



# BP Statistical Review of World Energy

2019 | 68<sup>th</sup> edition

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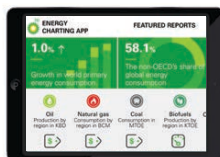
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# Group chief executive's introduction



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.

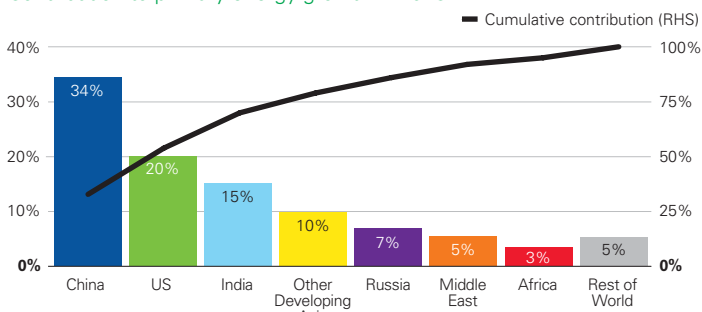
The strength in energy consumption was pretty much reflected across all the fuels, most of which grew more strongly than their historical averages. This acceleration was particularly pronounced in natural gas demand, which increased 5.3%, one of its strongest growth rates for over 30 years, accounting for almost 45% of the entire growth in global

# 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

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.

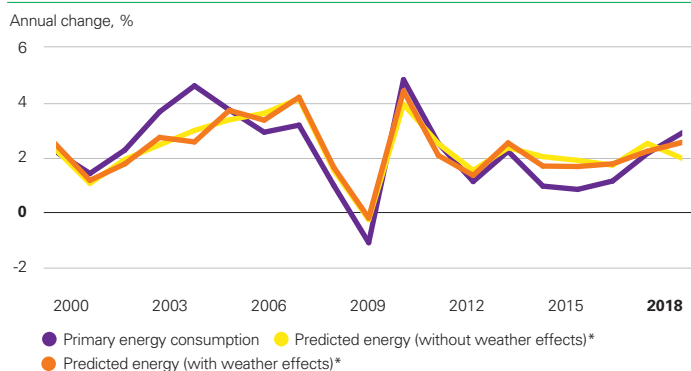
In terms of why the growth in energy demand was so strong: a simple model provides a way of gauging the extent of the surprise in this year's energy data. The model uses GDP growth and oil prices (as a proxy for energy prices) to predict primary energy growth at a country level and then aggregates to 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.

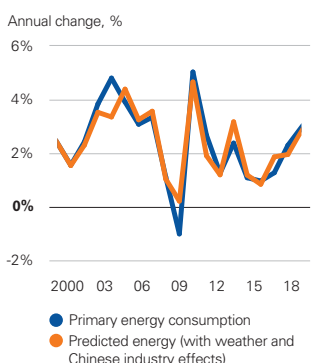
## Global energy consumption growth



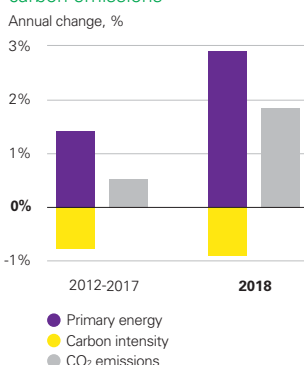
\*These econometric models do not include Chinese energy intensive industries

## Energy demand and carbon emissions

### Global energy consumption growth



### 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.

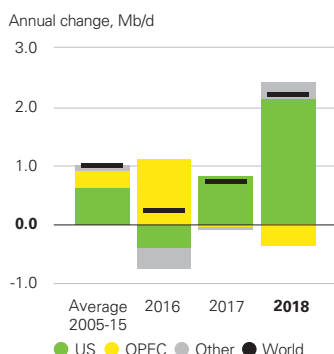
Against this backdrop of steady demand growth, all the excitement came from the supply side, where global production grew by a whopping 2.2 Mb/d, more than double its historical average. The vast majority of this growth was driven by US production, which grew by 2.2 Mb/d – the largest ever annual increase 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

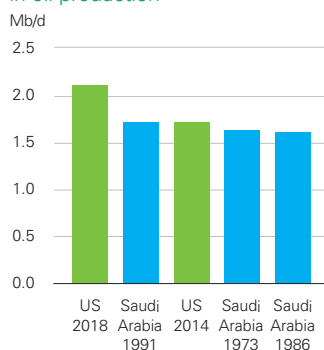
Growth of US oil production, the largest ever annual increase by a single country.

## 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.

## Natural gas

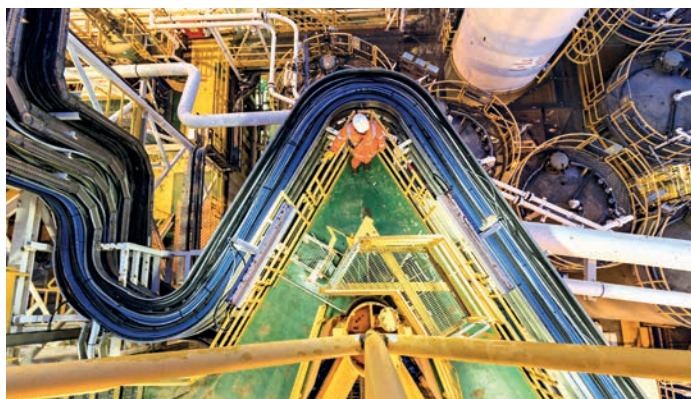
2018 was a bonanza year for natural gas, with both global consumption and production increasing by over 5%, one of the strongest growth rates in either gas demand or output for over 30 years. The main actor here was the US, accounting for almost 40% of global demand growth and over 45% of the increase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



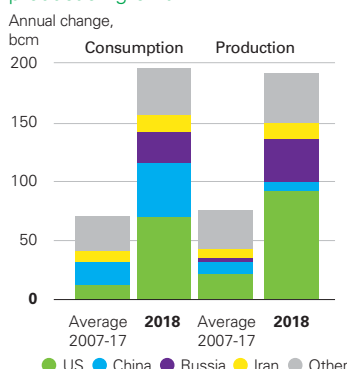
**Above:** Birds eye view of the Shah Deniz Alpha platform in the Caspian Sea, off the coast of Azerbaijan.

# 78 bcm

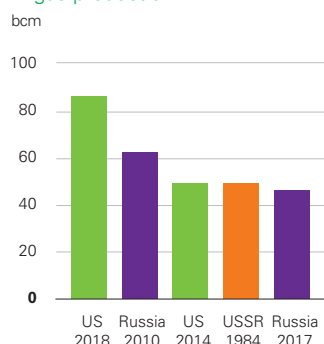
Growth of US gas consumption, a record high for any country.

## 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.



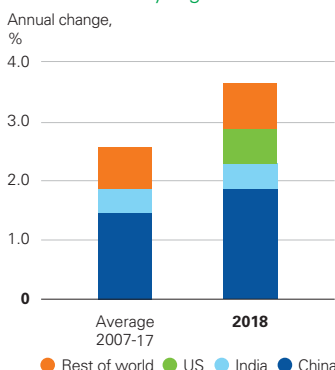
**Above:** Turbines at Goshen wind farm in Idaho Falls, US.

45%

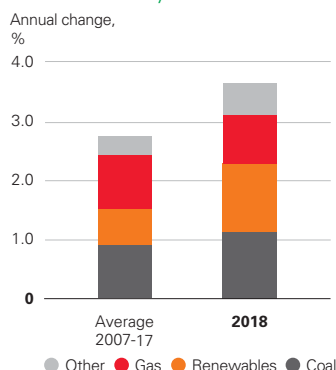
China's contribution to global renewables growth, more than the entire OECD combined.

## Growth in power generation

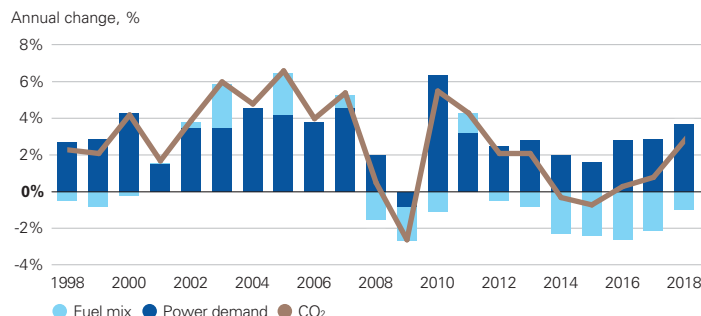
### Contributions by region



### Contributions by fuel



## 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.

Spencer Dale

### 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](http://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       |                |                |                |                |                |                |               |               |               |               |               | Growth rate per annum |              | Share 2018   |
|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|--------------|
|                                     | 2008           | 2009           | 2010           | 2011           | 2012           | 2013           | 2014          | 2015          | 2016          | 2017          | 2018          | 2018                  | 2007-17      |              |
| Canada                              | 321.5          | 304.9          | 312.0          | 327.2          | 324.7          | 337.0          | 341.8         | 339.0         | 338.2         | 343.7         | <b>344.4</b>  | 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         | <b>186.9</b>  | -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        | <b>2300.6</b> | 3.5%                  | -0.4%        | 16.6%        |
| <b>Total North America</b>          | <b>2751.0</b>  | <b>2623.1</b>  | <b>2709.8</b>  | <b>2714.4</b>  | <b>2657.4</b>  | <b>2730.1</b>  | <b>2758.9</b> | <b>2736.2</b> | <b>2737.2</b> | <b>2755.5</b> | <b>2832.0</b> | <b>2.8%</b>           | <b>-0.2%</b> | <b>20.4%</b> |
| Argentina                           | 74.7           | 73.3           | 77.2           | 78.7           | 81.0           | 84.5           | 84.1          | 86.1          | 85.9          | 86.1          | <b>85.1</b>   | -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         | <b>297.6</b>  | 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          | <b>40.1</b>   | 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          | <b>46.9</b>   | 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          | <b>17.6</b>   | 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          | <b>27.0</b>   | 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          | <b>15.3</b>   | 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          | <b>64.6</b>   | -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         | <b>107.8</b>  | 2.6%                  | 1.3%         | 0.8%         |
| <b>Total S. &amp; Cent. America</b> | <b>600.8</b>   | <b>594.2</b>   | <b>627.1</b>   | <b>655.3</b>   | <b>670.9</b>   | <b>685.9</b>   | <b>692.9</b>  | <b>695.3</b>  | <b>691.1</b>  | <b>699.8</b>  | <b>702.0</b>  | <b>0.3%</b>           | <b>1.8%</b>  | <b>5.1%</b>  |
| Austria                             | 35.4           | 34.3           | 35.6           | 33.3           | 35.0           | 34.7           | 33.3          | 33.4          | 34.6          | 35.5          | <b>35.0</b>   | -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          | <b>62.2</b>   | -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          | <b>42.1</b>   | 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          | <b>29.3</b>   | 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         | <b>242.6</b>  | 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         | <b>323.9</b>  | -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          | <b>28.3</b>   | 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          | <b>23.7</b>   | 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         | <b>154.5</b>  | -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          | <b>84.8</b>   | 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          | <b>47.4</b>   | -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         | <b>105.2</b>  | 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          | <b>26.0</b>   | 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          | <b>33.4</b>   | 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         | <b>141.4</b>  | 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          | <b>53.6</b>   | -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          | <b>27.8</b>   | 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         | <b>153.5</b>  | 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          | <b>84.0</b>   | 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         | <b>192.3</b>  | -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         | <b>159.8</b>  | 1.6%                  | -0.3%        | 1.2%         |
| <b>Total Europe</b>                 | <b>2173.3</b>  | <b>2048.4</b>  | <b>2124.6</b>  | <b>2077.7</b>  | <b>2072.3</b>  | <b>2054.7</b>  | <b>1978.3</b> | <b>1996.8</b> | <b>2027.5</b> | <b>2050.0</b> | <b>2050.7</b> | <b>*</b>              | <b>-0.6%</b> | <b>14.8%</b> |
| Azerbaijan                          | 12.8           | 11.3           | 11.2           | 12.5           | 12.8           | 13.2           | 13.5          | 14.7          | 14.6          | 14.3          | <b>14.4</b>   | 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          | <b>24.6</b>   | 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          | <b>76.4</b>   | 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         | <b>720.7</b>  | 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          | <b>31.5</b>   | 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          | <b>43.9</b>   | -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          | <b>19.0</b>   | 5.9%                  | 0.7%         | 0.1%         |
| <b>Total CIS</b>                    | <b>844.7</b>   | <b>810.2</b>   | <b>843.2</b>   | <b>878.0</b>   | <b>886.7</b>   | <b>872.1</b>   | <b>880.3</b>  | <b>867.9</b>  | <b>881.5</b>  | <b>891.2</b>  | <b>930.5</b>  | <b>4.4%</b>           | <b>0.5%</b>  | <b>6.7%</b>  |
| Iran                                | 205.8          | 212.7          | 213.4          | 224.9          | 226.2          | 237.9          | 249.0         | 249.2         | 257.2         | 272.0         | <b>285.7</b>  | 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          | <b>53.7</b>   | 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          | <b>25.6</b>   | 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          | <b>39.0</b>   | 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          | <b>30.7</b>   | 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          | <b>48.3</b>   | -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         | <b>259.2</b>  | -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         | <b>112.2</b>  | 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          | <b>47.9</b>   | -0.2%                 | -1.6%        | 0.3%         |
| <b>Total Middle East</b>            | <b>653.7</b>   | <b>673.8</b>   | <b>709.8</b>   | <b>738.4</b>   | <b>767.3</b>   | <b>792.5</b>   | <b>817.2</b>  | <b>843.7</b>  | <b>864.9</b>  | <b>881.4</b>  | <b>902.3</b>  | <b>2.4%</b>           | <b>3.8%</b>  | <b>6.5%</b>  |
| Algeria                             | 36.4           | 38.6           | 37.6           | 39.9           | 43.6           | 46.2           | 50.4          | 53.1          | 53.0          | 53.1          | <b>56.7</b>   | 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          | <b>94.5</b>   | 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          | <b>21.0</b>   | 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         | <b>121.5</b>  | -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         | <b>167.8</b>  | 4.2%                  | 3.8%         | 1.2%         |
| <b>Total Africa</b>                 | <b>365.4</b>   | <b>372.0</b>   | <b>383.8</b>   | <b>385.3</b>   | <b>399.2</b>   | <b>409.7</b>   | <b>422.6</b>  | <b>430.1</b>  | <b>439.4</b>  | <b>448.6</b>  | <b>461.5</b>  | <b>2.9%</b>           | <b>2.7%</b>  | <b>3.3%</b>  |
| Australia                           | 132.3          | 131.4          | 131.9          | 136.4          | 134.6          | 135.3          | 137.5         | 139.2         | 142.1         | 140.5         | <b>144.3</b>  | 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          | <b>35.8</b>   | 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        | <b>3273.5</b> | 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          | <b>31.1</b>   | 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         | <b>809.2</b>  | 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         | <b>185.5</b>  | 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         | <b>454.1</b>  | -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          | <b>99.3</b>   | 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          | <b>21.7</b>   | -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          | <b>85.0</b>   | 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          | <b>47.0</b>   | 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          | <b>87.6</b>   | 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         | <b>301.0</b>  | 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           | <b>8.1</b>    | 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         | <b>118.4</b>  | 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         | <b>133.0</b>  | 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          | <b>85.8</b>   | 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          | <b>65.4</b>   | 4.8%                  | 3.5%         | 0.5%         |
| <b>Total Asia Pacific</b>           | <b>4316.2</b>  | <b>4418.7</b>  | <b>4701.5</b>  | <b>4954.5</b>  | <b>5121.6</b>  | <b>5274.4</b>  | <b>5389.6</b> | <b>5475.7</b> | <b>5587.0</b> | <b>5748.0</b> | <b>5985.8</b> | <b>4.1%</b>           | <b>3.2%</b>  | <b>43.2%</b> |
| <b>Total World</b>                  | <b>11705.1</b> | <b>11540.3</b> | <b>12099.9</b> | <b>12403.7</b> | <b>12575.5</b> | <b>12819.4</b> |               |               |               |               |               |                       |              |              |

# Primary energy: consumption by fuel\*

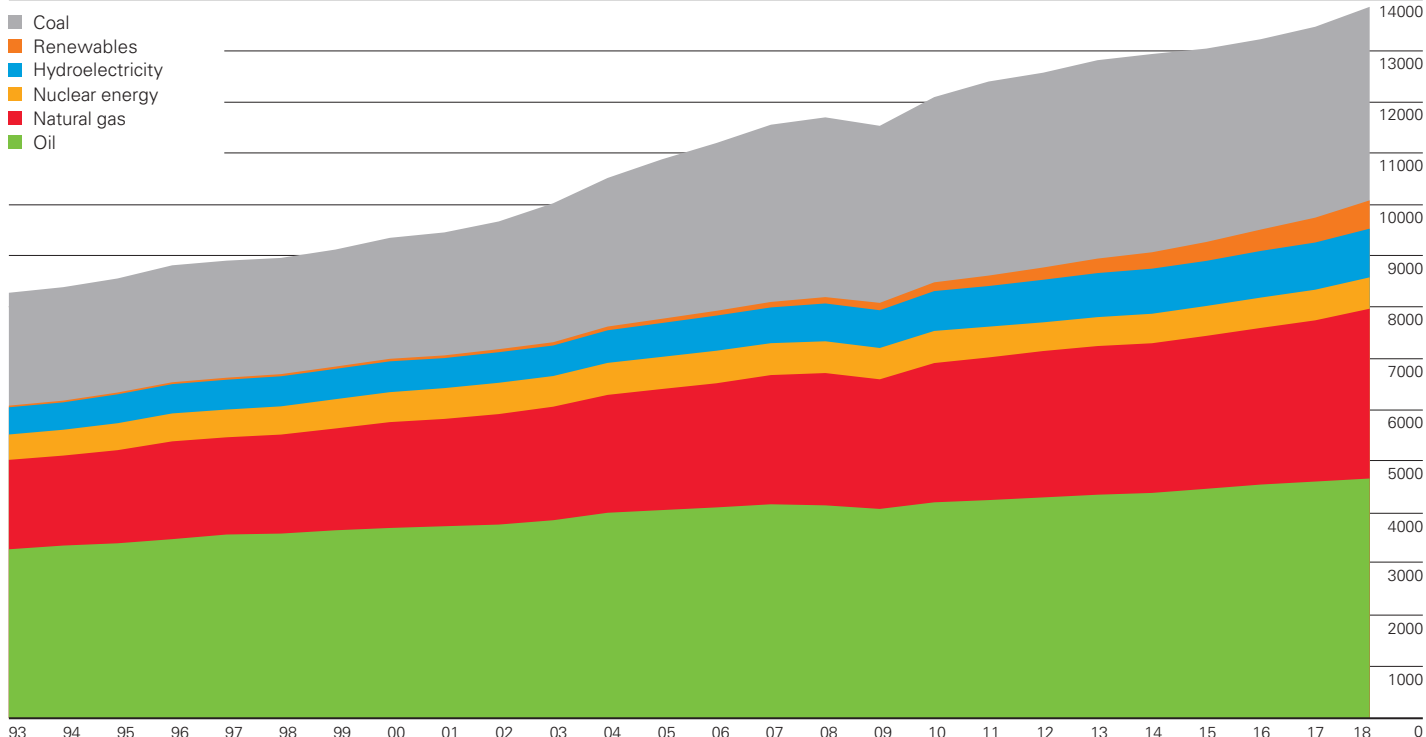
| Million tonnes oil equivalent       | 2017          |               |               |                |                   |              |                | 2018          |               |               |                |                   |              |                |
|-------------------------------------|---------------|---------------|---------------|----------------|-------------------|--------------|----------------|---------------|---------------|---------------|----------------|-------------------|--------------|----------------|
|                                     | Oil           | Natural gas   | Coal          | Nuclear energy | Hydro-electricity | Renew-ables  | Total          | Oil           | Natural gas   | Coal          | Nuclear energy | Hydro-electricity | Renew-ables  | 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         |
| <b>Total North America</b>          | <b>1096.6</b> | <b>804.4</b>  | <b>365.1</b>  | <b>216.9</b>   | <b>164.1</b>      | <b>108.4</b> | <b>2755.5</b>  | <b>1112.5</b> | <b>879.1</b>  | <b>343.3</b>  | <b>217.9</b>   | <b>160.3</b>      | <b>118.8</b> | <b>2832.0</b>  |
| 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          |
| <b>Total S. &amp; Cent. America</b> | <b>317.2</b>  | <b>148.4</b>  | <b>34.8</b>   | <b>4.9</b>     | <b>163.0</b>      | <b>31.5</b>  | <b>699.8</b>   | <b>315.3</b>  | <b>144.8</b>  | <b>36.0</b>   | <b>5.1</b>     | <b>165.5</b>      | <b>35.4</b>  | <b>702.0</b>   |
| 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          |
| <b>Total Europe</b>                 | <b>746.2</b>  | <b>481.9</b>  | <b>315.5</b>  | <b>211.8</b>   | <b>132.3</b>      | <b>162.3</b> | <b>2050.0</b>  | <b>742.0</b>  | <b>472.0</b>  | <b>307.1</b>  | <b>212.1</b>   | <b>145.3</b>      | <b>172.2</b> | <b>2050.7</b>  |
| 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           |
| <b>Total CIS</b>                    | <b>191.1</b>  | <b>472.3</b>  | <b>126.4</b>  | <b>46.6</b>    | <b>54.3</b>       | <b>0.5</b>   | <b>891.2</b>   | <b>193.5</b>  | <b>499.4</b>  | <b>134.9</b>  | <b>46.7</b>    | <b>55.4</b>       | <b>0.6</b>   | <b>930.5</b>   |
| 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           |
| <b>Total Middle East</b>            | <b>412.5</b>  | <b>453.2</b>  | <b>8.2</b>    | <b>1.6</b>     | <b>4.7</b>        | <b>1.3</b>   | <b>881.4</b>   | <b>412.1</b>  | <b>475.6</b>  | <b>7.9</b>    | <b>1.6</b>     | <b>3.4</b>        | <b>1.7</b>   | <b>902.3</b>   |
| 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          |
| <b>Total Africa</b>                 | <b>192.1</b>  | <b>121.0</b>  | <b>97.6</b>   | <b>3.6</b>     | <b>28.2</b>       | <b>6.1</b>   | <b>448.6</b>   | <b>191.3</b>  | <b>129.0</b>  | <b>101.4</b>  | <b>2.5</b>     | <b>30.1</b>       | <b>7.2</b>   | <b>461.5</b>   |
| 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           |
| <b>Total Asia Pacific</b>           | <b>1651.3</b> | <b>660.6</b>  | <b>2770.8</b> | <b>111.7</b>   | <b>373.2</b>      | <b>180.2</b> | <b>5748.0</b>  | <b>1695.4</b> | <b>709.6</b>  | <b>2841.3</b> | <b>125.3</b>   | <b>388.9</b>      | <b>225.4</b> | <b>5985.8</b>  |
| <b>Total World</b>                  | <b>4607.0</b> | <b>3141.9</b> | <b>3718.4</b> | <b>597.1</b>   | <b>919.9</b>      | <b>490.2</b> | <b>13474.6</b> | <b>4662.1</b> | <b>3309.4</b> | <b>3772.1</b> | <b>611.3</b>   | <b>948.8</b>      | <b>561.3</b> | <b>13864.9</b> |
| 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

