BP Statistical Review of World Energy

2019 | 68th edition

Contents

Introduction

1 Group chief executive's introduction
2 2018 at a glance
3 Group chief economist's analysis

Primary energy

8 Consumption
9 Consumption by fuel
12 Consumption per capita

Oil

14 Reserves
16 Production
20 Consumption
24 Prices
26 Refining
28 Trade movements

Natural gas

30 Reserves
32 Production
34 Consumption
37 Prices
38 Trade movements

Coal

42 Reserves
44 Production
45 Consumption
47 Prices and trade movements

Nuclear energy

48 Consumption

Hydroelectricity

49 Consumption

Renewable energy

51 Renewables consumption
52 Generation by source
53 Biofuels production

Electricity

54 Generation
56 Generation by fuel

Carbon

57 Carbon dioxide emissions

Key minerals

58 Production
59 Reserves
59 Prices

Appendices

60 Approximate conversion factors
60 Definitions
61 More information

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Group chief executive's introduction

> Welcome to the BP Statistical Review of World Energy, which records the events of 2018: a year in which there was a growing divide between societal demands for an accelerated transition to a low carbon energy system and the actual pace of progress.

In particular, the data compiled in this year's Review suggest that in 2018, global energy demand and carbon emissions from energy use grew at their fastest rate since 2010/11, moving even further away from the accelerated transition envisaged by the Paris climate goals.

BP's economics team estimate that much of the rise in energy growth last year can be traced back to weather-related effects, as families and businesses increased their demand for cooling and heating in response to an unusually large number of hot and cold days. The acceleration in carbon emissions was the direct result of this increased energy consumption.

Even if these weather effects are short-lived, such that the growth in energy demand and carbon emissions slow over the next few years, there seems little doubt that the current pace of progress is inconsistent with the Paris climate goals. The world is on an unsustainable path: the longer carbon emissions continue to rise, the harder and more costly will be the eventual adjustment to net-zero carbon emissions. Yet another year of growing carbon emissions underscores the urgency for the world to change.

The Statistical Review provides a timely and objective insight into those developments and how that change can begin to be achieved.

The strength in energy consumption was reflected across all the fuels, many of which grew more strongly than their recent historical averages. This acceleration was particularly pronounced for natural gas, which grew at one of its fastest rates for over 30 years, accounting for over 40% of the growth in primary energy. On the supply side, the data for 2018 reinforced the central importance of the US shale revolution. Remarkably, the US recorded the largest ever annual increases by any country in both oil and natural gas production last year, with the vast majority of both increases coming from onshore shale plays. At the same time, renewable energy, led by wind and solar power, continued to grow far more rapidly than any other form of energy.

The developments documented in this year's Statistical Review highlight a critical challenge facing the global power sector. Power demand increased even more strongly than overall energy demand in 2018, as the world continued to electrify. But this shift towards greater electrification can play an important part in the energy transition only if it is accompanied by a decarbonization of the power sector.

Despite the continuing rapid growth in renewable energy last year, it provided only a third of the required increase in power generation, with coal providing a broadly similar contribution. Indeed, the increasing use of coal within the power sector is estimated to have more than accounted for the entire growth of global coal consumption last year.

Overall, the electric power sector is estimated to have absorbed around half of the growth in primary energy in 2018 and accounted for around half of the increase in carbon emissions.

Decarbonizing the power sector while also meeting the rapidly expanding demand for power, particularly in the developing world, is perhaps the single most important challenge facing the global energy system over the next 20 years. Renewable energy has a vital role to play in meeting that challenge. But it is unlikely to be able to do so on its own. A variety of different technologies and fuels are likely to be required, including extensive coal-to-gas switching and the widespread deployment of carbon capture, use and storage (CCUS). As I have said before, this is not a race to renewables, it is a race to reduce carbon emissions across many fronts.

Our industry, and society more generally, face significant challenges as we navigate the transition to a low carbon energy system. That will require understanding and judgement, both of which rely on the kind of objective data and analysis found in the Statistical Review. We are proud of the role that the BP Statistical Review has played in informing public debate over the past 68 years and I hope that you find it a useful resource for your own discussions and deliberations.

Let me conclude by thanking BP's economics team and all those who have helped us prepare this Review – particularly those governments and statistical agencies around the world who have contributed their official data again this year. Thank you for your continuing co-operation and transparency.

Bob Dudley
Group chief executive
June 2019

2018 at a glance

Global primary energy consumption grew rapidly in 2018, led by natural gas and renewables. Nevertheless, carbon emissions rose at their highest rate for seven years.

Energy developments

- Primary energy consumption grew at a rate of 2.9% last year, almost double its 10-year average of 1.5% per year, and the fastest since 2010.
- By fuel, energy consumption growth was driven by natural gas, which contributed more than 40% of the increase. All fuels grew faster than their 10-year averages, apart from renewables, although renewables still accounted for the second largest increment to energy growth.
- China, the US and India together accounted for more than two thirds of the global increase in energy demand, with US consumption expanding at its fastest rate for 30 years.

Carbon emissions

- Carbon emissions grew by 2.0%, the fastest growth for seven years.

Oil

- The annual average oil price (Dated Brent) rose to $71.31 per barrel, up from $54.19/barrel in 2017.
- Oil consumption grew by an above-average 1.4 million barrels per day (b/d), or 1.5%. China (680,000 b/d) and the US (500,000 b/d) were the largest contributors to growth.
- Global oil production rose by 2.2 million b/d. Almost all of the net increase was accounted for by the US, with their growth in production (2.2 million b/d) a record for any country in any year. Elsewhere, production growth in Canada (410,000 b/d) and Saudi Arabia (390,000 b/d) was outweighed by declines in Venezuela (-580,000 b/d) and Iran (-310,000 b/d).
- Refinery throughput rose by 960,000 b/d, down from 1.5 million b/d in 2017. Nevertheless, average refinery utilization climbed to its highest level since 2007.

Natural gas

- Natural gas consumption rose by 195 billion cubic metres (bcm), or 5.3%, one of the fastest rates of growth since 1984.
- Growth in gas consumption was driven mainly by the US (78 bcm), supported by China (43 bcm), Russia (23 bcm) and Iran (16 bcm).

Above: Singapore central business district.

+2.9%

Growth of global primary energy consumption, the fastest growth since 2010.

- Global natural gas production increased by 190 bcm, or 5.2%. Almost half of this came from the US (86 bcm), which (as with oil production) recorded the largest annual growth seen by any country in history. Russia (34 bcm), Iran (19 bcm) and Australia (17 bcm) were the next largest contributions to growth.
- Growth in inter-regional natural gas trade was 39 bcm or 4.3%, more than double the 10-year average, driven largely by continuing rapid expansion in liquefied natural gas (LNG).
- LNG supply growth came mainly from Australia (15 bcm), the US (11 bcm) and Russia (9 bcm). China accounted for around half of the increase in imports (21 bcm).

Coal

- Coal consumption grew by 1.4%, double its 10-year average growth.
- Consumption growth was led by India (36 mtoe) and China (16 mtoe). OECD demand fell to its lowest level since 1975.
- Coal's share in primary energy fell to 27.2%, its lowest in fifteen years.
- Global coal production rose by 162 mtoe, or 4.3%. China (82 mtoe) and Indonesia (51 mtoe) provided the largest increments.

Renewables, hydro and nuclear

- Renewable power grew by 14.5%, slightly below its historical average, although its increase in energy terms (71 mtoe) was close to the record-breaking increase of 2017.
- Solar generation grew by 30 mtoe, just below the increase in wind (32 mtoe), and provided more than 40% of renewables growth.
- By country, China was again the largest contributor to renewables growth (32 mtoe), surpassing growth in the entire OECD (26 mtoe).
- Hydroelectric generation increased by an above-average 3.1%, with European generation rebounding by 9.8% (12.9 mtoe), almost offsetting its steep decline in the previous year.
- Nuclear generation rose by 2.4%, its fastest growth since 2010. China (10 mtoe) contributed almost three quarters of global growth, with Japan (5 mtoe) the second largest increase.

Electricity

- Electricity generation rose by an above-average 3.7%, buoyed by China (which accounted for more than half of the growth), India and the US.
- Renewables accounted for a third of the net increase in power generation, followed closely by coal (31%) and then natural gas (25%).
- The share of renewables in power generation increased from 8.4% to 9.3%. Coal still accounted for the largest share of power generation at 38%.

Key minerals

- Cobalt and Lithium production rose by 13.9% and 17.6% respectively, both well in excess of their 10-year average growth rates.
- Cobalt prices rose 30% to their highest levels since 2008, while Lithium carbonate prices increased by 21% to new highs.

Group chief economist's analysis

Energy in 2018: an unsustainable path

The Statistical Review of World Energy has been providing timely and objective energy data for the past 68 years. In addition to the raw data, the Statistical Review also provides a record of key energy developments and events through time.

My guess is that when our successors look back at Statistical Reviews from around this period, they will observe a world in which there was growing societal awareness and demands for urgent action on climate change, but where the actual energy data continued to move stubbornly in the wrong direction.

A growing mismatch between hopes and reality. In that context, I fear – or perhaps hope – that 2018 will represent the year in which this mismatch peaked.

Key features of 2018

The headline numbers are the rapid growth in energy demand and carbon emissions. Global primary energy grew by 2.9% in 2018 – the fastest growth seen since 2010. This occurred despite a backdrop of modest GDP growth and strengthening energy prices.

At the same time, carbon emissions from energy use grew by 2.0%, again the fastest expansion for many years, with emissions increasing by around 0.6 gigatonnes. That's roughly equivalent to the carbon emissions associated with increasing the number of passenger cars on the planet by a third.

What drove these increases in 2018? And how worried should we be?

Starting first with energy consumption. As I said, energy demand grew by 2.9% last year. This growth was largely driven by China, US and India which together accounted for around two thirds of the growth. Relative to recent historical averages, the most striking growth was in the US, where energy consumption increased by a whopping 3.5%, the fastest growth seen for 30 years and in sharp contrast to the trend decline seen over the previous 10 years.

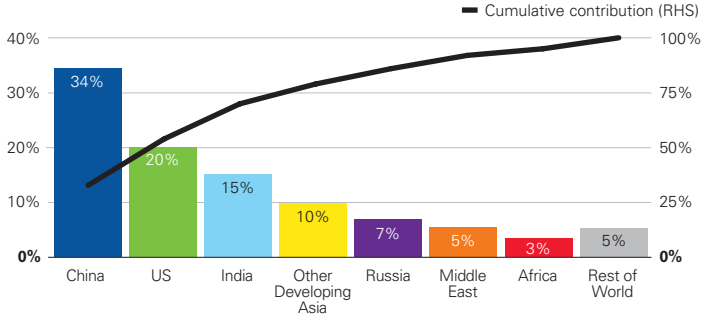
The strength in energy consumption was pretty much reflected across all the fuels, most of which grew more strongly than their historical averages. This acceleration was particularly pronounced in natural gas demand, which increased 5.3%, one of its strongest growth rates for over 30 years, accounting for almost 45% of the entire growth in global energy consumption. Coal demand (1.4%) also increased for the second consecutive year, following three years of declines. Growth in renewable energy (14.5%) eased back slightly relative to past trends although remained by far the world's fastest growing energy source.

2.0%

Growth of carbon emissions from energy use, the fastest for seven years.

Primary energy

Contribution to primary energy growth in 2018



Contributions shown do not sum to 100% due to rounding

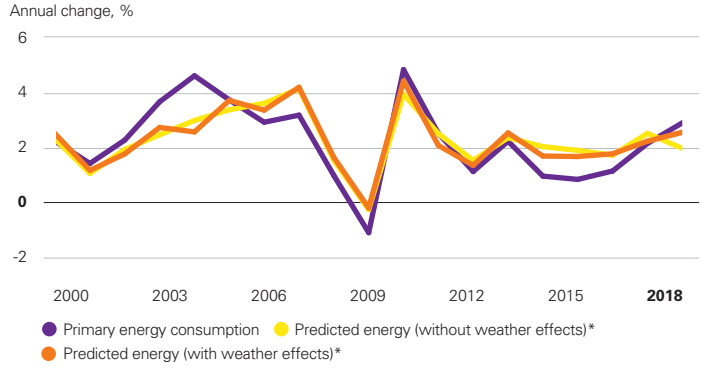
In terms of why the growth in energy demand was so strong: a simple model provides a way of gauging the extent of the surprise in this year's energy data. The model uses GDP growth and oil prices (as a proxy for energy prices) to predict primary energy growth at a country level and then aggregates to global energy. Although very simple, the framework is able to explain much of the broad contours in energy demand over the past 20 years or so.

This framework predicts that the growth in energy demand should have slowed a little last year, reflecting the slightly weaker economic backdrop and the strengthening in energy prices. Instead, energy demand picked up quite markedly.

Digging into the data further, it seems that much of the surprising strength in energy consumption in 2018 may be related to weather effects. In particular, there was an unusually large number of hot and cold days across many of the world's major demand centres last year, particularly in the US, China and Russia, with the increased demand for cooling and heating services helping to explain the strong growth in energy consumption in each of these countries.

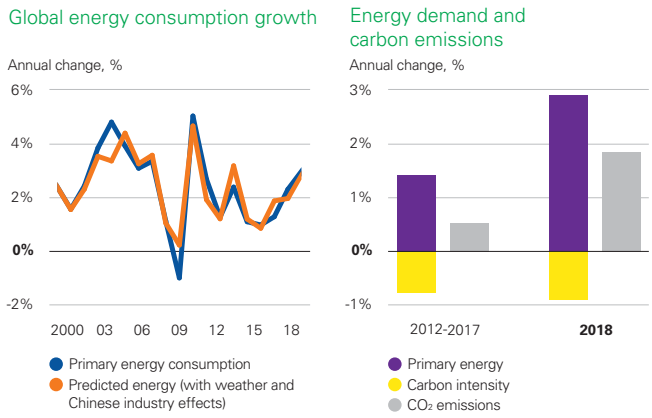
In the US, unusually, there was an increase in both heating and cooling days (as defined by the National Oceanic and Atmospheric Administration); in past years, high numbers of heating days have tended to coincide with low numbers of cooling days or vice versa. As a result, the increase in the combined number of US heating and cooling days last year was its highest since the 1950s, boosting US energy demand.

Global energy consumption growth



*These econometric models do not include Chinese energy intensive industries

Energy demand and carbon emissions



If we augment our framework to include a measure of heating and cooling days for those countries for which data are available, this greatly reduces the extent of the surprise in last year's energy growth. Once these weather effects are included, the growth in energy demand in 2018 still looks a little stronger than expected, but more striking is the surprising weakness of demand growth in the period 2014-16, which is far lower than the framework predicts.

As discussed in previous Statistical Reviews, much of this weakness appears to stem from the pattern of Chinese economic growth during this period, in particular the pronounced weakness of some of China's most energy-intensive sectors – iron, steel and cement – which account for around a quarter of China's energy consumption and greatly dampened overall energy growth. At the time, I speculated that some of the slowing in these sectors reflected the structural rebalancing of the Chinese economy towards more consumer and service-facing sectors and so was likely to persist. But I also noted that the scale of the slowdown suggested that some of it was likely to be cyclical and would reverse over time. And indeed, that is what began to happen in iron and steel in 2017 and gathered pace last year.

If we adjust the framework to also take account of movements in these key Chinese industrial sectors, the over-prediction of energy growth in 2014-16 is greatly reduced, as is the remaining 'unexplained' strength of energy demand in 2018. So, in answer to the question of why energy demand was so strong in 2018: it appears that the strength was largely due to weather-related effects – especially in the US, China and Russia – together with a further unwinding of cyclical factors in China.

How does this growth in energy demand relate to the worrying acceleration in carbon emissions?

Above: Thunder Horse South Expansion project in the US Gulf of Mexico.

To a very large extent, the growth in carbon emissions is simply a direct consequence of the increase in energy growth. Relative to the average of the previous five years, growth in energy demand was 1.5 percentage points higher in 2018 and the growth in carbon emissions was 1.4 percentage points higher. One led to the other as the improvement in the carbon intensity of the fuel mix was similar to its recent average.

Finally, in terms of the headline data, what signal might the 2018 data contain for the future?

I think this depends in large part on how you interpret the increasing number of heating and cooling days last year. If this was just random variation, we might expect weather effects in the future to revert to more normal levels, allowing the growth in energy demand and carbon emissions to fall back.

On the other hand, if there is a link between the growing levels of carbon in the atmosphere and the types of weather patterns observed in 2018 this would raise the possibility of a worrying vicious cycle: increasing levels of carbon leading to more extreme weather patterns, which in turn trigger stronger growth in energy (and carbon emissions) as households and businesses seek to offset their effects.

There are many people better qualified than I to make judgements on this. But even if these weather effects are short lived, such that the growth in energy demand and carbon emissions slow over the next few years, the recent trends still feel very distant from the types of transition paths consistent with meeting the Paris climate goals.

Hopes and reality.

So, in that sense, there are grounds for us to be worried.

Oil

2018 was another rollercoaster year for oil markets, with prices starting the year on a steady upward trend, reaching the dizzying heights of $85/bbl in October, before plunging in the final quarter to end the year at close to $50/bbl.

Oil demand provided a relatively stable backdrop, continuing to grow robustly, increasing 1.4 Mb/d last year. In an absolute sense, the growth in demand was dominated by the developing world, with China (0.7 Mb/d]) and India (0.3 Mb/d) accounting for almost two thirds of the global increase. But relative to the past 10 years or so, the big outlier was the US, where oil demand grew by 0.5 Mb/d in 2018, its largest increase for well over 10 years, boosted by increased demand for ethane as new production capacity came on stream.

The increased importance of petrochemicals in driving oil demand growth was also evident in the global product breakdown, with products most closely related to petrochemicals (ethane, LPG and naphtha) accounting for around half of the overall growth in demand last year.

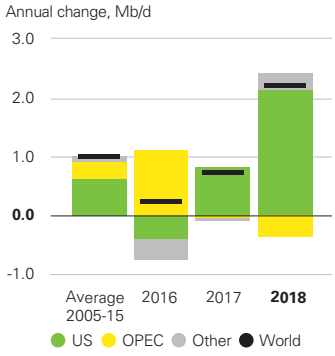
Against this backdrop of steady demand growth, all the excitement came from the supply side, where global production grew by a whopping 2.2 Mb/d, more than double its historical average. The vast majority of this growth was driven by US production, which grew by 2.2 Mb/d – the largest ever annual increase by a single country. Since 2012 and the onset of the tight oil revolution, US production (including NGLs) has increased by over 7 Mb/d – broadly equivalent to Saudi Arabia's crude oil exports – an astonishing increase which has transformed both the structure of the US economy and global oil market dynamics. Largely as a consequence, US net oil imports shrunk to less than 3 Mb/d last year, compared with over 12 Mb/d in 2005.

2.2 Mb/d

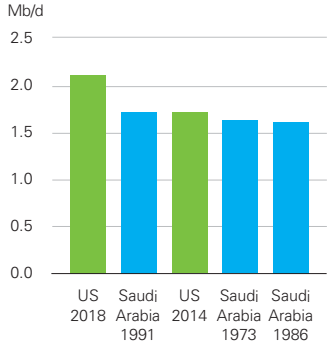
Growth of US oil production, the largest ever annual increase by a single country.

Oil production

Global oil production



Largest annual increases in oil production



OPEC production fell by 0.3 Mb/d in 2018, with a marked increase in Saudi Arabian production (0.4 Mb/d) offset by falls in Venezuela (-0.6 Mb/d) and Iran (-0.3 Mb/d). But this year-on-year comparison doesn't do justice to the intra-year twists and turns in OPEC production.

The ride began in the first half of 2018 with the continuation of the OPEC+ agreement from December 2016. The OPEC+ group consistently overshot their agreed production cuts during 2017 and this overshooting increased further during the first half of 2018, largely reflecting continuing falls in Venezuelan output. These production cuts helped push OECD inventories below their five year moving average for the first time since the collapse in oil prices in 2014.

The first major twist came in the middle of 2018: in response to falling Venezuelan production and the US announcing in May its intention to impose sanctions on all Iranian oil exports, the OPEC+ group in June committed to achieving 100% compliance of their production cuts for the group as a whole.

This commitment contained two important signals. First, given the extent to which production was below the target level, it signalled the prospect of an immediate increase in production. Second, it helped reduce the uncertainty associated with the possibility of future disruptions to either Iranian and Venezuelan production since the commitment to maintain "100% compliance" in essence signalled the willingness of other members of the OPEC+ group to offset any lost production.

As a result, between May and November of last year, net production by the OPEC+ group increased by 900 Kb/d, despite Iranian and Venezuelan production falling by a further 1 Mb/d. Job done. Or was it?

The problem with trying to stabilize oil markets is that there is always some other pesky development that you hadn't expected. Oil production by Libya and Nigeria – neither of which were part of the OPEC+ agreement – increased by more than 500 Kb/d between June and November of last year. As a result, OECD inventories started to grow again. The growing sense of excess supply was compounded by the US announcing in November that it would grant temporary waivers for some imports of Iranian oil.

This triggered another twist: a new OPEC+ group was formed in December of last year – this time excluding Iran and Venezuela, as well as Libya, but including Nigeria – with a commitment to reduce production by 1.2 Mb/d relative to October 2018 levels. After a slow start, by the spring of this year, inventories have fallen back to around their five year average once again.

It's tempting to interpret these twists and turns as indicative of OPEC's waning powers. But I'm not sure that's the correct interpretation. The role that OPEC+ played in more than offsetting the falls in Iranian and Venezuelan output last year was very significant. For me, the twists and turns simply reflect the difficulty of market management, especially in a world of record supply growth in one part of the world and heightened geopolitical tensions in others. It feels like the rollercoaster will run for some time to come.

78 bcm

Growth of US gas consumption, a record high for any country.

Natural gas

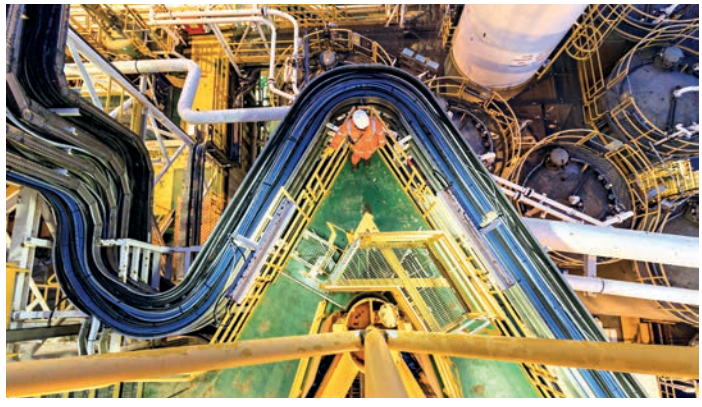
2018 was a bonanza year for natural gas, with both global consumption and production increasing by over 5%, one of the strongest growth rates in either gas demand or output for over 30 years. The main actor here was the US, accounting for almost 40% of global demand growth and over 45% of the increase in production.

US gas production increased by 86 bcm, an increase of almost 12%, driven by shale gas plays in Marcellus, Haynesville and Permian. Indeed, the US achieved a unique double first last year, recording the single largest-ever annual increases by any country in both oil and gas production – in case there was any doubt: the US shale revolution is alive and kicking. The gains in global gas production were supported by Russia (34 bcm), Iran (19 bcm) and Australia (17 bcm).

Although some of the increase in US gas supplies was used to feed the three new US LNG trains which came on stream last year, the majority was used to quench the thirst of domestic demand. US gas consumption increased by 78 bcm last year – roughly the same growth as the country achieved over the previous six years. This exceptional strength appears to be largely driven by the same weather-related effects, with rising demand for space heating and cooling fuelling increased gas consumption, both directly, and, more importantly, indirectly via growing power demand. The expansion of gas consumption within the US power sector was further boosted by almost 15 gigawatts of coal-fired generation capacity being retired last year.

Outside of the US, the growth in global gas demand was relatively concentrated across three other countries: China (43 bcm), Russia (23 bcm) and Iran (16 bcm), which together with the US, accounted for 80% of global growth.

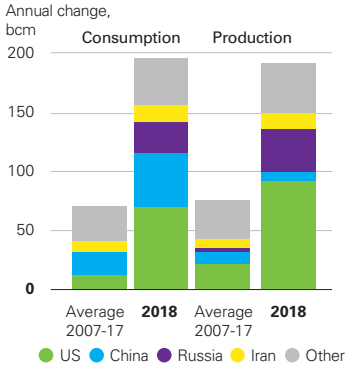
China gas consumption grew by an astonishing 18% last year. This strength stemmed largely from a continuation of environmental policies encouraging coal-to-gas switching in industry and buildings in order to improve local air quality, together with robust growth in industrial activity during the first half of the year.



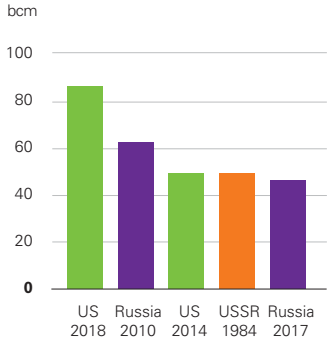
Above: Birds eye view of the Shah Deniz Alpha platform in the Caspian Sea, off the coast of Azerbaijan.

Natural gas

Consumption and production growth



Largest annual increases in gas production



Global LNG supplies continued their rapid expansion last year, increasing by almost 10% (37 bcm) as a number of new liquefaction plants in Australia, US and Russia were either started or ramped up. For much of the year, the strength of Asian gas demand, led by China, was sufficient to absorb these increasing supplies. But a waning in the strength of Asian demand towards the end of the year, combined with a mini-surge in LNG exports, caused prices to fall back and the differential between Asian and European spot prices to narrow significantly.

Asian prices have fallen further in the first part of this year, towards the bottom of the price band defined by US exporters' full-cycle and operating costs. The prospect of further rapid increases in LNG supplies this year means there is a possibility of a first meaningful curtailment of some LNG supply capacity. The extent of any eventual shut-in will depend importantly on the European market, which acts as the de facto 'market of last resort' for LNG supplies.

Europe's gas demand contracted by a little over 2% (11 bcm) last year, but this fall in demand was more than matched (-13 bcm) by continuing declines in Europe's ageing gas fields. The small increase in European gas imports was largely met by LNG cargos diverted from Asia towards the end of the year as the Asian premium over European prices almost disappeared.

Russian pipeline exports to Europe were largely unchanged on the year, maintaining the record levels built up in recent years, although with a slight decline in their share of Europe's gas imports. A key factor determining the role that Europe will play in balancing the global LNG market over coming years will be the extent to which Russia seeks to maintain its market share.

Coal

2018 saw a further bounce back in coal – building on the slight pickup seen in the previous year – with both consumption (1.4%) and production (4.3%) increasing at their fastest rates for five years. This strength was concentrated in Asia, with India and China together accounting for the vast majority of the gains in both consumption and production.

The growth in coal demand was the second consecutive year of increases, following three years of falling consumption. As a result, the peak in global coal consumption which many had thought had occurred in 2013 now looks less certain: another couple of years of increases close to that seen last year would take global consumption comfortably above 2013 levels.

The growth in coal consumption was more than accounted for by increasing use in the power sector. This is despite continuing strong growth in renewables: renewable energy increased by over 25% in both India and China last year, which together accounted for around half of the global growth in renewable energy. But even this was not sufficient to keep pace with the strong gains in power demand, with coal being sucked into the power sector as the balancing fuel.

This highlights an obvious but important point: even if renewables are growing at truly exceptional rates, the pace of growth of power demand, particularly in developing Asia, limits the pace at which the power sector can decarbonize.

Power sector and renewable energy

The power sector needs to play a central role in any transition to a low carbon energy system: it is the single largest source of carbon emissions within the energy system; and it is where much of the lowest-hanging fruit lie for reducing carbon emissions over the next 20 years. So, what happened last year?

Global power demand grew by 3.7%, which is one of the strongest growth rates seen for 20 years, absorbing around half of the growth in primary energy. The developing world continued to drive the vast majority (81%) of this growth, led by China and India who together accounted for around two thirds of the increase in power demand. But the particularly strong growth of power demand in 2018 owed much to the US, where power demand grew by a bumper 3.7%, boosted by those weather effects.

On the supply side, the growth in power generation was led by renewable energy, which grew by 14.5%, contributing around a third of the growth; followed by coal (3.0%) and natural gas (3.9%). China continued to lead the way in renewables growth, accounting for 45% of the global growth in renewable power generation, more than the entire OECD combined.

Renewable energy appears to be coming of age, but to repeat a point I made last year, despite the increasing penetration of renewable power, the fuel mix in the global power system remains depressingly flat, with the shares of both non-fossil fuels (36%) and coal (38%) in 2018 unchanged from their levels 20 years ago.

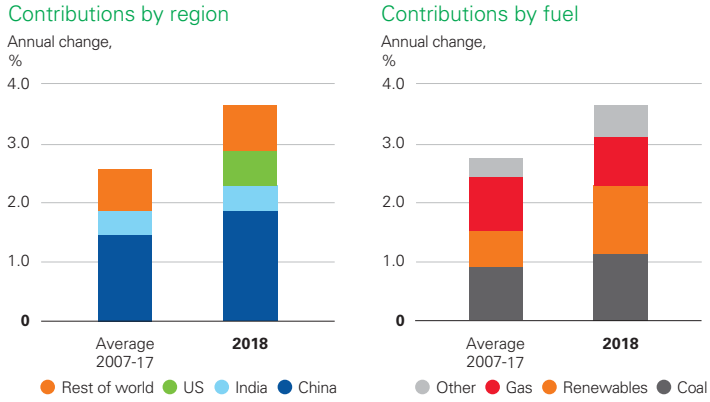
This persistence in the fuel mix highlights a point that the International Energy Agency (IEA) and others have stressed recently; namely that a shift towards greater electrification helps as a pathway to a lower carbon energy system only if it goes hand-in-hand with a decarbonization of the power sector. Electrification without decarbonizing power is of little use.

45%

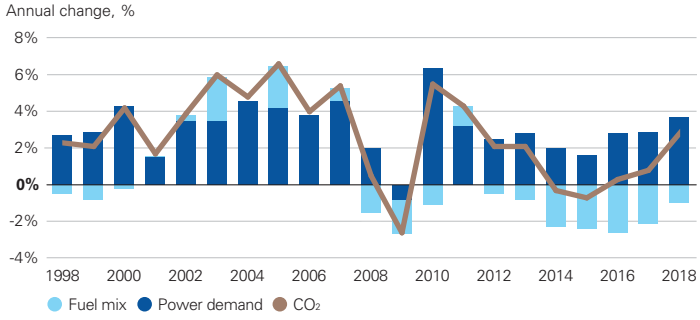
China's contribution to global renewables growth, more than the entire OECD combined.

Above: Turbines at Goshen wind farm in Idaho Falls, US.

Growth in power generation



Carbon emissions from power sector



In that vein, carbon emissions from the power sector are estimated to have increased by 2.7% in 2018, their highest rate of growth for seven years, accounting for around half of the growth in global carbon emissions.

For much of the past 20 years, changes in the carbon intensity of the power sector have been relatively small (or even perverse), such that increases in power demand fed through directly into higher carbon emissions. Electrification without decarbonization.

Over the past five years or so, the rapid growth in renewable energy, together with an edging down in the coal share, has led to a more sustained improvement in the carbon intensity of the power sector, such that the impact of increasing power demand on carbon emissions has been partially offset. But it's still only partial: despite the rapid gains in renewable energy, the pace of growth in power demand has meant that overall carbon emissions from the power sector have increased substantially over the past three years. It hasn't been possible to decarbonize the power sector quickly enough to offset the growth in demand.

To give a sense of the challenge posed by the strength of growth in power demand: if we focus solely on renewable energy, given the profile of demand growth, to maintain the level of carbon emissions from the power sector at its 2015 level, renewable generation would have needed to grow more than twice as quickly than it actually did: by over 1800 TWh over the past three years, rather than its actual growth of a little over 800 TWh.

A staggering number: that additional renewable generation of around 1000 TWh is roughly equivalent to the entire renewable generation of China and the US combined in 2018.

Alternatively, the same outcome for carbon emissions could have been achieved by replacing around 10% of coal in the power sector with natural gas. The intuition is that renewables are still a relatively small share of power generation relative to coal, and so the proportional movements in coal are a lot smaller.

As I mentioned, the general point here is that the robust growth in power demand, particularly in the developing world, greatly adds to the difficulty of decarbonizing the power sector. You have to run very fast just to stand still.

This highlights the importance of adopting a range of technologies and fuels; rather than just relying on renewables.

Rapid growth in renewable energy is essential but it's unlikely to be sufficient. To win the race to Paris, the world is likely to require many fuels and technologies for many years to come.

Conclusion

At a time when society is increasing its demands for an accelerated transition to a low carbon energy system, the energy data for 2018 paint a worrying picture, with both energy demand and carbon emissions growing at the fastest rates seen for years.

As I explained, in a statistical sense, it's possible to explain this acceleration in terms of a combination of weather-related effects and an unwinding of cyclical movements in China's pattern of growth. What is less clear is how much comfort we can take from this explanation.

What does seem fairly clear is that the underlying picture is one in which the actual pace of progress is falling well short of the accelerated transition envisaged by the Paris climate goals.

Last year's developments sound yet another warning alarm that the world is on an unsustainable path.

In detail

The following new data has been included: Primary energy consumption per capita, the split of crude/condensate and natural gas liquids in oil production, time series for gas trade, coal trade and renewable power generation by source.

Additional information – including historical time series for the fuels reported in review; additional country and regional coverage for fuels consumption; further details on renewable forms of energy; oil consumption by product – together with the full version of Spencer Dale's presentation is available at *bp.com/statisticalreview*.

Acknowledgements

We would like to express our sincere gratitude to the many contacts worldwide who provide the publicly available data for this publication, and to the researchers at the Centre for Energy Economics Research and Policy, Heriot-Watt University who assist in the data compilation.

1 Primary energy

Consumption*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	321.5	304.9	312.0	327.2	324.7	337.0	341.8	339.0	338.2	343.7	**344.4**	0.2%	0.7%	2.5%
Mexico	170.8	169.5	174.6	183.1	184.2	185.0	184.1	184.0	186.4	189.3	**186.9**	-1.3%	1.2%	1.3%
US	2258.6	2148.7	2223.3	2204.1	2148.5	2208.0	2232.9	2213.2	2212.7	2222.5	**2300.6**	3.5%	-0.4%	16.6%
Total North America	2751.0	2623.1	2709.8	2714.4	2657.4	2730.1	2758.9	2736.2	2737.2	2755.5	**2832.0**	2.8%	-0.2%	20.4%
Argentina	74.7	73.3	77.2	78.7	81.0	84.5	84.1	86.1	85.9	86.1	**85.1**	-1.2%	1.6%	0.6%
Brazil	239.9	238.6	263.1	275.8	281.3	292.4	299.4	295.9	289.4	293.9	**297.6**	1.3%	2.5%	2.1%
Chile	32.2	31.5	31.7	34.5	35.3	35.7	35.1	35.9	37.7	38.3	**40.1**	4.7%	1.7%	0.3%
Colombia	33.3	31.8	34.1	35.7	38.3	38.9	41.0	41.3	44.2	45.5	**46.9**	3.2%	4.0%	0.3%
Ecuador	12.1	11.9	13.2	14.0	14.8	15.3	16.1	16.1	16.0	16.7	**17.6**	5.8%	3.9%	0.1%
Peru	16.6	17.0	18.8	20.9	21.3	21.9	22.6	24.2	25.5	25.4	**27.0**	6.3%	5.2%	0.2%
Trinidad & Tobago	15.9	16.0	17.5	17.6	16.7	17.2	16.8	16.9	15.4	15.2	**15.3**	0.1%	-0.7%	0.1%
Venezuela	84.6	84.4	79.7	83.4	86.9	84.9	82.1	79.3	72.3	73.6	**64.6**	-12.2%	-1.0%	0.5%
Other S. & Cent. America	91.6	89.6	91.8	94.6	95.1	95.1	95.7	99.5	104.6	105.1	**107.8**	2.6%	1.3%	0.8%
Total S. & Cent. America	600.8	594.2	627.1	655.3	670.9	685.9	692.9	695.3	691.1	699.8	**702.0**	0.3%	1.8%	5.1%
Austria	35.4	34.3	35.6	33.3	35.0	34.7	33.3	33.4	34.6	35.5	**35.0**	-1.5%	0.2%	0.3%
Belgium	67.7	63.4	67.5	63.0	60.7	62.2	58.2	59.1	63.9	64.1	**62.2**	-3.0%	-0.4%	0.4%
Czech Republic	43.9	42.2	44.0	43.0	42.8	42.1	41.2	40.5	39.9	41.8	**42.1**	0.9%	-0.7%	0.3%
Finland	31.4	29.3	31.9	29.7	28.8	29.1	28.1	28.0	28.8	28.1	**29.3**	4.2%	-1.5%	0.2%
France	261.9	248.0	256.0	246.9	247.3	250.1	240.4	241.9	238.4	237.5	**242.6**	2.2%	-0.9%	1.7%
Germany	335.5	315.1	327.9	316.1	320.5	329.8	316.4	322.5	328.1	333.9	**323.9**	-3.0%	0.1%	2.3%
Greece	35.3	34.2	32.5	31.7	30.0	28.5	26.8	27.0	26.6	28.0	**28.3**	1.0%	-2.6%	0.2%
Hungary	25.3	23.2	23.8	23.6	21.9	20.9	21.0	22.0	22.4	23.5	**23.7**	0.8%	-0.9%	0.2%
Italy	181.0	169.2	174.4	170.5	165.8	158.2	149.7	153.1	154.7	156.3	**154.5**	-1.1%	-1.6%	1.1%
Netherlands	93.8	92.4	97.8	93.7	90.6	87.9	83.1	84.1	85.7	84.5	**84.8**	0.3%	-1.2%	0.6%
Norway	46.4	43.1	41.6	42.4	47.3	44.3	45.7	46.5	47.2	47.6	**47.4**	-0.5%	0.5%	0.3%
Poland	97.4	93.9	100.0	100.5	97.5	97.8	94.2	95.2	99.4	103.4	**105.2**	1.7%	0.8%	0.8%
Portugal	24.4	24.5	25.8	24.7	22.6	24.7	24.9	24.8	26.2	25.8	**26.0**	0.8%	0.2%	0.2%
Romania	38.6	33.8	34.0	34.9	33.6	31.4	32.7	32.8	32.8	33.4	**33.4**	0.1%	-1.4%	0.2%
Spain	154.5	143.4	146.5	143.9	143.2	135.9	133.5	135.4	136.9	138.8	**141.4**	1.8%	-1.3%	1.0%
Sweden	53.0	48.7	51.8	51.4	54.7	51.5	51.5	53.3	52.6	54.4	**53.6**	-1.4%	0.1%	0.4%
Switzerland	29.9	29.9	29.2	27.8	29.4	30.3	29.0	28.4	26.8	26.9	**27.8**	3.5%	-0.7%	0.2%
Turkey	100.8	102.2	107.6	115.1	122.3	121.5	125.4	137.2	144.6	152.7	**153.5**	0.5%	4.3%	1.1%
Ukraine	133.5	113.4	121.5	126.3	123.1	117.3	103.2	85.7	89.8	83.4	**84.0**	0.8%	-4.7%	0.6%
United Kingdom	220.0	209.4	214.6	202.2	204.8	204.1	192.5	195.1	193.5	193.2	**192.3**	-0.5%	-1.4%	1.4%
Other Europe	163.5	154.9	160.6	156.9	150.3	152.3	147.4	150.8	154.7	157.3	**159.8**	1.6%	-0.3%	1.2%
Total Europe	2173.3	2048.4	2124.6	2077.7	2072.3	2054.7	1978.3	1996.8	2027.5	2050.0	**2050.7**	◆	-0.6%	14.8%
Azerbaijan	12.8	11.3	11.2	12.5	12.8	13.2	13.5	14.7	14.6	14.3	**14.4**	0.6%	1.2%	0.1%
Belarus	25.9	24.5	26.0	25.9	28.0	24.7	25.5	23.2	23.0	23.4	**24.6**	5.0%	-0.9%	0.2%
Kazakhstan	56.4	50.8	54.9	60.5	62.7	63.5	64.4	63.7	64.7	67.6	**76.4**	13.0%	2.3%	0.6%
Russian Federation	676.6	643.2	669.3	691.8	693.8	685.5	688.3	675.4	690.5	694.3	**720.7**	3.8%	0.3%	5.2%
Turkmenistan	12.2	19.9	21.5	23.8	26.0	23.1	23.9	28.6	27.5	28.7	**31.5**	9.8%	6.8%	0.2%
Uzbekistan	44.6	44.8	44.4	46.6	45.5	45.2	47.1	44.9	43.6	45.0	**43.9**	-2.4%	-0.5%	0.3%
Other CIS	16.2	15.6	15.9	17.0	18.0	17.1	17.5	17.4	17.5	18.0	**19.0**	5.9%	0.7%	0.1%
Total CIS	844.7	810.2	843.2	878.0	886.7	872.1	880.3	867.9	881.5	891.2	**930.5**	4.4%	0.5%	6.7%
Iran	205.8	212.7	213.4	224.9	226.2	237.9	249.0	249.2	257.2	272.0	**285.7**	5.0%	3.2%	2.1%
Iraq	29.2	32.6	34.7	36.7	39.0	42.0	40.2	40.1	46.2	47.1	**53.7**	14.1%	5.3%	0.4%
Israel	23.3	22.3	23.7	24.2	25.3	23.5	23.1	24.4	24.8	25.6	**25.6**	0.2%	1.1%	0.2%
Kuwait	29.7	31.1	33.5	33.6	37.3	38.7	35.4	38.5	38.9	38.7	**39.0**	0.7%	3.5%	0.3%
Oman	17.5	17.6	20.6	22.5	24.5	27.4	27.3	28.8	29.0	29.3	**30.7**	4.6%	7.0%	0.2%
Qatar	24.6	24.8	28.9	33.4	37.9	40.8	43.9	48.2	47.6	48.9	**48.3**	-1.2%	8.2%	0.3%
Saudi Arabia	184.3	194.3	213.0	219.8	233.1	234.0	250.8	259.0	262.2	262.8	**259.2**	-1.4%	4.5%	1.9%
United Arab Emirates	81.0	80.0	83.8	88.4	92.8	97.8	97.4	107.1	111.1	109.0	**112.2**	3.0%	4.4%	0.8%
Other Middle East	58.3	58.5	58.2	54.7	51.1	50.3	50.1	48.4	48.0	48.0	**47.9**	-0.2%	-1.6%	0.3%
Total Middle East	653.7	673.8	709.8	738.4	767.3	792.5	817.2	843.7	864.9	881.4	**902.3**	2.4%	3.8%	6.5%
Algeria	36.4	38.6	37.6	39.9	43.6	46.2	50.4	53.1	53.0	53.1	**56.7**	6.7%	4.5%	0.4%
Egypt	71.7	74.6	78.4	79.7	83.8	83.2	83.0	85.3	89.9	92.6	**94.5**	2.1%	3.2%	0.7%
Morocco	15.4	15.0	16.7	17.5	17.8	18.3	18.6	18.9	19.1	20.0	**21.0**	4.9%	3.7%	0.2%
South Africa	125.4	125.1	126.3	124.6	122.7	123.2	124.8	121.9	123.9	121.8	**121.5**	-0.2%	0.4%	0.9%
Other Africa	116.5	118.7	124.8	123.6	131.3	138.9	145.9	150.9	153.5	161.0	**167.8**	4.2%	3.8%	1.2%
Total Africa	365.4	372.0	383.8	385.3	399.2	409.7	422.6	430.1	439.4	448.6	**461.5**	2.9%	2.7%	3.3%
Australia	132.3	131.4	131.9	136.4	134.6	135.3	137.5	139.2	142.1	140.5	**144.3**	2.7%	0.8%	1.0%
Bangladesh	18.8	20.6	21.6	23.0	25.0	25.5	27.0	31.3	31.8	33.0	**35.8**	8.6%	6.4%	0.3%
China	2230.4	2330.1	2491.6	2690.5	2799.5	2907.5	2974.7	3009.6	3047.1	3139.0	**3273.5**	4.3%	3.9%	23.6%
China Hong Kong SAR	24.3	26.6	27.6	28.3	27.2	28.0	27.3	28.1	28.8	30.9	**31.1**	0.6%	1.7%	0.2%
India	477.9	514.3	539.2	571.4	601.0	624.5	667.5	689.8	719.3	750.1	**809.2**	7.9%	5.2%	5.8%
Indonesia	132.7	137.6	151.1	164.6	173.4	178.2	167.2	165.7	170.2	176.9	**185.5**	4.9%	2.8%	1.3%
Japan	517.8	473.1	504.7	479.1	475.7	472.3	460.3	453.3	450.8	455.2	**454.1**	-0.2%	-1.4%	3.3%
Malaysia	80.0	77.7	80.1	82.9	89.0	93.1	93.6	95.1	96.6	96.7	**99.3**	2.7%	2.3%	0.7%
New Zealand	19.3	19.2	19.9	19.7	20.0	20.2	21.2	21.4	21.6	22.2	**21.7**	-1.9%	1.4%	0.2%
Pakistan	62.4	63.2	63.4	63.5	64.1	64.9	66.9	70.4	76.6	81.0	**85.0**	5.0%	2.7%	0.6%
Philippines	28.0	28.3	29.3	29.9	30.9	33.1	34.9	38.3	41.8	45.7	**47.0**	2.9%	5.4%	0.3%
Singapore	59.3	63.8	68.6	71.3	71.6	73.6	75.8	80.6	83.8	86.5	**87.6**	1.2%	4.5%	0.6%
South Korea	241.4	242.6	261.3	273.4	276.3	276.7	279.5	285.3	292.2	297.1	**301.0**	1.3%	2.3%	2.2%
Sri Lanka	5.1	5.3	5.7	5.9	6.0	6.1	5.5	7.0	7.5	7.8	**8.1**	3.3%	3.7%	0.1%
Taiwan	106.6	104.7	110.9	109.3	109.1	111.1	113.8	112.9	115.0	117.0	**118.4**	1.2%	0.4%	0.9%
Thailand	95.2	98.5	104.8	108.9	116.5	118.3	121.6	124.7	127.3	130.2	**133.0**	2.1%	3.3%	1.0%
Vietnam	38.5	39.4	44.6	51.0	53.4	57.2	62.6	69.1	73.9	75.8	**85.8**	13.1%	9.4%	0.6%
Other Asia Pacific	46.2	42.2	45.4	45.2	48.3	48.8	52.7	53.9	60.5	62.4	**65.4**	4.8%	3.5%	0.5%
Total Asia Pacific	4316.2	4418.7	4701.5	4954.5	5121.6	5274.4	5389.6	5475.7	5587.0	5748.0	**5985.8**	4.1%	3.2%	43.2%
Total World	**11705.1**	**11540.3**	**12099.9**	**12403.7**	**12575.5**	**12819.4**	**12939.8**	**13045.6**	**13228.6**	**13474.6**	**13864.9**	**2.9%**	**1.5%**	**100.0%**
of which: OECD	5636.3	5365.1	5570.8	5517.5	5463.8	5522.7	5483.5	5495.7	5530.6	5586.9	**5669.0**	1.5%	-0.2%	40.9%
Non-OECD	6068.8	6175.2	6529.1	6886.2	7111.7	7296.8	7456.3	7549.9	7698.0	7887.7	**8195.9**	3.9%	3.0%	59.1%
European Union	1818.1	1714.8	1777.1	1719.1	1705.8	1694.4	1631.7	1652.9	1670.4	1691.8	**1688.2**	-0.2%	-0.8%	12.2%

*In this review, primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.
◆Less than 0.05%.

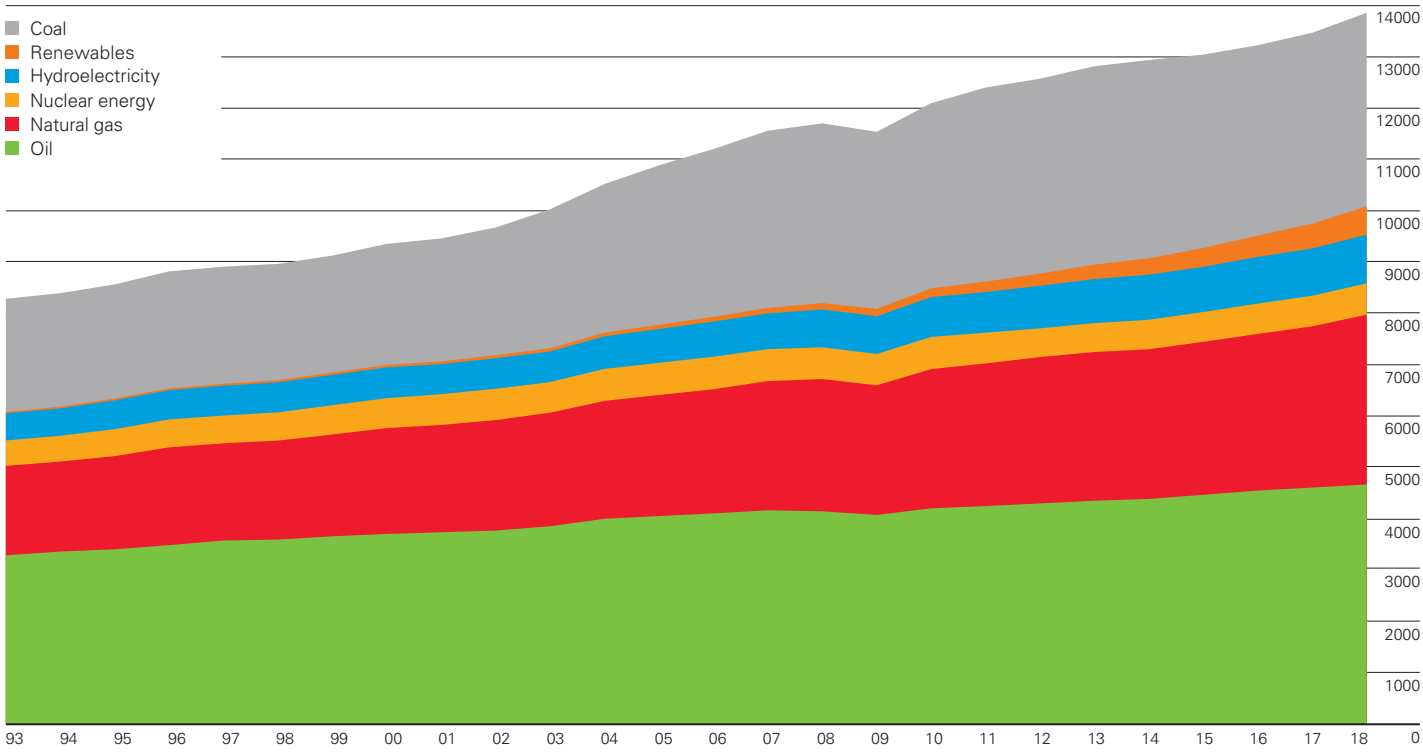
Primary energy: consumption by fuel*

Million tonnes oil equivalent	2017 Oil	2017 Natural gas	2017 Coal	2017 Nuclear energy	2017 Hydro-electricity	2017 Renew-ables	2017 Total	2018 Oil	2018 Natural gas	2018 Coal	2018 Nuclear energy	2018 Hydro-electricity	2018 Renew-ables	2018 Total
Canada	108.8	94.3	18.6	22.7	89.7	9.5	343.7	110.0	99.5	14.4	22.6	87.6	10.3	**344.4**
Mexico	85.8	74.3	15.2	2.5	7.2	4.3	189.3	82.8	77.0	11.9	3.1	7.3	4.8	**186.9**
US	902.0	635.8	331.3	191.7	67.2	94.5	2222.5	919.7	702.6	317.0	192.2	65.3	103.8	**2300.6**
Total North America	1096.6	804.4	365.1	216.9	164.1	108.4	2755.5	1112.5	879.1	343.3	217.9	160.3	118.8	**2832.0**
Argentina	32.0	41.5	1.1	1.4	9.4	0.7	86.1	30.1	41.9	1.2	1.6	9.4	0.9	**85.1**
Brazil	136.1	32.4	16.6	3.6	83.9	21.4	293.9	135.9	30.9	15.9	3.5	87.7	23.6	**297.6**
Chile	17.7	4.8	7.7	–	4.8	3.3	38.3	18.1	5.5	7.7	–	5.2	3.5	**40.1**
Colombia	16.5	10.5	5.2	–	13.0	0.5	45.5	16.6	11.2	5.9	–	12.8	0.5	**46.9**
Ecuador	11.3	0.7	–	–	4.5	0.1	16.7	12.2	0.6	–	–	4.7	0.1	**17.6**
Peru	12.0	5.8	0.6	–	6.6	0.4	25.4	12.4	6.1	0.9	–	7.0	0.7	**27.0**
Trinidad & Tobago	2.1	13.1	–	–	–	†	15.2	2.1	13.2	–	–	–	†	**15.3**
Venezuela	22.1	33.4	0.1	–	18.0	†	73.6	19.5	28.7	0.1	–	16.3	†	**64.6**
Other S. & Cent. America	67.4	6.2	3.5	–	22.8	5.2	105.1	68.3	6.8	4.3	–	22.3	6.1	**107.8**
Total S. & Cent. America	317.2	148.4	34.8	4.9	163.0	31.5	699.8	315.3	144.8	36.0	5.1	165.5	35.4	**702.0**
Austria	13.1	7.8	3.1	–	8.7	2.8	35.5	13.4	7.5	2.9	–	8.5	2.8	**35.0**
Belgium	33.7	14.1	3.1	9.6	0.1	3.5	64.1	34.1	14.5	3.3	6.4	0.1	3.8	**62.2**
Czech Republic	10.4	7.2	15.6	6.4	0.4	1.8	41.8	10.6	6.9	15.7	6.8	0.4	1.7	**42.1**
Finland	10.3	1.6	4.0	5.1	3.3	3.8	28.1	10.7	1.8	4.3	5.2	3.0	4.3	**29.3**
France	79.1	38.5	9.3	90.1	11.1	9.4	237.5	78.9	36.7	8.4	93.5	14.5	10.6	**242.6**
Germany	119.0	77.2	71.5	17.3	4.6	44.4	333.9	113.2	75.9	66.4	17.2	3.8	47.3	**323.9**
Greece	16.0	4.1	4.8	–	0.9	2.2	28.0	16.0	4.1	4.7	–	1.3	2.4	**28.3**
Hungary	8.3	8.5	2.2	3.6	†	0.7	23.5	8.8	8.3	2.2	3.6	0.1	0.8	**23.7**
Italy	62.0	61.5	9.6	–	7.8	15.3	156.3	60.8	59.5	8.9	–	10.4	14.9	**154.5**
Netherlands	39.6	31.0	9.1	0.8	†	3.9	84.5	40.9	30.7	8.2	0.8	†	4.2	**84.8**
Norway	10.1	3.9	0.8	–	32.1	0.7	47.6	10.4	3.9	0.8	–	31.3	0.9	**47.4**
Poland	31.7	16.5	49.8	–	0.6	4.9	103.4	32.8	17.0	50.5	–	0.4	4.4	**105.2**
Portugal	12.0	5.5	3.2	–	1.3	3.8	25.8	11.5	5.0	2.7	–	2.8	3.9	**26.0**
Romania	10.3	9.6	5.4	2.6	3.3	2.2	33.4	10.2	9.3	5.3	2.6	4.0	2.0	**33.4**
Spain	65.0	27.3	13.4	13.1	4.2	15.7	138.8	66.6	27.1	11.1	12.6	8.0	16.0	**141.4**
Sweden	15.4	0.7	2.0	14.9	14.7	6.8	54.4	14.8	0.7	2.0	15.5	14.0	6.6	**53.6**
Switzerland	10.9	2.7	0.1	4.6	7.7	0.8	26.9	10.5	2.6	0.1	5.8	7.9	0.9	**27.8**
Turkey	49.2	44.3	39.5	–	13.2	6.6	152.7	48.6	40.7	42.3	–	13.5	8.5	**153.5**
Ukraine	9.9	26.0	25.7	19.4	2.0	0.4	83.4	9.6	26.3	26.2	19.1	2.2	0.6	**84.0**
United Kingdom	78.0	67.8	9.1	15.9	1.3	21.1	193.2	77.0	67.8	7.6	14.7	1.2	23.9	**192.3**
Other Europe	62.5	26.1	34.1	8.4	14.9	11.4	157.3	62.4	25.9	33.6	8.3	17.9	11.7	**159.8**
Total Europe	746.2	481.9	315.5	211.8	132.3	162.3	2050.0	742.0	472.0	307.1	212.1	145.3	172.2	**2050.7**
Azerbaijan	4.7	9.1	†	–	0.4	†	14.3	4.6	9.3	†	–	0.4	†	**14.4**
Belarus	6.7	15.7	0.8	–	0.1	0.1	23.4	6.8	16.6	1.0	–	0.1	0.1	**24.6**
Kazakhstan	15.0	13.7	36.4	–	2.5	0.1	67.6	16.4	16.7	40.8	–	2.3	0.1	**76.4**
Russian Federation	151.5	370.7	83.9	46.0	41.9	0.3	694.3	152.3	390.8	88.0	46.3	43.0	0.3	**720.7**
Turkmenistan	6.9	21.8	–	–	–	†	28.7	7.1	24.4	–	–	–	†	**31.5**
Uzbekistan	2.7	37.1	3.5	–	1.7	–	45.0	2.6	36.6	3.1	–	1.6	–	**43.9**
Other CIS	3.6	4.3	1.8	0.6	7.7	†	18.0	3.7	4.9	2.0	0.5	8.0	†	**19.0**
Total CIS	191.1	472.3	126.4	46.6	54.3	0.5	891.2	193.5	499.4	134.9	46.7	55.4	0.6	**930.5**
Iran	84.5	180.5	1.4	1.6	3.9	0.1	272.0	86.2	193.9	1.5	1.6	2.4	0.1	**285.7**
Iraq	35.6	11.0	–	–	0.5	†	47.1	38.4	14.7	–	–	0.7	†	**53.7**
Israel	11.7	8.5	5.0	–	†	0.4	25.6	11.5	9.0	4.7	–	†	0.5	**25.6**
Kuwait	20.4	18.1	0.2	–	–	†	38.7	20.0	18.7	0.2	–	–	†	**39.0**
Oman	9.2	20.0	0.1	–	–	†	29.3	9.2	21.4	0.1	–	–	†	**30.7**
Qatar	11.8	37.0	–	–	–	†	48.9	12.2	36.0	–	–	–	†	**48.3**
Saudi Arabia	168.8	93.9	0.1	–	–	†	262.8	162.6	96.4	0.1	–	–	†	**259.2**
United Arab Emirates	43.8	64.0	1.0	–	–	0.1	109.0	45.1	65.8	1.1	–	–	0.2	**112.2**
Other Middle East	26.6	20.1	0.4	–	0.3	0.5	48.0	26.8	19.5	0.4	–	0.3	0.8	**47.9**
Total Middle East	412.5	453.2	8.2	1.6	4.7	1.3	881.4	412.1	475.6	7.9	1.6	3.4	1.7	**902.3**
Algeria	19.4	33.4	0.2	–	†	0.1	53.1	19.6	36.7	0.2	–	†	0.1	**56.7**
Egypt	39.2	48.1	1.6	–	3.0	0.6	92.6	36.7	51.2	2.8	–	3.1	0.8	**94.5**
Morocco	13.5	1.0	4.5	–	0.3	0.8	20.0	13.2	0.9	5.4	–	0.4	1.1	**21.0**
South Africa	27.5	3.8	84.3	3.6	0.2	2.4	121.8	26.3	3.7	86.0	2.5	0.2	2.8	**121.5**
Other Africa	92.4	34.7	7.0	–	24.7	2.2	161.0	95.5	36.4	7.0	–	26.4	2.4	**167.8**
Total Africa	192.1	121.0	97.6	3.6	28.2	6.1	448.6	191.3	129.0	101.4	2.5	30.1	7.2	**461.5**
Australia	51.1	35.5	45.1	–	3.1	5.8	140.5	53.3	35.6	44.3	–	3.9	7.2	**144.3**
Bangladesh	7.9	22.9	1.9	–	0.2	0.1	33.0	9.0	24.4	2.1	–	0.2	0.1	**35.8**
China	610.7	206.7	1890.4	56.1	263.6	111.4	3139.0	641.2	243.3	1906.7	66.6	272.1	143.5	**3273.5**
China Hong Kong SAR	21.9	2.7	6.3	–	–	†	30.9	22.2	2.6	6.3	–	–	†	**31.1**
India	227.1	46.2	415.9	8.5	30.7	21.7	750.1	239.1	49.9	452.2	8.8	31.6	27.5	**809.2**
Indonesia	79.3	33.1	57.2	–	4.2	3.0	176.9	83.4	33.5	61.6	–	3.7	3.3	**185.5**
Japan	187.8	100.6	119.9	6.6	17.9	22.4	455.2	182.4	99.5	117.5	11.1	18.3	25.4	**454.1**
Malaysia	36.0	35.9	19.3	–	5.2	0.3	96.7	36.9	35.5	21.1	–	5.5	0.3	**99.3**
New Zealand	8.5	4.3	1.2	–	5.7	2.4	22.2	8.4	3.7	1.3	–	6.0	2.4	**21.7**
Pakistan	29.2	35.0	7.1	1.9	6.9	0.9	81.0	24.3	37.5	11.6	2.2	8.1	1.2	**85.0**
Philippines	21.7	3.2	15.5	–	2.2	3.1	45.7	22.0	3.5	16.3	–	2.1	3.2	**47.0**
Singapore	74.8	10.6	0.9	–	–	0.2	86.5	75.8	10.6	0.9	–	–	0.3	**87.6**
South Korea	130.0	42.8	86.2	33.6	0.6	4.0	297.1	128.9	48.1	88.2	30.2	0.7	5.0	**301.0**
Sri Lanka	5.4	–	1.4	–	0.9	0.1	7.8	5.3	–	1.2	–	1.4	0.1	**8.1**
Taiwan	50.1	20.0	39.4	5.1	1.2	1.2	117.0	50.0	20.3	39.3	6.3	1.0	1.5	**118.4**
Thailand	64.4	43.1	18.3	–	1.1	3.4	130.2	65.8	42.9	18.5	–	1.7	4.0	**133.0**
Vietnam	23.6	8.2	27.9	–	16.0	0.1	75.8	24.9	8.3	34.3	–	18.3	0.1	**85.8**
Other Asia Pacific	21.9	9.8	16.9	–	13.6	0.2	62.4	22.5	10.3	18.0	–	14.2	0.3	**65.4**
Total Asia Pacific	1651.3	660.6	2770.8	111.7	373.2	180.2	5748.0	1695.4	709.6	2841.3	125.3	388.9	225.4	**5985.8**
Total World	**4607.0**	**3141.9**	**3718.4**	**597.1**	**919.9**	**490.2**	**13474.6**	**4662.1**	**3309.4**	**3772.1**	**611.3**	**948.8**	**561.3**	**13864.9**
of which: OECD	2196.5	1435.2	892.9	443.4	314.6	304.3	5586.9	2204.8	1505.2	861.3	446.1	321.3	330.4	**5669.0**
Non-OECD	2410.5	1706.7	2825.6	153.7	605.3	185.9	7887.7	2457.3	1804.2	2910.8	165.2	627.5	230.8	**8195.9**
European Union	649.5	400.4	234.2	187.8	67.4	152.4	1691.8	646.8	394.2	222.4	187.2	78.0	159.6	**1688.2**

*In this review, primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.
†Less than 0.05.

World consumption

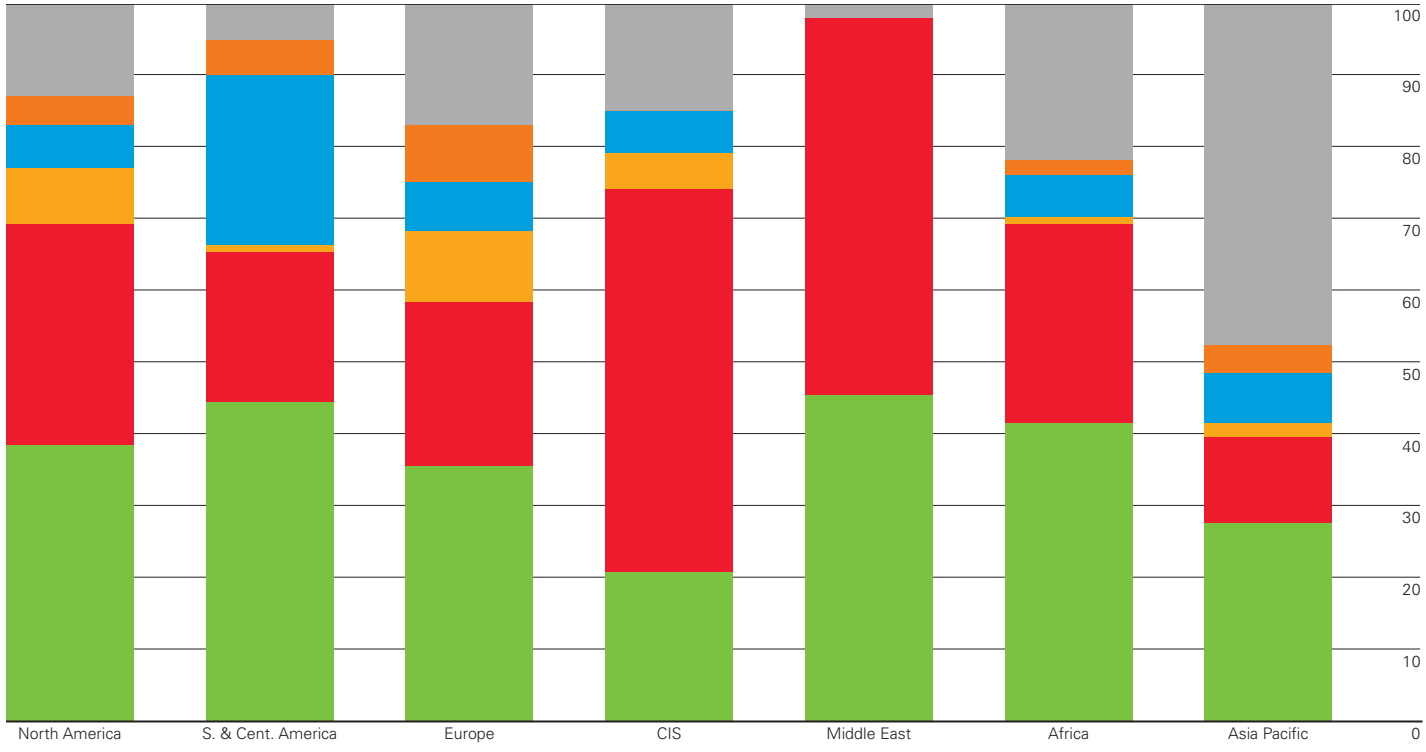
Million tonnes oil equivalent



Global energy consumption increased by 2.9% in 2018. Growth was the strongest since 2010 and almost double the 10-year average. The demand for all fuels increased but growth was particularly strong in the case of gas (168 mtoe, accounting for 43% of the global increase) and renewables (71 mtoe, 18% of the global increase). In the OECD, energy demand increased by 82 mtoe on the back of strong gas demand growth (70 mtoe). In the non-OECD, energy demand growth (308 mtoe) was more evenly distributed with gas (98 mtoe), coal (85 mtoe) and oil (47 mtoe) accounting for most of the growth.

