


UK | DUBAI | MALAYSIA

Heriot-Watt University is a global research-led university based in the UK, with five campuses in Edinburgh, the Scottish Borders, Orkney, Dubai and Malaysia. We are specialists in business, engineering, design and the physical, social, sports, environmental and life sciences subjects which make a real impact on the world and society.

www.hw.ac.uk

With the continuing support of bp.





ISSN 2976-7857

ISBN 978 1 78725 379 7

©Energy Institute 2023