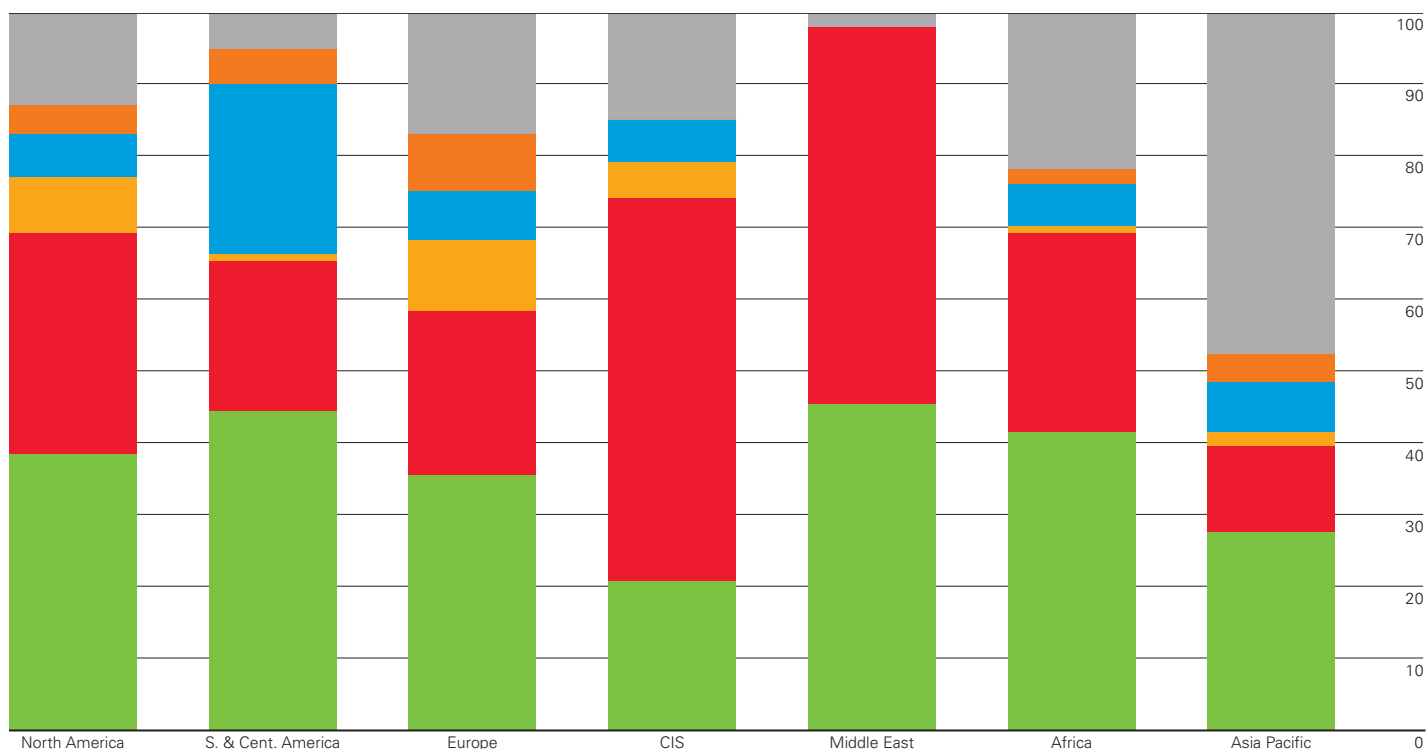
Million tonnes oil equivalent



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

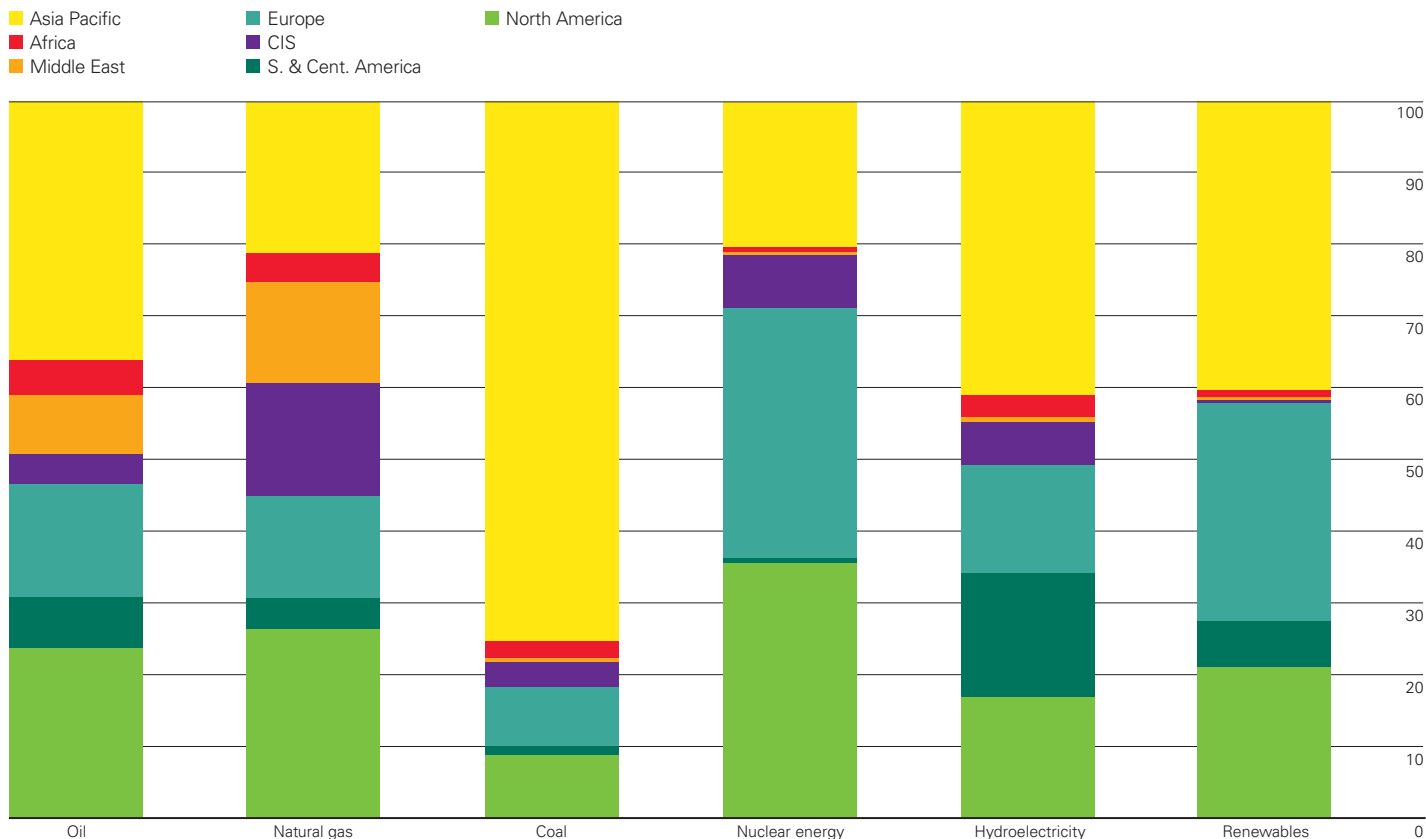
Percentage



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

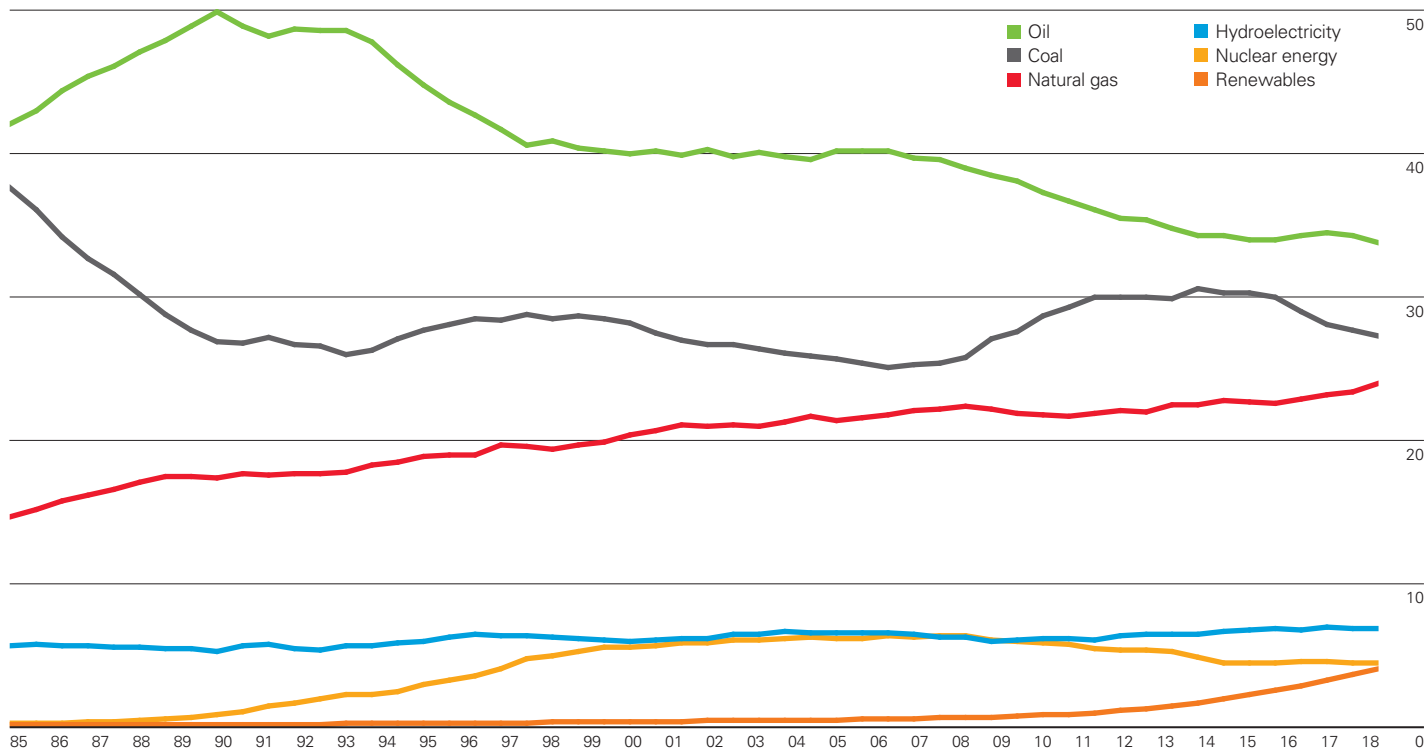
Percentage



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               |              |              |              |              |              |              |              |              |              |              |              | Growth rate per annum |         |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|---------|
|                                     | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2018                  | 2007-17 |
| Canada                              | 403.0        | 377.8        | 382.3        | 396.6        | 389.6        | 400.2        | 401.9        | 394.9        | 390.2        | 392.9        | <b>390.2</b> | -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         | <b>59.8</b>  | -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        | <b>294.8</b> | 2.8%                  | -1.2%   |
| <b>Total North America</b>          | <b>255.7</b> | <b>241.2</b> | <b>246.6</b> | <b>244.6</b> | <b>237.2</b> | <b>241.5</b> | <b>241.9</b> | <b>237.8</b> | <b>235.8</b> | <b>235.3</b> | <b>239.8</b> | 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         | <b>79.7</b>  | -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         | <b>59.1</b>  | 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         | <b>92.3</b>  | 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         | <b>39.7</b>  | 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         | <b>43.8</b>  | 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         | <b>34.7</b>  | 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        | <b>465.5</b> | -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         | <b>83.6</b>  | -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         | <b>39.3</b>  | 1.4%                  | 0.1%    |
| <b>Total S. &amp; Cent. America</b> | <b>53.6</b>  | <b>52.4</b>  | <b>54.7</b>  | <b>56.5</b>  | <b>57.2</b>  | <b>57.9</b>  | <b>57.9</b>  | <b>57.5</b>  | <b>56.6</b>  | <b>56.7</b>  | <b>56.4</b>  | -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        | <b>167.4</b> | -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        | <b>226.4</b> | -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        | <b>166.0</b> | 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        | <b>221.1</b> | 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        | <b>155.7</b> | 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        | <b>164.8</b> | -3.2%                 | ♦       |
| Greece                              | 129.5        | 125.1        | 119.1        | 116.3        | 110.5        | 105.3        | 99.7         | 100.9        | 99.6         | 105.2        | <b>106.4</b> | 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        | <b>102.5</b> | 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        | <b>109.1</b> | -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        | <b>207.8</b> | 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        | <b>370.6</b> | -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        | <b>115.5</b> | 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        | <b>105.7</b> | 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         | <b>71.4</b>  | 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        | <b>127.6</b> | 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        | <b>224.8</b> | -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        | <b>136.3</b> | 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         | <b>78.5</b>  | -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         | <b>79.9</b>  | 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        | <b>120.9</b> | -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        | <b>107.6</b> | 1.6%                  | -0.1%   |
| <b>Total Europe</b>                 | <b>138.9</b> | <b>130.4</b> | <b>134.8</b> | <b>131.5</b> | <b>130.8</b> | <b>129.3</b> | <b>124.2</b> | <b>125.0</b> | <b>126.6</b> | <b>127.7</b> | <b>127.4</b> | -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         | <b>60.7</b>  | -0.3%                 | ♦       |
| Belarus                             | 113.8        | 108.2        | 115.0        | 114.4        | 123.6        | 108.9        | 112.5        | 102.2        | 101.7        | 103.4        | <b>108.8</b> | 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        | <b>173.8</b> | 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        | <b>209.6</b> | 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        | <b>225.4</b> | 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         | <b>56.8</b>  | -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         | <b>35.9</b>  | 4.6%                  | -0.5%   |
| <b>Total CIS</b>                    | <b>154.0</b> | <b>147.1</b> | <b>152.3</b> | <b>157.7</b> | <b>158.4</b> | <b>154.8</b> | <b>155.3</b> | <b>152.2</b> | <b>153.8</b> | <b>154.8</b> | <b>160.9</b> | 3.9%                  | ♦       |
| Iran                                | 118.3        | 120.9        | 119.8        | 124.8        | 123.9        | 128.6        | 132.9        | 131.5        | 134.1        | 140.3        | <b>145.9</b> | 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         | <b>57.2</b>  | 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        | <b>127.0</b> | -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        | <b>388.5</b> | -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        | <b>266.0</b> | 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        | <b>749.7</b> | -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        | <b>323.4</b> | -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        | <b>492.3</b> | 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         | <b>28.7</b>  | -1.8%                 | -3.5%   |
| <b>Total Middle East</b>            | <b>132.3</b> | <b>132.8</b> | <b>136.5</b> | <b>138.8</b> | <b>141.1</b> | <b>142.7</b> | <b>144.3</b> | <b>146.2</b> | <b>147.2</b> | <b>147.5</b> | <b>148.5</b> | 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         | <b>56.5</b>  | 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         | <b>39.8</b>  | 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         | <b>24.3</b>  | 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         | <b>88.6</b>  | -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          | <b>6.7</b>   | 1.4%                  | 1.0%    |
| <b>Total Africa</b>                 | <b>15.3</b>  | <b>15.2</b>  | <b>15.3</b>  | <b>15.0</b>  | <b>15.1</b>  | <b>15.1</b>  | <b>15.2</b>  | <b>15.1</b>  | <b>15.0</b>  | <b>15.0</b>  | <b>15.0</b>  | 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        | <b>243.9</b> | 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          | <b>9.0</b>   | 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         | <b>96.9</b>  | 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        | <b>175.1</b> | -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         | <b>25.0</b>  | 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         | <b>29.1</b>  | 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        | <b>149.5</b> | ♦                     | -1.3%   |
| Malaysia                            | 123.5        | 117.9        | 119.3        | 121.2        | 127.7        | 131.2        | 129.7        | 129.6        | 129.6        | 128.1        | <b>129.7</b> | 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        | <b>191.6</b> | -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         | <b>17.7</b>  | 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         | <b>18.5</b>  | 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        | <b>633.0</b> | -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        | <b>246.3</b> | 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         | <b>16.2</b>  | 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        | <b>209.2</b> | 0.9%                  | ♦       |
| Thailand                            | 59.9         | 61.7         | 65.3         | 67.5         | 71.9         | 72.7         | 74.4         | 76.1         | 77.4         | 79.0         | <b>80.5</b>  | 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         | <b>37.2</b>  | 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         | <b>14.6</b>  | 3.5%                  | 2.1%    |
| <b>Total Asia Pacific</b>           | <b>47.8</b>  | <b>48.4</b>  | <b>51.0</b>  | <b>53.2</b>  | <b>54.4</b>  | <b>55.5</b>  | <b>56.2</b>  | <b>56.6</b>  | <b>57.2</b>  | <b>58.3</b>  | <b>60.2</b>  | 3.3%                  | 2.2%    |
| <b>Total World</b>                  | <b>72.2</b>  | <b>70.3</b>  | <b>72.8</b>  | <b>73.7</b>  | <b>73.8</b>  | <b>74.4</b>  | <b>74.2</b>  | <b>74.0</b>  | <b>74.2</b>  | <b>74.7</b>  | <b>76.0</b>  | 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        | <b>182.6</b> | 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         | <b>54.2</b>  | 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        | <b>138.7</b> | -0.4%                 | -1.0%   |

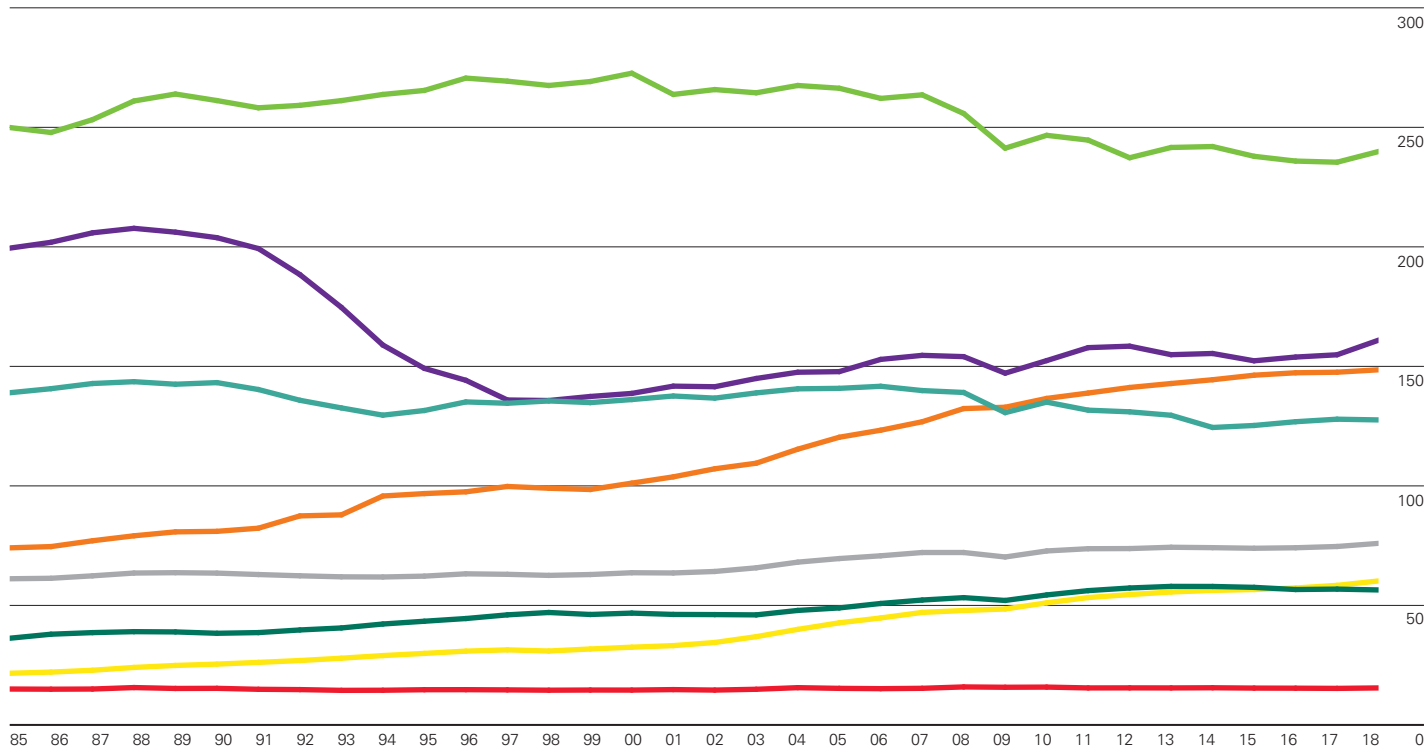
\*Primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.

♦Less than 0.05%.

## Energy per capita by region

Gigajoules per head

■ Total North America
 ■ Total S. & Cent. America
 ■ Total Europe
 ■ Total CIS  
■ Total Middle East
 ■ Total Africa
 ■ Total Asia Pacific
 ■ Total World

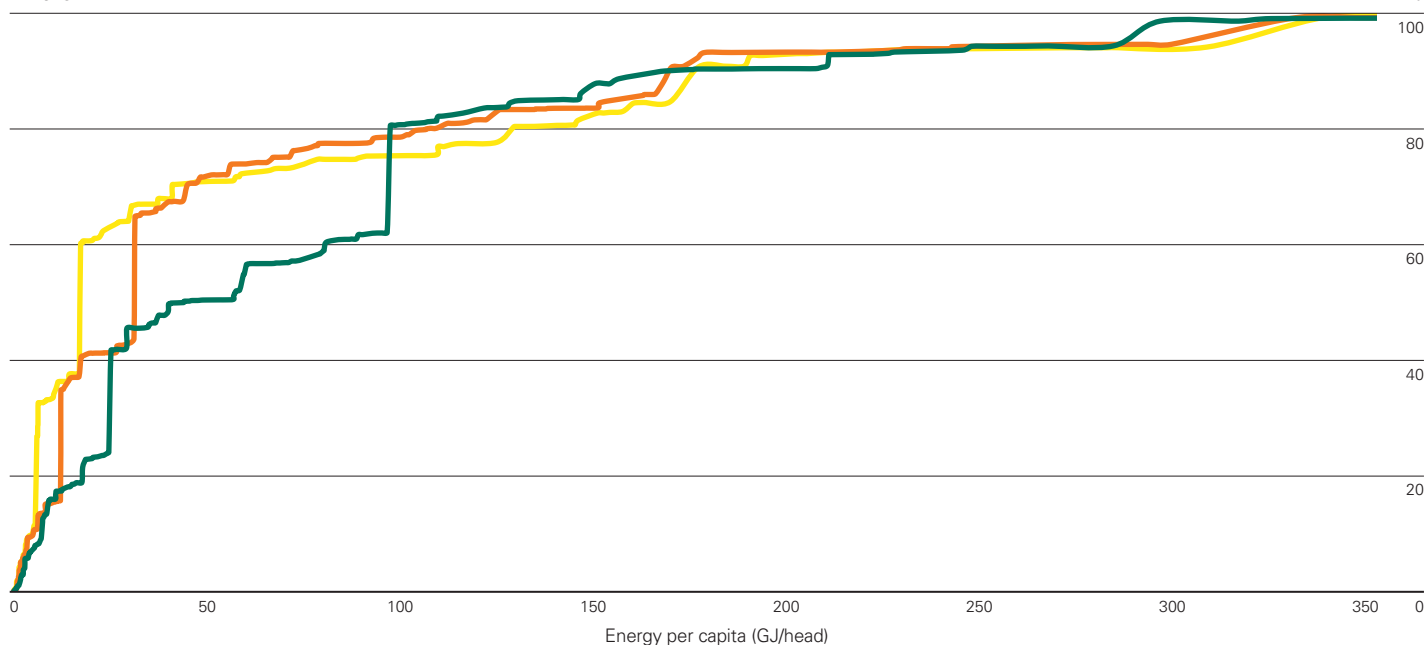


Average global energy consumption per capita increased by 1.8% in 2018 to 76 GJ/head in 2018. Growth in 2018 was significantly higher than the historical average (0.3% for the period 2007-17). North America is the region with the highest consumption per capita (240 GJ/head), followed by (161 GJ/head) 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

■ 2018  
■ 1998  
■ 1978

Cumulative share of world population %



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

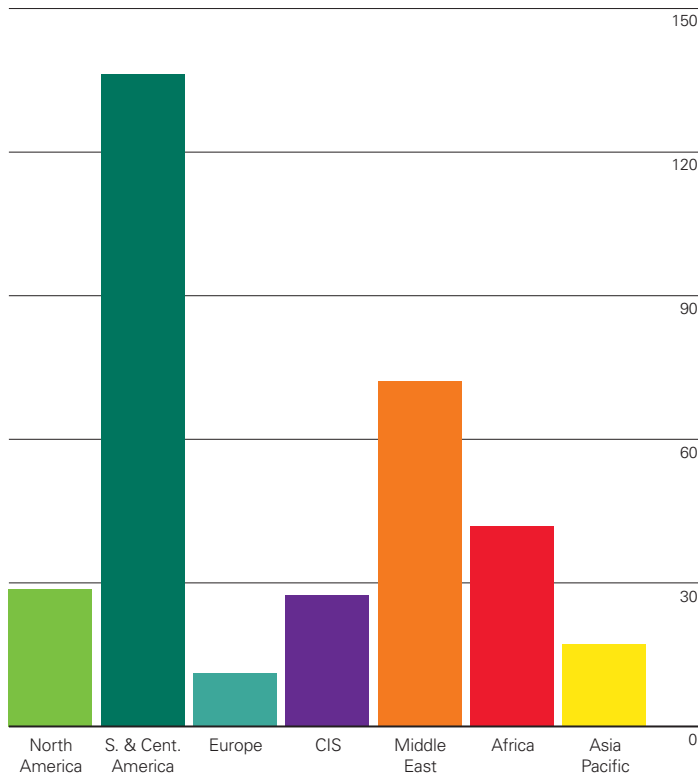
**Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil.** Saudi Arabia's oil reserves include NGLs from 2017.

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

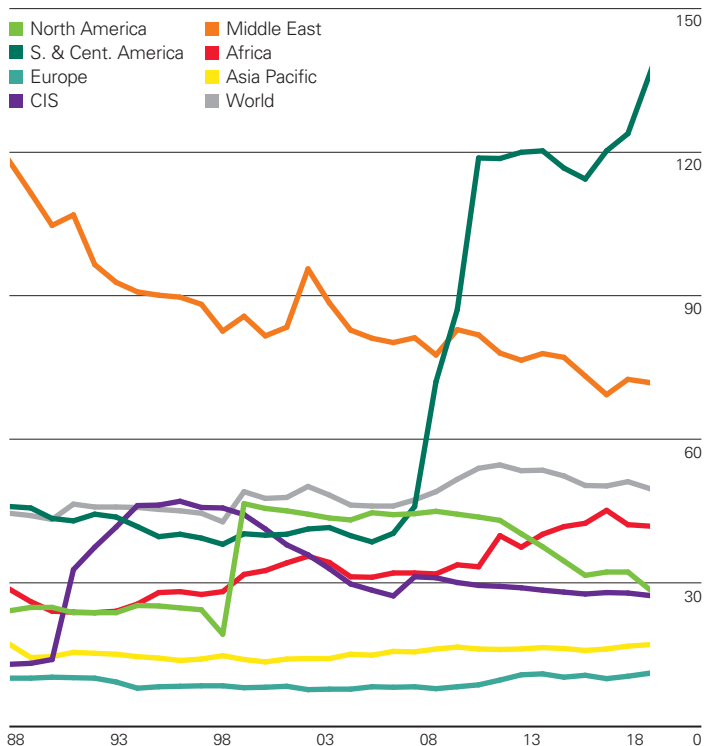
## Reserves-to-production (R/P) ratios

Years

### 2018 by region



### History

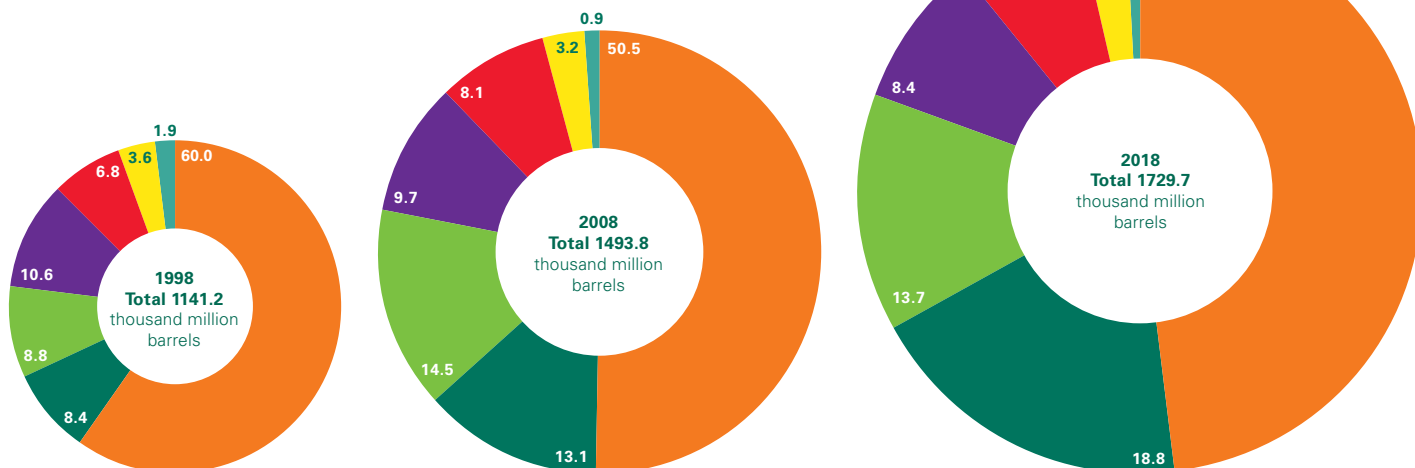


Oil reserves at the end of 2018 totalled 1730 billion barrels, up 2 billion barrels with respect to 2017. The global R/P ratio shows that oil reserves in 2018 accounted for 50 years of current production. Regionally, South & Central America has the highest R/P ratio (136 years) while Europe has the lowest (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

- Middle East
- S. & Cent. America
- North America
- CIS
- Africa
- Asia Pacific
- Europe