Regional consumption by fuel 2018

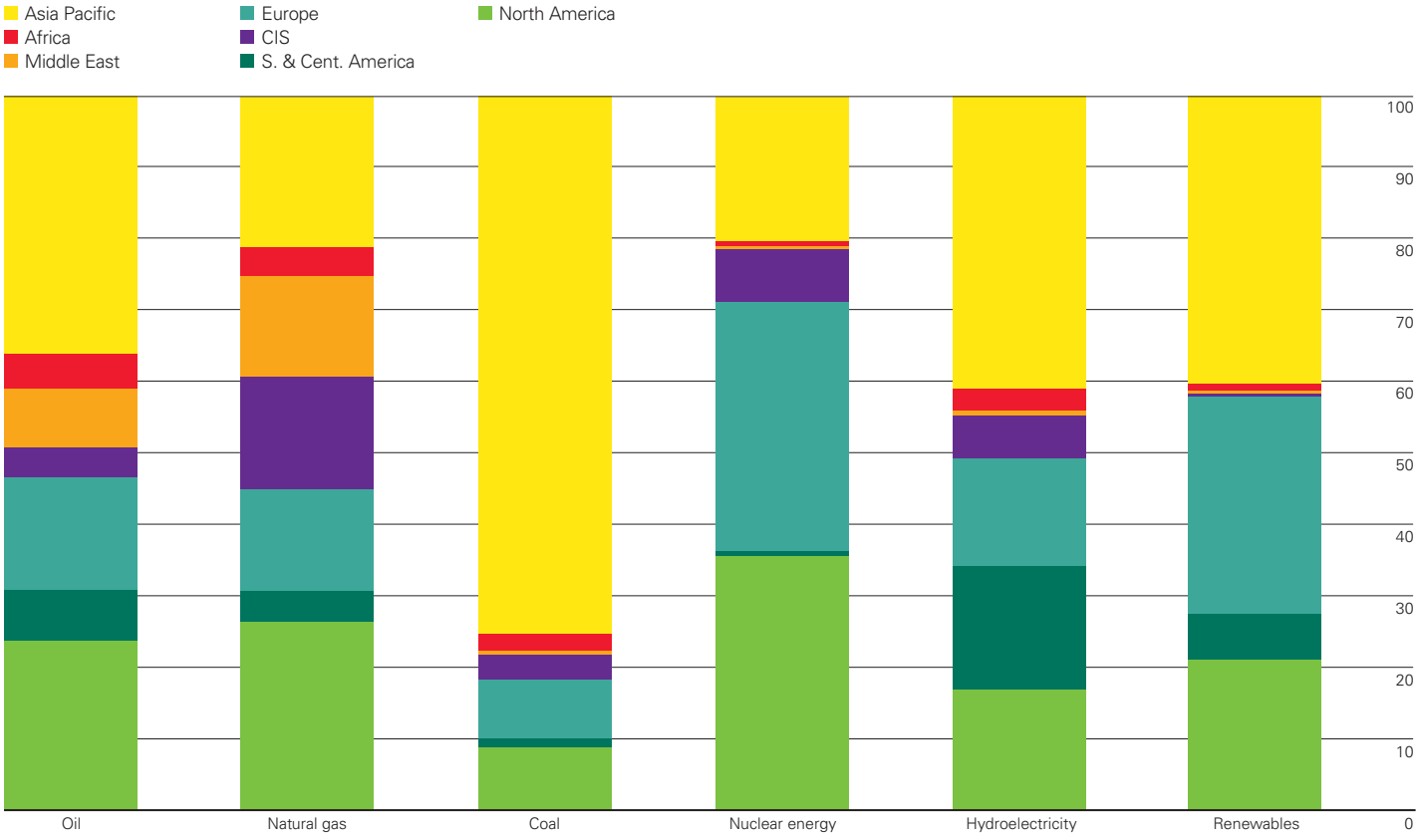
Percentage



Oil remains the dominant fuel in Africa, Europe and the Americas, while natural gas dominates in CIS and the Middle East, accounting for more than half of the energy mix in both regions. Coal is the dominant fuel in the Asia Pacific region. In 2018 coal's share of primary energy fell to its lowest level in our data series in North America and Europe.

Fuel consumption by region 2018

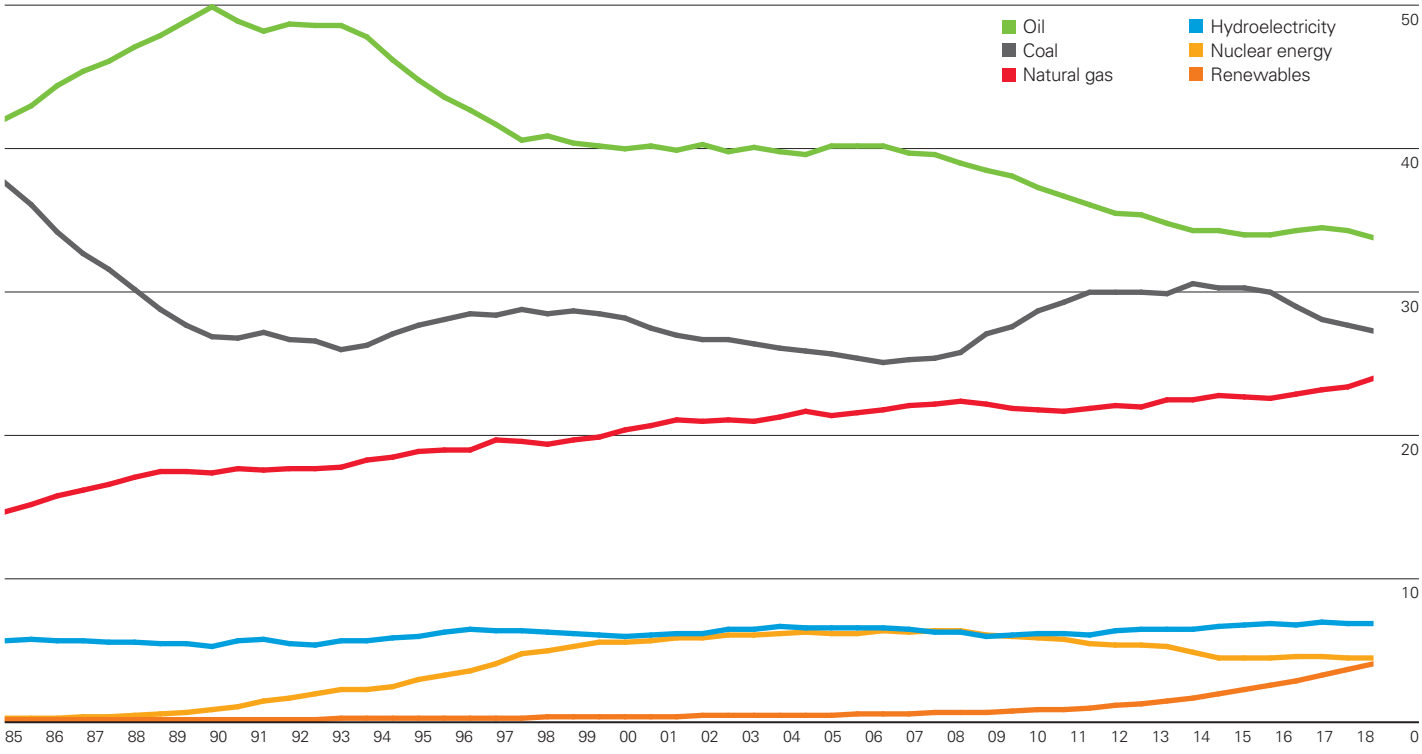
Percentage



Oil is mostly consumed in Asia Pacific and North America. Together, these regions account for 60% of global consumption. Global coal consumption is heavily concentrated in Asia Pacific while more than two thirds of nuclear consumption is concentrated in North America and Europe. Asia Pacific and South & Central America account for almost 60% of hydro. More than 90% of renewables are consumed in Asia Pacific, Europe and North America.

Shares of global primary energy consumption by fuel

Percentage



Oil remains the most used fuel in the energy mix. Coal is the second largest fuel but lost share in 2018 to account for 27%, its lowest level in 15 years. The share of natural gas increased to 24% such that the gap between coal and gas has narrowed to three percentage points. The contribution of hydro and nuclear remained relatively flat in 2018 at 7% and 4%, respectively. Strong growth pushed up renewables share to 4%, just behind nuclear.

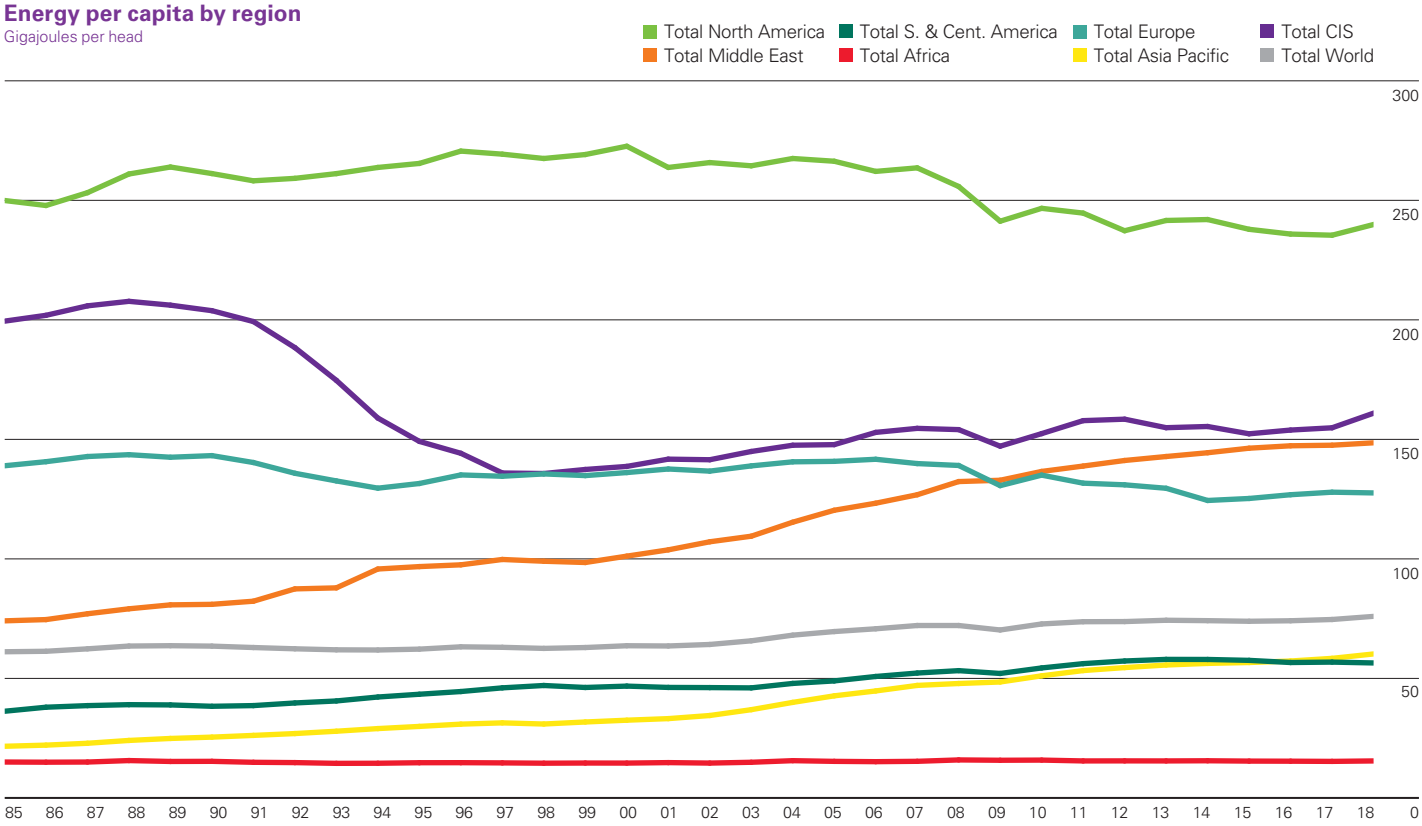
Primary energy: consumption per capita*

Gigajoules per capita	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17
Canada	403.0	377.8	382.3	396.6	389.6	400.2	401.9	394.9	390.2	392.9	**390.2**	-0.7%	-0.4%
Mexico	62.9	61.5	62.3	64.4	63.8	63.2	62.1	61.2	61.2	61.4	**59.8**	-2.5%	-0.2%
US	311.7	293.9	301.6	296.7	287.1	293.0	294.2	289.6	287.5	286.8	**294.8**	2.8%	-1.2%
Total North America	255.7	241.2	246.6	244.6	237.2	241.5	241.9	237.8	235.8	235.3	**239.8**	1.9%	-1.1%
Argentina	77.4	75.2	78.4	79.1	80.6	83.2	81.9	83.0	82.0	81.4	**79.7**	-2.1%	0.6%
Brazil	52.1	51.3	56.0	58.1	58.7	60.5	61.4	60.2	58.4	58.8	**59.1**	0.5%	1.6%
Chile	80.8	78.5	78.1	84.2	85.4	85.6	83.4	84.7	88.1	88.8	**92.3**	3.8%	0.7%
Colombia	31.0	29.3	31.1	32.2	34.2	34.4	35.9	35.9	38.1	38.8	**39.7**	2.3%	3.0%
Ecuador	35.1	33.8	37.1	38.7	40.2	41.0	42.4	41.7	41.0	42.0	**43.8**	4.3%	2.3%
Peru	24.3	24.6	26.7	29.5	29.6	30.1	30.5	32.3	33.6	33.1	**34.7**	5.1%	3.8%
Trinidad & Tobago	505.0	508.2	551.8	551.6	521.8	534.6	517.8	521.1	473.0	466.2	**465.5**	-0.1%	-1.1%
Venezuela	125.9	123.6	114.9	118.5	121.8	117.3	111.9	106.6	95.8	96.4	**83.6**	-13.3%	-2.5%
Other S. & Cent. America	37.5	36.2	36.7	37.3	37.1	36.7	36.5	37.5	39.0	38.7	**39.3**	1.4%	0.1%
Total S. & Cent. America	53.6	52.4	54.7	56.5	57.2	57.9	57.9	57.5	56.6	56.7	**56.4**	-0.6%	0.8%
Austria	177.9	171.8	177.0	164.7	171.9	169.1	161.7	161.3	166.1	170.3	**167.4**	-1.7%	-0.3%
Belgium	263.0	244.4	258.5	239.6	229.3	233.7	217.1	219.3	235.4	234.8	**226.4**	-3.6%	-1.0%
Czech Republic	176.5	168.5	174.9	170.5	169.4	166.2	162.6	159.9	157.4	164.7	**166.0**	0.8%	-0.9%
Finland	247.5	229.2	248.7	230.8	223.1	224.2	215.7	213.8	218.7	212.9	**221.1**	3.8%	-1.9%
France	175.9	165.6	170.1	163.2	162.7	163.8	156.8	157.1	154.2	153.0	**155.7**	1.8%	-1.4%
Germany	173.2	162.9	169.7	163.5	165.5	169.9	162.6	165.3	167.7	170.2	**164.8**	-3.2%	◆
Greece	129.5	125.1	119.1	116.3	110.5	105.3	99.7	100.9	99.6	105.2	**106.4**	1.2%	-2.4%
Hungary	106.1	97.7	100.2	99.9	93.1	88.8	89.4	94.3	96.3	101.4	**102.5**	1.1%	-0.6%
Italy	127.4	118.7	122.3	119.5	116.2	111.0	105.2	107.7	109.0	110.2	**109.1**	-1.0%	-1.6%
Netherlands	237.0	232.8	245.6	234.3	226.0	218.7	206.0	208.0	211.1	207.7	**207.8**	0.1%	-1.5%
Norway	407.0	373.4	356.1	358.7	394.9	365.4	372.3	374.7	376.3	375.9	**370.6**	-1.4%	-0.6%
Poland	106.4	102.6	109.3	109.8	106.6	106.9	103.0	104.2	108.9	113.4	**115.5**	1.9%	0.8%
Portugal	95.8	96.4	101.4	97.1	89.2	98.4	99.8	99.6	105.7	104.4	**105.7**	1.2%	0.5%
Romania	77.6	68.5	69.7	72.1	69.8	65.5	68.6	69.0	69.5	71.0	**71.4**	0.6%	-0.8%
Spain	140.6	129.2	131.1	128.4	127.9	121.8	120.2	122.2	123.7	125.4	**127.6**	1.7%	-1.5%
Sweden	240.4	218.8	230.9	227.4	240.0	224.3	222.5	228.4	223.7	229.7	**224.8**	-2.1%	-0.7%
Switzerland	163.9	162.0	156.1	146.9	153.5	156.0	147.7	143.0	133.4	132.8	**136.3**	2.6%	-1.8%
Turkey	59.9	60.0	62.3	65.6	68.7	67.1	68.2	73.4	76.1	79.2	**78.5**	-0.9%	2.7%
Ukraine	121.0	103.3	111.1	116.1	113.7	108.9	96.3	80.3	84.6	78.9	**79.9**	1.3%	-4.2%
United Kingdom	148.4	139.8	141.9	132.7	133.5	132.2	124.0	124.9	123.1	122.2	**120.9**	-1.1%	-2.2%
Other Europe	108.1	102.6	106.5	104.4	100.2	101.9	98.8	101.3	104.1	105.9	**107.6**	1.6%	-0.1%
Total Europe	138.9	130.4	134.8	131.5	130.8	129.3	124.2	125.0	126.6	127.7	**127.4**	-0.2%	-0.9%
Azerbaijan	60.9	53.2	51.9	57.0	58.0	58.9	59.3	64.1	62.8	60.9	**60.7**	-0.3%	◆
Belarus	113.8	108.2	115.0	114.4	123.6	108.9	112.5	102.2	101.7	103.4	**108.8**	5.2%	-0.8%
Kazakhstan	147.7	131.5	140.2	152.1	155.1	154.5	154.3	150.1	150.6	155.5	**173.8**	11.8%	0.8%
Russian Federation	198.0	188.2	195.8	202.2	202.5	199.9	200.5	196.5	200.8	201.9	**209.6**	3.8%	0.3%
Turkmenistan	103.6	166.5	176.6	192.7	206.4	179.9	183.1	215.3	203.1	208.6	**225.4**	8.1%	5.0%
Uzbekistan	67.3	66.6	65.0	67.1	64.5	63.0	64.7	60.7	58.1	59.1	**56.8**	-3.8%	-2.1%
Other CIS	34.6	33.0	33.2	35.1	36.6	34.4	34.8	34.1	33.9	34.3	**35.9**	4.6%	-0.5%
Total CIS	154.0	147.1	152.3	157.7	158.4	154.8	155.3	152.2	153.8	154.8	**160.9**	3.9%	◆
Iran	118.3	120.9	119.8	124.8	123.9	128.6	132.9	131.5	134.1	140.3	**145.9**	4.0%	2.0%
Iraq	42.0	45.6	47.3	48.4	49.9	52.0	48.1	46.5	52.0	51.5	**57.2**	11.0%	2.2%
Israel	137.7	128.7	133.5	134.1	137.7	125.9	122.0	126.7	126.9	128.7	**127.0**	-1.3%	-0.8%
Kuwait	469.4	461.4	467.4	440.7	460.4	450.3	392.4	409.2	402.2	391.7	**388.5**	-0.8%	-1.5%
Oman	266.1	255.2	284.1	291.6	296.2	308.9	288.2	287.1	274.1	264.9	**266.0**	0.4%	1.2%
Qatar	740.8	653.7	680.1	717.2	753.2	759.7	773.5	813.8	775.0	775.1	**749.7**	-3.3%	-0.1%
Saudi Arabia	297.5	305.1	325.1	326.0	335.5	327.2	341.2	343.6	340.1	334.1	**323.4**	-3.2%	1.8%
United Arab Emirates	491.8	436.7	424.1	426.6	436.5	454.7	449.4	489.9	501.7	485.3	**492.3**	1.5%	-0.1%
Other Middle East	41.9	40.8	39.7	36.5	33.5	32.5	31.9	30.4	29.7	29.2	**28.7**	-1.8%	-3.5%
Total Middle East	132.3	132.8	136.5	138.8	141.1	142.7	144.3	146.2	147.2	147.5	**148.5**	0.7%	1.5%
Algeria	43.7	45.6	43.6	45.4	48.6	50.4	53.9	55.8	54.7	53.8	**56.5**	5.0%	2.5%
Egypt	37.1	37.9	39.0	38.8	39.9	38.8	37.8	38.1	39.4	39.8	**39.8**	0.2%	1.2%
Morocco	20.4	19.7	21.5	22.3	22.4	22.7	22.7	22.7	22.7	23.5	**24.3**	3.6%	2.3%
South Africa	104.1	102.7	102.5	99.8	97.0	95.9	95.8	92.3	92.6	89.9	**88.6**	-1.4%	-0.9%
Other Africa	6.1	6.0	6.2	6.0	6.2	6.3	6.5	6.5	6.4	6.6	**6.7**	1.4%	1.0%
Total Africa	15.3	15.2	15.3	15.0	15.1	15.1	15.2	15.1	15.0	15.0	**15.0**	0.3%	0.1%
Australia	259.5	253.0	249.7	254.0	247.0	244.7	245.2	244.9	246.7	240.6	**243.9**	1.4%	-0.8%
Bangladesh	5.3	5.7	5.9	6.3	6.7	6.8	7.1	8.1	8.2	8.4	**9.0**	7.5%	5.2%
China	69.5	72.2	76.7	82.4	85.2	88.0	89.6	90.2	90.9	93.2	**96.9**	3.9%	3.3%
China Hong Kong SAR	146.7	159.2	164.6	167.8	160.4	163.8	159.0	162.3	165.2	175.6	**175.1**	-0.2%	1.0%
India	16.7	17.7	18.3	19.2	19.9	20.5	21.6	22.1	22.7	23.5	**25.0**	6.7%	3.9%
Indonesia	23.5	24.1	26.1	28.1	29.2	29.6	27.4	26.9	27.3	28.1	**29.1**	3.8%	1.5%
Japan	168.6	154.1	164.4	156.1	155.1	154.1	150.4	148.3	147.7	149.5	**149.5**	◆	-1.3%
Malaysia	123.5	117.9	119.3	121.2	127.7	131.2	129.7	129.6	129.6	128.1	**129.7**	1.3%	0.5%
New Zealand	189.1	186.4	190.5	187.1	187.2	187.3	194.4	193.7	193.7	197.2	**191.6**	-2.8%	0.4%
Pakistan	16.0	15.8	15.6	15.3	15.1	14.9	15.1	15.6	16.6	17.2	**17.7**	3.0%	0.6%
Philippines	12.9	12.9	13.1	13.1	13.3	14.1	14.6	15.8	17.0	18.2	**18.5**	1.4%	3.7%
Singapore	512.1	538.0	565.8	576.7	568.7	574.8	582.6	609.7	624.3	634.3	**633.0**	-0.2%	2.5%
South Korea	205.4	205.7	220.8	230.1	231.6	230.9	232.3	236.1	240.9	244.0	**246.3**	1.0%	1.9%
Sri Lanka	10.7	11.0	11.7	12.2	12.3	12.5	11.2	14.2	15.0	15.7	**16.2**	2.9%	3.2%
Taiwan	194.6	190.5	201.1	197.4	196.3	199.2	203.4	201.3	204.4	207.4	**209.2**	0.9%	◆
Thailand	59.9	61.7	65.3	67.5	71.9	72.7	74.4	76.1	77.4	79.0	**80.5**	1.9%	2.9%
Vietnam	18.6	18.8	21.1	23.9	24.7	26.2	28.3	30.9	32.7	33.2	**37.2**	12.0%	8.2%
Other Asia Pacific	11.9	10.7	11.4	11.2	11.8	11.7	12.5	12.6	13.9	14.1	**14.6**	3.5%	2.1%
Total Asia Pacific	47.8	48.4	51.0	53.2	54.4	55.5	56.2	56.6	57.2	58.3	**60.2**	3.3%	2.2%
Total World	**72.2**	**70.3**	**72.8**	**73.7**	**73.8**	**74.4**	**74.2**	**74.0**	**74.2**	**74.7**	**76.0**	**1.8%**	**0.3%**
of which: OECD	192.8	182.2	187.9	184.9	182.0	182.9	180.6	180.0	180.1	181.0	**182.6**	0.9%	-0.8%
Non-OECD	45.6	45.8	47.8	49.7	50.7	51.3	51.8	51.8	52.1	52.8	**54.2**	2.7%	1.7%
European Union	152.0	142.9	147.7	142.6	141.2	140.1	134.8	136.4	137.6	139.2	**138.7**	-0.4%	-1.0%

*Primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.
◆Less than 0.05%.

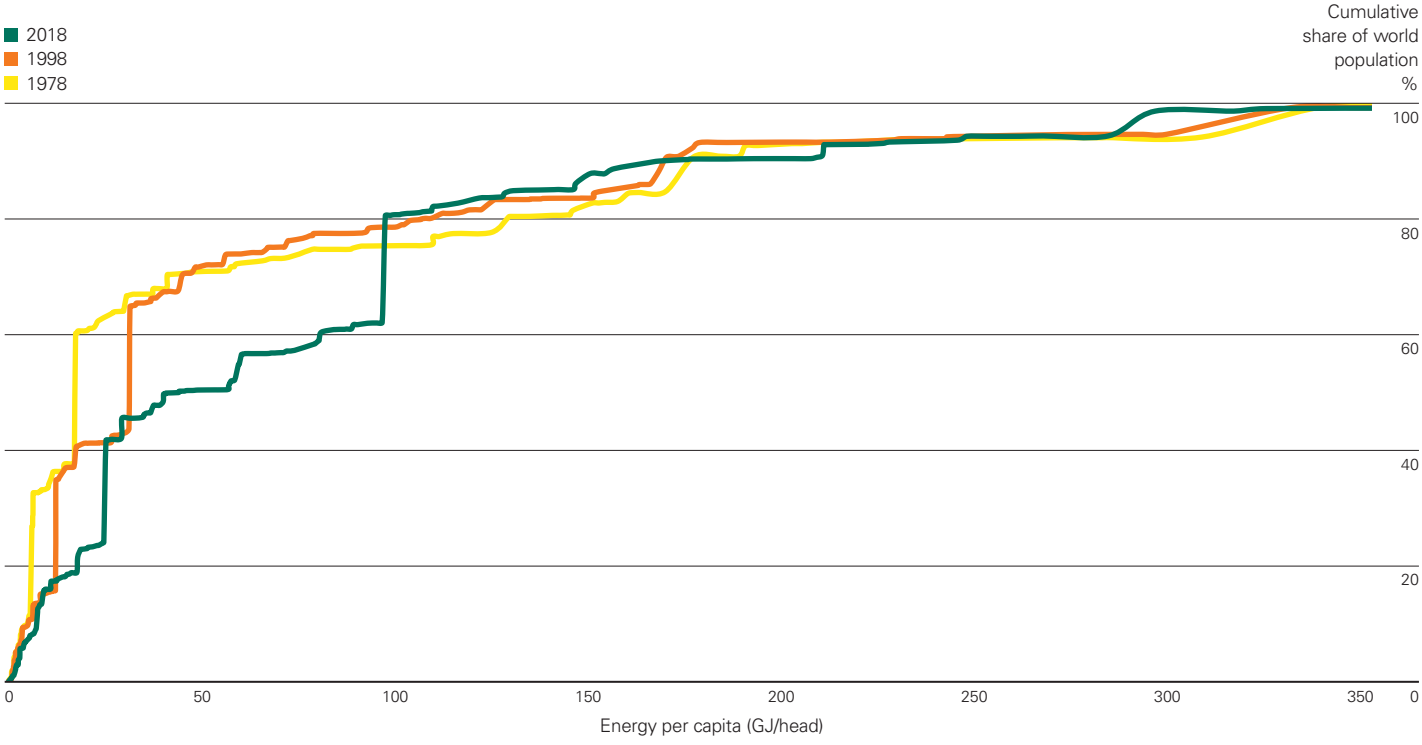
Energy per capita by region

Gigajoules per head



Average global energy consumption per capita increased by 1.8% in 2018 to 76 GJ/head in 2018. Growth in 2018 was significantly higher than the historical average (0.3% for the period 2007-17). North America is the region with the highest consumption per capita (240 GJ/head), followed by (161 GJ/head) in CIS and the Middle East (149 GJ/head). Africa remains the region with the lowest average consumption (15 GJ/head). South & Central America and Europe were the only regions where average consumption per head decreased in 2018.

Energy per capita: distribution across countries



In 2018, 81% of the global population lived in countries where average energy demand per capita was less than 100 GJ/head, two percentage points more than 20 years ago. However, the share of the global population consuming less than 75 GJ/head declined from 76% in 1998 to 57% last year. Average energy demand per capita in China increased from 17 GJ/head in 1978 to 97 GJ/head in 2018.

Total proved reserves

	At end 1998 Thousand million barrels	At end 2008 Thousand million barrels	At end 2017 Thousand million barrels	At end 2018 Thousand million barrels	At end 2018 Thousand million tonnes	At end 2018 Share of total	At end 2018 R/P ratio
Canada	49.8	176.3	168.9	**167.8**	**27.1**	9.7%	88.3
Mexico	21.6	11.9	7.7	**7.7**	**1.1**	0.4%	10.2
US	28.6	28.4	61.2	**61.2**	**7.3**	3.5%	11.0
Total North America	100.0	216.6	237.8	**236.7**	**35.4**	13.7%	28.7
Argentina	2.8	2.5	2.0	**2.0**	**0.3**	0.1%	9.3
Brazil	7.4	12.8	12.8	**13.4**	**2.0**	0.8%	13.7
Colombia	2.5	1.4	1.7	**1.8**	**0.3**	0.1%	5.6
Ecuador	4.1	4.3	3.0	**2.8**	**0.4**	0.2%	14.8
Peru	0.9	1.1	1.0	**1.0**	**0.1**	0.1%	17.6
Trinidad & Tobago	0.7	0.8	0.2	**0.2**	**†**	◆	7.6
Venezuela	76.1	172.3	302.8	**303.3**	**48.0**	17.5%	*
Other S. & Cent. America	1.1	0.8	0.5	**0.5**	**0.1**	◆	11.5
Total S. & Cent. America	95.6	196.0	324.0	**325.1**	**51.1**	18.8%	136.2
Denmark	0.9	0.8	0.4	**0.4**	**0.1**	◆	10.1
Italy	0.6	0.5	0.6	**0.6**	**0.1**	◆	16.2
Norway	11.7	7.5	7.9	**8.6**	**1.1**	0.5%	12.8
Romania	1.2	0.5	0.6	**0.6**	**0.1**	◆	22.2
United Kingdom	5.1	3.1	2.5	**2.5**	**0.3**	0.1%	6.3
Other Europe	1.9	1.9	1.6	**1.6**	**0.2**	0.1%	14.1
Total Europe	21.4	14.2	13.7	**14.3**	**1.9**	0.8%	11.1
Azerbaijan	1.2	7.0	7.0	**7.0**	**1.0**	0.4%	24.1
Kazakhstan	5.4	30.0	30.0	**30.0**	**3.9**	1.7%	42.7
Russian Federation	113.1	106.4	106.3	**106.2**	**14.6**	6.1%	25.4
Turkmenistan	0.5	0.6	0.6	**0.6**	**0.1**	◆	7.4
Uzbekistan	0.6	0.6	0.6	**0.6**	**0.1**	◆	25.4
Other CIS	0.3	0.3	0.3	**0.3**	**†**	◆	18.1
Total CIS	121.1	144.8	144.7	**144.7**	**19.6**	8.4%	27.4
Iran	93.7	137.6	155.6	**155.6**	**21.4**	9.0%	90.4
Iraq	112.5	115.0	147.2	**147.2**	**19.9**	8.5%	87.4
Kuwait	96.5	101.5	101.5	**101.5**	**14.0**	5.9%	91.2
Oman	5.4	5.6	5.4	**5.4**	**0.7**	0.3%	15.0
Qatar	13.5	26.8	25.2	**25.2**	**2.6**	1.5%	36.8
Saudi Arabia	261.5	264.1	296.0	**297.7**	**40.9**	17.2%	66.4
Syria	2.3	2.5	2.5	**2.5**	**0.3**	0.1%	284.8
United Arab Emirates	97.8	97.8	97.8	**97.8**	**13.0**	5.7%	68.0
Yemen	1.9	2.7	3.0	**3.0**	**0.4**	0.2%	121.4
Other Middle East	0.2	0.1	0.1	**0.2**	**†**	◆	2.1
Total Middle East	685.2	753.7	834.3	**836.1**	**113.2**	48.3%	72.1
Algeria	11.3	12.2	12.2	**12.2**	**1.5**	0.7%	22.1
Angola	4.0	9.5	8.4	**8.4**	**1.1**	0.5%	15.0
Chad	–	1.5	1.5	**1.5**	**0.2**	0.1%	40.9
Republic of Congo	1.7	1.6	1.6	**1.6**	**0.2**	0.1%	13.2
Egypt	3.8	4.2	3.3	**3.3**	**0.4**	0.2%	13.6
Equatorial Guinea	0.6	1.7	1.1	**1.1**	**0.1**	0.1%	15.8
Gabon	2.6	2.0	2.0	**2.0**	**0.3**	0.1%	28.2
Libya	29.5	44.3	48.4	**48.4**	**6.3**	2.8%	131.3
Nigeria	22.5	37.2	37.5	**37.5**	**5.1**	2.2%	50.0
South Sudan	n/a	n/a	3.5	**3.5**	**0.5**	0.2%	73.4
Sudan	0.3	5.0	1.5	**1.5**	**0.2**	0.1%	41.1
Tunisia	0.3	0.6	0.4	**0.4**	**0.1**	◆	23.2
Other Africa	0.7	0.7	3.9	**3.9**	**0.5**	0.2%	33.7
Total Africa	77.2	120.4	125.3	**125.3**	**16.6**	7.2%	41.9
Australia	4.8	4.2	4.0	**4.0**	**0.4**	0.2%	30.8
Brunei	1.0	1.1	1.1	**1.1**	**0.1**	0.1%	27.0
China	17.4	21.2	25.9	**25.9**	**3.5**	1.5%	18.7
India	5.4	5.8	4.5	**4.5**	**0.6**	0.3%	14.1
Indonesia	5.1	3.7	3.2	**3.2**	**0.4**	0.2%	10.7
Malaysia	3.4	5.5	3.0	**3.0**	**0.4**	0.2%	12.1
Thailand	0.4	0.5	0.3	**0.3**	**†**	◆	1.8
Vietnam	1.9	4.7	4.4	**4.4**	**0.6**	0.3%	43.9
Other Asia Pacific	1.3	1.3	1.2	**1.2**	**0.2**	0.1%	12.9
Total Asia Pacific	40.8	48.0	47.7	**47.6**	**6.3**	2.8%	17.1
Total World	**1141.2**	**1493.8**	**1727.5**	**1729.7**	**244.1**	**100.0%**	**50.0**
of which: OECD	124.5	234.0	254.4	**254.0**	**37.6**	14.7%	26.4
Non-OECD	1016.7	1259.8	1473.1	**1475.8**	**206.6**	85.3%	59.1
OPEC	827.9	1027.9	1240.2	**1242.2**	**174.8**	71.8%	86.5
Non-OPEC	313.3	465.9	487.3	**487.5**	**69.4**	28.2%	24.1
European Union	8.7	5.7	4.9	**4.8**	**0.6**	0.3%	8.6
Canadian oil sands: Total	43.1	170.3	163.4	**162.3**	**26.4**	9.4%	
of which: Under active development	8.4	27.0	22.0	**20.9**	**3.4**	1.2%	
Venezuela: Orinoco Belt	–	94.2	260.9	**261.4**	**41.9**	15.1%	

†Less than 0.05.
◆Less than 0.05%.
n/a not available.
*More than 500 years.

Notes: Total proved reserves of oil – 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 total proved oil reserves 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 BP's view of proved reserves by country.

Reserves-to-production (R/P) ratio – If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.

Source of data – The estimates in this table have been compiled using a combination of primary official sources, third-party data from the OPEC Secretariat, World Oil, Oil & Gas Journal and Chinese reserves based on official data and information in the public domain.

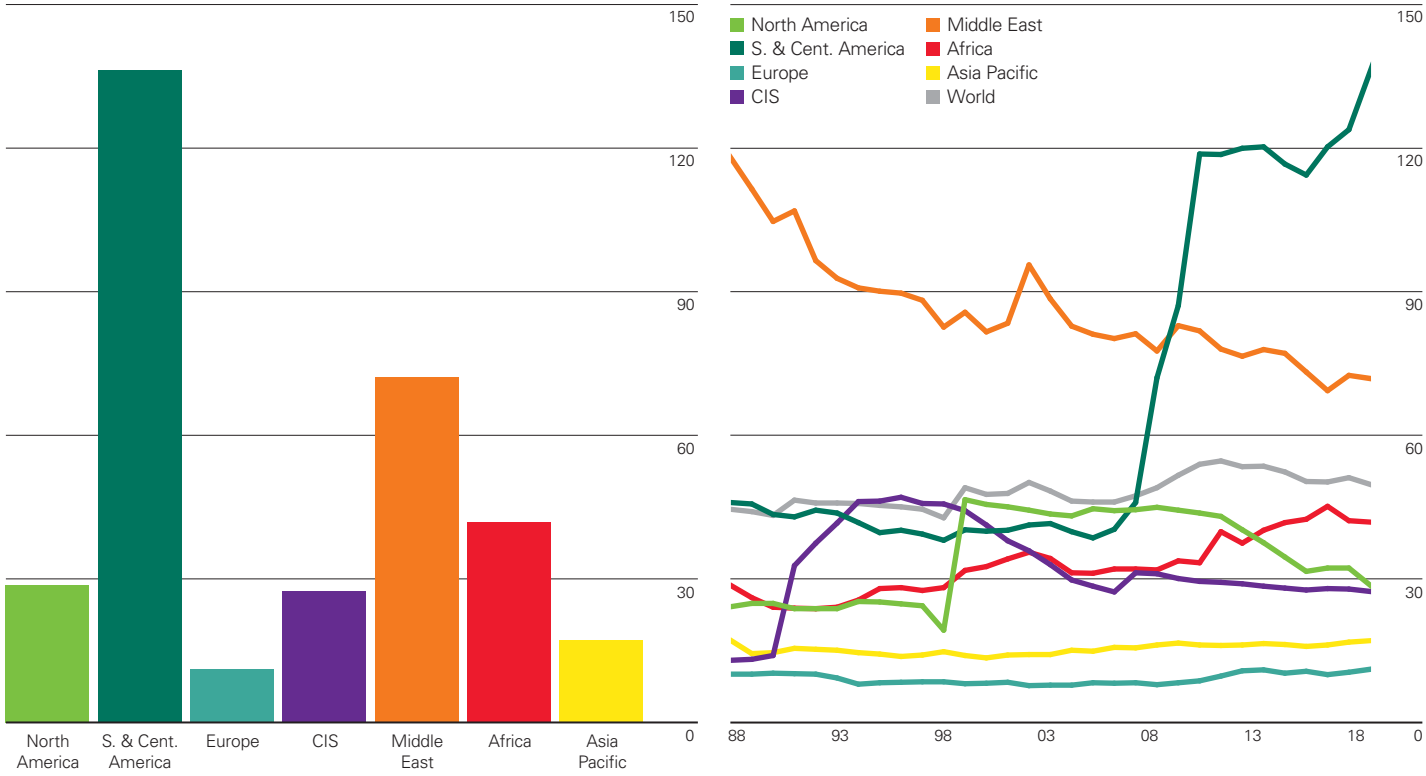
Canadian oil sands 'under active development' are an official estimate. Venezuelan Orinoco Belt reserves are based on the OPEC Secretariat and government announcements.

Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil. Saudi Arabia's oil reserves include NGLs from 2017.

Shares of total and R/P ratios are calculated using thousand million barrels figures.

Reserves-to-production (R/P) ratios

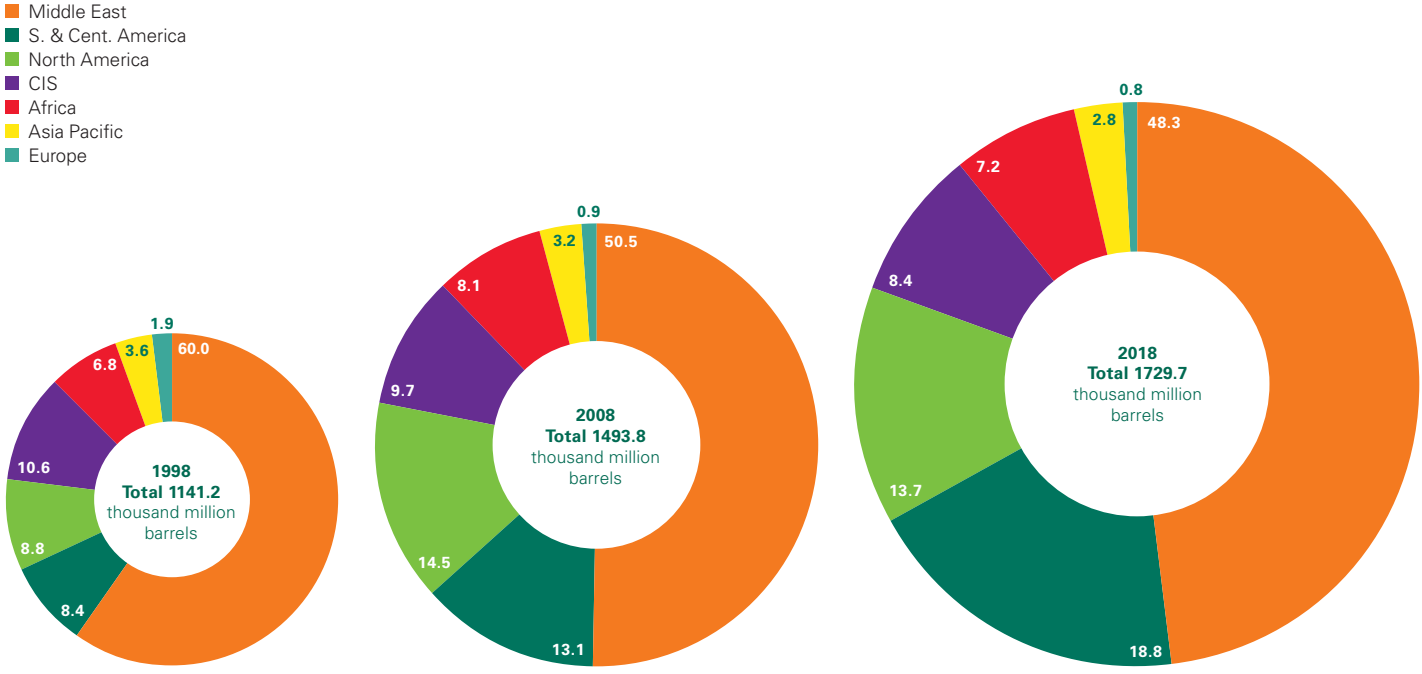
Years



Oil reserves at the end of 2018 totalled 1730 billion barrels, up 2 billion barrels with respect to 2017. The global R/P ratio shows that oil reserves in 2018 accounted for 50 years of current production. Regionally, South & Central America has the highest R/P ratio (136 years) while Europe has the lowest (11 years). OPEC holds 71.8% of global reserves. The top countries in terms of reserves are Venezuela (17.5% of global reserves), closely followed by Saudi Arabia (17.2%), then Canada (9.7%), Iran (9.0%) and Iraq (8.5%)

Distribution of proved reserves in 1998, 2008 and 2018

Percentage



Oil: Production in thousands of barrels per day*

Thousand barrels daily	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	3207	3202	3332	3515	3740	4000	4271	4388	4451	4798	**5208**	8.5%	3.8%	5.5%
Mexico	3165	2978	2959	2940	2911	2875	2784	2587	2456	2224	**2068**	-7.0%	-4.4%	2.2%
US	6783	7259	7552	7870	8910	10073	11773	12773	12340	13135	**15311**	16.6%	6.7%	16.2%
Total North America	13156	13440	13843	14326	15561	16948	18828	19748	19247	20157	**22587**	12.1%	4.0%	23.8%
Argentina	802	730	712	667	657	645	638	647	610	591	**592**	0.2%	-3.2%	0.6%
Brazil	1887	2019	2125	2173	2132	2096	2341	2525	2591	2721	**2683**	-1.4%	4.1%	2.8%
Colombia	588	671	786	915	944	1010	990	1006	886	854	**866**	1.4%	4.9%	0.9%
Ecuador	507	488	488	501	505	527	557	543	548	531	**517**	-2.7%	0.3%	0.5%
Peru	122	155	165	159	157	171	175	153	141	137	**154**	12.4%	1.6%	0.2%
Trinidad & Tobago	149	150	145	136	117	116	114	109	97	99	**87**	-11.5%	-4.4%	0.1%
Venezuela	3228	3038	2842	2755	2704	2680	2692	2631	2347	2096	**1514**	-27.8%	-4.3%	1.6%
Other S. & Cent. America	143	136	144	144	147	152	155	146	135	132	**124**	-5.6%	-1.2%	0.1%
Total S. & Cent. America	7426	7387	7407	7450	7362	7397	7663	7759	7355	7160	**6537**	-8.7%	-0.2%	6.9%
Denmark	287	265	249	225	204	178	167	158	142	138	**116**	-15.9%	-7.8%	0.1%
Italy	108	95	106	110	112	114	120	113	78	86	**97**	12.9%	-3.4%	0.1%
Norway	2458	2342	2132	2033	1911	1832	1881	1940	1991	1963	**1844**	-6.0%	-2.6%	1.9%
Romania	99	94	90	89	83	86	84	83	79	76	**74**	-2.2%	-2.7%	0.1%
United Kingdom	1549	1469	1356	1112	946	864	852	963	1013	999	**1085**	8.6%	-4.9%	1.1%
Other Europe	374	357	342	335	335	344	339	329	313	303	**306**	1.1%	-2.6%	0.3%
Total Europe	4876	4621	4274	3903	3592	3419	3443	3587	3616	3565	**3523**	-1.2%	-3.6%	3.7%
Azerbaijan	916	1027	1037	932	882	888	861	851	838	792	**795**	0.4%	-1.0%	0.8%
Kazakhstan	1485	1609	1676	1684	1664	1737	1710	1695	1655	1838	**1927**	4.8%	2.7%	2.0%
Russian Federation	9965	10152	10379	10533	10656	10807	10860	11007	11269	11255	**11438**	1.6%	1.1%	12.1%
Turkmenistan	208	205	210	223	234	254	257	262	244	232	**222**	-4.7%	1.9%	0.2%
Uzbekistan	102	95	78	77	68	63	61	59	58	61	**64**	5.0%	-5.2%	0.1%
Other CIS	37	36	36	36	35	35	35	36	36	37	**38**	2.6%	-0.1%	◆
Total CIS	12712	13125	13415	13485	13539	13784	13784	13909	14099	14215	**14483**	1.9%	1.1%	15.3%
Iran	4415	4285	4421	4452	3810	3609	3714	3853	4586	5024	**4715**	-6.1%	1.4%	5.0%
Iraq	2428	2446	2469	2773	3079	3103	3239	3986	4423	4533	**4614**	1.8%	7.8%	4.9%
Kuwait	2781	2495	2556	2909	3164	3125	3097	3061	3141	3001	**3049**	1.6%	1.2%	3.2%
Oman	757	813	865	885	918	942	943	981	1004	971	**978**	0.8%	3.2%	1.0%
Qatar	1432	1415	1630	1824	1928	1991	1975	1933	1938	1874	**1879**	0.3%	4.0%	2.0%
Saudi Arabia	10665	9709	9865	11079	11622	11393	11519	11998	12406	11892	**12287**	3.3%	1.5%	13.0%
Syria	406	401	385	353	171	59	33	27	25	25	**24**	-2.2%	-24.4%	◆
United Arab Emirates	3113	2795	2937	3303	3440	3577	3603	3898	4038	3910	**3942**	0.8%	2.4%	4.2%
Yemen	316	308	306	220	178	197	153	63	43	60	**68**	12.8%	-15.9%	0.1%
Other Middle East	193	192	192	201	184	209	214	213	214	208	**207**	-0.7%	0.7%	0.2%
Total Middle East	26506	24859	25626	28001	28493	28205	28490	30012	31818	31497	**31762**	0.8%	2.2%	33.5%
Algeria	1951	1775	1689	1642	1537	1485	1589	1558	1577	1540	**1510**	-2.0%	-2.5%	1.6%
Angola	1876	1754	1812	1670	1734	1738	1701	1796	1745	1676	**1534**	-8.5%	0.1%	1.6%
Chad	127	118	122	114	101	91	89	111	103	104	**101**	-3.1%	-3.2%	0.1%
Republic of Congo	237	276	314	301	280	243	253	234	232	269	**333**	23.6%	1.9%	0.4%
Egypt	715	730	725	714	715	710	714	726	691	660	**670**	1.4%	-0.6%	0.7%
Equatorial Guinea	369	332	306	301	320	282	284	260	223	195	**190**	-2.6%	-6.3%	0.2%
Gabon	240	241	233	236	221	213	211	214	221	210	**194**	-7.6%	-1.5%	0.2%
Libya	1875	1739	1799	516	1539	1048	518	437	412	929	**1010**	8.7%	-6.9%	1.1%
Nigeria	2172	2211	2533	2461	2412	2279	2276	2201	1900	1991	**2051**	3.0%	-1.0%	2.2%
South Sudan	n/a	n/a	n/a	n/a	31	100	155	148	117	111	**131**	17.5%	n/a	0.1%
Sudan	457	475	462	291	103	118	120	109	104	95	**100**	5.7%	-15.0%	0.1%
Tunisia	96	91	83	77	82	76	71	64	60	48	**50**	4.3%	-7.4%	0.1%
Other Africa	184	181	149	198	196	225	234	276	259	304	**320**	5.4%	4.7%	0.3%
Total Africa	10299	9923	10227	8520	9270	8607	8216	8133	7643	8133	**8193**	0.7%	-2.3%	8.6%
Australia	538	507	548	483	479	407	436	384	361	348	**356**	2.2%	-4.5%	0.4%
Brunei	175	168	172	165	159	135	126	127	121	113	**112**	-1.5%	-5.3%	0.1%
China	3814	3805	4077	4074	4155	4216	4246	4309	3999	3846	**3798**	-1.3%	0.3%	4.0%
India	818	838	901	937	926	926	905	893	874	884	**869**	-1.7%	1.2%	0.9%
Indonesia	1006	994	1003	952	917	883	847	838	876	838	**808**	-3.5%	-1.5%	0.9%
Malaysia	727	688	733	659	663	627	649	696	704	683	**682**	-0.1%	-0.6%	0.7%
Thailand	368	383	391	428	468	462	461	478	486	483	**485**	0.3%	3.3%	0.5%
Vietnam	309	341	323	327	358	359	336	365	333	298	**275**	-7.9%	-1.1%	0.3%
Other Asia Pacific	341	330	315	299	287	272	307	308	292	281	**249**	-11.2%	-1.3%	0.3%
Total Asia Pacific	8095	8055	8463	8324	8411	8287	8313	8399	8044	7774	**7633**	-1.8%	-0.2%	8.1%
Total World	**83069**	**81410**	**83255**	**84009**	**86228**	**86647**	**88736**	**91547**	**91822**	**92502**	**94718**	**2.4%**	**1.2%**	**100.0%**
of which: OECD	18417	18424	18531	18571	19487	20621	22565	23583	23090	23940	**26329**	10.0%	2.3%	27.8%
Non-OECD	64652	62986	64724	65438	66742	66026	66171	67964	68731	68561	**68389**	-0.3%	0.8%	72.2%
OPEC	37290	34999	35894	36724	38292	37293	37228	38601	39736	39673	**39338**	-0.8%	0.9%	41.5%
Non-OPEC	45779	46412	47361	47285	47936	49354	51508	52946	52086	52828	**55380**	4.8%	1.3%	58.5%
European Union	2258	2119	1981	1712	1518	1425	1405	1499	1483	1464	**1533**	4.7%	-4.9%	1.6%

*Includes crude oil, shale oil, oil sands, condensates (both lease condensate and gas plant condensate) and NGLs (natural gas liquids – ethane, LPG and naphtha separated from the production of natural gas). Excludes liquid fuels from other sources such as biomass and derivatives of coal and natural gas.
◆Less than 0.05%.
n/a not available.
Note: Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil: Production in million tonnes*

Million tonnes	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	152.9	152.8	160.3	169.8	182.6	195.1	209.4	215.6	218.0	235.4	**255.5**	8.5%	4.2%	5.7%
Mexico	156.9	146.7	145.6	144.5	143.9	141.8	137.1	127.5	121.4	109.5	**102.3**	-6.6%	-4.4%	2.3%
US	302.2	322.2	332.8	345.4	394.2	447.2	523.0	566.6	541.9	573.9	**669.4**	16.6%	6.5%	15.0%
Total North America	612.0	621.7	638.7	659.8	720.6	784.1	869.5	909.7	881.3	918.7	**1027.1**	11.8%	3.8%	23.0%
Argentina	37.8	34.0	33.3	31.2	30.8	30.2	29.8	30.1	28.7	27.3	**27.6**	1.1%	-3.3%	0.6%
Brazil	98.8	105.7	111.3	113.8	111.9	109.7	122.5	132.2	136.2	142.3	**140.3**	-1.4%	4.1%	3.1%
Colombia	31.0	35.3	41.4	48.2	49.9	53.2	52.2	53.0	46.8	45.0	**45.6**	1.4%	4.9%	1.0%
Ecuador	27.2	26.1	26.1	26.8	27.1	28.2	29.8	29.1	29.5	28.5	**27.7**	-2.7%	0.4%	0.6%
Peru	5.7	6.9	7.3	7.0	6.9	7.3	7.5	6.5	5.8	5.7	**6.4**	12.2%	0.4%	0.1%
Trinidad & Tobago	6.9	6.8	6.2	5.9	5.2	5.1	5.1	4.8	4.3	4.4	**3.9**	-10.9%	-4.8%	0.1%
Venezuela	165.8	155.9	145.8	141.5	139.3	137.8	138.5	135.4	121.0	107.6	**77.3**	-28.1%	-4.2%	1.7%
Other S. & Cent. America	7.3	6.9	7.3	7.3	7.4	7.6	7.8	7.3	6.8	6.6	**6.2**	-5.5%	-1.2%	0.1%
Total S. & Cent. America	380.5	377.6	378.7	381.7	378.6	379.2	393.1	398.4	379.2	367.3	**335.1**	-8.8%	-0.2%	7.5%
Denmark	14.0	12.9	12.2	10.9	10.0	8.7	8.1	7.7	6.9	6.7	**5.7**	-15.9%	-7.8%	0.1%
Italy	5.2	4.6	5.1	5.3	5.4	5.5	5.8	5.5	3.8	4.1	**4.7**	12.9%	-3.4%	0.1%
Norway	114.2	108.1	98.4	93.2	86.9	82.8	84.8	87.5	90.2	88.6	**83.1**	-6.2%	-2.8%	1.9%
Romania	4.7	4.5	4.3	4.2	4.0	4.1	4.1	4.0	3.8	3.6	**3.6**	-2.0%	-2.6%	0.1%
United Kingdom	72.0	68.3	63.2	52.1	44.7	40.7	40.0	45.4	47.5	46.6	**50.8**	9.0%	-4.9%	1.1%
Other Europe	18.5	17.6	16.9	16.6	16.7	17.1	16.9	16.4	15.6	15.0	**15.2**	1.0%	-2.6%	0.3%
Total Europe	228.7	216.0	200.0	182.3	167.6	158.9	159.7	166.5	167.8	164.7	**162.9**	-1.1%	-3.7%	3.6%
Azerbaijan	45.3	50.9	51.3	46.1	43.7	43.8	42.5	42.0	41.4	39.1	**39.2**	0.3%	-1.0%	0.9%
Kazakhstan	70.7	76.5	79.7	80.1	79.3	82.3	81.1	80.2	78.6	87.0	**91.2**	4.9%	2.6%	2.0%
Russian Federation	494.3	501.4	512.3	519.5	526.7	532.2	535.1	541.8	555.9	554.3	**563.3**	1.6%	1.1%	12.6%
Turkmenistan	10.2	10.0	10.3	10.9	11.5	12.4	12.5	12.8	11.9	11.2	**10.6**	-5.3%	1.7%	0.2%
Uzbekistan	4.8	4.5	3.6	3.6	3.2	2.9	2.8	2.7	2.6	2.8	**2.9**	4.5%	-5.6%	0.1%
Other CIS	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	**1.9**	2.6%	-0.1%	◆
Total CIS	627.2	645.0	659.1	662.0	666.1	675.4	675.8	681.3	692.2	696.1	**709.1**	1.9%	1.1%	15.8%
Iran	215.4	207.2	212.0	212.5	180.5	169.7	174.0	180.2	216.3	235.6	**220.4**	-6.5%	1.0%	4.9%
Iraq	119.3	119.7	120.8	135.8	151.3	152.0	158.8	195.6	217.6	222.2	**226.1**	1.8%	7.8%	5.1%
Kuwait	136.0	120.9	123.2	140.7	153.8	151.2	150.0	148.1	152.5	144.8	**146.8**	1.4%	1.1%	3.3%
Oman	37.1	39.7	42.2	43.2	45.0	46.1	46.2	48.0	49.3	47.6	**47.8**	0.5%	3.2%	1.1%
Qatar	64.5	62.4	70.9	77.7	82.2	84.2	83.5	81.2	81.6	78.5	**78.5**	◆	3.2%	1.8%
Saudi Arabia	510.0	459.0	463.3	522.7	549.2	538.4	543.8	568.0	586.7	559.3	**578.3**	3.4%	1.4%	12.9%
Syria	19.6	19.3	18.5	16.9	8.1	2.7	1.5	1.2	1.1	1.1	**1.1**	-2.5%	-25.1%	◆
United Arab Emirates	145.2	129.3	135.2	150.6	156.9	163.3	163.4	176.1	182.4	176.2	**177.7**	0.8%	2.1%	4.0%
Yemen	14.8	14.4	14.3	10.2	8.1	9.0	6.9	2.6	1.6	2.4	**2.8**	14.7%	-17.2%	0.1%
Other Middle East	9.5	9.4	9.4	9.9	9.0	10.3	10.5	10.5	10.6	10.3	**10.2**	-1.0%	0.7%	0.2%
Total Middle East	1271.5	1181.4	1210.0	1320.3	1344.2	1326.9	1338.7	1411.6	1499.8	1477.9	**1489.7**	0.8%	2.0%	33.3%
Algeria	84.8	77.2	73.8	71.7	67.2	64.8	68.8	67.2	68.4	66.6	**65.3**	-2.0%	-2.6%	1.5%
Angola	92.3	86.0	88.9	82.0	85.3	85.2	83.3	88.2	85.8	81.9	**74.6**	-8.8%	0.1%	1.7%
Chad	6.7	6.2	6.4	6.0	5.3	4.8	4.7	5.8	5.4	5.4	**5.3**	-3.1%	-3.2%	0.1%
Republic of Congo	12.2	14.1	16.0	15.3	14.2	12.3	12.9	11.9	11.8	13.8	**17.0**	23.9%	1.8%	0.4%
Egypt	34.7	35.3	35.0	34.6	34.7	34.4	35.1	35.4	33.8	32.2	**32.7**	1.6%	-0.5%	0.7%
Equatorial Guinea	17.6	15.6	14.5	14.2	15.2	13.2	13.3	12.1	10.4	9.0	**8.7**	-3.1%	-6.6%	0.2%
Gabon	12.0	12.0	11.6	11.8	11.1	10.7	10.5	10.7	11.0	10.5	**9.7**	-7.6%	-1.5%	0.2%
Libya	88.2	81.7	84.6	24.3	72.6	49.4	24.4	20.5	19.3	43.8	**47.5**	8.7%	-6.9%	1.1%
Nigeria	105.8	106.9	122.1	118.4	116.4	109.5	109.3	105.7	91.3	95.5	**98.4**	3.0%	-1.1%	2.2%
South Sudan	n/a	n/a	n/a	n/a	1.5	4.9	7.7	7.3	5.8	5.5	**6.4**	17.5%	n/a	0.1%
Sudan	22.6	23.4	22.8	14.3	5.1	5.8	5.9	5.4	5.1	4.7	**4.9**	5.7%	-15.0%	0.1%
Tunisia	4.5	4.2	3.9	3.6	3.8	3.5	3.3	2.9	2.8	2.2	**2.3**	3.4%	-7.5%	0.1%
Other Africa	9.2	9.1	7.4	9.8	9.8	11.2	11.6	13.7	12.9	15.0	**15.7**	5.1%	4.6%	0.4%
Total Africa	490.4	471.8	487.0	406.0	442.2	409.5	390.6	386.8	363.9	386.0	**388.7**	0.7%	-2.3%	8.7%
Australia	24.1	22.4	24.5	21.5	21.4	17.8	19.1	17.0	15.6	14.9	**15.2**	1.5%	-4.8%	0.3%
Brunei	8.6	8.2	8.4	8.1	7.8	6.6	6.2	6.2	5.9	5.5	**5.4**	-1.4%	-5.3%	0.1%
China	190.4	189.5	203.0	202.9	207.5	210.0	211.4	214.6	199.7	191.5	**189.1**	-1.3%	0.3%	4.2%
India	37.8	38.0	41.3	42.9	42.5	42.5	41.6	41.2	40.2	40.4	**39.5**	-2.2%	1.0%	0.9%
Indonesia	49.4	48.4	48.6	46.3	44.6	42.7	41.0	40.6	42.8	41.0	**39.5**	-3.5%	-1.5%	0.9%
Malaysia	33.6	31.8	33.1	29.7	30.1	28.7	29.8	32.2	32.6	31.5	**31.5**	-0.2%	-0.6%	0.7%
Thailand	14.4	14.9	15.1	15.8	17.2	17.0	16.8	17.5	18.0	17.5	**17.3**	-1.0%	2.6%	0.4%
Vietnam	15.2	16.7	15.6	15.8	17.4	17.3	16.2	17.6	16.0	14.3	**13.0**	-9.1%	-1.3%	0.3%
Other Asia Pacific	14.9	14.4	13.8	13.1	12.6	12.0	13.7	13.8	13.1	12.5	**11.1**	-11.1%	-1.1%	0.2%
Total Asia Pacific	388.4	384.3	403.5	396.0	401.0	394.6	395.8	400.6	383.9	369.1	**361.6**	-2.0%	-0.3%	8.1%
Total World	**3998.7**	**3897.8**	**3976.9**	**4008.0**	**4120.3**	**4128.5**	**4223.2**	**4354.8**	**4368.0**	**4379.9**	**4474.3**	**2.2%**	**1.0%**	**100.0%**
of which: OECD	857.4	853.0	856.5	856.6	902.3	953.2	1041.2	1086.4	1058.1	1092.0	**1198.6**	9.8%	2.1%	26.8%
Non-OECD	3141.3	3044.8	3120.4	3151.4	3217.9	3175.3	3182.0	3268.5	3309.8	3287.9	**3275.8**	-0.4%	0.7%	73.2%
OPEC	1796.3	1674.2	1709.0	1746.2	1822.4	1769.8	1764.4	1830.1	1885.8	1873.7	**1854.3**	-1.0%	0.8%	41.4%
Non-OPEC	2202.3	2223.6	2267.9	2261.9	2297.9	2358.7	2458.8	2524.8	2482.2	2506.2	**2620.1**	4.5%	1.2%	58.6%
European Union	106.6	100.0	93.6	81.3	72.7	68.1	67.0	71.6	70.6	69.3	**72.7**	4.9%	-4.9%	1.6%

*Includes crude oil, shale oil, oil sands, condensates (both lease condensate and gas plant condensate) and NGLs (natural gas liquids – ethane, LPG and naphtha separated from the production of natural gas). Excludes liquid fuels from other sources such as biomass and derivatives of coal and natural gas.
◆Less than 0.05%.
n/a not available.
Note: Annual changes and shares of total are calculated using million tonnes figures.