# Oil: Production in thousands of barrels per day\*

|                          |       |       |       |       |       |       |       |       |       |       | Growth rate per annum |        |         | Share 2018 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|--------|---------|------------|
| Thousand barrels daily   | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018                  | 2018   | 2007-17 |            |
| 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                      |               |               |               |               |               |               |               |               |               |               |               | Growth rate per annum |              | Share 2018    |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|---------------|
|                                     | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | 2018                  | 2007-17      |               |
| Canada                              | 152.9         | 152.8         | 160.3         | 169.8         | 182.6         | 195.1         | 209.4         | 215.6         | 218.0         | 235.4         | <b>255.5</b>  | 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         | <b>102.3</b>  | -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         | <b>669.4</b>  | 16.6%                 | 6.5%         | 15.0%         |
| <b>Total North America</b>          | <b>612.0</b>  | <b>621.7</b>  | <b>638.7</b>  | <b>659.8</b>  | <b>720.6</b>  | <b>784.1</b>  | <b>869.5</b>  | <b>909.7</b>  | <b>881.3</b>  | <b>918.7</b>  | <b>1027.1</b> | <b>11.8%</b>          | <b>3.8%</b>  | <b>23.0%</b>  |
| Argentina                           | 37.8          | 34.0          | 33.3          | 31.2          | 30.8          | 30.2          | 29.8          | 30.1          | 28.7          | 27.3          | <b>27.6</b>   | 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         | <b>140.3</b>  | -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          | <b>45.6</b>   | 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          | <b>27.7</b>   | -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           | <b>6.4</b>    | 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           | <b>3.9</b>    | -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         | <b>77.3</b>   | -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           | <b>6.2</b>    | -5.5%                 | -1.2%        | 0.1%          |
| <b>Total S. &amp; Cent. America</b> | <b>380.5</b>  | <b>377.6</b>  | <b>378.7</b>  | <b>381.7</b>  | <b>378.6</b>  | <b>379.2</b>  | <b>393.1</b>  | <b>398.4</b>  | <b>379.2</b>  | <b>367.3</b>  | <b>335.1</b>  | <b>-8.8%</b>          | <b>-0.2%</b> | <b>7.5%</b>   |
| Denmark                             | 14.0          | 12.9          | 12.2          | 10.9          | 10.0          | 8.7           | 8.1           | 7.7           | 6.9           | 6.7           | <b>5.7</b>    | -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           | <b>4.7</b>    | 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          | <b>83.1</b>   | -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           | <b>3.6</b>    | -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          | <b>50.8</b>   | 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          | <b>15.2</b>   | 1.0%                  | -2.6%        | 0.3%          |
| <b>Total Europe</b>                 | <b>228.7</b>  | <b>216.0</b>  | <b>200.0</b>  | <b>182.3</b>  | <b>167.6</b>  | <b>158.9</b>  | <b>159.7</b>  | <b>166.5</b>  | <b>167.8</b>  | <b>164.7</b>  | <b>162.9</b>  | <b>-1.1%</b>          | <b>-3.7%</b> | <b>3.6%</b>   |
| Azerbaijan                          | 45.3          | 50.9          | 51.3          | 46.1          | 43.7          | 43.8          | 42.5          | 42.0          | 41.4          | 39.1          | <b>39.2</b>   | 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          | <b>91.2</b>   | 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         | <b>563.3</b>  | 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          | <b>10.6</b>   | -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           | <b>2.9</b>    | 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           | <b>1.9</b>    | 2.6%                  | -0.1%        | ♦             |
| <b>Total CIS</b>                    | <b>627.2</b>  | <b>645.0</b>  | <b>659.1</b>  | <b>662.0</b>  | <b>666.1</b>  | <b>675.4</b>  | <b>675.8</b>  | <b>681.3</b>  | <b>692.2</b>  | <b>696.1</b>  | <b>709.1</b>  | <b>1.9%</b>           | <b>1.1%</b>  | <b>15.8%</b>  |
| Iran                                | 215.4         | 207.2         | 212.0         | 212.5         | 180.5         | 169.7         | 174.0         | 180.2         | 216.3         | 235.6         | <b>220.4</b>  | -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         | <b>226.1</b>  | 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         | <b>146.8</b>  | 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          | <b>47.8</b>   | 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          | <b>78.5</b>   | ♦                     | 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         | <b>578.3</b>  | 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           | <b>1.1</b>    | -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         | <b>177.7</b>  | 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           | <b>2.8</b>    | 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          | <b>10.2</b>   | -1.0%                 | 0.7%         | 0.2%          |
| <b>Total Middle East</b>            | <b>1271.5</b> | <b>1181.4</b> | <b>1210.0</b> | <b>1320.3</b> | <b>1344.2</b> | <b>1326.9</b> | <b>1338.7</b> | <b>1411.6</b> | <b>1499.8</b> | <b>1477.9</b> | <b>1489.7</b> | <b>0.8%</b>           | <b>2.0%</b>  | <b>33.3%</b>  |
| Algeria                             | 84.8          | 77.2          | 73.8          | 71.7          | 67.2          | 64.8          | 68.8          | 67.2          | 68.4          | 66.6          | <b>65.3</b>   | -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          | <b>74.6</b>   | -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           | <b>5.3</b>    | -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          | <b>17.0</b>   | 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          | <b>32.7</b>   | 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           | <b>8.7</b>    | -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          | <b>9.7</b>    | -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          | <b>47.5</b>   | 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          | <b>98.4</b>   | 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           | <b>6.4</b>    | 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           | <b>4.9</b>    | 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           | <b>2.3</b>    | 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          | <b>15.7</b>   | 5.1%                  | 4.6%         | 0.4%          |
| <b>Total Africa</b>                 | <b>490.4</b>  | <b>471.8</b>  | <b>487.0</b>  | <b>406.0</b>  | <b>442.2</b>  | <b>409.5</b>  | <b>390.6</b>  | <b>386.8</b>  | <b>363.9</b>  | <b>386.0</b>  | <b>388.7</b>  | <b>0.7%</b>           | <b>-2.3%</b> | <b>8.7%</b>   |
| Australia                           | 24.1          | 22.4          | 24.5          | 21.5          | 21.4          | 17.8          | 19.1          | 17.0          | 15.6          | 14.9          | <b>15.2</b>   | 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           | <b>5.4</b>    | -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         | <b>189.1</b>  | -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          | <b>39.5</b>   | -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          | <b>39.5</b>   | -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          | <b>31.5</b>   | -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          | <b>17.3</b>   | -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          | <b>13.0</b>   | -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          | <b>11.1</b>   | -11.1%                | -1.1%        | 0.2%          |
| <b>Total Asia Pacific</b>           | <b>388.4</b>  | <b>384.3</b>  | <b>403.5</b>  | <b>396.0</b>  | <b>401.0</b>  | <b>394.6</b>  | <b>395.8</b>  | <b>400.6</b>  | <b>383.9</b>  | <b>369.1</b>  | <b>361.6</b>  | <b>-2.0%</b>          | <b>-0.3%</b> | <b>8.1%</b>   |
| <b>Total World</b>                  | <b>3998.7</b> | <b>3897.8</b> | <b>3976.9</b> | <b>4008.0</b> | <b>4120.3</b> | <b>4128.5</b> | <b>4223.2</b> | <b>4354.8</b> | <b>4368.0</b> | <b>4379.9</b> | <b>4474.3</b> | <b>2.2%</b>           | <b>1.0%</b>  | <b>100.0%</b> |
| of which: OECD                      | 857.4         | 853.0         | 856.5         | 856.6         | 902.3         | 953.2         | 1041.2        | 1086.4        | 1058.1        | 1092.0        | <b>1198.6</b> | 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        | <b>3275.8</b> | -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        | <b>1854.3</b> | -1.0%                 | 0.8%         | 41.4%         |
| Non-OPEC                            | 2202.3        | 2223.6        | 2267.9        | 2261.9        | 2297.9        | 2385.7        | 2458.8        | 2524.8        | 2482.2        | 2506.2        | <b>2620.1</b> | 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          | <b>72.7</b>   | 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              |              |              |              |              |              |              |              |              |              |              |              | Growth rate per annum |              | Share 2018    |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                     | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | 2018                  | 2007-17      |               |
| Canada                              | 2581         | 2576         | 2724         | 2900         | 3131         | 3358         | 3610         | 3679         | 3678         | 3977         | <b>4302</b>  | 8.2%                  | 4.3%         | 5.2%          |
| Mexico                              | 2792         | 2601         | 2577         | 2553         | 2548         | 2522         | 2429         | 2267         | 2154         | 1948         | <b>1833</b>  | -5.9%                 | -4.5%        | 2.2%          |
| US                                  | 5000         | 5349         | 5478         | 5654         | 6502         | 7467         | 8759         | 9431         | 8831         | 9352         | <b>10962</b> | 17.2%                 | 6.3%         | 13.2%         |
| <b>Total North America</b>          | <b>10372</b> | <b>10527</b> | <b>10779</b> | <b>11106</b> | <b>12180</b> | <b>13348</b> | <b>14797</b> | <b>15376</b> | <b>14662</b> | <b>15277</b> | <b>17097</b> | <b>11.9%</b>          | <b>3.6%</b>  | <b>20.6%</b>  |
| Argentina                           | 679          | 604          | 589          | 553          | 549          | 540          | 532          | 532          | 511          | 480          | <b>489</b>   | 2.1%                  | -3.6%        | 0.6%          |
| Brazil                              | 1812         | 1950         | 2055         | 2105         | 2061         | 2024         | 2255         | 2437         | 2510         | 2622         | <b>2587</b>  | -1.3%                 | 4.1%         | 3.1%          |
| Colombia                            | 588          | 671          | 786          | 915          | 944          | 1010         | 990          | 1006         | 886          | 854          | <b>866</b>   | 1.4%                  | 4.9%         | 1.0%          |
| Ecuador                             | 505          | 486          | 486          | 500          | 504          | 526          | 557          | 543          | 548          | 531          | <b>517</b>   | -2.7%                 | 0.4%         | 0.6%          |
| Peru                                | 98           | 117          | 123          | 117          | 112          | 118          | 121          | 104          | 91           | 88           | <b>98</b>    | 11.2%                 | -0.7%        | 0.1%          |
| Trinidad & Tobago                   | 114          | 107          | 98           | 92           | 82           | 81           | 81           | 79           | 71           | 72           | <b>63</b>    | -11.6%                | -5.1%        | 0.1%          |
| Venezuela                           | 3064         | 2879         | 2695         | 2623         | 2580         | 2564         | 2578         | 2514         | 2242         | 1992         | <b>1425</b>  | -28.4%                | -4.2%        | 1.7%          |
| Other S. & Cent. America            | 129          | 121          | 125          | 126          | 131          | 135          | 140          | 133          | 122          | 117          | <b>111</b>   | -5.6%                 | -0.9%        | 0.1%          |
| <b>Total S. &amp; Cent. America</b> | <b>6988</b>  | <b>6935</b>  | <b>6957</b>  | <b>7031</b>  | <b>6963</b>  | <b>6998</b>  | <b>7255</b>  | <b>7347</b>  | <b>6982</b>  | <b>6756</b>  | <b>6157</b>  | <b>-8.9%</b>          | <b>-0.2%</b> | <b>7.4%</b>   |
| Denmark                             | 287          | 265          | 249          | 225          | 204          | 178          | 167          | 158          | 142          | 138          | <b>116</b>   | -15.9%                | -7.8%        | 0.1%          |
| Italy                               | 108          | 95           | 106          | 110          | 112          | 114          | 120          | 113          | 78           | 86           | <b>97</b>    | 12.9%                 | -3.4%        | 0.1%          |
| Norway                              | 2175         | 2057         | 1871         | 1758         | 1612         | 1532         | 1562         | 1608         | 1648         | 1617         | <b>1515</b>  | -6.3%                 | -3.3%        | 1.8%          |
| Romania                             | 93           | 90           | 86           | 84           | 79           | 83           | 82           | 80           | 76           | 73           | <b>71</b>    | -1.8%                 | -2.5%        | 0.1%          |
| United Kingdom                      | 1404         | 1344         | 1245         | 1036         | 891          | 815          | 796          | 909          | 940          | 917          | <b>1005</b>  | 9.5%                  | -4.9%        | 1.2%          |
| Other Europe                        | 347          | 331          | 319          | 315          | 317          | 327          | 324          | 315          | 297          | 284          | <b>287</b>   | 1.1%                  | -2.6%        | 0.3%          |
| <b>Total Europe</b>                 | <b>4416</b>  | <b>4182</b>  | <b>3876</b>  | <b>3527</b>  | <b>3215</b>  | <b>3050</b>  | <b>3050</b>  | <b>3183</b>  | <b>3180</b>  | <b>3116</b>  | <b>3092</b>  | <b>-0.8%</b>          | <b>-4.0%</b> | <b>3.7%</b>   |
| Azerbaijan                          | 895          | 1014         | 1023         | 919          | 872          | 877          | 849          | 840          | 826          | 781          | <b>783</b>   | 0.2%                  | -0.9%        | 0.9%          |
| Kazakhstan                          | 1483         | 1609         | 1676         | 1684         | 1662         | 1720         | 1701         | 1672         | 1637         | 1813         | <b>1900</b>  | 4.8%                  | 2.5%         | 2.3%          |
| Russian Federation                  | 9784         | 9927         | 10150        | 10287        | 10395        | 10528        | 10595        | 10758        | 11003        | 11017        | <b>11201</b> | 1.7%                  | 1.1%         | 13.5%         |
| Turkmenistan                        | 198          | 194          | 199          | 212          | 220          | 237          | 240          | 245          | 224          | 209          | <b>196</b>   | -6.3%                 | 1.2%         | 0.2%          |
| Uzbekistan                          | 102          | 95           | 78           | 77           | 68           | 63           | 61           | 59           | 58           | 61           | <b>64</b>    | 5.0%                  | -5.2%        | 0.1%          |
| Other CIS                           | 37           | 36           | 36           | 36           | 35           | 35           | 35           | 36           | 36           | 37           | <b>38</b>    | 2.6%                  | -0.1%        | ♦             |
| <b>Total CIS</b>                    | <b>12498</b> | <b>12876</b> | <b>13162</b> | <b>13214</b> | <b>13252</b> | <b>13461</b> | <b>13481</b> | <b>13610</b> | <b>13785</b> | <b>13918</b> | <b>14181</b> | <b>1.9%</b>           | <b>1.1%</b>  | <b>17.1%</b>  |
| Iran                                | 4173         | 4015         | 4068         | 4048         | 3398         | 3192         | 3273         | 3392         | 4090         | 4471         | <b>4156</b>  | -7.0%                 | 0.7%         | 5.0%          |
| Iraq                                | 2394         | 2405         | 2424         | 2728         | 3037         | 3058         | 3198         | 3945         | 4375         | 4469         | <b>4550</b>  | 1.8%                  | 7.8%         | 5.5%          |
| Kuwait                              | 2574         | 2278         | 2307         | 2645         | 2890         | 2847         | 2830         | 2782         | 2860         | 2704         | <b>2737</b>  | 1.2%                  | 0.9%         | 3.3%          |
| Oman                                | 757          | 813          | 865          | 885          | 918          | 942          | 943          | 981          | 1004         | 971          | <b>978</b>   | 0.8%                  | 3.2%         | 1.2%          |
| Qatar                               | 1211         | 1151         | 1307         | 1399         | 1491         | 1520         | 1508         | 1463         | 1465         | 1416         | <b>1408</b>  | -0.6%                 | 2.6%         | 1.7%          |
| Saudi Arabia                        | 9453         | 8411         | 8423         | 9566         | 9987         | 9875         | 9941         | 10420        | 10688        | 10175        | <b>10534</b> | 3.5%                  | 1.2%         | 12.7%         |
| Syria                               | 371          | 366          | 350          | 319          | 146          | 45           | 23           | 19           | 17           | 17           | <b>16</b>    | -3.3%                 | -26.7%       | ♦             |
| United Arab Emirates                | 2819         | 2495         | 2603         | 2856         | 2961         | 3095         | 3063         | 3284         | 3384         | 3280         | <b>3301</b>  | 0.6%                  | 1.7%         | 4.0%          |
| Yemen                               | 295          | 286          | 284          | 197          | 154          | 173          | 128          | 38           | 16           | 33           | <b>40</b>    | 21.3%                 | -20.3%       | ♦             |
| Other Middle East                   | 183          | 182          | 182          | 191          | 173          | 199          | 204          | 203          | 204          | 199          | <b>196</b>   | -1.5%                 | 0.8%         | 0.2%          |
| <b>Total Middle East</b>            | <b>24230</b> | <b>22402</b> | <b>22813</b> | <b>24834</b> | <b>25155</b> | <b>24944</b> | <b>25113</b> | <b>26527</b> | <b>28104</b> | <b>27733</b> | <b>27916</b> | <b>0.7%</b>           | <b>1.8%</b>  | <b>33.6%</b>  |
| Algeria                             | 1643         | 1517         | 1461         | 1416         | 1320         | 1275         | 1329         | 1290         | 1316         | 1287         | <b>1258</b>  | -2.2%                 | -2.7%        | 1.5%          |
| Angola                              | 1855         | 1734         | 1793         | 1656         | 1714         | 1716         | 1672         | 1780         | 1722         | 1637         | <b>1483</b>  | -9.5%                 | ♦            | 1.8%          |
| Chad                                | 127          | 118          | 122          | 114          | 101          | 91           | 89           | 111          | 103          | 104          | <b>101</b>   | -3.1%                 | -3.2%        | 0.1%          |
| Republic of Congo                   | 235          | 269          | 307          | 292          | 268          | 234          | 245          | 227          | 225          | 263          | <b>327</b>   | 24.3%                 | 1.8%         | 0.4%          |
| Egypt                               | 651          | 665          | 663          | 649          | 649          | 643          | 667          | 662          | 631          | 603          | <b>615</b>   | 2.0%                  | -0.6%        | 0.7%          |
| Equatorial Guinea                   | 349          | 310          | 286          | 280          | 299          | 261          | 266          | 242          | 204          | 174          | <b>169</b>   | -2.9%                 | -6.8%        | 0.2%          |
| Gabon                               | 240          | 241          | 233          | 236          | 221          | 213          | 211          | 214          | 221          | 210          | <b>194</b>   | -7.6%                 | -1.5%        | 0.2%          |
| Libya                               | 1808         | 1687         | 1748         | 508          | 1499         | 1025         | 510          | 422          | 397          | 909          | <b>988</b>   | 8.7%                  | -6.8%        | 1.2%          |
| Nigeria                             | 2100         | 2138         | 2455         | 2373         | 2330         | 2193         | 2188         | 2119         | 1822         | 1912         | <b>1967</b>  | 2.9%                  | -1.1%        | 2.4%          |
| South Sudan                         | n/a          | n/a          | n/a          | n/a          | 31           | 100          | 155          | 148          | 117          | 111          | <b>131</b>   | 17.5%                 | n/a          | 0.2%          |
| Sudan                               | 457          | 475          | 462          | 291          | 103          | 118          | 120          | 109          | 104          | 95           | <b>100</b>   | 5.7%                  | -15.0%       | 0.1%          |
| Tunisia                             | 87           | 82           | 79           | 70           | 70           | 64           | 59           | 54           | 51           | 43           | <b>42</b>    | -3.5%                 | -7.6%        | 0.1%          |
| Other Africa                        | 184          | 181          | 149          | 198          | 196          | 225          | 234          | 276          | 259          | 304          | <b>319</b>   | 5.2%                  | 4.7%         | 0.4%          |
| <b>Total Africa</b>                 | <b>9735</b>  | <b>9418</b>  | <b>9759</b>  | <b>8083</b>  | <b>8802</b>  | <b>8158</b>  | <b>7744</b>  | <b>7653</b>  | <b>7170</b>  | <b>7651</b>  | <b>7693</b>  | <b>0.5%</b>           | <b>-2.3%</b> | <b>9.3%</b>   |
| Australia                           | 455          | 423          | 471          | 411          | 405          | 335          | 353          | 322          | 292          | 284          | <b>295</b>   | 3.8%                  | -4.7%        | 0.4%          |
| Brunei                              | 161          | 155          | 159          | 153          | 146          | 122          | 114          | 115          | 109          | 101          | <b>100</b>   | -1.1%                 | -5.6%        | 0.1%          |
| China                               | 3814         | 3805         | 4077         | 4074         | 4155         | 4216         | 4246         | 4309         | 3999         | 3846         | <b>3798</b>  | -1.3%                 | 0.3%         | 4.6%          |
| India                               | 703          | 690          | 762          | 793          | 786          | 789          | 778          | 771          | 744          | 744          | <b>719</b>   | -3.3%                 | 0.5%         | 0.9%          |
| Indonesia                           | 977          | 949          | 945          | 902          | 859          | 825          | 789          | 786          | 831          | 801          | <b>772</b>   | -3.6%                 | -1.7%        | 0.9%          |
| Malaysia                            | 688          | 659          | 653          | 583          | 598          | 588          | 610          | 662          | 667          | 648          | <b>646</b>   | -0.2%                 | -0.5%        | 0.8%          |
| Thailand                            | 229          | 238          | 242          | 224          | 239          | 241          | 233          | 248          | 258          | 240          | <b>228</b>   | -4.8%                 | 1.2%         | 0.3%          |
| Vietnam                             | 301          | 332          | 304          | 308          | 338          | 337          | 315          | 342          | 307          | 275          | <b>243</b>   | -11.6%                | -1.6%        | 0.3%          |
| Other Asia Pacific                  | 289          | 279          | 267          | 253          | 242          | 235          | 272          | 276          | 262          | 249          | <b>224</b>   | -10.2%                | -0.9%        | 0.3%          |
| <b>Total Asia Pacific</b>           | <b>7617</b>  | <b>7530</b>  | <b>7880</b>  | <b>7701</b>  | <b>7769</b>  | <b>7688</b>  | <b>7711</b>  | <b>7832</b>  | <b>7469</b>  | <b>7187</b>  | <b>7024</b>  | <b>-2.3%</b>          | <b>-0.5%</b> | <b>8.4%</b>   |
| <b>Total World</b>                  | <b>75857</b> | <b>73869</b> | <b>75226</b> | <b>75498</b> | <b>77336</b> | <b>77647</b> | <b>79152</b> | <b>81528</b> | <b>81351</b> | <b>81639</b> | <b>83161</b> | <b>1.9%</b>           | <b>0.8%</b>  | <b>100.0%</b> |
| of which: OECD                      | 15098        | 14990        | 14988        | 14904        | 15653        | 16578        | 18058        | 18745        | 18005        | 18551        | <b>20352</b> | 9.7%                  | 1.7%         | 24.5%         |
| Non-OECD                            | 60759        | 58879        | 60238        | 60594        | 61683        | 61069        | 61094        | 62783        | 63346        | 63089        | <b>62809</b> | -0.4%                 | 0.6%         | 75.5%         |
| OPEC                                | 34423        | 32017        | 32597        | 33126        | 34499        | 33594        | 33370        | 34636        | 35558        | 35430        | <b>35014</b> | -1.2%                 | 0.6%         | 42.1%         |
| Non-OPEC                            | 41435        | 41852        | 42629        | 42371        | 42837        | 44053        | 45782        | 46892        | 45793        | 46209        | <b>48147</b> | 4.2%                  | 1.0%         | 57.9%         |
| European Union                      | 2088         | 1971         | 1851         | 1617         | 1447         | 1361         | 1336         | 1432         | 1397         | 1369         | <b>1441</b>  | 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              |             |             |             |             |             |             |             |              |              |              |              | Growth rate per annum |              | Share 2018    |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                     | 2008        | 2009        | 2010        | 2011        | 2012        | 2013        | 2014        | 2015         | 2016         | 2017         | 2018         | 2018                  | 2007-17      |               |
| Canada                              | 626         | 626         | 608         | 615         | 610         | 642         | 661         | 709          | 773          | 822          | <b>906</b>   | 10.3%                 | 1.9%         | 7.8%          |
| Mexico                              | 374         | 377         | 382         | 388         | 363         | 353         | 355         | 320          | 302          | 276          | <b>235</b>   | -14.8%                | -3.7%        | 2.0%          |
| US                                  | 1784        | 1910        | 2074        | 2216        | 2408        | 2606        | 3015        | 3342         | 3509         | 3783         | <b>4349</b>  | 15.0%                 | 7.8%         | 37.6%         |
| <b>Total North America</b>          | <b>2783</b> | <b>2913</b> | <b>3064</b> | <b>3219</b> | <b>3381</b> | <b>3600</b> | <b>4031</b> | <b>4371</b>  | <b>4584</b>  | <b>4880</b>  | <b>5490</b>  | <b>12.5%</b>          | <b>5.5%</b>  | <b>47.5%</b>  |
| Argentina                           | 123         | 126         | 123         | 114         | 107         | 105         | 106         | 114          | 100          | 111          | <b>102</b>   | -7.8%                 | -1.2%        | 0.9%          |
| Brazil                              | 74          | 69          | 70          | 68          | 70          | 72          | 87          | 88           | 81           | 99           | <b>96</b>    | -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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Ecuador                             | 2           | 2           | 2           | 1           | 1           | 1           | —           | —            | —            | —            | <b>—</b>     | n/a                   | -100.0%      | —             |
| Peru                                | 24          | 38          | 42          | 42          | 45          | 54          | 54          | 49           | 50           | 49           | <b>56</b>    | 14.7%                 | 8.3%         | 0.5%          |
| Trinidad & Tobago                   | 35          | 44          | 47          | 44          | 35          | 34          | 33          | 30           | 25           | 27           | <b>24</b>    | -11.3%                | -2.3%        | 0.2%          |
| Venezuela                           | 165         | 159         | 147         | 132         | 124         | 116         | 114         | 117          | 105          | 104          | <b>88</b>    | -15.0%                | -5.1%        | 0.8%          |
| Other S. & Cent. America            | 14          | 15          | 19          | 19          | 16          | 17          | 14          | 13           | 12           | 14           | <b>13</b>    | -5.0%                 | -3.2%        | 0.1%          |
| <b>Total S. &amp; Cent. America</b> | <b>438</b>  | <b>453</b>  | <b>451</b>  | <b>419</b>  | <b>399</b>  | <b>399</b>  | <b>408</b>  | <b>411</b>   | <b>373</b>   | <b>404</b>   | <b>379</b>   | <b>-6.0%</b>          | <b>-1.1%</b> | <b>3.3%</b>   |
| Denmark                             | n/a         | n/a         | n/a         | n/a         | n/a         | n/a         | n/a         | n/a          | n/a          | n/a          | <b>n/a</b>   | 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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Norway                              | 283         | 285         | 261         | 275         | 300         | 300         | 318         | 332          | 343          | 345          | <b>329</b>   | -4.7%                 | 2.2%         | 2.8%          |
| Romania                             | 6           | 4           | 4           | 5           | 4           | 3           | 3           | 3            | 4            | 3            | <b>3</b>     | -11.5%                | -7.2%        | ♦             |
| United Kingdom                      | 144         | 125         | 110         | 76          | 55          | 49          | 56          | 55           | 73           | 82           | <b>80</b>    | -1.8%                 | -5.1%        | 0.7%          |
| Other Europe                        | 27          | 25          | 23          | 20          | 19          | 17          | 15          | 14           | 16           | 19           | <b>19</b>    | 1.4%                  | -3.4%        | 0.2%          |