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

Thousand barrels daily	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	2581	2576	2724	2900	3131	3358	3610	3679	3678	3977	**4302**	8.2%	4.3%	5.2%
Mexico	2792	2601	2577	2553	2548	2522	2429	2267	2154	1948	**1833**	-5.9%	-4.5%	2.2%
US	5000	5349	5478	5654	6502	7467	8759	9431	8831	9352	**10962**	17.2%	6.3%	13.2%
Total North America	10372	10527	10779	11106	12180	13348	14797	15376	14662	15277	**17097**	11.9%	3.6%	20.6%
Argentina	679	604	589	553	549	540	532	532	511	480	**489**	2.1%	-3.6%	0.6%
Brazil	1812	1950	2055	2105	2061	2024	2255	2437	2510	2622	**2587**	-1.3%	4.1%	3.1%
Colombia	588	671	786	915	944	1010	990	1006	886	854	**866**	1.4%	4.9%	1.0%
Ecuador	505	486	486	500	504	526	557	543	548	531	**517**	-2.7%	0.4%	0.6%
Peru	98	117	123	117	112	118	121	104	91	88	**98**	11.2%	-0.7%	0.1%
Trinidad & Tobago	114	107	98	92	82	81	81	79	71	72	**63**	-11.6%	-5.1%	0.1%
Venezuela	3064	2879	2695	2623	2580	2564	2578	2514	2242	1992	**1425**	-28.4%	-4.2%	1.7%
Other S. & Cent. America	129	121	125	126	131	135	140	133	122	117	**111**	-5.6%	-0.9%	0.1%
Total S. & Cent. America	6988	6935	6957	7031	6963	6998	7255	7347	6982	6756	**6157**	-8.9%	-0.2%	7.4%
Denmark	287	265	249	225	204	178	167	158	142	138	**116**	-15.9%	-7.8%	0.1%
Italy	108	95	106	110	112	114	120	113	78	86	**97**	12.9%	-3.4%	0.1%
Norway	2175	2057	1871	1758	1612	1532	1562	1608	1648	1617	**1515**	-6.3%	-3.3%	1.8%
Romania	93	90	86	84	79	83	82	80	76	73	**71**	-1.8%	-2.5%	0.1%
United Kingdom	1404	1344	1245	1036	891	815	796	909	940	917	**1005**	9.5%	-4.9%	1.2%
Other Europe	347	331	319	315	317	327	324	315	297	284	**287**	1.1%	-2.6%	0.3%
Total Europe	4416	4182	3876	3527	3215	3050	3050	3183	3180	3116	**3092**	-0.8%	-4.0%	3.7%
Azerbaijan	895	1014	1023	919	872	877	849	840	826	781	**783**	0.2%	-0.9%	0.9%
Kazakhstan	1483	1609	1676	1684	1662	1720	1701	1672	1637	1813	**1900**	4.8%	2.5%	2.3%
Russian Federation	9784	9927	10150	10287	10395	10528	10595	10758	11003	11017	**11201**	1.7%	1.1%	13.5%
Turkmenistan	198	194	199	212	220	237	240	245	224	209	**196**	-6.3%	1.2%	0.2%
Uzbekistan	102	95	78	77	68	63	61	59	58	61	**64**	5.0%	-5.2%	0.1%
Other CIS	37	36	36	36	35	35	35	36	36	37	**38**	2.6%	-0.1%	◆
Total CIS	12498	12876	13162	13214	13252	13461	13481	13610	13785	13918	**14181**	1.9%	1.1%	17.1%
Iran	4173	4015	4068	4048	3398	3192	3273	3392	4090	4471	**4156**	-7.0%	0.7%	5.0%
Iraq	2394	2405	2424	2728	3037	3058	3198	3945	4375	4469	**4550**	1.8%	7.8%	5.5%
Kuwait	2574	2278	2307	2645	2890	2847	2830	2782	2860	2704	**2737**	1.2%	0.9%	3.3%
Oman	757	813	865	885	918	942	943	981	1004	971	**978**	0.8%	3.2%	1.2%
Qatar	1211	1151	1307	1399	1491	1520	1508	1463	1465	1416	**1408**	-0.6%	2.6%	1.7%
Saudi Arabia	9453	8411	8423	9566	9987	9875	9941	10420	10688	10175	**10534**	3.5%	1.2%	12.7%
Syria	371	366	350	319	146	45	23	19	17	17	**16**	-3.3%	-26.7%	◆
United Arab Emirates	2819	2495	2603	2856	2961	3095	3063	3284	3384	3280	**3301**	0.6%	1.7%	4.0%
Yemen	295	286	284	197	154	173	128	38	16	33	**40**	21.3%	-20.3%	◆
Other Middle East	183	182	182	191	173	199	204	203	204	199	**196**	-1.5%	0.8%	0.2%
Total Middle East	24230	22402	22813	24834	25155	24944	25113	26527	28104	27733	**27916**	0.7%	1.8%	33.6%
Algeria	1643	1517	1461	1416	1320	1275	1329	1290	1316	1287	**1258**	-2.2%	-2.7%	1.5%
Angola	1855	1734	1793	1656	1714	1716	1672	1780	1722	1637	**1483**	-9.5%	◆	1.8%
Chad	127	118	122	114	101	91	89	111	103	104	**101**	-3.1%	-3.2%	0.1%
Republic of Congo	235	269	307	292	268	234	245	227	225	263	**327**	24.3%	1.8%	0.4%
Egypt	651	665	663	649	649	643	667	662	631	603	**615**	2.0%	-0.6%	0.7%
Equatorial Guinea	349	310	286	280	299	261	266	242	204	174	**169**	-2.9%	-6.8%	0.2%
Gabon	240	241	233	236	221	213	211	214	221	210	**194**	-7.6%	-1.5%	0.2%
Libya	1808	1687	1748	508	1499	1025	510	422	397	909	**988**	8.7%	-6.8%	1.2%
Nigeria	2100	2138	2455	2373	2330	2193	2188	2119	1822	1912	**1967**	2.9%	-1.1%	2.4%
South Sudan	n/a	n/a	n/a	n/a	31	100	155	148	117	111	**131**	17.5%	n/a	0.2%
Sudan	457	475	462	291	103	118	120	109	104	95	**100**	5.7%	-15.0%	0.1%
Tunisia	87	82	79	70	70	64	59	54	51	43	**42**	-3.5%	-7.6%	0.1%
Other Africa	184	181	149	198	196	225	234	276	259	304	**319**	5.2%	4.7%	0.4%
Total Africa	9735	9418	9759	8083	8802	8158	7744	7653	7170	7651	**7693**	0.5%	-2.3%	9.3%
Australia	455	423	471	411	405	335	353	322	292	284	**295**	3.8%	-4.7%	0.4%
Brunei	161	155	159	153	146	122	114	115	109	101	**100**	-1.1%	-5.6%	0.1%
China	3814	3805	4077	4074	4155	4216	4246	4309	3999	3846	**3798**	-1.3%	0.3%	4.6%
India	703	690	762	793	786	789	778	771	744	744	**719**	-3.3%	0.5%	0.9%
Indonesia	977	949	945	902	859	825	789	786	831	801	**772**	-3.6%	-1.7%	0.9%
Malaysia	688	659	653	583	598	588	610	662	667	648	**646**	-0.2%	-0.5%	0.8%
Thailand	229	238	242	224	239	241	233	248	258	240	**228**	-4.8%	1.2%	0.3%
Vietnam	301	332	304	308	338	337	315	342	307	275	**243**	-11.6%	-1.6%	0.3%
Other Asia Pacific	289	279	267	253	242	235	272	276	262	249	**224**	-10.2%	-0.9%	0.3%
Total Asia Pacific	7617	7530	7880	7701	7769	7688	7711	7832	7469	7187	**7024**	-2.3%	-0.5%	8.4%
Total World	**75857**	**73869**	**75226**	**75498**	**77336**	**77647**	**79152**	**81528**	**81351**	**81639**	**83161**	**1.9%**	**0.8%**	**100.0%**
of which: OECD	15098	14990	14988	14904	15653	16578	18058	18745	18005	18551	**20352**	9.7%	1.7%	24.5%
Non-OECD	60759	58879	60238	60594	61683	61069	61094	62783	63346	63089	**62809**	-0.4%	0.6%	75.5%
OPEC	34423	32017	32597	33126	34499	33594	33370	34636	35558	35430	**35014**	-1.2%	0.6%	42.1%
Non-OPEC	41435	41852	42629	42371	42837	44053	45782	46892	45793	46209	**48147**	4.2%	1.0%	57.9%
European Union	2088	1971	1851	1617	1447	1361	1336	1432	1397	1369	**1441**	5.3%	-4.9%	1.7%

*Includes crude oil, shale oil, oil sands and condensates (both lease condensate and gas plant condensate). Excludes liquid fuels from other sources such as natural gas liquids, biomass and derivatives of coal and natural gas.
◆Less than 0.05%.
n/a not available.
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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	626	626	608	615	610	642	661	709	773	822	**906**	10.3%	1.9%	7.8%
Mexico	374	377	382	388	363	353	355	320	302	276	**235**	-14.8%	-3.7%	2.0%
US	1784	1910	2074	2216	2408	2606	3015	3342	3509	3783	**4349**	15.0%	7.8%	37.6%
Total North America	2783	2913	3064	3219	3381	3600	4031	4371	4584	4880	**5490**	12.5%	5.5%	47.5%
Argentina	123	126	123	114	107	105	106	114	100	111	**102**	-7.8%	-1.2%	0.9%
Brazil	74	69	70	68	70	72	87	88	81	99	**96**	-3.3%	3.3%	0.8%
Colombia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Ecuador	2	2	2	1	1	1	–	–	–	–	**–**	n/a	-100.0%	–
Peru	24	38	42	42	45	54	54	49	50	49	**56**	14.7%	8.3%	0.5%
Trinidad & Tobago	35	44	47	44	35	34	33	30	25	27	**24**	-11.3%	-2.3%	0.2%
Venezuela	165	159	147	132	124	116	114	117	105	104	**88**	-15.0%	-5.1%	0.8%
Other S. & Cent. America	14	15	19	19	16	17	14	13	12	14	**13**	-5.0%	-3.2%	0.1%
Total S. & Cent. America	438	453	451	419	399	399	408	411	373	404	**379**	-6.0%	-1.1%	3.3%
Denmark	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Italy	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Norway	283	285	261	275	300	300	318	332	343	345	**329**	-4.7%	2.2%	2.8%
Romania	6	4	4	5	4	3	3	3	4	3	**3**	-11.5%	-7.2%	◆
United Kingdom	144	125	110	76	55	49	56	55	73	82	**80**	-1.8%	-5.1%	0.7%
Other Europe	27	25	23	20	19	17	15	14	16	19	**19**	1.4%	-3.4%	0.2%
Total Europe	460	439	398	375	377	369	392	404	436	449	**431**	-3.9%	◆	3.7%
Azerbaijan	21	12	13	13	10	11	12	11	11	10	**12**	9.9%	-6.2%	0.1%
Kazakhstan	2	†	†	†	2	17	9	23	18	25	**27**	9.2%	30.5%	0.2%
Russian Federation	180	225	228	247	260	278	265	249	266	238	**237**	-0.2%	2.3%	2.1%
Turkmenistan	10	10	10	10	14	17	17	17	20	23	**26**	10.0%	11.3%	0.2%
Uzbekistan	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Other CIS	–	–	–	–	–	–	–	–	–	–	**–**	n/a	n/a	–
Total CIS	214	248	252	271	286	323	303	299	315	296	**301**	1.7%	3.1%	2.6%
Iran	242	270	352	404	412	418	441	461	496	553	**559**	1.1%	11.5%	4.8%
Iraq	34	41	45	45	42	45	40	41	48	64	**64**	-0.1%	9.1%	0.6%
Kuwait	207	217	249	264	275	278	267	279	281	297	**312**	5.0%	4.7%	2.7%
Oman	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Qatar	222	264	323	426	437	471	466	470	473	458	**471**	2.8%	10.9%	4.1%
Saudi Arabia	1211	1298	1442	1513	1635	1518	1577	1578	1718	1717	**1753**	2.1%	3.7%	15.2%
Syria	35	35	35	34	25	14	10	8	8	8	**8**	–	-13.7%	0.1%
United Arab Emirates	294	300	334	447	479	482	539	614	654	631	**641**	1.7%	7.3%	5.5%
Yemen	21	22	23	23	24	24	25	26	26	27	**28**	2.4%	2.1%	0.2%
Other Middle East	10	10	10	11	10	10	10	10	10	10	**11**	14.4%	◆	0.1%
Total Middle East	2275	2457	2812	3167	3338	3260	3377	3485	3714	3764	**3847**	2.2%	5.8%	33.3%
Algeria	308	258	228	225	216	210	260	268	261	254	**252**	-0.8%	-1.8%	2.2%
Angola	22	20	19	14	20	22	30	16	23	39	**51**	31.8%	6.0%	0.4%
Chad	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Republic of Congo	2	7	7	9	12	9	8	7	7	6	**6**	-5.6%	7.7%	0.1%
Egypt	65	65	61	65	66	67	47	64	60	57	**55**	-3.9%	-0.6%	0.5%
Equatorial Guinea	21	22	20	21	20	21	19	17	19	21	**21**	-0.3%	-0.4%	0.2%
Gabon	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Libya	67	51	50	8	40	22	8	15	15	20	**21**	5.9%	-11.2%	0.2%
Nigeria	72	73	78	88	82	86	88	82	78	80	**85**	6.0%	1.3%	0.7%
South Sudan	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Sudan	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
Tunisia	8	9	4	7	13	12	12	10	9	5	**8**	74.4%	-5.4%	0.1%
Other Africa	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**1**	n/a	n/a	◆
Total Africa	564	506	468	437	468	449	471	480	472	482	**500**	3.7%	-1.4%	4.3%
Australia	82	84	77	71	73	72	83	62	69	64	**61**	-4.7%	-3.4%	0.5%
Brunei	14	14	13	13	13	13	12	11	12	13	**12**	-4.8%	-1.6%	0.1%
China	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a
India	115	148	140	144	140	136	128	122	129	141	**150**	6.7%	6.0%	1.3%
Indonesia	29	45	58	50	58	58	58	52	45	37	**36**	-1.6%	7.8%	0.3%
Malaysia	39	29	79	76	65	39	39	35	37	35	**36**	1.9%	-2.0%	0.3%
Thailand	139	145	149	204	229	222	228	230	228	244	**257**	5.4%	6.1%	2.2%
Vietnam	8	10	19	19	20	22	21	23	25	23	**32**	35.8%	7.9%	0.3%
Other Asia Pacific	52	51	48	46	45	37	35	32	30	31	**25**	-19.3%	-4.0%	0.2%
Total Asia Pacific	478	526	583	623	643	599	603	567	576	587	**609**	3.6%	3.0%	5.3%
Total World	**7212**	**7541**	**8029**	**8511**	**8892**	**9000**	**9584**	**10018**	**10471**	**10862**	**11557**	**6.4%**	**4.3%**	**100.0%**
of which: OECD	3319	3434	3543	3668	3834	4043	4507	4838	5086	5390	**5977**	10.9%	4.7%	51.7%
Non-OECD	3893	4107	4486	4843	5058	4956	5077	5181	5385	5473	**5580**	2.0%	4.0%	48.3%
OPEC	2867	2982	3296	3597	3793	3699	3858	3964	4178	4243	**4325**	1.9%	4.5%	37.4%
Non-OPEC	4345	4559	4733	4914	5099	5300	5726	6054	6293	6619	**7233**	9.3%	4.2%	62.6%
European Union	169	147	130	94	71	63	69	67	87	95	**92**	-3.3%	-5.2%	0.8%

*Includes ethane, LPG and naphtha separated from the production of natural gas. Excludes condensates.
†Less than 0.05.
◆Less than 0.05%.
n/a not available.
Note: Annual changes and shares of total are calculated using thousand barrels daily figures.

Source: Includes data from ICIS.

Oil: Consumption in thousands of barrels per day*

Thousand barrels daily	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	2323	2209	2358	2436	2376	2398	2442	2401	2448	2448	**2447**	◆	0.4%	2.5%
Mexico	2080	2021	2040	2065	2083	2034	1960	1939	1950	1883	**1812**	-3.8%	-1.0%	1.8%
US	19490	18771	19180	18882	18490	18961	19106	19531	19687	19958	**20456**	2.5%	-0.4%	20.5%
Total North America	23894	23001	23578	23383	22949	23393	23507	23871	24086	24289	**24714**	1.8%	-0.3%	24.8%
Argentina	540	532	594	609	636	683	673	696	686	684	**648**	-5.3%	2.6%	0.6%
Brazil	2481	2498	2714	2832	2884	3100	3210	3140	2960	3052	**3081**	0.9%	2.8%	3.1%
Chile	390	383	343	371	376	362	353	355	377	369	**379**	2.7%	-0.2%	0.4%
Colombia	248	230	256	275	295	297	316	332	345	340	**342**	0.6%	3.9%	0.3%
Ecuador	188	191	220	226	233	247	260	254	240	237	**255**	7.6%	2.6%	0.3%
Peru	175	182	191	220	215	228	225	247	259	258	**267**	3.4%	5.1%	0.3%
Trinidad & Tobago	45	44	45	42	40	45	41	46	48	42	**42**	-1.2%	-0.1%	◆
Venezuela	716	726	725	737	792	782	720	637	537	463	**409**	-11.7%	-3.2%	0.4%
Other S. & Cent. America	1257	1229	1247	1267	1244	1219	1234	1294	1340	1352	**1373**	1.5%	0.5%	1.4%
Total S. & Cent. America	6041	6016	6335	6579	6715	6964	7034	7001	6792	6798	**6795**	◆	1.7%	6.8%
Austria	272	262	275	259	258	262	255	256	261	265	**272**	2.5%	-0.3%	0.3%
Belgium	731	678	706	662	645	665	665	684	694	696	**703**	1.0%	◆	0.7%
Czech Republic	209	204	195	201	198	190	202	196	182	217	**222**	2.2%	0.6%	0.2%
Finland	225	213	223	213	205	220	214	212	221	217	**229**	5.7%	-0.5%	0.2%
France	1889	1822	1763	1725	1673	1661	1613	1612	1597	1608	**1607**	-0.1%	-1.7%	1.6%
Germany	2502	2409	2441	2365	2352	2404	2344	2336	2374	2443	**2321**	-5.0%	0.3%	2.3%
Greece	440	419	382	362	321	303	302	313	314	324	**323**	-0.3%	-3.6%	0.3%
Hungary	164	154	146	155	143	142	159	168	166	177	**188**	6.5%	0.5%	0.2%
Italy	1661	1563	1532	1475	1384	1274	1204	1257	1266	1279	**1253**	-2.0%	-3.0%	1.3%
Netherlands	979	945	964	971	925	898	866	834	851	829	**860**	3.8%	-2.2%	0.9%
Norway	218	222	229	227	226	230	217	223	217	223	**234**	5.1%	0.1%	0.2%
Poland	567	567	594	592	571	538	538	559	606	662	**685**	3.4%	1.9%	0.7%
Portugal	293	274	272	256	231	241	241	246	240	246	**236**	-4.0%	-2.1%	0.2%
Romania	216	195	184	191	191	174	187	191	202	213	**211**	-1.0%	-0.3%	0.2%
Spain	1559	1474	1447	1383	1300	1203	1199	1243	1288	1301	**1335**	2.7%	-2.1%	1.3%
Sweden	340	325	328	309	309	306	304	302	319	321	**308**	-3.8%	-1.1%	0.3%
Switzerland	256	260	242	235	238	249	224	227	216	222	**215**	-3.2%	-0.8%	0.2%
Turkey	686	709	694	673	704	757	775	912	978	1013	**1003**	-1.0%	3.8%	1.0%
Ukraine	299	282	267	278	267	257	221	194	205	207	**200**	-3.0%	-3.9%	0.2%
United Kingdom	1738	1669	1652	1600	1546	1532	1536	1578	1623	1637	**1618**	-1.2%	-0.7%	1.6%
Other Europe	1313	1231	1216	1189	1140	1124	1123	1169	1214	1253	**1252**	-0.1%	-0.5%	1.3%
Total Europe	16558	15876	15752	15321	14826	14631	14389	14713	15032	15351	**15276**	-0.5%	-0.8%	15.3%
Azerbaijan	74	73	72	89	92	101	99	100	98	99	**98**	-1.0%	0.9%	0.1%
Belarus	160	182	150	173	211	144	164	139	137	135	**136**	1.0%	-1.9%	0.1%
Kazakhstan	240	198	211	243	245	260	262	295	305	317	**357**	12.4%	2.8%	0.4%
Russian Federation	2861	2775	2878	3074	3119	3134	3298	3146	3217	3207	**3228**	0.7%	1.4%	3.2%
Turkmenistan	114	106	118	125	129	137	143	145	143	147	**151**	3.2%	2.8%	0.2%
Uzbekistan	93	89	76	71	63	60	57	53	49	55	**52**	-4.0%	-5.3%	0.1%
Other CIS	60	63	63	65	75	78	76	78	86	73	**76**	3.0%	2.7%	0.1%
Total CIS	3602	3486	3567	3838	3935	3914	4099	3955	4034	4033	**4099**	1.6%	1.3%	4.1%
Iran	1925	1919	1788	1851	1882	2064	1959	1804	1749	1843	**1879**	2.0%	◆	1.9%
Iraq	481	536	570	629	666	716	681	683	760	732	**777**	6.1%	4.1%	0.8%
Israel	254	232	241	254	295	223	214	226	230	247	**242**	-1.9%	-0.6%	0.2%
Kuwait	406	455	470	444	490	508	446	461	453	455	**451**	-0.9%	1.7%	0.5%
Oman	123	119	135	146	157	178	185	184	187	193	**192**	-0.3%	7.9%	0.2%
Qatar	178	173	191	246	257	287	294	317	341	320	**328**	2.6%	8.0%	0.3%
Saudi Arabia	2622	2914	3206	3295	3460	3451	3764	3886	3875	3838	**3724**	-3.0%	4.8%	3.7%
United Arab Emirates	603	606	654	735	773	852	880	957	1023	964	**991**	2.8%	5.3%	1.0%
Other Middle East	795	774	720	701	650	630	631	579	553	547	**551**	0.8%	-3.5%	0.6%
Total Middle East	7386	7727	7974	8301	8631	8910	9053	9099	9172	9138	**9136**	◆	2.7%	9.2%
Algeria	309	327	327	349	370	387	401	425	412	408	**414**	1.6%	3.6%	0.4%
Egypt	686	725	766	720	747	756	806	834	857	806	**760**	-5.7%	2.3%	0.8%
Morocco	231	234	258	275	277	282	272	268	275	290	**286**	-1.6%	3.2%	0.3%
South Africa	511	507	538	542	552	561	555	578	555	556	**533**	-4.1%	0.3%	0.5%
Other Africa	1462	1530	1592	1512	1628	1719	1737	1751	1779	1901	**1996**	3.4%	3.5%	2.0%
Total Africa	3198	3322	3481	3398	3574	3705	3770	3857	3878	3962	**3959**	-0.1%	2.7%	4.0%
Australia	944	950	954	1001	1025	1034	1047	1005	1038	1055	**1094**	3.7%	1.2%	1.1%
Bangladesh	77	72	81	104	110	108	120	127	137	153	**176**	14.8%	7.2%	0.2%
China	7914	8295	9446	9808	10242	10750	11239	11986	12304	12840	**13525**	5.3%	5.1%	13.5%
China Hong Kong SAR	292	332	359	361	344	352	336	368	380	427	**434**	1.6%	2.9%	0.4%
India	3137	3300	3381	3550	3747	3789	3914	4245	4654	4870	**5156**	5.9%	5.0%	5.2%
Indonesia	1288	1321	1415	1590	1646	1677	1708	1571	1628	1696	**1785**	5.2%	2.5%	1.8%
Japan	4847	4390	4442	4442	4702	4516	4303	4151	4019	3975	**3854**	-3.1%	-2.3%	3.9%
Malaysia	672	679	688	724	757	802	796	790	807	793	**814**	2.6%	1.2%	0.8%
New Zealand	154	148	150	150	148	151	154	160	163	175	**173**	-1.2%	1.3%	0.2%
Pakistan	389	415	411	414	402	442	458	505	566	589	**498**	-15.4%	4.4%	0.5%
Philippines	283	300	313	298	309	326	347	397	427	459	**466**	1.5%	4.5%	0.5%
Singapore	973	1049	1157	1208	1202	1225	1268	1338	1385	1419	**1449**	2.1%	4.4%	1.5%
South Korea	2312	2345	2378	2401	2466	2464	2463	2587	2781	2811	**2793**	-0.6%	1.6%	2.8%
Sri Lanka	83	87	87	92	95	82	71	90	105	113	**112**	-1.3%	2.2%	0.1%
Taiwan	1010	1022	1043	950	950	981	1013	1021	1046	1069	**1075**	0.5%	-0.4%	1.1%
Thailand	1016	1075	1121	1184	1250	1299	1309	1360	1396	1444	**1478**	2.3%	3.4%	1.5%
Vietnam	300	305	332	361	368	398	409	445	471	498	**522**	4.9%	5.8%	0.5%
Other Asia Pacific	249	268	285	304	329	364	388	408	436	449	**461**	2.8%	6.0%	0.5%
Total Asia Pacific	25940	26351	28043	28942	30094	30759	31343	32551	33743	34835	**35863**	3.0%	2.9%	35.9%
Total World	**86619**	**85780**	**88730**	**89763**	**90724**	**92276**	**93194**	**95048**	**96737**	**98406**	**99843**	**1.5%**	**1.2%**	**100.0%**
of which: OECD	48187	46217	46776	46253	45752	45782	45455	46086	46688	47199	**47466**	0.6%	-0.5%	47.5%
Non-OECD	38432	39563	41954	43510	44973	46494	47739	48961	50049	51206	**52377**	2.3%	3.2%	52.5%
European Union	14786	14092	14012	13599	13101	12848	12663	12855	13091	13356	**13302**	-0.4%	-1.1%	13.3%

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

◆Less than 0.05%.

Notes: Differences between these world consumption figures and world production statistics are accounted for by stock changes, consumption of non-petroleum additives and substitute fuels, and unavoidable disparities in the definition, measurement or conversion of oil supply and demand data.

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

Oil: Consumption in million tonnes oil equivalent*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	105.7	99.8	107.1	110.4	107.5	107.8	109.6	107.0	108.7	108.8	**110.0**	1.1%	0.2%	2.4%
Mexico	96.2	92.9	93.3	94.9	96.4	93.8	89.5	88.5	89.1	85.8	**82.8**	-3.5%	-1.2%	1.8%
US	903.4	860.6	877.5	862.2	843.8	859.8	866.1	884.5	893.3	902.0	**919.7**	2.0%	-0.6%	19.7%
Total North America	1105.3	1053.3	1077.9	1067.4	1047.7	1061.3	1065.3	1080.0	1091.1	1096.6	**1112.5**	1.5%	-0.6%	23.9%
Argentina	25.5	25.0	28.6	28.9	30.1	32.4	31.9	32.9	32.3	32.0	**30.1**	-6.0%	2.6%	0.6%
Brazil	112.6	112.9	122.8	128.4	131.3	140.3	145.7	140.6	132.7	136.1	**135.9**	-0.1%	2.6%	2.9%
Chile	19.2	18.7	16.6	18.1	18.1	17.5	17.0	17.1	18.2	17.7	**18.1**	2.7%	-0.4%	0.4%
Colombia	12.0	11.0	12.3	13.2	14.3	14.4	15.3	16.2	16.8	16.5	**16.6**	0.7%	4.0%	0.4%
Ecuador	9.1	9.2	10.7	10.9	11.3	12.0	12.7	12.3	11.5	11.3	**12.2**	8.2%	2.5%	0.3%
Peru	8.4	8.7	9.1	10.5	10.2	10.7	10.5	11.6	12.2	12.0	**12.4**	3.2%	4.7%	0.3%
Trinidad & Tobago	2.3	2.2	2.3	2.1	2.0	2.3	2.1	2.3	2.4	2.1	**2.1**	-0.9%	-0.1%	◆
Venezuela	34.9	35.3	35.2	35.7	38.5	38.0	34.9	30.7	25.9	22.1	**19.5**	-11.9%	-3.2%	0.4%
Other S. & Cent. America	63.9	62.2	62.9	64.0	63.0	61.2	61.9	64.8	67.1	67.4	**68.3**	1.4%	0.4%	1.5%
Total S. & Cent. America	287.9	285.3	300.4	311.9	318.9	328.8	331.9	328.5	319.1	317.2	**315.3**	-0.6%	1.5%	6.8%
Austria	13.7	13.2	13.7	12.8	12.7	12.9	12.6	12.6	12.9	13.1	**13.4**	2.4%	-0.5%	0.3%
Belgium	36.9	33.4	34.8	32.5	31.5	32.3	32.0	32.9	33.7	33.7	**34.1**	1.0%	-0.4%	0.7%
Czech Republic	10.2	10.0	9.5	9.7	9.5	9.1	9.7	9.5	8.9	10.4	**10.6**	2.4%	0.3%	0.2%
Finland	11.0	10.4	10.9	10.3	9.9	10.4	10.0	10.0	10.5	10.3	**10.7**	4.8%	-0.8%	0.2%
France	93.8	90.3	87.3	85.4	83.0	82.0	79.6	79.2	78.7	79.1	**78.9**	-0.2%	-1.8%	1.7%
Germany	123.7	118.7	119.5	115.8	115.3	117.5	114.5	114.2	116.5	119.0	**113.2**	-4.9%	0.1%	2.4%
Greece	22.2	21.0	19.1	18.0	16.0	15.0	14.9	15.4	15.4	16.0	**16.0**	-0.1%	-3.7%	0.3%
Hungary	7.8	7.4	7.0	7.3	6.8	6.7	7.5	7.9	7.8	8.3	**8.8**	6.3%	0.3%	0.2%
Italy	82.5	77.2	75.3	72.6	67.8	61.9	58.5	61.1	61.6	62.0	**60.8**	-2.0%	-3.2%	1.3%
Netherlands	48.0	46.0	46.7	47.3	45.0	42.7	40.8	39.8	41.0	39.6	**40.9**	3.2%	-2.4%	0.9%
Norway	10.2	10.3	10.6	10.5	10.5	10.6	10.0	10.2	9.9	10.1	**10.4**	3.6%	-0.3%	0.2%
Poland	27.2	27.1	28.5	28.4	27.5	25.6	25.7	26.7	29.1	31.7	**32.8**	3.6%	2.0%	0.7%
Portugal	14.4	13.4	13.3	12.5	11.3	11.7	11.6	11.9	11.7	12.0	**11.5**	-3.4%	-2.2%	0.2%
Romania	10.5	9.5	9.0	9.3	9.3	8.5	9.1	9.3	9.8	10.3	**10.2**	-0.2%	-0.3%	0.2%
Spain	78.7	74.1	72.7	69.6	65.5	60.5	60.3	62.2	64.5	65.0	**66.6**	2.6%	-2.2%	1.4%
Sweden	16.6	15.9	16.1	15.0	14.9	14.7	14.6	14.5	15.3	15.4	**14.8**	-3.6%	-1.3%	0.3%
Switzerland	12.6	12.8	11.9	11.5	11.7	12.3	11.0	11.2	10.6	10.9	**10.5**	-3.3%	-0.8%	0.2%
Turkey	33.1	33.6	32.8	32.1	33.8	36.5	37.2	44.0	47.4	49.2	**48.6**	-1.2%	3.9%	1.0%
Ukraine	14.7	14.0	13.1	13.6	13.1	12.4	10.7	9.4	9.9	9.9	**9.6**	-3.6%	-4.0%	0.2%
United Kingdom	83.4	79.8	79.0	76.7	74.5	73.4	73.5	75.3	77.5	78.0	**77.0**	-1.2%	-0.8%	1.7%
Other Europe	65.9	61.7	61.0	59.5	57.3	56.1	56.0	58.4	60.7	62.5	**62.4**	-0.1%	-0.6%	1.3%
Total Europe	817.1	779.8	771.5	750.6	727.0	712.8	699.7	715.7	733.3	746.2	**742.0**	-0.6%	-1.0%	15.9%
Azerbaijan	3.7	3.5	3.4	4.2	4.4	4.8	4.7	4.7	4.7	4.7	**4.6**	-2.1%	0.3%	0.1%
Belarus	8.0	9.3	7.5	8.5	10.4	7.2	8.2	7.0	6.9	6.7	**6.8**	1.1%	-1.8%	0.1%
Kazakhstan	11.9	9.6	10.2	11.9	12.0	12.6	12.6	14.1	14.5	15.0	**16.4**	9.5%	2.3%	0.4%
Russian Federation	138.1	132.5	137.9	147.0	149.6	149.5	157.4	149.4	153.1	151.5	**152.3**	0.5%	1.2%	3.3%
Turkmenistan	5.4	5.2	5.7	6.0	6.2	6.4	6.7	6.8	6.7	6.9	**7.1**	2.8%	2.7%	0.2%
Uzbekistan	4.7	4.4	3.7	3.5	3.1	3.0	2.8	2.6	2.4	2.7	**2.6**	-3.9%	-5.3%	0.1%
Other CIS	2.9	3.1	3.1	3.2	3.5	3.7	3.6	3.7	4.0	3.6	**3.7**	3.1%	2.6%	0.1%
Total CIS	174.7	167.5	171.6	184.4	189.3	187.1	196.0	188.2	192.3	191.1	**193.5**	1.3%	1.1%	4.2%
Iran	94.7	93.9	85.6	89.3	90.7	99.9	93.9	85.6	81.8	84.5	**86.2**	2.0%	-0.7%	1.8%
Iraq	23.0	26.1	27.8	30.5	32.6	34.9	33.1	33.2	37.0	35.6	**38.4**	7.7%	4.4%	0.8%
Israel	12.3	11.1	11.5	12.2	14.3	10.6	10.1	10.7	10.9	11.7	**11.5**	-1.7%	-0.8%	0.2%
Kuwait	19.4	20.9	21.5	19.9	22.3	23.2	19.9	20.8	20.5	20.4	**20.0**	-1.9%	1.2%	0.4%
Oman	6.0	5.8	6.6	6.9	7.5	8.7	8.9	9.0	9.2	9.2	**9.2**	-0.4%	7.6%	0.2%
Qatar	6.8	6.5	7.0	8.8	9.0	10.2	10.7	11.7	12.8	11.8	**12.2**	3.5%	7.6%	0.3%
Saudi Arabia	118.6	130.2	141.3	144.4	151.8	152.2	167.0	173.5	171.5	168.8	**162.6**	-3.6%	4.5%	3.5%
United Arab Emirates	30.8	30.2	32.2	34.9	36.4	40.3	40.8	43.8	46.6	43.8	**45.1**	2.9%	4.1%	1.0%
Other Middle East	39.5	38.2	35.5	34.6	32.1	30.8	30.8	28.3	27.0	26.6	**26.8**	0.8%	-3.6%	0.6%
Total Middle East	351.1	362.8	368.9	381.5	396.8	410.8	415.2	416.6	417.4	412.5	**412.1**	-0.1%	2.2%	8.8%
Algeria	14.6	15.5	15.5	16.5	17.6	18.4	19.1	20.3	19.7	19.4	**19.6**	1.2%	3.7%	0.4%
Egypt	33.6	35.4	37.4	34.8	36.5	36.9	39.5	41.1	42.1	39.2	**36.7**	-6.4%	2.3%	0.8%
Morocco	11.0	11.1	12.3	13.2	13.3	13.4	12.8	12.5	12.8	13.5	**13.2**	-2.5%	3.1%	0.3%
South Africa	25.3	25.0	26.6	26.7	27.4	27.7	27.5	28.6	27.5	27.5	**26.3**	-4.5%	0.3%	0.6%
Other Africa	72.0	75.1	78.1	74.0	79.9	84.1	84.9	85.4	86.8	92.4	**95.5**	3.3%	3.3%	2.0%
Total Africa	156.5	162.2	169.9	165.3	174.5	180.4	183.7	187.9	189.0	192.1	**191.3**	-0.4%	2.6%	4.1%
Australia	45.2	45.4	45.6	48.2	49.6	49.9	50.6	48.5	50.3	51.1	**53.3**	4.4%	1.4%	1.1%
Bangladesh	3.9	3.6	4.1	5.2	5.6	5.5	6.1	6.5	7.1	7.9	**9.0**	14.6%	7.4%	0.2%
China	384.7	400.6	455.5	472.4	495.3	517.3	539.3	573.3	587.0	610.7	**641.2**	5.0%	4.9%	13.8%
China Hong Kong SAR	14.9	16.9	18.3	18.4	17.6	18.0	17.1	18.7	19.4	21.9	**22.2**	1.3%	2.9%	0.5%
India	149.3	157.0	160.6	168.3	178.3	179.5	184.7	199.8	219.5	227.1	**239.1**	5.3%	4.8%	5.1%
Indonesia	62.6	63.5	67.6	76.0	78.4	79.5	80.7	73.8	76.4	79.3	**83.4**	5.2%	2.1%	1.8%
Japan	232.4	208.2	210.5	211.0	224.9	214.7	204.0	196.5	191.0	187.8	**182.4**	-2.9%	-2.4%	3.9%
Malaysia	31.0	30.8	30.9	33.0	34.6	36.8	36.5	36.2	36.4	36.0	**36.9**	2.6%	1.1%	0.8%
New Zealand	7.5	7.2	7.3	7.3	7.2	7.4	7.5	7.8	7.9	8.5	**8.4**	-1.3%	1.4%	0.2%
Pakistan	19.8	21.2	21.0	21.1	20.5	22.4	23.2	25.3	28.3	29.2	**24.3**	-16.6%	4.1%	0.5%
Philippines	13.8	14.5	15.2	14.4	15.0	15.8	16.7	19.1	20.5	21.7	**22.0**	1.0%	4.2%	0.5%
Singapore	51.7	55.8	61.3	64.0	63.8	64.6	66.3	70.0	72.9	74.8	**75.8**	1.4%	4.4%	1.6%
South Korea	108.1	109.0	110.5	111.4	114.7	114.3	114.1	120.2	129.3	130.0	**128.9**	-0.8%	1.4%	2.8%
Sri Lanka	4.1	4.3	4.3	4.6	4.7	4.0	3.5	4.3	5.1	5.4	**5.3**	-1.6%	1.9%	0.1%
Taiwan	47.8	48.0	49.0	44.5	44.5	45.5	47.1	47.5	48.7	50.1	**50.0**	-0.1%	-0.6%	1.1%
Thailand	46.4	48.6	50.2	52.4	55.1	57.2	57.6	60.2	62.5	64.4	**65.8**	2.2%	3.1%	1.4%
Vietnam	14.6	14.8	16.0	17.4	17.6	19.0	19.5	21.2	22.5	23.6	**24.9**	5.1%	5.5%	0.5%
Other Asia Pacific	12.4	13.2	14.0	14.9	16.2	17.8	19.0	20.0	21.3	21.9	**22.5**	2.8%	5.8%	0.5%
Total Asia Pacific	1250.2	1262.6	1341.7	1384.7	1443.6	1469.1	1493.4	1548.9	1606.2	1651.3	**1695.4**	2.7%	2.8%	36.4%
Total World	**4142.9**	**4073.4**	**4201.9**	**4245.7**	**4297.8**	**4350.3**	**4385.3**	**4465.8**	**4548.3**	**4607.0**	**4662.1**	**1.2%**	**1.0%**	**100.0%**
of which: OECD	2288.9	2177.5	2198.5	2172.9	2151.9	2139.3	2120.1	2147.8	2180.5	2196.5	**2204.8**	0.4%	-0.7%	47.3%
Non-OECD	1853.9	1896.0	2003.4	2072.8	2145.8	2211.0	2265.3	2317.9	2367.7	2410.5	**2457.3**	1.9%	3.0%	52.7%
European Union	730.5	693.2	687.5	667.2	643.1	626.4	616.3	625.7	639.0	649.5	**646.8**	-0.4%	-1.2%	13.9%

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

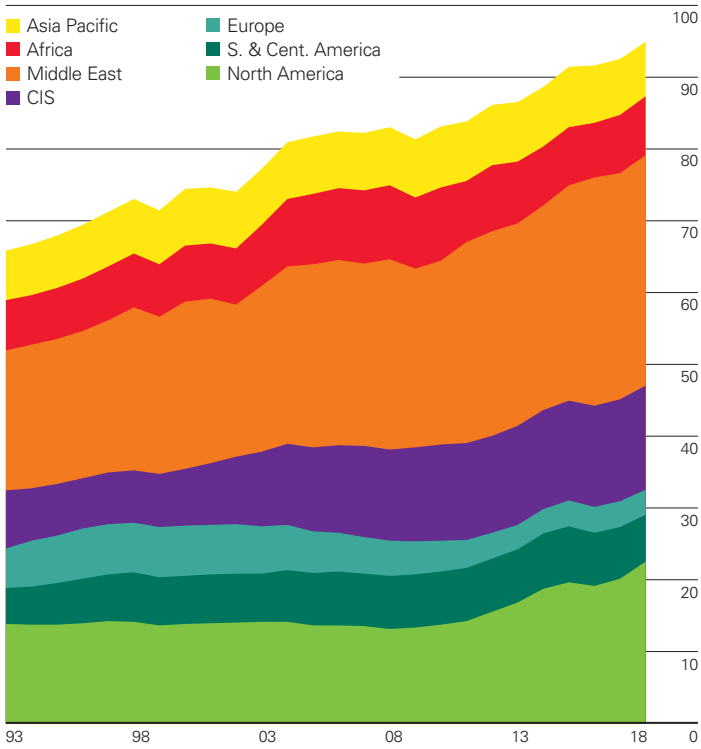
◆Less than 0.05%.

Notes: Differences between these world consumption figures and world production statistics are accounted for by stock changes, consumption of non-petroleum additives and substitute fuels, and unavoidable disparities in the definition, measurement or conversion of oil supply and demand data.

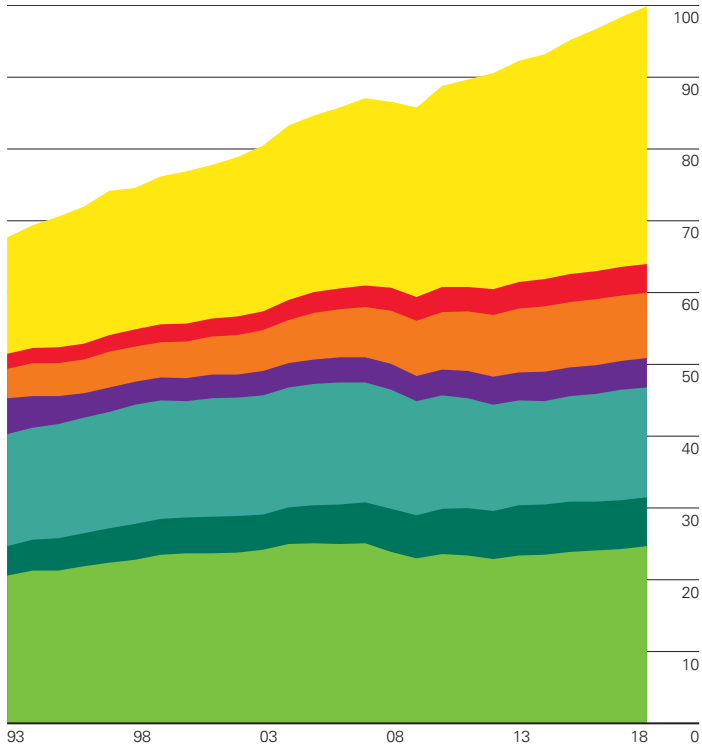
Annual changes and shares of total are calculated using million tonnes oil equivalent figures.

Oil consumption data expressed in million tonnes is available at *bp.com/statisticalreview.*

Oil: Production by region
Million barrels daily

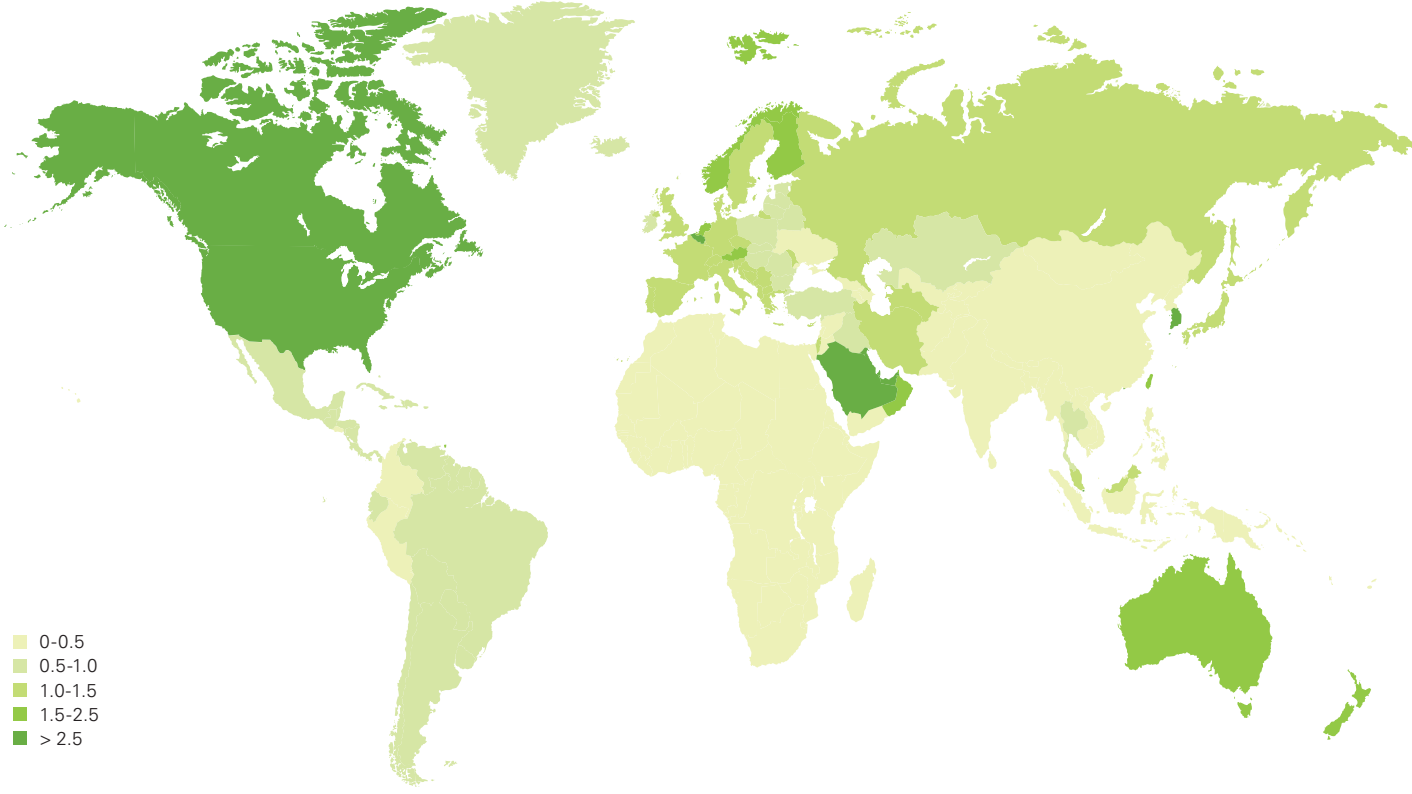


Oil: Consumption by region
Million barrels daily



Global oil production increased by 2.2 million b/d in 2018. Growth was heavily concentrated in the US (2.2 million b/d), Canada (410,000 b/d) and Saudi Arabia (390,000 b/d) while oil production declined sharply in Venezuela (-580,000 b/d) and Iran (-310,000 b/d). OPEC production declined by 330,000 b/d while non-OPEC production increased by 2.6 million b/d. Oil consumption in 2018 grew by an above average 1.4 million b/d. China (680,000 b/d) and the US (500,000 b/d) accounted for the majority of this year's growth.

Oil: Consumption per capita 2018
Tonnes



Oil: Regional consumption – by product group

Thousand barrels daily	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
North America														
Light distillates	10859	10839	10950	10697	10572	10778	10841	11092	11287	11229	**11195**	-0.3%	◆	45.3%
Middle distillates	6934	6281	6567	6694	6409	6519	6792	6814	6757	6927	**7212**	4.1%	-0.5%	29.2%
Fuel oil	941	801	810	745	662	576	447	418	474	519	**498**	-4.1%	-7.1%	2.0%
Others	5160	5080	5251	5248	5306	5520	5427	5547	5567	5613	**5810**	3.5%	0.1%	23.5%
Total North America	23894	23001	23578	23383	22949	23393	23507	23871	24086	24289	**24714**	1.8%	-0.3%	100.0%
of which: US														
Light distillates	9253	9257	9263	9022	8932	9125	9164	9413	9547	9566	**9556**	-0.1%	◆	46.7%
Middle distillates	5801	5241	5464	5518	5278	5371	5632	5657	5603	5742	**5961**	3.8%	-0.8%	29.1%
Fuel oil	609	508	532	459	367	317	256	258	325	341	**321**	-5.9%	-7.2%	1.6%
Others	3827	3766	3921	3883	3913	4147	4054	4203	4212	4309	**4618**	7.2%	0.3%	22.6%
Total US	19490	18771	19180	18882	18490	18961	19106	19531	19687	19958	**20456**	2.5%	-0.4%	100.0%
S. & Cent. America														
Light distillates	1678	1768	1868	1946	1989	2091	2152	2212	2184	2246	**2245**	◆	3.5%	33.0%
Middle distillates	2178	2144	2367	2485	2602	2725	2744	2726	2645	2640	**2679**	1.4%	2.2%	39.4%
Fuel oil	833	783	763	739	739	712	736	724	665	610	**582**	-4.6%	-2.7%	8.6%
Others	1352	1320	1336	1409	1385	1435	1403	1339	1298	1302	**1290**	-1.0%	0.6%	19.0%
Total S. & Cent. America	6041	6016	6335	6579	6715	6964	7034	7001	6792	6798	**6795**	◆	1.7%	100.0%
Europe														
Light distillates	3648	3585	3533	3323	3173	3083	3010	2937	2948	2985	**2955**	-1.0%	-2.6%	19.3%
Middle distillates	8060	7767	7869	7749	7624	7684	7636	7987	8144	8404	**8399**	-0.1%	0.7%	55.0%
Fuel oil	1633	1481	1338	1291	1166	1041	969	923	965	967	**953**	-1.5%	-5.5%	6.2%
Others	3217	3044	3012	2958	2864	2823	2775	2866	2976	2995	**2970**	-0.9%	-0.8%	19.4%
Total Europe	16558	15876	15752	15321	14826	14631	14389	14713	15032	15351	**15276**	-0.5%	-0.8%	100.0%
CIS														
Light distillates	1118	1104	1161	1172	1204	1246	1254	1245	1246	1268	**1292**	1.9%	1.8%	31.5%
Middle distillates	1152	1051	1149	1250	1256	1244	1221	1173	1195	1248	**1326**	6.3%	1.4%	32.4%
Fuel oil	376	343	336	358	354	363	432	346	365	311	**330**	6.1%	-2.6%	8.0%
Others	957	989	921	1058	1121	1062	1192	1191	1228	1206	**1151**	-4.6%	2.1%	28.1%
Total CIS	3602	3486	3567	3838	3935	3914	4099	3955	4034	4033	**4099**	1.6%	1.3%	100.0%
Middle East														
Light distillates	1565	1627	1665	1757	1838	1911	1981	2026	2067	2181	**2239**	2.6%	4.1%	24.5%
Middle distillates	2303	2301	2279	2411	2497	2631	2537	2465	2371	2301	**2272**	-1.3%	0.2%	24.9%
Fuel oil	1747	1901	1937	1989	2021	2120	2164	2206	2094	1975	**1920**	-2.8%	2.3%	21.0%
Others	1772	1898	2093	2144	2275	2248	2370	2402	2639	2681	**2705**	0.9%	4.8%	29.6%
Total Middle East	7386	7727	7974	8301	8631	8910	9053	9099	9172	9138	**9136**	◆	2.7%	100.0%
Africa														
Light distillates	761	802	838	819	872	886	906	970	1029	1078	**1097**	1.7%	4.4%	27.7%
Middle distillates	1460	1514	1616	1611	1682	1797	1836	1865	1843	1896	**1922**	1.4%	3.2%	48.6%
Fuel oil	435	446	461	395	438	433	435	422	403	380	**320**	-15.9%	-1.1%	8.1%
Others	542	561	567	572	582	589	593	599	603	607	**621**	2.2%	1.4%	15.7%
Total Africa	3198	3322	3481	3398	3574	3705	3770	3857	3878	3962	**3959**	-0.1%	2.7%	100.0%
Asia Pacific														
Light distillates	7424	7711	8331	8537	8966	9489	9780	10571	10944	11251	**11636**	3.4%	4.3%	32.4%
Middle distillates	9394	9403	9926	10341	10800	11021	11146	11339	11585	11925	**12268**	2.9%	2.5%	34.2%
Fuel oil	3360	3043	3046	3113	3218	2983	2823	2805	2852	2791	**2646**	-5.2%	-2.5%	7.4%
Others	5762	6194	6740	6951	7110	7265	7594	7836	8362	8868	**9313**	5.0%	4.3%	26.0%
Total Asia Pacific	25940	26351	28043	28942	30094	30759	31343	32551	33743	34835	**35863**	3.0%	2.9%	100.0%
of which: China														
Light distillates	1941	2055	2416	2605	2787	3117	3338	3781	3952	4072	**4368**	7.3%	8.4%	32.3%
Middle distillates	3085	3134	3452	3667	3963	4070	4130	4206	4154	4287	**4386**	2.3%	4.1%	32.4%
Fuel oil	724	662	666	588	560	564	592	591	556	576	**587**	1.8%	-4.4%	4.3%
Others	2164	2443	2912	2948	2932	2998	3179	3408	3642	3906	**4185**	7.1%	5.9%	30.9%
Total China	7914	8295	9446	9808	10242	10750	11239	11986	12304	12840	**13525**	5.3%	5.1%	100.0%
of which: India														
Light distillates	581	569	573	607	644	665	688	797	868	887	**976**	10.1%	4.9%	18.9%
Middle distillates	1350	1439	1519	1601	1686	1685	1694	1774	1848	1879	**1955**	4.0%	4.1%	37.9%
Fuel oil	226	222	199	178	147	117	107	113	136	122	**118**	-3.0%	-6.2%	2.3%
Others	981	1070	1089	1163	1271	1322	1425	1560	1802	1982	**2106**	6.3%	7.4%	40.9%
Total India	3137	3300	3381	3550	3747	3789	3914	4245	4654	4870	**5156**	5.9%	5.0%	100.0%
of which: Japan														
Light distillates	1614	1634	1696	1635	1614	1631	1575	1621	1570	1578	**1518**	-3.8%	-0.9%	39.4%
Middle distillates	1502	1381	1391	1343	1361	1345	1319	1281	1291	1296	**1280**	-1.2%	-2.2%	33.2%
Fuel oil	707	450	442	577	824	646	532	433	371	284	**269**	-5.6%	-8.0%	7.0%
Others	1025	925	913	887	903	895	876	816	788	817	**787**	-3.7%	-2.0%	20.4%
Total Japan	4847	4390	4442	4442	4702	4516	4303	4151	4019	3975	**3854**	-3.1%	-2.3%	100.0%
World														
Light distillates	27053	27435	28346	28252	28614	29484	29923	31052	31705	32237	**32658**	1.3%	1.7%	32.7%
Middle distillates	31480	30462	31772	32542	32869	33620	33912	34370	34540	35342	**36078**	2.1%	1.2%	36.1%
Fuel oil	9324	8797	8691	8630	8598	8230	8006	7844	7820	7554	**7249**	-4.0%	-2.3%	7.3%
Others	18761	19086	19920	20340	20643	20942	21354	21781	22674	23272	**23859**	2.5%	2.0%	23.9%
Total World	**86619**	**85780**	**88730**	**89763**	**90724**	**92276**	**93194**	**95048**	**96737**	**98406**	**99843**	**1.5%**	**1.2%**	**100.0%**
OECD														
Light distillates	17388	17390	17568	17115	16919	17058	17052	17353	17561	17645	**17502**	-0.8%	-0.3%	36.9%
Middle distillates	17373	16301	16727	16720	16389	16562	16775	17175	17343	17775	**18094**	1.8%	◆	38.1%
Fuel oil	3528	2921	2786	2791	2846	2444	2091	1922	1984	1903	**1857**	-2.4%	-6.5%	3.9%
Others	9898	9605	9695	9626	9597	9718	9536	9636	9801	9875	**10014**	1.4%	-0.4%	21.1%
Total OECD	48187	46217	46776	46253	45752	45782	45455	46086	46688	47199	**47466**	0.6%	-0.5%	100.0%
Non-OECD														
Light distillates	9665	10045	10779	11136	11695	12425	12871	13699	14144	14592	**15156**	3.9%	4.8%	28.9%
Middle distillates	14108	14161	15045	15821	16480	17058	17136	17195	17197	17567	**17984**	2.4%	2.6%	34.3%
Fuel oil	5797	5877	5905	5839	5752	5786	5915	5922	5836	5651	**5392**	-4.6%	-0.3%	10.3%
Others	8863	9481	10225	10714	11046	11225	11817	12145	12872	13397	**13845**	3.3%	4.3%	26.4%
Total Non-OECD	38432	39563	41954	43510	44973	46494	47739	48961	50049	51206	**52377**	2.3%	3.2%	100.0%

◆Less than 0.05%.

Notes: 'Light distillates' consists of aviation and motor gasolines and light distillate feedstock (LDF).
'Middle distillates' consists of jet and heating kerosenes, and gas and diesel oils (including marine bunkers).
'Fuel oil' includes marine bunkers and crude oil used directly as fuel.
'Others' consists of refinery gas, liquefied petroleum gas (LPG), solvents, petroleum coke, lubricants, bitumen, wax, other refined products and refinery fuel and loss.
Annual changes and shares of total are calculated using thousand barrels daily figures
An extended breakdown of oil consumption by product group is available at *bp.com/statisticalreview.*

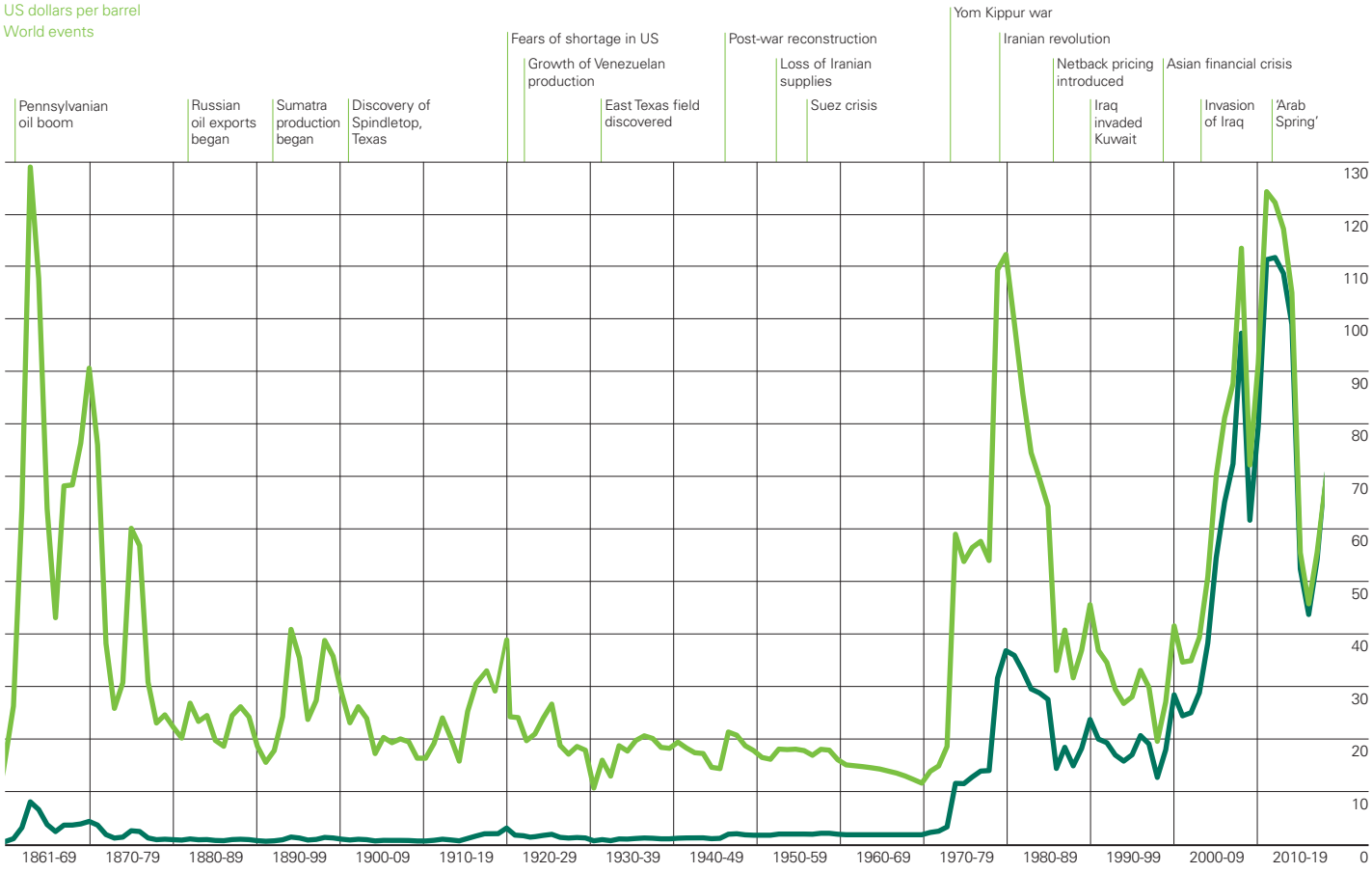
Spot crude prices

US dollars per barrel	Dubai $/bbl*	Brent $/bbl†	Nigerian Forcados $/bbl	West Texas Intermediate $/bbl‡
1983	28.78	29.55	29.54	30.30
1984	28.06	28.78	28.14	29.39
1985	27.53	27.56	27.75	27.98
1986	13.10	14.43	14.46	15.05
1987	16.95	18.44	18.39	19.19
1988	13.18	14.92	15.00	15.98
1989	15.65	18.23	18.30	19.67
1990	20.26	23.73	23.85	24.46
1991	16.63	20.00	20.11	21.53
1992	17.17	19.32	19.61	20.57
1993	14.93	16.97	17.41	18.45
1994	14.74	15.82	16.25	17.21
1995	16.10	17.02	17.26	18.42
1996	18.52	20.67	21.16	22.16
1997	18.23	19.09	19.33	20.61
1998	12.21	12.72	12.62	14.39
1999	17.25	17.97	18.00	19.31
2000	26.20	28.50	28.42	30.37
2001	22.81	24.44	24.23	25.93
2002	23.74	25.02	25.04	26.16
2003	26.78	28.83	28.66	31.06
2004	33.64	38.27	38.13	41.49
2005	49.35	54.52	55.69	56.59
2006	61.50	65.14	67.07	66.04
2007	68.19	72.39	74.48	72.20
2008	94.34	97.26	101.43	100.06
2009	61.39	61.67	63.35	61.92
2010	78.06	79.50	81.05	79.45
2011	106.18	111.26	113.65	95.04
2012	109.08	111.67	114.21	94.13
2013	105.47	108.66	111.95	97.99
2014	97.07	98.95	101.35	93.28
2015	51.20	52.39	54.41	48.71
2016	41.19	43.73	44.54	43.34
2017	53.13	54.19	54.31	50.79
2018	69.51	71.31	72.47	65.20

*1983-1985 Arabian Light, 1986-2018 Dubai dated.
†1983 Forties, 1984-2018 Brent dated.
‡1983 Posted WTI prices, 1984-2018 Spot WTI (Cushing) prices.

Source: S&P Global Platts, © 2019, S&P Global Inc.

Crude oil prices 1861-2018

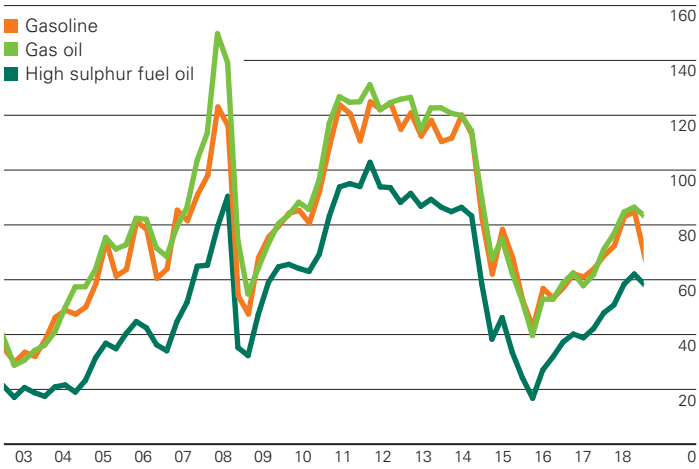


■ $ 2018 (deflated using the Consumer Price Index for the US)
■ $ money of the day

1861-1944 US average.
1945-1983 Arabian Light posted at Ras Tanura.
1984-2018 Brent dated.

Oil product prices (Rotterdam)

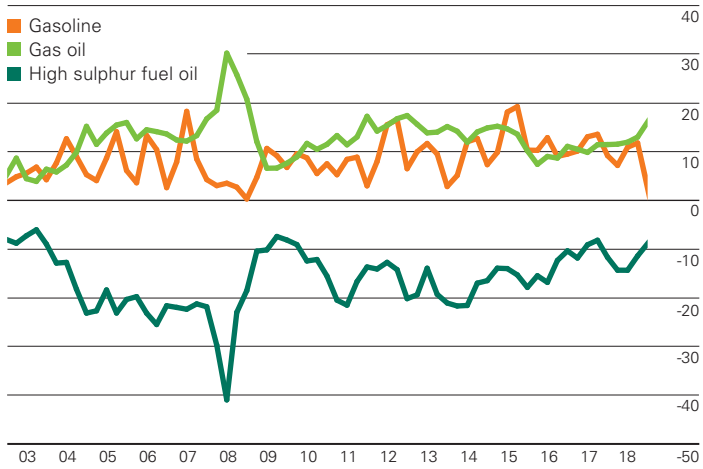
US dollars per barrel



Source: S&P Global Platts, © 2019, S&P Global Inc.

Product differentials to crude (Rotterdam products minus Dated Brent)

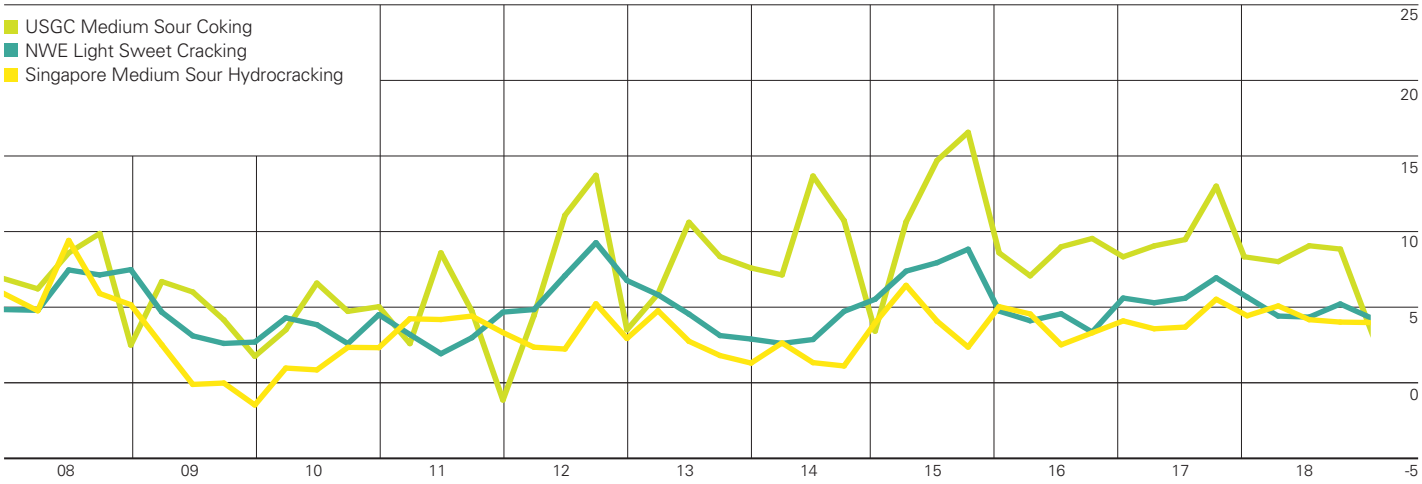
US dollars per barrel



Source: S&P Global Platts, © 2019, S&P Global Inc.

Regional refining margins

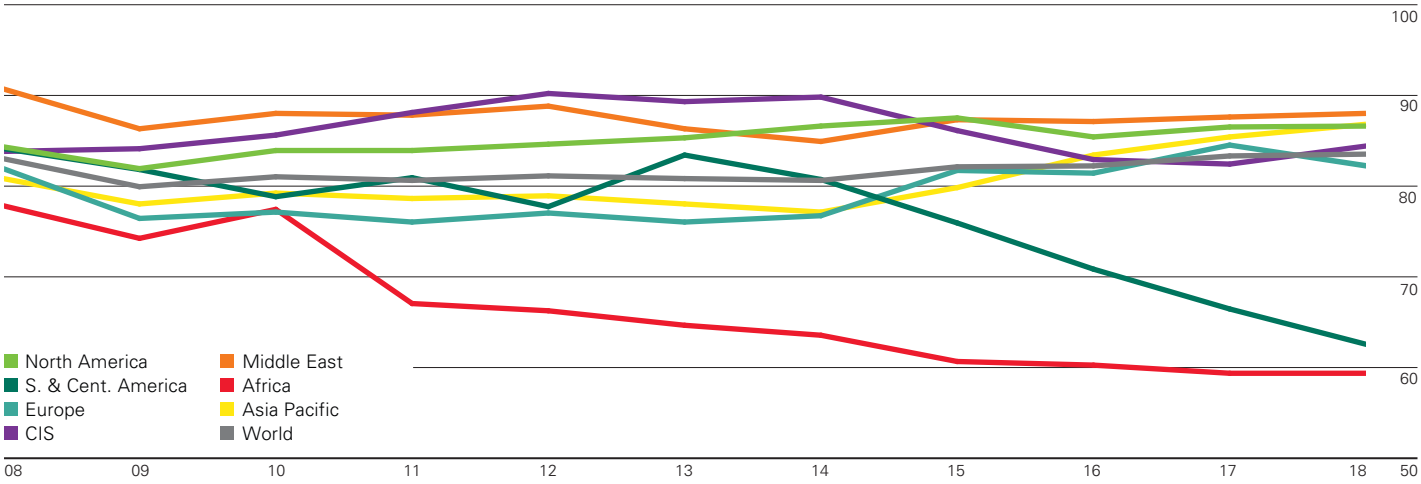
US dollars per barrel



Note: 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 optimized 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, ie the margin after all variable costs and fixed energy costs.

Refinery utilization

Percentage (based on average annual capacity)



Refinery throughput increased by 960,000 b/d in 2018, less than in 2017 (1.5 million b/d) in part due to record growth in the production of non-refined liquids (such as natural gas liquids). Throughput increased significantly in China (780,000 b/d) and the US (380,000 b/d) while it declined sharply in Venezuela (-240,000 b/d). Global refining capacity ended the year up 1.4 million b/d, the strongest growth since 2009, with two thirds of growth in Asia. Average world refinery utilization increased to 83.5% in 2018, the highest since 2007, despite South & Central American utilization falling to 62.5%, its lowest on record.

Oil: Refinery throughput

Thousand barrels daily*	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	1781	1731	1770	1681	1753	1769	1559	1640	1595	1756	**1656**	-5.7%	-0.5%	2.0%
Mexico	1295	1184	1184	1166	1199	1223	1155	1064	933	767	**609**	-20.6%	-4.9%	0.7%
US	14648	14336	14724	14799	14997	15306	15844	16183	16185	16581	**16962**	2.3%	0.9%	20.4%
Total North America	17724	17251	17678	17646	17949	18298	18557	18887	18713	19104	**19227**	0.6%	0.4%	23.2%
Argentina	578	532	531	516	530	527	526	536	511	500	**470**	-5.9%	-1.8%	0.6%
Brazil	1760	1781	1787	1813	1889	2035	2085	1972	1812	1741	**1733**	-0.5%	◆	2.1%
Chile	204	192	159	173	164	174	174	165	163	172	**172**	-0.2%	-1.5%	0.2%
Colombia	313	302	300	306	305	284	247	244	339	355	**382**	7.6%	1.3%	0.5%
Curacao	197	183	64	164	165	170	189	178	156	84	**29**	-66.0%	-8.7%	◆
Ecuador	155	156	137	156	152	141	125	121	150	156	**159**	2.1%	0.4%	0.2%
Peru	174	199	201	193	190	186	188	188	194	213	**209**	-2.0%	1.9%	0.3%
Trinidad & Tobago	150	152	126	137	107	132	105	125	148	131	**99**	-24.5%	-1.6%	0.1%
Venezuela	1010	961	969	991	936	952	920	863	654	544	**306**	-43.7%	-5.9%	0.4%
Other S. & Cent. America	961	801	702	711	329	293	282	279	274	235	**254**	8.0%	-13.2%	0.3%
Total S. & Cent. America	5502	5258	4976	5160	4767	4895	4841	4670	4402	4132	**3813**	-7.7%	-2.8%	4.6%
Austria	176	169	158	168	170	174	173	179	164	162	**180**	11.0%	-0.7%	0.2%
Belgium	675	629	668	598	634	555	645	644	640	685	**663**	-3.1%	0.3%	0.8%
Bulgaria	143	125	110	102	118	113	104	121	125	136	**118**	-13.1%	-0.4%	0.1%
Czech Republic	165	148	159	143	145	134	151	145	109	158	**151**	-4.5%	0.6%	0.2%
Denmark	156	157	146	137	153	144	139	147	140	151	**152**	1.0%	-0.4%	0.2%
Finland	222	220	211	225	215	227	225	197	226	226	**233**	3.0%	0.4%	0.3%
France	1676	1449	1314	1313	1138	1117	1096	1152	1122	1149	**1086**	-5.5%	-3.6%	1.3%
Germany	2151	2026	1915	1876	1901	1857	1833	1875	1887	1870	**1775**	-5.1%	-1.6%	2.1%
Greece	360	346	393	331	410	399	416	436	464	483	**489**	1.2%	2.3%	0.6%
Hungary	140	127	128	132	122	120	131	130	133	131	**141**	8.0%	-0.8%	0.2%
Italy	1741	1614	1673	1570	1475	1259	1198	1347	1293	1399	**1346**	-3.8%	-2.8%	1.6%
Lithuania	195	174	190	189	181	192	160	170	187	197	**195**	-1.3%	5.2%	0.2%
Netherlands	1120	1104	1156	1115	1110	1065	1090	1157	1172	1180	**1192**	1.0%	0.4%	1.4%
Norway	279	278	259	289	287	292	274	293	230	281	**286**	1.7%	-0.8%	0.3%
Poland	417	408	458	482	505	488	486	532	517	508	**540**	6.3%	2.4%	0.7%
Portugal	241	209	227	206	221	239	217	278	279	284	**251**	-11.7%	1.4%	0.3%
Romania	282	247	217	194	182	189	194	208	228	225	**232**	2.8%	-2.1%	0.3%
Slovakia	117	114	110	120	108	116	105	119	115	112	**109**	-2.3%	-0.7%	0.1%
Spain	1174	1057	1060	1051	1186	1168	1185	1306	1302	1326	**1365**	2.9%	1.4%	1.6%
Sweden	413	394	406	374	417	332	380	401	395	392	**406**	3.6%	0.6%	0.5%
Turkey	490	375	392	394	398	421	406	526	531	542	**478**	-11.7%	0.4%	0.6%
Ukraine	243	255	249	206	108	85	69	64	64	77	**60**	-21.5%	-12.1%	0.1%
United Kingdom	1533	1440	1395	1433	1348	1197	1125	1118	1071	1073	**1054**	-1.8%	-3.5%	1.3%
Other Europe	343	349	334	304	262	291	281	265	270	287	**285**	-0.7%	-2.2%	0.3%
Total Europe	14454	13414	13327	12953	12793	12173	12082	12810	12665	13033	**12786**	-1.9%	-1.1%	15.4%
Azerbaijan	147	121	124	127	124	132	135	130	120	118	**125**	6.2%	-2.4%	0.2%
Belarus	427	434	330	411	434	425	448	462	372	364	**376**	3.3%	-1.6%	0.5%
Kazakhstan	236	235	257	326	331	341	361	342	339	355	**374**	5.4%	4.5%	0.5%
Russian Federation	4742	4765	5018	5185	5438	5636	5926	5773	5715	5703	**5833**	2.3%	2.2%	7.0%
Turkmenistan	148	152	170	164	156	146	136	127	118	125	**117**	-5.8%	-1.5%	0.1%
Uzbekistan	93	88	73	69	62	61	50	57	57	58	**70**	19.2%	-4.8%	0.1%
Other CIS	3	3	3	3	2	2	4	7	8	9	**10**	15.9%	10.6%	◆
Total CIS	5797	5798	5975	6286	6548	6742	7060	6899	6730	6732	**6905**	2.6%	1.8%	8.3%
Bahrain	257	256	265	259	263	264	257	266	258	262	**261**	-0.2%	◆	0.3%
Iran	1779	1826	1829	1873	1932	1999	1932	1867	1882	1968	**2026**	2.9%	1.4%	2.4%
Iraq	476	417	520	543	579	598	487	409	440	527	**596**	13.2%	4.4%	0.7%
Israel	215	220	226	218	219	221	231	232	219	218	**231**	6.0%	1.4%	0.3%
Kuwait	906	869	892	852	916	873	879	905	841	686	**679**	-1.0%	-2.9%	0.8%
Oman	214	203	167	201	193	187	180	190	178	232	**282**	21.8%	12.9%	0.3%
Qatar	145	158	294	278	292	270	261	253	280	379	**397**	4.8%	9.7%	0.5%
Saudi Arabia	2018	1928	1922	1884	1953	1876	2201	2447	2753	2802	**2770**	-1.1%	3.8%	3.3%
United Arab Emirates	493	492	571	635	638	650	643	1098	1077	1008	**1044**	3.6%	6.6%	1.3%
Other Middle East	391	386	381	349	268	238	230	181	144	161	**144**	-10.7%	-8.6%	0.2%
Total Middle East	6894	6754	7067	7091	7253	7176	7301	7846	8072	8242	**8431**	2.3%	2.4%	10.2%
Algeria	429	475	548	520	478	492	615	591	584	573	**598**	4.5%	3.9%	0.7%
Egypt	617	598	580	523	534	514	530	530	509	508	**519**	2.2%	-2.5%	0.6%
Morocco	114	93	110	103	111	111	104	53	–	–	**–**	n/a	-100.0%	–
Nigeria	107	49	96	108	92	97	64	22	62	81	**44**	-46.1%	4.5%	0.1%
South Africa	408	388	389	383	403	413	431	443	464	447	**455**	1.7%	1.4%	0.5%
Other Africa	718	696	701	512	586	594	444	455	460	435	**423**	-2.7%	-5.0%	0.5%
Total Africa	2394	2299	2424	2150	2205	2220	2188	2093	2079	2044	**2039**	-0.2%	-1.4%	2.5%
Australia	570	577	606	627	600	588	538	427	433	419	**477**	13.8%	-3.8%	0.6%
China	6828	7452	8408	8686	9199	9599	10155	10684	11084	11656	**12441**	6.7%	5.9%	15.0%
India	3213	3641	3899	4085	4302	4462	4475	4561	4930	5010	**5154**	2.9%	4.9%	6.2%
Indonesia	910	900	853	880	820	822	848	836	885	885	**916**	3.4%	-0.2%	1.1%
Japan	3946	3627	3619	3410	3400	3453	3289	3258	3280	3215	**3059**	-4.8%	-2.2%	3.7%
Malaysia	560	554	470	516	575	558	553	514	574	599	**596**	-0.5%	0.7%	0.7%
New Zealand	99	95	99	108	109	105	101	109	108	108	**103**	-4.1%	1.7%	0.1%
Pakistan	226	209	190	193	192	223	232	257	242	261	**275**	5.5%	0.9%	0.3%
Philippines	184	147	181	190	170	158	168	212	216	211	**237**	12.1%	0.3%	0.3%
Singapore	1161	844	979	1035	1020	936	871	937	973	1068	**1047**	-2.0%	-0.8%	1.3%
South Korea	2365	2297	2390	2533	2582	2484	2516	2784	2928	3061	**3030**	-1.0%	2.4%	3.7%
Taiwan	900	956	876	809	897	847	850	838	861	848	**889**	4.9%	-1.6%	1.1%
Thailand	927	938	963	934	986	1056	1005	1107	1056	1093	**1131**	3.4%	1.7%	1.4%
Vietnam	10	28	121	137	130	140	121	146	145	144	**266**	85.0%	30.5%	0.3%
Other Asia Pacific	118	115	122	126	113	126	120	113	125	128	**129**	1.2%	0.7%	0.2%
Total Asia Pacific	22017	22380	23775	24267	25094	25556	25841	26783	27840	28707	**29751**	3.6%	2.7%	35.9%
Total World	**74782**	**73154**	**75222**	**75552**	**76609**	**77060**	**77870**	**79989**	**80501**	**81992**	**82953**	**1.2%**	**0.9%**	**100.0%**
of which: OECD	38532	36673	37154	36818	37096	36780	36833	37968	37758	38528	**38316**	-0.5%	-0.2%	46.2%
Non-OECD	36250	36482	38068	38735	39513	40280	41037	42021	42742	43465	**44637**	2.7%	2.1%	53.8%
European Union	13246	12307	12237	11885	11861	11202	11154	11788	11698	11980	**11808**	-1.4%	-1.0%	14.2%

*Atmospheric distillation capacity on a calendar-day basis.
◆Less than 0.05%.
n/a not available.

Source: Includes data from ICIS.

Oil: Refining capacity

Thousand barrels daily*	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	1951	1976	1913	2005	2015	1929	1929	1931	1934	1970	**2025**	2.8%	0.3%	2.0%
Mexico	1463	1463	1463	1606	1606	1606	1522	1522	1522	1546	**1546**	–	0.6%	1.5%
US	17672	17597	17736	17367	17823	17925	17967	18317	18617	18567	**18762**	1.1%	0.5%	18.8%
Total North America	21086	21036	21112	20977	21443	21460	21418	21770	22073	22082	**22333**	1.1%	0.5%	22.3%
Argentina	628	625	625	625	657	657	657	657	657	657	**580**	-11.7%	0.5%	0.6%
Brazil	1977	1992	1992	2014	2004	2097	2238	2281	2289	2285	**2285**	–	1.5%	2.3%
Chile	242	242	242	250	254	254	258	258	258	258	**258**	–	0.6%	0.3%
Colombia	326	336	336	336	336	336	336	421	421	421	**421**	–	2.7%	0.4%
Curacao	320	320	320	320	320	320	320	320	320	320	**320**	–	–	0.3%
Ecuador	175	175	175	175	175	175	175	175	175	175	**175**	–	–	0.2%
Peru	230	252	252	252	252	253	253	253	253	253	**253**	–	1.3%	0.3%
Trinidad & Tobago	165	165	165	165	165	165	165	165	165	165	**–**	-100.0%	–	◆
Venezuela	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303	**1303**	–	–	1.3%
Other S. & Cent. America	1176	900	901	1013	356	361	376	384	384	384	**384**	–	–10.7%	0.4%
Total S. & Cent. America	6542	6310	6311	6453	5822	5921	6081	6217	6225	6221	**5979**	-3.9%	–0.5%	6.0%
Austria	201	201	201	193	193	193	193	193	193	193	**193**	–	-0.4%	0.2%
Belgium	786	786	787	788	753	776	776	776	776	776	**776**	–	-0.1%	0.8%
Bulgaria	175	180	195	195	195	195	195	195	195	195	**195**	–	1.1%	0.2%
Czech Republic	193	193	193	193	175	175	175	175	175	175	**175**	–	-1.0%	0.2%
Denmark	189	189	189	181	181	181	180	180	180	181	**181**	–	-0.4%	0.2%
Finland	261	261	261	261	261	261	261	261	261	261	**261**	–	–	0.3%
France	1971	1847	1702	1610	1513	1375	1375	1375	1245	1245	**1245**	–	-4.4%	1.2%
Germany	2366	2362	2091	2077	2097	2061	2077	2049	2051	2069	**2085**	0.8%	-1.4%	2.1%
Greece	425	425	490	495	498	498	498	528	528	528	**528**	–	2.2%	0.5%
Hungary	165	165	165	165	165	165	165	165	165	165	**165**	–	–	0.2%
Italy	2396	2396	2396	2276	2098	1861	1900	1900	1900	1900	**1900**	–	-2.2%	1.9%
Lithuania	241	241	241	241	241	241	241	241	241	241	**241**	–	–	0.2%
Netherlands	1280	1280	1274	1276	1274	1274	1274	1293	1293	1294	**1294**	–	0.5%	1.3%
Norway	316	316	316	329	342	342	342	342	342	342	**342**	–	0.8%	0.3%
Poland	492	491	560	580	582	582	582	581	581	568	**581**	2.3%	1.4%	0.6%
Portugal	306	306	306	306	330	330	330	330	330	330	**330**	–	0.7%	0.3%
Romania	358	283	247	229	214	235	228	239	256	247	**254**	3.0%	-4.5%	0.3%
Slovakia	122	122	122	122	122	122	122	122	122	122	**122**	–	–	0.1%
Spain	1362	1362	1421	1542	1546	1546	1546	1562	1562	1562	**1564**	0.1%	1.4%	1.6%
Sweden	454	454	454	454	454	454	454	454	454	454	**454**	–	–	0.5%
Turkey	613	613	613	596	596	596	596	596	596	596	**818**	37.2%	-0.3%	0.8%
Ukraine	566	582	484	484	258	272	250	250	250	250	**250**	–	-7.2%	0.2%
United Kingdom	1827	1757	1757	1787	1526	1498	1337	1337	1227	1227	**1227**	–	-3.9%	1.2%
Other Europe	613	635	635	619	607	591	591	519	519	501	**501**	–	-2.0%	0.5%
Total Europe	17679	17447	17102	17000	16220	15824	15688	15664	15443	15421	**15681**	1.7%	-1.3%	15.7%
Azerbaijan	205	205	205	205	205	205	205	205	205	205	**120**	-41.5%	–	0.1%
Belarus	460	460	460	460	460	460	460	460	460	490	**520**	6.1%	0.6%	0.5%
Kazakhstan	330	330	330	330	330	350	350	350	350	360	**390**	8.3%	0.9%	0.4%
Russian Federation	5387	5425	5563	5721	5816	6279	6417	6523	6594	6596	**6596**	–	1.9%	6.6%
Turkmenistan	251	251	251	251	251	251	251	271	271	271	**271**	–	0.8%	0.3%
Uzbekistan	232	232	232	232	232	232	232	232	232	232	**232**	–	–	0.2%
Other CIS	10	10	14	10	10	11	28	37	37	37	**37**	–	14.0%	◆
Total CIS	6875	6913	7055	7209	7304	7788	7943	8078	8149	8191	**8166**	-0.3%	1.6%	8.2%
Bahrain	260	260	260	260	260	260	260	260	260	260	**260**	–	–	0.3%
Iran	1805	1860	1860	1860	1952	1985	1985	1985	1985	2105	**2225**	5.7%	1.7%	2.2%
Iraq	738	853	914	935	971	823	791	763	779	779	**859**	10.3%	0.5%	0.9%
Israel	275	275	280	292	292	294	301	301	301	301	**301**	–	1.0%	0.3%
Kuwait	936	936	936	936	936	936	936	936	936	736	**736**	–	-2.4%	0.7%
Oman	222	222	222	222	222	222	222	222	222	304	**334**	9.9%	3.5%	0.3%
Qatar	137	283	283	283	283	283	283	283	429	429	**429**	–	12.1%	0.4%
Saudi Arabia	2102	2109	2109	2107	2107	2507	2899	2899	2901	2826	**2835**	0.3%	3.0%	2.8%
United Arab Emirates	682	702	702	707	712	712	728	1149	1149	1229	**1229**	–	7.0%	1.2%
Other Middle East	496	496	496	496	496	382	382	382	382	496	**496**	–	–	0.5%
Total Middle East	7653	7996	8062	8098	8231	8404	8787	9180	9344	9465	**9704**	2.5%	2.3%	9.7%
Algeria	444	554	554	652	652	647	651	651	651	657	**657**	–	4.0%	0.7%
Egypt	810	810	810	810	810	810	810	810	810	810	**795**	-1.9%	–	0.8%
Morocco	131	131	131	131	201	201	201	201	201	201	**201**	–	2.6%	0.2%
Nigeria	250	110	211	336	336	336	339	339	339	339	**344**	1.5%	8.5%	0.3%
South Africa	520	520	520	520	520	520	520	520	520	520	**520**	–	–	0.5%
Other Africa	958	958	959	780	910	930	932	932	932	912	**917**	0.5%	-0.5%	0.9%
Total Africa	3113	3083	3185	3229	3429	3443	3453	3453	3453	3439	**3434**	-0.1%	1.3%	3.4%
Australia	734	734	740	742	663	662	536	443	452	454	**454**	–	-4.7%	0.5%
China	10360	11334	12323	13015	13643	14503	15253	15024	14855	15231	**15655**	2.8%	4.9%	15.6%
India	2992	3574	3703	3795	4279	4319	4319	4307	4620	4699	**4972**	5.8%	4.6%	5.0%
Indonesia	1094	1099	1099	1099	1099	1099	1099	1111	1111	1111	**1116**	0.5%	0.1%	1.1%
Japan	4650	4630	4291	4274	4254	4123	3749	3721	3600	3343	**3343**	–	-3.2%	3.3%
Malaysia	568	572	582	601	606	612	612	612	618	625	**625**	–	1.6%	0.6%
New Zealand	103	136	136	136	136	136	136	136	136	136	**136**	–	2.8%	0.1%
Pakistan	274	276	279	279	275	390	390	389	389	401	**401**	0.1%	3.9%	0.4%
Philippines	270	267	264	261	261	270	271	271	271	271	**271**	–	◆	0.3%
Singapore	1427	1427	1427	1427	1422	1414	1514	1514	1514	1514	**1514**	–	0.6%	1.5%
South Korea	2712	2746	2774	2864	2878	2878	3123	3128	3259	3298	**3346**	1.4%	2.1%	3.3%
Taiwan	1197	1197	1197	1197	1197	1197	1197	988	988	1083	**1083**	–	-1.0%	1.1%
Thailand	1165	1236	1230	1230	1230	1237	1252	1252	1235	1235	**1235**	–	1.2%	1.2%
Vietnam	11	159	159	159	159	159	159	159	163	167	**367**	119.8%	31.3%	0.4%
Other Asia Pacific	208	216	216	217	218	227	234	234	234	234	**234**	–	1.3%	0.2%
Total Asia Pacific	27766	29602	30418	31296	32320	33225	33843	33288	33443	33802	**34752**	2.8%	2.4%	34.7%
Total World	**90713**	**92387**	**93245**	**94262**	**94769**	**96065**	**97214**	**97650**	**98129**	**98621**	**100049**	**1.4%**	**1.0%**	**100.0%**
of which: OECD	45743	45539	45089	44983	44806	44311	43919	44120	44202	44002	**44553**	1.3%	-0.3%	44.5%
Non-OECD	44970	46848	48156	49279	49964	51754	53295	53530	53927	54618	**55496**	1.6%	2.2%	55.5%
European Union	15818	15548	15301	15219	14664	14270	14156	14204	13983	13979	**14017**	0.3%	-1.2%	14.0%

*Atmospheric distillation capacity at year end on a calendar-day basis.
◆Less than 0.05%.

Source: Includes data from ICIS.

Oil: Trade movements

Thousand barrels daily	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Imports														
US	12872	11453	11689	11338	10587	9859	9241	9451	10056	10148	**9929**	-2.2%	-2.9%	13.9%
Europe	14066	12802	12407	12489	12721	12920	12957	13993	14354	14699	**15124**	2.9%	0.3%	21.2%
China	4494	5100	5886	6295	6675	6978	7398	8333	9214	10240	**11039**	7.8%	9.4%	15.5%
India	3066	3491	3749	3823	4168	4370	4155	4380	4945	4947	**5223**	5.6%	5.4%	7.3%
Japan	4925	4263	4567	4494	4743	4637	4383	4332	4180	4142	**3941**	-4.8%	-1.9%	5.5%
Rest of World	17138	17211	17048	17634	17812	20012	21193	22026	23776	25457	**26087**	2.5%	3.9%	36.6%
Total World	**56561**	**54320**	**55346**	**56072**	**56706**	**58776**	**59328**	**62515**	**66526**	**69633**	**71344**	**2.5%**	**1.9%**	**100.0%**
Exports														
Canada	2498	2518	2599	2798	3056	3296	3536	3836	3890	4248	**4530**	6.6%	5.6%	6.3%
Mexico	1609	1449	1539	1487	1366	1347	1293	1323	1380	1300	**1360**	4.7%	-4.1%	1.9%
US	1967	1947	2154	2495	2682	3563	4033	4521	5078	5858	**7131**	21.7%	15.1%	10.0%
S. & Cent. America	3616	3748	3568	3755	3830	3790	3939	4107	4147	3992	**3745**	-6.2%	1.1%	5.2%
Europe	2073	2076	1966	2139	2181	2545	2467	2926	3082	3387	**3428**	1.2%	3.9%	4.8%
Russia	7540	7257	7397	7448	7457	7948	7792	8313	8814	8979	**9159**	2.0%	1.4%	12.8%
Other CIS	1730	1861	2039	2180	1962	2166	2092	2100	2096	2210	**2170**	-1.8%	3.5%	3.0%
Saudi Arabia	8357	7276	7595	8120	8468	8365	7911	7968	8606	8333	**8553**	2.6%	0.3%	12.0%
Middle East (ex S. Arabia)	12415	11744	11976	12188	11742	12242	12699	13537	15321	16183	**16087**	-0.6%	2.9%	22.5%
North Africa	3268	2943	2878	1951	2602	2127	1743	1701	1727	2214	**2486**	12.3%	-4.0%	3.5%
West Africa	4712	4531	4755	4759	4724	4590	4849	4880	4401	4582	**4572**	-0.2%	-0.8%	6.4%
Asia Pacific (ex Japan)	5392	5631	6226	6088	6299	6307	6450	6780	7356	7716	**7527**	-2.5%	2.5%	10.6%
Rest of World	1385	1340	653	663	338	491	524	525	625	632	**594**	-5.9%	-9.3%	0.8%
Total World	**56561**	**54320**	**55346**	**56072**	**56706**	**58776**	**59328**	**62515**	**66526**	**69633**	**71344**	**2.5%**	**1.9%**	**100.0%**

Notes: Unless otherwise stated, this table shows inter-regional trade based on the regional classification in the table 'Oil trade in 2017 and 2018' (see page 29).
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: Inter-area movements 2018

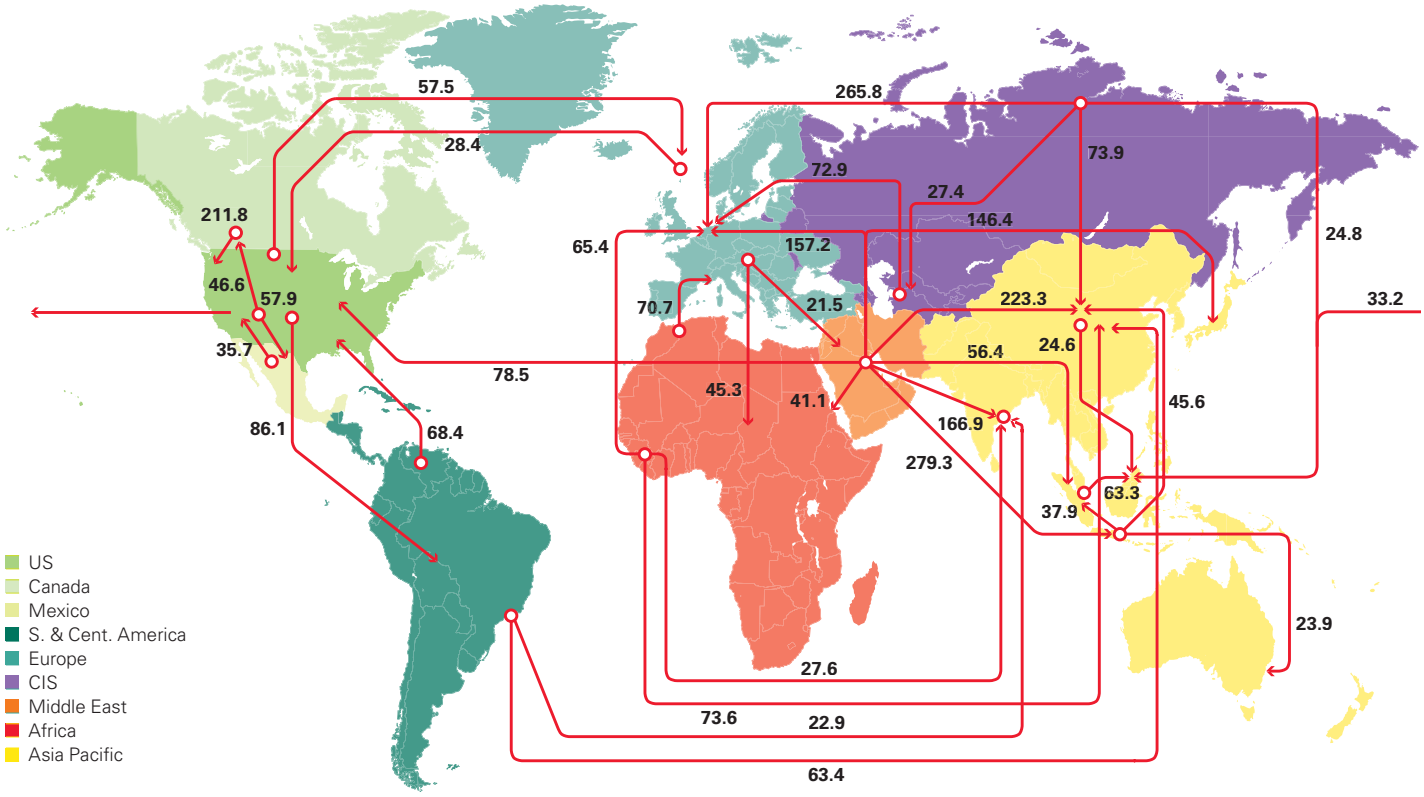
Crude (million tonnes)	To															
From	Canada	Mexico	US	S. & Cent. America	Europe	Russia	Other CIS	Middle East	Africa	Australasia	China	India	Japan	Singapore	Other Asia Pacific	**Total**
Canada	–	–	184.0	0.6	4.5	–	–	†	†	†	1.2	0.5	–	–	0.3	**190.9**
Mexico	†	–	33.1	0.5	12.0	†	–	0.1	–	–	0.7	8.9	1.8	–	4.6	**61.7**
US	18.8	0.1	–	5.4	29.2	–	†	1.5	†	0.3	12.3	4.9	2.5	1.1	17.1	**93.2**
S. & Cent. America	0.3	†	56.9	–	10.2	†	–	–	0.3	†	62.0	22.9	1.9	0.2	1.9	**156.7**
Europe	1.4	–	5.9	0.8	–	†	†	6.1	0.4	†	8.6	1.5	†	†	6.5	**31.2**
Russia	0.2	–	3.6	3.6	153.3	–	18.5	1.4	†	0.3	71.6	2.2	7.0	1.7	12.3	**275.9**
Other CIS	1.1	–	1.8	0.1	63.2	0.5	–	6.6	0.3	0.1	2.8	1.6	1.5	0.4	5.8	**85.9**
Iraq	–	–	25.8	0.8	48.7	†	–	3.2	2.3	–	45.0	47.7	2.7	1.3	23.4	**200.9**
Kuwait	†	–	3.9	–	5.8	–	–	†	4.0	–	23.2	11.4	11.7	7.0	36.0	**103.0**
Saudi Arabia	5.6	–	43.3	3.4	41.3	–	–	13.7	9.6	0.5	56.7	39.3	57.4	10.7	85.9	**367.4**
UAE	†	–	0.3	†	0.7	†	–	†	0.8	6.0	12.2	16.0	37.3	10.6	41.9	**125.9**
Other Middle East	†	–	–	0.1	27.6	–	†	5.7	0.2	0.1	66.0	32.4	21.9	10.5	27.5	**192.1**
North Africa	0.5	–	7.9	2.1	58.3	–	0.1	1.4	†	2.0	11.3	4.0	0.2	1.2	6.8	**95.6**
West Africa	1.1	–	16.8	9.5	63.1	†	–	0.5	10.9	2.5	71.9	27.6	0.5	1.3	14.3	**219.9**
East & S. Africa	–	–	†	–	1.2	†	–	†	†	–	4.4	1.2	0.1	†	0.8	**7.7**
Australasia	†	–	0.1	†	†	–	–	0.2	†	–	1.3	0.3	0.5	1.3	7.2	**10.9**
China	†	–	–	†	†	–	–	†	†	–	–	–	1.5	†	1.2	**2.7**
India	–	–	–	†	–	–	–	†	†	†	†	–	–	†	†	**0.1**
Japan	–	–	–	–	†	–	–	–	†	†	–	–	–	†	†	**†**
Singapore	–	–	–	†	0.1	–	–	†	†	0.1	0.1	–	–	–	0.4	**0.6**
Other Asia Pacific	†	–	3.0	†	†	–	–	0.4	0.1	11.9	13.1	5.2	2.3	4.8	–	**40.8**
Total imports	**29.1**	**0.1**	**386.3**	**27.0**	**519.2**	**0.5**	**18.6**	**40.8**	**29.2**	**23.6**	**464.5**	**227.5**	**150.8**	**52.2**	**293.8**	**2263.1**

Product (million tonnes)																
From																
Canada	–	1.5	27.8	0.8	1.6	†	†	†	†	†	0.5	†	0.5	0.1	0.4	**33.3**
Mexico	0.2	–	2.6	1.4	0.1	†	†	†	0.2	†	0.1	†	0.1	1.0	0.1	**5.8**
US	27.8	57.8	–	80.7	28.3	†	†	2.9	7.4	1.1	6.2	4.6	11.6	6.9	16.1	**251.6**
S. & Cent. America	0.2	1.0	11.5	–	5.5	†	†	0.5	2.2	0.1	1.4	†	0.3	4.9	1.1	**28.6**
Europe	6.7	1.9	22.5	10.1	–	0.4	1.1	15.4	45.0	1.0	2.1	0.8	0.6	19.2	7.2	**134.0**
Russia	0.6	0.1	14.5	2.1	112.5	–	8.9	1.3	5.2	†	2.3	0.6	2.1	10.5	12.5	**173.1**
Other CIS	0.4	†	0.8	0.1	9.6	8.8	–	0.1	0.5	†	0.6	0.1	†	†	0.4	**21.3**
Iraq	–	–	0.1	–	0.1	–	†	0.4	†	–	0.1	†	–	7.1	0.6	**8.5**
Kuwait	0.1	–	†	0.2	1.5	–	†	3.7	2.2	†	2.4	1.8	1.9	0.7	9.0	**23.5**
Saudi Arabia	0.1	–	1.5	0.3	16.5	†	†	5.2	7.4	0.2	4.5	6.9	2.3	3.2	8.1	**56.2**
UAE	†	†	2.5	0.9	6.9	†	†	5.7	8.5	0.4	9.3	5.9	5.2	4.4	26.1	**75.8**
Other Middle East	0.1	†	1.0	0.3	8.0	†	†	11.7	6.1	0.2	3.8	5.6	6.0	0.8	20.8	**64.3**
North Africa	0.1	†	5.4	2.9	12.4	†	†	0.2	0.3	†	1.3	0.8	0.4	0.2	3.0	**27.1**
West Africa	†	†	1.6	0.6	2.3	†	†	†	0.3	†	1.7	†	†	†	0.9	**7.5**
East & S. Africa	†	†	0.1	0.2	0.3	†	†	1.3	1.1	†	†	†	†	†	0.4	**3.4**
Australasia	†	†	–	0.1	0.9	†	†	†	0.1	–	0.6	†	0.7	0.4	0.9	**3.7**
China	0.2	1.2	0.9	4.0	2.8	†	†	2.0	2.2	2.5	–	0.8	0.9	14.9	23.4	**55.7**
India	0.3	†	3.6	0.2	10.5	†	†	6.6	6.2	1.5	2.4	–	1.4	6.0	14.9	**53.4**
Japan	0.1	0.3	1.0	0.5	0.1	†	†	†	0.1	4.0	2.6	†	–	2.1	6.8	**17.6**
Singapore	0.1	0.2	1.2	0.7	0.9	†	†	0.8	2.7	10.5	7.4	1.3	0.9	–	62.9	**89.7**
Other Asia Pacific	0.2	0.4	5.3	0.9	3.7	0.1	†	1.4	4.1	12.0	32.5	2.1	8.9	33.1	–	**104.7**
Total imports	**37.0**	**64.4**	**103.9**	**106.9**	**224.7**	**9.4**	**10.1**	**59.3**	**101.6**	**33.6**	**81.9**	**31.3**	**43.7**	**115.5**	**215.5**	**1238.8**

†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.

Major trade movements 2018

Trade flows worldwide (million tonnes)



Oil trade in 2017 and 2018

Million tonnes	2017 Crude imports	2017 Product imports	2017 Crude exports	2017 Product exports	2018 Crude imports	2018 Product imports	2018 Crude exports	2018 Product exports
Canada	31.4	33.2	174.7	35.3	29.1	37.0	190.9	33.3
Mexico	†	57.3	57.8	6.7	0.1	64.4	61.7	5.8
US	396.9	104.1	46.9	235.1	386.3	103.9	93.2	251.6
S. & Cent. America	23.7	103.6	168.4	29.2	27.0	106.9	156.7	28.6
Europe	515.8	207.7	23.5	139.4	519.2	224.7	31.2	134.0
Russia	0.6	9.0	272.9	167.4	0.5	9.4	275.9	173.1
Other CIS	18.2	10.7	90.0	19.3	18.6	10.1	85.9	21.3
Iraq	†	2.5	187.2	5.4	†	3.7	200.9	8.5
Kuwait	†	0.7	102.9	26.8	†	0.7	103.0	23.5
Saudi Arabia	†	6.8	357.6	55.1	†	10.9	367.4	56.2
United Arab Emirates	8.1	22.8	128.3	73.0	9.8	27.8	125.9	75.8
Other Middle East	26.2	17.0	218.4	57.1	30.9	16.2	192.1	64.3
North Africa	5.2	29.3	82.5	26.7	7.0	28.8	95.6	27.1
West Africa	0.4	36.5	219.0	8.8	0.5	39.4	219.9	7.5
East & S. Africa	17.8	36.0	8.0	3.6	21.6	33.4	7.7	3.4
Australasia	21.9	31.3	9.6	2.8	23.6	33.6	10.9	3.7
China	422.1	84.4	3.8	50.5	464.5	81.9	2.7	55.7
India	211.1	33.9	0.1	54.1	227.5	31.3	0.1	53.4
Japan	162.5	42.1	0.2	18.7	150.8	43.7	†	17.6
Singapore	53.6	132.9	2.7	96.9	52.2	115.5	0.6	89.7
Other Asia Pacific	280.1	220.0	41.2	109.7	293.8	215.5	40.8	104.7
Total World	**2195.6**	**1221.8**	**2195.6**	**1221.8**	**2263.1**	**1238.8**	**2263.1**	**1238.8**
Thousand barrels daily								
Canada	630	694	3509	739	584	774	3834	696
Mexico	‡	1198	1161	139	3	1345	1239	121
US	7972	2177	943	4915	7757	2172	1872	5259
S. & Cent. America	476	2167	3381	611	542	2235	3147	598
Europe	10357	4342	472	2915	10426	4698	627	2801
Russia	13	188	5480	3499	10	196	5540	3619
Other CIS	365	224	1807	403	373	211	1725	445
Iraq	‡	53	3760	113	‡	78	4035	177
Kuwait	‡	15	2066	561	‡	15	2068	491
Saudi Arabia	‡	142	7181	1152	‡	228	7379	1175
United Arab Emirates	163	476	2577	1526	198	581	2528	1586
Other Middle East	526	355	4385	1194	621	338	3858	1344
North Africa	103	613	1656	558	141	602	1920	566
West Africa	9	763	4399	183	10	825	4415	157
East & S. Africa	356	752	160	76	435	698	154	72
Australasia	439	654	192	59	475	703	219	77
China	8477	1763	77	1055	9328	1711	54	1164
India	4240	708	1	1131	4569	655	1	1117
Japan	3263	879	4	392	3028	913	‡	369
Singapore	1077	2779	55	2027	1048	2414	13	1874
Other Asia Pacific	5626	4600	827	2294	5901	4504	820	2188
Total World	**44093**	**25541**	**44093**	**25541**	**45448**	**25896**	**45448**	**25896**

†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.

Natural gas

Total proved reserves

	At end 1998 Trillion cubic metres	At end 2008 Trillion cubic metres	At end 2017 Trillion cubic metres	At end 2018 Trillion cubic metres	At end 2018 Trillion cubic feet	At end 2018 Share of total	At end 2018 R/P ratio
Canada	1.7	1.7	2.0	**1.9**	**65.4**	0.9%	10.0
Mexico	0.8	0.4	0.2	**0.2**	**6.5**	0.1%	4.9
US	4.4	6.6	11.9	**11.9**	**419.8**	6.0%	14.3
Total North America	7.0	8.7	14.1	**13.9**	**491.7**	7.1%	13.2
Argentina	0.7	0.4	0.3	**0.3**	**12.2**	0.2%	8.8
Bolivia	0.1	0.3	0.3	**0.3**	**10.3**	0.1%	18.3
Brazil	0.2	0.4	0.4	**0.4**	**13.4**	0.2%	15.1
Colombia	0.2	0.1	0.1	**0.1**	**3.7**	0.1%	8.3
Peru	0.2	0.3	0.4	**0.4**	**12.4**	0.2%	27.4
Trinidad & Tobago	0.5	0.4	0.3	**0.3**	**10.9**	0.2%	9.1
Venezuela	4.6	5.5	6.3	**6.3**	**223.8**	3.2%	190.7
Other S. & Cent. America	0.1	0.1	0.1	**0.1**	**2.2**	♦	18.5
Total S. & Cent. America	6.8	7.5	8.2	**8.2**	**289.0**	4.2%	46.3
Denmark	0.1	0.1	†	**†**	**1.0**	♦	6.6
Germany	0.2	0.1	†	**†**	**0.9**	♦	4.8
Italy	0.3	0.1	†	**†**	**1.6**	♦	8.9
Netherlands	1.7	1.2	0.6	**0.6**	**20.7**	0.3%	18.2
Norway	1.2	2.2	1.7	**1.6**	**56.8**	0.8%	13.3
Poland	0.1	0.1	0.1	**0.1**	**2.2**	♦	16.0
Romania	0.3	0.6	0.1	**0.1**	**3.6**	0.1%	10.7
Ukraine	0.8	0.8	1.0	**1.1**	**38.5**	0.6%	54.9
United Kingdom	0.8	0.3	0.2	**0.2**	**6.6**	0.1%	4.6
Other Europe	0.2	0.2	0.1	**0.1**	**5.0**	0.1%	16.2
Total Europe	5.6	5.5	3.9	**3.9**	**137.1**	2.0%	15.5
Azerbaijan	0.7	1.1	1.3	**2.1**	**75.2**	1.1%	113.6
Kazakhstan	1.3	1.3	1.0	**1.0**	**35.0**	0.5%	40.7
Russian Federation	33.4	34.0	38.9	**38.9**	**1375.0**	19.8%	58.2
Turkmenistan	2.5	8.2	19.5	**19.5**	**688.1**	9.9%	316.8
Uzbekistan	1.2	1.3	1.2	**1.2**	**42.7**	0.6%	21.4
Other CIS	†	†	†	**†**	**1.2**	♦	113.1
Total CIS	39.2	45.9	62.0	**62.8**	**2217.4**	31.9%	75.6
Bahrain	0.3	0.2	0.2	**0.2**	**6.4**	0.1%	12.3
Iran	22.8	28.0	31.9	**31.9**	**1127.7**	16.2%	133.3
Iraq	3.0	3.0	3.6	**3.6**	**125.6**	1.8%	273.8
Israel	†	†	0.5	**0.4**	**14.6**	0.2%	41.1
Kuwait	1.4	1.7	1.7	**1.7**	**59.9**	0.9%	97.0
Oman	0.5	0.9	0.7	**0.7**	**23.5**	0.3%	18.5
Qatar	11.3	26.3	24.7	**24.7**	**872.1**	12.5%	140.7
Saudi Arabia	5.8	7.1	5.7	**5.9**	**208.1**	3.0%	52.6
Syria	0.2	0.3	0.3	**0.3**	**9.5**	0.1%	75.4
United Arab Emirates	5.8	5.9	5.9	**5.9**	**209.7**	3.0%	91.8
Yemen	0.3	0.3	0.3	**0.3**	**9.4**	0.1%	480.7
Other Middle East	†	†	†	**†**	**0.2**	♦	48.4
Total Middle East	51.5	73.7	75.3	**75.5**	**2666.7**	38.4%	109.9
Algeria	3.9	4.3	4.3	**4.3**	**153.1**	2.2%	47.0
Egypt	1.0	2.1	2.1	**2.1**	**75.5**	1.1%	36.5
Libya	1.2	1.5	1.4	**1.4**	**50.5**	0.7%	145.9
Nigeria	3.3	5.0	5.3	**5.3**	**188.8**	2.7%	108.6
Other Africa	0.8	1.1	1.2	**1.2**	**41.7**	0.6%	44.3
Total Africa	10.3	14.0	14.4	**14.4**	**509.6**	7.3%	61.0
Australia	1.6	2.7	2.4	**2.4**	**84.4**	1.2%	18.4
Bangladesh	0.3	0.3	0.2	**0.2**	**5.7**	0.1%	5.9
Brunei	0.4	0.3	0.3	**0.3**	**9.5**	0.1%	21.4
China	1.4	2.7	6.1	**6.1**	**214.4**	3.1%	37.6
India	0.6	1.0	1.2	**1.3**	**45.5**	0.7%	46.9
Indonesia	2.2	3.2	2.9	**2.8**	**97.5**	1.4%	37.7
Malaysia	2.4	2.4	2.4	**2.4**	**84.5**	1.2%	33.0
Myanmar	0.3	0.3	1.2	**1.2**	**41.3**	0.6%	65.6
Pakistan	0.4	0.6	0.4	**0.4**	**12.9**	0.2%	10.7
Papua New Guinea	†	†	0.2	**0.2**	**6.4**	0.1%	17.8
Thailand	0.4	0.4	0.2	**0.2**	**6.6**	0.1%	5.0
Vietnam	0.2	0.6	0.6	**0.6**	**22.8**	0.3%	67.0
Other Asia Pacific	0.4	0.3	0.2	**0.2**	**8.8**	0.1%	14.4
Total Asia Pacific	10.5	15.0	18.2	**18.1**	**640.3**	9.2%	28.7
Total World	**130.8**	**170.2**	**196.1**	**196.9**	**6951.8**	**100.0%**	**50.9**
of which: OECD	13.0	15.7	19.7	**19.4**	**686.8**	9.9%	13.7
Non-OECD	117.7	154.5	176.4	**177.4**	**6265.1**	90.1%	72.5
European Union	3.5	2.5	1.1	**1.1**	**39.6**	0.6%	10.3

†Less than 0.05.
♦Less than 0.05%.

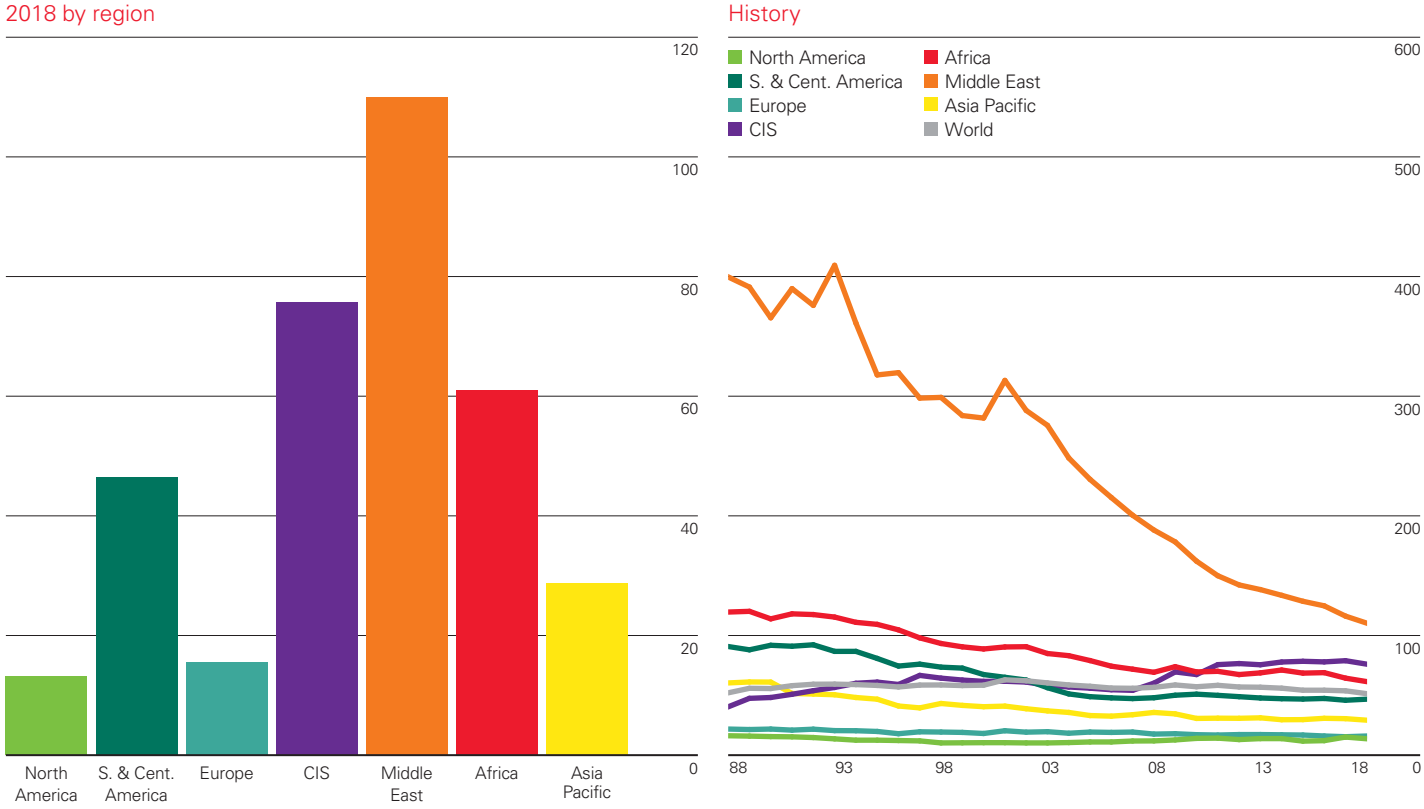
Notes: Total proved reserves of natural gas – Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. The data series for total proved natural gas does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at a company level, for instance as published by the US Securities and Exchange Commission, nor does it necessarily represent BP's view of proved reserves by country.

Reserves-to-production (R/P) ratio – If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.

Source of data – The estimates in this table have been compiled using a combination of primary official sources and third-party data from Cedigaz and the OPEC Secretariat.

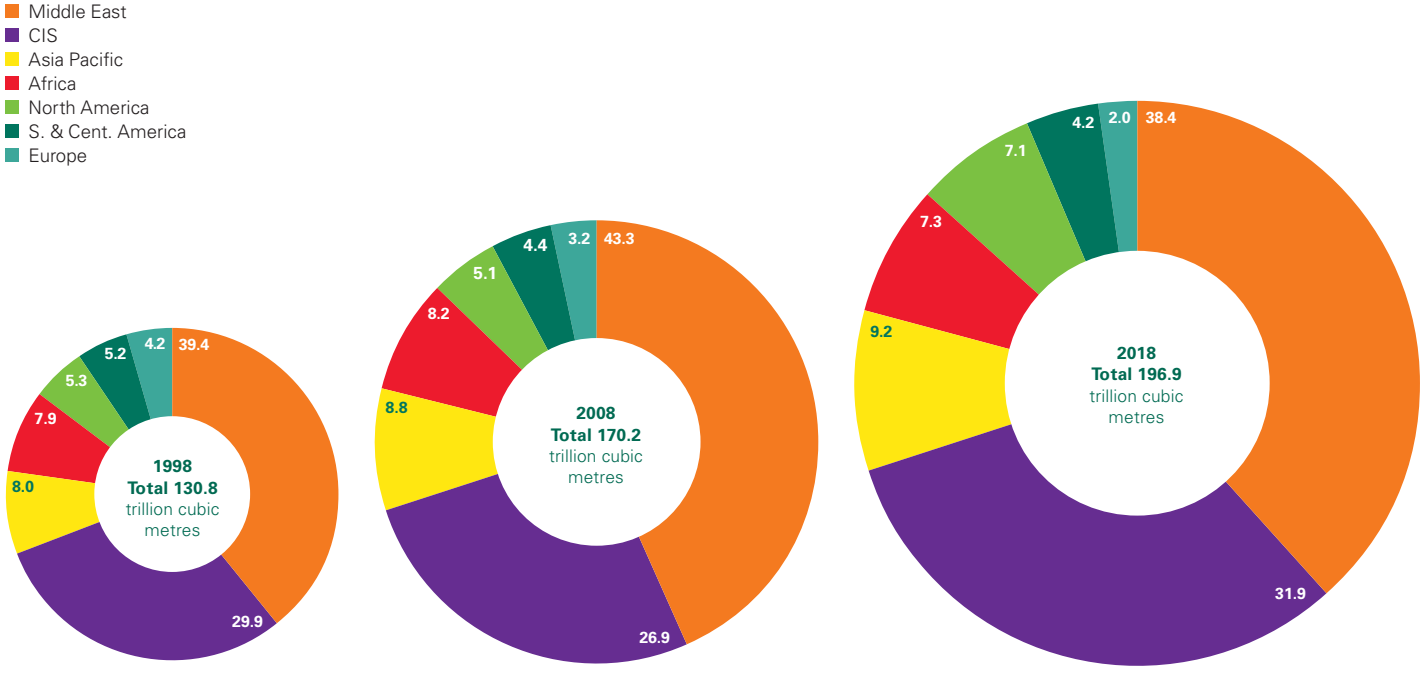
As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and have been standardized using a gross calorific value (GCV) of 40 MJ/m³.

Reserves-to-production (R/P) ratios
Years



World proved gas reserves in 2018 increased by 0.7 Tcm to 196.9 Tcm mainly as a result of increased reserves in Azerbaijan (0.8 Tcm). Russia (38.9 Tcm), Iran (31.9 Tcm) and Qatar (24.7 Tcm) are the countries with the biggest reserves. The current global R/P ratio shows that gas reserves in 2018 accounted for 50.9 years of current production, 2.4 years lower than in 2017. Middle East (109.9 years) and CIS (75.6 years) are the regions with the highest R/P ratio.

Distribution of proved reserves in 1998, 2008 and 2018
Percentage



Natural gas: Production in billion cubic metres*

Billion cubic metres	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	166.5	155.1	149.6	151.1	150.3	151.9	159.0	160.8	171.8	177.6	**184.7**	4.0%	0.2%	4.8%
Mexico	47.2	52.6	51.2	52.1	50.9	52.5	51.3	47.9	43.7	38.3	**37.4**	-2.4%	-2.0%	1.0%
US	546.1	557.6	575.2	617.4	649.1	655.7	704.7	740.3	727.4	745.8	**831.8**	11.5%	3.6%	21.5%
Total North America	759.8	765.2	775.9	820.5	850.3	860.1	915.0	949.0	942.8	961.6	**1053.9**	9.6%	2.6%	27.2%
Argentina	42.8	40.3	39.0	37.7	36.7	34.6	34.5	35.5	37.3	37.1	**39.4**	6.1%	-1.6%	1.0%
Bolivia	13.8	11.9	13.7	15.0	17.1	19.6	20.3	19.6	17.6	17.1	**16.0**	-6.6%	2.5%	0.4%
Brazil	14.4	12.3	15.0	17.2	19.8	21.9	23.3	23.8	24.1	27.2	**25.2**	-7.4%	8.9%	0.7%
Colombia	8.7	10.1	10.8	10.5	11.5	13.2	12.3	11.6	12.0	12.3	**12.9**	4.6%	5.4%	0.3%
Peru	3.5	3.6	7.3	11.5	12.0	12.4	13.1	12.7	14.0	13.0	**12.8**	-1.7%	17.6%	0.3%
Trinidad & Tobago	37.4	38.6	40.3	38.7	38.5	38.7	38.1	36.0	31.3	31.9	**34.0**	6.6%	-1.7%	0.9%
Venezuela	33.4	31.8	30.5	30.2	31.9	30.6	31.8	36.1	37.2	38.6	**33.2**	-13.9%	0.4%	0.9%
Other S. & Cent. America	3.8	3.8	3.8	3.2	3.0	2.7	2.6	2.9	3.1	3.1	**3.3**	6.8%	-2.5%	0.1%
Total S. & Cent. America	157.9	152.3	160.4	164.1	170.6	173.8	176.0	178.0	176.7	180.3	**176.7**	-2.0%	1.4%	4.6%
Denmark	10.5	8.8	8.5	6.9	6.0	5.0	4.8	4.8	4.7	5.1	**4.3**	-15.0%	-6.2%	0.1%
Germany	13.6	12.7	11.1	10.5	9.5	8.6	8.1	7.5	6.9	6.4	**5.5**	-13.1%	-8.2%	0.1%
Italy	8.8	7.6	8.0	8.0	8.2	7.4	6.8	6.4	5.5	5.3	**5.2**	-1.6%	-5.5%	0.1%
Netherlands	70.9	65.5	75.3	69.5	68.4	72.4	60.4	45.9	44.3	38.6	**32.3**	-16.3%	-4.6%	0.8%
Norway	99.4	103.6	106.4	100.5	113.9	107.9	108.0	116.2	115.9	123.2	**120.6**	-2.1%	3.2%	3.1%
Poland	4.3	4.3	4.3	4.5	4.5	4.4	4.3	4.3	4.1	4.0	**4.0**	-1.5%	-1.1%	0.1%
Romania	10.5	10.4	10.0	10.1	10.1	10.0	10.2	10.2	9.1	9.9	**9.5**	-3.7%	-0.8%	0.2%
Ukraine	20.3	20.3	19.4	19.5	19.4	20.2	20.2	18.8	19.0	19.4	**19.9**	2.4%	-0.3%	0.5%
United Kingdom	72.8	61.2	57.9	46.1	39.2	37.0	37.4	40.7	41.7	41.9	**40.6**	-3.1%	-5.7%	1.0%
Other Europe	10.0	9.7	9.7	9.9	8.9	7.8	7.2	6.8	9.2	9.5	**8.7**	-7.9%	-1.1%	0.2%
Total Europe	321.0	304.1	310.7	285.5	288.1	280.6	267.5	261.7	260.5	263.2	**250.7**	-4.8%	-1.5%	6.5%
Azerbaijan	15.9	15.9	16.3	16.0	16.8	17.4	18.4	18.8	18.3	17.8	**18.8**	5.6%	5.3%	0.5%
Kazakhstan	18.3	19.0	20.4	20.1	19.8	21.4	21.7	22.0	22.9	23.4	**24.4**	4.1%	4.0%	0.6%
Russian Federation	611.5	536.2	598.4	616.8	601.9	614.5	591.2	584.4	589.3	635.6	**669.5**	5.3%	0.6%	17.3%
Turkmenistan	61.6	33.3	40.1	56.3	59.0	59.0	63.5	65.9	63.2	58.7	**61.5**	4.8%	-0.5%	1.6%
Uzbekistan	61.0	58.4	57.1	56.6	56.5	55.9	56.3	53.6	53.1	53.4	**56.6**	6.1%	-1.0%	1.5%
Other CIS	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	**0.3**	3.3%	◆	◆
Total CIS	768.6	663.2	732.7	766.2	754.3	768.5	751.4	745.0	747.2	789.1	**831.1**	5.3%	0.5%	21.5%
Bahrain	12.0	12.1	12.4	12.6	13.1	14.0	14.7	14.8	14.4	14.5	**14.8**	2.6%	2.6%	0.4%
Iran	123.6	135.7	143.9	151.0	156.9	157.5	175.5	183.5	199.3	220.2	**239.5**	8.8%	6.4%	6.2%
Iraq	6.5	6.9	7.1	6.3	6.3	7.1	7.5	7.3	9.9	10.1	**13.0**	28.4%	8.3%	0.3%
Kuwait	12.1	10.9	11.1	12.9	14.7	15.5	14.3	16.1	16.4	16.2	**17.5**	7.6%	4.3%	0.5%
Oman	24.1	23.9	25.7	27.1	28.3	30.8	29.3	30.7	31.5	32.3	**36.0**	11.4%	2.7%	0.9%
Qatar	79.7	92.4	123.1	150.4	162.5	168.2	169.6	175.0	173.8	172.4	**175.5**	1.8%	10.2%	4.5%
Saudi Arabia	76.4	74.5	83.3	87.6	94.4	95.0	97.3	99.2	105.3	109.3	**112.1**	2.6%	4.4%	2.9%
Syria	5.6	6.1	8.4	7.4	6.1	5.0	4.6	4.1	3.5	3.4	**3.6**	4.0%	-4.9%	0.1%
United Arab Emirates	49.0	47.6	50.0	51.0	52.9	53.2	52.9	58.7	60.3	62.0	**64.7**	4.4%	2.4%	1.7%
Yemen	–	0.8	6.3	9.4	7.6	10.4	9.8	2.9	0.5	0.5	**0.6**	1.9%	n/a	◆
Other Middle East	3.5	2.7	3.3	4.2	2.5	6.3	7.3	8.1	9.0	9.5	**10.1**	6.4%	13.0%	0.3%
Total Middle East	392.3	413.8	474.7	520.0	545.5	562.9	582.7	600.3	624.1	650.4	**687.3**	5.7%	6.0%	17.8%
Algeria	82.6	76.6	77.4	79.6	78.4	79.3	80.2	81.4	91.4	93.0	**92.3**	-0.7%	1.3%	2.4%
Egypt	56.8	60.3	59.0	59.1	58.6	54.0	47.0	42.6	40.3	48.8	**58.6**	20.0%	-0.9%	1.5%
Libya	15.1	15.1	16.0	7.5	11.6	12.2	11.8	11.0	9.4	9.6	**9.8**	2.2%	-4.1%	0.3%
Nigeria	32.8	23.2	30.9	36.4	39.2	33.1	40.0	48.0	46.2	48.1	**49.2**	2.4%	3.6%	1.3%
Other Africa	16.6	16.9	19.0	19.1	19.0	19.7	19.7	20.5	21.6	26.2	**26.7**	1.9%	7.8%	0.7%
Total Africa	203.8	192.1	202.3	201.7	206.8	198.3	198.6	203.6	208.8	225.7	**236.6**	4.8%	1.4%	6.1%
Australia	41.7	46.7	54.0	55.7	59.5	61.8	66.6	76.0	96.4	112.8	**130.1**	15.3%	10.2%	3.4%
Bangladesh	16.4	18.7	19.3	19.6	21.3	22.0	23.0	25.9	26.5	26.7	**27.5**	3.2%	5.7%	0.7%
Brunei	11.8	11.1	12.0	12.5	12.3	11.9	12.7	13.3	12.9	12.9	**12.6**	-2.3%	0.7%	0.3%
China	80.9	85.9	96.5	106.2	111.5	121.8	131.2	135.7	137.9	149.2	**161.5**	8.3%	7.9%	4.2%
India	29.4	36.1	47.4	42.9	37.3	31.1	29.4	28.1	26.6	27.7	**27.5**	-0.7%	-0.4%	0.7%
Indonesia	74.8	78.0	87.0	82.7	78.3	77.6	76.4	76.2	75.1	72.9	**73.2**	0.4%	◆	1.9%
Malaysia	69.2	66.9	65.8	67.0	69.3	72.9	72.0	73.9	72.4	74.5	**72.5**	-2.6%	1.0%	1.9%
Myanmar	12.2	11.4	12.2	12.6	12.5	12.9	16.5	19.2	18.3	17.8	**17.8**	–	3.0%	0.5%
Pakistan	34.6	34.7	35.3	35.3	36.6	35.6	35.0	35.0	34.7	34.7	**34.2**	-1.3%	0.2%	0.9%
Thailand	29.8	32.0	37.5	38.3	42.9	43.3	43.6	41.2	40.4	38.7	**37.7**	-2.6%	3.7%	1.0%
Vietnam	7.2	7.7	9.1	8.2	9.0	9.4	9.9	10.3	10.2	9.5	**9.6**	1.3%	3.4%	0.2%
Other Asia Pacific	18.2	18.5	18.1	18.3	18.0	18.7	23.6	29.4	30.2	30.3	**27.5**	-9.2%	5.8%	0.7%
Total Asia Pacific	426.3	447.9	494.3	499.1	508.4	518.9	539.8	564.1	581.6	607.5	**631.7**	4.0%	4.1%	16.3%
Total World	**3029.8**	**2938.6**	**3151.0**	**3257.0**	**3323.8**	**3363.1**	**3431.1**	**3501.7**	**3541.7**	**3677.7**	**3867.9**	**5.2%**	**2.3%**	**100.0%**
of which: OECD	1102.1	1095.3	1122.0	1142.5	1177.6	1185.4	1232.9	1272.1	1287.5	1325.4	**1422.5**	7.3%	2.1%	36.8%
Non-OECD	1927.7	1843.3	2029.0	2114.4	2146.3	2177.7	2198.2	2229.6	2254.2	2352.3	**2445.3**	4.0%	2.4%	63.2%
European Union	200.2	179.2	183.8	164.2	153.7	151.5	138.2	125.7	124.7	119.7	**109.2**	-8.8%	-4.8%	2.8%

*Excludes gas flared or recycled. Includes natural gas produced for gas-to-liquids transformation.