| <b>Total Europe</b>                 | <b>460</b>  | <b>439</b>  | <b>398</b>  | <b>375</b>  | <b>377</b>  | <b>369</b>  | <b>392</b>  | <b>404</b>   | <b>436</b>   | <b>449</b>   | <b>431</b>   | <b>-3.9%</b>          | <b>*</b>     | <b>3.7%</b>   |
| Azerbaijan                          | 21          | 12          | 13          | 13          | 10          | 11          | 12          | 11           | 11           | 10           | <b>12</b>    | 9.9%                  | -6.2%        | 0.1%          |
| Kazakhstan                          | 2           | †           | †           | †           | 2           | 17          | 9           | 23           | 18           | 25           | <b>27</b>    | 9.2%                  | 30.5%        | 0.2%          |
| Russian Federation                  | 180         | 225         | 228         | 247         | 260         | 278         | 265         | 249          | 266          | 238          | <b>237</b>   | -0.2%                 | 2.3%         | 2.1%          |
| Turkmenistan                        | 10          | 10          | 10          | 10          | 14          | 17          | 17          | 17           | 20           | 23           | <b>26</b>    | 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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Other CIS                           | —           | —           | —           | —           | —           | —           | —           | —            | —            | —            | <b>—</b>     | n/a                   | n/a          | —             |
| <b>Total CIS</b>                    | <b>214</b>  | <b>248</b>  | <b>252</b>  | <b>271</b>  | <b>286</b>  | <b>323</b>  | <b>303</b>  | <b>299</b>   | <b>315</b>   | <b>296</b>   | <b>301</b>   | <b>1.7%</b>           | <b>3.1%</b>  | <b>2.6%</b>   |
| Iran                                | 242         | 270         | 352         | 404         | 412         | 418         | 441         | 461          | 496          | 553          | <b>559</b>   | 1.1%                  | 11.5%        | 4.8%          |
| Iraq                                | 34          | 41          | 45          | 45          | 42          | 45          | 40          | 41           | 48           | 64           | <b>64</b>    | -0.1%                 | 9.1%         | 0.6%          |
| Kuwait                              | 207         | 217         | 249         | 264         | 275         | 278         | 267         | 279          | 281          | 297          | <b>312</b>   | 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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Qatar                               | 222         | 264         | 323         | 426         | 437         | 471         | 466         | 470          | 473          | 458          | <b>471</b>   | 2.8%                  | 10.9%        | 4.1%          |
| Saudi Arabia                        | 1211        | 1298        | 1442        | 1513        | 1635        | 1518        | 1577        | 1578         | 1718         | 1717         | <b>1753</b>  | 2.1%                  | 3.7%         | 15.2%         |
| Syria                               | 35          | 35          | 35          | 34          | 25          | 14          | 10          | 8            | 8            | 8            | <b>8</b>     | —                     | -13.7%       | 0.1%          |
| United Arab Emirates                | 294         | 300         | 334         | 447         | 479         | 482         | 539         | 614          | 654          | 631          | <b>641</b>   | 1.7%                  | 7.3%         | 5.5%          |
| Yemen                               | 21          | 22          | 23          | 23          | 24          | 24          | 25          | 26           | 26           | 27           | <b>28</b>    | 2.4%                  | 2.1%         | 0.2%          |
| Other Middle East                   | 10          | 10          | 10          | 11          | 10          | 10          | 10          | 10           | 10           | 10           | <b>11</b>    | 14.4%                 | ♦            | 0.1%          |
| <b>Total Middle East</b>            | <b>2275</b> | <b>2457</b> | <b>2812</b> | <b>3167</b> | <b>3338</b> | <b>3260</b> | <b>3377</b> | <b>3485</b>  | <b>3714</b>  | <b>3764</b>  | <b>3847</b>  | <b>2.2%</b>           | <b>5.8%</b>  | <b>33.3%</b>  |
| Algeria                             | 308         | 258         | 228         | 225         | 216         | 210         | 260         | 268          | 261          | 254          | <b>252</b>   | -0.8%                 | -1.8%        | 2.2%          |
| Angola                              | 22          | 20          | 19          | 14          | 20          | 22          | 30          | 16           | 23           | 39           | <b>51</b>    | 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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Republic of Congo                   | 2           | 7           | 7           | 9           | 12          | 9           | 8           | 7            | 7            | 6            | <b>6</b>     | -5.6%                 | 7.7%         | 0.1%          |
| Egypt                               | 65          | 65          | 61          | 65          | 66          | 67          | 47          | 64           | 60           | 57           | <b>55</b>    | -3.9%                 | -0.6%        | 0.5%          |
| Equatorial Guinea                   | 21          | 22          | 20          | 21          | 20          | 21          | 19          | 17           | 19           | 21           | <b>21</b>    | -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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Libya                               | 67          | 51          | 50          | 8           | 40          | 22          | 8           | 15           | 15           | 20           | <b>21</b>    | 5.9%                  | -11.2%       | 0.2%          |
| Nigeria                             | 72          | 73          | 78          | 88          | 82          | 86          | 88          | 82           | 78           | 80           | <b>85</b>    | 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          | <b>n/a</b>   | 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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Tunisia                             | 8           | 9           | 4           | 7           | 13          | 12          | 12          | 10           | 9            | 5            | <b>8</b>     | 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          | <b>1</b>     | n/a                   | n/a          | ♦             |
| <b>Total Africa</b>                 | <b>564</b>  | <b>506</b>  | <b>468</b>  | <b>437</b>  | <b>468</b>  | <b>449</b>  | <b>471</b>  | <b>480</b>   | <b>472</b>   | <b>482</b>   | <b>500</b>   | <b>3.7%</b>           | <b>-1.4%</b> | <b>4.3%</b>   |
| Australia                           | 82          | 84          | 77          | 71          | 73          | 72          | 83          | 62           | 69           | 64           | <b>61</b>    | -4.7%                 | -3.4%        | 0.5%          |
| Brunei                              | 14          | 14          | 13          | 13          | 13          | 13          | 12          | 11           | 12           | 13           | <b>12</b>    | -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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| India                               | 115         | 148         | 140         | 144         | 140         | 136         | 128         | 122          | 129          | 141          | <b>150</b>   | 6.7%                  | 6.0%         | 1.3%          |
| Indonesia                           | 29          | 45          | 58          | 50          | 58          | 58          | 58          | 52           | 45           | 37           | <b>36</b>    | -1.6%                 | 7.8%         | 0.3%          |
| Malaysia                            | 39          | 29          | 79          | 76          | 65          | 39          | 39          | 35           | 37           | 35           | <b>36</b>    | 1.9%                  | -2.0%        | 0.3%          |
| Thailand                            | 139         | 145         | 149         | 204         | 229         | 222         | 228         | 230          | 228          | 244          | <b>257</b>   | 5.4%                  | 6.1%         | 2.2%          |
| Vietnam                             | 8           | 10          | 19          | 19          | 20          | 22          | 21          | 23           | 25           | 23           | <b>32</b>    | 35.8%                 | 7.9%         | 0.3%          |
| Other Asia Pacific                  | 52          | 51          | 48          | 46          | 45          | 37          | 35          | 32           | 30           | 31           | <b>25</b>    | -19.3%                | -4.0%        | 0.2%          |
| <b>Total Asia Pacific</b>           | <b>478</b>  | <b>526</b>  | <b>583</b>  | <b>623</b>  | <b>643</b>  | <b>599</b>  | <b>603</b>  | <b>567</b>   | <b>576</b>   | <b>587</b>   | <b>609</b>   | <b>3.6%</b>           | <b>3.0%</b>  | <b>5.3%</b>   |
| <b>Total World</b>                  | <b>7212</b> | <b>7541</b> | <b>8029</b> | <b>8511</b> | <b>8892</b> | <b>9000</b> | <b>9584</b> | <b>10018</b> | <b>10471</b> | <b>10862</b> | <b>11557</b> | <b>6.4%</b>           | <b>4.3%</b>  | <b>100.0%</b> |
| of which: OECD                      | 3319        | 3434        | 3543        | 3668        | 3834        | 4043        | 4507        | 4838         | 5086         | 5390         | <b>5977</b>  | 10.9%                 | 4.7%         | 51.7%         |
| Non-OECD                            | 3893        | 4107        | 4486        | 4843        | 5058        | 4956        | 5077        | 5181         | 5385         | 5473         | <b>5580</b>  | 2.0%                  | 4.0%         | 48.3%         |
| OPEC                                | 2867        | 2982        | 3296        | 3597        | 3793        | 3699        | 3858        | 3964         | 4178         | 4243         | <b>4325</b>  | 1.9%                  | 4.5%         | 37.4%         |
| Non-OPEC                            | 4345        | 4559        | 4733        | 4914        | 5099        | 5300        | 5726        | 6054         | 6293         | 6619         | <b>7233</b>  | 9.3%                  | 4.2%         | 62.6%         |
| European Union                      | 169         | 147         | 130         | 94          | 71          | 63          | 69          | 67           | 87           | 95           | <b>92</b>    | -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 |              | Share 2018    |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                     |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17      |               |
| Canada                              | 2323         | 2209         | 2358         | 2436         | 2376         | 2398         | 2442         | 2401         | 2448         | 2448         | <b>2447</b>  | ♦                     | 0.4%         | 2.5%          |
| Mexico                              | 2080         | 2021         | 2040         | 2065         | 2083         | 2034         | 1960         | 1939         | 1950         | 1883         | <b>1812</b>  | -3.8%                 | -1.0%        | 1.8%          |
| US                                  | 19490        | 18771        | 19180        | 18882        | 18490        | 18961        | 19106        | 19531        | 19687        | 19958        | <b>20456</b> | 2.5%                  | -0.4%        | 20.5%         |
| <b>Total North America</b>          | <b>23894</b> | <b>23001</b> | <b>23578</b> | <b>23383</b> | <b>22949</b> | <b>23393</b> | <b>23507</b> | <b>23871</b> | <b>24086</b> | <b>24289</b> | <b>24714</b> | <b>1.8%</b>           | <b>-0.3%</b> | <b>24.8%</b>  |
| Argentina                           | 540          | 532          | 594          | 609          | 636          | 683          | 673          | 696          | 686          | 684          | <b>648</b>   | -5.3%                 | 2.6%         | 0.6%          |
| Brazil                              | 2481         | 2498         | 2714         | 2832         | 2884         | 3100         | 3210         | 3140         | 2960         | 3052         | <b>3081</b>  | 0.9%                  | 2.8%         | 3.1%          |
| Chile                               | 390          | 383          | 343          | 371          | 376          | 362          | 353          | 355          | 377          | 369          | <b>379</b>   | 2.7%                  | -0.2%        | 0.4%          |
| Colombia                            | 248          | 230          | 256          | 275          | 295          | 297          | 316          | 332          | 345          | 340          | <b>342</b>   | 0.6%                  | 3.9%         | 0.3%          |
| Ecuador                             | 188          | 191          | 220          | 226          | 233          | 247          | 260          | 254          | 240          | 237          | <b>255</b>   | 7.6%                  | 2.6%         | 0.3%          |
| Peru                                | 175          | 182          | 191          | 220          | 215          | 228          | 225          | 247          | 259          | 258          | <b>267</b>   | 3.4%                  | 5.1%         | 0.3%          |
| Trinidad & Tobago                   | 45           | 44           | 45           | 42           | 40           | 45           | 41           | 46           | 48           | 42           | <b>42</b>    | -1.2%                 | -0.1%        | ♦             |
| Venezuela                           | 716          | 726          | 725          | 737          | 792          | 782          | 720          | 637          | 537          | 463          | <b>409</b>   | -11.7%                | -3.2%        | 0.4%          |
| Other S. & Cent. America            | 1257         | 1229         | 1247         | 1267         | 1244         | 1219         | 1234         | 1294         | 1340         | 1352         | <b>1373</b>  | 1.5%                  | 0.5%         | 1.4%          |
| <b>Total S. &amp; Cent. America</b> | <b>6041</b>  | <b>6016</b>  | <b>6335</b>  | <b>6579</b>  | <b>6715</b>  | <b>6964</b>  | <b>7034</b>  | <b>7001</b>  | <b>6792</b>  | <b>6798</b>  | <b>6795</b>  | ♦                     | 1.7%         | 6.8%          |
| Austria                             | 272          | 262          | 275          | 259          | 258          | 262          | 255          | 256          | 261          | 265          | <b>272</b>   | 2.5%                  | -0.3%        | 0.3%          |
| Belgium                             | 731          | 678          | 706          | 662          | 645          | 665          | 665          | 684          | 694          | 696          | <b>703</b>   | 1.0%                  | ♦            | 0.7%          |
| Czech Republic                      | 209          | 204          | 195          | 201          | 198          | 190          | 202          | 196          | 182          | 217          | <b>222</b>   | 2.2%                  | 0.6%         | 0.2%          |
| Finland                             | 225          | 213          | 223          | 213          | 205          | 220          | 214          | 212          | 221          | 217          | <b>229</b>   | 5.7%                  | -0.5%        | 0.2%          |
| France                              | 1889         | 1822         | 1763         | 1725         | 1673         | 1661         | 1613         | 1612         | 1597         | 1608         | <b>1607</b>  | -0.1%                 | -1.7%        | 1.6%          |
| Germany                             | 2502         | 2409         | 2441         | 2365         | 2352         | 2404         | 2344         | 2336         | 2374         | 2443         | <b>2321</b>  | -5.0%                 | 0.3%         | 2.3%          |
| Greece                              | 440          | 419          | 382          | 362          | 321          | 303          | 302          | 313          | 314          | 324          | <b>323</b>   | -0.3%                 | -3.6%        | 0.3%          |
| Hungary                             | 164          | 154          | 146          | 155          | 143          | 142          | 159          | 168          | 166          | 177          | <b>188</b>   | 6.5%                  | 0.5%         | 0.2%          |
| Italy                               | 1661         | 1563         | 1532         | 1475         | 1384         | 1274         | 1204         | 1257         | 1266         | 1279         | <b>1253</b>  | -2.0%                 | -3.0%        | 1.3%          |
| Netherlands                         | 979          | 945          | 964          | 971          | 925          | 898          | 866          | 834          | 851          | 829          | <b>860</b>   | 3.8%                  | -2.2%        | 0.9%          |
| Norway                              | 218          | 222          | 229          | 227          | 226          | 230          | 217          | 223          | 217          | 223          | <b>234</b>   | 5.1%                  | 0.1%         | 0.2%          |
| Poland                              | 567          | 567          | 594          | 592          | 571          | 538          | 538          | 559          | 606          | 662          | <b>685</b>   | 3.4%                  | 1.9%         | 0.7%          |
| Portugal                            | 293          | 274          | 272          | 256          | 231          | 241          | 241          | 246          | 240          | 246          | <b>236</b>   | -4.0%                 | -2.1%        | 0.2%          |
| Romania                             | 216          | 195          | 184          | 191          | 191          | 174          | 187          | 191          | 202          | 213          | <b>211</b>   | -1.0%                 | -0.3%        | 0.2%          |
| Spain                               | 1559         | 1474         | 1447         | 1383         | 1300         | 1203         | 1199         | 1243         | 1288         | 1301         | <b>1335</b>  | 2.7%                  | -2.1%        | 1.3%          |
| Sweden                              | 340          | 325          | 328          | 309          | 309          | 306          | 304          | 302          | 319          | 321          | <b>308</b>   | -3.8%                 | -1.1%        | 0.3%          |
| Switzerland                         | 256          | 260          | 242          | 235          | 238          | 249          | 224          | 227          | 216          | 222          | <b>215</b>   | -3.2%                 | -0.8%        | 0.2%          |
| Turkey                              | 686          | 709          | 694          | 673          | 704          | 757          | 775          | 912          | 978          | 1013         | <b>1003</b>  | -1.0%                 | 3.8%         | 1.0%          |
| Ukraine                             | 299          | 282          | 267          | 278          | 267          | 257          | 221          | 194          | 205          | 207          | <b>200</b>   | -3.0%                 | -3.9%        | 0.2%          |
| United Kingdom                      | 1738         | 1669         | 1652         | 1600         | 1546         | 1532         | 1536         | 1578         | 1623         | 1637         | <b>1618</b>  | -1.2%                 | -0.7%        | 1.6%          |
| Other Europe                        | 1313         | 1231         | 1216         | 1189         | 1140         | 1124         | 1123         | 1169         | 1214         | 1253         | <b>1252</b>  | -0.1%                 | -0.5%        | 1.3%          |
| <b>Total Europe</b>                 | <b>16558</b> | <b>15876</b> | <b>15752</b> | <b>15321</b> | <b>14826</b> | <b>14631</b> | <b>14389</b> | <b>14713</b> | <b>15032</b> | <b>15351</b> | <b>15276</b> | <b>-0.5%</b>          | <b>-0.8%</b> | <b>15.3%</b>  |
| Azerbaijan                          | 74           | 73           | 72           | 89           | 92           | 101          | 99           | 100          | 98           | 99           | <b>98</b>    | -1.0%                 | 0.9%         | 0.1%          |
| Belarus                             | 160          | 182          | 150          | 173          | 211          | 144          | 164          | 139          | 137          | 135          | <b>136</b>   | 1.0%                  | -1.9%        | 0.1%          |
| Kazakhstan                          | 240          | 198          | 211          | 243          | 245          | 260          | 262          | 295          | 305          | 317          | <b>357</b>   | 12.4%                 | 2.8%         | 0.4%          |
| Russian Federation                  | 2861         | 2775         | 2878         | 3074         | 3119         | 3134         | 3298         | 3146         | 3217         | 3207         | <b>3228</b>  | 0.7%                  | 1.4%         | 3.2%          |
| Turkmenistan                        | 114          | 106          | 118          | 125          | 129          | 137          | 143          | 145          | 143          | 147          | <b>151</b>   | 3.2%                  | 2.8%         | 0.2%          |
| Uzbekistan                          | 93           | 89           | 76           | 71           | 63           | 60           | 57           | 53           | 49           | 55           | <b>52</b>    | -4.0%                 | -5.3%        | 0.1%          |
| Other CIS                           | 60           | 63           | 63           | 65           | 75           | 78           | 76           | 78           | 86           | 73           | <b>76</b>    | 3.0%                  | 2.7%         | 0.1%          |
| <b>Total CIS</b>                    | <b>3602</b>  | <b>3486</b>  | <b>3567</b>  | <b>3838</b>  | <b>3935</b>  | <b>3914</b>  | <b>4099</b>  | <b>3955</b>  | <b>4034</b>  | <b>4033</b>  | <b>4099</b>  | <b>1.6%</b>           | <b>1.3%</b>  | <b>4.1%</b>   |
| Iran                                | 1925         | 1919         | 1788         | 1851         | 1882         | 2064         | 1959         | 1804         | 1749         | 1843         | <b>1879</b>  | 2.0%                  | ♦            | 1.9%          |
| Iraq                                | 481          | 536          | 570          | 629          | 666          | 716          | 681          | 683          | 760          | 732          | <b>777</b>   | 6.1%                  | 4.1%         | 0.8%          |
| Israel                              | 254          | 232          | 241          | 254          | 295          | 223          | 214          | 226          | 230          | 247          | <b>242</b>   | -1.9%                 | -0.6%        | 0.2%          |
| Kuwait                              | 406          | 455          | 470          | 444          | 490          | 508          | 446          | 461          | 453          | 455          | <b>451</b>   | -0.9%                 | 1.7%         | 0.5%          |
| Oman                                | 123          | 119          | 135          | 146          | 157          | 178          | 185          | 184          | 187          | 193          | <b>192</b>   | -0.3%                 | 7.9%         | 0.2%          |
| Qatar                               | 178          | 173          | 191          | 246          | 257          | 287          | 294          | 317          | 341          | 320          | <b>328</b>   | 2.6%                  | 8.0%         | 0.3%          |
| Saudi Arabia                        | 2622         | 2914         | 3206         | 3295         | 3460         | 3451         | 3764         | 3886         | 3875         | 3838         | <b>3724</b>  | -3.0%                 | 4.8%         | 3.7%          |
| United Arab Emirates                | 603          | 606          | 654          | 735          | 773          | 852          | 880          | 957          | 1023         | 964          | <b>991</b>   | 2.8%                  | 5.3%         | 1.0%          |
| Other Middle East                   | 795          | 774          | 720          | 701          | 650          | 630          | 631          | 579          | 553          | 547          | <b>551</b>   | 0.8%                  | -3.5%        | 0.6%          |
| <b>Total Middle East</b>            | <b>7386</b>  | <b>7727</b>  | <b>7974</b>  | <b>8301</b>  | <b>8631</b>  | <b>8910</b>  | <b>9053</b>  | <b>9099</b>  | <b>9172</b>  | <b>9138</b>  | <b>9136</b>  | ♦                     | 2.7%         | 9.2%          |
| Algeria                             | 309          | 327          | 327          | 349          | 370          | 387          | 401          | 425          | 412          | 408          | <b>414</b>   | 1.6%                  | 3.6%         | 0.4%          |
| Egypt                               | 686          | 725          | 766          | 720          | 747          | 756          | 806          | 834          | 857          | 806          | <b>760</b>   | -5.7%                 | 2.3%         | 0.8%          |
| Morocco                             | 231          | 234          | 258          | 275          | 277          | 282          | 272          | 268          | 275          | 290          | <b>286</b>   | -1.6%                 | 3.2%         | 0.3%          |
| South Africa                        | 511          | 507          | 538          | 542          | 552          | 561          | 555          | 578          | 555          | 556          | <b>533</b>   | -4.1%                 | 0.3%         | 0.5%          |
| Other Africa                        | 1462         | 1530         | 1592         | 1512         | 1628         | 1719         | 1737         | 1751         | 1779         | 1901         | <b>1996</b>  | 3.4%                  | 3.5%         | 2.0%          |
| <b>Total Africa</b>                 | <b>3198</b>  | <b>3322</b>  | <b>3481</b>  | <b>3398</b>  | <b>3574</b>  | <b>3705</b>  | <b>3770</b>  | <b>3857</b>  | <b>3878</b>  | <b>3962</b>  | <b>3959</b>  | <b>-0.1%</b>          | <b>2.7%</b>  | <b>4.0%</b>   |
| Australia                           | 944          | 950          | 954          | 1001         | 1025         | 1034         | 1047         | 1005         | 1038         | 1055         | <b>1094</b>  | 3.7%                  | 1.2%         | 1.1%          |
| Bangladesh                          | 77           | 72           | 81           | 104          | 110          | 108          | 120          | 127          | 137          | 153          | <b>176</b>   | 14.8%                 | 7.2%         | 0.2%          |
| China                               | 7914         | 8295         | 9446         | 9808         | 10242        | 10750        | 11239        | 11986        | 12304        | 12840        | <b>13525</b> | 5.3%                  | 5.1%         | 13.5%         |
| China Hong Kong SAR                 | 292          | 332          | 359          | 361          | 344          | 352          | 336          | 368          | 380          | 427          | <b>434</b>   | 1.6%                  | 2.9%         | 0.4%          |
| India                               | 3137         | 3300         | 3381         | 3550         | 3747         | 3789         | 3914         | 4245         | 4654         | 4870         | <b>5156</b>  | 5.9%                  | 5.0%         | 5.2%          |
| Indonesia                           | 1288         | 1321         | 1415         | 1590         | 1646         | 1677         | 1708         | 1571         | 1628         | 1696         | <b>1785</b>  | 5.2%                  | 2.5%         | 1.8%          |
| Japan                               | 4847         | 4390         | 4442         | 4442         | 4702         | 4516         | 4303         | 4151         | 4019         | 3975         | <b>3854</b>  | -3.1%                 | -2.3%        | 3.9%          |
| Malaysia                            | 672          | 679          | 688          | 724          | 757          | 802          | 796          | 790          | 807          | 793          | <b>814</b>   | 2.6%                  | 1.2%         | 0.8%          |
| New Zealand                         | 154          | 148          | 150          | 150          | 148          | 151          | 154          | 160          | 163          | 175          | <b>173</b>   | -1.2%                 | 1.3%         | 0.2%          |
| Pakistan                            | 389          | 415          | 411          | 414          | 402          | 442          | 458          | 505          | 566          | 589          | <b>498</b>   | -15.4%                | 4.4%         | 0.5%          |
| Philippines                         | 283          | 300          | 313          | 298          | 309          | 326          | 347          | 397          | 427          | 459          | <b>466</b>   | 1.5%                  | 4.5%         | 0.5%          |
| Singapore                           | 973          | 1049         | 1157         | 1208         | 1202         | 1225         | 1268         | 1338         | 1385         | 1419         | <b>1449</b>  | 2.1%                  | 4.4%         | 1.5%          |
| South Korea                         | 2312         | 2345         | 2378         | 2401         | 2466         | 2464         | 2463         | 2587         | 2781         | 2811         | <b>2793</b>  | -0.6%                 | 1.6%         | 2.8%          |
| Sri Lanka                           | 83           | 87           | 87           | 92           | 95           | 82           | 71           | 90           | 105          | 113          | <b>112</b>   | -1.3%                 | 2.2%         | 0.1%          |
| Taiwan                              | 1010         | 1022         | 1043         | 950          | 950          | 981          | 1013         | 1021         | 1046         | 1069         | <b>1075</b>  | 0.5%                  | -0.4%        | 1.1%          |
| Thailand                            | 1016         | 1075         | 1121         | 1184         | 1250         | 1299         | 1309         | 1360         | 1396         | 1444         | <b>1478</b>  | 2.3%                  | 3.4%         | 1.5%          |
| Vietnam                             | 300          | 305          | 332          | 361          | 368          | 398          | 409          | 445          | 471          | 498          | <b>522</b>   | 4.9%                  | 5.8%         | 0.5%          |
| Other Asia Pacific                  | 249          | 268          | 285          | 304          | 329          | 334          | 388          | 408          | 436          | 449          | <b>461</b>   | 2.8%                  | 6.0%         | 0.5%          |
| <b>Total Asia Pacific</b>           | <b>25940</b> | <b>26351</b> | <b>28043</b> | <b>28942</b> | <b>30094</b> | <b>30759</b> | <b>31343</b> | <b>32551</b> | <b>33743</b> | <b>34835</b> | <b>35863</b> | <b>3.0%</b>           | <b>2.9%</b>  | <b>35.9%</b>  |
| <b>Total World</b>                  | <b>86619</b> | <b>85780</b> | <b>88730</b> | <b>89763</b> | <b>90724</b> | <b>92276</b> | <b>93194</b> | <b>95048</b> | <b>96737</b> | <b>98406</b> | <b>99843</b> | <b>1.5%</b>           | <b>1.2%</b>  | <b>100.0%</b> |
| of which: OECD                      | 48187        | 46217        | 46776        | 46253        | 45752        | 45782        | 45455        | 46086        | 46688        | 47199        | <b>47466</b> | 0.6%                  | -0.5%        | 47.5%         |
| Non-OECD                            | 38432        | 39563        | 41954        | 43510        | 44973        | 46494        | 47739        | 48961        | 50049        | 51206        | <b>52377</b> | 2.3%                  | 3.2%         | 52.5%         |
| European Union                      | 14786        | 14092        | 14012        | 13599        | 13101        | 12848        | 12663        | 12855        | 13091        | 13356        | <b>13302</b> | -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.