Source: Includes data from Cedigaz, FGE MENAgas service.

◆Less than 0.05%.

n/a not available.

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 tonnes of oil equivalent using an average conversion factor and have been standardized using a gross calorific value (GCV) of 40 MJ/m^3.

Annual changes and shares of total are calculated using billion cubic metres figures.

Natural gas production data expressed in billion cubic feet per day is available at *bp.com/statisticalreview.*

Natural gas: Production in million tonnes oil equivalent*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	143.2	133.3	128.6	129.9	129.2	130.6	136.7	138.2	147.7	152.7	**158.8**	4.0%	0.2%	4.8%
Mexico	40.6	45.2	44.0	44.8	43.7	45.1	44.1	41.2	37.5	32.9	**32.1**	-2.4%	-2.0%	1.0%
US	469.5	479.4	494.5	530.8	558.1	563.8	606.0	636.5	625.4	641.2	**715.2**	11.5%	3.6%	21.5%
Total North America	653.3	658.0	667.2	705.5	731.1	739.6	786.8	816.0	810.7	826.8	**906.2**	9.6%	2.6%	27.2%
Argentina	36.8	34.7	33.5	32.4	31.5	29.7	29.7	30.5	32.1	31.9	**33.9**	6.1%	-1.6%	1.0%
Bolivia	11.9	10.2	11.8	12.9	14.7	16.8	17.4	16.8	15.1	14.7	**13.7**	-6.6%	2.5%	0.4%
Brazil	12.4	10.6	12.9	14.8	17.1	18.9	20.1	20.5	20.7	23.4	**21.6**	-7.4%	8.9%	0.7%
Colombia	7.5	8.7	9.3	9.1	9.9	11.4	10.6	10.0	10.3	10.6	**11.1**	4.6%	5.4%	0.3%
Peru	3.0	3.1	6.3	9.9	10.3	10.7	11.3	10.9	12.1	11.2	**11.0**	-1.7%	17.6%	0.3%
Trinidad & Tobago	32.2	33.2	34.6	33.3	33.1	33.3	32.7	30.9	26.9	27.4	**29.2**	6.6%	-1.7%	0.9%
Venezuela	28.7	27.3	26.2	26.0	27.4	26.3	27.3	31.0	32.0	33.2	**28.6**	-13.9%	0.4%	0.9%
Other S. & Cent. America	3.3	3.3	3.3	2.7	2.6	2.3	2.3	2.5	2.7	2.7	**2.8**	6.8%	-2.5%	0.1%
Total S. & Cent. America	135.8	131.0	137.9	141.1	146.7	149.4	151.4	153.1	151.9	155.0	**151.9**	-2.0%	1.4%	4.6%
Denmark	9.0	7.5	7.3	5.9	5.2	4.3	4.1	4.1	4.0	4.3	**3.7**	-15.0%	-6.2%	0.1%
Germany	11.7	11.0	9.6	9.0	8.1	7.4	6.9	6.5	6.0	5.5	**4.8**	-13.1%	-8.2%	0.1%
Italy	7.6	6.6	6.9	6.9	7.0	6.3	5.9	5.5	4.7	4.5	**4.5**	-1.6%	-5.5%	0.1%
Netherlands	61.0	56.3	64.7	59.8	58.8	62.3	51.9	39.4	38.1	33.2	**27.7**	-16.3%	-4.6%	0.8%
Norway	85.4	89.1	91.5	86.4	97.9	92.8	92.9	99.9	99.6	105.9	**103.7**	-2.1%	3.2%	3.1%
Poland	3.7	3.7	3.7	3.8	3.9	3.8	3.7	3.7	3.6	3.5	**3.4**	-1.5%	-1.1%	0.1%
Romania	9.0	8.9	8.6	8.7	8.7	8.6	8.8	8.8	7.8	8.5	**8.2**	-3.7%	-0.8%	0.2%
Ukraine	17.5	17.5	16.7	16.8	16.7	17.3	17.4	16.2	16.4	16.7	**17.1**	2.4%	-0.3%	0.5%
United Kingdom	62.6	52.6	49.8	39.6	33.7	31.8	32.2	35.0	35.9	36.0	**34.9**	-3.1%	-5.7%	1.0%
Other Europe	8.6	8.3	8.3	8.5	7.7	6.7	6.2	5.9	7.9	8.2	**7.5**	-7.9%	-1.1%	0.2%
Total Europe	276.0	261.5	267.1	245.4	247.7	241.3	230.0	225.0	224.0	226.3	**215.5**	-4.8%	-1.5%	6.5%
Azerbaijan	13.7	13.7	14.0	13.7	14.5	15.0	15.8	16.2	15.7	15.3	**16.1**	5.6%	5.3%	0.5%
Kazakhstan	15.7	16.3	17.6	17.3	17.1	18.4	18.6	18.9	19.7	20.1	**21.0**	4.1%	4.0%	0.6%
Russian Federation	525.8	461.0	514.5	530.4	517.5	528.4	508.3	502.5	506.7	546.5	**575.6**	5.3%	0.6%	17.3%
Turkmenistan	53.0	28.7	34.5	48.4	50.7	50.7	54.6	56.6	54.4	50.5	**52.9**	4.8%	-0.5%	1.6%
Uzbekistan	52.5	50.2	49.1	48.7	48.6	48.1	48.4	46.1	45.7	45.9	**48.7**	6.1%	-1.0%	1.5%
Other CIS	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	**0.3**	3.3%	◆	◆
Total CIS	660.9	570.2	630.0	658.8	648.6	660.8	646.0	640.6	642.4	678.5	**714.6**	5.3%	0.5%	21.5%
Bahrain	10.3	10.4	10.7	10.9	11.2	12.0	12.6	12.7	12.4	12.4	**12.8**	2.6%	2.6%	0.4%
Iran	106.2	116.7	123.7	129.8	134.9	135.4	150.9	157.8	171.4	189.3	**205.9**	8.8%	6.4%	6.2%
Iraq	5.6	5.9	6.1	5.4	5.5	6.1	6.5	6.3	8.5	8.7	**11.2**	28.4%	8.3%	0.3%
Kuwait	10.4	9.4	9.6	11.1	12.7	13.3	12.3	13.8	14.1	14.0	**15.0**	7.6%	4.3%	0.5%
Oman	20.8	20.6	22.1	23.3	24.4	26.5	25.2	26.4	27.1	27.7	**30.9**	11.4%	2.7%	0.9%
Qatar	68.5	79.5	105.9	129.3	139.8	144.6	145.8	150.5	149.4	148.2	**150.9**	1.8%	10.2%	4.5%
Saudi Arabia	65.7	64.1	71.6	75.4	81.1	81.7	83.6	85.3	90.6	93.9	**96.4**	2.6%	4.4%	2.9%
Syria	4.8	5.3	7.2	6.4	5.2	4.3	4.0	3.5	3.0	2.9	**3.1**	4.0%	-4.9%	0.1%
United Arab Emirates	42.1	40.9	43.0	43.9	45.5	45.8	45.5	50.5	51.9	53.3	**55.6**	4.4%	2.4%	1.7%
Yemen	–	0.7	5.4	8.1	6.5	8.9	8.4	2.5	0.4	0.5	**0.5**	1.9%	n/a	◆
Other Middle East	3.0	2.4	2.8	3.6	2.2	5.4	6.3	6.9	7.8	8.2	**8.7**	6.4%	13.0%	0.3%
Total Middle East	337.4	355.8	408.1	447.1	469.0	484.0	501.1	516.1	536.6	559.2	**590.9**	5.7%	6.0%	17.8%
Algeria	71.0	65.8	66.5	68.4	67.4	68.2	68.9	70.0	78.6	79.9	**79.4**	-0.7%	1.3%	2.4%
Egypt	48.8	51.9	50.7	50.9	50.4	46.4	40.4	36.6	34.6	42.0	**50.4**	20.0%	-0.9%	1.5%
Libya	13.0	13.0	13.7	6.4	10.0	10.5	10.2	9.5	8.1	8.2	**8.4**	2.2%	-4.1%	0.3%
Nigeria	28.2	19.9	26.6	31.3	33.7	28.5	34.4	41.3	39.7	41.4	**42.3**	2.4%	3.6%	1.3%
Other Africa	14.3	14.5	16.3	16.4	16.3	17.0	16.9	17.7	18.6	22.5	**22.9**	1.9%	7.8%	0.7%
Total Africa	175.3	165.2	174.0	173.4	177.8	170.5	170.8	175.0	179.6	194.0	**203.4**	4.8%	1.4%	6.1%
Australia	35.8	40.2	46.4	47.9	51.2	53.1	57.3	65.4	82.9	97.0	**111.9**	15.3%	10.2%	3.4%
Bangladesh	14.1	16.1	16.6	16.8	18.3	18.9	19.8	22.2	22.7	22.9	**23.7**	3.2%	5.7%	0.7%
Brunei	10.2	9.6	10.3	10.7	10.5	10.2	10.9	11.4	11.1	11.1	**10.8**	-2.3%	0.7%	0.3%
China	69.6	73.9	83.0	91.3	95.9	104.7	112.8	116.7	118.6	128.3	**138.9**	8.3%	7.9%	4.2%
India	25.3	31.1	40.8	36.9	32.0	26.7	25.2	24.2	22.9	23.8	**23.6**	-0.7%	-0.4%	0.7%
Indonesia	64.3	67.1	74.8	71.1	67.3	66.7	65.7	65.5	64.6	62.7	**62.9**	0.4%	◆	1.9%
Malaysia	59.5	57.5	56.6	57.6	59.5	62.7	61.9	63.5	62.2	64.0	**62.3**	-2.6%	1.0%	1.9%
Myanmar	10.5	9.8	10.5	10.8	10.8	11.1	14.2	16.5	15.7	15.3	**15.3**	–	3.0%	0.5%
Pakistan	29.8	29.8	30.4	30.4	31.5	30.6	30.1	30.1	29.8	29.8	**29.4**	-1.3%	0.2%	0.9%
Thailand	25.6	27.5	32.2	32.9	36.9	37.2	37.5	35.4	34.7	33.3	**32.4**	-2.6%	3.7%	1.0%
Vietnam	6.2	6.6	7.8	7.0	7.8	8.1	8.5	8.8	8.8	8.2	**8.3**	1.3%	3.4%	0.2%
Other Asia Pacific	15.6	15.9	15.6	15.7	15.5	16.1	20.3	25.3	26.0	26.0	**23.6**	-9.2%	5.8%	0.7%
Total Asia Pacific	366.5	385.1	425.0	429.1	437.1	446.2	464.2	485.1	500.1	522.4	**543.2**	4.0%	4.1%	16.3%
Total World	**2605.1**	**2526.7**	**2709.4**	**2800.5**	**2858.0**	**2891.8**	**2950.2**	**3010.9**	**3045.3**	**3162.3**	**3325.8**	**5.2%**	**2.3%**	**100.0%**
of which: OECD	947.6	941.8	964.7	982.4	1012.5	1019.2	1060.1	1093.8	1107.0	1139.7	**1223.2**	7.3%	2.1%	36.8%
Non-OECD	1657.5	1585.0	1744.6	1818.1	1845.4	1872.5	1890.1	1917.1	1938.3	2022.6	**2102.6**	4.0%	2.4%	63.2%
European Union	172.1	154.1	158.0	141.2	132.1	130.3	118.9	108.1	107.2	102.9	**93.9**	-8.8%	-4.8%	2.8%

*Excludes gas flared or recycled. Includes natural gas produced for gas-to-liquids transformation.
◆Less than 0.05%.
n/a not available.
Note: Annual changes and shares of total are calculated using million tonnes oil equivalent figures.

Source: Includes data from Cedigaz, FGE MENAgas service.

Natural gas: Consumption in billion cubic metres*

Billion cubic metres	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	89.3	86.6	88.3	97.5	97.2	104.3	109.6	109.8	105.9	109.7	**115.7**	5.5%	1.9%	3.0%
Mexico	60.0	65.2	66.0	70.8	73.7	77.8	78.8	80.8	83.0	86.4	**89.5**	3.6%	4.2%	2.3%
US	628.9	617.6	648.2	658.2	688.1	707.0	722.3	743.6	749.1	739.4	**817.1**	10.5%	1.7%	21.2%
Total North America	778.2	769.4	802.5	826.6	859.0	889.1	910.7	934.1	938.0	935.5	**1022.3**	9.3%	1.9%	26.6%
Argentina	43.2	41.8	42.1	43.8	45.7	46.0	46.2	46.7	48.2	48.3	**48.7**	0.8%	1.2%	1.3%
Brazil	25.7	20.7	27.6	27.5	32.6	38.4	40.7	42.9	37.1	37.6	**35.9**	-4.6%	5.6%	0.9%
Chile	2.8	2.8	5.7	5.8	5.3	5.3	4.4	4.8	5.9	5.6	**6.4**	14.2%	1.2%	0.2%
Colombia	7.3	8.4	8.7	8.5	9.5	10.5	11.4	11.2	11.8	12.2	**13.0**	7.1%	5.4%	0.3%
Ecuador	0.5	0.6	0.6	0.6	0.7	0.9	0.9	0.8	0.9	0.8	**0.7**	-14.1%	4.2%	◆
Peru	3.3	3.3	4.9	5.4	6.0	5.9	6.7	7.1	7.6	6.7	**7.0**	4.4%	10.1%	0.2%
Trinidad & Tobago	15.8	16.1	17.7	18.0	17.1	17.4	17.0	17.0	15.1	15.3	**15.3**	0.3%	-0.8%	0.4%
Venezuela	34.9	34.2	31.3	33.3	34.6	32.3	34.0	37.0	37.5	38.8	**33.4**	-13.9%	0.4%	0.9%
Other S. & Cent. America	4.7	4.9	5.1	5.8	6.3	6.9	7.2	7.1	7.4	7.3	**7.9**	8.4%	5.0%	0.2%
Total S. & Cent. America	138.1	132.9	143.7	148.7	157.7	163.5	168.5	174.7	171.6	172.6	**168.4**	-2.5%	2.3%	4.4%
Austria	9.1	8.8	9.6	9.0	8.6	8.2	7.5	8.0	8.3	9.1	**8.7**	-4.2%	0.7%	0.2%
Belgium	17.4	17.6	19.4	16.5	16.7	16.5	14.5	15.8	16.2	16.4	**16.9**	2.8%	-0.7%	0.4%
Czech Republic	8.3	7.9	9.4	7.9	8.0	8.1	7.2	7.5	8.2	8.4	**8.0**	-4.7%	-0.1%	0.2%
Finland	4.2	3.7	4.1	3.6	3.2	3.0	2.7	2.3	2.0	1.8	**2.0**	11.5%	-7.7%	0.1%
France	46.4	44.7	49.6	43.0	44.4	45.1	37.9	40.8	44.5	44.8	**42.7**	-4.6%	◆	1.1%
Germany	89.5	84.4	88.1	80.9	81.1	85.0	73.9	77.0	84.9	89.7	**88.3**	-1.6%	0.1%	2.3%
Greece	4.1	3.4	3.7	4.6	4.2	3.7	2.8	3.1	4.0	4.8	**4.7**	-1.8%	2.2%	0.1%
Hungary	12.3	10.6	11.4	10.9	9.7	9.1	8.1	8.7	9.3	9.9	**9.6**	-3.3%	-2.2%	0.2%
Italy	80.9	74.3	79.1	74.2	71.4	66.7	59.0	64.3	67.5	71.6	**69.2**	-3.3%	-1.3%	1.8%
Netherlands	40.4	41.4	46.8	40.9	39.3	39.1	34.5	34.1	35.2	36.1	**35.7**	-1.1%	-0.7%	0.9%
Norway	4.3	4.1	4.1	4.0	4.0	4.0	4.3	4.5	4.4	4.6	**4.5**	-2.2%	0.9%	0.1%
Poland	15.6	15.1	16.2	16.5	17.4	17.4	17.0	17.1	18.3	19.2	**19.7**	2.9%	2.9%	0.5%
Portugal	4.8	4.8	5.2	5.3	4.6	4.3	4.1	4.8	5.1	6.3	**5.9**	-7.6%	3.7%	0.2%
Romania	14.1	12.3	12.5	12.9	12.5	11.4	11.0	10.4	10.5	11.2	**10.9**	-2.8%	-2.8%	0.3%
Spain	40.6	36.3	36.2	33.6	33.2	30.3	27.5	28.5	29.1	31.7	**31.5**	-0.8%	-1.5%	0.8%
Sweden	0.9	1.1	1.5	1.3	1.1	1.1	0.9	0.9	1.0	0.8	**0.8**	2.4%	-2.6%	◆
Switzerland	2.9	2.8	3.2	2.8	3.1	3.2	2.8	3.0	3.1	3.1	**3.0**	-5.0%	1.3%	0.1%
Turkey	35.3	33.7	35.8	41.8	43.3	44.0	46.6	46.0	44.5	51.6	**47.3**	-8.3%	4.3%	1.2%
Ukraine	62.7	48.9	54.6	56.1	51.8	47.7	40.3	32.0	31.4	30.2	**30.6**	1.3%	-7.5%	0.8%
United Kingdom	97.8	91.2	98.5	81.9	76.9	76.3	70.1	72.0	81.2	78.8	**78.9**	0.1%	-1.9%	2.0%
Other Europe	34.0	29.8	33.5	32.3	30.7	30.0	27.2	28.1	28.9	30.3	**30.1**	-0.6%	-1.4%	0.8%
Total Europe	625.6	577.1	622.6	580.1	565.4	554.4	500.0	508.8	537.6	560.4	**549.0**	-2.1%	-1.0%	14.3%
Azerbaijan	10.0	8.6	8.1	8.9	9.4	9.4	9.9	11.1	10.9	10.6	**10.8**	1.9%	1.9%	0.3%
Belarus	19.9	16.9	20.7	19.2	19.4	19.3	19.1	17.9	17.8	18.2	**19.3**	6.1%	-0.7%	0.5%
Kazakhstan	10.6	10.1	11.0	12.2	13.0	13.6	15.0	15.3	15.8	15.9	**19.4**	22.4%	4.1%	0.5%
Russian Federation	422.7	397.8	423.9	435.6	428.6	424.9	422.2	408.7	420.6	431.1	**454.5**	5.4%	0.1%	11.8%
Turkmenistan	7.9	17.1	18.3	20.7	22.9	19.3	20.0	25.4	24.1	25.3	**28.4**	12.0%	8.5%	0.7%
Uzbekistan	44.1	44.1	44.0	47.4	46.2	46.2	48.5	46.3	43.3	43.1	**42.6**	-1.2%	-0.8%	1.1%
Other CIS	5.9	5.3	5.2	5.5	5.7	4.8	5.3	5.2	5.1	5.1	**5.7**	13.2%	-1.5%	0.1%
Total CIS	521.3	499.9	531.3	549.5	545.2	537.3	539.9	530.0	537.7	549.3	**580.8**	5.7%	0.3%	15.1%
Iran	125.8	134.8	144.4	153.2	152.5	153.8	173.4	184.0	196.3	209.9	**225.6**	7.4%	5.9%	5.9%
Iraq	6.5	6.9	7.1	6.3	6.3	7.1	7.5	7.3	9.9	12.7	**17.0**	33.9%	10.9%	0.4%
Israel	3.6	4.0	5.1	4.7	2.4	6.6	7.2	8.1	9.2	9.9	**10.5**	6.4%	14.2%	0.3%
Kuwait	12.1	11.8	14.0	15.9	17.5	17.8	17.9	20.3	21.1	21.0	**21.8**	3.6%	7.0%	0.6%
Oman	13.4	13.7	16.3	18.1	19.7	21.7	21.3	23.0	22.8	23.3	**24.9**	6.9%	6.7%	0.6%
Qatar	20.7	21.3	25.4	28.7	33.6	35.6	38.6	42.5	40.4	43.1	**41.9**	-2.8%	8.4%	1.1%
Saudi Arabia	76.4	74.5	83.3	87.6	94.4	95.0	97.3	99.2	105.3	109.3	**112.1**	2.6%	4.4%	2.9%
United Arab Emirates	58.0	57.6	59.3	61.6	63.9	64.7	63.4	71.5	72.7	74.4	**76.6**	2.9%	4.5%	2.0%
Other Middle East	20.7	22.7	25.2	21.9	20.4	21.0	20.9	22.4	23.0	23.4	**22.7**	-2.9%	1.8%	0.6%
Total Middle East	337.1	347.3	380.1	398.1	410.8	423.3	447.5	478.3	500.9	527.0	**553.1**	4.9%	5.6%	14.4%
Algeria	24.4	26.2	25.3	26.8	29.9	32.1	36.1	37.9	38.6	38.9	**42.7**	9.9%	5.2%	1.1%
Egypt	39.3	40.9	43.4	47.8	50.6	49.5	46.2	46.0	49.4	55.9	**59.6**	6.5%	4.2%	1.5%
Morocco	0.6	0.6	0.7	0.9	1.2	1.1	1.1	1.1	1.1	1.1	**1.0**	-9.6%	6.7%	◆
South Africa	3.9	3.3	4.1	4.3	4.4	4.1	4.3	4.3	4.5	4.4	**4.3**	-2.2%	1.6%	0.1%
Other Africa	26.6	24.5	25.4	27.5	29.1	29.8	32.1	38.7	41.4	40.4	**42.3**	4.9%	4.5%	1.1%
Total Africa	94.8	95.6	98.9	107.2	115.1	116.6	119.9	128.1	135.0	140.8	**150.0**	6.6%	4.5%	3.9%
Australia	28.5	29.1	33.8	35.3	35.4	37.2	40.1	42.1	41.7	41.2	**41.4**	0.4%	3.6%	1.1%
Bangladesh	16.4	18.7	19.3	19.6	21.3	22.0	23.0	25.9	26.5	26.7	**28.4**	6.4%	5.7%	0.7%
China	81.9	90.2	108.9	135.2	150.9	171.9	188.4	194.7	209.4	240.4	**283.0**	17.7%	13.0%	7.4%
China Hong Kong SAR	3.0	2.9	3.6	2.9	2.6	2.5	2.4	3.0	3.1	3.1	**3.0**	-3.2%	1.9%	0.1%
India	40.0	49.1	59.0	60.3	55.7	49.0	48.5	47.8	50.8	53.7	**58.1**	8.1%	3.3%	1.5%
Indonesia	39.7	42.1	44.0	42.7	42.9	41.4	41.5	41.0	39.1	38.5	**39.0**	1.1%	1.1%	1.0%
Japan	99.1	92.5	99.9	112.0	123.2	123.5	124.8	118.7	116.4	117.0	**115.7**	-1.1%	2.1%	3.0%
Malaysia	43.5	40.0	38.0	38.3	42.0	44.6	44.7	43.9	42.4	41.8	**41.3**	-1.2%	0.3%	1.1%
New Zealand	3.9	4.0	4.4	4.0	4.4	4.7	5.2	4.8	4.8	5.0	**4.3**	-12.9%	1.7%	0.1%
Pakistan	34.6	34.7	35.3	35.3	36.6	35.6	35.0	36.5	38.7	40.7	**43.6**	7.0%	1.9%	1.1%
Philippines	3.7	3.7	3.5	3.8	3.6	3.4	3.5	3.3	3.8	3.8	**4.1**	8.3%	0.7%	0.1%
Singapore	8.7	9.2	8.3	8.3	8.9	10.0	10.4	11.6	11.9	12.3	**12.3**	◆	4.2%	0.3%
South Korea	37.3	35.5	45.0	48.4	52.5	55.0	50.0	45.6	47.6	49.8	**55.9**	12.4%	3.2%	1.5%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	n/a	n/a	n/a
Taiwan	12.8	12.5	15.5	17.0	17.9	17.9	18.9	20.2	21.0	23.2	**23.7**	1.8%	7.1%	0.6%
Thailand	36.9	38.1	43.2	44.3	48.6	48.9	49.9	51.0	50.6	50.1	**49.9**	-0.3%	3.6%	1.3%
Vietnam	7.2	7.7	9.1	8.2	9.0	9.4	9.9	10.3	10.2	9.5	**9.6**	1.3%	3.4%	0.3%
Other Asia Pacific	6.3	5.5	6.8	7.5	8.5	8.6	10.1	12.0	11.4	11.4	**12.0**	5.3%	5.9%	0.3%
Total Asia Pacific	503.7	515.6	577.6	623.1	664.3	685.5	706.2	712.5	729.3	768.3	**825.3**	7.4%	5.0%	21.4%
Total World	**2998.8**	**2937.8**	**3156.7**	**3233.3**	**3317.5**	**3369.8**	**3392.6**	**3466.5**	**3550.2**	**3654.0**	**3848.9**	**5.3%**	**2.2%**	**100.0%**
of which: OECD	1489.0	1442.4	1539.7	1534.4	1570.5	1604.4	1579.3	1612.2	1646.8	1669.2	**1750.6**	4.9%	1.3%	45.5%
Non-OECD	1509.8	1495.4	1617.0	1698.9	1747.0	1765.4	1813.3	1854.2	1903.4	1984.8	**2098.3**	5.7%	3.1%	54.5%
European Union	516.6	484.5	521.3	471.0	459.1	451.2	401.7	418.7	449.3	465.7	**458.5**	-1.6%	-0.8%	11.9%

Source: Includes data from Cedigaz, FGE MENAgas service.

*Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in gas-to-liquids transformation.
◆Less than 0.05%.
n/a not available.
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 tonnes of oil equivalent using an average conversion factor and have been standardized using a gross calorific value (GCV) of 40 MJ/m^3.
The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.
Annual changes and shares of total are calculated using billion cubic metres figures.
Natural gas consumption data expressed in billion cubic feet per day is available at *bp.com/statisticalreview*.

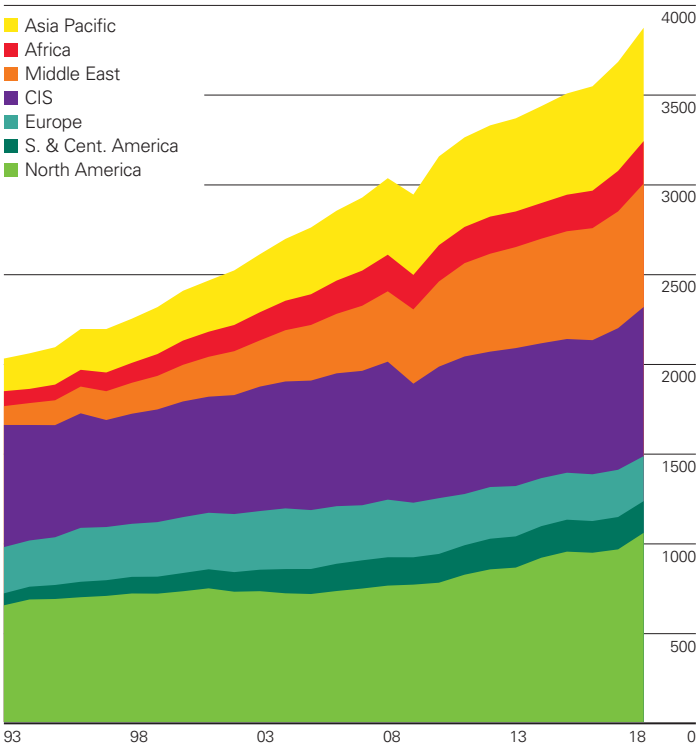
Natural gas: Consumption in million tonnes oil equivalent*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	76.8	74.4	75.9	83.9	83.6	89.7	94.2	94.4	91.0	94.3	**99.5**	5.5%	1.9%	3.0%
Mexico	51.6	56.0	56.8	60.9	63.3	66.9	67.8	69.5	71.4	74.3	**77.0**	3.6%	4.2%	2.3%
US	540.7	531.1	557.3	566.0	591.7	607.9	621.0	639.4	644.1	635.8	**702.6**	10.5%	1.7%	21.2%
Total North America	669.2	661.5	690.0	710.7	738.6	764.5	783.1	803.2	806.5	804.4	**879.1**	9.3%	1.9%	26.6%
Argentina	37.1	36.0	36.2	37.7	39.3	39.6	39.7	40.1	41.5	41.5	**41.9**	0.8%	1.2%	1.3%
Brazil	22.1	17.8	23.7	23.6	28.0	33.0	35.0	36.9	31.9	32.4	**30.9**	-4.6%	5.6%	0.9%
Chile	2.4	2.4	4.9	5.0	4.6	4.6	3.8	4.1	5.1	4.8	**5.5**	14.2%	1.2%	0.2%
Colombia	6.3	7.2	7.5	7.3	8.1	9.0	9.8	9.6	10.1	10.5	**11.2**	7.1%	5.4%	0.3%
Ecuador	0.4	0.5	0.5	0.5	0.6	0.7	0.8	0.7	0.8	0.7	**0.6**	-14.1%	4.2%	◆
Peru	2.8	2.9	4.2	4.6	5.2	5.1	5.8	6.1	6.5	5.8	**6.1**	4.4%	10.1%	0.2%
Trinidad & Tobago	13.6	13.8	15.2	15.4	14.7	14.9	14.7	14.6	13.0	13.1	**13.2**	0.3%	-0.8%	0.4%
Venezuela	30.0	29.4	26.9	28.7	29.8	27.8	29.3	31.8	32.3	33.4	**28.7**	-13.9%	0.4%	0.9%
Other S. & Cent. America	4.1	4.2	4.4	5.0	5.4	5.9	6.2	6.1	6.4	6.2	**6.8**	8.4%	5.0%	0.2%
Total S. & Cent. America	118.7	114.2	123.5	127.8	135.6	140.6	144.8	150.2	147.5	148.4	**144.8**	-2.5%	2.3%	4.4%
Austria	7.8	7.6	8.3	7.8	7.4	7.1	6.5	6.9	7.2	7.8	**7.5**	-4.2%	0.7%	0.2%
Belgium	15.0	15.1	16.7	14.2	14.4	14.2	12.4	13.6	13.9	14.1	**14.5**	2.8%	-0.7%	0.4%
Czech Republic	7.2	6.8	8.1	6.8	6.9	6.9	6.2	6.5	7.0	7.2	**6.9**	-4.7%	-0.1%	0.2%
Finland	3.6	3.2	3.6	3.1	2.7	2.6	2.3	2.0	1.7	1.6	**1.8**	11.5%	-7.7%	0.1%
France	39.9	38.5	42.6	37.0	38.2	38.8	32.6	35.0	38.3	38.5	**36.7**	-4.6%	◆	1.1%
Germany	77.0	72.6	75.7	69.5	69.7	73.1	63.5	66.2	73.0	77.2	**75.9**	-1.6%	0.1%	2.3%
Greece	3.5	2.9	3.2	4.0	3.6	3.2	2.4	2.6	3.4	4.1	**4.1**	-1.8%	2.2%	0.1%
Hungary	10.6	9.2	9.8	9.4	8.4	7.8	7.0	7.5	8.0	8.5	**8.3**	-3.3%	-2.2%	0.2%
Italy	69.5	63.9	68.1	63.8	61.4	57.4	50.7	55.3	58.1	61.5	**59.5**	-3.3%	-1.3%	1.8%
Netherlands	34.7	35.6	40.2	35.2	33.8	33.6	29.6	29.3	30.2	31.0	**30.7**	-1.1%	-0.7%	0.9%
Norway	3.7	3.5	3.5	3.5	3.4	3.4	3.7	3.9	3.8	3.9	**3.9**	-2.2%	0.9%	0.1%
Poland	13.5	13.0	14.0	14.1	15.0	15.0	14.6	14.7	15.7	16.5	**17.0**	2.9%	2.9%	0.5%
Portugal	4.1	4.1	4.5	4.5	3.9	3.7	3.5	4.1	4.4	5.5	**5.0**	-7.6%	3.7%	0.2%
Romania	12.2	10.6	10.8	11.1	10.8	9.8	9.5	8.9	9.0	9.6	**9.3**	-2.8%	-2.8%	0.3%
Spain	34.9	31.2	31.1	28.9	28.6	26.1	23.7	24.5	25.0	27.3	**27.1**	-0.8%	-1.5%	0.8%
Sweden	0.8	1.0	1.3	1.1	0.9	0.9	0.8	0.8	0.8	0.7	**0.7**	2.4%	-2.6%	◆
Switzerland	2.5	2.4	2.7	2.4	2.6	2.8	2.4	2.6	2.7	2.7	**2.6**	-5.0%	1.3%	0.1%
Turkey	30.4	29.0	30.8	36.0	37.2	37.8	40.1	39.5	38.3	44.3	**40.7**	-8.3%	4.3%	1.2%
Ukraine	54.0	42.1	46.9	48.3	44.6	41.0	34.7	27.5	27.0	26.0	**26.3**	1.3%	-7.5%	0.8%
United Kingdom	84.1	78.4	84.7	70.4	66.1	65.6	60.2	61.9	69.8	67.8	**67.8**	0.1%	-1.9%	2.0%
Other Europe	29.2	25.6	28.8	27.8	26.4	25.8	23.4	24.1	24.8	26.1	**25.9**	-0.6%	-1.4%	0.8%
Total Europe	538.0	496.2	535.3	498.8	486.1	476.7	429.9	437.5	462.2	481.9	**472.0**	-2.1%	-1.0%	14.3%
Azerbaijan	8.6	7.4	7.0	7.7	8.0	8.1	8.5	9.6	9.4	9.1	**9.3**	1.9%	1.9%	0.3%
Belarus	17.1	14.6	17.8	16.5	16.7	16.6	16.4	15.4	15.3	15.7	**16.6**	6.1%	-0.7%	0.5%
Kazakhstan	9.1	8.7	9.5	10.5	11.1	11.7	12.9	13.2	13.6	13.7	**16.7**	22.4%	4.1%	0.5%
Russian Federation	363.5	342.0	364.5	374.6	368.6	365.3	363.0	351.4	361.7	370.7	**390.8**	5.4%	0.1%	11.8%
Turkmenistan	6.8	14.7	15.7	17.8	19.7	16.6	17.2	21.8	20.7	21.8	**24.4**	12.0%	8.5%	0.7%
Uzbekistan	37.9	37.9	37.9	40.7	39.8	39.7	41.7	39.8	37.3	37.1	**36.6**	-1.2%	-0.8%	1.1%
Other CIS	5.1	4.6	4.4	4.7	4.9	4.1	4.5	4.5	4.4	4.3	**4.9**	13.2%	-1.5%	0.1%
Total CIS	448.2	429.9	456.8	472.5	468.8	462.0	464.3	455.7	462.4	472.3	**499.4**	5.7%	0.3%	15.1%
Iran	108.2	115.9	124.2	131.7	131.2	132.3	149.1	158.2	168.8	180.5	**193.9**	7.4%	5.9%	5.9%
Iraq	5.6	5.9	6.1	5.4	5.5	6.1	6.5	6.3	8.5	11.0	**14.7**	33.9%	10.9%	0.4%
Israel	3.1	3.4	4.4	4.1	2.1	5.7	6.2	6.9	8.0	8.5	**9.0**	6.4%	14.2%	0.3%
Kuwait	10.4	10.2	12.0	13.6	15.1	15.3	15.4	17.5	18.2	18.1	**18.7**	3.6%	7.0%	0.6%
Oman	11.5	11.8	14.0	15.6	16.9	18.6	18.3	19.8	19.6	20.0	**21.4**	6.9%	6.7%	0.6%
Qatar	17.8	18.3	21.9	24.7	28.9	30.6	33.2	36.5	34.7	37.0	**36.0**	-2.8%	8.4%	1.1%
Saudi Arabia	65.7	64.1	71.6	75.4	81.1	81.7	83.6	85.3	90.6	93.9	**96.4**	2.6%	4.4%	2.9%
United Arab Emirates	49.8	49.5	51.0	53.0	55.0	55.7	54.5	61.5	62.5	64.0	**65.8**	2.9%	4.5%	2.0%
Other Middle East	17.8	19.5	21.7	18.8	17.5	18.0	18.0	19.3	19.8	20.1	**19.5**	-2.9%	1.8%	0.6%
Total Middle East	289.8	298.6	326.8	342.3	353.2	364.0	384.8	411.3	430.7	453.2	**475.6**	4.9%	5.6%	14.4%
Algeria	21.0	22.5	21.8	23.0	25.7	27.6	31.0	32.6	33.2	33.4	**36.7**	9.9%	5.2%	1.1%
Egypt	33.8	35.2	37.3	41.1	43.5	42.6	39.7	39.6	42.4	48.1	**51.2**	6.5%	4.2%	1.5%
Morocco	0.5	0.6	0.6	0.8	1.0	1.0	1.0	1.0	1.0	1.0	**0.9**	-9.6%	6.7%	◆
South Africa	3.4	2.9	3.5	3.7	3.7	3.5	3.7	3.7	3.9	3.8	**3.7**	-2.2%	1.6%	0.1%
Other Africa	22.8	21.0	21.8	23.6	25.0	25.6	27.6	33.2	35.6	34.7	**36.4**	4.9%	4.5%	1.1%
Total Africa	81.5	82.2	85.1	92.2	99.0	100.3	103.1	110.1	116.1	121.0	**129.0**	6.6%	4.5%	3.9%
Australia	24.5	25.1	29.0	30.3	30.4	32.0	34.5	36.2	35.9	35.5	**35.6**	0.4%	3.6%	1.1%
Bangladesh	14.1	16.1	16.6	16.8	18.3	18.9	19.8	22.2	22.7	22.9	**24.4**	6.4%	5.7%	0.7%
China	70.4	77.6	93.6	116.2	129.7	147.8	162.0	167.4	180.1	206.7	**243.3**	17.7%	13.0%	7.4%
China Hong Kong SAR	2.6	2.5	3.1	2.5	2.3	2.1	2.1	2.6	2.7	2.7	**2.6**	-3.2%	1.9%	0.1%
India	34.4	42.2	50.7	51.8	47.9	42.1	41.7	41.1	43.7	46.2	**49.9**	8.1%	3.3%	1.5%
Indonesia	34.1	36.2	37.9	36.7	36.9	35.6	35.7	35.3	33.6	33.1	**33.5**	1.1%	1.1%	1.0%
Japan	85.2	79.5	85.9	96.3	105.9	106.2	107.3	102.1	100.1	100.6	**99.5**	-1.1%	2.1%	3.0%
Malaysia	37.4	34.4	32.7	32.9	36.1	38.3	38.4	37.8	36.4	35.9	**35.5**	-1.2%	0.3%	1.1%
New Zealand	3.3	3.4	3.8	3.4	3.8	4.0	4.5	4.1	4.1	4.3	**3.7**	-12.9%	1.7%	0.1%
Pakistan	29.8	29.8	30.4	30.4	31.5	30.6	30.1	31.4	33.2	35.0	**37.5**	7.0%	1.9%	1.1%
Philippines	3.2	3.2	3.0	3.3	3.1	2.9	3.0	2.9	3.3	3.2	**3.5**	8.3%	0.7%	0.1%
Singapore	7.5	7.9	7.2	7.1	7.7	8.6	8.9	10.0	10.2	10.6	**10.6**	◆	4.2%	0.3%
South Korea	32.1	30.5	38.7	41.7	45.2	47.3	43.0	39.3	41.0	42.8	**48.1**	12.4%	3.2%	1.5%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	n/a	n/a	n/a
Taiwan	11.0	10.7	13.3	14.7	15.4	15.4	16.2	17.4	18.0	20.0	**20.3**	1.8%	7.1%	0.6%
Thailand	31.8	32.8	37.2	38.1	41.8	42.0	42.9	43.8	43.5	43.1	**42.9**	-0.3%	3.6%	1.3%
Vietnam	6.2	6.6	7.8	7.0	7.8	8.1	8.5	8.8	8.8	8.2	**8.3**	1.3%	3.4%	0.3%
Other Asia Pacific	5.5	4.7	5.8	6.5	7.3	7.4	8.7	10.3	9.8	9.8	**10.3**	5.3%	5.9%	0.3%
Total Asia Pacific	433.1	443.4	496.7	535.8	571.2	589.5	607.2	612.7	627.1	660.6	**709.6**	7.4%	5.0%	21.4%
Total World	**2578.5**	**2526.0**	**2714.3**	**2780.1**	**2852.6**	**2897.5**	**2917.1**	**2980.6**	**3052.6**	**3141.9**	**3309.4**	**5.3%**	**2.2%**	**100.0%**
of which: OECD	1280.3	1240.2	1323.9	1319.3	1350.4	1379.5	1358.0	1386.3	1416.0	1435.2	**1505.2**	4.9%	1.3%	45.5%
Non-OECD	1298.2	1285.8	1390.4	1460.8	1502.2	1517.9	1559.2	1594.4	1636.6	1706.7	**1804.2**	5.7%	3.1%	54.5%
European Union	444.2	416.6	448.2	405.0	394.7	387.9	345.4	360.0	386.3	400.4	**394.2**	-1.6%	-0.8%	11.9%

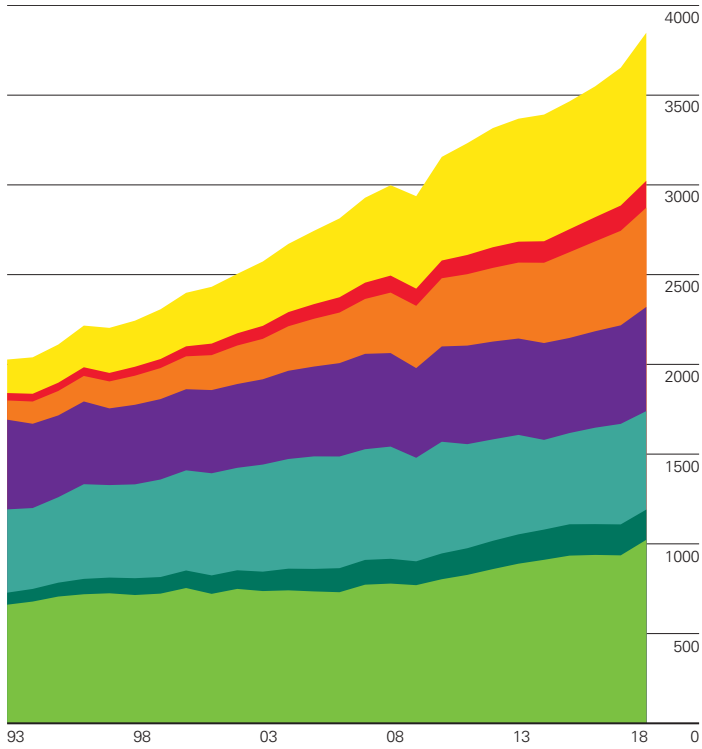
Source: Includes data from Cedigaz, FGE MENAgas service.

*Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in gas-to-liquids transformation.
◆Less than 0.05%.
n/a not available.
Notes: The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.
Annual changes and shares of total are calculated using million tonnes oil equivalent figures.

Natural gas: Production by region
Billion cubic metres

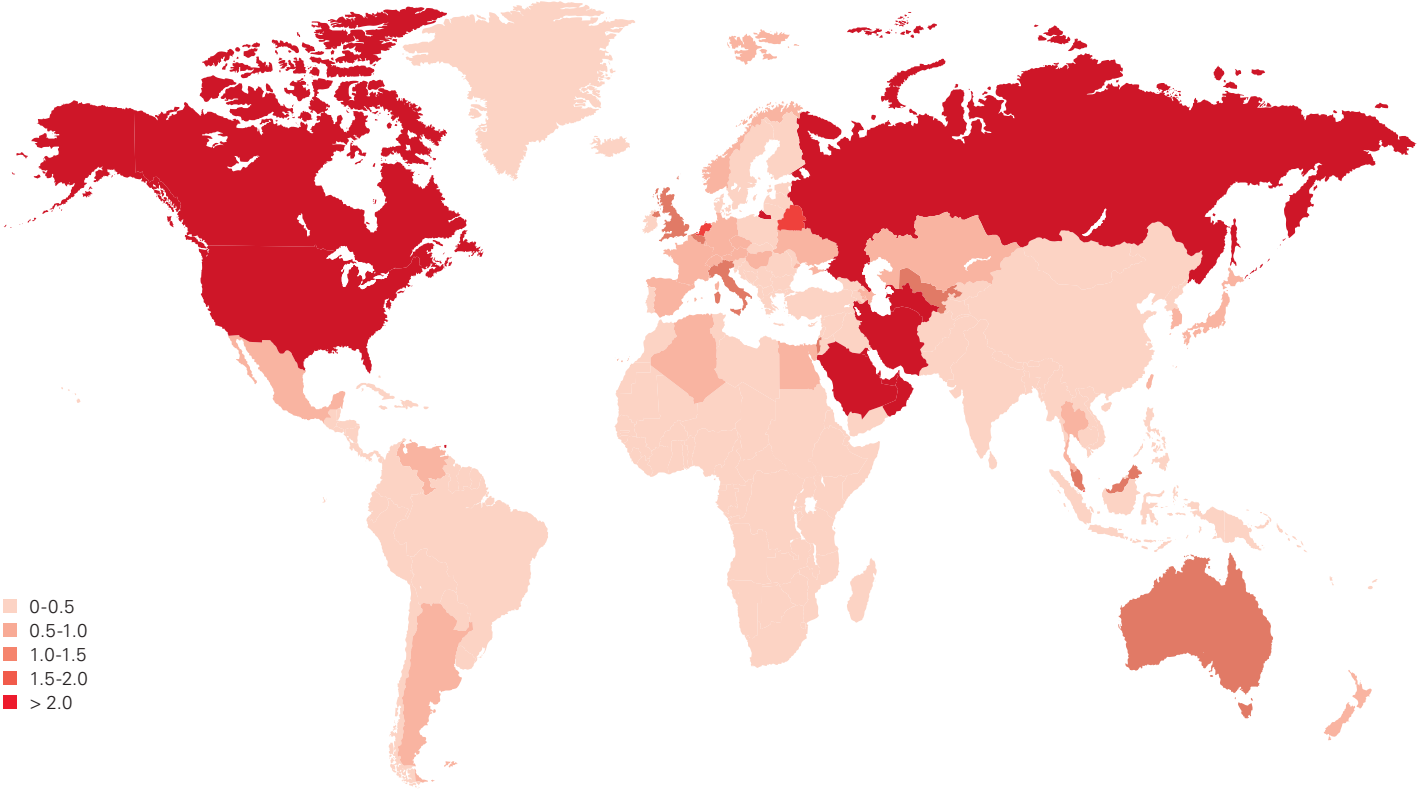


Natural gas: Consumption by region
Billion cubic metres



Gas production and consumption registered record-high volumetric increases in 2018. Production increased by 5.2%, the highest rate since 2010 and more than double the 10-year average growth rate of 2.3%. US (86 bcm) and Russia (34 bcm) accounted for almost two thirds of global growth. Similarly, gas consumption increased by 5.3%, with the US (78 bcm) registering the strongest growth on record. China also saw above-average growth of 17.7% (43 bcm).

Natural gas: Consumption per capita 2018
Million tonnes oil equivalent



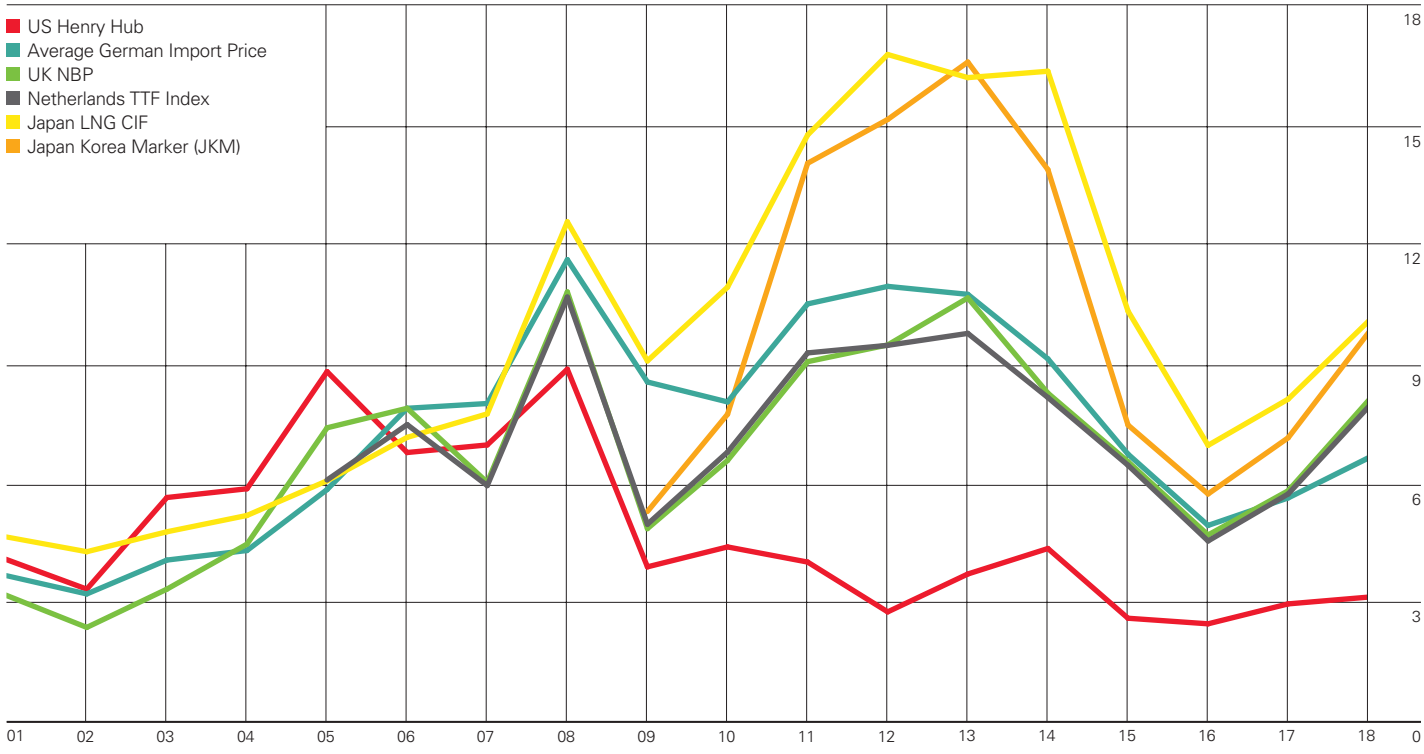
Prices

US dollars per million Btu	LNG Japan CIF[1]	LNG Japan Korea Marker (JKM)[2]	Natural gas Average German Import Price[3]	Natural gas UK (Heren NBP Index)[4]	Natural gas Netherlands TTF (DA Heren Index)[4]	Natural gas US Henry Hub[5]	Natural gas Canada (Alberta)[5]	Crude oil OECD countries CIF[6]
1988	3.34	–	2.22	–	–	–	–	2.56
1989	3.28	–	2.00	–	–	1.70	–	3.01
1990	3.64	–	2.78	–	–	1.64	1.05	3.82
1991	3.99	–	3.23	–	–	1.49	0.89	3.33
1992	3.62	–	2.70	–	–	1.77	0.98	3.19
1993	3.52	–	2.51	–	–	2.12	1.69	2.82
1994	3.18	–	2.35	–	–	1.92	1.45	2.70
1995	3.46	–	2.43	–	–	1.69	0.89	2.96
1996	3.66	–	2.50	1.87	–	2.76	1.12	3.54
1997	3.91	–	2.66	1.96	–	2.53	1.36	3.29
1998	3.05	–	2.33	1.86	–	2.08	1.42	2.16
1999	3.14	–	1.86	1.58	–	2.27	2.00	2.98
2000	4.72	–	2.91	2.71	–	4.23	3.75	4.83
2001	4.64	–	3.67	3.17	–	4.07	3.61	4.08
2002	4.27	–	3.21	2.37	–	3.33	2.57	4.17
2003	4.77	–	4.06	3.33	–	5.63	4.83	4.89
2004	5.18	–	4.30	4.46	–	5.85	5.03	6.27
2005	6.05	–	5.83	7.38	6.07	8.79	7.25	8.74
2006	7.14	–	7.87	7.87	7.46	6.76	5.83	10.66
2007	7.73	–	7.99	6.01	5.93	6.95	6.17	11.95
2008	12.55	–	11.60	10.79	10.66	8.85	7.99	16.76
2009	9.06	5.28	8.53	4.85	4.96	3.89	3.38	10.41
2010	10.91	7.72	8.03	6.56	6.77	4.39	3.69	13.47
2011	14.73	14.02	10.49	9.04	9.26	4.01	3.47	18.56
2012	16.75	15.12	10.93	9.46	9.45	2.76	2.27	18.82
2013	16.17	16.56	10.73	10.64	9.75	3.71	2.93	18.25
2014	16.33	13.86	9.11	8.25	8.14	4.35	3.87	16.80
2015	10.31	7.45	6.72	6.53	6.44	2.60	2.01	8.77
2016	6.94	5.72	4.93	4.69	4.54	2.46	1.55	7.04
2017	8.10	7.13	5.62	5.80	5.72	2.96	1.60	8.97
2018	10.05	9.76	6.62	8.06	7.90	3.13	1.12	11.69

[1]Source: EDMC Energy Trend.
[2]Source: S&P Global Platts ©2019, S&P Global Inc.
[3]Source: 1988-1990 German Federal Statistical Office, 1991-2018 German Federal Office of Economics and Export Control (BAFA).
[4]Source: ICIS Heren Energy Ltd.
[5]Source: Energy Intelligence Group, Natural Gas Week.
[6]Source: ©OECD/IEA 2019, Oil, Gas, Coal and Electricity, Quarterly Statistics *www.iea.org/statistics*.

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

Prices
$/mmBtu



Natural gas: Inter-regional trade

Billion cubic metres	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
US														
Pipeline imports	99.0	89.9	90.2	85.0	80.8	75.9	71.8	71.6	79.5	80.8	**77.3**	-4.3%	-2.5%	8.2%
LNG imports	9.7	12.6	12.1	9.9	4.9	2.7	1.7	2.5	2.4	2.2	**2.1**	-2.0%	-20.5%	0.2%
Total imports	108.7	102.5	102.3	94.9	85.6	78.6	73.5	74.1	82.0	83.0	**79.5**	-4.2%	-4.1%	8.4%
Pipeline exports	25.2	28.3	29.2	39.1	45.3	42.5	40.4	47.2	58.7	66.1	**67.6**	2.4%	12.1%	7.2%
LNG exports*	1.0	0.8	1.5	1.8	0.8	0.2	0.4	0.7	4.0	17.2	**28.4**	65.4%	30.1%	3.0%
Total exports	26.2	29.1	30.7	40.9	46.1	42.7	40.8	47.9	62.7	83.3	**96.1**	15.4%	14.1%	10.2%
Other North America														
Pipeline imports	25.2	28.3	29.2	39.1	45.3	42.5	40.4	47.2	58.7	66.1	**67.6**	2.4%	12.1%	7.2%
LNG imports	3.8	4.7	8.1	7.0	6.5	8.8	9.8	7.4	5.9	7.0	**7.5**	7.2%	11.9%	0.8%
Total imports	29.0	33.1	37.3	46.1	51.7	51.3	50.2	54.7	64.5	73.1	**75.1**	2.8%	12.1%	8.0%
Pipeline exports	99.0	89.9	90.2	85.0	80.8	75.9	71.8	71.6	79.5	80.8	**77.3**	-4.3%	-2.5%	8.2%
LNG exports*	–	–	–	0.1	–	–	†	†	†	†	**0.1**	22.9%	n/a	◆
Total exports	99.0	89.9	90.2	85.1	80.8	75.9	71.9	71.6	79.6	80.8	**77.4**	-4.3%	-2.5%	8.2%
Brazil														
Pipeline imports	10.7	7.7	9.3	9.3	9.5	11.0	11.4	11.2	9.8	8.4	**7.6**	-9.2%	-1.5%	0.8%
LNG imports	–	0.4	2.8	0.7	3.5	5.2	7.1	6.8	2.6	1.7	**2.9**	67.8%	n/a	0.3%
Total imports	10.7	8.1	12.1	9.9	13.0	16.3	18.5	18.0	12.4	10.1	**10.5**	3.8%	0.3%	1.1%
LNG exports*	–	–	–	–	0.5	0.1	0.2	†	0.6	0.2	**0.1**	-67.6%	n/a	◆
Total exports	–	–	–	–	0.5	0.1	0.2	†	0.6	0.2	**0.1**	-67.6%	n/a	◆
Other S&C America														
LNG imports	1.8	3.1	6.4	9.3	11.1	12.9	12.5	12.1	12.6	11.7	**11.6**	-1.2%	26.1%	1.2%
Total imports	1.8	3.1	6.4	9.3	11.1	12.9	12.5	12.1	12.6	11.7	**11.6**	-1.2%	26.1%	1.2%
Pipeline exports	10.7	7.7	9.3	9.3	9.5	11.0	11.4	11.2	9.8	8.4	**7.6**	-9.2%	-1.5%	0.8%
LNG exports*	18.2	19.5	21.4	23.4	23.4	24.1	23.3	21.4	19.8	19.1	**21.5**	13.0%	0.5%	2.3%
Total exports	28.9	27.1	30.7	32.7	32.9	35.1	34.7	32.6	29.7	27.5	**29.2**	6.2%	-0.1%	3.1%
Europe														
Pipeline imports	276.1	218.3	224.8	234.4	228.5	234.1	209.4	214.9	230.5	247.5	**249.1**	0.7%	-0.6%	26.4%
LNG imports	57.4	70.5	89.1	89.2	68.2	51.8	52.1	56.0	56.5	65.3	**71.5**	9.6%	1.8%	7.6%
Total imports	333.5	288.8	313.9	323.6	296.7	285.8	261.4	271.0	287.0	312.7	**320.6**	2.5%	-0.1%	34.0%
LNG exports*	2.5	3.4	5.1	6.1	8.1	9.0	13.0	11.0	10.6	8.0	**11.7**	46.5%	47.8%	1.2%
Total exports	2.5	3.4	5.1	6.1	8.1	9.0	13.0	11.0	10.6	8.0	**11.7**	46.5%	47.8%	1.2%
Russia														
Pipeline imports	74.4	38.5	33.4	41.2	39.7	32.9	33.1	26.5	24.3	28.6	**25.2**	-12.1%	-7.8%	2.7%
Total imports	74.4	38.5	33.4	41.2	39.7	32.9	33.1	26.5	24.3	28.6	**25.2**	-12.1%	-7.8%	2.7%
Pipeline exports	251.7	189.6	194.0	210.6	201.5	210.7	189.6	194.2	202.0	219.7	**223.0**	1.5%	-0.8%	23.6%
LNG exports	–	6.8	13.5	14.3	14.3	14.5	13.6	14.6	14.6	15.4	**24.9**	61.5%	n/a	2.6%
Total exports	251.7	196.5	207.5	224.9	215.8	225.2	203.2	208.8	216.7	235.2	**247.9**	5.4%	-0.2%	26.3%
Other CIS														
Pipeline imports	25.5	22.7	26.5	25.4	25.2	24.0	26.3	25.4	26.3	28.8	**29.6**	2.9%	1.5%	3.1%
Total imports	25.5	22.7	26.5	25.4	25.2	24.0	26.3	25.4	26.3	28.8	**29.6**	2.9%	1.5%	3.1%
Pipeline exports	82.3	51.5	51.1	71.8	69.7	69.5	75.4	72.6	72.8	78.0	**81.4**	4.3%	0.9%	8.6%
Total exports	82.3	51.5	51.1	71.8	69.7	69.5	75.4	72.6	72.8	78.0	**81.4**	4.3%	0.9%	8.6%
Middle East														
Pipeline imports	10.7	9.1	13.4	13.0	5.3	6.3	7.6	9.6	7.3	4.6	**2.1**	-54.0%	-6.8%	0.2%
LNG imports	–	0.9	3.0	4.4	4.2	4.3	5.3	9.8	13.7	13.0	**9.4**	-28.2%	n/a	1.0%
Total imports	10.7	10.1	16.4	17.4	9.4	10.6	12.9	19.4	21.1	17.7	**11.5**	-35.0%	6.5%	1.2%
Pipeline exports	3.9	5.5	8.2	9.1	9.0	8.9	9.3	8.1	8.0	11.0	**8.1**	-26.6%	6.3%	0.9%
LNG exports	60.7	71.8	103.8	128.7	130.3	135.2	132.2	125.4	126.0	122.7	**125.8**	2.5%	7.3%	13.3%
Total exports	64.6	77.3	112.0	137.9	139.3	144.2	141.5	133.5	133.9	133.7	**133.9**	0.1%	7.2%	14.2%
Africa														
LNG imports	–	–	–	–	–	–	–	3.9	10.7	8.3	**3.2**	-61.9%	n/a	0.3%
Total imports	–	–	–	–	–	–	–	3.9	10.7	8.3	**3.2**	-61.9%	n/a	0.3%
Pipeline exports	48.8	42.0	48.2	36.1	39.3	34.4	29.4	30.2	38.6	37.5	**38.6**	3.1%	-1.6%	4.1%
LNG exports	63.8	56.0	58.8	56.4	54.2	47.0	49.5	48.5	46.3	55.8	**54.0**	-3.4%	-1.2%	5.7%
Total exports	112.6	98.0	106.9	92.4	93.5	81.4	78.8	78.7	84.9	93.3	**92.6**	-0.8%	-1.4%	9.8%
China														
Pipeline imports	–	–	3.4	13.6	20.8	26.4	30.3	32.4	36.8	39.9	**47.9**	20.0%	n/a	5.1%
LNG imports	4.6	8.0	13.0	16.9	20.1	25.1	27.3	27.0	36.8	52.9	**73.5**	38.8%	29.3%	7.8%
Total imports	4.6	8.0	16.4	30.5	40.8	51.5	57.5	59.4	73.5	92.8	**121.3**	30.7%	36.8%	12.9%
India														
LNG imports	11.3	13.0	11.5	17.4	18.4	18.0	19.1	20.0	24.3	26.1	**30.6**	17.0%	9.6%	3.2%
Total imports	11.3	13.0	11.5	17.4	18.4	18.0	19.1	20.0	24.3	26.1	**30.6**	17.0%	9.6%	3.2%
LNG exports*	–	–	–	–	–	–	–	0.4	0.1	0.1	**–**	-100.0%	n/a	–
Total exports	–	–	–	–	–	–	–	0.4	0.1	0.1	**–**	-100.0%	n/a	–
OECD Asia														
Pipeline imports	5.9	6.0	5.5	5.9	5.4	6.3	5.9	6.7	6.5	5.8	**5.9**	0.9%	1.2%	0.6%
LNG imports	133.6	124.2	141.4	156.3	169.6	175.7	173.6	161.6	159.9	165.4	**173.2**	4.7%	2.6%	18.4%
Total imports	139.5	130.2	146.8	162.2	174.9	182.1	179.5	168.4	166.4	171.2	**179.1**	4.6%	2.5%	19.0%
LNG exports*	20.9	25.1	25.8	26.0	28.3	30.6	32.2	40.1	60.5	76.8	**91.9**	19.6%	13.9%	9.7%
Total exports	20.9	25.1	25.8	26.0	28.3	30.6	32.2	40.1	60.5	76.8	**91.9**	19.6%	13.9%	9.7%
Other Asia														
LNG imports	12.6	12.4	15.0	17.3	18.5	22.4	25.2	29.8	33.0	40.2	**45.6**	13.4%	13.4%	4.8%
Total imports	12.6	12.4	15.0	17.3	18.5	22.4	25.2	29.8	33.0	40.2	**45.6**	13.4%	13.4%	4.8%
Pipeline exports	5.9	6.0	5.5	5.9	5.4	6.5	8.8	10.5	10.2	9.0	**8.7**	-3.6%	5.8%	0.9%
LNG exports*	67.7	66.3	72.5	71.5	65.0	66.2	69.3	75.0	75.8	78.5	**72.6**	-7.5%	1.3%	7.7%
Total exports	73.6	72.3	77.9	77.4	70.3	72.7	78.1	85.5	86.0	87.6	**81.3**	-7.1%	1.7%	8.6%
Total World														
Inter-regional pipeline trade	527.5	420.5	435.6	466.9	460.3	459.5	436.1	445.6	479.6	510.5	**512.4**	0.4%	0.2%	54.3%
LNG trade	234.9	249.7	302.4	328.3	324.9	326.8	333.6	337.1	358.3	393.9	**431.0**	9.4%	5.4%	45.7%
Total trade	**762.4**	**670.3**	**738.0**	**795.2**	**785.2**	**786.4**	**769.7**	**782.7**	**838.0**	**904.4**	**943.4**	**4.3%**	**2.1%**	**100.0%**

*LNG exports include re-exports.
†Less than 0.05.
◆Less than 0.05%.
n/a not available.
Pipeline trade excludes intra-regional trade.
Note: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and have been standardized using a gross calorific value (GCV) of 40 MJ/m^3.