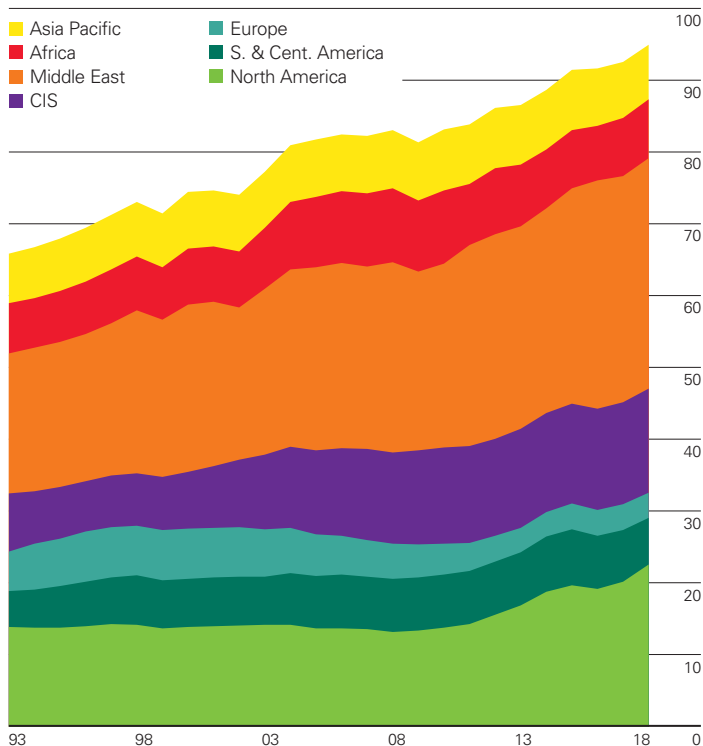
**Annual changes and shares of total are calculated using thousand barrels daily figures.**

# 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 |              | Share 2018    |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|---------------|
|                                     |               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2007-17      |               |
| Canada                              | 105.7         | 99.8          | 107.1         | 110.4         | 107.5         | 107.8         | 109.6         | 107.0         | 108.7         | 108.8         | <b>110.0</b>  | 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          | <b>82.8</b>   | -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         | <b>919.7</b>  | 2.0%                  | -0.6%        | 19.7%         |
| <b>Total North America</b>          | <b>1105.3</b> | <b>1053.3</b> | <b>1077.9</b> | <b>1067.4</b> | <b>1047.7</b> | <b>1061.3</b> | <b>1065.3</b> | <b>1080.0</b> | <b>1091.1</b> | <b>1096.6</b> | <b>1112.5</b> | <b>1.5%</b>           | <b>-0.6%</b> | <b>23.9%</b>  |
| Argentina                           | 25.5          | 25.0          | 28.6          | 28.9          | 30.1          | 32.4          | 31.9          | 32.9          | 32.3          | 32.0          | <b>30.1</b>   | -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         | <b>135.9</b>  | -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          | <b>18.1</b>   | 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          | <b>16.6</b>   | 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          | <b>12.2</b>   | 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          | <b>12.4</b>   | 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           | <b>2.1</b>    | -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          | <b>19.5</b>   | -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          | <b>68.3</b>   | 1.4%                  | 0.4%         | 1.5%          |
| <b>Total S. &amp; Cent. America</b> | <b>287.9</b>  | <b>285.3</b>  | <b>300.4</b>  | <b>311.9</b>  | <b>318.9</b>  | <b>328.8</b>  | <b>331.9</b>  | <b>328.5</b>  | <b>319.1</b>  | <b>317.2</b>  | <b>315.3</b>  | <b>-0.6%</b>          | <b>1.5%</b>  | <b>6.8%</b>   |
| Austria                             | 13.7          | 13.2          | 13.7          | 12.8          | 12.7          | 12.9          | 12.6          | 12.6          | 12.9          | 13.1          | <b>13.4</b>   | 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          | <b>34.1</b>   | 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          | <b>10.6</b>   | 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          | <b>10.7</b>   | 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          | <b>78.9</b>   | -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         | <b>113.2</b>  | -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          | <b>16.0</b>   | -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           | <b>8.8</b>    | 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          | <b>60.8</b>   | -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          | <b>40.9</b>   | 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          | <b>10.4</b>   | 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          | <b>32.8</b>   | 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          | <b>11.5</b>   | -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          | <b>10.2</b>   | -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          | <b>66.6</b>   | 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          | <b>14.8</b>   | -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          | <b>10.5</b>   | -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          | <b>48.6</b>   | -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           | <b>9.6</b>    | -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          | <b>77.0</b>   | -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          | <b>62.4</b>   | -0.1%                 | -0.6%        | 1.3%          |
| <b>Total Europe</b>                 | <b>817.1</b>  | <b>779.8</b>  | <b>771.5</b>  | <b>750.6</b>  | <b>727.0</b>  | <b>712.8</b>  | <b>699.7</b>  | <b>715.7</b>  | <b>733.3</b>  | <b>746.2</b>  | <b>742.0</b>  | <b>-0.6%</b>          | <b>-1.0%</b> | <b>15.9%</b>  |
| Azerbaijan                          | 3.7           | 3.5           | 3.4           | 4.2           | 4.4           | 4.8           | 4.7           | 4.7           | 4.7           | 4.7           | <b>4.6</b>    | -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           | <b>6.8</b>    | 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          | <b>16.4</b>   | 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         | <b>152.3</b>  | 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           | <b>7.1</b>    | 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           | <b>2.6</b>    | -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           | <b>3.7</b>    | 3.1%                  | 2.6%         | 0.1%          |
| <b>Total CIS</b>                    | <b>174.7</b>  | <b>167.5</b>  | <b>171.6</b>  | <b>184.4</b>  | <b>189.3</b>  | <b>187.1</b>  | <b>196.0</b>  | <b>188.2</b>  | <b>192.3</b>  | <b>191.1</b>  | <b>193.5</b>  | <b>1.3%</b>           | <b>1.1%</b>  | <b>4.2%</b>   |
| Iran                                | 94.7          | 93.9          | 85.6          | 89.3          | 90.7          | 99.9          | 93.9          | 85.6          | 81.8          | 84.5          | <b>86.2</b>   | 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          | <b>38.4</b>   | 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          | <b>11.5</b>   | -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          | <b>20.0</b>   | -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           | <b>9.2</b>    | -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          | <b>12.2</b>   | 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         | <b>162.6</b>  | -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          | <b>45.1</b>   | 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          | <b>26.8</b>   | 0.8%                  | -3.6%        | 0.6%          |
| <b>Total Middle East</b>            | <b>351.1</b>  | <b>362.8</b>  | <b>368.9</b>  | <b>381.5</b>  | <b>396.8</b>  | <b>410.8</b>  | <b>415.2</b>  | <b>416.6</b>  | <b>417.4</b>  | <b>412.5</b>  | <b>412.1</b>  | <b>-0.1%</b>          | <b>2.2%</b>  | <b>8.8%</b>   |
| Algeria                             | 14.6          | 15.5          | 15.5          | 16.5          | 17.6          | 18.4          | 19.1          | 20.3          | 19.7          | 19.4          | <b>19.6</b>   | 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          | <b>36.7</b>   | -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          | <b>13.2</b>   | -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          | <b>26.3</b>   | -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          | <b>95.5</b>   | 3.3%                  | 3.3%         | 2.0%          |
| <b>Total Africa</b>                 | <b>156.5</b>  | <b>162.2</b>  | <b>169.9</b>  | <b>165.3</b>  | <b>174.5</b>  | <b>180.4</b>  | <b>183.7</b>  | <b>187.9</b>  | <b>189.0</b>  | <b>192.1</b>  | <b>191.3</b>  | <b>-0.4%</b>          | <b>2.6%</b>  | <b>4.1%</b>   |
| Australia                           | 45.2          | 45.4          | 45.6          | 48.2          | 49.6          | 49.9          | 50.6          | 48.5          | 50.3          | 51.1          | <b>53.3</b>   | 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           | <b>9.0</b>    | 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         | <b>641.2</b>  | 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          | <b>22.2</b>   | 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         | <b>239.1</b>  | 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          | <b>83.4</b>   | 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         | <b>182.4</b>  | -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          | <b>36.9</b>   | 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           | <b>8.4</b>    | -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          | <b>24.3</b>   | -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          | <b>22.0</b>   | 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          | <b>75.8</b>   | 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         | <b>128.9</b>  | -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           | <b>5.3</b>    | -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          | <b>50.0</b>   | -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          | <b>65.8</b>   | 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          | <b>24.9</b>   | 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          | <b>22.5</b>   | 2.8%                  | 5.8%         | 0.5%          |
| <b>Total Asia Pacific</b>           | <b>1250.2</b> | <b>1262.6</b> | <b>1341.7</b> | <b>1384.7</b> | <b>1443.6</b> | <b>1469.1</b> | <b>1493.4</b> | <b>1548.9</b> | <b>1606.2</b> | <b>1651.3</b> | <b>1695.4</b> | <b>2.7%</b>           | <b>2.8%</b>  | <b>36.4%</b>  |
| <b>Total World</b>                  | <b>4142.9</b> | <b>4073.4</b> | <b>4201.9</b> | <b>4245.7</b> | <b>4297.8</b> | <b>4350.3</b> | <b>4385.3</b> | <b>4465.8</b> | <b>4548.3</b> | <b>4607.0</b> | <b>4662.1</b> | <b>1.2%</b>           | <b>1.0%</b>  | <b>100.0%</b> |
| of which: OECD                      | 2288.9        | 2177.5        | 2198.5        | 2172.9        | 2151.9        | 2139.3        | 2120.1        | 2147.8        | 2180.5        | 2196.5        | <b>2204.8</b> | 0.4%                  | -0.7%        | 47.3%         |

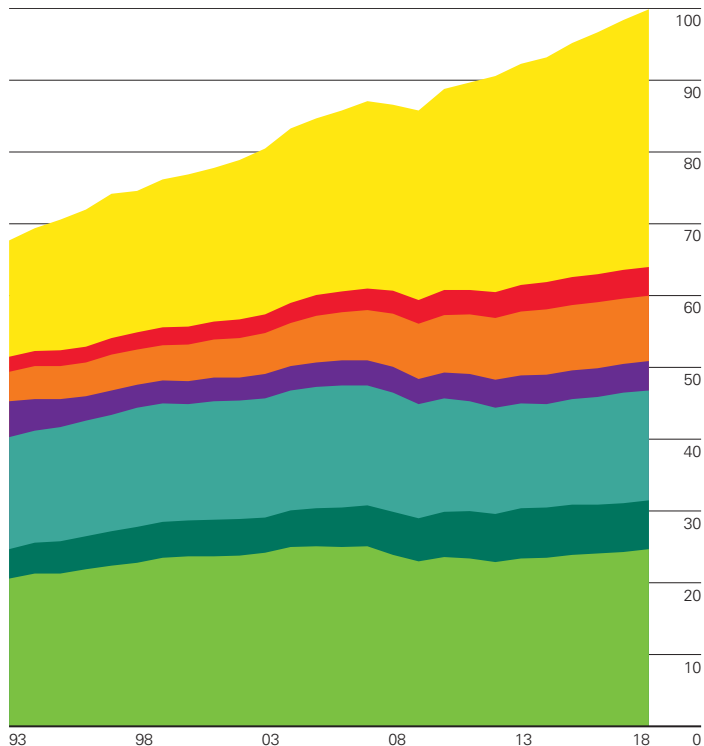
## Oil: Production by region

Million barrels daily



## Oil: Consumption by region

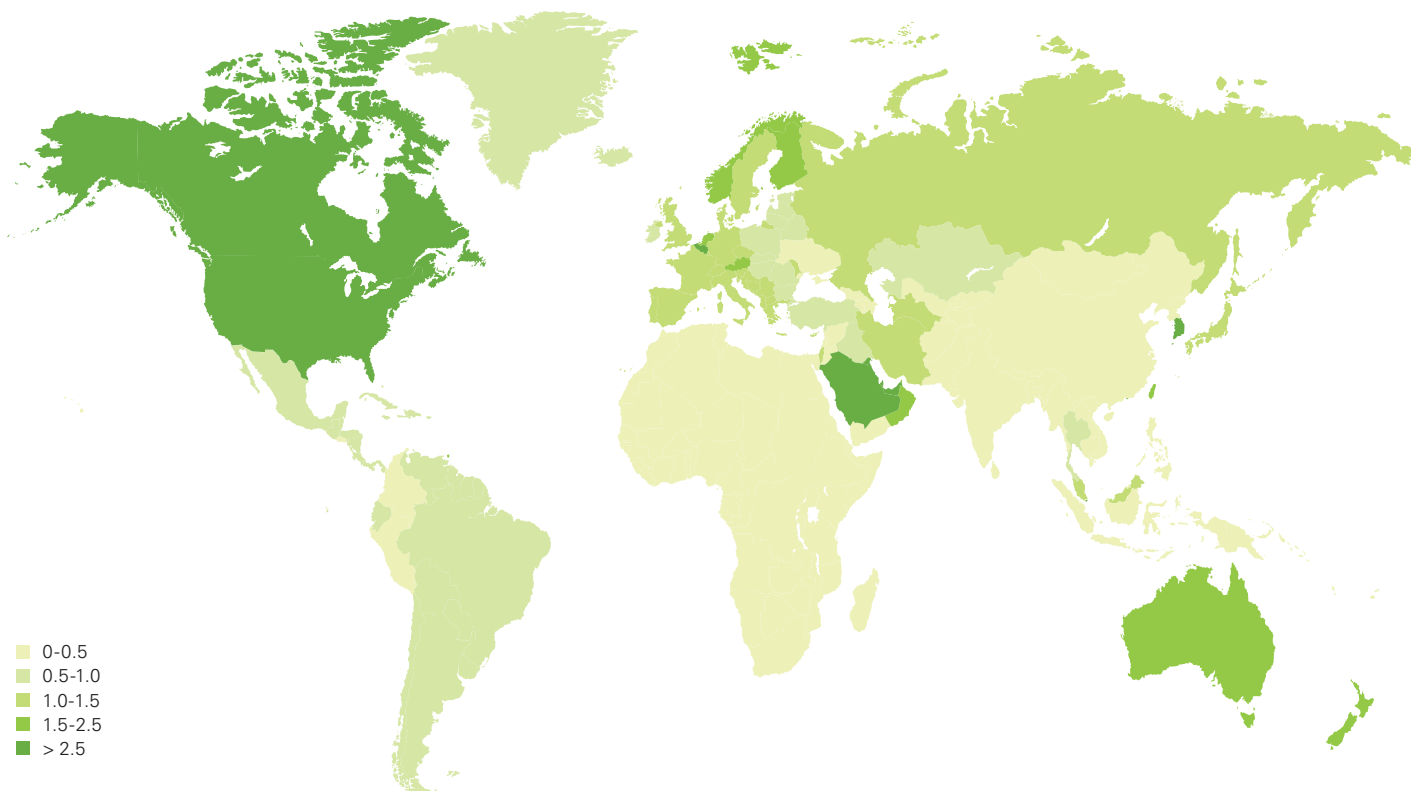
Million barrels daily



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

♦ Less than 0.05%.

**Notes:** 'Light distillates' consists of aviation and motor gasolines and light distillate feedstock (LDF).

## Spot crude prices

| US dollars per barrel | Dubai<br>\$/bbl* | Brent<br>\$/bbl† | Nigerian<br>Forcados<br>\$/bbl | West Texas<br>Intermediate<br>\$/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.

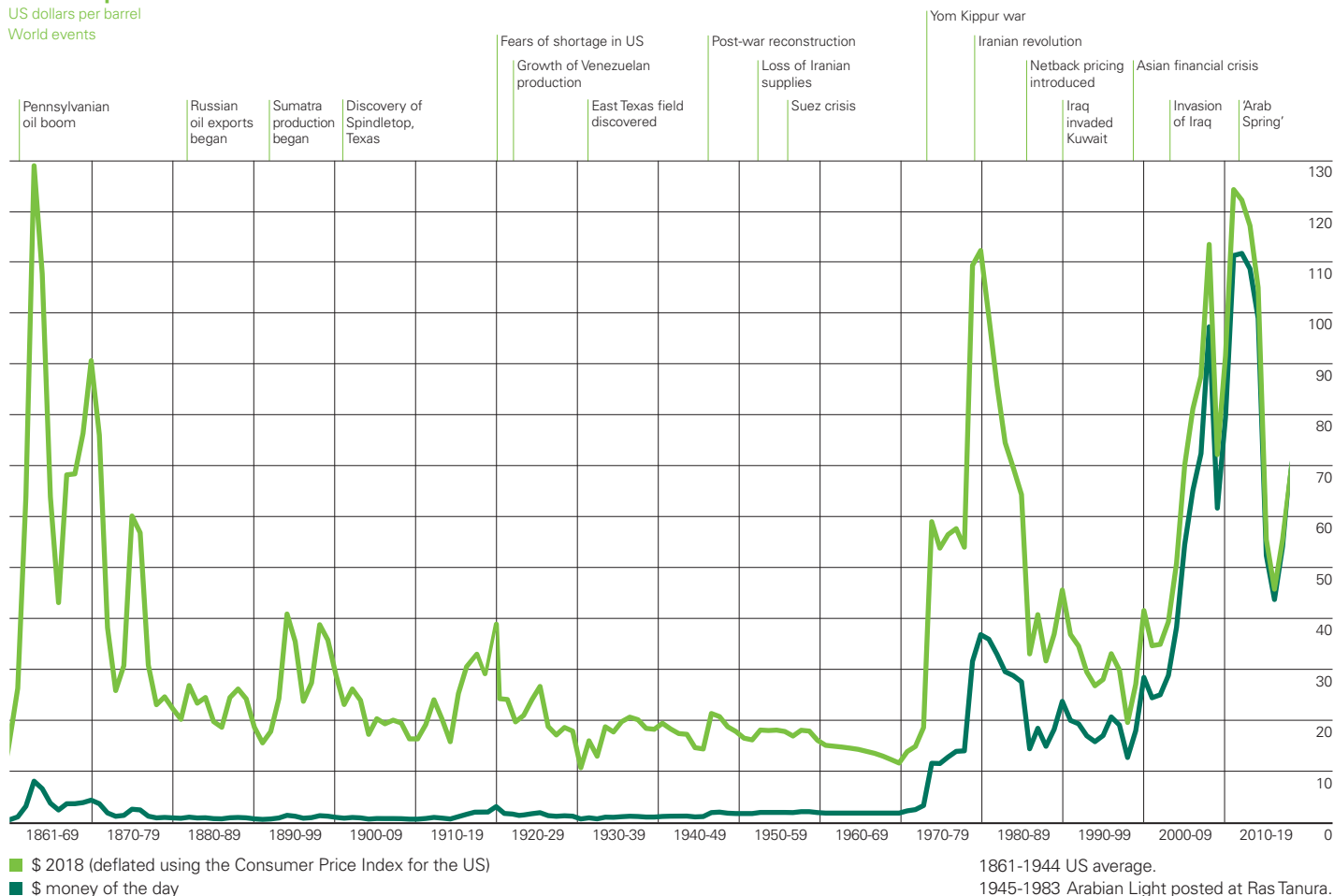
‡1983 Posted WTI prices, 1984-2018 Spot WTI (Cushing) prices.

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

## Crude oil prices 1861-2018

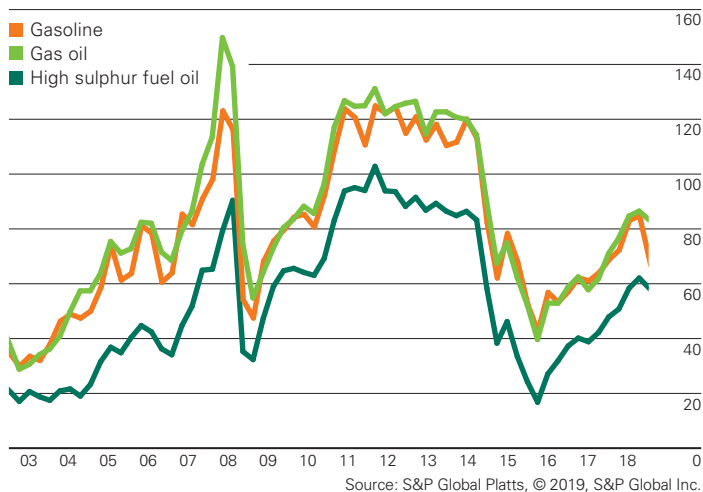
US dollars per barrel

World events



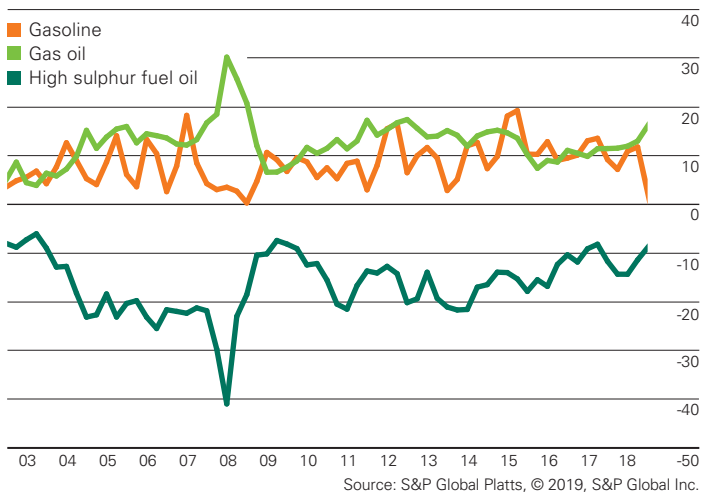
## Oil product prices (Rotterdam)

US dollars per barrel



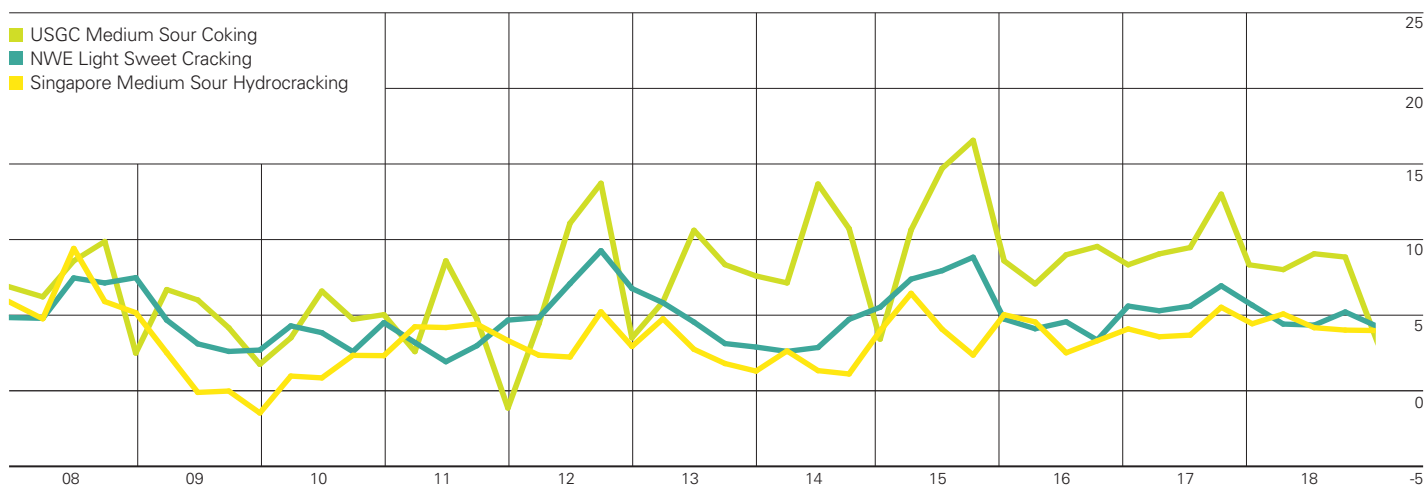
## Product differentials to crude (Rotterdam products minus Dated Brent)

US dollars per barrel



## Regional refining margins

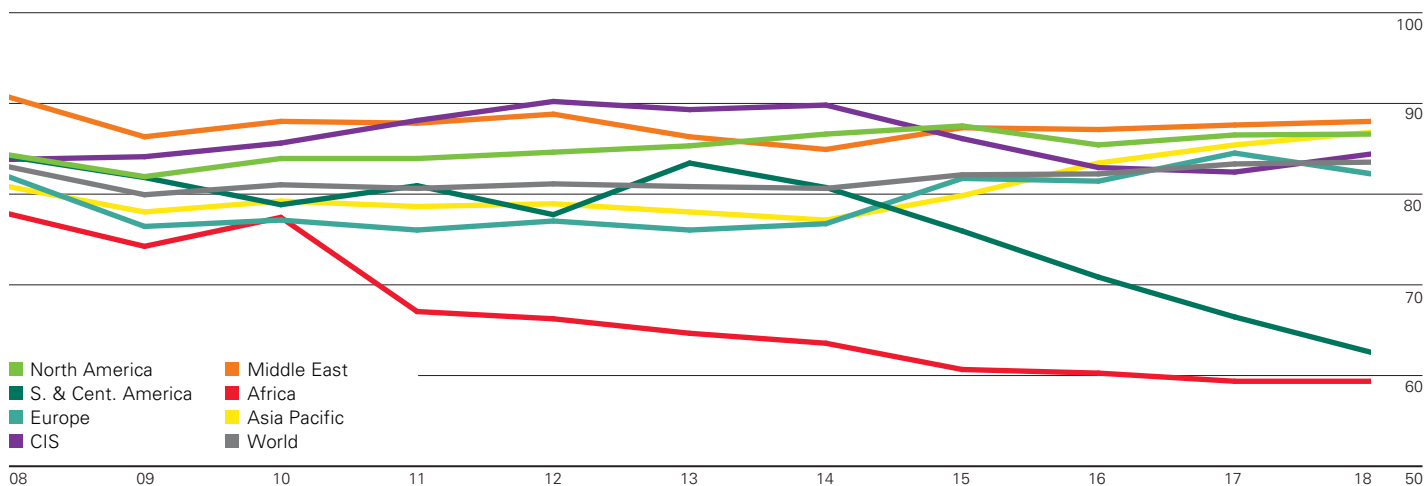
US dollars per barrel



**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

|                          |       |       |       |       |       |       |       |       |       |       | Growth rate per annum |        |         | Share 2018 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|--------|---------|------------|
| Thousand barrels daily*  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018                  | 2018   | 2007-17 | 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%  | -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%   | 0.5%       |
| 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%   | 0.5%       |
| 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%  | -0.2%   | 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  |                       |        |         |            |

\*Atmospheric distillation capacity on a calendar-day basis.