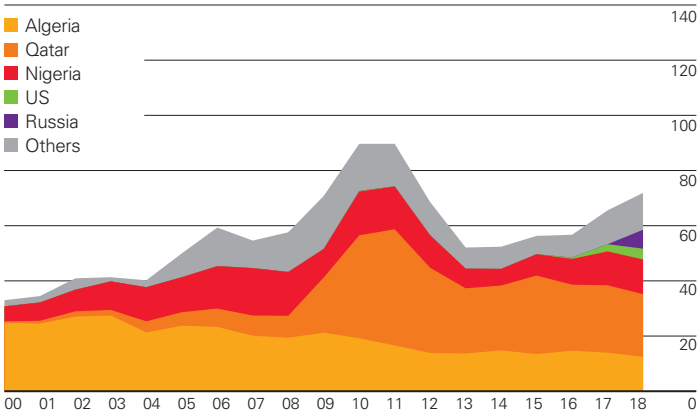
Natural gas: LNG imports

Billion cubic metres	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	–	1.0	2.0	3.2	1.6	1.0	0.5	0.6	0.3	0.4	**0.6**	56.1%	n/a	0.1%
Mexico	3.8	3.7	6.1	3.8	4.9	7.8	9.3	6.8	5.6	6.6	**6.9**	4.2%	11.3%	1.6%
US	9.7	12.6	12.1	9.9	4.9	2.7	1.7	2.5	2.4	2.2	**2.1**	-2.0%	-20.5%	0.5%
Total North America	13.5	17.3	20.2	16.8	11.4	11.4	11.5	10.0	8.3	9.2	**9.6**	5.0%	-9.1%	2.2%
Argentina	0.4	1.0	1.9	3.7	4.7	6.3	6.2	5.6	5.1	4.6	**3.6**	-21.9%	n/a	0.8%
Brazil	–	0.4	2.8	0.7	3.5	5.2	7.1	6.8	2.6	1.7	**2.9**	67.8%	n/a	0.7%
Chile	–	0.7	3.1	3.7	4.0	3.8	3.5	3.7	4.5	4.4	**4.3**	-1.2%	n/a	1.0%
Other S. & Cent. America	1.3	1.4	1.4	1.9	2.4	2.8	2.8	2.8	3.0	2.8	**3.7**	32.9%	9.3%	0.9%
Total S. & Cent. America	1.8	3.5	9.2	9.9	14.6	18.1	19.6	18.9	15.2	13.5	**14.5**	7.6%	27.9%	3.4%
Belgium	3.0	6.8	6.5	6.3	4.1	3.1	2.9	3.6	2.4	1.3	**3.7**	185.2%	-7.4%	0.9%
France	12.8	13.3	14.7	14.4	9.8	8.3	6.9	6.4	9.1	10.9	**13.1**	20.8%	-1.9%	3.1%
Italy	1.6	3.0	9.3	9.1	7.1	5.8	4.5	5.9	5.9	8.2	**8.0**	-1.8%	12.4%	1.9%
Spain	29.8	27.5	28.2	23.9	21.4	15.7	16.2	13.7	13.8	16.6	**15.0**	-9.2%	-4.1%	3.5%
Turkey	5.6	6.0	7.8	5.9	7.6	5.9	7.1	7.5	7.6	10.9	**11.5**	6.1%	6.8%	2.7%
United Kingdom	0.8	10.1	18.8	24.7	13.9	9.2	11.2	13.7	10.8	7.2	**7.3**	1.5%	18.3%	1.7%
Other EU	3.7	3.7	3.9	4.9	4.4	3.7	3.3	5.2	6.9	10.2	**12.8**	25.3%	10.8%	3.0%
Rest of Europe	–	–	†	–	†	–	†	–	†	0.1	**†**	-97.9%	n/a	◆
Total Europe	57.4	70.5	89.1	89.2	68.2	51.8	52.1	56.0	56.5	65.3	**71.5**	9.6%	1.8%	16.6%
Egypt	–	–	–	–	–	–	–	3.9	10.7	8.3	**3.2**	-61.9%	n/a	0.7%
Kuwait	–	0.9	2.8	3.0	2.8	2.3	3.6	4.3	4.7	4.8	**4.3**	-10.0%	n/a	1.0%
United Arab Emirates	–	–	0.2	1.4	1.4	1.6	1.6	2.9	4.2	3.0	**1.0**	-65.2%	n/a	0.2%
Other Middle East & Africa	–	–	–	–	–	0.5	0.1	2.7	4.8	5.3	**4.0**	-23.6%	n/a	0.9%
Total Middle East & Africa	–	0.9	3.0	4.4	4.2	4.3	5.3	13.7	24.5	21.4	**12.5**	-41.3%	n/a	2.9%
China	4.6	8.0	13.0	16.9	20.1	25.1	27.3	27.0	36.8	52.9	**73.5**	38.8%	29.3%	17.0%
India	11.3	13.0	11.5	17.4	18.4	18.0	19.1	20.0	24.3	26.1	**30.6**	17.0%	9.6%	7.1%
Japan	95.4	88.9	96.4	108.6	119.8	120.4	121.8	115.9	113.6	113.9	**113.0**	-0.9%	2.2%	26.2%
Malaysia	–	–	–	–	–	2.0	2.2	2.2	1.5	2.0	**1.8**	-11.1%	n/a	0.4%
Pakistan	–	–	–	–	–	–	–	1.5	4.0	6.1	**9.4**	54.2%	n/a	2.2%
Singapore	–	–	–	–	–	1.3	2.6	3.0	3.2	4.1	**4.5**	8.6%	n/a	1.0%
South Korea	38.3	35.3	45.0	47.7	49.7	55.3	51.8	45.8	46.3	51.4	**60.2**	17.1%	3.6%	14.0%
Taiwan	12.6	12.4	15.0	16.3	17.1	17.2	18.6	19.6	20.4	22.7	**22.8**	0.5%	7.1%	5.3%
Thailand	–	–	–	1.1	1.4	2.0	1.9	3.6	3.9	5.2	**6.2**	19.1%	n/a	1.4%
Other Asia Pacific	–	–	–	–	0.1	–	–	–	–	–	**0.8**	n/a	n/a	0.2%
Total Asia Pacific	162.2	157.5	180.9	207.9	226.6	241.2	245.2	238.5	253.9	284.6	**322.8**	13.4%	6.3%	74.9%
Total LNG imports	**234.9**	**249.7**	**302.4**	**328.3**	**324.9**	**326.8**	**333.6**	**337.1**	**358.3**	**393.9**	**431.0**	**9.4%**	**5.4%**	**100.0%**

Gross LNG trade
†Less than 0.05.
◆Less than 0.05%.
n/a not available.

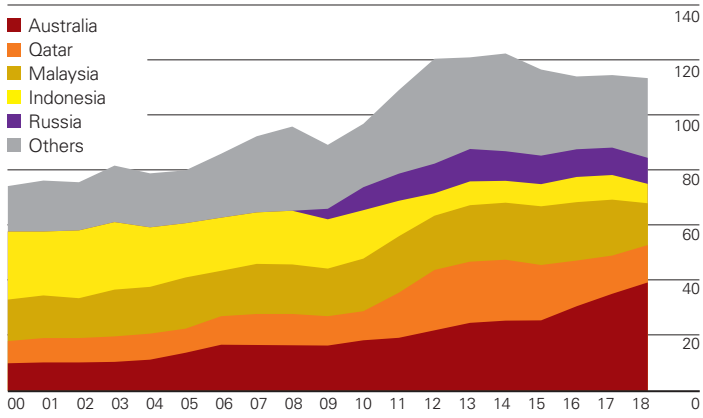
LNG imports by source: Europe

Billion cubic metres



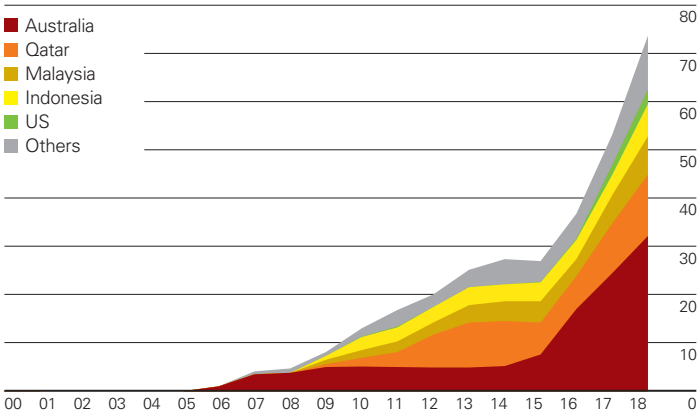
LNG imports by source: Japan

Billion cubic metres



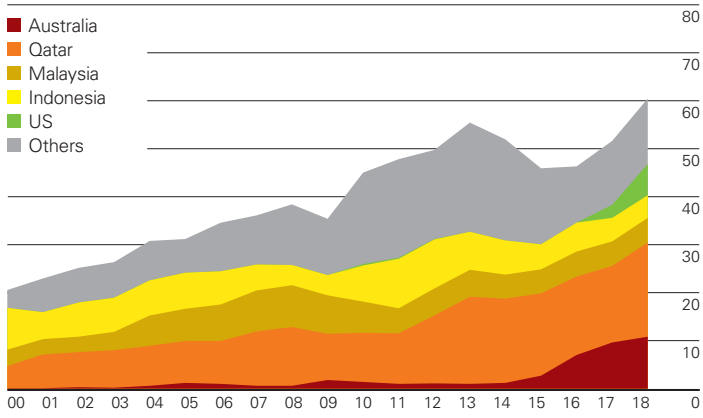
LNG imports by source: China

Billion cubic metres



LNG imports by source: South Korea

Billion cubic metres



Natural gas: LNG exports

Billion cubic metres	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
US	1.0	0.8	1.5	1.8	0.8	0.2	0.4	0.7	4.0	17.2	**28.4**	65.4%	30.1%	6.6%
Peru	–	–	1.9	5.2	5.1	5.7	5.7	5.0	5.5	5.6	**4.8**	-14.5%	n/a	1.1%
Trinidad & Tobago	18.2	19.5	19.6	18.2	18.3	18.4	17.6	16.4	14.3	13.4	**16.8**	25.0%	-2.9%	3.9%
Other Americas*	–	–	–	0.1	0.5	0.1	0.2	†	0.6	0.3	**0.1**	-61.3%	n/a	♦
Total Americas	19.3	20.3	22.9	25.2	24.7	24.3	23.9	22.1	24.5	36.5	**50.1**	37.2%	6.6%	11.6%
Russia	–	6.8	13.5	14.3	14.3	14.5	13.6	14.6	14.6	15.4	**24.9**	61.5%	n/a	5.8%
Norway	2.1	3.1	4.6	4.4	4.6	3.8	4.6	5.6	6.1	5.4	**6.6**	22.1%	42.3%	1.5%
Other Europe*	0.4	0.2	0.5	1.7	3.6	5.2	8.4	5.4	4.5	2.5	**5.0**	99.3%	n/a	1.2%
Total Europe & CIS	2.5	10.2	18.6	20.4	22.4	23.5	26.6	25.6	25.2	23.4	**36.6**	56.4%	64.6%	8.5%
Algeria	21.9	21.4	19.5	16.7	14.9	15.0	17.4	16.6	15.7	16.5	**13.5**	-17.9%	-3.8%	3.1%
Angola	–	–	–	–	–	0.4	0.4	–	0.9	5.0	**5.2**	3.1%	n/a	1.2%
Egypt	14.0	13.1	10.0	9.0	6.9	3.9	0.4	–	0.8	1.2	**2.0**	70.5%	-21.9%	0.5%
Nigeria	22.7	16.1	24.1	25.7	27.9	22.5	26.1	26.9	24.6	28.2	**27.8**	-1.3%	2.2%	6.5%
Other Africa	5.2	5.4	5.3	5.0	4.6	5.2	5.0	5.0	4.4	4.9	**5.4**	8.9%	8.2%	1.3%
Total Africa	63.8	56.0	58.8	56.4	54.2	47.0	49.5	48.5	46.3	55.8	**54.0**	-3.4%	-1.2%	12.5%
Oman	11.3	11.8	11.7	11.0	11.1	11.5	10.6	10.2	11.0	11.4	**13.6**	19.0%	-1.0%	3.1%
Qatar	41.1	51.8	77.8	100.7	104.0	105.8	103.6	105.6	107.3	104.0	**104.8**	0.8%	10.1%	24.3%
United Arab Emirates	8.3	7.8	8.7	8.3	8.1	7.9	8.6	7.6	7.7	7.3	**7.4**	1.7%	-1.3%	1.7%
Yemen	–	0.4	5.5	8.8	7.1	9.9	9.4	1.9	–	–	**–**	n/a	n/a	–
Total Middle East	60.7	71.8	103.8	128.7	130.3	135.2	132.2	125.4	126.0	122.7	**125.8**	2.5%	7.3%	29.2%
Australia	20.9	25.1	25.8	26.0	28.3	30.5	32.0	39.9	60.4	76.6	**91.8**	19.9%	13.9%	21.3%
Brunei	9.4	9.0	9.0	9.6	9.2	9.5	8.6	8.7	8.6	9.1	**8.8**	-4.0%	-0.5%	2.0%
Indonesia	27.8	26.9	32.4	28.7	24.4	23.1	21.7	21.6	22.4	21.7	**20.8**	-4.1%	-2.8%	4.8%
Malaysia	30.4	30.4	31.0	33.2	31.4	33.6	34.0	34.3	33.6	36.1	**33.0**	-8.5%	1.6%	7.7%
Papua New Guinea	–	–	–	–	–	–	5.0	10.1	10.9	11.1	**9.5**	-14.6%	n/a	2.2%
Other Asia Pacific*	–	–	–	–	–	0.1	0.2	0.8	0.5	0.8	**0.6**	-27.0%	n/a	0.1%
Total Asia Pacific	88.6	91.5	98.3	97.5	93.3	96.8	101.5	115.5	136.4	155.4	**164.5**	5.8%	5.6%	38.2%
Total LNG exports	**234.9**	**249.7**	**302.4**	**328.3**	**324.9**	**326.8**	**333.6**	**337.1**	**358.3**	**393.9**	**431.0**	**9.4%**	**5.4%**	**100.0%**

*Largely consists of re-exports.
♦Less than 0.05%.
n/a not available.
Gross LNG trade.

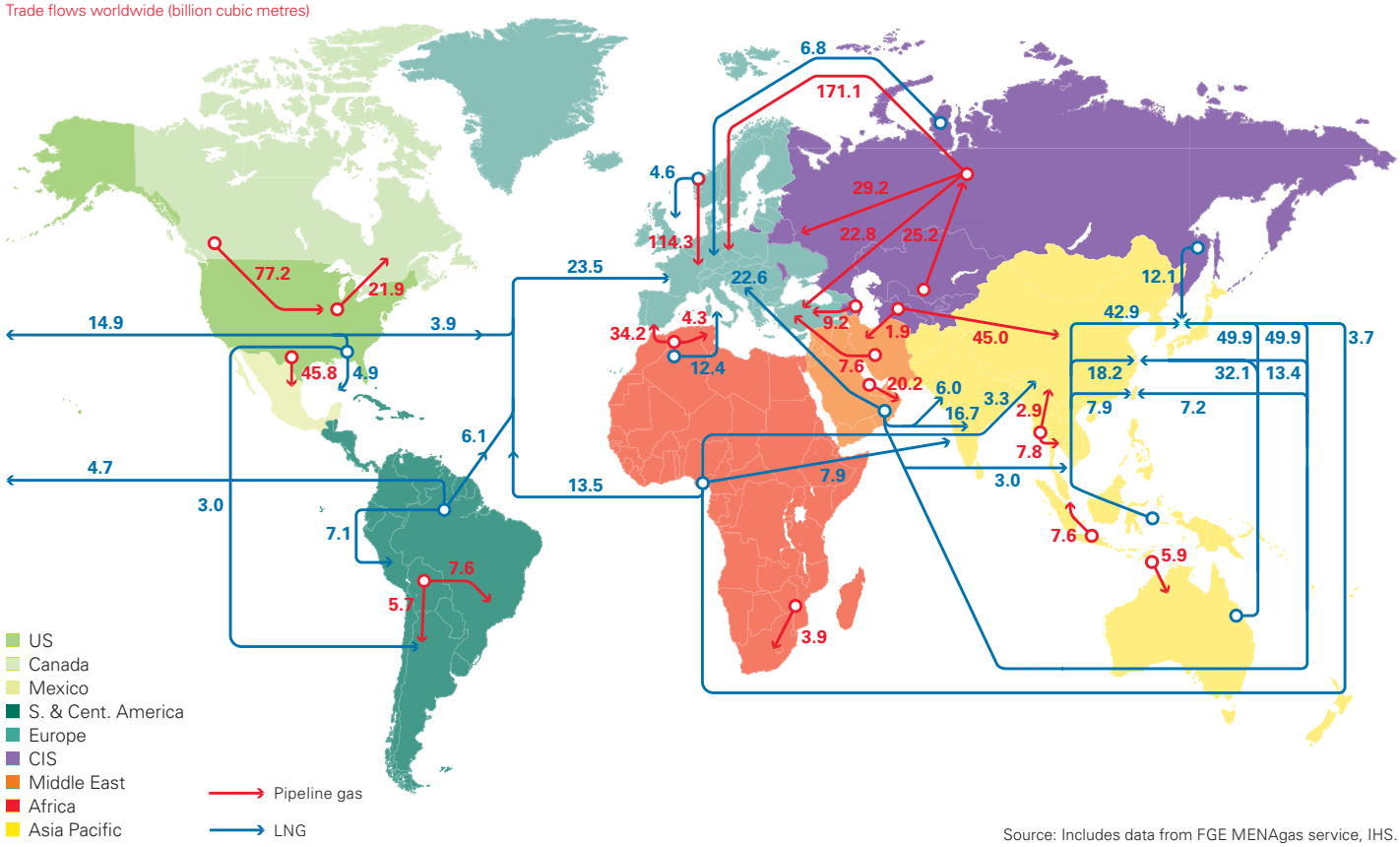
Natural gas: Trade movements 2018 as LNG*

Billion cubic metres	From																						
To	*US*	*Peru*	*Trinidad & Tobago*	*Other Americas**	*Norway*	*Other Europe**	*Russian Federation*	*Oman*	*Qatar*	*United Arab Emirates*	*Yemen*	*Algeria*	*Angola*	*Egypt*	*Nigeria*	*Other Africa*	*Australia*	*Brunei*	*Indonesia*	*Malaysia*	*Papua New Guinea*	*Other Asia Pacific**	***Total imports***
Canada	†	–	0.4	–	0.1	†	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.6**
Mexico	4.9	0.1	0.3	–	–	–	–	–	–	–	–	–	–	–	1.4	–	–	–	0.2	–	–	–	**6.9**
US	–	–	1.8	0.1	–	0.2	–	–	–	–	–	–	–	–	0.1	–	–	–	–	–	–	–	**2.1**
North America	4.9	0.1	2.5	0.1	0.1	0.2	0.1	–	–	–	–	–	–	–	1.5	–	–	–	0.2	–	–	–	**9.6**
Argentina	0.7	–	0.6	–	–	0.1	0.1	–	1.5	–	–	0.1	–	–	0.5	0.1	–	–	–	–	–	–	**3.6**
Brazil	0.7	–	0.8	–	0.2	0.4	0.2	–	0.2	–	–	–	0.1	–	0.4	–	–	–	–	–	–	–	**2.9**
Chile	1.1	–	2.5	–	–	–	–	–	–	–	–	–	–	–	–	0.7	–	–	–	–	–	–	**4.3**
Other S. & Cent. America	0.5	–	3.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**3.7**
S. & Cent. America	3.0	–	7.1	–	0.2	0.4	0.2	–	1.6	–	–	0.1	0.1	–	0.9	0.8	–	–	–	–	–	–	**14.5**
Belgium	–	–	–	–	0.1	†	0.8	–	2.7	–	–	–	0.1	–	–	–	–	–	–	–	–	–	**3.7**
France	0.5	0.3	0.1	–	1.5	†	1.5	–	1.1	–	–	4.0	0.1	0.4	3.6	–	–	–	–	–	–	–	**13.1**
Italy	0.5	–	–	–	0.1	†	–	–	6.3	–	–	0.7	–	0.2	0.1	0.1	–	–	–	–	–	–	**8.0**
Spain	0.3	1.7	2.2	–	0.6	0.1	0.9	–	3.4	–	–	1.5	0.1	–	4.1	0.1	–	–	–	–	–	–	**15.0**
Turkey	0.4	–	0.4	–	0.1	0.3	–	–	3.1	–	–	4.7	0.1	0.2	2.2	0.1	–	–	–	–	–	–	**11.5**
United Kingdom	1.2	0.1	0.8	–	0.2	–	1.7	–	2.9	–	–	0.3	–	0.2	–	0.1	–	–	–	–	–	–	**7.3**
Other EU	1.1	0.3	0.2	–	2.0	0.3	2.0	–	3.1	–	–	1.1	0.2	–	2.5	0.1	–	–	–	–	–	–	**12.8**
Rest of Europe	–	–	–	–	–	†	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**†**
Europe	3.9	2.4	3.7	–	4.6	0.8	6.8	–	22.6	–	–	12.4	0.5	0.9	12.5	0.4	–	–	–	–	–	–	**71.5**
Egypt	0.2	–	0.1	–	0.6	0.2	0.3	–	1.5	–	–	–	–	–	0.3	0.1	–	–	–	–	–	–	**3.2**
Kuwait	0.3	–	0.1	–	0.2	–	–	0.6	1.6	–	–	–	0.6	0.1	0.6	0.2	–	–	–	–	–	–	**4.3**
United Arab Emirates	0.1	–	–	–	–	0.2	–	–	–	–	–	0.4	0.1	–	0.1	–	0.2	–	–	–	–	–	**1.0**
Other Middle East & Africa	1.1	–	0.9	–	0.2	0.2	0.3	0.1	0.3	–	–	0.1	–	–	0.8	0.1	–	–	–	–	–	–	**4.0**
Middle East & Africa	1.7	–	1.1	–	0.9	0.5	0.6	0.7	3.4	–	–	0.5	0.7	0.1	1.8	0.4	0.2	–	–	–	–	–	**12.5**
China	3.0	0.1	0.5	†	0.3	0.9	1.3	0.7	12.7	–	–	0.1	0.7	0.3	1.5	1.1	32.1	0.3	6.7	7.9	3.3	0.2	**73.5**
India	1.3	–	0.5	–	0.1	0.6	0.5	1.5	14.8	0.5	–	0.3	2.2	0.2	4.0	1.7	2.0	–	–	0.4	–	0.1	**30.6**
Japan	3.4	0.8	0.2	–	0.1	0.5	9.4	4.2	13.5	6.8	–	–	0.4	0.2	2.1	0.2	39.1	5.7	7.0	15.1	4.3	0.1	**113.0**
Malaysia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.2	0.6	–	–	–	–	**1.8**
Pakistan	0.3	–	0.1	–	0.2	0.3	0.1	0.2	5.8	–	–	0.2	0.1	–	1.3	0.5	0.1	–	0.2	0.1	–	–	**9.4**
Singapore	0.1	–	0.1	–	–	0.1	–	–	0.6	–	–	–	0.2	–	–	0.3	2.8	–	0.2	–	0.2	–	**4.5**
South Korea	6.5	1.3	0.3	0.1	0.1	0.8	2.6	5.8	19.6	–	–	–	0.3	0.4	0.6	0.1	10.8	1.0	4.7	5.1	0.1	0.2	**60.2**
Taiwan	0.4	0.1	0.3	–	0.1	–	3.2	0.4	6.6	0.1	–	–	–	–	0.3	–	3.5	0.9	1.6	3.8	1.6	–	**22.8**
Thailand	–	–	0.5	–	–	–	0.1	0.1	2.8	0.1	–	–	–	–	1.3	–	0.1	0.3	0.3	0.7	–	–	**6.2**
Other Asia Pacific	–	–	–	–	–	–	–	–	0.8	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.8**
Asia Pacific	14.9	2.2	2.4	0.1	0.8	3.1	17.2	12.8	77.3	7.4	–	0.6	3.8	1.0	11.2	3.8	91.6	8.8	20.6	33.0	9.5	0.6	**322.8**
Total exports	**28.4**	**4.8**	**16.8**	**0.1**	**6.6**	**5.0**	**24.9**	**13.6**	**104.8**	**7.4**	**–**	**13.5**	**5.2**	**2.0**	**27.8**	**5.4**	**91.8**	**8.8**	**20.8**	**33.0**	**9.5**	**0.6**	**431.0**

*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 standardized using a gross calorific value (GCV) of 40 MJ/m^3.

Major trade movements 2018

Trade flows worldwide (billion cubic metres)



Source: Includes data from FGE MENAgas service, IHS.

Natural gas: Trade movements 2018 by pipeline

Billion cubic metres	From																						
To	Canada	Mexico	US	Bolivia	Other S. & Cent. America	Netherlands	Norway	Other Europe	Azerbaijan	Kazakhstan	Russian Federation	Turkmenistan	Uzbekistan	Iran	Qatar	Other Middle East	Algeria	Libya	Other Africa	Indonesia	Myanmar	Other Asia Pacific	**Total imports**
Canada	–	–	21.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**21.9**
Mexico	–	–	45.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**45.8**
US	77.2	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**77.3**
North America	77.2	0.1	67.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**145.0**
Argentina	–	–	–	5.7	0.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**5.9**
Brazil	–	–	–	7.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**7.6**
Other S. & Cent. America	–	–	–	–	0.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.4**
S. & Cent. America	–	–	–	13.4	0.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**14.0**
Belgium	–	–	–	–	–	7.0	5.0	7.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**19.9**
France	–	–	–	–	–	5.3	19.6	3.0	–	–	8.9	–	–	–	–	–	–	–	–	–	–	–	**36.8**
Germany	–	–	–	–	–	15.8	24.7	4.9	–	–	55.3	–	–	–	–	–	–	–	–	–	–	–	**100.8**
Italy	–	–	–	–	–	1.1	2.3	6.8	–	–	25.4	–	–	–	–	–	16.3	4.3	–	–	–	–	**56.2**
Netherlands	–	–	–	–	–	–	20.7	7.5	–	–	7.4	–	–	–	–	–	–	–	–	–	–	–	**35.6**
Spain	–	–	–	–	–	–	2.6	1.0	–	–	–	–	–	–	–	–	16.6	–	–	–	–	–	**20.2**
Turkey	–	–	–	–	–	–	–	–	7.2	–	22.8	–	–	7.6	–	–	–	–	–	–	–	–	**37.6**
Ukraine	–	–	–	–	–	0.2	–	9.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**9.8**
United Kingdom	–	–	–	–	–	2.7	32.6	3.2	–	–	4.4	–	–	–	–	–	–	–	–	–	–	–	**42.8**
Other EU	–	–	–	–	–	–	6.8	32.6	–	–	67.1	–	–	–	–	–	1.4	–	–	–	–	–	**107.9**
Rest of Europe	–	–	–	–	–	0.3	†	6.6	2.0	–	2.6	–	–	–	–	–	–	–	–	–	–	–	**11.5**
Europe	–	–	–	–	–	32.5	114.3	83.1	9.2	–	193.8	–	–	7.6	–	–	34.2	4.3	–	–	–	–	**478.9**
Belarus	–	–	–	–	–	–	–	–	–	–	19.0	–	–	–	–	–	–	–	–	–	–	–	**19.0**
Kazakhstan	–	–	–	–	–	–	–	–	–	–	4.2	–	2.4	–	–	–	–	–	–	–	–	–	**6.6**
Russian Federation	–	–	–	–	–	–	–	–	–	19.9	–	–	5.3	–	–	–	–	–	–	–	–	–	**25.2**
Other CIS	–	–	–	–	–	–	–	–	–	0.3	5.9	–	0.1	0.5	–	–	–	–	–	–	–	–	**6.7**
CIS	–	–	–	–	–	–	–	–	–	20.1	29.2	–	7.7	0.5	–	–	–	–	–	–	–	–	**57.5**
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18.2	–	–	–	–	–	–	–	**18.2**
Other Middle East	–	–	–	–	–	–	–	–	†	–	–	1.9	–	4.1	2.0	0.1	–	–	0.1	–	–	–	**8.3**
Middle East	–	–	–	–	–	–	–	–	†	–	–	1.9	–	4.1	20.2	0.1	–	–	0.1	–	–	–	**26.6**
South Africa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.9	–	–	–	**3.9**
Other Africa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.7	–	0.8	–	–	–	**5.5**
Africa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.7	–	4.7	–	–	–	**9.4**
Australia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5.9	**5.9**
China	–	–	–	–	–	–	–	–	–	5.4	–	33.3	6.3	–	–	–	–	–	–	–	2.9	–	**47.9**
Malaysia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.6	–	–	**0.6**
Singapore	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7.0	–	1.8	**8.8**
Thailand	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7.8	–	**7.8**
Asia Pacific	–	–	–	–	–	–	–	–	–	5.4	–	33.3	6.3	–	–	–	–	–	–	7.6	10.6	10.7	**74.0**
Total exports	**77.2**	**0.1**	**67.6**	**13.4**	**0.6**	**32.5**	**114.3**	**83.1**	**9.2**	**25.6**	**223.0**	**35.2**	**14.0**	**12.1**	**20.2**	**0.1**	**38.9**	**4.3**	**4.8**	**7.6**	**10.6**	**10.7**	**805.4**

Source: Includes data from FGE MENAgas service, IHS.

†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 standardized using a gross calorific value (GCV) of 40 MJ/m³.

Total proved reserves at end 2018

Million tonnes	Anthracite and bituminous	Sub-bituminous and lignite	Total	Share of total	R/P ratio
Canada	4346	2236	**6582**	0.6%	121
Mexico	1160	51	**1211**	0.1%	89
US	220167	30052	**250219**	23.7%	365
Total North America	225673	32339	**258012**	24.5%	342
Brazil	1547	5049	**6596**	0.6%	*
Colombia	4881	–	**4881**	0.5%	58
Venezuela	731	–	**731**	0.1%	*
Other S. & Cent. America	1784	24	**1808**	0.2%	*
Total S. & Cent. America	8943	5073	**14016**	1.3%	158
Bulgaria	192	2174	**2366**	0.2%	78
Czech Republic	110	2547	**2657**	0.3%	61
Germany	3	36100	**36103**	3.4%	214
Greece	–	2876	**2876**	0.3%	79
Hungary	276	2633	**2909**	0.3%	368
Poland	20542	5937	**26479**	2.5%	216
Romania	11	280	**291**	◆	12
Serbia	402	7112	**7514**	0.7%	199
Spain	868	319	**1187**	0.1%	433
Turkey	551	10975	**11526**	1.1%	139
Ukraine	32039	2336	**34375**	3.3%	*
United Kingdom	29	–	**29**	◆	11
Other Europe	1109	5172	**6281**	0.6%	189
Total Europe	56132	78461	**134593**	12.8%	215
Kazakhstan	25605	–	**25605**	2.4%	217
Russian Federation	69634	90730	**160364**	15.2%	364
Uzbekistan	1375	–	**1375**	0.1%	125
Other CIS	1509	–	**1509**	0.1%	358
Total CIS	98123	90730	**188853**	17.9%	329
South Africa	9893	–	**9893**	0.9%	39
Zimbabwe	502	–	**502**	◆	165
Other Africa	2756	66	**2822**	0.3%	164
Middle East	1203	–	**1203**	0.1%	*
Total Middle East & Africa	14354	66	**14420**	1.4%	53
Australia	70927	76508	**147435**	14.0%	304
China	130851	7968	**138819**	13.2%	38
India	96468	4895	**101363**	9.6%	132
Indonesia	26122	10878	**37000**	3.5%	67
Japan	340	10	**350**	◆	336
Mongolia	1170	1350	**2520**	0.2%	46
New Zealand	825	6750	**7575**	0.7%	*
Pakistan	207	2857	**3064**	0.3%	*
South Korea	326	–	**326**	◆	271
Thailand	–	1063	**1063**	0.1%	72
Vietnam	3116	244	**3360**	0.3%	81
Other Asia Pacific	1326	687	**2013**	0.2%	38
Total Asia Pacific	331678	113210	**444888**	42.2%	79
Total World	**734903**	**319879**	**1054782**	**100.0%**	**132**
of which: OECD	322234	177484	**499718**	47.4%	291
Non-OECD	412669	142395	**555064**	52.6%	89
European Union	22612	53356	**75968**	7.2%	171

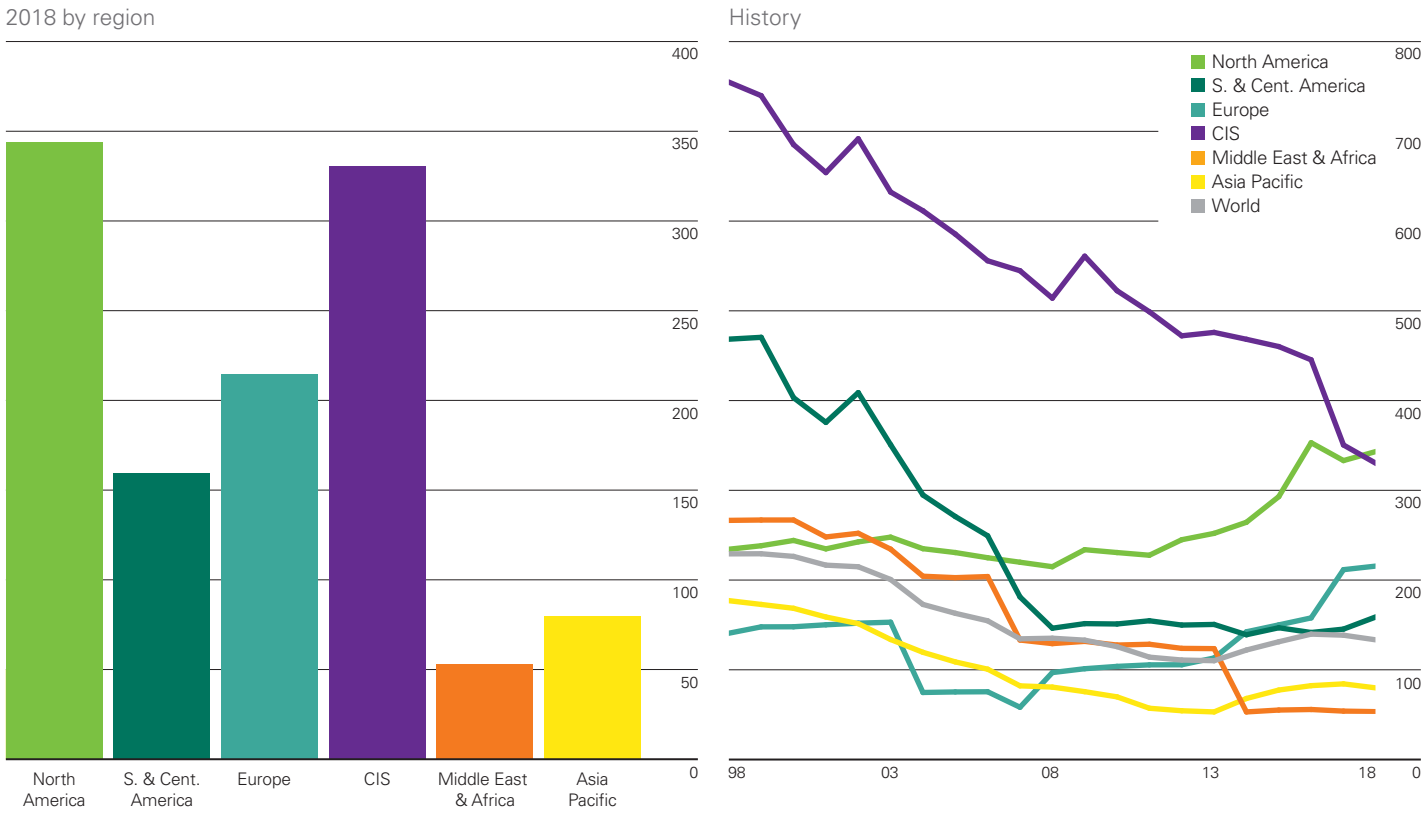
*More than 500 years.
◆Less than 0.05%.

Source: Federal Institute for Geosciences and Natural Resources (BGR) Energy Study 2019.

Notes: Total proved reserves of coal – 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 total proved coal reserves 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 BP's view of proved reserves by country.
Reserves-to-production (R/P) ratio – If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.
Reserves-to-production (R/P) ratios are calculated excluding other solid fuels in reserves and production.
Shares of total and R/P ratios are calculated using million tonnes figures.

Reserves-to-production (R/P) ratios

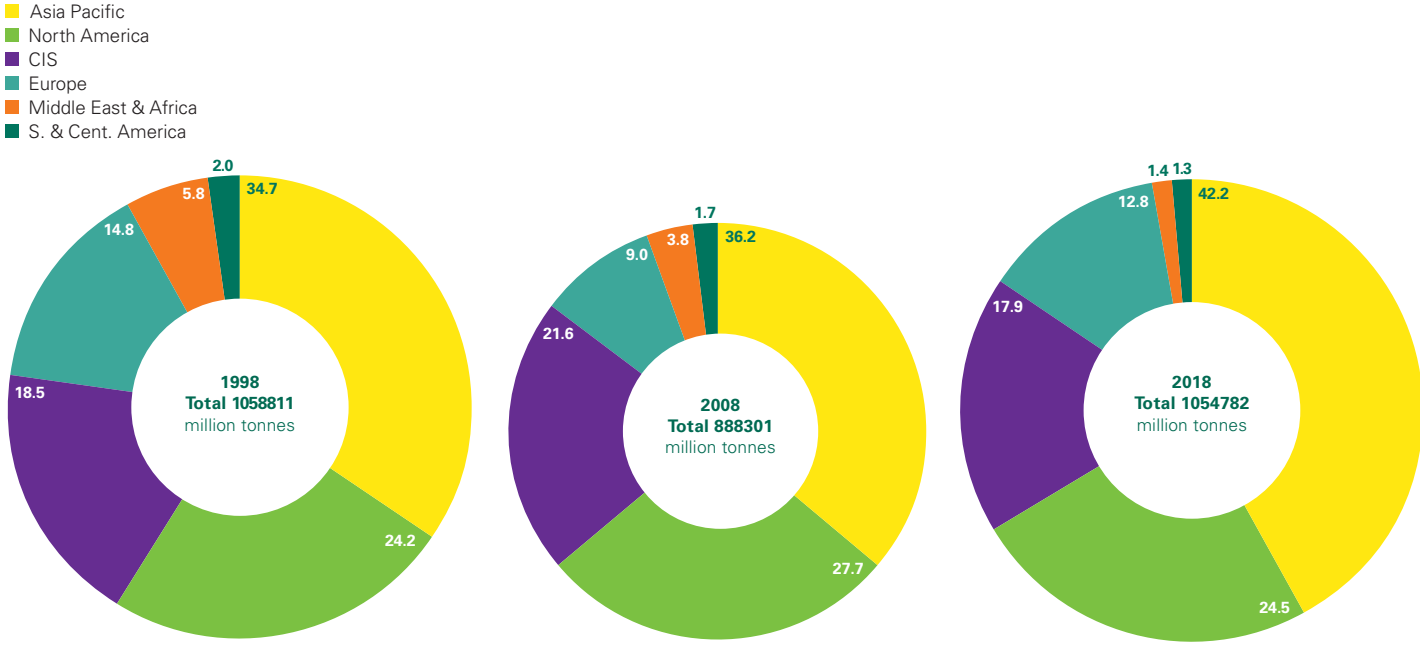
Years



World coal reserves in 2018 stood at 1055 billion tonnes and are heavily concentrated in just a few countries: US (24%), Russia (15%), Australia (14%) and China (13%). Most of the reserves are anthracite and bituminous (70%). The current global R/P ratio shows that coal reserves in 2018 accounted for 132 years of current production with North America (342 years) and CIS (329 years) the regions with the highest ratio.

Distribution of proved reserves in 1998, 2008 and 2018

Percentage



Coal: Production*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	35.6	33.1	35.4	35.5	35.5	36.1	35.9	32.4	32.7	31.8	**28.6**	-10.3%	-1.1%	0.7%
Mexico	6.9	6.1	7.3	9.4	7.4	7.2	7.3	6.9	6.1	7.4	**7.7**	4.7%	0.1%	0.2%
US	566.9	513.7	523.7	528.3	491.9	475.8	482.3	426.9	348.3	371.3	**364.5**	-1.9%	-4.0%	9.3%
Total North America	609.4	552.9	566.4	573.1	534.9	519.1	525.5	466.1	387.1	410.6	**400.7**	-2.4%	-3.7%	10.2%
Brazil	2.9	2.6	2.3	2.4	2.6	3.3	3.3	2.6	2.4	1.9	**1.2**	-37.4%	-2.7%	◆
Colombia	50.5	50.0	51.1	58.9	61.2	58.7	60.8	58.8	62.2	62.2	**57.9**	-6.9%	2.6%	1.5%
Venezuela	3.7	2.4	1.9	1.9	1.4	0.9	0.6	0.6	0.3	0.3	**0.2**	-49.8%	-23.8%	◆
Other S. & Cent. America	0.4	0.4	0.4	0.4	0.5	1.7	3.0	2.3	2.0	1.2	**1.1**	-10.9%	16.8%	◆
Total S. & Cent. America	57.4	55.4	55.7	63.7	65.6	64.7	67.6	64.2	66.8	65.6	**60.4**	-8.1%	1.6%	1.5%
Bulgaria	4.9	4.6	4.9	6.2	5.6	4.8	5.1	5.9	5.1	5.7	**5.2**	-8.4%	1.7%	0.1%
Czech Republic	22.8	20.9	20.8	21.0	20.3	17.8	17.0	16.9	16.1	15.3	**14.6**	-4.2%	-4.3%	0.4%
Germany	50.1	46.4	45.9	46.7	47.8	45.1	44.1	42.8	39.6	39.4	**37.6**	-4.6%	-3.2%	1.0%
Greece	8.1	8.2	7.3	7.5	8.0	6.7	6.4	5.7	4.0	4.6	**4.4**	-3.3%	-5.9%	0.1%
Hungary	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.3	**1.3**	-0.8%	-3.2%	◆
Poland	60.9	56.4	55.4	55.7	57.8	57.2	54.0	53.0	52.1	49.8	**47.5**	-4.5%	-2.2%	1.2%
Romania	7.0	6.6	5.9	6.7	6.3	4.7	4.4	4.7	4.2	4.5	**4.1**	-7.9%	-4.2%	0.1%
Serbia	7.5	7.4	7.2	7.8	7.3	7.7	5.7	7.2	7.3	7.3	**6.9**	-5.5%	0.1%	0.2%
Spain	4.4	3.8	3.3	2.6	2.5	1.8	1.6	1.2	0.7	1.1	**1.1**	-6.8%	-15.2%	◆
Turkey	16.7	17.4	17.5	17.9	17.0	15.5	16.4	12.8	15.5	15.1	**17.0**	13.0%	0.2%	0.4%
Ukraine	34.4	31.8	31.8	36.3	38.0	36.6	25.9	16.4	17.1	14.4	**14.5**	0.8%	-8.2%	0.4%
United Kingdom	11.3	11.0	11.4	11.5	10.6	8.0	7.3	5.4	2.6	1.9	**1.6**	-15.1%	-15.7%	◆
Other Europe	15.3	15.5	15.8	15.7	14.0	16.4	15.1	13.7	12.8	12.9	**14.1**	9.0%	-1.6%	0.4%
Total Europe	244.9	231.5	228.9	237.4	236.9	223.7	204.7	187.2	178.6	173.3	**170.0**	-1.9%	-3.6%	4.3%
Kazakhstan	47.9	43.4	47.5	49.8	51.6	51.4	48.9	46.2	44.3	48.3	**50.6**	4.9%	1.4%	1.3%
Russian Federation	149.0	141.7	151.0	157.6	168.3	173.1	176.6	186.4	194.0	205.8	**220.2**	7.0%	3.7%	5.6%
Uzbekistan	0.9	1.0	1.0	1.1	1.2	1.1	1.2	1.1	2.8	3.4	**3.0**	-11.2%	13.3%	0.1%
Other CIS	0.8	0.8	0.9	1.0	1.2	1.3	1.4	1.4	1.7	2.0	**2.2**	10.6%	9.2%	0.1%
Total CIS	198.7	187.0	200.3	209.4	222.3	226.9	228.1	235.1	242.7	259.5	**276.0**	6.4%	3.3%	7.0%
Total Middle East	1.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	**0.7**	–	-3.6%	◆
South Africa	141.0	139.7	144.1	143.2	146.6	145.3	148.2	142.9	142.4	143.0	**143.2**	0.2%	0.3%	3.7%
Zimbabwe	1.0	1.1	1.7	1.7	1.0	2.0	3.7	2.8	1.7	1.9	**2.0**	3.9%	3.5%	0.1%
Other Africa	0.8	0.7	0.9	1.1	4.3	5.1	5.8	6.0	5.4	10.4	**10.6**	2.5%	30.0%	0.3%
Total Africa	142.7	141.5	146.8	146.0	151.9	152.4	157.7	151.6	149.6	155.2	**155.8**	0.4%	1.0%	4.0%
Australia	233.9	242.7	250.6	245.1	265.9	285.8	305.9	305.6	306.7	299.0	**301.1**	0.7%	2.8%	7.7%
China	1491.8	1537.9	1665.3	1851.7	1873.5	1894.6	1864.2	1825.6	1691.4	1746.6	**1828.8**	4.7%	2.0%	46.7%
India	227.5	246.0	252.4	250.8	255.0	255.7	269.5	281.0	283.9	286.6	**308.0**	7.5%	3.1%	7.9%
Indonesia	141.6	151.0	162.1	208.2	227.4	279.7	269.9	272.0	268.8	271.8	**323.3**	18.9%	7.8%	8.3%
Japan	0.7	0.7	0.5	0.7	0.7	0.7	0.7	0.6	0.7	0.8	**0.6**	-25.0%	-0.2%	◆
Mongolia	5.2	8.2	15.2	19.9	17.9	18.0	15.2	14.3	21.6	30.3	**34.4**	13.3%	20.3%	0.9%
New Zealand	3.0	2.8	3.3	3.1	3.0	2.9	2.5	2.0	1.7	1.7	**1.9**	10.5%	-5.2%	◆
Pakistan	1.8	1.6	1.5	1.4	1.4	1.3	1.5	1.5	1.8	1.8	**1.7**	-5.2%	1.0%	◆
South Korea	1.3	1.2	1.0	1.0	0.9	0.8	0.8	0.8	0.8	0.7	**0.6**	-19.2%	-6.3%	◆
Thailand	4.8	4.7	4.9	6.0	4.8	4.7	4.6	3.9	4.3	4.1	**3.8**	-8.5%	-1.8%	0.1%
Vietnam	22.3	24.7	25.1	26.1	23.6	23.0	23.0	23.3	21.7	21.4	**23.3**	8.8%	-1.0%	0.6%
Other Asia Pacific	22.1	19.3	20.7	22.2	22.8	23.4	23.8	25.2	31.8	25.2	**25.6**	1.5%	2.0%	0.7%
Total Asia Pacific	2155.9	2240.7	2402.7	2636.2	2696.9	2790.5	2781.6	2755.9	2635.2	2690.1	**2853.1**	6.1%	2.7%	72.8%
Total World	**3410.0**	**3409.8**	**3601.4**	**3866.5**	**3909.1**	**3978.0**	**3966.0**	**3860.9**	**3660.8**	**3755.0**	**3916.8**	**4.3%**	**1.3%**	**100.0%**
of which: OECD	1034.1	976.2	995.7	997.5	979.5	975.1	996.3	924.8	838.0	849.5	**839.5**	-1.2%	-1.9%	21.4%
Non-OECD	2375.9	2433.6	2605.7	2868.9	2929.7	3002.9	2969.7	2936.0	2822.8	2905.5	**3077.2**	5.9%	2.5%	78.6%
European Union	178.6	167.6	165.6	168.3	167.9	157.1	150.3	144.5	132.5	130.7	**125.8**	-3.7%	-3.5%	3.2%

*Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), 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%.
Coal production data expressed in million tonnes is available at *bp.com/statisticalreview*.

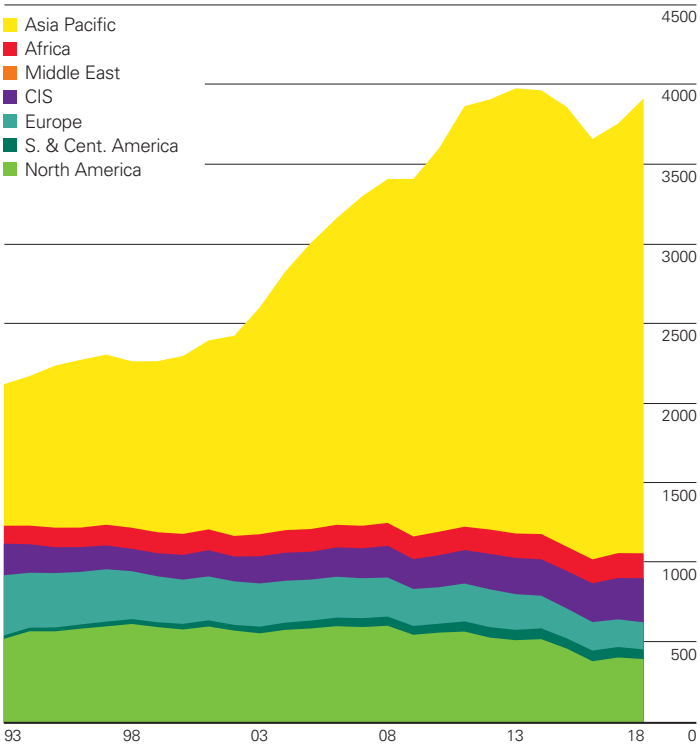
Coal: Consumption*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	29.4	23.5	24.8	22.2	21.1	20.8	19.6	19.9	18.7	18.6	**14.4**	-22.5%	-4.8%	0.4%
Mexico	10.1	10.3	12.7	14.7	12.8	12.7	12.7	12.7	12.4	15.2	**11.9**	-21.7%	3.0%	0.3%
US	535.9	471.4	498.8	470.6	416.0	431.8	430.9	372.2	340.6	331.3	**317.0**	-4.3%	-4.9%	8.4%
Total North America	575.5	505.2	536.3	507.5	449.9	465.4	463.2	404.8	371.7	365.1	**343.3**	-6.0%	-4.6%	9.1%
Argentina	1.5	0.8	1.2	1.3	1.2	1.3	1.4	1.4	1.0	1.1	**1.2**	13.0%	-1.4%	◆
Brazil	13.8	11.1	14.5	15.4	15.3	16.5	17.5	17.6	15.9	16.6	**15.9**	-4.0%	2.0%	0.4%
Chile	4.4	4.0	4.5	5.8	6.7	7.5	7.6	7.3	7.4	7.7	**7.7**	-0.4%	6.6%	0.2%
Colombia	4.4	4.1	4.8	3.9	4.7	5.0	5.3	5.0	6.3	5.2	**5.9**	13.4%	4.4%	0.2%
Ecuador	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.8	1.0	0.6	**0.9**	61.8%	-5.6%	◆
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	**0.1**	-9.9%	-2.1%	◆
Other S. & Cent. America	2.5	2.2	2.4	2.8	2.8	3.2	3.5	3.6	3.8	3.5	**4.3**	22.0%	3.1%	0.1%
Total S. & Cent. America	27.7	23.3	28.3	30.2	31.7	34.6	36.4	35.8	35.5	34.8	**36.0**	3.7%	2.9%	1.0%
Austria	3.8	2.9	3.4	3.5	3.2	3.3	3.0	3.2	3.0	3.1	**2.9**	-8.4%	-2.1%	0.1%
Belgium	4.6	3.0	3.7	3.5	3.3	3.4	3.3	3.4	3.2	3.1	**3.3**	4.9%	-3.9%	0.1%
Czech Republic	19.7	18.2	18.8	18.5	17.7	16.9	16.4	16.3	16.4	15.6	**15.7**	1.0%	-2.8%	0.4%
Finland	5.3	5.4	6.8	5.5	4.5	5.0	4.5	3.8	4.4	4.0	**4.3**	6.7%	-5.4%	0.1%
France	12.1	10.8	11.5	9.8	11.1	11.6	8.6	8.4	8.2	9.3	**8.4**	-9.6%	-3.2%	0.2%
Germany	80.1	71.7	77.1	78.3	80.5	82.8	79.6	78.7	76.5	71.5	**66.4**	-7.2%	-1.9%	1.8%
Greece	8.3	8.4	7.9	7.9	8.1	7.0	6.7	5.6	4.4	4.8	**4.7**	-2.8%	-6.0%	0.1%
Hungary	3.0	2.6	2.7	2.7	2.6	2.3	2.3	2.3	2.2	2.2	**2.2**	-2.4%	-3.3%	0.1%
Italy	15.8	12.4	13.7	15.3	15.7	13.5	13.2	12.3	11.0	9.6	**8.9**	-7.7%	-5.1%	0.2%
Netherlands	8.0	7.5	7.5	7.4	8.2	8.2	9.1	11.0	10.2	9.1	**8.2**	-10.5%	0.8%	0.2%
Norway	0.7	0.6	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	**0.8**	3.3%	1.8%	◆
Poland	55.2	51.8	55.1	55.0	51.2	53.4	49.4	48.7	49.5	49.8	**50.5**	1.5%	-1.2%	1.3%
Portugal	2.5	2.9	1.6	2.2	2.9	2.6	2.7	3.3	2.8	3.2	**2.7**	-16.1%	1.2%	0.1%
Romania	9.4	7.5	7.0	8.2	7.6	5.9	5.8	6.0	5.4	5.4	**5.3**	-1.2%	-5.8%	0.1%
Spain	13.5	9.4	6.9	12.8	15.5	11.4	11.6	13.7	10.5	13.4	**11.1**	-17.3%	-3.9%	0.3%
Sweden	2.8	2.0	2.8	2.5	2.1	2.2	2.0	2.0	2.0	2.0	**2.0**	-0.3%	-3.5%	0.1%
Switzerland	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	–	-4.5%	◆
Turkey	29.6	30.9	31.4	33.9	36.5	31.6	36.1	34.7	38.5	39.5	**42.3**	7.2%	3.0%	1.1%
Ukraine	41.8	35.9	38.3	41.5	42.5	41.6	35.6	27.3	32.5	25.7	**26.2**	2.0%	-4.3%	0.7%
United Kingdom	35.6	29.8	30.9	31.4	39.0	37.0	29.8	23.1	11.1	9.1	**7.6**	-16.6%	-13.4%	0.2%
Other Europe	39.1	36.8	38.3	40.9	37.0	37.1	33.8	34.3	34.3	34.1	**33.6**	-1.5%	-1.4%	0.9%
Total Europe	391.2	350.4	366.3	381.8	390.2	377.6	354.5	339.2	326.8	315.5	**307.1**	-2.7%	-2.6%	8.1%
Azerbaijan	†	†	†	†	†	†	†	†	†	†	**†**	–	-13.0%	◆
Belarus	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.7	0.8	0.8	**1.0**	13.7%	1.9%	◆
Kazakhstan	33.8	30.9	33.4	36.3	37.9	37.5	37.0	34.2	33.9	36.4	**40.8**	12.2%	1.6%	1.1%
Russian Federation	100.7	92.2	90.5	94.0	98.4	90.5	87.6	92.1	89.3	83.9	**88.0**	4.9%	-1.1%	2.3%
Turkmenistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Uzbekistan	1.0	1.0	0.9	1.1	1.2	1.1	1.2	1.1	2.7	3.5	**3.1**	-11.1%	13.5%	0.1%
Other CIS	1.1	0.9	0.9	1.0	1.4	1.4	1.7	1.8	1.6	1.8	**2.0**	10.6%	8.4%	0.1%
Total CIS	137.2	125.6	126.4	133.2	139.6	131.4	128.3	130.0	128.3	126.4	**134.9**	6.7%	-0.1%	3.6%
Iran	1.2	1.4	1.3	1.4	1.1	1.4	1.6	1.6	1.5	1.4	**1.5**	4.3%	-0.9%	◆
Iraq	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Israel	7.9	7.7	7.7	7.9	8.8	7.1	6.6	6.5	5.5	5.0	**4.7**	-6.5%	-4.6%	0.1%
Kuwait	†	–	†	†	–	0.3	0.2	0.2	0.2	0.2	**0.2**	–	81.9%	◆
Oman	†	†	†	†	†	0.1	0.1	0.1	0.1	0.1	**0.1**	–	35.8%	◆
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	0.1	†	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	**0.1**	–	6.5%	◆
United Arab Emirates	0.3	0.3	0.7	0.4	1.4	1.8	2.0	1.7	1.8	1.0	**1.1**	4.8%	22.2%	◆
Other Middle East	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.4	0.4	0.4	**0.4**	◆	11.2%	◆
Total Middle East	9.7	9.6	10.1	10.3	11.9	11.2	11.2	10.5	9.7	8.2	**7.9**	-2.7%	-1.9%	0.2%
Algeria	0.8	0.5	0.3	0.3	0.3	0.2	0.2	0.1	†	0.2	**0.2**	–	-13.3%	◆
Egypt	0.7	0.6	0.5	0.4	0.4	0.4	0.4	1.1	1.7	1.6	**2.8**	68.7%	7.9%	0.1%
Morocco	3.7	2.7	2.8	3.0	3.0	3.0	4.0	4.4	4.3	4.5	**5.4**	22.4%	3.3%	0.1%
South Africa	93.3	93.8	92.8	90.5	88.3	88.4	89.5	85.2	86.9	84.3	**86.0**	2.0%	0.1%	2.3%
Other Africa	3.0	3.3	3.7	4.2	3.9	5.3	7.8	6.8	6.2	7.0	**7.0**	0.2%	6.9%	0.2%
Total Africa	101.4	101.0	100.1	98.4	96.0	97.2	101.9	97.7	99.1	97.6	**101.4**	3.9%	0.6%	2.7%
Australia	58.2	56.3	52.2	50.9	47.8	45.4	45.0	46.5	46.5	45.1	**44.3**	-1.8%	-2.1%	1.2%
Bangladesh	0.6	0.8	0.8	0.7	0.9	1.0	0.9	2.3	1.7	1.9	**2.1**	12.1%	11.9%	0.1%
China	1609.3	1685.8	1748.9	1903.9	1927.8	1969.1	1954.5	1914.0	1889.1	1890.4	**1906.7**	0.9%	1.8%	50.5%
China Hong Kong SAR	6.9	7.2	6.2	7.4	7.3	7.8	8.1	6.7	6.7	6.3	**6.3**	–	-1.7%	0.2%
India	259.3	280.8	290.4	304.6	330.0	352.8	387.5	395.3	400.4	415.9	**452.2**	8.7%	5.7%	12.0%
Indonesia	31.5	33.2	39.5	46.9	53.0	57.0	45.1	51.2	53.4	57.2	**61.6**	7.7%	4.7%	1.6%
Japan	120.3	101.6	115.7	109.6	115.8	121.2	119.1	119.3	118.8	119.9	**117.5**	-2.1%	0.2%	3.1%
Malaysia	9.8	10.6	14.8	14.8	15.9	15.1	15.4	17.4	18.9	19.3	**21.1**	9.4%	8.1%	0.6%
New Zealand	2.1	1.6	1.4	1.4	1.7	1.6	1.4	1.4	1.2	1.2	**1.3**	1.3%	-3.0%	◆
Pakistan	6.0	4.9	4.6	4.0	4.0	3.2	4.7	4.7	5.3	7.1	**11.6**	63.3%	2.7%	0.3%
Philippines	6.4	6.1	7.0	7.7	8.1	10.0	10.6	11.6	13.1	15.5	**16.3**	5.2%	11.1%	0.4%
Singapore	†	†	†	†	†	0.3	0.4	0.4	0.4	0.9	**0.9**	1.6%	60.1%	◆
South Korea	66.1	68.6	77.1	83.7	80.6	81.5	84.4	85.4	81.5	86.2	**88.2**	2.4%	3.7%	2.3%
Sri Lanka	0.1	0.1	0.1	0.3	0.5	0.5	0.9	1.2	1.3	1.4	**1.2**	-14.3%	41.5%	◆
Taiwan	37.0	35.2	37.6	38.9	38.0	38.6	39.0	37.8	38.6	39.4	**39.3**	-0.3%	0.2%	1.0%
Thailand	15.0	15.0	15.4	15.7	16.5	16.2	17.9	17.5	17.7	18.3	**18.5**	1.0%	2.8%	0.5%
Vietnam	11.7	11.2	14.6	17.3	16.1	17.2	20.7	26.1	28.1	27.9	**34.3**	22.9%	16.3%	0.9%
Other Asia Pacific	20.5	16.6	16.2	13.2	13.9	11.4	12.9	12.2	16.1	16.9	**18.0**	7.0%	-1.0%	0.5%
Total Asia Pacific	2260.8	2335.5	2442.6	2621.1	2677.8	2749.7	2768.6	2751.0	2738.9	2770.8	**2841.3**	2.5%	2.3%	75.3%
Total World	**3503.4**	**3450.6**	**3610.1**	**3782.5**	**3797.2**	**3867.0**	**3864.2**	**3769.0**	**3710.0**	**3718.4**	**3772.1**	**1.4%**	**0.7%**	**100.0%**
of which: OECD	1150.8	1029.9	1092.9	1072.8	1028.2	1037.1	1020.1	954.9	900.0	892.9	**861.3**	-3.5%	-2.7%	22.8%
Non-OECD	2352.6	2420.8	2517.1	2709.8	2769.0	2829.9	2844.1	2814.0	2810.1	2825.6	**2910.8**	3.0%	2.2%	77.2%
European Union	303.7	267.7	280.4	288.2	294.6	287.6	268.6	261.4	239.7	234.2	**222.4**	-5.1%	-3.3%	5.9%

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

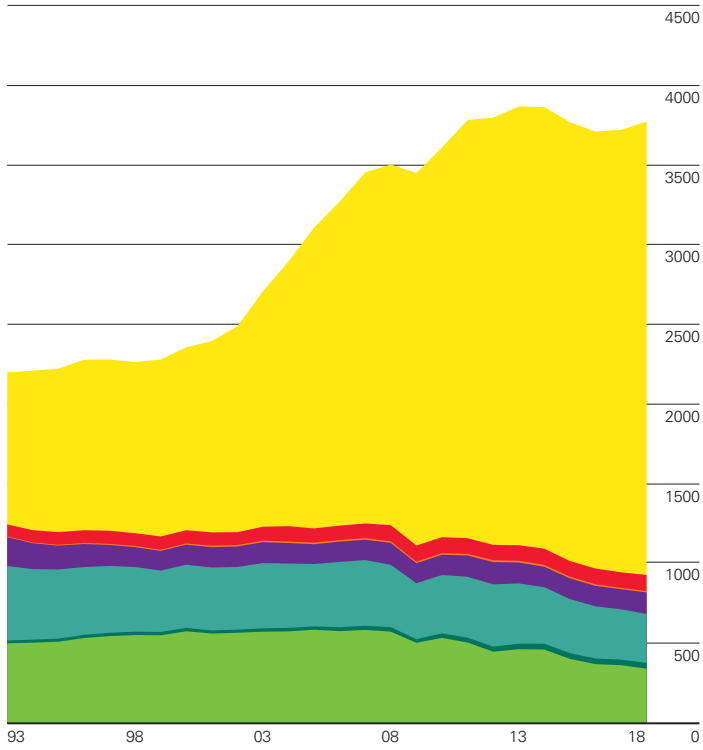
Coal: Production by region

Million tonnes oil equivalent



Coal: Consumption by region

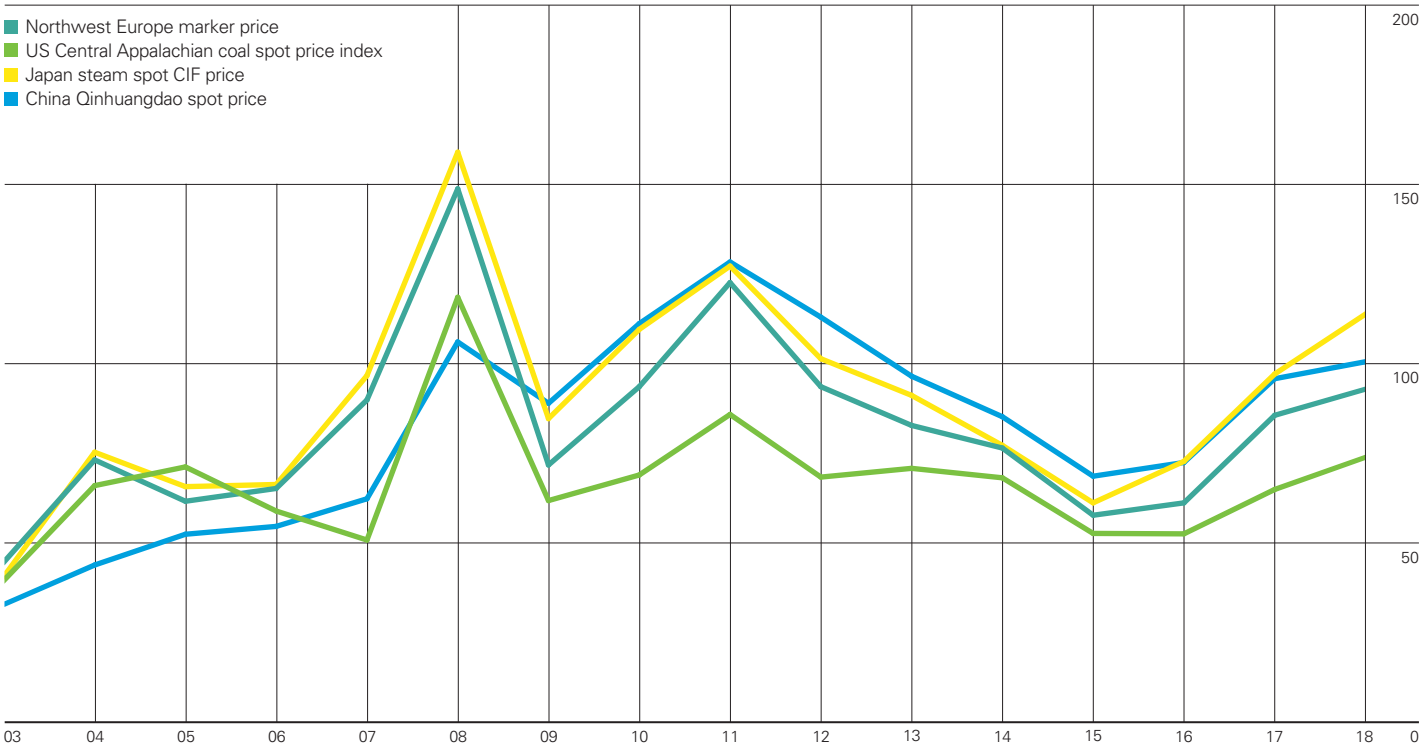
Million tonnes oil equivalent



Global coal production increased by 4.3% in 2018, significantly above the 10-year average of 1.3%. Production growth was concentrated in Asia Pacific (163 mtoe) with China accounting for half of global growth and Indonesian production up by 51 mtoe. Coal consumption increased by 1.4% in 2018, the fastest growth since 2013. Growth was again driven by Asia Pacific (71 Mtoe), and particularly by India (36 Mtoe). This region now accounts for over three quarters of global consumption, while 10 years ago it represented two thirds.

Coal prices

US dollars per tonne



Coal: Prices

US dollars per tonne	Northwest Europe marker price†	US Central Appalachian coal spot price index‡	Japan steam spot CIF price†	China Qinhuangdao spot price*
1998	32.00	31.00	–	–
1999	28.79	31.29	–	–
2000	35.99	29.90	–	27.52
2001	39.03	50.15	37.69	31.78
2002	31.65	33.20	31.47	33.19
2003	43.60	38.52	39.61	31.74
2004	72.08	64.90	74.22	42.76
2005	60.54	70.12	64.62	51.34
2006	64.11	57.82	65.22	53.53
2007	88.79	49.73	95.59	61.23
2008	147.67	117.42	157.88	104.97
2009	70.66	60.73	83.59	87.86
2010	92.50	67.87	108.47	110.08
2011	121.52	84.75	126.13	127.27
2012	92.50	67.28	100.30	111.89
2013	81.69	69.72	90.07	95.42
2014	75.38	67.08	76.13	84.12
2015	56.64	51.57	60.10	67.53
2016	60.09	51.45	71.66	71.35
2017	84.51	63.83	96.02	94.72
2018	91.83	72.84	112.73	99.45

†Source: IHS Northwest Europe prices for 1998-2000 are the average of the monthly marker, 2001-2018 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 -2018, 5,500 kilocalories per kilogram NAR, including cost and freight (CFR).
‡Source: S&P Global Platts ©2019, S&P Global Inc. Prices are for Central Appalachian 12,500 BTU, 1.2 SO_2 coal, FOB. Prices for 1998-2000 are by coal price publication date, 2001-2005 by coal price assessment date. 2006-2018 weekly CAPP 12,500 BTU, 1.6 SO_2 coal, FOB.
Note: CIF = cost+insurance+freight (average prices); FOB = free on board.

Coal: Trade movements

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Imports														
Canada	16.1	8.5	8.7	5.6	5.5	5.2	6.1	5.2	4.4	5.2	**5.5**	5.6%	-9.0%	0.6%
Mexico	3.1	4.2	5.2	4.9	5.2	4.8	5.3	5.4	5.1	8.2	**5.8**	-29.2%	7.8%	0.7%
US	22.3	13.6	12.1	8.5	6.3	5.6	6.7	6.7	6.0	4.6	**2.6**	-42.7%	-15.0%	0.3%
S. & Cent. America	23.6	16.0	20.3	23.6	21.0	25.2	25.3	24.0	25.3	28.9	**26.6**	-7.9%	5.4%	3.1%
Europe	147.3	119.5	115.1	134.6	145.5	139.7	145.3	143.8	128.8	139.9	**149.6**	6.9%	-1.5%	17.4%
CIS	16.3	12.4	8.9	14.1	12.6	13.3	13.3	12.7	11.6	13.4	**14.5**	8.1%	0.8%	1.7%
Middle East	11.9	9.6	8.4	10.3	11.6	10.5	11.7	8.9	8.2	8.2	**7.9**	-3.3%	-0.4%	0.9%
Africa	6.6	5.3	7.6	8.3	7.4	19.7	9.2	10.9	11.8	13.5	**14.4**	6.9%	0.4%	1.7%
China	25.0	78.3	106.2	124.2	160.2	182.1	158.2	111.9	135.0	140.1	**146.5**	4.6%	16.5%	17.1%
India	30.9	36.0	47.8	56.6	73.7	87.3	110.5	115.1	110.8	113.0	**141.7**	25.5%	15.1%	16.5%
Japan	120.1	100.8	115.6	110.2	116.3	120.9	119.5	120.6	119.8	120.9	**119.7**	-1.0%	0.2%	13.9%
South Korea	63.8	65.0	74.7	80.1	76.3	77.6	81.1	84.4	85.7	92.2	**92.7**	0.5%	5.1%	10.8%
Other Asia Pacific	70.1	66.0	76.0	78.6	87.2	86.3	65.2	94.7	109.5	118.5	**131.1**	10.7%	5.3%	15.3%
Total World	**557.0**	**535.3**	**606.6**	**659.7**	**728.8**	**778.3**	**757.4**	**744.2**	**762.0**	**806.6**	**858.8**	**6.5%**	**3.8%**	**100.0%**
Exports														
Canada	18.6	17.0	19.9	20.9	20.1	23.6	20.1	18.1	18.1	19.6	**21.0**	7.2%	0.5%	2.4%
US	49.9	35.1	49.9	62.1	73.2	70.0	59.0	46.5	36.8	59.7	**66.3**	10.9%	6.1%	7.7%
Colombia	47.2	39.0	42.5	48.2	53.8	48.7	54.2	52.2	56.2	59.1	**46.7**	-21.0%	3.6%	5.4%
Europe	6.0	5.5	3.0	3.8	4.7	16.2	3.1	2.3	3.2	4.6	**6.2**	35.2%	3.1%	0.7%
Russia	56.5	58.6	59.8	68.2	77.2	84.9	90.3	98.0	106.8	120.5	**136.2**	13.0%	5.9%	15.9%
Other CIS	15.4	11.9	8.4	13.8	12.0	12.1	12.2	11.5	10.7	11.3	**11.9**	4.9%	-0.5%	1.4%
South Africa	34.6	37.2	47.0	48.9	52.3	50.1	52.1	55.1	51.6	56.4	**49.2**	-12.8%	2.1%	5.7%
Other Africa	0.7	0.6	2.6	1.1	3.1	2.7	4.1	4.3	4.7	7.7	**5.3**	-31.7%	18.3%	0.6%
Australia	156.7	167.7	178.8	168.8	190.7	220.2	218.6	238.4	236.3	232.2	**249.4**	7.4%	4.3%	29.0%
China	37.4	14.2	14.0	10.6	6.7	6.8	8.5	10.8	12.2	9.9	**9.9**	-0.6%	-13.7%	1.1%
Indonesia	110.4	121.1	148.0	171.6	195.0	204.7	201.2	178.7	184.7	193.1	**220.3**	14.1%	6.0%	25.7%
Mongolia	2.8	4.1	11.4	13.9	14.9	11.7	12.7	9.7	17.5	22.6	**23.9**	5.6%	26.2%	2.8%
Other Asia Pacific	15.7	19.5	18.3	24.0	21.5	22.1	18.3	15.6	18.4	7.1	**9.5**	35.2%	-10.1%	1.1%
Rest of World	5.1	3.6	3.1	3.8	3.5	4.5	3.1	2.8	4.8	2.8	**3.3**	15.3%	-8.9%	0.4%
Total World	**557.0**	**535.3**	**606.6**	**659.7**	**728.8**	**778.3**	**757.4**	**744.2**	**762.0**	**806.6**	**858.8**	**6.5%**	**3.8%**	**100.0%**

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

Coal: Inter-area movements 2018

Million tonnes oil equivalent	To													
From	Canada	Mexico	US	S. & Cent. America	Europe	CIS	Middle East	Africa	China	India	Japan	South Korea	Other Asia Pacific	**Total**
Canada	–	†	0.4	0.9	3.6	–	†	0.1	1.8	2.4	5.2	3.4	3.0	**21.0**
US	4.1	2.3	–	6.9	27.6	†	0.1	3.7	1.5	9.9	7.6	1.8	0.8	**66.3**
Colombia	1.2	2.7	1.2	10.5	23.1	†	3.2	0.3	0.2	0.4	0.8	2.6	0.4	**46.7**
Europe	†	0.1	0.1	0.3	–	2.6	0.2	0.6	†	1.8	†	0.1	0.5	**6.2**
Russia	0.1	†	†	1.7	66.0	2.2	1.7	2.4	17.1	2.9	11.7	17.8	12.6	**136.2**
Other CIS	–	–	–	–	2.2	9.6	†	†	0.1	†	†	–	†	**11.9**
South Africa	†	–	0.3	0.6	5.1	†	1.5	5.4	†	22.0	0.1	4.3	9.9	**49.2**
Other Africa	†	†	†	0.4	2.2	–	0.8	0.6	†	0.1	0.4	0.1	0.7	**5.3**
Australia	†	0.5	†	4.1	14.6	†	0.2	0.6	51.8	30.2	73.1	37.2	37.1	**249.4**
China	†	0.2	†	0.5	0.7	0.1	0.2	0.4	–	1.3	2.2	1.6	2.5	**9.9**
Indonesia	†	–	0.4	0.6	3.2	–	0.1	0.1	45.9	66.7	17.8	22.9	62.6	**220.3**
Mongolia	–	–	–	–	0.3	†	–	–	23.3	–	0.1	†	0.2	**23.9**
Other Asia Pacific	†	†	†	0.2	0.4	†	†	0.1	4.8	3.3	0.7	0.8	0.9	**11.2**
Rest of World	†	†	†	†	0.5	†	†	†	†	0.7	†	0.1	†	**1.5**
Total imports	**5.5**	**5.8**	**2.6**	**26.6**	**149.6**	**14.5**	**7.9**	**14.4**	**146.5**	**141.7**	**119.7**	**92.7**	**131.1**	**858.8**

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

Nuclear energy

Consumption*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	21.6	20.2	20.4	21.0	21.3	23.2	24.1	22.9	22.7	22.7	**22.6**	-0.4%	0.8%	3.7%
Mexico	2.2	2.4	1.3	2.3	2.0	2.7	2.2	2.6	2.4	2.5	**3.1**	24.9%	0.4%	0.5%
US	192.0	190.3	192.2	188.2	183.2	187.9	189.9	189.9	191.9	191.7	**192.2**	0.3%	♦	31.4%
Total North America	215.8	212.9	213.9	211.5	206.5	213.8	216.2	215.4	217.0	216.9	**217.9**	0.5%	0.1%	35.7%
Argentina	1.7	1.9	1.6	1.4	1.4	1.4	1.2	1.6	1.9	1.4	**1.6**	12.9%	-1.7%	0.3%
Brazil	3.2	2.9	3.3	3.5	3.6	3.5	3.5	3.3	3.6	3.6	**3.5**	-0.7%	2.5%	0.6%
Chile	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Colombia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ecuador	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other S. & Cent. America	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total S. & Cent. America	4.8	4.8	4.9	5.0	5.1	4.9	4.7	4.9	5.5	4.9	**5.1**	3.1%	1.1%	0.8%
Austria	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Belgium	10.3	10.7	10.8	10.9	9.1	9.6	7.6	5.9	9.8	9.6	**6.4**	-32.6%	-1.3%	1.1%
Czech Republic	6.0	6.2	6.3	6.4	6.9	7.0	6.9	6.1	5.5	6.4	**6.8**	5.6%	0.8%	1.1%
Finland	5.3	5.4	5.2	5.3	5.3	5.4	5.4	5.3	5.3	5.1	**5.2**	1.5%	-0.4%	0.9%
France	99.4	92.7	97.0	100.1	96.3	95.9	98.8	99.0	91.2	90.1	**93.5**	3.7%	-1.0%	15.3%
Germany	33.7	30.5	31.8	24.4	22.5	22.0	22.0	20.8	19.2	17.3	**17.2**	-0.3%	-5.9%	2.8%
Greece	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Hungary	3.4	3.5	3.6	3.5	3.6	3.5	3.5	3.6	3.6	3.6	**3.6**	-2.3%	0.9%	0.6%
Italy	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Netherlands	0.9	1.0	0.9	0.9	0.9	0.7	0.9	0.9	0.9	0.8	**0.8**	2.7%	-2.1%	0.1%
Norway	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Poland	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Portugal	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Romania	2.5	2.7	2.6	2.7	2.6	2.6	2.6	2.6	2.6	2.6	**2.6**	-1.1%	4.1%	0.4%
Spain	13.3	11.9	13.9	13.1	13.9	12.8	13.0	13.0	13.3	13.1	**12.6**	-4.2%	0.5%	2.1%
Sweden	14.5	11.8	13.1	13.7	14.5	15.0	14.7	12.8	14.3	14.9	**15.5**	4.4%	-0.2%	2.5%
Switzerland	6.2	6.2	6.0	6.1	5.8	5.9	6.3	5.3	4.8	4.6	**5.8**	25.2%	-3.0%	1.0%
Turkey	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ukraine	20.3	18.8	20.2	20.4	20.4	18.8	20.0	19.8	18.3	19.4	**19.1**	-1.4%	-0.8%	3.1%
United Kingdom	11.9	15.6	14.1	15.6	15.9	16.0	14.4	15.9	16.2	15.9	**14.7**	-7.5%	1.1%	2.4%
Other Europe	11.0	10.4	8.0	8.6	8.3	8.0	8.5	8.2	8.2	8.4	**8.3**	-0.4%	-2.1%	1.4%
Total Europe	238.7	227.3	233.5	231.7	225.9	223.2	224.6	219.1	213.2	211.8	**212.1**	0.1%	-1.2%	34.7%
Azerbaijan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Belarus	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Kazakhstan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Russian Federation	36.9	37.0	38.6	39.1	40.2	39.0	40.9	44.2	44.5	46.0	**46.3**	0.7%	2.4%	7.6%
Turkmenistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Uzbekistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other CIS	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.5	0.6	**0.5**	-20.7%	0.3%	0.1%
Total CIS	37.5	37.6	39.1	39.7	40.7	39.6	41.5	44.9	45.0	46.6	**46.7**	0.4%	2.4%	7.6%
Iran	–	–	–	†	0.3	1.0	0.9	0.8	1.5	1.6	**1.6**	-1.0%	–	0.3%
Iraq	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Israel	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Kuwait	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Oman	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Middle East	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Middle East	–	–	–	†	0.3	1.0	0.9	0.8	1.5	1.6	**1.6**	-1.0%	–	0.3%
Algeria	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Egypt	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Morocco	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Africa	2.9	2.9	3.1	2.9	2.9	3.2	3.1	2.8	3.6	3.6	**2.5**	-29.6%	3.4%	0.4%
Other Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Africa	2.9	2.9	3.1	2.9	2.9	3.2	3.1	2.8	3.6	3.6	**2.5**	-29.6%	3.4%	0.4%
Australia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Bangladesh	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
China	15.5	15.9	16.7	19.5	22.0	25.3	30.0	38.6	48.3	56.1	**66.6**	18.6%	14.9%	10.9%
China Hong Kong SAR	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
India	3.4	3.8	5.2	7.3	7.5	7.5	7.8	8.7	8.6	8.5	**8.8**	4.4%	7.7%	1.4%
Indonesia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Japan	57.0	62.1	66.2	36.9	4.1	3.3	–	1.0	4.0	6.6	**11.1**	68.9%	-20.2%	1.8%
Malaysia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
New Zealand	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Pakistan	0.4	0.6	0.5	0.9	1.2	1.2	1.1	1.1	1.3	1.9	**2.2**	18.0%	12.8%	0.4%
Philippines	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Singapore	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Korea	34.2	33.4	33.6	35.0	34.0	31.4	35.4	37.3	36.7	33.6	**30.2**	-10.1%	0.4%	4.9%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Taiwan	9.2	9.4	9.4	9.5	9.1	9.4	9.6	8.3	7.2	5.1	**6.3**	23.3%	-5.7%	1.0%
Thailand	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Vietnam	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Asia Pacific	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Asia Pacific	119.7	125.3	131.7	109.1	78.0	78.1	83.9	95.0	106.0	111.7	**125.3**	12.1%	-1.0%	20.5%
Total World	**619.5**	**610.8**	**626.2**	**600.0**	**559.5**	**563.8**	**574.9**	**582.8**	**591.8**	**597.1**	**611.3**	**2.4%**	**-0.4%**	**100.0%**
of which: OECD	517.0	508.5	521.0	488.4	444.0	447.1	450.0	446.8	446.4	443.4	**446.1**	0.6%	-1.6%	73.0%
Non-OECD	102.5	102.3	105.3	111.7	115.5	116.7	125.0	136.0	145.3	153.7	**165.2**	7.5%	4.4%	27.0%
European Union	212.2	202.4	207.4	205.2	199.7	198.5	198.3	194.0	190.1	187.8	**187.2**	-0.3%	-1.2%	30.6%

*Based on gross generation and not accounting for cross-border electricity supply. Converted on the basis of thermal equivalence assuming 38% conversion efficiency in a thermal power station.
†Less than 0.05.
♦Less than 0.05%.
Nuclear data expressed in terawatt-hours is available at *bp.com/statisticalreview.*

Hydroelectricity

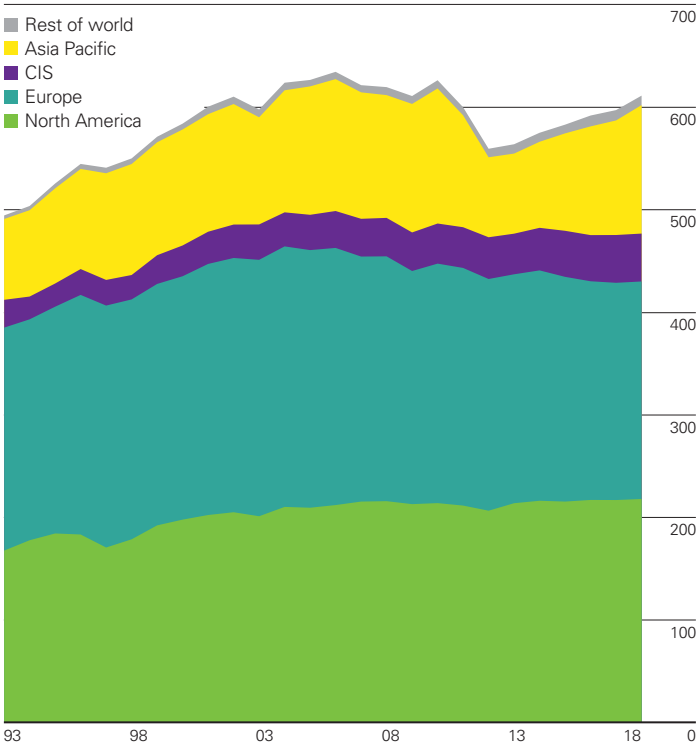
Consumption*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	85.4	83.4	79.5	85.0	86.0	88.7	86.6	86.5	87.6	89.7	**87.6**	-2.3%	0.8%	9.2%
Mexico	8.9	6.0	8.4	8.2	7.2	6.3	8.8	7.0	6.9	7.2	**7.3**	1.7%	1.5%	0.8%
US	56.8	61.4	58.2	71.5	62.0	60.3	57.9	55.8	59.7	67.2	**65.3**	-2.7%	2.0%	6.9%
Total North America	151.1	150.9	146.1	164.7	155.3	155.3	153.2	149.2	154.2	164.1	**160.3**	-2.3%	1.3%	16.9%
Argentina	8.4	9.2	9.2	9.0	8.3	9.2	9.2	9.5	8.7	9.4	**9.4**	0.3%	1.0%	1.0%
Brazil	83.6	88.5	91.3	96.9	94.0	88.5	84.5	81.4	86.2	83.9	**87.7**	4.5%	-0.1%	9.2%
Chile	5.5	5.7	4.9	4.6	4.6	4.5	5.2	5.3	4.5	4.8	**5.2**	8.5%	-0.5%	0.6%
Colombia	10.4	9.2	9.2	11.0	10.8	10.0	10.1	10.1	10.6	13.0	**12.8**	-1.2%	2.6%	1.4%
Ecuador	2.6	2.1	2.0	2.5	2.8	2.5	2.6	3.0	3.6	4.5	**4.7**	3.0%	8.3%	0.5%
Peru	4.3	4.5	4.5	4.9	5.0	5.1	5.0	5.4	5.4	6.6	**7.0**	5.8%	4.0%	0.7%
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	19.6	19.4	17.3	18.8	18.5	18.9	17.8	16.6	14.0	18.0	**16.3**	-9.3%	-0.4%	1.7%
Other S. & Cent. America	19.5	19.2	20.2	20.7	21.3	22.0	20.8	20.7	22.5	22.8	**22.3**	-2.0%	1.6%	2.4%
Total S. & Cent. America	153.9	157.8	158.6	168.4	165.3	160.6	155.3	151.9	155.3	163.0	**165.5**	1.5%	0.6%	17.4%
Austria	8.7	9.3	8.7	7.7	9.9	9.5	9.3	8.4	9.0	8.7	**8.5**	-2.2%	0.3%	0.9%
Belgium	0.1	0.1	0.1	†	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	5.4%	-3.6%	◆
Czech Republic	0.5	0.5	0.6	0.5	0.5	0.6	0.4	0.4	0.5	0.4	**0.4**	-13.0%	-1.1%	◆
Finland	3.9	2.9	2.9	2.8	3.8	2.9	3.0	3.8	3.6	3.3	**3.0**	-10.0%	0.4%	0.3%
France	14.4	12.9	14.2	10.1	13.3	16.0	14.2	12.3	13.6	11.1	**14.5**	30.5%	-1.6%	1.5%
Germany	4.6	4.3	4.7	4.0	5.0	5.2	4.4	4.3	4.6	4.6	**3.8**	-16.1%	-0.5%	0.4%
Greece	0.7	1.2	1.7	0.9	1.0	1.4	1.0	1.4	1.3	0.9	**1.3**	44.4%	4.3%	0.1%
Hungary	†	0.1	†	0.1	†	†	0.1	0.1	0.1	†	**0.1**	0.5%	0.5%	◆
Italy	9.4	11.1	11.6	10.4	9.5	11.9	13.2	10.0	9.2	7.8	**10.4**	33.4%	0.5%	1.1%
Netherlands	†	†	†	†	†	†	†	†	†	†	**†**	19.1%	-5.5%	◆
Norway	31.5	28.3	26.4	27.2	32.1	29.0	30.6	31.1	32.2	32.1	**31.3**	-2.4%	0.6%	3.3%
Poland	0.5	0.5	0.7	0.5	0.5	0.6	0.5	0.4	0.5	0.6	**0.4**	-23.0%	0.9%	◆
Portugal	1.5	1.9	3.7	2.6	1.3	3.1	3.5	2.0	3.6	1.3	**2.8**	109.4%	-5.2%	0.3%
Romania	3.9	3.5	4.5	3.3	2.7	3.3	4.2	3.8	4.1	3.3	**4.0**	21.2%	-1.0%	0.4%
Spain	5.3	6.0	9.5	6.9	4.6	8.3	8.9	6.4	8.2	4.2	**8.0**	87.4%	-3.6%	0.8%
Sweden	15.6	14.8	15.0	15.2	17.9	13.9	14.4	17.0	14.0	14.7	**14.0**	-4.7%	-0.2%	1.5%
Switzerland	8.2	8.1	8.2	7.3	8.7	8.7	8.6	8.7	7.8	7.7	**7.9**	2.1%	-0.3%	0.8%
Turkey	7.5	8.1	11.7	11.8	13.1	13.4	9.2	15.2	15.2	13.2	**13.5**	2.2%	5.0%	1.4%
Ukraine	2.6	2.7	3.0	2.5	2.4	3.1	1.9	1.2	1.7	2.0	**2.2**	13.6%	-1.5%	0.2%
United Kingdom	1.2	1.2	0.8	1.3	1.2	1.1	1.3	1.4	1.3	1.3	**1.2**	-7.8%	1.6%	0.1%
Other Europe	14.1	15.9	19.0	13.6	14.0	17.3	16.7	16.1	16.8	14.9	**17.9**	19.9%	2.0%	1.9%
Total Europe	134.2	133.4	147.0	128.9	141.6	149.7	145.7	143.9	147.4	132.3	**145.3**	9.8%	0.4%	15.3%
Azerbaijan	0.5	0.5	0.8	0.6	0.4	0.3	0.3	0.4	0.4	0.4	**0.4**	1.2%	-3.0%	◆
Belarus	†	†	†	†	†	†	†	†	†	0.1	**0.1**	12.9%	27.7%	◆
Kazakhstan	1.7	1.6	1.8	1.8	1.7	1.7	1.9	2.1	2.6	2.5	**2.3**	-7.6%	3.2%	0.2%
Russian Federation	37.3	39.4	37.7	36.9	37.0	41.0	39.2	38.0	41.8	41.9	**43.0**	2.6%	0.5%	4.5%
Turkmenistan	†	†	†	–	–	–	–	–	–	–	**–**	–	-100.0%	–
Uzbekistan	1.0	1.5	1.9	1.3	1.4	1.4	1.4	1.4	1.2	1.7	**1.6**	-10.3%	1.7%	0.2%
Other CIS	6.5	6.4	6.9	7.6	7.6	7.4	7.2	6.9	6.9	7.7	**8.0**	4.0%	0.2%	0.8%
Total CIS	47.0	49.4	49.1	48.1	48.2	51.9	50.0	48.8	53.1	54.3	**55.4**	2.0%	0.5%	5.8%
Iran	1.7	1.5	2.3	2.4	2.8	3.3	3.3	3.0	3.5	3.9	**2.4**	-37.5%	-0.4%	0.3%
Iraq	0.7	0.6	0.8	0.8	1.0	1.0	0.6	0.6	0.8	0.5	**0.7**	42.8%	-7.1%	0.1%
Israel	†	†	†	†	†	†	†	†	†	†	**†**	–	5.8%	◆
Kuwait	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Oman	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Middle East	0.7	0.6	0.8	1.0	1.0	0.9	0.6	0.2	0.3	0.3	**0.3**	-4.9%	-10.6%	◆
Total Middle East	3.1	2.7	3.9	4.1	4.8	5.3	4.5	3.8	4.6	4.7	**3.4**	-26.9%	-2.5%	0.4%
Algeria	0.1	0.1	†	0.1	0.1	†	†	†	†	†	**†**	108.9%	-13.0%	◆
Egypt	3.4	3.1	2.9	2.9	2.9	3.0	3.1	3.1	3.1	3.0	**3.1**	0.6%	-0.6%	0.3%
Morocco	0.2	0.6	0.8	0.5	0.4	0.6	0.4	0.4	0.3	0.3	**0.4**	42.9%	2.8%	◆
South Africa	0.3	0.3	0.3	0.7	0.2	0.2	0.4	0.2	0.2	0.2	**0.2**	5.0%	-11.2%	◆
Other Africa	18.0	18.5	20.3	20.8	21.5	22.7	24.1	23.5	22.9	24.7	**26.4**	6.9%	3.5%	2.8%
Total Africa	22.0	22.6	24.3	25.0	25.1	26.6	28.0	27.2	26.4	28.2	**30.1**	6.6%	2.7%	3.2%
Australia	2.7	2.9	3.1	4.4	3.9	4.3	3.3	3.2	4.0	3.1	**3.9**	27.6%	0.4%	0.4%
Bangladesh	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	**0.2**	-14.0%	3.2%	◆
China	144.1	139.3	161.0	155.7	195.2	205.8	237.8	252.2	261.0	263.6	**272.1**	3.2%	9.2%	28.7%
China Hong Kong SAR	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
India	26.1	24.1	24.6	29.8	26.2	29.9	31.5	30.2	29.0	30.7	**31.6**	2.9%	1.0%	3.3%
Indonesia	2.6	2.6	3.9	2.8	2.9	3.8	3.4	3.1	4.2	4.2	**3.7**	-11.9%	5.1%	0.4%
Japan	16.8	15.6	19.7	18.3	17.2	17.7	18.1	19.0	18.1	17.9	**18.3**	2.2%	0.6%	1.9%
Malaysia	1.8	1.6	1.4	1.8	2.1	2.6	3.0	3.5	4.6	5.2	**5.5**	4.7%	14.5%	0.6%
New Zealand	5.1	5.5	5.6	5.7	5.2	5.2	5.5	5.6	5.9	5.7	**6.0**	4.5%	0.6%	0.6%
Pakistan	6.1	6.4	6.7	6.9	6.7	7.0	7.3	7.4	7.8	6.9	**8.1**	18.1%	-0.4%	0.9%
Philippines	2.2	2.2	1.8	2.2	2.3	2.3	2.1	2.0	1.8	2.2	**2.1**	-2.3%	1.2%	0.2%
Singapore	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Korea	0.7	0.6	0.8	1.0	0.9	1.0	0.6	0.5	0.6	0.6	**0.7**	4.0%	-2.5%	0.1%
Sri Lanka	0.9	0.9	1.3	1.0	0.7	1.6	1.0	1.4	1.0	0.9	**1.4**	58.6%	0.1%	0.2%
Taiwan	1.0	0.8	0.9	0.9	1.3	1.2	1.0	1.0	1.5	1.2	**1.0**	-18.0%	2.1%	0.1%
Thailand	1.6	1.6	1.2	1.8	1.9	1.2	1.2	0.9	0.8	1.1	**1.7**	62.1%	-5.2%	0.2%
Vietnam	5.9	6.8	6.2	9.3	11.9	13.0	13.8	12.9	14.5	16.0	**18.3**	13.9%	12.2%	1.9%
Other Asia Pacific	7.8	7.7	9.3	10.6	10.8	12.1	12.0	11.3	13.1	13.6	**14.2**	4.7%	6.3%	1.5%
Total Asia Pacific	225.5	218.5	247.7	252.5	289.4	308.9	341.9	354.1	368.1	373.2	**388.9**	4.2%	6.8%	41.0%
Total World	**736.8**	**735.4**	**776.8**	**791.8**	**829.7**	**858.3**	**878.7**	**878.9**	**909.1**	**919.9**	**948.8**	**3.1%**	**2.8%**	**100.0%**
of which: OECD	301.1	298.3	306.8	313.6	315.1	319.7	314.8	311.1	317.8	314.6	**321.3**	2.1%	0.8%	33.9%
Non-OECD	435.7	437.1	470.0	478.2	514.6	538.6	563.9	567.8	591.3	605.3	**627.5**	3.7%	4.0%	66.1%
European Union	75.2	75.9	85.2	70.8	76.1	84.0	84.8	76.9	78.8	67.4	**78.0**	15.7%	-0.5%	8.2%

*Based on gross primary hydroelectric generation and not accounting for cross-border electricity supply. Converted on the basis of thermal equivalence assuming 38% conversion efficiency in a thermal power station.
†Less than 0.05.
◆Less than 0.05%.
Hydroelectricity data expressed in terawatt-hours is available at *bp.com/statisticalreview*.

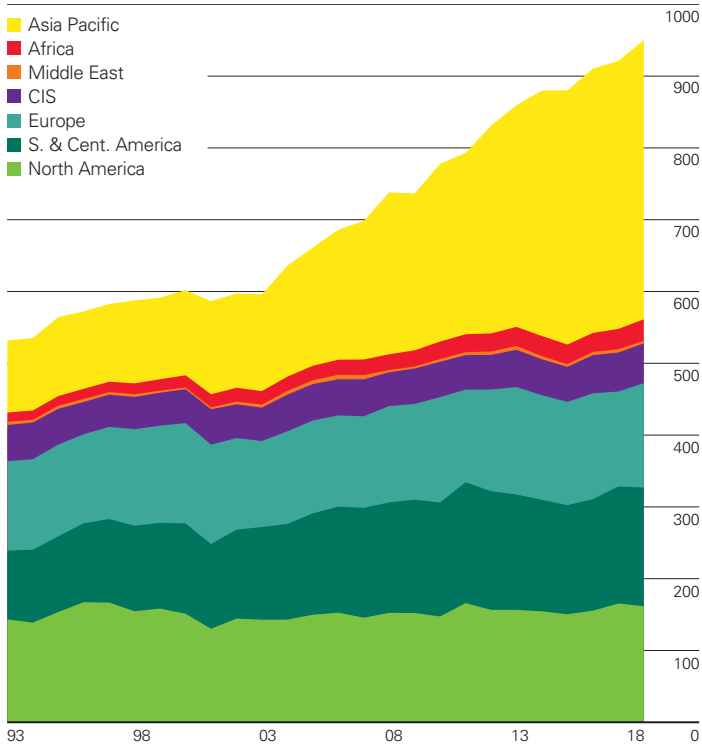
Nuclear energy consumption by region

Million tonnes oil equivalent



Hydroelectricity consumption by region

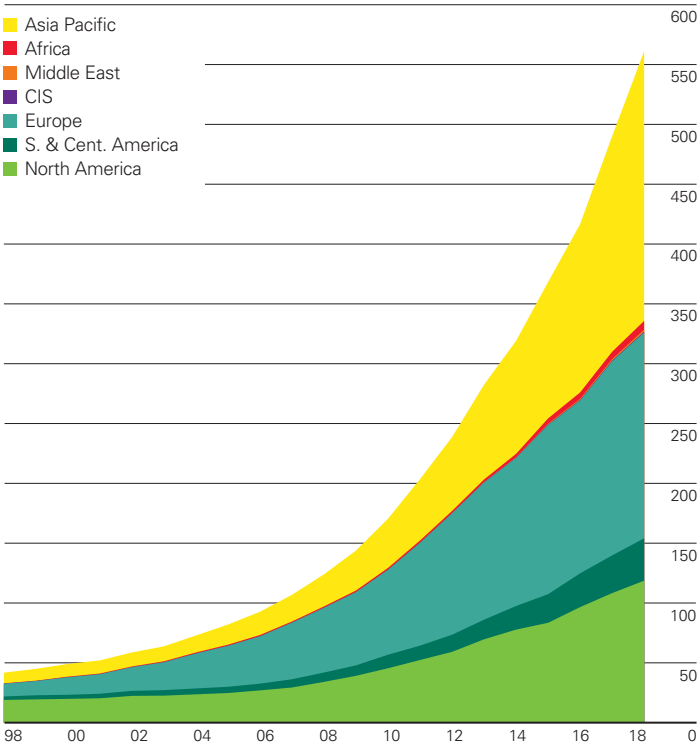
Million tonnes oil equivalent



Nuclear consumption increased by 2.4% in 2018. China (10 mtoe) accounted for almost three quarters of global growth. In fact, nuclear consumption in China has more than quadrupled in the last 10 years. The largest declines were recorded in South Korea (-3 mtoe) and Belgium (-3 mtoe).
World hydroelectric consumption rose by 3.1%, slightly above the 10-year average (2.8%). China (8 mtoe) and Brazil (4 mtoe) posted the largest contributions. Asia Pacific's global share has increased significantly in recent years: in 2018 Asia Pacific accounted for 41% of global consumption, 20 years ago it accounted for only 20%.

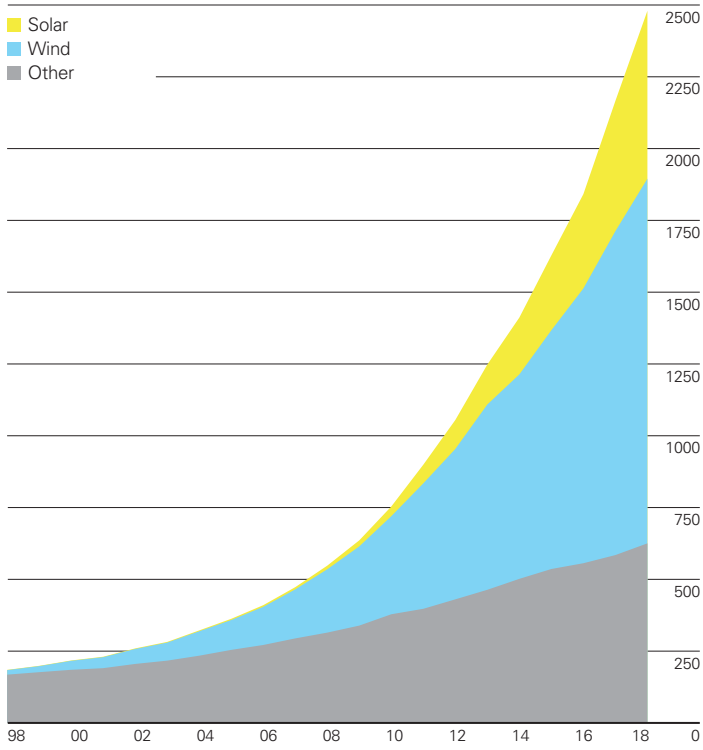
Renewables consumption by region

Million tonnes oil equivalent



Renewables generation by source

Terawatt-hours



Renewable energy in power generation (excluding hydro) increased by 14% in 2018, slightly below 10-year average growth (16%). However, its increase in energy terms (71 mtoe) was slightly below the record-breaking increase of 2017. China accounted for 45% of global growth and its consumption has increased 20-fold in the last 10 years.
Wind (142 TWh) contributed more to renewable generation growth than solar (131 TWh). Wind has accounted for around 50% of renewables generation in the last few years. Solar has constantly increased its share and now represents 24%, 13 percentage points higher than in 2013.

Renewable energy

Renewables consumption*

Million tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	2.7	3.5	4.3	4.7	5.2	6.9	7.6	8.5	9.5	9.5	**10.3**	7.7%	13.4%	1.8%
Mexico	1.8	1.8	2.0	2.0	2.4	2.6	3.1	3.7	4.1	4.3	**4.8**	11.6%	8.4%	0.9%
US	29.7	33.9	39.3	45.7	51.7	60.2	67.2	71.5	83.1	94.5	**103.8**	9.8%	14.3%	18.5%
Total North America	34.2	39.3	45.6	52.5	59.3	69.8	77.9	83.6	96.7	108.4	**118.8**	9.6%	13.9%	21.2%
Argentina	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.6	0.7	**0.9**	26.8%	6.3%	0.2%
Brazil	4.7	5.4	7.6	7.9	9.1	10.6	13.3	16.0	19.1	21.4	**23.6**	10.6%	17.6%	4.2%
Chile	0.8	0.7	0.8	1.0	1.4	1.6	1.5	2.0	2.5	3.3	**3.5**	7.6%	18.2%	0.6%
Colombia	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	**0.5**	7.5%	13.6%	0.1%
Ecuador	†	†	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	0.8%	9.4%	◆
Peru	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4	**0.7**	50.3%	16.6%	0.1%
Trinidad & Tobago	†	†	†	†	†	†	†	†	†	†	**†**	–	-15.7%	◆
Venezuela	–	–	†	†	†	†	†	†	†	†	**†**	–	–	◆
Other S. & Cent. America	1.6	1.8	2.0	2.1	2.6	2.9	3.4	4.3	4.9	5.2	**6.1**	17.0%	13.9%	1.1%
Total S. & Cent. America	7.8	8.7	11.3	12.0	14.3	16.4	19.7	23.9	28.2	31.5	**35.4**	12.2%	16.4%	6.3%
Austria	1.4	1.4	1.5	1.5	1.7	1.9	2.0	2.3	2.5	2.8	**2.8**	-1.9%	7.4%	0.5%
Belgium	0.9	1.2	1.4	1.9	2.3	2.6	2.7	3.2	3.2	3.5	**3.8**	8.4%	17.5%	0.7%
Czech Republic	0.4	0.5	0.7	1.2	1.3	1.5	1.6	1.7	1.7	1.8	**1.7**	-0.9%	19.4%	0.3%
Finland	2.4	2.0	2.6	2.6	2.6	2.9	2.9	3.1	3.3	3.8	**4.3**	13.2%	5.1%	0.8%
France	2.3	2.9	3.5	4.4	5.5	5.9	6.6	7.9	8.4	9.4	**10.6**	13.0%	17.4%	1.9%
Germany	16.5	17.2	19.1	24.1	27.4	29.3	32.3	38.4	38.3	44.4	**47.3**	6.6%	11.3%	8.4%
Greece	0.6	0.6	0.7	0.9	1.3	1.8	1.7	2.0	2.1	2.2	**2.4**	5.6%	17.3%	0.4%
Hungary	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	**0.8**	9.9%	6.9%	0.1%
Italy	3.7	4.6	5.8	8.4	11.4	13.4	14.1	14.3	14.8	15.3	**14.9**	-2.5%	16.3%	2.7%
Netherlands	2.1	2.4	2.5	2.8	2.8	2.7	2.6	3.1	3.3	3.9	**4.2**	7.2%	8.8%	0.8%
Norway	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.5	0.7	**0.9**	32.7%	9.2%	0.2%
Poland	1.0	1.4	1.8	2.4	3.4	3.3	4.0	4.7	4.7	4.9	**4.4**	-9.7%	21.5%	0.8%
Portugal	1.8	2.3	2.8	2.8	3.1	3.6	3.6	3.6	3.7	3.8	**3.9**	2.6%	10.5%	0.7%
Romania	†	†	0.1	0.4	0.6	1.2	1.5	2.2	2.0	2.2	**2.0**	-11.8%	74.2%	0.3%
Spain	8.8	10.7	12.3	12.6	15.0	16.8	16.1	15.6	15.4	15.7	**16.0**	1.7%	8.4%	2.9%
Sweden	2.8	3.2	3.6	4.0	4.4	4.8	5.0	6.1	6.1	6.8	**6.6**	-2.9%	10.3%	1.2%
Switzerland	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.8	**0.9**	11.2%	11.6%	0.2%
Turkey	0.3	0.5	0.9	1.3	1.7	2.2	2.7	3.7	5.2	6.6	**8.5**	29.8%	47.3%	1.5%
Ukraine	0.1	†	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.4	**0.6**	38.8%	19.3%	0.1%
United Kingdom	3.8	4.5	5.1	6.7	8.1	11.0	13.3	17.4	17.6	21.1	**23.9**	13.1%	20.4%	4.3%
Other Europe	4.2	4.5	5.4	6.5	7.2	8.0	8.9	9.7	9.8	11.4	**11.7**	2.8%	11.3%	2.1%
Total Europe	54.1	61.2	71.0	85.9	101.5	114.7	123.8	141.5	144.5	162.3	**172.2**	6.1%	13.1%	30.7%
Azerbaijan	–	†	†	–	–	†	†	†	†	†	**†**	40.2%	–	◆
Belarus	†	†	†	†	†	†	†	†	†	0.1	**0.1**	23.8%	34.6%	◆
Kazakhstan	–	–	–	†	†	†	†	†	0.1	0.1	**0.1**	56.8%	–	◆
Russian Federation	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	**0.3**	10.5%	8.8%	0.1%
Turkmenistan	–	–	†	†	†	†	†	†	†	†	**†**	–	–	◆
Uzbekistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other CIS	†	†	†	†	†	†	†	†	†	†	**†**	11.2%	30.1%	◆
Total CIS	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.4	0.5	**0.6**	24.0%	14.9%	0.1%
Iran	†	0.1	†	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	28.2%	8.8%	◆
Iraq	–	–	–	–	–	†	†	†	†	†	**†**	–	–	◆
Israel	†	†	†	0.1	0.1	0.1	0.2	0.3	0.4	0.4	**0.5**	10.9%	68.2%	0.1%
Kuwait	–	–	–	–	–	†	†	†	†	†	**†**	–	–	◆
Oman	–	–	–	–	–	†	†	†	†	†	**†**	57.5%	–	◆
Qatar	–	–	–	†	†	†	†	†	†	†	**†**	–	–	◆
Saudi Arabia	†	†	†	†	†	†	†	†	†	†	**†**	9.2%	–	◆
United Arab Emirates	–	†	†	†	†	†	0.1	0.1	0.1	0.1	**0.2**	76.9%	–	◆
Other Middle East	†	†	†	†	†	†	†	0.2	0.4	0.5	**0.8**	48.5%	67.3%	0.1%
Total Middle East	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.7	1.0	1.3	**1.7**	34.2%	42.1%	0.3%
Algeria	–	–	†	†	†	†	†	†	0.1	0.1	**0.1**	17.2%	–	◆
Egypt	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.4	0.6	0.6	**0.8**	28.1%	15.1%	0.1%
Morocco	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.6	0.8	0.8	**1.1**	38.9%	28.6%	0.2%
South Africa	0.1	0.1	0.1	0.1	0.1	0.2	0.6	1.4	1.8	2.4	**2.8**	16.3%	36.8%	0.5%
Other Africa	0.7	0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.1	2.2	**2.4**	11.0%	13.2%	0.4%
Total Africa	1.0	1.2	1.4	1.6	1.7	2.0	2.8	4.4	5.3	6.1	**7.2**	18.5%	20.4%	1.3%
Australia	1.7	1.7	1.9	2.5	3.0	3.7	4.1	4.9	5.5	5.8	**7.2**	24.1%	13.5%	1.3%
Bangladesh	†	†	†	†	†	†	†	†	0.1	0.1	**0.1**	12.3%	38.6%	◆
China	6.4	11.0	15.9	22.8	29.4	42.3	51.1	64.1	81.7	111.4	**143.5**	28.8%	41.4%	25.6%
China Hong Kong SAR	†	†	†	†	†	†	†	†	†	†	**†**	-0.1%	61.2%	◆
India	5.4	6.3	7.7	9.5	11.2	12.7	14.3	14.7	18.1	21.7	**27.5**	26.9%	17.5%	4.9%
Indonesia	1.9	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.6	3.0	**3.3**	10.2%	6.6%	0.6%
Japan	6.1	6.1	6.7	7.0	7.7	9.3	11.8	15.4	18.8	22.4	**25.4**	13.5%	13.7%	4.5%
Malaysia	†	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	**0.3**	10.9%	224.8%	0.1%
New Zealand	1.3	1.6	1.8	2.0	2.0	2.0	2.3	2.4	2.4	2.4	**2.4**	-1.7%	7.8%	0.4%
Pakistan	0.3	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.7	0.9	**1.2**	41.9%	13.4%	0.2%
Philippines	2.4	2.4	2.3	2.3	2.4	2.2	2.4	2.8	3.1	3.1	**3.2**	2.7%	2.8%	0.6%
Singapore	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	**0.3**	11.8%	8.1%	◆
South Korea	0.3	0.4	0.5	0.6	0.9	1.2	2.1	2.7	3.1	4.0	**5.0**	24.8%	37.0%	0.9%
Sri Lanka	†	†	†	†	†	0.1	0.1	0.1	0.1	0.1	**0.1**	5.6%	51.3%	
Taiwan	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.0	1.0	1.2	**1.5**	21.8%	8.9%	0.3%
Thailand	0.5	0.5	0.8	0.9	1.2	1.6	2.0	2.3	2.8	3.4	**4.0**	19.1%	19.8%	0.7%
Vietnam	†	†	†	†	†	†	†	0.1	0.1	0.1	**0.1**	39.8%	15.5%	◆
Other Asia Pacific	†	†	†	†	0.1	0.1	0.1	0.1	0.2	0.2	**0.3**	32.2%	25.6%	0.1%
Total Asia Pacific	26.8	33.4	41.1	51.3	61.7	79.2	94.5	114.0	140.7	180.2	**225.4**	25.0%	23.2%	40.2%
Total World	**124.1**	**144.0**	**170.6**	**203.6**	**238.8**	**282.5**	**319.5**	**368.5**	**416.8**	**490.2**	**561.3**	**14.5%**	**16.4%**	**100.0%**
of which: OECD	98.1	110.7	127.8	150.5	174.2	199.9	220.6	248.8	269.9	304.3	**330.4**	8.6%	13.4%	58.9%
Non-OECD	26.0	33.3	42.8	53.1	64.6	82.6	98.9	119.7	146.9	185.9	**230.8**	24.1%	24.5%	41.1%
European Union	52.2	59.0	68.4	82.7	97.6	109.9	118.3	134.9	136.4	152.4	**159.6**	4.8%	12.8%	28.4%

*Based on gross generation from renewable sources including wind, geothermal, solar, biomass and waste, and not accounting for cross-border electricity supply. Converted on the basis of thermal equivalence assuming 38% conversion efficiency in a thermal power station.
†Less than 0.05.
◆Less than 0.05%.
Renewables data expressed in terawatt-hours is available at *bp.com/statisticalreview*.

Renewable energy: Generation by source*

Terawatt-hours	Wind	Solar	Other renewables‡	2017 Total	Wind	Solar	Other renewables‡	**2018 Total**	2018 Growth rate Wind	Solar	Other renewables‡	**Total**
Canada	29.1	3.3	9.7	42.1	32.2	3.5	9.6	**45.3**	10.7%	7.7%	-1.4%	**7.7%**
Mexico	10.6	1.2	7.3	19.1	12.6	2.2	6.5	**21.4**	18.9%	89.0%	-11.5%	**11.6%**
US	256.9	78.1	82.8	417.8	277.7	97.1	83.7	**458.5**	8.1%	24.4%	1.0%	**9.8%**
Total North America	296.6	82.5	99.9	479.0	322.5	102.9	99.7	**525.2**	8.8%	24.7%	-0.1%	**9.6%**
Argentina	0.6	†	2.4	3.0	1.4	0.1	2.3	**3.8**	131.0%	558.6%	-3.6%	**26.8%**
Brazil	42.4	0.8	51.3	94.5	48.5	3.1	52.9	**104.5**	14.4%	277.1%	3.2%	**10.6%**
Chile	3.6	3.9	6.9	14.5	3.7	5.1	6.7	**15.5**	1.7%	31.4%	-2.8%	**7.6%**
Colombia	†	–	2.0	2.0	†	†	2.1	**2.1**	1314.2%	–	4.9%	**7.5%**
Ecuador	0.1	†	0.4	0.5	0.1	†	0.4	**0.5**	9.3%	1.4%	-0.7%	**0.8%**
Peru	1.1	0.3	0.6	1.9	1.5	0.7	0.7	**2.9**	39.1%	159.5%	16.8%	**50.3%**
Trinidad & Tobago	–	†	–	†	–	†	–	**†**	–	–	–	**–**
Venezuela	–	†	–	†	–	†	–	**†**	–	–	–	**–**
Other S. & Cent. America	8.4	2.4	12.2	22.9	10.7	3.3	12.9	**26.8**	27.4%	37.3%	5.9%	**17.0%**
Total S. & Cent. America	56.1	7.5	75.8	139.4	65.9	12.4	78.0	**156.3**	17.3%	66.7%	3.0%	**12.2%**
Austria	6.6	1.3	4.6	12.5	5.9	1.6	4.8	**12.2**	-10.3%	24.4%	2.6%	**-1.9%**
Belgium	6.5	3.3	5.8	15.6	7.5	4.0	5.4	**16.9**	14.7%	20.8%	-5.8%	**8.4%**
Czech Republic	0.6	2.2	5.0	7.7	0.6	2.3	4.7	**7.7**	3.1%	6.6%	-4.8%	**-0.9%**
Finland	4.8	†	11.8	16.7	5.9	0.2	12.9	**18.9**	22.1%	272.0%	8.6%	**13.2%**
France	24.3	9.2	8.0	41.5	28.2	10.2	8.5	**46.8**	15.8%	10.9%	6.6%	**13.0%**
Germany	105.7	39.4	51.1	196.2	111.6	46.2	51.4	**209.2**	5.6%	17.2%	0.7%	**6.6%**
Greece	5.5	4.0	0.3	9.8	6.3	3.8	0.3	**10.4**	13.8%	-5.0%	-3.8%	**5.6%**
Hungary	0.8	0.3	2.1	3.2	0.6	0.6	2.4	**3.6**	-19.8%	68.7%	10.8%	**9.9%**
Italy	17.7	24.4	25.6	67.7	17.5	23.2	25.3	**66.0**	-1.5%	-4.7%	-1.0%	**-2.5%**
Netherlands	10.6	2.2	4.6	17.4	10.5	3.2	4.9	**18.6**	-0.2%	45.2%	6.0%	**7.2%**
Norway	2.9	†	0.2	3.1	3.9	0.1	0.2	**4.1**	35.8%	58.2%	-15.1%	**32.7%**
Poland	14.9	0.2	6.5	21.6	12.8	0.3	6.3	**19.5**	-13.8%	81.2%	-2.4%	**-9.7%**
Portugal	12.2	1.0	3.4	16.7	12.7	1.0	3.4	**17.1**	3.3%	2.8%	0.1%	**2.6%**
Romania	7.4	1.9	0.5	9.8	6.5	1.7	0.5	**8.6**	-12.3%	-9.8%	-12.1%	**-11.8%**
Spain	49.1	14.3	6.1	69.5	50.8	12.5	7.4	**70.7**	3.5%	-12.6%	21.4%	**1.7%**
Sweden	17.6	0.2	12.1	29.9	16.8	0.4	11.9	**29.0**	-4.5%	62.2%	-1.8%	**-2.9%**
Switzerland	0.1	1.7	1.8	3.7	0.1	2.0	2.0	**4.1**	–	16.3%	7.4%	**11.2%**
Turkey	17.9	2.9	8.3	29.0	19.8	7.9	10.0	**37.7**	10.7%	173.1%	21.0%	**29.8%**
Ukraine	1.0	0.8	0.2	1.9	1.1	1.3	0.2	**2.6**	15.7%	69.7%	33.7%	**38.8%**
United Kingdom	50.0	11.5	31.9	93.4	57.1	12.9	35.6	**105.6**	14.2%	12.1%	11.7%	**13.1%**
Other Europe	0.3	0.4	0.2	0.9	0.5	0.4	0.2	**1.2**	80.8%	14.8%	18.3%	**37.8%**
Total Europe	384.3	124.5	208.2	717.1	404.4	139.1	217.6	**761.1**	5.2%	11.7%	4.5%	**6.1%**
Azerbaijan	†	†	0.1	0.1	0.1	†	0.1	**0.2**	271.9%	5.5%	-4.8%	**40.2%**
Belarus	0.1	0.1	0.1	0.3	0.1	0.1	0.1	**0.4**	21.6%	51.1%	3.0%	**23.8%**
Kazakhstan	0.3	0.1	–	0.4	0.5	0.1	†	**0.7**	64.0%	27.9%	–	**56.8%**
Russian Federation	0.1	0.5	0.5	1.1	0.2	0.6	0.5	**1.3**	62.4%	6.9%	-0.9%	**10.5%**
Turkmenistan	–	†	–	†	–	†	–	**†**	–	–	–	**–**
Uzbekistan	–	–	–	–	–	–	–	**–**	–	–	–	**–**
Other CIS	†	†	†	†	†	†	†	**†**	-2.5%	46.3%	–	**11.2%**
Total CIS	0.6	0.8	0.7	2.0	1.0	0.9	0.7	**2.5**	63.5%	14.9%	-0.4%	**24.0%**
Iran	0.3	†	†	0.3	0.4	†	†	**0.4**	23.8%	157.5%	–	**28.2%**
Iraq	–	0.1	–	0.1	–	0.1	–	**0.1**	–	–	–	**–**
Israel	0.1	1.6	0.1	1.8	0.1	1.8	0.1	**2.0**	–	12.4%	–	**10.9%**
Kuwait	†	0.1	–	0.1	†	0.1	–	**0.1**	–	–	–	**–**
Oman	–	†	–	†	–	†	–	**†**	–	57.5%	–	**57.5%**
Qatar	–	†	0.1	0.1	–	†	0.1	**0.1**	–	–	–	**–**
Saudi Arabia	–	0.1	–	0.1	–	0.2	–	**0.2**	–	9.2%	–	**9.2%**
United Arab Emirates	†	0.5	†	0.5	†	0.9	†	**1.0**	◆	77.9%	–	**76.9%**
Other Middle East	0.5	2.0	†	2.4	0.6	3.0	†	**3.6**	25.7%	53.9%	–	**48.5%**
Total Middle East	0.9	4.4	0.3	5.5	1.1	6.1	0.3	**7.4**	21.4%	38.8%	–	**34.2%**
Algeria	†	0.5	–	0.5	†	0.6	–	**0.6**	-47.4%	19.6%	–	**17.2%**
Egypt	2.4	0.3	–	2.7	2.4	1.0	–	**3.5**	-0.4%	294.2%	–	**28.1%**
Morocco	3.0	0.4	–	3.5	3.8	1.0	–	**4.8**	26.6%	128.8%	–	**38.9%**
South Africa	5.9	4.3	0.5	10.6	6.9	4.9	0.5	**12.4**	17.5%	15.4%	9.8%	**16.3%**
Other Africa	1.4	1.2	7.0	9.6	1.5	1.5	7.6	**10.6**	5.3%	30.6%	8.9%	**11.0%**
Total Africa	12.8	6.6	7.5	26.9	14.7	9.0	8.2	**31.9**	14.8%	36.6%	8.9%	**18.5%**
Australia	13.2	9.0	3.5	25.7	16.3	12.1	3.5	**31.9**	23.3%	34.9%	-0.1%	**24.1%**
Bangladesh	†	0.3	†	0.3	†	0.3	†	**0.3**	–	12.9%	–	**12.3%**
China	295.0	117.8	79.6	492.4	366.0	177.5	90.7	**634.2**	24.1%	50.7%	14.0%	**28.8%**
China Hong Kong SAR	†	†	0.1	0.1	†	†	0.1	**0.1**	–	-9.3%	–	**-0.1%**
India	52.6	21.5	21.6	95.8	60.3	30.7	30.5	**121.5**	14.6%	42.8%	40.9%	**26.9%**
Indonesia	–	†	13.4	13.4	0.2	†	14.5	**14.8**	–	-36.8%	8.9%	**10.2%**
Japan	6.1	61.8	30.9	98.8	6.8	71.7	33.7	**112.1**	11.1%	15.9%	9.0%	**13.5%**
Malaysia	–	0.4	1.0	1.3	–	0.5	1.0	**1.5**	–	26.7%	4.9%	**10.9%**
New Zealand	2.1	0.1	8.4	10.6	2.0	0.1	8.3	**10.5**	-4.4%	30.3%	-1.3%	**-1.7%**
Pakistan	1.2	1.1	1.6	3.9	1.7	2.1	1.7	**5.5**	43.1%	100.5%	2.8%	**41.9%**
Philippines	1.1	1.2	11.3	13.6	1.2	1.2	11.5	**13.9**	5.4%	4.0%	2.3%	**2.7%**
Singapore	–	0.2	0.8	1.1	–	0.3	0.9	**1.2**	–	25.0%	8.2%	**11.8%**
South Korea	2.2	7.1	8.3	17.6	2.4	9.3	10.2	**21.9**	10.8%	32.5%	21.9%	**24.8%**
Sri Lanka	0.4	0.1	0.1	0.6	0.3	0.2	0.1	**0.6**	-17.4%	38.1%	57.2%	**5.6%**
Taiwan	1.7	1.7	1.9	5.3	1.7	2.7	2.0	**6.4**	-2.5%	61.6%	8.2%	**21.8%**
Thailand	0.5	4.5	9.9	14.9	0.8	4.7	12.3	**17.8**	45.0%	5.3%	24.0%	**19.1%**
Vietnam	0.3	†	0.1	0.3	0.3	0.1	0.1	**0.5**	23.4%	803.3%	–	**39.8%**
Other Asia Pacific	0.3	0.5	0.2	0.9	0.5	0.6	0.2	**1.2**	58.0%	22.8%	8.3%	**32.2%**
Total Asia Pacific	376.7	227.2	192.6	796.6	460.5	314.2	221.3	**996.0**	22.2%	38.3%	14.9%	**25.0%**
Total World	**1128.0**	**453.5**	**585.0**	**2166.5**	**1270.0**	**584.6**	**625.8**	**2480.4**	**12.6%**	**28.9%**	**7.0%**	**14.5%**
of which: OECD	695.1	285.7	363.9	1344.8	745.8	337.2	377.3	**1460.3**	7.3%	18.0%	3.7%	**8.6%**
Non–OECD	432.9	167.8	221.0	821.7	524.1	247.4	248.6	**1020.1**	21.1%	47.5%	12.4%	**24.1%**
European Union	362.0	119.1	192.4	673.5	378.8	127.8	199.0	**705.5**	4.6%	7.3%	3.4%	**4.8%**

*Based on gross generation and not accounting for cross–border electricity supply.
‡Includes electricity generated from: geothermal, biomass and other sources of renewable energy (not already itemized).
†Less than 0.05.
◆Less than 0.05%.
A more extensive time series of renewables by source is available at *bp.com/statisticalreview*.