•Less than 0.05%.

## Oil: Refining capacity

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

\*Atmospheric distillation capacity at year end on a calendar-day basis.

♦Less than 0.05%.

## Oil: Trade movements

|                            |       |       |       |       |       |       |       |       |       |       |       | Growth rate per annum |         | Share  |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|---------|--------|
| Thousand barrels daily     | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2018                  | 2007-17 | 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

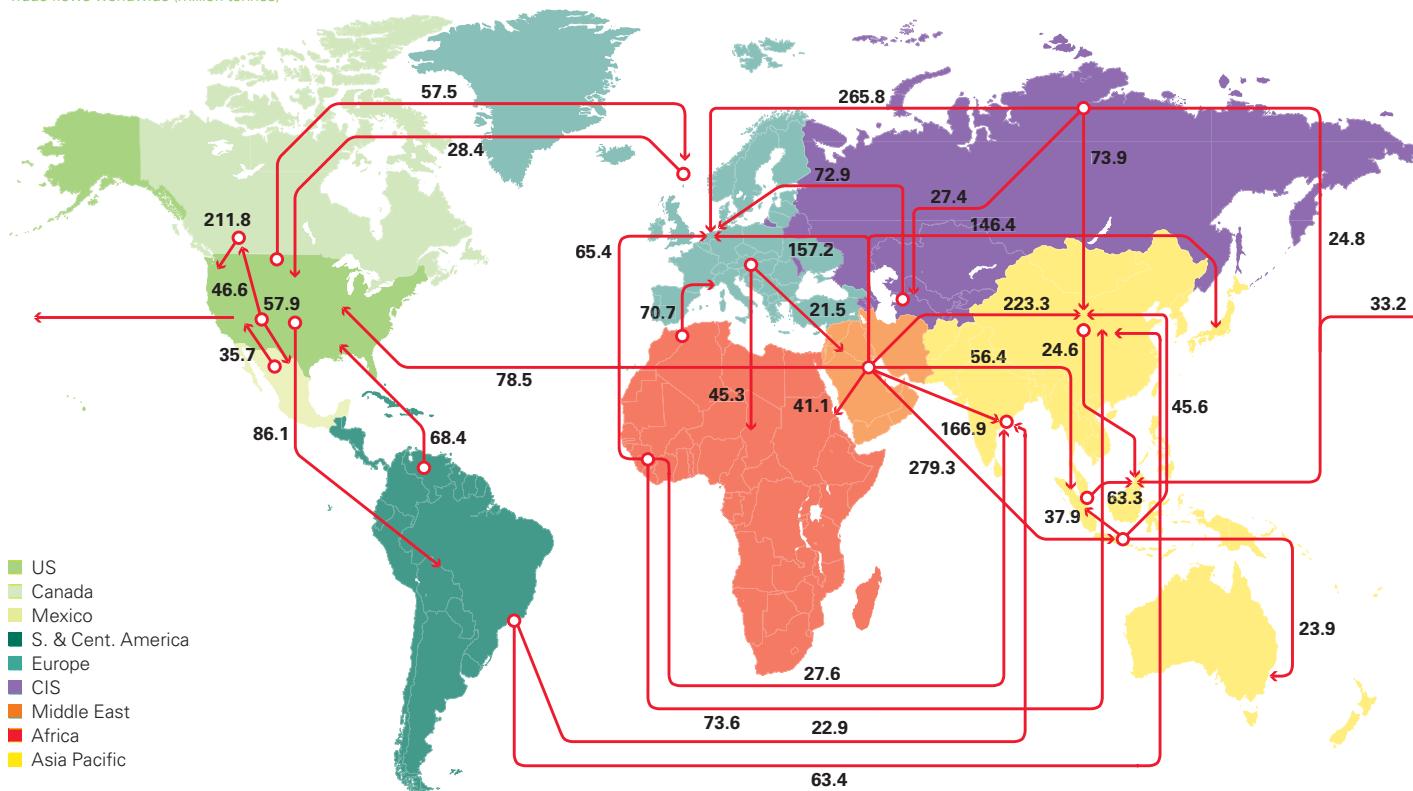
| To                       |             |             |              |                    |              |            |             |             |              |             |              |              |              |              |                    |               |
|--------------------------|-------------|-------------|--------------|--------------------|--------------|------------|-------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------------|---------------|
| Crude (million tonnes)   |             |             |              |                    |              |            |             |             |              |             |              |              |              |              |                    |               |
| 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                | <b>190.9</b>  |
| Mexico                   | †           | –           | 33.1         | 0.5                | 12.0         | †          | –           | 0.1         | –            | –           | 0.7          | 8.9          | 1.8          | –            | 4.6                | <b>61.7</b>   |
| US                       | 18.8        | 0.1         | –            | 5.4                | 29.2         | –          | †           | 1.5         | †            | 0.3         | 12.3         | 4.9          | 2.5          | 1.1          | 17.1               | <b>93.2</b>   |
| S. & Cent. America       | 0.3         | †           | 56.9         | –                  | 10.2         | †          | –           | –           | 0.3          | †           | 62.0         | 22.9         | 1.9          | 0.2          | 1.9                | <b>156.7</b>  |
| Europe                   | 1.4         | –           | 5.9          | 0.8                | –            | †          | †           | 6.1         | 0.4          | †           | 8.6          | 1.5          | †            | †            | 6.5                | <b>31.2</b>   |
| 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               | <b>275.9</b>  |
| 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                | <b>85.9</b>   |
| Iraq                     | –           | –           | 25.8         | 0.8                | 48.7         | †          | –           | 3.2         | 2.3          | –           | 45.0         | 47.7         | 2.7          | 1.3          | 23.4               | <b>200.9</b>  |
| Kuwait                   | †           | –           | 3.9          | –                  | 5.8          | –          | –           | †           | 4.0          | –           | 23.2         | 11.4         | 11.7         | 7.0          | 36.0               | <b>103.0</b>  |
| 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               | <b>367.4</b>  |
| UAE                      | †           | –           | 0.3          | †                  | 0.7          | †          | –           | †           | 0.8          | 6.0         | 12.2         | 16.0         | 37.3         | 10.6         | 41.9               | <b>125.9</b>  |
| Other Middle East        | †           | –           | –            | 0.1                | 27.6         | –          | †           | 5.7         | 0.2          | 0.1         | 66.0         | 32.4         | 21.9         | 10.5         | 27.5               | <b>192.1</b>  |
| 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                | <b>95.6</b>   |
| 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               | <b>219.9</b>  |
| East & S. Africa         | –           | –           | †            | –                  | 1.2          | †          | –           | †           | †            | –           | 4.4          | 1.2          | 0.1          | †            | 0.8                | <b>7.7</b>    |
| Australasia              | †           | –           | 0.1          | †                  | †            | –          | –           | 0.2         | †            | –           | 1.3          | 0.3          | 0.5          | 1.3          | 7.2                | <b>10.9</b>   |
| China                    | †           | –           | –            | †                  | †            | –          | –           | †           | †            | –           | –            | –            | 1.5          | †            | 1.2                | <b>2.7</b>    |
| India                    | –           | –           | –            | †                  | –            | –          | –           | †           | †            | †           | †            | –            | –            | †            | †                  | <b>0.1</b>    |
| Japan                    | –           | –           | –            | –                  | †            | –          | –           | –           | †            | †           | –            | –            | –            | –            | †                  | <b>†</b>      |
| Singapore                | –           | –           | –            | †                  | 0.1          | –          | –           | –           | †            | 0.1         | 0.1          | –            | –            | –            | 0.4                | <b>0.6</b>    |
| Other Asia Pacific       | †           | –           | 3.0          | †                  | †            | –          | –           | 0.4         | 0.1          | 11.9        | 13.1         | 5.2          | 2.3          | 4.8          | –                  | <b>40.8</b>   |
| <b>Total imports</b>     | <b>29.1</b> | <b>0.1</b>  | <b>386.3</b> | <b>27.0</b>        | <b>519.2</b> | <b>0.5</b> | <b>18.6</b> | <b>40.8</b> | <b>29.2</b>  | <b>23.6</b> | <b>464.5</b> | <b>227.5</b> | <b>150.8</b> | <b>52.2</b>  | <b>293.8</b>       | <b>2263.1</b> |
| Product (million tonnes) |             |             |              |                    |              |            |             |             |              |             |              |              |              |              |                    |               |
| From                     | Canada      | Mexico      | US           | S. & Cent. America | Europe       | Russia     | Other CIS   | Middle East | Africa       | Australasia | China        | India        | Japan        | Singapore    | Other Asia Pacific | Total         |
| Canada                   | –           | 1.5         | 27.8         | 0.8                | 1.6          | †          | †           | †           | †            | †           | 0.5          | †            | 0.5          | 0.1          | 0.4                | <b>33.3</b>   |
| Mexico                   | 0.2         | –           | 2.6          | 1.4                | 0.1          | †          | †           | †           | 0.2          | †           | 0.1          | †            | 0.1          | 1.0          | 0.1                | <b>5.8</b>    |
| 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               | <b>251.6</b>  |
| 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                | <b>28.6</b>   |
| 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                | <b>134.0</b>  |
| 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               | <b>173.1</b>  |
| Other CIS                | 0.4         | †           | 0.8          | 0.1                | 9.6          | 8.8        | –           | 0.1         | 0.5          | †           | 0.6          | 0.1          | †            | †            | 0.4                | <b>21.3</b>   |
| Iraq                     | –           | –           | 0.1          | –                  | 0.1          | –          | †           | 0.4         | †            | –           | 0.1          | †            | –            | 7.1          | 0.6                | <b>8.5</b>    |
| Kuwait                   | 0.1         | –           | †            | 0.2                | 1.5          | –          | †           | 3.7         | 2.2          | †           | 2.4          | 1.8          | 1.9          | 0.7          | 9.0                | <b>23.5</b>   |
| 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                | <b>56.2</b>   |
| UAE                      | †           | †           | 2.5          | 0.9                | 6.9          | †          | †           | 5.7         | 8.5          | 0.4         | 9.3          | 5.9          | 5.2          | 4.4          | 26.1               | <b>75.8</b>   |
| 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               | <b>64.3</b>   |
| North Africa             | 0.1         | †           | 5.4          | 2.9                | 12.4         | †          | †           | 0.2         | 0.3          | †           | 1.3          | 0.8          | 0.4          | 0.2          | 3.0                | <b>27.1</b>   |
| West Africa              | †           | †           | 1.6          | 0.6                | 2.3          | †          | †           | †           | 0.3          | †           | 1.7          | †            | †            | †            | 0.9                | <b>7.5</b>    |
| East & S. Africa         | †           | †           | 0.1          | 0.2                | 0.3          | †          | †           | 1.3         | 1.1          | †           | †            | †            | †            | †            | 0.4                | <b>3.4</b>    |
| Australasia              | †           | †           | –            | 0.1                | 0.9          | †          | †           | †           | 0.1          | –           | 0.6          | †            | 0.7          | 0.4          | 0.9                | <b>3.7</b>    |
| 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               | <b>55.7</b>   |
| India                    | 0.3         | †           | 3.6          | 0.2                | 10.5         | †          | †           | 6.6         | 6.2          | 1.5         | 2.4          | –            | 1.4          | 6.0          | 14.9               | <b>53.4</b>   |
| Japan                    | 0.1         | 0.3         | 1.0          | 0.5                | 0.1          | †          | †           | †           | 0.1          | 4.0         | 2.6          | †            | –            | 2.1          | 6.8                | <b>17.6</b>   |
| 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               | <b>89.7</b>   |
| 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         | –                  | <b>104.7</b>  |
| <b>Total imports</b>     | <b>37.0</b> | <b>64.4</b> | <b>103.9</b> | <b>106.9</b>       | <b>224.7</b> | <b>9.4</b> | <b>10.1</b> | <b>59.3</b> | <b>101.6</b> | <b>33.6</b> | <b>81.9</b>  | <b>31.3</b>  | <b>43.7</b>  | <b>115.5</b> | <b>215.5</b>       | <b>1238.8</b> |

† 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          |                 |               |                 | 2018          |                 |               |                 |
|------------------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
|                        | Crude imports | Product imports | Crude exports | Product exports | Crude imports | Product imports | Crude exports | 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           |
| <b>Total World</b>     | <b>2195.6</b> | <b>1221.8</b>   | <b>2195.6</b> | <b>1221.8</b>   | <b>2263.1</b> | <b>1238.8</b>   | <b>2263.1</b> | <b>1238.8</b>   |
| 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            |
| <b>Total World</b>     | <b>44093</b>  | <b>25541</b>    | <b>44093</b>  | <b>25541</b>    | <b>45448</b>  | <b>25896</b>    | <b>45448</b>  | <b>25896</b>    |

† 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.

## Total proved reserves

|                                     | At end 1998           | At end 2008           | At end 2017           | At end 2018           |                     |                |              |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|----------------|--------------|
|                                     | Trillion cubic metres | Trillion cubic metres | Trillion cubic metres | Trillion cubic metres | Trillion cubic feet | Share of total | 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         |
| <b>Total North America</b>          | <b>7.0</b>            | <b>8.7</b>            | <b>14.1</b>           | <b>13.9</b>           | <b>491.7</b>        | <b>7.1%</b>    | <b>13.2</b>  |
| 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         |
| <b>Total S. &amp; Cent. America</b> | <b>6.8</b>            | <b>7.5</b>            | <b>8.2</b>            | <b>8.2</b>            | <b>289.0</b>        | <b>4.2%</b>    | <b>46.3</b>  |
| 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         |
| <b>Total Europe</b>                 | <b>5.6</b>            | <b>5.5</b>            | <b>3.9</b>            | <b>3.9</b>            | <b>137.1</b>        | <b>2.0%</b>    | <b>15.5</b>  |
| 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        |
| <b>Total CIS</b>                    | <b>39.2</b>           | <b>45.9</b>           | <b>62.0</b>           | <b>62.8</b>           | <b>2217.4</b>       | <b>31.9%</b>   | <b>75.6</b>  |
| 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         |
| <b>Total Middle East</b>            | <b>51.5</b>           | <b>73.7</b>           | <b>75.3</b>           | <b>75.5</b>           | <b>2666.7</b>       | <b>38.4%</b>   | <b>109.9</b> |
| 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         |
| <b>Total Africa</b>                 | <b>10.3</b>           | <b>14.0</b>           | <b>14.4</b>           | <b>14.4</b>           | <b>509.6</b>        | <b>7.3%</b>    | <b>61.0</b>  |
| 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         |
| <b>Total Asia Pacific</b>           | <b>10.5</b>           | <b>15.0</b>           | <b>18.2</b>           | <b>18.1</b>           | <b>640.3</b>        | <b>9.2%</b>    | <b>28.7</b>  |
| <b>Total World</b>                  | <b>130.8</b>          | <b>170.2</b>          | <b>196.1</b>          | <b>196.9</b>          | <b>6951.8</b>       | <b>100.0%</b>  | <b>50.9</b>  |
| 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.

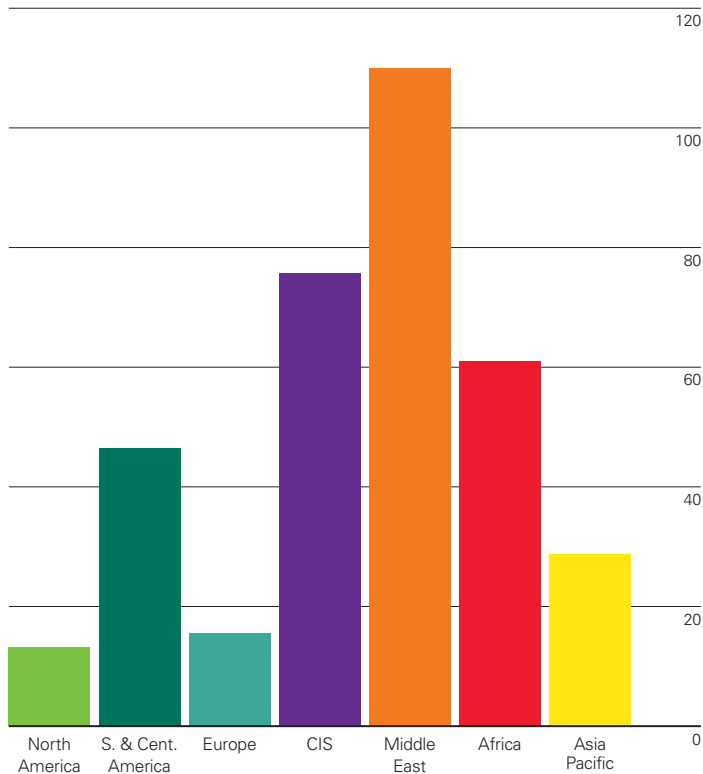
**Source of data** – The estimates in this table have been compiled using a combination of primary official sources and third-party data from Cedigaz and the OPEC Secretariat.

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.

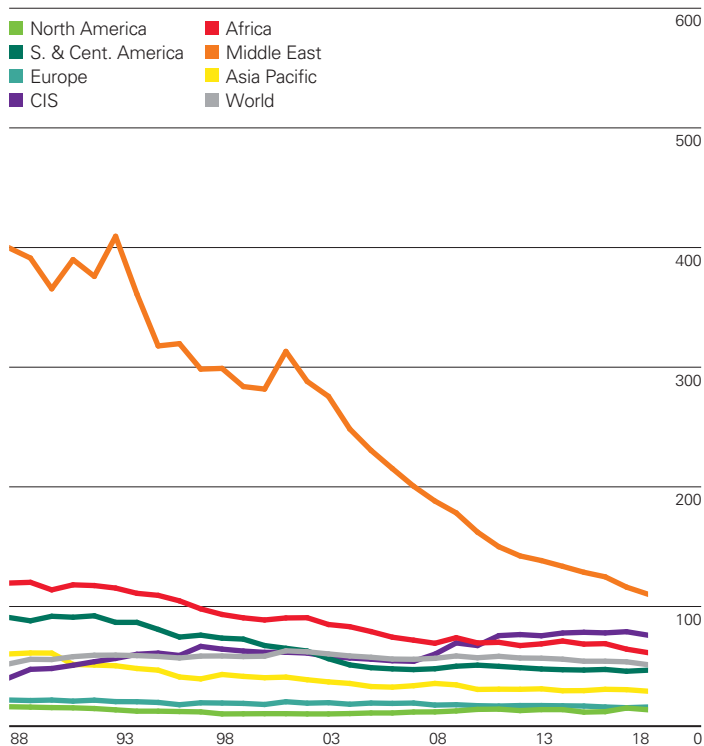
## Reserves-to-production (R/P) ratios

Years

### 2018 by region



### History

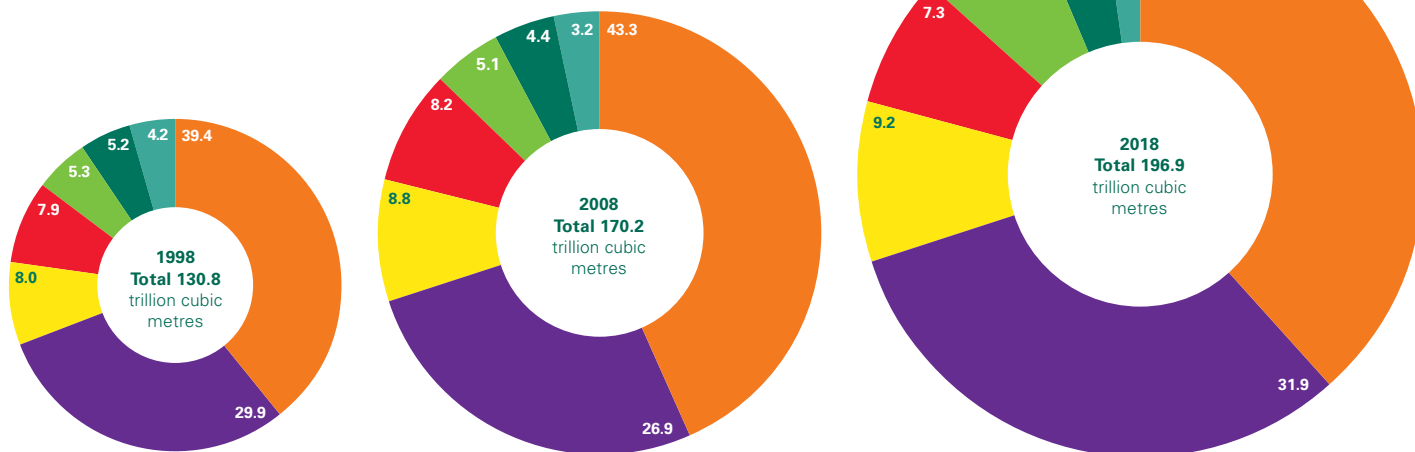


World proved gas reserves in 2018 increased by 0.7 Tcm to 196.9 Tcm mainly as a result of increased reserves in Azerbaijan (0.8 Tcm). Russia (38.9 Tcm), Iran (31.9 Tcm) and Qatar (24.7 Tcm) are the countries with the biggest reserves. The current global R/P ratio shows that gas reserves in 2018 accounted 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

- Middle East
- CIS
- Asia Pacific
- Africa
- North America
- S. & Cent. America
- Europe



# Natural gas: Production in billion cubic metres\*

| Billion cubic metres                |               |               |               |               |               |               |               |               |               |               |               | Growth rate per annum |              | Share 2018    |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|---------------|
|                                     | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | 2018                  | 2007-17      |               |
| Canada                              | 166.5         | 155.1         | 149.6         | 151.1         | 150.3         | 151.9         | 159.0         | 160.8         | 171.8         | 177.6         | <b>184.7</b>  | 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          | <b>37.4</b>   | -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         | <b>831.8</b>  | 11.5%                 | 3.6%         | 21.5%         |
| <b>Total North America</b>          | <b>759.8</b>  | <b>765.2</b>  | <b>775.9</b>  | <b>820.5</b>  | <b>850.3</b>  | <b>860.1</b>  | <b>915.0</b>  | <b>949.0</b>  | <b>942.8</b>  | <b>961.6</b>  | <b>1053.9</b> | <b>9.6%</b>           | <b>2.6%</b>  | <b>27.2%</b>  |
| Argentina                           | 42.8          | 40.3          | 39.0          | 37.7          | 36.7          | 34.6          | 34.5          | 35.5          | 37.3          | 37.1          | <b>39.4</b>   | 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          | <b>16.0</b>   | -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          | <b>25.2</b>   | -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          | <b>12.9</b>   | 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          | <b>12.8</b>   | -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          | <b>34.0</b>   | 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          | <b>33.2</b>   | -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           | <b>3.3</b>    | 6.8%                  | -2.5%        | 0.1%          |
| <b>Total S. &amp; Cent. America</b> | <b>157.9</b>  | <b>152.3</b>  | <b>160.4</b>  | <b>164.1</b>  | <b>170.6</b>  | <b>173.8</b>  | <b>176.0</b>  | <b>178.0</b>  | <b>176.7</b>  | <b>180.3</b>  | <b>176.7</b>  | <b>-2.0%</b>          | <b>1.4%</b>  | <b>4.6%</b>   |
| Denmark                             | 10.5          | 8.8           | 8.5           | 6.9           | 6.0           | 5.0           | 4.8           | 4.8           | 4.7           | 5.1           | <b>4.3</b>    | -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           | <b>5.5</b>    | -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           | <b>5.2</b>    | -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          | <b>32.3</b>   | -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         | <b>120.6</b>  | -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           | <b>4.0</b>    | -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           | <b>9.5</b>    | -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          | <b>19.9</b>   | 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          | <b>40.6</b>   | -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           | <b>8.7</b>    | -7.9%                 | -1.1%        | 0.2%          |
| <b>Total Europe</b>                 | <b>321.0</b>  | <b>304.1</b>  | <b>310.7</b>  | <b>285.5</b>  | <b>288.1</b>  | <b>280.6</b>  | <b>267.5</b>  | <b>261.7</b>  | <b>260.5</b>  | <b>263.2</b>  | <b>250.7</b>  | <b>-4.8%</b>          | <b>-1.5%</b> | <b>6.5%</b>   |
| Azerbaijan                          | 15.9          | 15.9          | 16.3          | 16.0          | 16.8          | 17.4          | 18.4          | 18.8          | 18.3          | 17.8          | <b>18.8</b>   | 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          | <b>24.4</b>   | 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         | <b>669.5</b>  | 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          | <b>61.5</b>   | 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          | <b>56.6</b>   | 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           | <b>0.3</b>    | 3.3%                  | •            | •             |
| <b>Total CIS</b>                    | <b>768.6</b>  | <b>663.2</b>  | <b>732.7</b>  | <b>766.2</b>  | <b>754.3</b>  | <b>768.5</b>  | <b>751.4</b>  | <b>745.0</b>  | <b>747.2</b>  | <b>789.1</b>  | <b>831.1</b>  | <b>5.3%</b>           | <b>0.5%</b>  | <b>21.5%</b>  |
| Bahrain                             | 12.0          | 12.1          | 12.4          | 12.6          | 13.1          | 14.0          | 14.7          | 14.8          | 14.4          | 14.5          | <b>14.8</b>   | 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         | <b>239.5</b>  | 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          | <b>13.0</b>   | 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          | <b>17.5</b>   | 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          | <b>36.0</b>   | 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         | <b>175.5</b>  | 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         | <b>112.1</b>  | 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           | <b>3.6</b>    | 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          | <b>64.7</b>   | 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           | <b>0.6</b>    | 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           | <b>10.1</b>   | 6.4%                  | 13.0%        | 0.3%          |
| <b>Total Middle East</b>            | <b>392.3</b>  | <b>413.8</b>  | <b>474.7</b>  | <b>520.0</b>  | <b>545.5</b>  | <b>562.9</b>  | <b>582.7</b>  | <b>600.3</b>  | <b>624.1</b>  | <b>650.4</b>  | <b>687.3</b>  | <b>5.7%</b>           | <b>6.0%</b>  | <b>17.8%</b>  |
| Algeria                             | 82.6          | 76.6          | 77.4          | 79.6          | 78.4          | 79.3          | 80.2          | 81.4          | 91.4          | 93.0          | <b>92.3</b>   | -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          | <b>58.6</b>   | 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           | <b>9.8</b>    | 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          | <b>49.2</b>   | 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          | <b>26.7</b>   | 1.9%                  | 7.8%         | 0.7%          |
| <b>Total Africa</b>                 | <b>203.8</b>  | <b>192.1</b>  | <b>202.3</b>  | <b>201.7</b>  | <b>206.8</b>  | <b>198.3</b>  | <b>198.6</b>  | <b>203.6</b>  | <b>208.8</b>  | <b>225.7</b>  | <b>236.6</b>  | <b>4.8%</b>           | <b>1.4%</b>  | <b>6.1%</b>   |
| Australia                           | 41.7          | 46.7          | 54.0          | 55.7          | 59.5          | 61.8          | 66.6          | 76.0          | 96.4          | 112.8         | <b>130.1</b>  | 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          | <b>27.5</b>   | 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          | <b>12.6</b>   | -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         | <b>161.5</b>  | 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          | <b>27.5</b>   | -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          | <b>73.2</b>   | 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          | <b>72.5</b>   | -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          | <b>17.8</b>   | –                     | 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          | <b>34.2</b>   | -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          | <b>37.7</b>   | -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           | <b>9.6</b>    | 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          | <b>27.5</b>   | -9.2%                 | 5.8%         | 0.7%          |
| <b>Total Asia Pacific</b>           | <b>426.3</b>  | <b>447.9</b>  | <b>494.3</b>  | <b>499.1</b>  | <b>508.4</b>  | <b>518.9</b>  | <b>539.8</b>  | <b>564.1</b>  | <b>581.6</b>  | <b>607.5</b>  | <b>631.7</b>  | <b>4.0%</b>           | <b>4.1%</b>  | <b>16.3%</b>  |
| <b>Total World</b>                  | <b>3029.8</b> | <b>2938.6</b> | <b>3151.0</b> | <b>3257.0</b> | <b>3323.8</b> | <b>3363.1</b> | <b>3431.1</b> | <b>3501.7</b> | <b>3541.7</b> | <b>3677.7</b> | <b>3867.9</b> | <b>5.2%</b>           | <b>2.3%</b>  | <b>100.0%</b> |
| of which: OECD                      | 1102.1        | 1095.3        | 1122.0        | 1142.5        | 1177.6        | 1185.4        | 1232.9        | 1272.1        | 1287.5        | 1325.4        | <b>1422.5</b> | 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        | <b>2445.3</b> | 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         | <b>109.2</b>  | -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/m³.

**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](http://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 |              | Share 2018    |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|---------------|
|                                     |               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2007-17      |               |
| Canada                              | 143.2         | 133.3         | 128.6         | 129.9         | 129.2         | 130.6         | 136.7         | 138.2         | 147.7         | 152.7         | <b>158.8</b>  | 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          | <b>32.1</b>   | -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         | <b>715.2</b>  | 11.5%                 | 3.6%         | 21.5%         |
| <b>Total North America</b>          | <b>653.3</b>  | <b>658.0</b>  | <b>667.2</b>  | <b>705.5</b>  | <b>731.1</b>  | <b>739.6</b>  | <b>786.8</b>  | <b>816.0</b>  | <b>810.7</b>  | <b>826.8</b>  | <b>906.2</b>  | <b>9.6%</b>           | <b>2.6%</b>  | <b>27.2%</b>  |
| Argentina                           | 36.8          | 34.7          | 33.5          | 32.4          | 31.5          | 29.7          | 29.7          | 30.5          | 32.1          | 31.9          | <b>33.9</b>   | 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          | <b>13.7</b>   | -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          | <b>21.6</b>   | -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          | <b>11.1</b>   | 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          | <b>11.0</b>   | -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          | <b>29.2</b>   | 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          | <b>28.6</b>   | -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           | <b>2.8</b>    | 6.8%                  | -2.5%        | 0.1%          |
| <b>Total S. &amp; Cent. America</b> | <b>135.8</b>  | <b>131.0</b>  | <b>137.9</b>  | <b>141.1</b>  | <b>146.7</b>  | <b>149.4</b>  | <b>151.4</b>  | <b>153.1</b>  | <b>151.9</b>  | <b>155.0</b>  | <b>151.9</b>  | <b>-2.0%</b>          | <b>1.4%</b>  | <b>4.6%</b>   |
| Denmark                             | 9.0           | 7.5           | 7.3           | 5.9           | 5.2           | 4.3           | 4.1           | 4.1           | 4.0           | 4.3           | <b>3.7</b>    | -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           | <b>4.8</b>    | -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           | <b>4.5</b>    | -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          | <b>27.7</b>   | -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         | <b>103.7</b>  | -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           | <b>3.4</b>    | -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           | <b>8.2</b>    | -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          | <b>17.1</b>   | 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          | <b>34.9</b>   | -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           | <b>7.5</b>    | -7.9%                 | -1.1%        | 0.2%          |
| <b>Total Europe</b>                 | <b>276.0</b>  | <b>261.5</b>  | <b>267.1</b>  | <b>245.4</b>  | <b>247.7</b>  | <b>241.3</b>  | <b>230.0</b>  | <b>225.0</b>  | <b>224.0</b>  | <b>226.3</b>  | <b>215.5</b>  | <b>-4.8%</b>          | <b>-1.5%</b> | <b>6.5%</b>   |
| Azerbaijan                          | 13.7          | 13.7          | 14.0          | 13.7          | 14.5          | 15.0          | 15.8          | 16.2          | 15.7          | 15.3          | <b>16.1</b>   | 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          | <b>21.0</b>   | 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         | <b>575.6</b>  | 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          | <b>52.9</b>   | 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          | <b>48.7</b>   | 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           | <b>0.3</b>    | 3.3%                  | ♦            | ♦             |
| <b>Total CIS</b>                    | <b>660.9</b>  | <b>570.2</b>  | <b>630.0</b>  | <b>658.8</b>  | <b>648.6</b>  | <b>660.8</b>  | <b>646.0</b>  | <b>640.6</b>  | <b>642.4</b>  | <b>678.5</b>  | <b>714.6</b>  | <b>5.3%</b>           | <b>0.5%</b>  | <b>21.5%</b>  |
| Bahrain                             | 10.3          | 10.4          | 10.7          | 10.9          | 11.2          | 12.0          | 12.6          | 12.7          | 12.4          | 12.4          | <b>12.8</b>   | 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         | <b>205.9</b>  | 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           | <b>11.2</b>   | 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          | <b>15.0</b>   | 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          | <b>30.9</b>   | 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         | <b>150.9</b>  | 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          | <b>96.4</b>   | 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           | <b>3.1</b>    | 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          | <b>55.6</b>   | 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           | <b>0.5</b>    | 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           | <b>8.7</b>    | 6.4%                  | 13.0%        | 0.3%          |
| <b>Total Middle East</b>            | <b>337.4</b>  | <b>355.8</b>  | <b>408.1</b>  | <b>447.1</b>  | <b>469.0</b>  | <b>484.0</b>  | <b>501.1</b>  | <b>516.1</b>  | <b>536.6</b>  | <b>559.2</b>  | <b>590.9</b>  | <b>5.7%</b>           | <b>6.0%</b>  | <b>17.8%</b>  |
| Algeria                             | 71.0          | 65.8          | 66.5          | 68.4          | 67.4          | 68.2          | 68.9          | 70.0          | 78.6          | 79.9          | <b>79.4</b>   | -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          | <b>50.4</b>   | 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           | <b>8.4</b>    | 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          | <b>42.3</b>   | 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          | <b>22.9</b>   | 1.9%                  | 7.8%         | 0.7%          |
| <b>Total Africa</b>                 | <b>175.3</b>  | <b>165.2</b>  | <b>174.0</b>  | <b>173.4</b>  | <b>177.8</b>  | <b>170.5</b>  | <b>170.8</b>  | <b>175.0</b>  | <b>179.6</b>  | <b>194.0</b>  | <b>203.4</b>  | <b>4.8%</b>           | <b>1.4%</b>  | <b>6.1%</b>   |
| Australia                           | 35.8          | 40.2          | 46.4          | 47.9          | 51.2          | 53.1          | 57.3          | 65.4          | 82.9          | 97.0          | <b>111.9</b>  | 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          | <b>23.7</b>   | 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          | <b>10.8</b>   | -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         | <b>138.9</b>  | 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          | <b>23.6</b>   | -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          | <b>62.9</b>   | 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          | <b>62.3</b>   | -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          | <b>15.3</b>   | –                     | 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          | <b>29.4</b>   | -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          | <b>32.4</b>   | -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           | <b>8.3</b>    | 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          | <b>23.6</b>   | -9.2%                 | 5.8%         | 0.7%          |
| <b>Total Asia Pacific</b>           | <b>366.5</b>  | <b>385.1</b>  | <b>425.0</b>  | <b>429.1</b>  | <b>437.1</b>  | <b>446.2</b>  | <b>464.2</b>  | <b>485.1</b>  | <b>500.1</b>  | <b>522.4</b>  | <b>543.2</b>  | <b>4.0%</b>           | <b>4.1%</b>  | <b>16.3%</b>  |
| <b>Total World</b>                  | <b>2605.1</b> | <b>2526.7</b> | <b>2709.4</b> | <b>2800.5</b> | <b>2858.0</b> | <b>2891.8</b> | <b>2950.2</b> | <b>3010.9</b> | <b>3045.3</b> | <b>3162.3</b> | <b>3325.8</b> | <b>5.2%</b>           | <b>2.3%</b>  | <b>100.0%</b> |
| of which: OECD                      | 947.6         | 941.8         | 964.7         | 982.4         | 1012.5        | 1019.2        | 1060.1        | 1093.8        | 1107.0        | 1139.7        | <b>1223.2</b> | 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        | <b>2102.6</b> | 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         | <b>93.9</b>   | -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\*

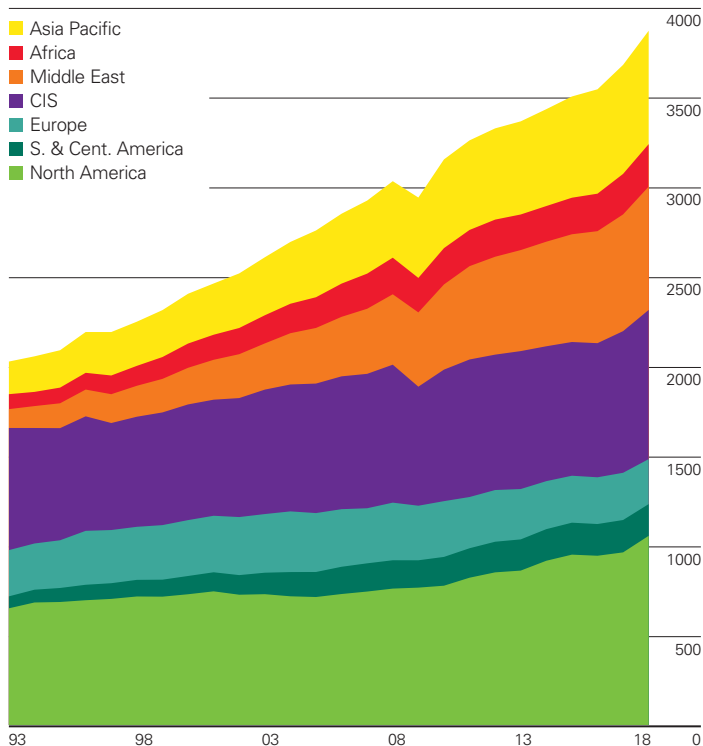
| Billion cubic metres                | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | Growth rate per annum |              | Share 2018    |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|---------------|
|                                     |               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2007-17      |               |
| Canada                              | 89.3          | 86.6          | 88.3          | 97.5          | 97.2          | 104.3         | 109.6         | 109.8         | 105.9         | 109.7         | <b>115.7</b>  | 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          | <b>89.5</b>   | 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         | <b>817.1</b>  | 10.5%                 | 1.7%         | 21.2%         |
| <b>Total North America</b>          | <b>778.2</b>  | <b>769.4</b>  | <b>802.5</b>  | <b>826.6</b>  | <b>859.0</b>  | <b>889.1</b>  | <b>910.7</b>  | <b>934.1</b>  | <b>938.0</b>  | <b>935.5</b>  | <b>1022.3</b> | <b>9.3%</b>           | <b>1.9%</b>  | <b>26.6%</b>  |
| Argentina                           | 43.2          | 41.8          | 42.1          | 43.8          | 45.7          | 46.0          | 46.2          | 46.7          | 48.2          | 48.3          | <b>48.7</b>   | 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          | <b>35.9</b>   | -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           | <b>6.4</b>    | 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          | <b>13.0</b>   | 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           | <b>0.7</b>    | -14.1%                | 4.2%         | 0.0%          |
| Peru                                | 3.3           | 3.3           | 4.9           | 5.4           | 6.0           | 5.9           | 6.7           | 7.1           | 7.6           | 6.7           | <b>7.0</b>    | 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          | <b>15.3</b>   | 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          | <b>33.4</b>   | -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           | <b>7.9</b>    | 8.4%                  | 5.0%         | 0.2%          |
| <b>Total S. &amp; Cent. America</b> | <b>138.1</b>  | <b>132.9</b>  | <b>143.7</b>  | <b>148.7</b>  | <b>157.7</b>  | <b>163.5</b>  | <b>168.5</b>  | <b>174.7</b>  | <b>171.6</b>  | <b>172.6</b>  | <b>168.4</b>  | <b>-2.5%</b>          | <b>2.3%</b>  | <b>4.4%</b>   |
| Austria                             | 9.1           | 8.8           | 9.6           | 9.0           | 8.6           | 8.2           | 7.5           | 8.0           | 8.3           | 9.1           | <b>8.7</b>    | -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          | <b>16.9</b>   | 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           | <b>8.0</b>    | -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           | <b>2.0</b>    | 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          | <b>42.7</b>   | -4.6%                 | 0.0%         | 1.1%          |
| Germany                             | 89.5          | 84.4          | 88.1          | 80.9          | 81.1          | 85.0          | 73.9          | 77.0          | 84.9          | 89.7          | <b>88.3</b>   | -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           | <b>4.7</b>    | -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           | <b>9.6</b>    | -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          | <b>69.2</b>   | -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          | <b>35.7</b>   | -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           | <b>4.5</b>    | -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          | <b>19.7</b>   | 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           | <b>5.9</b>    | -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          | <b>10.9</b>   | -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          | <b>31.5</b>   | -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           | <b>0.8</b>    | 2.4%                  | -2.6%        | 0.0%          |
| Switzerland                         | 2.9           | 2.8           | 3.2           | 2.8           | 3.1           | 3.2           | 2.8           | 3.0           | 3.1           | 3.1           | <b>3.0</b>    | -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          | <b>47.3</b>   | -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          | <b>30.6</b>   | 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          | <b>78.9</b>   | 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          | <b>30.1</b>   | -0.6%                 | -1.4%        | 0.8%          |
| <b>Total Europe</b>                 | <b>625.6</b>  | <b>577.1</b>  | <b>622.6</b>  | <b>580.1</b>  | <b>565.4</b>  | <b>554.4</b>  | <b>500.0</b>  | <b>508.8</b>  | <b>537.6</b>  | <b>560.4</b>  | <b>549.0</b>  | <b>-2.1%</b>          | <b>-1.0%</b> | <b>14.3%</b>  |
| Azerbaijan                          | 10.0          | 8.6           | 8.1           | 8.9           | 9.4           | 9.4           | 9.9           | 11.1          | 10.9          | 10.6          | <b>10.8</b>   | 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          | <b>19.3</b>   | 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          | <b>19.4</b>   | 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         | <b>454.5</b>  | 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          | <b>28.4</b>   | 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          | <b>42.6</b>   | -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           | <b>5.7</b>    | 13.2%                 | -1.5%        | 0.1%          |
| <b>Total CIS</b>                    | <b>521.3</b>  | <b>499.9</b>  | <b>531.3</b>  | <b>549.5</b>  | <b>545.2</b>  | <b>537.3</b>  | <b>539.9</b>  | <b>530.0</b>  | <b>537.7</b>  | <b>549.3</b>  | <b>580.8</b>  | <b>5.7%</b>           | <b>0.3%</b>  | <b>15.1%</b>  |
| Iran                                | 125.8         | 134.8         | 144.4         | 153.2         | 152.5         | 153.8         | 173.4         | 184.0         | 196.3         | 209.9         | <b>225.6</b>  | 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          | <b>17.0</b>   | 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           | <b>10.5</b>   | 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          | <b>21.8</b>   | 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          | <b>24.9</b>   | 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          | <b>41.9</b>   | -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         | <b>112.1</b>  | 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          | <b>76.6</b>   | 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          | <b>22.7</b>   | -2.9%                 | 1.8%         | 0.6%          |
| <b>Total Middle East</b>            | <b>337.1</b>  | <b>347.3</b>  | <b>380.1</b>  | <b>398.1</b>  | <b>410.8</b>  | <b>423.3</b>  | <b>447.5</b>  | <b>478.3</b>  | <b>500.9</b>  | <b>527.0</b>  | <b>553.1</b>  | <b>4.9%</b>           | <b>5.6%</b>  | <b>14.4%</b>  |
| Algeria                             | 24.4          | 26.2          | 25.3          | 26.8          | 29.9          | 32.1          | 36.1          | 37.9          | 38.6          | 38.9          | <b>42.7</b>   | 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          | <b>59.6</b>   | 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           | <b>1.0</b>    | -9.6%                 | 6.7%         | 0.0%          |
| South Africa                        | 3.9           | 3.3           | 4.1           | 4.3           | 4.4           | 4.1           | 4.3           | 4.3           | 4.5           | 4.4           | <b>4.3</b>    | -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          | <b>42.3</b>   | 4.9%                  | 4.5%         | 1.1%          |
| <b>Total Africa</b>                 | <b>94.8</b>   | <b>95.6</b>   | <b>98.9</b>   | <b>107.2</b>  | <b>115.1</b>  | <b>116.6</b>  | <b>119.9</b>  | <b>128.1</b>  | <b>135.0</b>  | <b>140.8</b>  | <b>150.0</b>  | <b>6.6%</b>           | <b>4.5%</b>  | <b>3.9%</b>   |
| Australia                           | 28.5          | 29.1          | 33.8          | 35.3          | 35.4          | 37.2          | 40.1          | 42.1          | 41.7          | 41.2          | <b>41.4</b>   | 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          | <b>28.4</b>   | 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         | <b>283.0</b>  | 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           | <b>3.0</b>    | -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          | <b>58.1</b>   | 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          | <b>39.0</b>   | 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         | <b>115.7</b>  | -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          | <b>41.3</b>   | -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           | <b>4.3</b>    | -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          | <b>43.6</b>   | 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           | <b>4.1</b>    | 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          | <b>12.3</b>   | 0.0%                  | 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          | <b>55.9</b>   | 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          | <b>23.7</b>   | 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          | <b>49.9</b>   | -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           | <b>9.6</b>    | 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          | <b>12.0</b>   | 5.3%                  | 5.9%         | 0.3%          |
| <b>Total Asia Pacific</b>           | <b>503.7</b>  | <b>515.6</b>  | <b>577.6</b>  | <b>623.1</b>  | <b>664.3</b>  | <b>685.5</b>  | <b>706.2</b>  | <b>712.5</b>  | <b>729.3</b>  | <b>768.3</b>  | <b>825.3</b>  | <b>7.4%</b>           | <b>5.0%</b>  | <b>21.4%</b>  |
| <b>Total World</b>                  | <b>2998.8</b> | <b>2937.8</b> | <b>3156.7</b> | <b>3233.3</b> | <b>3317.5</b> | <b>3369.8</b> | <b>3392.6</b> | <b>3466.5</b> | <b>3550.2</b> | <b>3654.0</b> | <b>3848.9</b> | <b>5.3%</b>           | <b>2.2%</b>  | <b>100.0%</b> |
| of which: OECD                      | 1489.0        | 1442.4        | 1539.7        | 1534.4        | 1570.5        | 1604.4        | 1579.3        | 1612.2        | 1646.8        | 1669.2        | <b>1750.6</b> | 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        | <b>2098.3</b> | 5.7%                  | 3.1%         | 54.5%         |
| European Union                      | 516.6         | 484.5         | 521.3         | 471.0         |               |               |               |               |               |               |               |                       |              |               |

# 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 |              | Share 2018    |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|---------------|
|                                     |               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2007-17      |               |
| Canada                              | 76.8          | 74.4          | 75.9          | 83.9          | 83.6          | 89.7          | 94.2          | 94.4          | 91.0          | 94.3          | <b>99.5</b>   | 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          | <b>77.0</b>   | 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         | <b>702.6</b>  | 10.5%                 | 1.7%         | 21.2%         |
| <b>Total North America</b>          | <b>669.2</b>  | <b>661.5</b>  | <b>690.0</b>  | <b>710.7</b>  | <b>738.6</b>  | <b>764.5</b>  | <b>783.1</b>  | <b>803.2</b>  | <b>806.5</b>  | <b>804.4</b>  | <b>879.1</b>  | <b>9.3%</b>           | <b>1.9%</b>  | <b>26.6%</b>  |
| Argentina                           | 37.1          | 36.0          | 36.2          | 37.7          | 39.3          | 39.6          | 39.7          | 40.1          | 41.5          | 41.5          | <b>41.9</b>   | 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          | <b>30.9</b>   | -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           | <b>5.5</b>    | 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          | <b>11.2</b>   | 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           | <b>0.6</b>    | -14.1%                | 4.2%         | 0.0%          |
| Peru                                | 2.8           | 2.9           | 4.2           | 4.6           | 5.2           | 5.1           | 5.8           | 6.1           | 6.5           | 5.8           | <b>6.1</b>    | 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          | <b>13.2</b>   | 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          | <b>28.7</b>   | -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           | <b>6.8</b>    | 8.4%                  | 5.0%         | 0.2%          |
| <b>Total S. &amp; Cent. America</b> | <b>118.7</b>  | <b>114.2</b>  | <b>123.5</b>  | <b>127.8</b>  | <b>135.6</b>  | <b>140.6</b>  | <b>144.8</b>  | <b>150.2</b>  | <b>147.5</b>  | <b>148.4</b>  | <b>144.8</b>  | <b>-2.5%</b>          | <b>2.3%</b>  | <b>4.4%</b>   |
| Austria                             | 7.8           | 7.6           | 8.3           | 7.8           | 7.4           | 7.1           | 6.5           | 6.9           | 7.2           | 7.8           | <b>7.5</b>    | -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          | <b>14.5</b>   | 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           | <b>6.9</b>    | -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           | <b>1.8</b>    | 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          | <b>36.7</b>   | -4.6%                 | 0.0%         | 1.1%          |
| Germany                             | 77.0          | 72.6          | 75.7          | 69.5          | 69.7          | 73.1          | 63.5          | 66.2          | 73.0          | 77.2          | <b>75.9</b>   | -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           | <b>4.1</b>    | -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           | <b>8.3</b>    | -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          | <b>59.5</b>   | -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          | <b>30.7</b>   | -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           | <b>3.9</b>    | -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          | <b>17.0</b>   | 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           | <b>5.0</b>    | -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           | <b>9.3</b>    | -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          | <b>27.1</b>   | -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           | <b>0.7</b>    | 2.4%                  | -2.6%        | 0.0%          |
| Switzerland                         | 2.5           | 2.4           | 2.7           | 2.4           | 2.6           | 2.8           | 2.4           | 2.6           | 2.7           | 2.7           | <b>2.6</b>    | -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          | <b>40.7</b>   | -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          | <b>26.3</b>   | 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          | <b>67.8</b>   | 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          | <b>25.9</b>   | -0.6%                 | -1.4%        | 0.8%          |
| <b>Total Europe</b>                 | <b>538.0</b>  | <b>496.2</b>  | <b>535.3</b>  | <b>498.8</b>  | <b>486.1</b>  | <b>476.7</b>  | <b>429.9</b>  | <b>437.5</b>  | <b>462.2</b>  | <b>481.9</b>  | <b>472.0</b>  | <b>-2.1%</b>          | <b>-1.0%</b> | <b>14.3%</b>  |
| Azerbaijan                          | 8.6           | 7.4           | 7.0           | 7.7           | 8.0           | 8.1           | 8.5           | 9.6           | 9.4           | 9.1           | <b>9.3</b>    | 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          | <b>16.6</b>   | 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          | <b>16.7</b>   | 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         | <b>390.8</b>  | 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          | <b>24.4</b>   | 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          | <b>36.6</b>   | -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           | <b>4.9</b>    | 13.2%                 | -1.5%        | 0.1%          |
| <b>Total CIS</b>                    | <b>448.2</b>  | <b>429.9</b>  | <b>456.8</b>  | <b>472.5</b>  | <b>468.8</b>  | <b>462.0</b>  | <b>464.3</b>  | <b>455.7</b>  | <b>462.4</b>  | <b>472.3</b>  | <b>499.4</b>  | <b>5.7%</b>           | <b>0.3%</b>  | <b>15.1%</b>  |
| Iran                                | 108.2         | 115.9         | 124.2         | 131.7         | 131.2         | 132.3         | 149.1         | 158.2         | 168.8         | 180.5         | <b>193.9</b>  | 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          | <b>14.7</b>   | 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           | <b>9.0</b>    | 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          | <b>18.7</b>   | 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          | <b>21.4</b>   | 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          | <b>36.0</b>   | -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          | <b>96.4</b>   | 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          | <b>65.8</b>   | 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          | <b>19.5</b>   | -2.9%                 | 1.8%         | 0.6%          |
| <b>Total Middle East</b>            | <b>289.8</b>  | <b>298.6</b>  | <b>326.8</b>  | <b>342.3</b>  | <b>353.2</b>  | <b>364.0</b>  | <b>384.8</b>  | <b>411.3</b>  | <b>430.7</b>  | <b>453.2</b>  | <b>475.6</b>  | <b>4.9%</b>           | <b>5.6%</b>  | <b>14.4%</b>  |
| Algeria                             | 21.0          | 22.5          | 21.8          | 23.0          | 25.7          | 27.6          | 31.0          | 32.6          | 33.2          | 33.4          | <b>36.7</b>   | 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          | <b>51.2</b>   | 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           | <b>0.9</b>    | -9.6%                 | 6.7%         | 0.0%          |
| South Africa                        | 3.4           | 2.9           | 3.5           | 3.7           | 3.7           | 3.5           | 3.7           | 3.7           | 3.9           | 3.8           | <b>3.7</b>    | -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          | <b>36.4</b>   | 4.9%                  | 4.5%         | 1.1%          |
| <b>Total Africa</b>                 | <b>81.5</b>   | <b>82.2</b>   | <b>85.1</b>   | <b>92.2</b>   | <b>99.0</b>   | <b>100.3</b>  | <b>103.1</b>  | <b>110.1</b>  | <b>116.1</b>  | <b>121.0</b>  | <b>129.0</b>  | <b>6.6%</b>           | <b>4.5%</b>  | <b>3.9%</b>   |
| Australia                           | 24.5          | 25.1          | 29.0          | 30.3          | 30.4          | 32.0          | 34.5          | 36.2          | 35.9          | 35.5          | <b>35.6</b>   | 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          | <b>24.4</b>   | 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         | <b>243.3</b>  | 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           | <b>2.6</b>    | -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          | <b>49.9</b>   | 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          | <b>33.5</b>   | 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         | <b>99.5</b>   | -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          | <b>35.5</b>   | -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           | <b>3.7</b>    | -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          | <b>37.5</b>   | 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           | <b>3.5</b>    | 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          | <b>10.6</b>   | 0.0%                  | 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          | <b>48.1</b>   | 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          | <b>20.3</b>   | 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          | <b>42.9</b>   | -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           | <b>8.3</b>    | 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           | <b>10.3</b>   | 5.3%                  | 5.9%         | 0.3%          |
| <b>Total Asia Pacific</b>           | <b>433.1</b>  | <b>443.4</b>  | <b>496.7</b>  | <b>535.8</b>  | <b>571.2</b>  | <b>589.5</b>  | <b>607.2</b>  | <b>612.7</b>  | <b>627.1</b>  | <b>660.6</b>  | <b>709.6</b>  | <b>7.4%</b>           | <b>5.0%</b>  | <b>21.4%</b>  |
| <b>Total World</b>                  | <b>2578.5</b> | <b>2526.0</b> | <b>2714.3</b> | <b>2780.1</b> | <b>2852.6</b> | <b>2897.5</b> | <b>2917.1</b> | <b>2980.6</b> | <b>3052.6</b> | <b>3141.9</b> | <b>3309.4</b> | <b>5.3%</b>           | <b>2.2%</b>  | <b>100.0%</b> |
| of which: OECD                      | 1280.3        | 1240.2        | 1323.9        | 1319.3        | 1350.4        | 1379.5        | 1358.0        | 1386.3        | 1416.0        | 1435.2        | <b>1505.2</b> | 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        | <b>1804.2</b> | 5.7%                  | 3.1%         | 54.5%         |
| European Union                      | 444.2         | 416.6         | 448.2         | 405.0         | 394.7         | 387.9         | 345.4         | 360.0         |               |               |               |                       |              |               |