Biofuels production

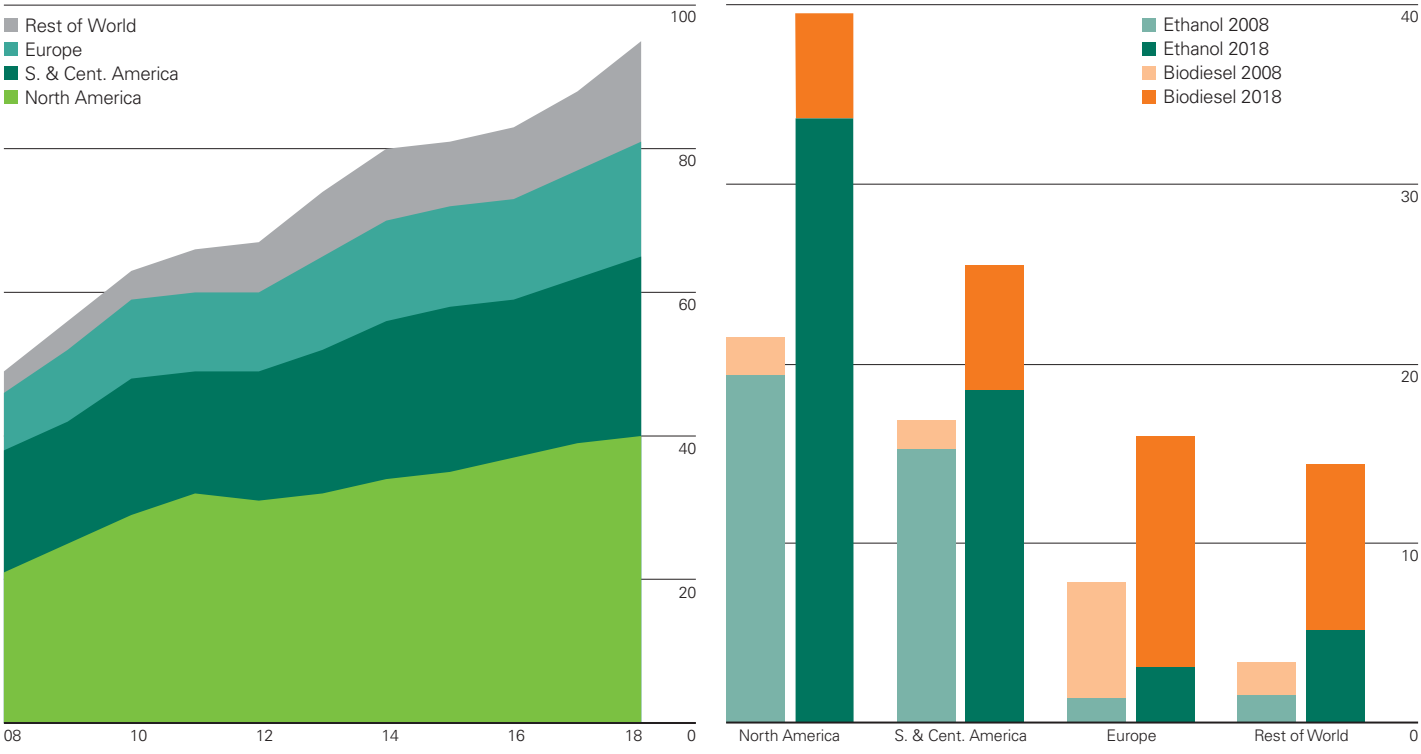
Thousand tonnes oil equivalent	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	543	761	865	1006	1049	1013	1119	1165	1258	1359	**1436**	5.6%	10.5%	1.5%
Mexico	–	–	5	8	9	7	8	5	12	12	**12**	–	–	◆
US	20934	23761	28044	31184	29808	31057	32890	33849	35986	37132	**38088**	2.6%	9.7%	39.9%
Total North America	21477	24522	28914	32198	30866	32077	34017	35018	37256	38504	**39536**	2.7%	9.7%	41.5%
Argentina	612	1029	1711	2222	2279	2050	2630	2017	2818	3115	**2726**	-12.5%	33.5%	2.9%
Brazil	15486	15277	16874	14403	14739	17114	18001	19333	18168	18240	**21375**	17.2%	3.9%	22.4%
Colombia	133	292	434	551	605	626	650	663	645	592	**692**	16.9%	16.7%	0.7%
Other S. & Cent. America	571	181	194	274	333	447	507	530	661	651	**685**	5.2%	3.7%	0.7%
Total S. & Cent. America	16803	16779	19214	17450	17955	20236	21788	22544	22291	22598	**25478**	12.7%	5.5%	26.7%
Austria	269	373	391	390	390	374	329	381	419	391	**386**	-1.2%	5.8%	0.4%
Belgium	–	135	365	422	447	439	575	386	372	446	**467**	4.8%	–	0.5%
Finland	112	231	302	207	265	329	367	445	122	322	**322**	–	19.2%	0.3%
France	2079	2326	2268	2065	2384	2434	2573	2560	2413	2616	**2727**	4.3%	8.8%	2.9%
Germany	2527	2529	3134	3079	2886	3073	3460	3191	3228	3293	**3445**	4.6%	1.5%	3.6%
Italy	626	747	778	586	311	457	513	519	524	629	**634**	0.8%	13.4%	0.7%
Netherlands	78	242	391	674	1276	1495	1797	1938	1506	2011	**2099**	4.4%	37.7%	2.2%
Poland	290	408	439	414	652	697	750	813	925	922	**912**	-1.1%	24.5%	1.0%
Portugal	149	226	284	330	276	274	301	321	298	316	**290**	-8.1%	6.9%	0.3%
Spain	384	914	1022	851	620	749	1030	1122	1200	1541	**1840**	19.5%	15.1%	1.9%
Sweden	132	183	207	192	228	228	228	219	207	180	**187**	3.7%	13.9%	0.2%
United Kingdom	286	215	281	174	299	504	389	301	542	742	**708**	-4.7%	6.7%	0.7%
Other Europe	896	1056	1064	1168	1393	1480	1499	1688	1785	1872	**1931**	3.1%	15.0%	2.0%
Total Europe	7828	9584	10926	10552	11426	12534	13811	13884	13541	15280	**15949**	4.4%	9.7%	16.7%
Total CIS	7	20	34	27	29	23	25	20	18	18	**18**	–	27.5%	◆
Total Middle East	–	12	12	13	14	15	16	17	16	16	**16**	–	–	◆
Total Africa	48	285	299	325	232	237	273	353	430	434	**437**	0.6%	21.8%	0.5%
Australia	111	176	214	242	276	254	258	236	198	160	**166**	3.8%	7.9%	0.2%
China	1496	1634	1589	1976	2110	2346	2609	2039	1811	2147	**3099**	44.4%	5.9%	3.2%
India	154	115	188	275	263	249	271	540	660	602	**1023**	70.0%	19.7%	1.1%
Indonesia	443	150	191	1425	1746	2205	3114	1300	2874	2686	**4849**	80.5%	28.6%	5.1%
South Korea	154	221	310	249	360	369	388	441	443	428	**450**	5.0%	17.8%	0.5%
Thailand	528	651	834	919	1259	1609	1799	1941	1682	1976	**2119**	7.2%	29.6%	2.2%
Other Asia Pacific	394	453	428	731	1119	1415	1708	1992	1986	2070	**2232**	7.8%	24.6%	2.3%
Total Asia Pacific	3281	3401	3754	5818	7132	8447	10146	8489	9654	10069	**13938**	38.4%	17.2%	14.6%
Total World	**49443**	**54603**	**63152**	**66383**	**67656**	**73570**	**80077**	**80325**	**83207**	**86919**	**95371**	**9.7%**	**9.0%**	**100.0%**
of which: OECD	29433	34323	40203	43028	42668	44899	48155	49237	51086	53995	**55723**	3.2%	9.7%	58.4%
Non-OECD	20010	20281	22949	23355	24987	28670	31922	31088	32121	32924	**39648**	20.4%	8.0%	41.6%
European Union	7754	9526	10907	10446	11335	12413	13717	13757	13369	15052	**15686**	4.2%	9.6%	16.4%

◆Less than 0.05%.
Note: Consumption of fuel ethanol and biodiesel is included in oil consumption tables.

Source: Includes data from F.O. Lichts; US Energy Information Administration (March 2019).

World biofuels production

Million tonnes oil equivalent



Biofuels production growth averaged 9.7% in 2018, the highest growth since 2010 and slightly above the 10-year average. Brazil (3.1 mtoe) and Indonesia (2.2 mtoe) together accounted for almost two thirds of global growth (8.5 mtoe). By fuel, ethanol production in 2018 totalled 60.4 mtoe with North America accounting for 56%. Biodiesel production in 2018 amounted to 34.9 mtoe with Europe representing 37%.

Electricity

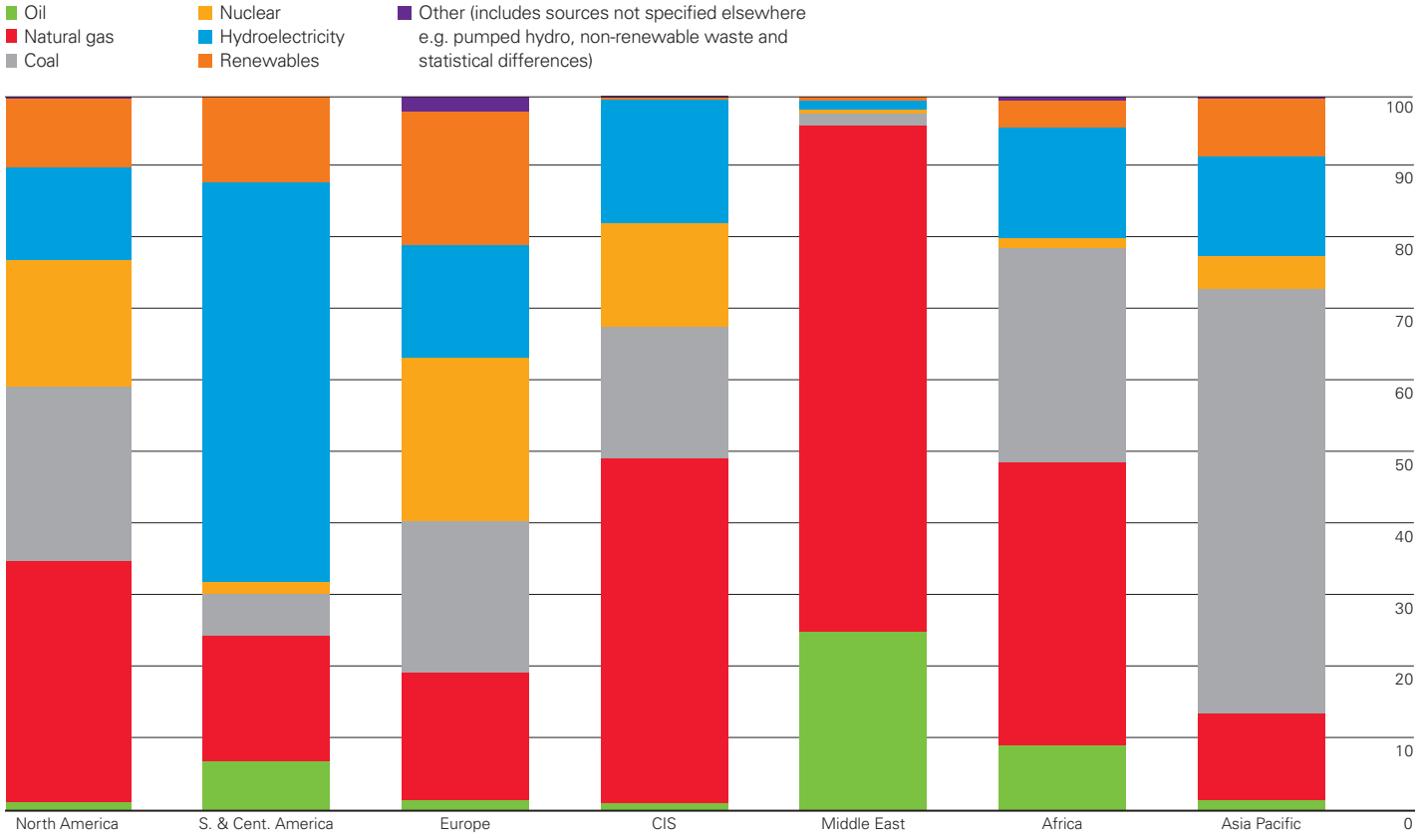
Electricity generation*

Terawatt-hours	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	638.4	614.0	606.9	638.3	636.5	662.5	660.5	663.7	663.9	662.7	**654.4**	-1.3%	0.4%	2.5%
Mexico	269.3	267.8	275.6	292.1	296.4	297.1	303.3	310.3	320.3	329.1	**332.1**	0.9%	2.3%	1.2%
US	4390.1	4206.5	4394.3	4363.4	4310.6	4330.3	4363.3	4348.7	4347.9	4302.5	**4460.8**	3.7%	-0.3%	16.8%
Total North America	5297.8	5088.3	5276.7	5293.8	5243.5	5289.9	5327.1	5322.7	5332.1	5294.4	**5447.3**	2.9%	-0.1%	20.5%
Argentina	121.9	122.3	126.0	129.5	136.0	139.4	138.6	145.4	147.2	145.6	**146.6**	0.7%	2.5%	0.6%
Brazil	462.9	466.2	515.8	531.8	552.5	570.8	590.5	581.2	578.9	588.0	**588.0**	◆	2.8%	2.2%
Chile	59.7	59.7	61.3	65.2	69.7	73.0	71.6	74.5	77.7	78.6	**80.2**	2.0%	3.0%	0.3%
Colombia	61.4	63.2	64.7	66.2	67.7	69.8	72.7	75.0	74.4	75.1	**77.4**	3.0%	2.2%	0.3%
Ecuador	18.6	18.3	19.5	20.5	22.8	23.3	24.3	26.0	27.3	28.0	**29.4**	4.8%	4.9%	0.1%
Peru	32.5	32.9	35.9	38.8	41.0	43.3	45.5	48.3	51.7	52.7	**54.0**	2.5%	5.8%	0.2%
Trinidad & Tobago	7.7	7.8	8.5	8.8	9.1	9.5	9.9	10.3	10.7	10.2	**10.3**	1.2%	2.9%	◆
Venezuela	119.3	124.8	116.7	122.9	127.9	130.0	128.3	123.8	113.8	117.3	**99.2**	-15.4%	0.3%	0.4%
Other S. & Cent. America	186.7	186.7	191.0	196.4	203.6	207.5	205.0	211.4	222.9	216.1	**220.1**	1.8%	1.5%	0.8%
Total S. & Cent. America	1070.7	1082.0	1139.5	1180.1	1230.4	1266.7	1286.5	1295.9	1304.8	1311.6	**1305.3**	-0.5%	2.4%	4.9%
Austria	66.9	69.1	71.1	65.9	72.4	68.0	65.1	64.9	67.9	70.8	**68.2**	-3.7%	0.9%	0.3%
Belgium	84.9	91.2	95.2	90.2	82.9	83.5	72.7	69.8	85.7	86.5	**74.6**	-13.7%	-0.3%	0.3%
Czech Republic	83.5	82.3	85.9	87.6	87.6	87.1	86.0	83.9	83.3	87.0	**88.0**	1.1%	-0.1%	0.3%
Finland	77.8	72.5	81.1	73.7	70.5	71.4	68.2	68.8	68.8	67.1	**69.6**	3.7%	-1.9%	0.3%
France	573.8	535.9	569.3	565.0	564.5	573.8	564.2	570.3	556.2	554.1	**574.2**	3.6%	-0.3%	2.2%
Germany	640.7	595.6	633.1	613.1	630.1	638.7	627.8	648.1	650.7	653.7	**648.7**	-0.8%	0.2%	2.4%
Greece	63.7	61.4	57.4	59.4	61.0	57.2	50.5	51.9	54.4	55.3	**54.2**	-2.0%	-1.4%	0.2%
Hungary	40.0	35.9	37.4	36.0	34.6	30.3	29.4	30.4	31.9	32.9	**32.0**	-2.7%	-1.9%	0.1%
Italy	319.1	292.6	302.1	302.6	299.3	289.8	279.8	283.0	289.8	295.8	**290.6**	-1.8%	-0.6%	1.1%
Netherlands	108.2	113.5	118.1	113.0	102.5	100.9	103.4	110.1	115.2	117.3	**117.5**	0.2%	1.1%	0.4%
Norway	142.1	131.8	123.6	127.6	147.7	134.0	142.0	144.5	149.0	149.4	**147.0**	-1.6%	0.9%	0.6%
Poland	155.3	151.7	157.7	163.5	162.1	164.6	159.1	164.9	166.6	170.5	**170.1**	-0.2%	0.7%	0.6%
Portugal	46.0	50.2	54.1	52.5	46.6	51.7	52.8	52.4	60.3	59.4	**59.9**	0.8%	2.3%	0.2%
Romania	65.0	58.0	61.0	62.2	59.0	58.9	63.3	66.3	65.1	64.3	**65.2**	1.4%	0.4%	0.2%
Spain	313.8	296.3	300.4	291.8	297.6	285.3	278.8	281.0	274.6	275.6	**275.0**	-0.2%	-1.0%	1.0%
Sweden	149.7	136.7	148.3	151.2	166.3	153.2	153.7	162.1	156.1	164.3	**163.5**	-0.4%	1.0%	0.6%
Switzerland	68.7	68.3	68.0	64.8	70.0	70.4	72.0	67.9	63.3	63.3	**69.8**	10.3%	-0.7%	0.3%
Turkey	198.4	194.8	211.2	229.4	239.5	240.2	252.0	261.8	274.4	297.3	**302.5**	1.8%	4.5%	1.1%
Ukraine	192.6	173.6	188.8	194.9	198.9	194.4	182.8	163.7	164.6	155.4	**159.4**	2.5%	-2.3%	0.6%
United Kingdom	388.9	376.8	382.1	368.0	363.9	358.3	338.1	338.9	339.3	338.6	**333.9**	-1.4%	-1.6%	1.3%
Other Europe	309.3	306.4	320.0	307.1	295.3	309.0	297.0	298.1	305.7	303.3	**313.4**	3.3%	0.2%	1.2%
Total Europe	4088.5	3894.7	4065.7	4019.4	4052.3	4020.4	3938.4	3982.8	4023.0	4061.8	**4077.3**	0.4%	◆	15.3%
Azerbaijan	21.6	18.9	18.7	20.3	23.0	23.4	24.7	24.7	25.0	24.3	**25.2**	3.6%	1.1%	0.1%
Belarus	35.1	30.4	34.9	32.2	30.8	31.5	34.7	34.2	33.6	34.5	**38.8**	12.4%	0.8%	0.1%
Kazakhstan	80.3	78.7	82.6	86.6	90.6	92.6	94.6	91.6	94.6	103.1	**107.1**	3.8%	3.0%	0.4%
Russian Federation	1040.0	993.1	1038.0	1054.9	1069.3	1059.1	1064.2	1067.5	1091.0	1089.6	**1110.8**	1.9%	0.7%	4.2%
Turkmenistan	15.0	16.0	16.7	17.2	17.8	18.9	20.1	21.5	22.6	22.8	**24.2**	6.1%	4.4%	0.1%
Uzbekistan	50.2	50.1	51.9	52.8	53.0	54.9	55.4	57.3	58.3	60.3	**62.4**	3.6%	2.1%	0.2%
Other CIS	39.7	39.1	41.1	44.6	46.0	43.3	44.1	44.0	43.5	47.1	**48.9**	3.9%	0.6%	0.2%
Total CIS	1282.0	1226.2	1284.0	1308.5	1330.4	1323.7	1337.9	1340.9	1368.5	1381.7	**1417.4**	2.6%	0.9%	5.3%
Iran	210.5	221.8	235.7	235.6	248.8	258.9	275.6	280.2	286.1	305.2	**310.8**	1.8%	4.2%	1.2%
Iraq	35.3	41.3	41.7	42.2	47.8	62.1	71.2	75.3	86.3	93.3	**103.3**	10.8%	11.2%	0.4%
Israel	55.8	55.3	58.5	59.3	63.0	61.4	61.3	64.3	67.3	67.7	**69.6**	2.9%	2.1%	0.3%
Kuwait	51.7	53.2	57.1	57.5	62.7	61.0	65.1	68.3	70.2	72.9	**74.2**	1.8%	4.1%	0.3%
Oman	16.0	18.4	19.8	21.9	25.0	26.2	29.1	32.8	34.2	36.1	**37.3**	3.2%	9.6%	0.1%
Qatar	21.6	24.2	28.1	30.7	34.8	34.7	38.7	41.5	42.3	43.8	**39.5**	-10.0%	8.5%	0.1%
Saudi Arabia	216.4	229.2	251.4	262.2	284.7	299.3	333.7	359.7	370.4	382.1	**383.8**	0.4%	6.5%	1.4%
United Arab Emirates	80.5	85.7	93.9	99.1	106.2	110.0	116.5	127.4	129.6	134.6	**136.9**	1.8%	5.5%	0.5%
Other Middle East	87.1	90.7	98.7	93.4	88.3	83.7	81.8	79.3	79.2	83.7	**84.9**	1.4%	0.3%	0.3%
Total Middle East	775.0	819.8	885.0	901.9	961.2	997.2	1073.2	1128.7	1165.7	1219.3	**1240.4**	1.7%	5.2%	4.7%
Algeria	40.2	43.1	45.7	53.1	57.4	59.9	64.2	68.8	71.0	76.0	**76.4**	0.5%	7.4%	0.3%
Egypt	128.8	134.3	144.4	149.6	162.8	165.1	171.2	181.8	188.2	193.2	**200.0**	3.5%	4.9%	0.8%
Morocco	21.0	21.7	23.7	25.4	27.7	28.1	29.3	30.3	30.7	31.6	**34.4**	8.9%	4.5%	0.1%
South Africa	258.3	249.6	259.6	262.5	257.9	256.1	254.8	250.1	252.7	255.1	**256.0**	0.4%	-0.3%	1.0%
Other Africa	174.6	180.8	198.2	198.6	214.9	234.3	248.3	255.7	258.5	273.7	**286.9**	4.8%	4.9%	1.1%
Total Africa	622.9	629.4	671.7	689.1	720.7	743.5	767.8	786.8	801.2	829.6	**853.7**	2.9%	3.1%	3.2%
Australia	245.4	249.9	251.0	256.3	250.7	249.6	247.6	254.3	258.5	259.0	**261.4**	0.9%	0.6%	1.0%
Bangladesh	34.2	37.2	40.8	44.2	48.7	54.4	57.4	61.8	70.0	74.4	**79.1**	6.3%	9.1%	0.3%
China	3495.8	3714.7	4207.2	4713.0	4987.6	5431.6	5649.6	5814.6	6133.2	6604.5	**7111.8**	7.7%	7.2%	26.7%
China Hong Kong SAR	38.0	38.7	38.4	39.1	38.8	39.2	39.9	38.0	38.3	37.1	**36.7**	-1.2%	-0.5%	0.1%
India	828.4	879.7	937.5	1034.0	1091.8	1146.1	1262.2	1317.3	1401.7	1470.3	**1561.1**	6.2%	6.3%	5.9%
Indonesia	149.4	156.8	169.8	183.4	200.3	216.2	228.6	234.0	247.9	254.6	**267.3**	5.0%	6.0%	1.0%
Japan	1183.7	1114.0	1156.0	1104.2	1106.9	1087.8	1062.7	1030.1	1042.1	1050.1	**1051.6**	0.1%	-1.2%	4.0%
Malaysia	106.9	111.3	120.1	120.9	127.3	137.5	143.2	147.2	158.8	162.3	**168.4**	3.8%	4.6%	0.6%
New Zealand	43.8	43.4	44.9	44.4	44.2	43.3	43.5	44.2	43.6	44.2	**44.3**	0.2%	0.1%	0.2%
Pakistan	96.2	97.1	100.0	99.9	99.0	102.2	107.3	110.5	122.9	126.6	**140.6**	11.1%	2.6%	0.5%
Philippines	60.8	61.9	67.7	69.2	72.9	75.3	77.3	82.4	90.8	94.4	**99.8**	5.7%	4.7%	0.4%
Singapore	41.7	41.8	45.4	46.0	46.9	48.0	49.3	50.3	51.6	52.2	**52.9**	1.3%	2.4%	0.2%
South Korea	442.6	452.4	495.0	517.6	531.2	537.2	540.4	547.8	561.0	576.4	**594.3**	3.1%	3.1%	2.2%
Sri Lanka	10.0	10.0	10.8	11.6	11.9	12.0	12.9	13.2	14.4	14.9	**15.5**	4.0%	4.2%	0.1%
Taiwan	238.3	230.0	247.1	252.2	250.4	252.4	260.0	258.2	264.1	270.3	**273.6**	1.2%	1.1%	1.0%
Thailand	145.4	145.9	157.6	153.3	169.0	168.6	173.8	177.8	179.8	176.7	**177.6**	0.5%	2.2%	0.7%
Vietnam	71.0	80.6	91.7	101.5	115.1	124.5	141.3	157.9	175.7	192.5	**212.9**	10.6%	11.6%	0.8%
Other Asia Pacific	64.7	63.5	70.8	75.0	76.5	82.8	86.8	89.5	107.3	117.7	**124.7**	6.0%	6.7%	0.5%
Total Asia Pacific	7296.4	7529.0	8251.7	8865.8	9269.3	9808.4	10183.7	10429.1	10961.7	11578.2	**12273.6**	6.0%	5.2%	46.1%
Total World	**20433.3**	**20269.3**	**21574.3**	**22258.7**	**22807.8**	**23449.8**	**23914.6**	**24286.9**	**24956.9**	**25676.6**	**26614.8**	**3.7%**	**2.5%**	**100.0%**
of which: OECD	10999.0	10561.9	10992.3	10942.8	10950.2	10946.2	10891.4	10929.8	11013.7	11057.2	**11233.6**	1.6%	0.1%	42.2%
Non-OECD	9434.3	9707.4	10582.0	11315.9	11857.6	12503.6	13023.2	13357.1	13943.2	14619.4	**15381.2**	5.2%	4.9%	57.8%
European Union	3388.7	3224.4	3364.7	3299.2	3295.4	3269.6	3188.5	3236.7	3259.5	3290.4	**3282.2**	-0.2%	-0.3%	12.3%

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

Regional electricity generation by fuel 2018

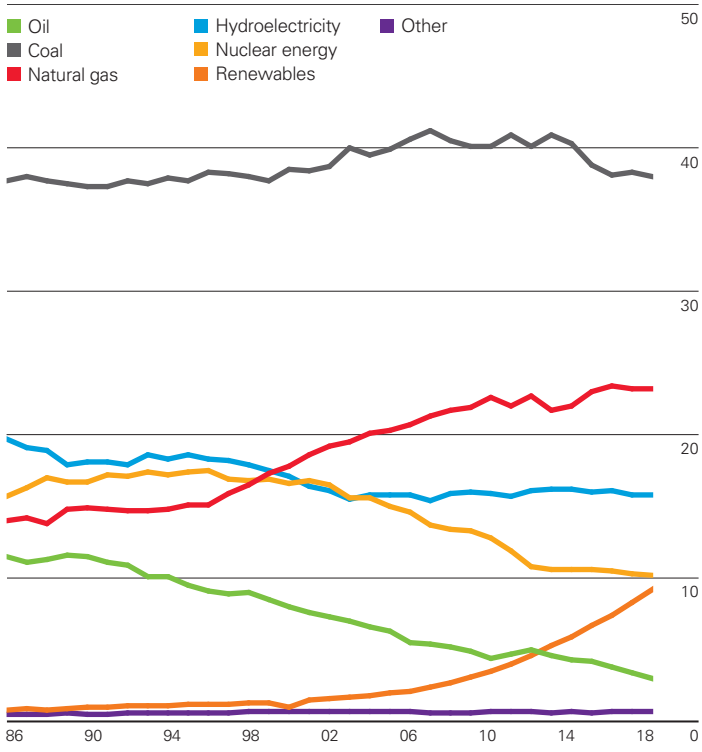
Percentage



Natural gas is the dominant fuel for power generation in North America followed by coal. In South & Central America, hydro accounts for more than half of power generation. In Europe nuclear, coal, renewables and gas all have a prominent role. In CIS and the Middle East, natural gas is by far the most important fuel for power generation. In Africa, natural gas and coal account for almost 70% of the electricity generated. Coal remains the most important fuel in Asia Pacific.

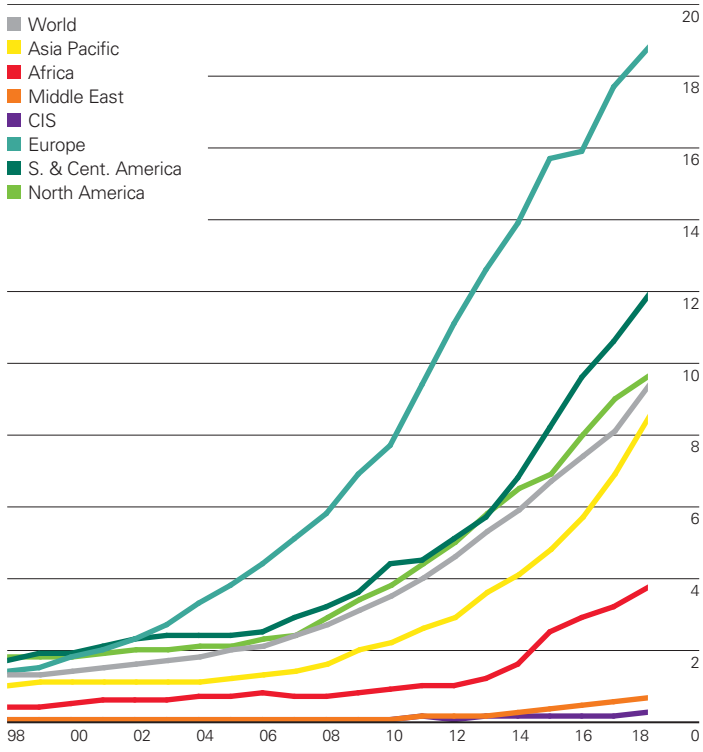
Share of global electricity generation by fuel

Percentage



Renewables share of power generation by region

Percentage



At the global level, coal is the dominant fuel for power generation, accounting for 38%, the same share as 20 years ago. Gas is the second most used fuel with a share of 23.2%, higher than in 1998. The share of oil and nuclear has declined substantially over the same period. The share of renewables is 9.3%, up from only 3% 10 years ago. Regionally, there is significant variation in the penetration of renewables: Europe has the highest penetration at 18.7%, followed by South & Central America at 12%.

Electricity generation by fuel*

Terawatt-hours	2017 Oil	2017 Natural Gas	2017 Coal	2017 Nuclear energy	2017 Hydro electric	2017 Renew-ables	2017 Other‡	2017 Total	2018 Oil	2018 Natural Gas	2018 Coal	2018 Nuclear energy	2018 Hydro electric	2018 Renew-ables	2018 Other‡	**2018 Total**
Canada	3.2	59.6	60.1	100.4	396.5	42.1	0.8	662.7	3.2	58.7	59.3	100.0	387.3	45.3	0.6	**654.4**
Mexico	38.9	196.3	30.9	10.9	31.8	19.1	1.1	329.1	36.8	196.7	29.2	13.6	32.4	21.4	2.2	**332.1**
US	23.0	1394.0	1310.0	847.3	296.8	417.8	13.7	4302.5	26.4	1578.5	1245.8	849.6	288.7	458.5	13.3	**4460.8**
Total North America	65.1	1649.9	1401.0	958.6	725.2	479.0	15.6	5294.4	66.3	1833.9	1334.3	963.2	708.4	525.2	16.0	**5447.3**
Argentina	11.6	80.8	2.0	6.1	41.5	3.0	0.5	145.6	6.4	85.3	2.0	6.9	41.6	3.8	0.5	**146.6**
Brazil	15.5	65.6	25.8	15.7	370.9	94.5	–	588.0	11.5	46.8	21.9	15.6	387.7	104.5	–	**588.0**
Other S. & C. America	80.4	98.0	49.7	–	308.0	41.9	0.1	578.0	72.2	95.8	52.6	–	302.0	48.0	†	**570.6**
Total S. & C. America	107.5	244.3	77.5	21.8	720.4	139.4	0.6	1311.6	90.2	227.9	76.5	22.5	731.3	156.3	0.5	**1305.3**
Germany	5.6	86.7	241.9	76.3	20.2	196.2	26.7	653.7	5.2	83.0	229.0	76.1	16.9	209.2	29.3	**648.7**
Italy	11.5	140.3	35.1	–	34.4	67.7	6.8	295.8	10.9	127.2	36.6	–	45.9	66.0	4.1	**290.6**
Netherlands	1.2	57.9	31.3	3.4	0.1	17.4	6.1	117.3	0.6	57.3	30.0	3.5	0.1	18.6	7.4	**117.5**
Poland	2.0	10.0	133.8	–	2.6	21.6	0.5	170.5	1.2	12.4	134.7	–	2.0	19.5	0.4	**170.1**
Spain	15.8	64.0	46.3	58.1	18.8	69.5	3.1	275.6	15.6	57.2	38.4	55.6	35.2	70.7	2.3	**275.0**
Turkey	1.2	110.5	97.5	–	58.2	29.0	0.8	297.3	0.6	92.2	111.7	–	59.5	37.7	0.8	**302.5**
Ukraine	1.4	9.1	46.7	85.6	8.7	1.9	1.9	155.4	0.5	12.1	47.7	84.4	9.9	2.6	2.2	**159.4**
United Kingdom	1.6	136.8	22.5	70.3	5.9	93.4	8.0	338.6	1.7	131.5	16.8	65.1	5.5	105.6	7.8	**333.9**
Other Europe	21.6	172.0	233.3	642.4	436.1	220.4	31.9	1757.6	19.8	158.5	217.8	652.8	467.2	231.1	32.3	**1779.5**
Total Europe	61.9	787.5	888.5	936.1	584.9	717.1	85.8	4061.8	56.0	731.3	862.7	937.5	642.1	761.1	86.6	**4077.3**
Kazakhstan	1.9	19.8	69.9	–	11.2	0.4	–	103.1	1.7	24.2	70.2	–	10.3	0.7	–	**107.1**
Russian Federation	10.7	515.9	168.9	203.1	185.3	1.1	4.4	1089.6	11.4	521.5	177.5	204.5	190.2	1.3	4.4	**1110.8**
Other CIS	1.8	127.5	12.7	2.6	43.6	0.5	0.3	189.0	0.5	140.4	11.3	2.1	44.3	0.6	0.3	**199.5**
Total CIS	14.4	663.2	251.4	205.8	240.1	2.0	4.7	1381.7	13.7	686.1	259.0	206.6	244.8	2.5	4.7	**1417.4**
Iran	28.9	251.2	0.5	7.1	17.2	0.3	–	305.2	23.0	269.1	0.5	7.0	10.8	0.4	–	**310.8**
Saudi Arabia	156.9	225.1	–	–	–	0.1	–	382.1	150.6	233.0	–	–	–	0.2	–	**383.8**
United Arab Emirates	1.6	132.4	–	–	–	0.5	–	134.6	1.6	134.4	–	–	–	1.0	–	**136.9**
Other Middle East	134.8	232.3	22.3	–	3.6	4.5	†	397.5	135.7	241.9	20.8	–	4.4	5.9	0.1	**408.9**
Total Middle East	322.1	841.0	22.8	7.1	20.8	5.5	†	1219.3	310.9	878.5	21.3	7.0	15.2	7.4	0.1	**1240.4**
Egypt	27.7	149.4	–	–	13.4	2.7	–	193.2	22.1	160.9	–	–	13.5	3.5	–	**200.0**
South Africa	0.1	1.9	221.4	15.8	0.9	10.6	4.5	255.1	0.1	1.9	225.0	11.1	0.9	12.4	4.7	**256.0**
Other Africa	56.0	173.6	27.4	–	110.3	13.6	0.4	381.3	55.3	176.6	31.0	–	118.4	16.0	0.4	**397.7**
Total Africa	83.8	324.9	248.8	15.8	124.6	26.9	4.9	829.6	77.6	339.3	255.9	11.1	132.8	31.9	5.1	**853.7**
Australia	5.3	55.2	159.1	–	13.5	25.7	0.2	259.0	5.3	50.2	156.6	–	17.3	31.9	0.2	**261.4**
China	10.7	202.8	4445.5	248.1	1165.1	492.4	39.8	6604.5	10.7	223.6	4732.4	294.4	1202.4	634.2	14.0	**7111.8**
India	10.1	73.5	1117.6	37.4	135.7	95.8	0.3	1470.3	10.1	74.3	1176.3	39.1	139.7	121.5	0.2	**1561.1**
Indonesia	18.9	55.7	148.0	–	18.6	13.4	–	254.6	20.2	59.6	156.4	–	16.4	14.8	–	**267.3**
Japan	65.7	401.5	361.8	29.1	79.2	98.8	14.0	1050.1	60.0	386.9	347.2	49.1	81.0	112.1	15.3	**1051.6**
Malaysia	5.0	65.1	67.7	–	23.1	1.3	†	162.3	2.3	66.4	74.1	–	24.2	1.5	†	**168.4**
South Korea	13.1	128.0	261.7	148.4	2.8	17.6	4.8	576.4	9.1	160.4	261.3	133.5	2.9	21.9	5.1	**594.3**
Taiwan	12.8	93.4	125.9	22.4	5.4	5.3	5.0	270.3	8.4	94.8	126.6	27.7	4.5	6.4	5.2	**273.6**
Thailand	0.3	121.0	35.7	–	4.7	14.9	–	176.7	0.2	116.3	35.8	–	7.6	17.8	–	**177.6**
Vietnam	0.7	44.4	76.1	–	70.9	0.3	–	192.5	0.7	44.3	86.7	–	80.7	0.5	–	**212.9**
Other Asia Pacific	72.4	201.6	116.9	8.4	130.4	31.1	0.8	561.5	61.0	209.0	137.5	9.9	141.9	33.4	0.9	**593.6**
Total Asia Pacific	215.1	1442.1	6916.2	493.8	1649.4	796.6	65.0	11578.2	188.0	1485.8	7290.8	553.6	1718.5	996.0	40.9	**12273.6**
Total World	**870.0**	**5952.8**	**9806.2**	**2639.0**	**4065.4**	**2166.5**	**176.7**	**25676.6**	**802.8**	**6182.8**	**10100.5**	**2701.4**	**4193.1**	**2480.4**	**153.8**	**26614.8**
of which: OECD	202.9	3053.8	2989.8	1959.6	1390.4	1344.8	115.8	11057.2	188.2	3194.0	2881.1	1971.4	1419.8	1460.3	118.9	**11233.6**
Non-OECD	667.1	2899.0	6816.3	679.4	2675.1	821.7	60.9	14619.4	614.6	2988.8	7219.4	730.1	2773.3	1020.1	34.9	**15381.2**
EU	56.9	660.6	694.8	830.0	298.0	673.5	76.6	3290.4	52.5	619.7	655.2	827.4	344.8	705.5	77.1	**3282.2**

*Based on gross output.
‡Includes sources not specified elsewhere e.g. pumped hydro, non-renewable waste and statistical discrepancies.
†Less than 0.05.

Carbon dioxide emissions

Million tonnes of carbon dioxide	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Canada	547.9	504.8	530.1	543.7	528.1	547.1	556.8	549.7	540.9	554.6	**555.3**	0.1%	◆	1.6%
Mexico	431.6	433.0	442.4	465.4	473.7	472.5	459.2	463.0	468.5	476.8	**462.5**	-3.0%	1.1%	1.4%
US	5621.0	5202.1	5403.3	5253.7	4997.0	5147.4	5152.9	5036.1	4928.9	4889.1	**5017.9**	2.6%	-1.7%	14.9%
Total North America	6600.4	6139.9	6375.8	6262.8	5998.9	6167.0	6168.9	6048.7	5938.3	5920.5	**6035.6**	1.9%	-1.4%	17.9%
Argentina	160.3	154.5	164.2	166.4	172.4	179.4	179.4	182.4	182.0	180.3	**176.5**	-2.1%	1.4%	0.5%
Brazil	362.3	338.8	383.4	406.1	426.5	464.0	482.9	464.6	428.0	435.5	**420.2**	-3.5%	2.5%	1.2%
Chile	77.4	74.3	76.1	87.0	89.4	91.1	88.4	88.9	94.1	93.1	**95.8**	2.9%	2.0%	0.3%
Colombia	67.4	65.2	72.7	71.4	79.8	83.6	89.3	89.9	98.0	93.3	**98.2**	5.2%	4.5%	0.3%
Ecuador	27.5	27.9	32.1	32.9	34.3	36.6	38.5	37.6	35.5	34.4	**37.1**	7.8%	2.5%	0.1%
Peru	34.7	35.1	39.0	44.5	44.8	46.1	47.1	50.8	54.4	50.4	**53.6**	6.2%	4.9%	0.2%
Trinidad & Tobago	21.6	20.4	22.5	22.5	21.8	23.2	22.6	22.1	21.6	20.7	**20.7**	-0.1%	-0.4%	0.1%
Venezuela	171.8	172.0	166.4	170.8	181.3	176.0	170.5	163.6	151.4	142.6	**123.7**	-13.2%	-1.4%	0.4%
Other S. & Cent. America	209.6	204.9	207.9	213.9	211.6	208.9	212.8	221.6	229.7	228.9	**235.8**	3.0%	0.6%	0.7%
Total S. & Cent. America	1132.6	1093.1	1164.2	1215.5	1262.0	1308.9	1331.3	1321.7	1294.7	1279.2	**1261.5**	-1.4%	1.6%	3.7%
Austria	70.3	64.6	69.7	61.5	59.4	58.6	55.2	57.5	58.2	60.9	**59.6**	-2.1%	-1.3%	0.2%
Belgium	142.3	129.4	137.3	124.0	119.8	120.8	112.9	120.5	121.9	124.7	**128.3**	2.9%	-1.2%	0.4%
Czech Republic	120.4	114.0	117.1	111.9	108.2	104.0	100.8	102.0	103.9	102.1	**102.3**	0.2%	-2.0%	0.3%
Finland	59.9	57.4	65.5	57.0	50.9	52.2	47.0	43.3	47.6	44.9	**46.1**	2.7%	-4.0%	0.1%
France	382.2	367.9	373.3	346.8	348.7	348.1	314.4	301.0	305.8	311.8	**302.7**	-2.9%	-2.0%	0.9%
Germany	817.3	761.0	769.7	750.4	759.4	784.8	738.7	743.4	757.3	753.2	**716.7**	-4.8%	-0.8%	2.1%
Greece	108.7	103.9	95.6	95.1	89.3	80.8	77.2	74.6	71.4	76.6	**75.7**	-1.1%	-3.9%	0.2%
Hungary	55.1	48.9	49.9	49.6	45.3	42.8	41.7	44.5	44.9	47.2	**47.1**	-0.4%	-1.7%	0.1%
Italy	452.5	410.6	418.4	408.7	380.0	348.1	325.0	339.0	340.0	342.6	**332.8**	-2.9%	-3.0%	1.0%
Netherlands	230.5	221.5	231.8	223.4	216.3	210.8	199.6	208.3	212.0	205.2	**201.9**	-1.6%	-1.3%	0.6%
Norway	35.8	35.8	36.9	37.1	36.9	36.9	36.3	36.3	35.8	36.1	**36.6**	1.4%	◆	0.1%
Poland	320.7	307.1	324.6	324.6	309.1	311.5	294.5	294.2	306.1	316.0	**323.1**	2.3%	◆	1.0%
Portugal	57.3	56.3	50.6	50.5	49.9	48.5	48.5	52.7	52.2	57.0	**53.7**	-5.8%	-0.2%	0.2%
Romania	93.7	80.3	77.1	82.7	79.5	68.6	69.2	70.0	68.5	71.8	**71.2**	-0.9%	-2.8%	0.2%
Spain	350.8	312.0	295.6	304.8	300.7	273.1	270.6	286.1	278.9	296.3	**291.6**	-1.6%	-2.4%	0.9%
Sweden	55.2	52.3	55.6	50.8	47.6	46.1	43.9	43.7	43.8	43.2	**41.8**	-3.3%	-2.9%	0.1%
Switzerland	43.1	43.6	41.3	39.4	40.7	42.9	38.0	38.7	37.2	38.0	**36.4**	-4.0%	-0.6%	0.1%
Turkey	277.3	276.4	279.3	302.2	317.4	306.8	338.1	346.5	366.4	388.9	**390.2**	0.3%	3.6%	1.2%
Ukraine	317.6	272.4	287.3	303.1	297.0	285.8	245.0	192.6	213.8	185.1	**186.6**	0.8%	-5.2%	0.6%
United Kingdom	560.2	512.9	528.9	491.6	509.1	495.3	453.7	435.4	411.7	400.2	**391.2**	-2.3%	-3.4%	1.2%
Other Europe	414.7	388.0	400.3	399.9	376.4	370.4	351.7	361.3	370.0	377.1	**373.7**	-0.9%	-1.1%	1.1%
Total Europe	4965.7	4616.4	4705.8	4615.2	4541.5	4436.9	4202.0	4191.6	4247.3	4278.7	**4209.3**	-1.6%	-1.6%	12.5%
Azerbaijan	29.6	25.9	24.9	28.5	29.6	30.2	31.0	33.8	33.2	32.2	**31.8**	-1.3%	0.7%	0.1%
Belarus	59.4	57.2	60.3	57.1	58.6	58.2	57.3	53.1	53.5	54.0	**56.7**	4.9%	-0.5%	0.2%
Kazakhstan	189.4	170.6	183.9	202.5	209.7	211.0	212.5	207.5	208.5	219.7	**248.1**	12.9%	2.3%	0.7%
Russian Federation	1554.3	1445.3	1492.2	1555.9	1569.1	1527.7	1530.8	1489.5	1501.5	1488.4	**1550.8**	4.2%	-0.3%	4.6%
Turkmenistan	32.3	50.3	54.3	59.9	65.2	58.3	60.5	71.5	68.8	71.8	**78.5**	9.3%	6.4%	0.2%
Uzbekistan	103.3	102.9	100.7	107.1	104.0	103.5	108.1	103.1	103.2	107.2	**104.3**	-2.7%	-0.4%	0.3%
Other CIS	24.7	23.4	22.9	24.2	27.0	25.7	27.4	28.3	28.6	28.0	**30.3**	8.5%	2.0%	0.1%
Total CIS	1993.0	1875.7	1939.1	2035.2	2063.2	2014.7	2027.6	1986.8	1997.4	2001.3	**2100.5**	5.0%	0.2%	6.2%
Iran	503.6	516.5	518.0	538.0	539.7	572.9	588.9	585.7	593.9	622.1	**656.4**	5.5%	2.6%	1.9%
Iraq	82.4	93.2	99.1	104.0	111.1	119.5	115.6	115.6	132.1	133.7	**151.4**	13.3%	5.4%	0.4%
Israel	71.6	68.4	71.6	73.1	78.9	69.4	66.8	69.8	69.1	70.0	**69.6**	-0.6%	-0.1%	0.2%
Kuwait	79.6	81.2	87.0	85.9	96.0	100.5	90.3	98.3	99.3	98.4	**98.2**	-0.2%	3.0%	0.3%
Oman	42.3	42.1	49.0	52.3	57.6	65.6	65.2	68.6	69.4	68.7	**71.4**	3.9%	6.8%	0.2%
Qatar	50.3	51.0	59.8	68.0	76.8	83.7	91.0	100.9	99.9	102.4	**101.2**	-1.2%	8.5%	0.3%
Saudi Arabia	424.4	443.2	485.1	501.5	525.5	534.3	570.4	587.1	597.6	591.1	**571.0**	-3.4%	4.2%	1.7%
United Arab Emirates	211.5	205.5	215.3	222.3	233.5	248.9	245.1	267.1	276.4	269.2	**277.0**	2.9%	3.8%	0.8%
Other Middle East	154.8	155.3	151.4	143.8	134.3	131.5	131.9	126.5	123.7	123.1	**122.2**	-0.7%	-1.9%	0.4%
Total Middle East	1620.5	1656.5	1736.2	1789.0	1853.3	1926.3	1965.2	2019.5	2061.5	2078.7	**2118.3**	1.9%	3.2%	6.3%
Algeria	90.8	95.8	94.2	100.6	108.9	115.4	123.6	129.0	127.7	127.8	**135.5**	6.0%	4.1%	0.4%
Egypt	170.5	177.2	188.8	189.5	200.4	199.0	203.5	208.8	218.3	221.3	**224.2**	1.3%	3.3%	0.7%
Morocco	48.6	45.2	49.1	52.9	53.9	54.3	56.5	56.7	57.0	60.0	**62.8**	4.6%	3.2%	0.2%
South Africa	447.5	446.7	448.9	440.2	434.4	435.1	439.1	425.9	428.5	418.5	**421.1**	0.6%	0.2%	1.3%
Other Africa	270.6	277.1	291.1	290.4	309.4	327.5	344.4	354.1	360.7	379.4	**391.9**	3.3%	4.0%	1.2%
Total Africa	1028.0	1041.9	1072.1	1073.7	1107.1	1131.4	1167.1	1174.5	1192.1	1207.0	**1235.5**	2.4%	2.3%	3.7%
Australia	421.0	415.4	409.2	415.3	407.4	402.6	409.6	414.0	418.8	412.8	**417.1**	1.0%	0.1%	1.2%
Bangladesh	43.0	47.7	50.8	55.0	60.3	61.6	66.0	78.0	79.2	82.7	**90.4**	9.3%	7.6%	0.3%
China	7373.4	7703.2	8128.8	8799.0	8983.7	9229.4	9215.6	9166.9	9110.2	9220.9	**9419.6**	2.2%	2.5%	28.0%
China Hong Kong SAR	79.2	86.5	88.3	92.1	88.7	91.6	89.8	90.5	92.7	98.9	**99.5**	0.6%	1.5%	0.3%
India	1467.3	1595.8	1661.1	1736.3	1849.8	1930.7	2083.9	2148.9	2235.9	2318.7	**2481.1**	7.0%	5.4%	7.4%
Indonesia	376.0	387.7	426.8	477.9	510.2	523.9	476.8	486.4	485.9	508.6	**535.0**	5.2%	2.8%	1.6%
Japan	1275.4	1113.3	1185.2	1196.0	1286.8	1274.8	1240.9	1199.2	1180.2	1173.4	**1150.1**	-2.0%	-0.8%	3.4%
Malaysia	198.7	191.4	213.0	213.6	226.7	233.0	241.1	246.8	242.0	242.8	**251.5**	3.6%	2.3%	0.7%
New Zealand	36.9	33.9	34.0	33.5	35.3	35.0	35.0	35.5	34.7	36.8	**35.9**	-2.7%	0.3%	0.1%
Pakistan	146.4	146.0	145.7	144.1	145.5	145.5	152.3	159.9	175.5	188.5	**195.7**	3.8%	2.9%	0.6%
Philippines	74.2	75.3	80.8	81.5	84.3	93.3	98.9	108.0	118.4	127.3	**132.2**	3.8%	5.9%	0.4%
Singapore	163.4	176.7	185.3	192.7	192.0	192.8	192.6	204.4	219.3	231.3	**230.0**	-0.5%	4.3%	0.7%
South Korea	556.9	559.0	614.7	645.8	642.8	645.0	643.5	655.2	661.0	677.2	**696.0**	2.8%	2.2%	2.1%
Sri Lanka	12.6	13.2	13.1	14.8	16.1	14.0	14.2	17.9	20.2	21.7	**20.6**	-5.1%	4.6%	0.1%
Taiwan	260.4	249.7	263.9	267.2	261.9	262.6	268.6	266.6	275.7	288.4	**286.0**	-0.8%	0.4%	0.8%
Thailand	236.0	234.6	246.8	251.5	268.2	270.4	276.6	284.9	290.8	295.1	**297.6**	0.8%	2.2%	0.9%
Vietnam	103.7	102.4	121.9	135.0	132.6	140.7	157.1	183.0	194.6	195.5	**224.5**	14.8%	9.5%	0.7%
Other Asia Pacific	130.3	114.9	117.3	108.9	116.5	113.3	125.2	131.0	148.8	153.5	**161.3**	5.1%	2.2%	0.5%
Total Asia Pacific	12954.7	13246.6	13986.8	14860.1	15308.8	15660.2	15787.7	15877.0	15984.0	16274.3	**16724.1**	2.8%	2.5%	49.6%
Total World	**30295.0**	**29670.2**	**30980.1**	**31851.5**	**32134.8**	**32645.4**	**32649.8**	**32619.8**	**32715.4**	**33039.7**	**33684.9**	**2.0%**	**1.0%**	**100.0%**
of which: OECD	13379.3	12462.9	12900.0	12722.8	12500.1	12570.9	12353.8	12240.5	12157.6	12195.6	**12246.4**	0.4%	-1.1%	36.4%
Non-OECD	16915.7	17207.2	18080.1	19128.7	19634.6	20074.5	20296.0	20379.3	20557.8	20844.1	**21438.5**	2.9%	2.4%	63.6%
European Union	4175.1	3872.1	3944.6	3808.4	3732.6	3647.4	3438.6	3462.5	3474.1	3509.1	**3439.6**	-2.0%	-1.9%	10.2%

◆Less than 0.05%.

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

Key minerals for the energy transition

Cobalt production

Mine production

Thousand tonnes	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Australia	4.8	4.6	3.9	3.9	5.9	6.4	6.2	6.0	5.5	5.8	**4.7**	-19.0%	2.0%	3.0%
Canada	9.0	3.9	4.6	6.8	3.7	4.0	3.9	4.3	4.2	3.7	**3.5**	-4.9%	-8.2%	2.2%
DR Congo	42.5	56.1	84.0	99.5	86.4	76.6	76.5	84.4	69.0	90.3	**111.7**	23.7%	13.5%	70.7%
Cuba	4.0	4.6	4.8	5.1	4.7	4.0	3.7	4.3	5.1	5.0	**4.5**	-10.2%	0.9%	2.8%
Madagascar	–	–	0.2	0.5	0.6	2.4	3.4	4.0	3.8	3.4	**3.3**	-2.8%	–	2.1%
Morocco	1.7	2.6	3.1	2.2	2.0	2.0	2.2	2.3	2.7	2.5	**2.3**	-8.9%	3.4%	1.5%
New Caledonia	2.1	2.0	2.9	3.1	2.7	3.2	4.0	3.7	3.4	2.8	**1.7**	-40.7%	2.2%	1.1%
Papua New Guinea	–	–	–	–	0.5	1.0	2.1	2.5	2.2	3.3	**3.2**	-3.3%	–	2.0%
Philippines	1.2	1.4	2.1	2.0	2.7	2.8	4.6	4.3	4.1	4.6	**4.4**	-3.5%	16.5%	2.8%
Russian Federation	6.2	6.1	6.2	6.1	6.3	6.3	6.3	6.2	5.5	5.9	**5.9**	–	-0.7%	3.7%
South Africa	0.6	0.6	1.8	1.6	2.5	3.0	3.0	2.9	2.3	2.3	**2.2**	-4.3%	14.4%	1.4%
Zambia	4.6	5.9	8.6	7.7	5.4	5.9	4.6	3.0	5.0	3.2	**3.2**	–	-3.6%	2.0%
Rest of World	7.0	6.2	7.3	8.2	9.5	9.9	9.9	9.4	7.1	6.0	**7.4**	24.4%	-2.0%	4.7%
Total World	**83.6**	**94.1**	**129.5**	**146.6**	**132.8**	**127.5**	**130.4**	**137.3**	**119.9**	**138.9**	**158.1**	**13.9%**	**7.5%**	**100.0%**

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

Lithium production

Mine production

Thousand tonnes of Lithium content	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Argentina	3.2	2.2	3.0	3.0	2.7	2.5	3.2	3.6	5.8	5.7	**6.2**	8.8%	6.6%	10.0%
Australia	6.7	5.5	8.5	11.7	12.7	10.1	12.4	11.9	14.0	21.3	**27.2**	27.5%	12.0%	44.0%
Brazil	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.2	0.2	0.2	**0.6**	200.0%	1.1%	1.0%
Chile	11.0	6.0	10.4	13.6	13.9	11.7	12.0	10.9	15.2	15.0	**16.0**	6.6%	2.7%	25.9%
China	3.3	3.8	4.0	4.1	4.5	4.7	2.3	2.0	2.3	6.8	**8.0**	17.6%	8.5%	13.0%
Portugal	0.7	–	0.8	0.8	0.6	0.6	0.3	0.2	0.4	0.8	**0.8**	–	3.4%	1.3%
US	1.5	1.5	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	**0.9**	–	-5.0%	1.5%
Zimbabwe	0.5	0.4	0.5	0.5	1.1	1.0	0.9	0.9	1.0	0.8	**1.6**	100.0%	10.3%	2.6%
Rest of World	0.7	0.3	–	–	–	–	–	–	–	1.0	**0.5**	-50.0%	–	0.8%
Total World	**27.7**	**19.8**	**28.2**	**35.0**	**36.6**	**31.9**	**32.2**	**30.7**	**39.8**	**52.5**	**61.8**	**17.6%**	**6.6%**	**100.0%**

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

Natural graphite production

Mine production

Thousand tonnes	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Brazil[1]	80.5	59.4	92.4	105.2	88.1	91.9	87.0	75.1	85.0	85.0	**95.0**	11.8%	1.0%	10.6%
Canada	27.0	15.0	20.0	25.0	24.0	20.0	30.0	30.0	30.0	40.0	**40.0**	–	3.6%	4.5%
China	650.0	450.0	700.0	800.0	820.0	750.0	780.0	780.0	780.0	625.0	**630.0**	0.8%	-2.4%	70.3%
India[2]	117.8	124.6	115.7	153.3	134.7	146.4	116.7	134.6	122.4	35.0	**35.0**	–	-14.7%	3.9%
Madagascar	4.9	3.4	3.8	3.6	2.9	4.3	5.3	8.1	9.2	8.2	**9.0**	9.4%	4.4%	1.0%
Mexico	7.2	5.1	6.6	7.3	7.5	7.0	9.2	6.5	3.8	3.8	**3.8**	–	-9.0%	0.4%
Mozambique	–	–	–	–	–	–	–	–	–	0.3	**20.0**	6566.7%	–	2.2%
Russian Federation	14.0	14.0	14.0	14.0	14.0	14.0	14.0	15.9	19.4	25.2	**17.0**	-32.5%	6.1%	1.9%
Sri Lanka	6.6	3.2	3.4	3.4	4.2	3.1	4.0	4.2	3.1	3.1	**3.1**	–	-10.7%	0.3%
Ukraine	11.3	4.3	2.8	0.6	4.6	6.9	13.8	14.5	14.6	14.9	**14.9**	–	3.4%	1.7%
Zimbabwe	5.1	2.5	4.0	7.0	6.0	4.0	7.0	7.0	6.0	1.6	**2.0**	26.6%	-11.6%	0.2%
Rest of World	40.7	58.5	24.7	25.2	49.7	51.6	37.1	22.8	21.6	22.9	**25.8**	12.6%	-4.7%	2.9%
Total World	**965.2**	**740.0**	**987.4**	**1144.6**	**1155.8**	**1099.3**	**1104.1**	**1098.7**	**1095.2**	**865.0**	**895.6**	**3.5%**	**-3.0%**	**100.0%**

[1]Including beneficiated and directly shipped material.
[2]Run of the mine.

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

Rare earth metals production

Mine production

Thousand tonnes[1]	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	**2018**	Growth rate per annum 2018	Growth rate per annum 2007-17	Share 2018
Australia	–	–	–	2.2	3.2	1.3	6.2	11.9	13.9	17.3	**18.6**	7.5%	–	11.1%
Brazil	0.5	0.2	0.1	0.1	1.6	0.3	–	0.9	2.2	1.7	**1.0**	-41.2%	10.2%	0.6%
China	125.0	129.0	89.2	93.8	93.8	93.8	105.0	105.0	105.0	105.0	**120.0**	14.3%	-1.3%	72.0%
India	†	†	–	–	–	0.3	1.7	1.0	1.5	1.5	**1.8**	20.0%	45.6%	1.1%
Malaysia	0.1	†	0.4	0.4	0.1	0.2	0.2	0.3	0.3	0.2	**0.2**	11.1%	-7.2%	0.1%
Russian Federation	2.5	1.9	1.5	1.4	2.1	1.4	2.1	2.3	3.1	2.7	**2.7**	–	◆	1.6%
Thailand	n/a	4.0	5.6	3.1	0.1	0.1	1.9	0.8	1.6	1.3	**1.0**	-23.1%	–	0.6%
US	–	–	–	–	3.0	5.5	5.4	5.9	–	–	**15.0**	–	–	9.0%
Rest of World	–	–	0.2	0.2	0.2	0.1	–	0.3	0.2	0.3	**6.4**	2460.0%	–	3.8%
Total World	**128.1**	**135.1**	**97.0**	**101.3**	**104.2**	**103.0**	**122.6**	**128.3**	**127.8**	**129.9**	**166.7**	**28.3%**	**0.5%**	**100.0%**

[1]Thousand tonnes of rare earth oxide equivalent.
†Less than 0.05.
◆Less than 0.05%.
n/a not available.

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

Reserves of key minerals

Cobalt reserves

Thousand tonnes	At end of 2018	Share	R/P ratio
Australia	1200	18.3%	255
Canada	250	3.8%	71
Democratic Republic of Congo	3400	51.8%	30
Cuba	500	7.6%	112
Madagascar	140	2.1%	42
Morocco	17	0.3%	7
New Caledonia	64	1.0%	39
Papua New Guinea	56	0.9%	18
Philippines	280	4.3%	63
Russian Federation	250	3.8%	42
South Africa	24	0.4%	11
Zambia	270	4.1%	83
Rest of World*	118	1.8%	16
Total World	**6569**	**100.0%**	**42**

Natural graphite reserves

Thousand tonnes	At end of 2018	Share	R/P ratio
Brazil	72000	23.5%	758
Canada	n/a	n/a	n/a
China	73000	23.8%	116
India	8000	2.6%	229
Madagascar	1600	0.5%	178
Mexico	3100	1.0%	808
Mozambique	17000	5.5%	850
Russian Federation	14800	4.8%	871
Sri Lanka	n/a	n/a	n/a
Ukraine	n/a	n/a	n/a
Zimbabwe	n/a	n/a	n/a
Rest of World*	117200	38.2%	4548
Total World	**306700**	**100.0%**	**342**

Lithium reserves

Thousand tonnes	At end of 2018	Share	R/P ratio
Argentina	2000	14.4%	323
Australia	2700	19.4%	99
Brazil	54	0.4%	90
Chile	8000	57.5%	500
China	1000	7.2%	125
Portugal	60	0.4%	75
US	35	0.3%	39
Zimbabwe	70	0.5%	44
Rest of World*	–	–	–
Total World	**13919**	**100.0%**	**225**

Rare earth metals reserves

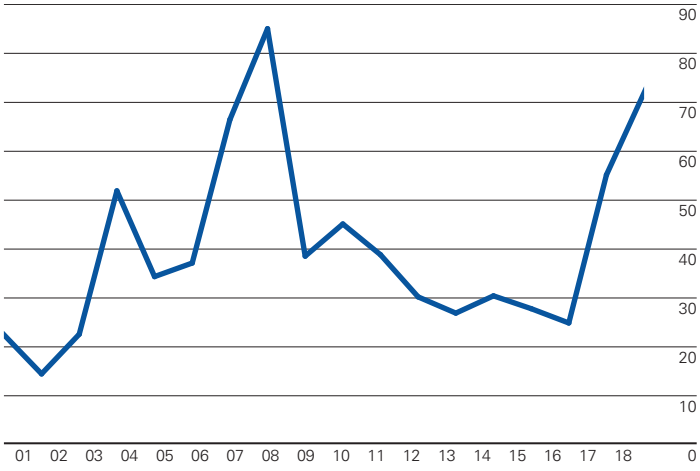
Thousand tonnes	At end of 2018	Share	R/P ratio
Australia	3400	2.9%	183
Brazil	22000	18.8%	22000
China	44000	37.7%	367
India	6900	5.9%	3833
Malaysia	30	◆	150
Russian Federation	17019	14.6%	6303
Thailand	n/a	n/a	n/a
US	1400	1.2%	93
Rest of World*	22000	18.8%	3438
Total World	**116749**	**100.0%**	**701**

*Rest of World is the sum of only recorded reserves.
◆Less than 0.05%.
n/a not available.

Source (for all tables): includes data from US Geological Survey.

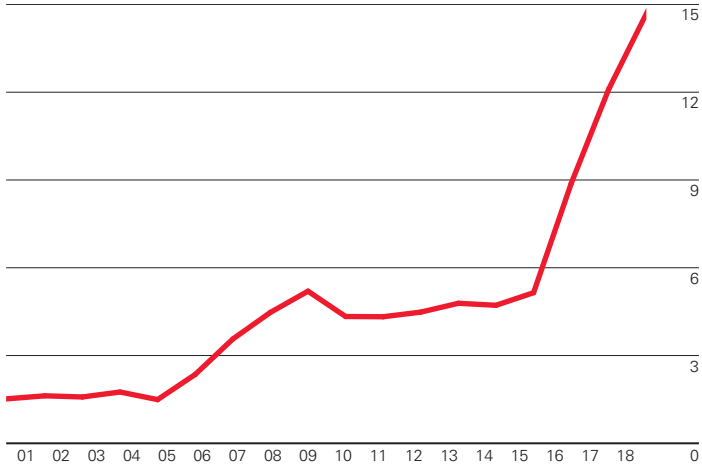
Cobalt prices

Thousands of US dollars per tonne*



Lithium carbonate prices

Thousands of US dollars per tonne†



*2000-2012 spot grade for cathodes, source US Geological Survey.
2013-2018 minimum purity 99.8%, source London Metal Exchange.
†2000-2008 unit value, data series 140, source US Geological Survey.
2009-2018 FOB South America, source Benchmark Mineral Intelligence.

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 per day	–	–	–	–	49.8

*Based on worldwide average gravity.

Products

	To convert			
	barrels to tonnes	tonnes to barrels	kilolitres to tonnes	tonnes to kilolitres
	Multiply by			
Liquefied petroleum gas (LPG)	0.086	11.60	0.542	1.844
Gasoline	0.120	8.35	0.753	1.328
Kerosene	0.127	7.88	0.798	1.253
Gas oil/diesel	0.134	7.46	0.843	1.186
Residual fuel oil	0.157	6.35	0.991	1.010
Product basket	0.125	7.98	0.788	1.269

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

From	To					
	billion cubic metres NG	billion cubic feet NG	million tonnes oil equivalent	million tonnes LNG	trillion British thermal units	million barrels oil equivalent
	Multiply by					
1 billion cubic metres NG	1.000	35.315	0.860	0.735	34.121	5.883
1 billion cubic feet NG	0.028	1.000	0.024	0.021	0.966	0.167
1 million tonnes oil equivalent	1.163	41.071	1.000	0.855	39.683	6.842
1 million tonnes LNG	1.360	48.028	1.169	1.000	46.405	8.001
1 trillion British thermal units	0.029	1.035	0.025	0.022	1.000	0.172
1 million barrels oil equivalent	0.170	6.003	0.146	0.125	5.800	1.000

Units

1 metric tonne	= 2204.62lb = 1.1023 short tons
1 kilolitre	= 6.2898 barrels = 1 cubic metre
1 kilocalorie (kcal)	= 4.1868kJ = 3.968Btu
1 kilojoule (kJ)	= 0.239kcal = 0.948Btu
1 British thermal unit (Btu)	= 0.252kcal = 1.055kJ
1 kilowatt-hour (kWh)	= 860kcal = 3600kJ = 3412Btu

Calorific equivalents

One tonne of oil equivalent equals approximately:

Heat units	10 million kilocalories 42 gigajoules 40 million British thermal units
Solid fuels	1.5 tonnes of hard coal 3 tonnes of lignite and sub-bituminous coal
Gaseous fuels	See Natural gas and liquefied natural gas table
Electricity	12 megawatt-hours

One million tonnes of oil or oil equivalent produces about 4400 gigawatt-hours (= 4.4 terawatt-hours) of electricity in a modern power station.

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 tonnes of oil equivalent
1 tonne of biodiesel = 0.88 tonnes of oil equivalent

Definitions

Statistics published in this review are taken from government sources and published data. No use is made of confidential information obtained by BP in the course of its business.

Country, regions and geographic groupings

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

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

South & 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.

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

West Africa
Territories on the west coast of Africa from Mauritania to Angola, including Cape Verde, Chad.

East and Southern Africa
Territories on the east coast of Africa from Sudan to Republic of South Africa. Also Botswana, Madagascar, Malawi, Namibia, Uganda, Zambia, Zimbabwe.

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, Sri Lanka), South Korea, Taiwan, Thailand, Vietnam, Australia, New Zealand, Papua New Guinea, Oceania.
†Mainland China.
*Special Administrative Region.

Australasia
Australia, New Zealand.

OECD members
Europe: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, UK.
Other member countries: Australia, Canada, Chile, Israel, Japan, Mexico, New Zealand, South Korea, US.

OPEC members
Middle East: Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates.
North Africa: Algeria, Libya.
West Africa: Angola, Equatorial Guinea, Gabon, Nigeria, Republic of Congo.
South America: Ecuador, Venezuela.

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

Non-OECD
All countries that are not members of the OECD.

Methodology

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

The primary energy values of nuclear and hydroelectric power generation, as well as electricity from renewable sources, have been derived by calculating the equivalent amount of fossil fuel required to generate the same volume of electricity in a thermal power station, assuming a conversion efficiency of 38% (the average for OECD thermal power generation).

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.

Percentages
Calculated before rounding of actuals.

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

Tonnes
Metric equivalent of tons.

More information

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