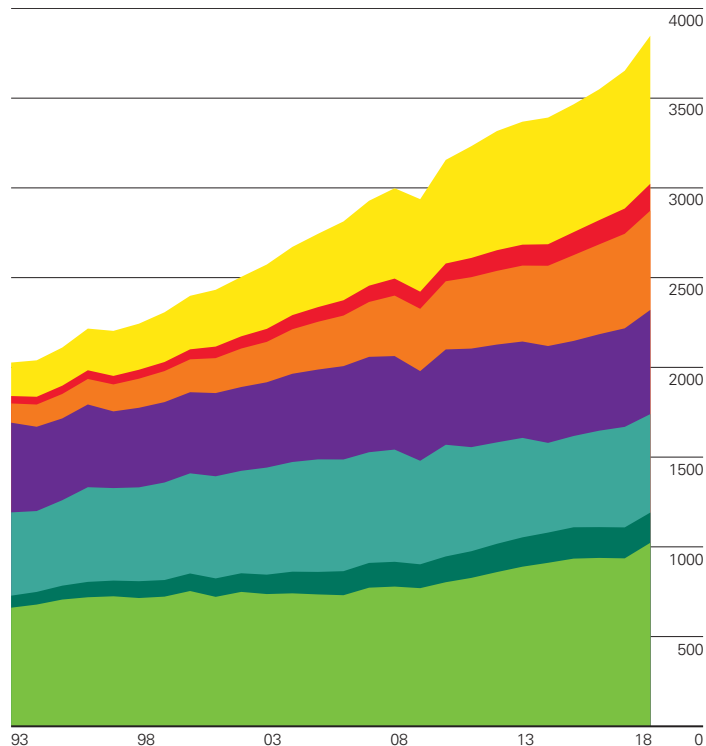
## Natural gas: Production by region

Billion cubic metres



## Natural gas: Consumption by region

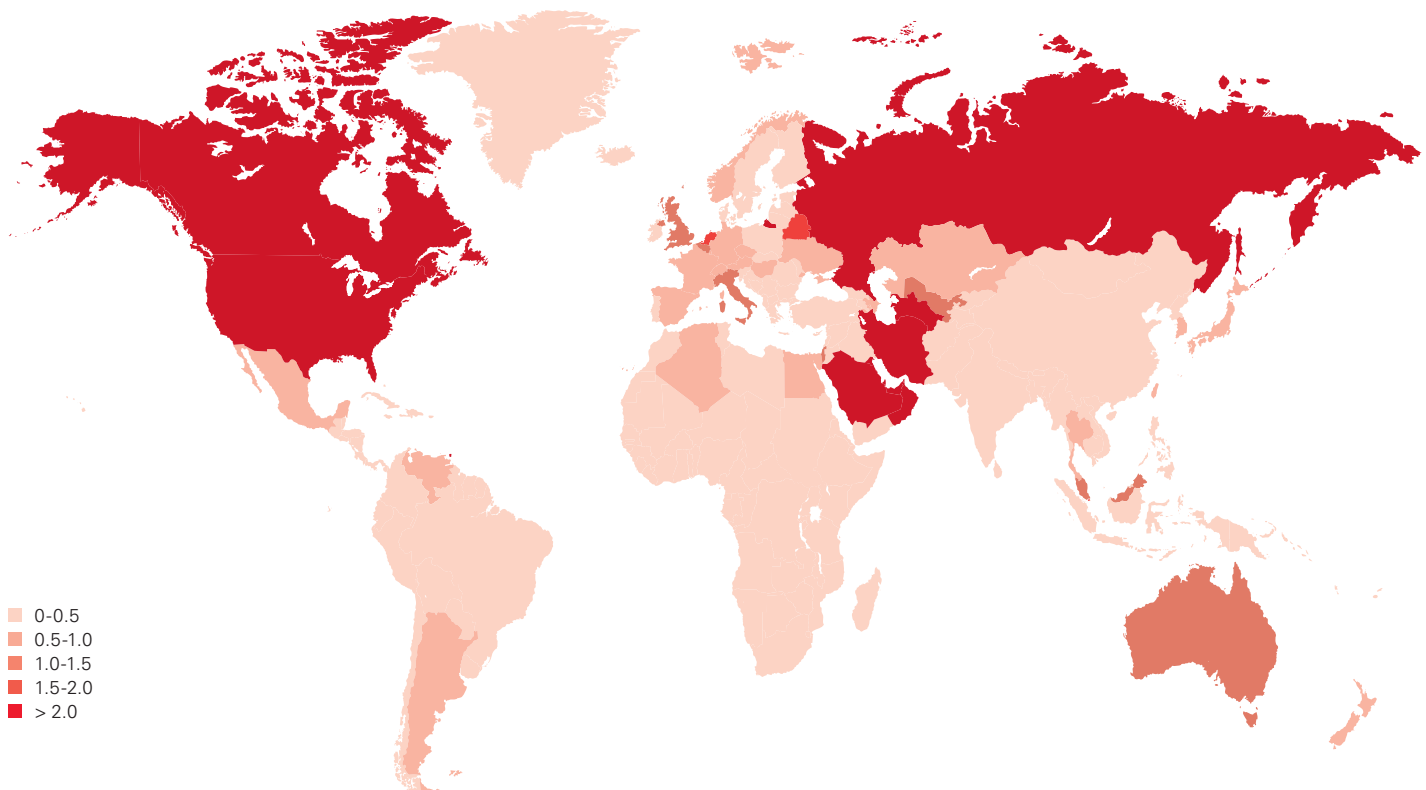
Billion cubic metres



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                    |                                       | Natural gas                              |                                   |                                               |                           |                               | Crude oil                       |  |
|----------------------------|------------------------|---------------------------------------|------------------------------------------|-----------------------------------|-----------------------------------------------|---------------------------|-------------------------------|---------------------------------|--|
|                            | Japan CIF <sup>1</sup> | Japan Korea Marker (JKM) <sup>2</sup> | Average German Import Price <sup>3</sup> | UK (Heren NBP Index) <sup>4</sup> | Netherlands TTF (DA Heren Index) <sup>4</sup> | US Henry Hub <sup>5</sup> | Canada (Alberta) <sup>5</sup> | OECD countries CIF <sup>6</sup> |  |
| 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                           |  |

<sup>1</sup>Source: EDMC Energy Trend.

<sup>2</sup>Source: S&P Global Platts ©2019, S&P Global Inc.

<sup>3</sup>Source: 1988-1990 German Federal Statistical Office, 1991-2018 German Federal Office of Economics and Export Control (BAFA).

<sup>4</sup>Source: ICIS Heren Energy Ltd.

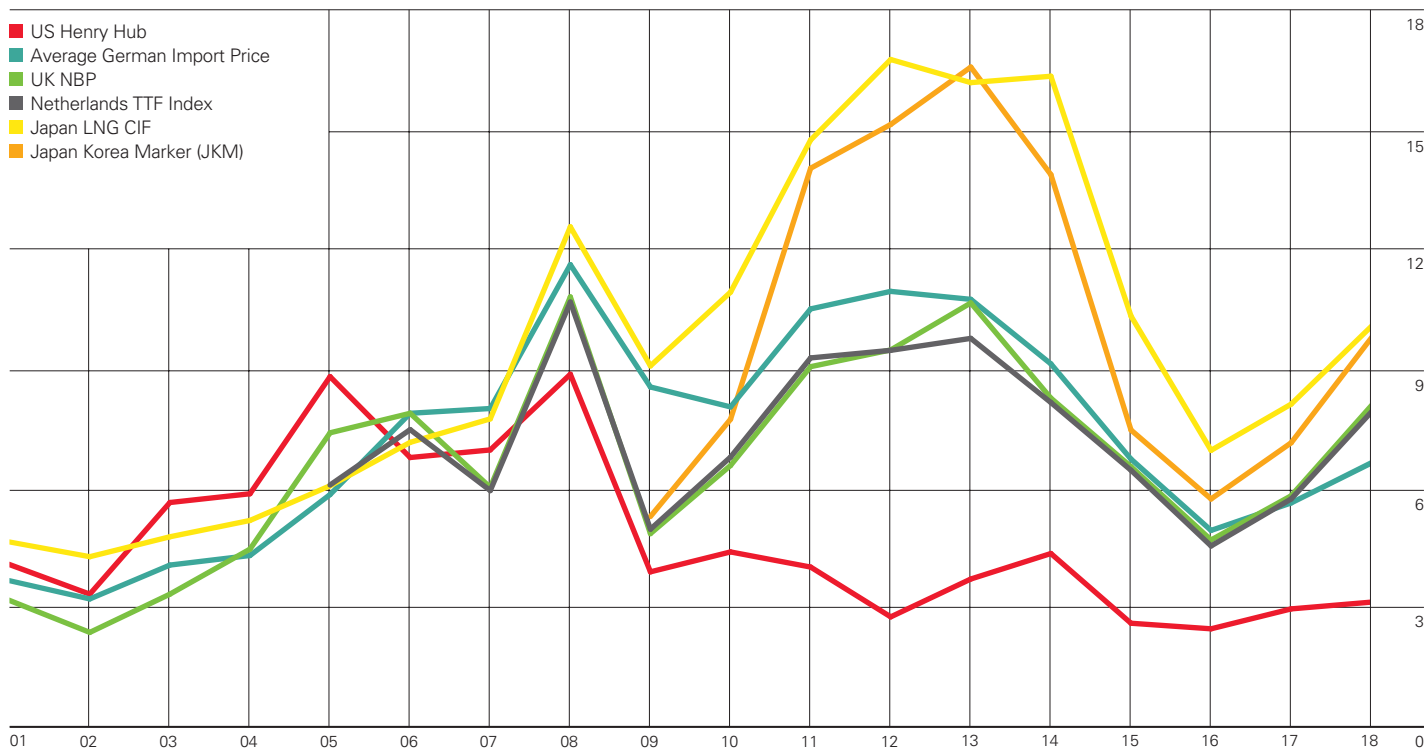
<sup>5</sup>Source: Energy Intelligence Group, Natural Gas Week.

<sup>6</sup>Source: ©OECD/IEA 2019, Oil, Gas, Coal and Electricity, Quarterly Statistics [www.iea.org/statistics](http://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 |              | Share 2018    |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                               |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17      |               |
| <b>US</b>                     |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 99.0         | 89.9         | 90.2         | 85.0         | 80.8         | 75.9         | 71.8         | 71.6         | 79.5         | 80.8         | <b>77.3</b>  | -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          | <b>2.1</b>   | -2.0%                 | -20.5%       | 0.2%          |
| <b>Total imports</b>          | <b>108.7</b> | <b>102.5</b> | <b>102.3</b> | <b>94.9</b>  | <b>85.6</b>  | <b>78.6</b>  | <b>73.5</b>  | <b>74.1</b>  | <b>82.0</b>  | <b>83.0</b>  | <b>79.5</b>  | <b>-4.2%</b>          | <b>-4.1%</b> | <b>8.4%</b>   |
| Pipeline exports              | 25.2         | 28.3         | 29.2         | 39.1         | 45.3         | 42.5         | 40.4         | 47.2         | 58.7         | 66.1         | <b>67.6</b>  | 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         | <b>28.4</b>  | 65.4%                 | 30.1%        | 3.0%          |
| <b>Total exports</b>          | <b>26.2</b>  | <b>29.1</b>  | <b>30.7</b>  | <b>40.9</b>  | <b>46.1</b>  | <b>42.7</b>  | <b>40.8</b>  | <b>47.9</b>  | <b>62.7</b>  | <b>83.3</b>  | <b>96.1</b>  | <b>15.4%</b>          | <b>14.1%</b> | <b>10.2%</b>  |
| <b>Other North America</b>    |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 25.2         | 28.3         | 29.2         | 39.1         | 45.3         | 42.5         | 40.4         | 47.2         | 58.7         | 66.1         | <b>67.6</b>  | 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          | <b>7.5</b>   | 7.2%                  | 11.9%        | 0.8%          |
| <b>Total imports</b>          | <b>29.0</b>  | <b>33.1</b>  | <b>37.3</b>  | <b>46.1</b>  | <b>51.7</b>  | <b>51.3</b>  | <b>50.2</b>  | <b>54.7</b>  | <b>64.5</b>  | <b>73.1</b>  | <b>75.1</b>  | <b>2.8%</b>           | <b>12.1%</b> | <b>8.0%</b>   |
| Pipeline exports              | 99.0         | 89.9         | 90.2         | 85.0         | 80.8         | 75.9         | 71.8         | 71.6         | 79.5         | 80.8         | <b>77.3</b>  | -4.3%                 | -2.5%        | 8.2%          |
| LNG exports*                  | —            | —            | —            | 0.1          | —            | —            | †            | †            | †            | †            | <b>0.1</b>   | 22.9%                 | n/a          | ♦             |
| <b>Total exports</b>          | <b>99.0</b>  | <b>89.9</b>  | <b>90.2</b>  | <b>85.1</b>  | <b>80.8</b>  | <b>75.9</b>  | <b>71.9</b>  | <b>71.6</b>  | <b>79.6</b>  | <b>80.8</b>  | <b>77.4</b>  | <b>-4.3%</b>          | <b>-2.5%</b> | <b>8.2%</b>   |
| <b>Brazil</b>                 |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 10.7         | 7.7          | 9.3          | 9.3          | 9.5          | 11.0         | 11.4         | 11.2         | 9.8          | 8.4          | <b>7.6</b>   | -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          | <b>2.9</b>   | 67.8%                 | n/a          | 0.3%          |
| <b>Total imports</b>          | <b>10.7</b>  | <b>8.1</b>   | <b>12.1</b>  | <b>9.9</b>   | <b>13.0</b>  | <b>16.3</b>  | <b>18.5</b>  | <b>18.0</b>  | <b>12.4</b>  | <b>10.1</b>  | <b>10.5</b>  | <b>3.8%</b>           | <b>0.3%</b>  | <b>1.1%</b>   |
| LNG exports*                  | —            | —            | —            | —            | 0.5          | 0.1          | 0.2          | †            | 0.6          | 0.2          | <b>0.1</b>   | -67.6%                | n/a          | ♦             |
| <b>Total exports</b>          | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>0.5</b>   | <b>0.1</b>   | <b>0.2</b>   | <b>†</b>     | <b>0.6</b>   | <b>0.2</b>   | <b>0.1</b>   | <b>-67.6%</b>         | <b>n/a</b>   | <b>♦</b>      |
| <b>Other S&amp;C America</b>  |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| LNG imports                   | 1.8          | 3.1          | 6.4          | 9.3          | 11.1         | 12.9         | 12.5         | 12.1         | 12.6         | 11.7         | <b>11.6</b>  | -1.2%                 | 26.1%        | 1.2%          |
| <b>Total imports</b>          | <b>1.8</b>   | <b>3.1</b>   | <b>6.4</b>   | <b>9.3</b>   | <b>11.1</b>  | <b>12.9</b>  | <b>12.5</b>  | <b>12.1</b>  | <b>12.6</b>  | <b>11.7</b>  | <b>11.6</b>  | <b>-1.2%</b>          | <b>26.1%</b> | <b>1.2%</b>   |
| Pipeline exports              | 10.7         | 7.7          | 9.3          | 9.3          | 9.5          | 11.0         | 11.4         | 11.2         | 9.8          | 8.4          | <b>7.6</b>   | -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         | <b>21.5</b>  | 13.0%                 | 0.5%         | 2.3%          |
| <b>Total exports</b>          | <b>28.9</b>  | <b>27.1</b>  | <b>30.7</b>  | <b>32.7</b>  | <b>32.9</b>  | <b>35.1</b>  | <b>34.7</b>  | <b>32.6</b>  | <b>29.7</b>  | <b>27.5</b>  | <b>29.2</b>  | <b>6.2%</b>           | <b>-0.1%</b> | <b>3.1%</b>   |
| <b>Europe</b>                 |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 276.1        | 218.3        | 224.8        | 234.4        | 228.5        | 234.1        | 209.4        | 214.9        | 230.5        | 247.5        | <b>249.1</b> | 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         | <b>71.5</b>  | 9.6%                  | 1.8%         | 7.6%          |
| <b>Total imports</b>          | <b>333.5</b> | <b>288.8</b> | <b>313.9</b> | <b>323.6</b> | <b>296.7</b> | <b>285.8</b> | <b>261.4</b> | <b>271.0</b> | <b>287.0</b> | <b>312.7</b> | <b>320.6</b> | <b>2.5%</b>           | <b>-0.1%</b> | <b>34.0%</b>  |
| LNG exports*                  | 2.5          | 3.4          | 5.1          | 6.1          | 8.1          | 9.0          | 13.0         | 11.0         | 10.6         | 8.0          | <b>11.7</b>  | 46.5%                 | 47.8%        | 1.2%          |
| <b>Total exports</b>          | <b>2.5</b>   | <b>3.4</b>   | <b>5.1</b>   | <b>6.1</b>   | <b>8.1</b>   | <b>9.0</b>   | <b>13.0</b>  | <b>11.0</b>  | <b>10.6</b>  | <b>8.0</b>   | <b>11.7</b>  | <b>46.5%</b>          | <b>47.8%</b> | <b>1.2%</b>   |
| <b>Russia</b>                 |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 74.4         | 38.5         | 33.4         | 41.2         | 39.7         | 32.9         | 33.1         | 26.5         | 24.3         | 28.6         | <b>25.2</b>  | -12.1%                | -7.8%        | 2.7%          |
| <b>Total imports</b>          | <b>74.4</b>  | <b>38.5</b>  | <b>33.4</b>  | <b>41.2</b>  | <b>39.7</b>  | <b>32.9</b>  | <b>33.1</b>  | <b>26.5</b>  | <b>24.3</b>  | <b>28.6</b>  | <b>25.2</b>  | <b>-12.1%</b>         | <b>-7.8%</b> | <b>2.7%</b>   |
| Pipeline exports              | 251.7        | 189.6        | 194.0        | 210.6        | 201.5        | 210.7        | 189.6        | 194.2        | 202.0        | 219.7        | <b>223.0</b> | 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         | <b>24.9</b>  | 61.5%                 | n/a          | 2.6%          |
| <b>Total exports</b>          | <b>251.7</b> | <b>196.5</b> | <b>207.5</b> | <b>224.9</b> | <b>215.8</b> | <b>225.2</b> | <b>203.2</b> | <b>208.8</b> | <b>216.7</b> | <b>235.2</b> | <b>247.9</b> | <b>5.4%</b>           | <b>-0.2%</b> | <b>26.3%</b>  |
| <b>Other CIS</b>              |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 25.5         | 22.7         | 26.5         | 25.4         | 25.2         | 24.0         | 26.3         | 25.4         | 26.3         | 28.8         | <b>29.6</b>  | 2.9%                  | 1.5%         | 3.1%          |
| <b>Total imports</b>          | <b>25.5</b>  | <b>22.7</b>  | <b>26.5</b>  | <b>25.4</b>  | <b>25.2</b>  | <b>24.0</b>  | <b>26.3</b>  | <b>25.4</b>  | <b>26.3</b>  | <b>28.8</b>  | <b>29.6</b>  | <b>2.9%</b>           | <b>1.5%</b>  | <b>3.1%</b>   |
| Pipeline exports              | 82.3         | 51.5         | 51.1         | 71.8         | 69.7         | 69.5         | 75.4         | 72.6         | 72.8         | 78.0         | <b>81.4</b>  | 4.3%                  | 0.9%         | 8.6%          |
| <b>Total exports</b>          | <b>82.3</b>  | <b>51.5</b>  | <b>51.1</b>  | <b>71.8</b>  | <b>69.7</b>  | <b>69.5</b>  | <b>75.4</b>  | <b>72.6</b>  | <b>72.8</b>  | <b>78.0</b>  | <b>81.4</b>  | <b>4.3%</b>           | <b>0.9%</b>  | <b>8.6%</b>   |
| <b>Middle East</b>            |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 10.7         | 9.1          | 13.4         | 13.0         | 5.3          | 6.3          | 7.6          | 9.6          | 7.3          | 4.6          | <b>2.1</b>   | -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         | <b>9.4</b>   | -28.2%                | n/a          | 1.0%          |
| <b>Total imports</b>          | <b>10.7</b>  | <b>10.1</b>  | <b>16.4</b>  | <b>17.4</b>  | <b>9.4</b>   | <b>10.6</b>  | <b>12.9</b>  | <b>19.4</b>  | <b>21.1</b>  | <b>17.7</b>  | <b>11.5</b>  | <b>-35.0%</b>         | <b>6.5%</b>  | <b>1.2%</b>   |
| Pipeline exports              | 3.9          | 5.5          | 8.2          | 9.1          | 9.0          | 8.9          | 9.3          | 8.1          | 8.0          | 11.0         | <b>8.1</b>   | -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        | <b>125.8</b> | 2.5%                  | 7.3%         | 13.3%         |
| <b>Total exports</b>          | <b>64.6</b>  | <b>77.3</b>  | <b>112.0</b> | <b>137.9</b> | <b>139.3</b> | <b>144.2</b> | <b>141.5</b> | <b>133.5</b> | <b>133.9</b> | <b>133.7</b> | <b>133.9</b> | <b>0.1%</b>           | <b>7.2%</b>  | <b>14.2%</b>  |
| <b>Africa</b>                 |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| LNG imports                   | —            | —            | —            | —            | —            | —            | —            | 3.9          | 10.7         | 8.3          | <b>3.2</b>   | -61.9%                | n/a          | 0.3%          |
| <b>Total imports</b>          | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>3.9</b>   | <b>10.7</b>  | <b>8.3</b>   | <b>3.2</b>   | <b>-61.9%</b>         | <b>n/a</b>   | <b>0.3%</b>   |
| Pipeline exports              | 48.8         | 42.0         | 48.2         | 36.1         | 39.3         | 34.4         | 29.4         | 30.2         | 38.6         | 37.5         | <b>38.6</b>  | 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         | <b>54.0</b>  | -3.4%                 | -1.2%        | 5.7%          |
| <b>Total exports</b>          | <b>112.6</b> | <b>98.0</b>  | <b>106.9</b> | <b>92.4</b>  | <b>93.5</b>  | <b>81.4</b>  | <b>78.8</b>  | <b>78.7</b>  | <b>84.9</b>  | <b>93.3</b>  | <b>92.6</b>  | <b>-0.8%</b>          | <b>-1.4%</b> | <b>9.8%</b>   |
| <b>China</b>                  |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | —            | —            | 3.4          | 13.6         | 20.8         | 26.4         | 30.3         | 32.4         | 36.8         | 39.9         | <b>47.9</b>  | 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         | <b>73.5</b>  | 38.8%                 | 29.3%        | 7.8%          |
| <b>Total imports</b>          | <b>4.6</b>   | <b>8.0</b>   | <b>16.4</b>  | <b>30.5</b>  | <b>40.8</b>  | <b>51.5</b>  | <b>57.5</b>  | <b>59.4</b>  | <b>73.5</b>  | <b>92.8</b>  | <b>121.3</b> | <b>30.7%</b>          | <b>36.8%</b> | <b>12.9%</b>  |
| <b>India</b>                  |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| LNG imports                   | 11.3         | 13.0         | 11.5         | 17.4         | 18.4         | 18.0         | 19.1         | 20.0         | 24.3         | 26.1         | <b>30.6</b>  | 17.0%                 | 9.6%         | 3.2%          |
| <b>Total imports</b>          | <b>11.3</b>  | <b>13.0</b>  | <b>11.5</b>  | <b>17.4</b>  | <b>18.4</b>  | <b>18.0</b>  | <b>19.1</b>  | <b>20.0</b>  | <b>24.3</b>  | <b>26.1</b>  | <b>30.6</b>  | <b>17.0%</b>          | <b>9.6%</b>  | <b>3.2%</b>   |
| LNG exports*                  | —            | —            | —            | —            | —            | —            | —            | 0.4          | 0.1          | 0.1          | <b>—</b>     | -100.0%               | n/a          | —             |
| <b>Total exports</b>          | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>—</b>     | <b>0.4</b>   | <b>0.1</b>   | <b>0.1</b>   | <b>—</b>     | <b>-100.0%</b>        | <b>n/a</b>   | <b>—</b>      |
| <b>OECD Asia</b>              |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Pipeline imports              | 5.9          | 6.0          | 5.5          | 5.9          | 5.4          | 6.3          | 5.9          | 6.7          | 6.5          | 5.8          | <b>5.9</b>   | 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        | <b>173.2</b> | 4.7%                  | 2.6%         | 18.4%         |
| <b>Total imports</b>          | <b>139.5</b> | <b>130.2</b> | <b>146.8</b> | <b>162.2</b> | <b>174.9</b> | <b>182.1</b> | <b>179.5</b> | <b>168.4</b> | <b>166.4</b> | <b>171.2</b> | <b>179.1</b> | <b>4.6%</b>           | <b>2.5%</b>  | <b>19.0%</b>  |
| LNG exports*                  | 20.9         | 25.1         | 25.8         | 26.0         | 28.3         | 30.6         | 32.2         | 40.1         | 60.5         | 76.8         | <b>91.9</b>  | 19.6%                 | 13.9%        | 9.7%          |
| <b>Total exports</b>          | <b>20.9</b>  | <b>25.1</b>  | <b>25.8</b>  | <b>26.0</b>  | <b>28.3</b>  | <b>30.6</b>  | <b>32.2</b>  | <b>40.1</b>  | <b>60.5</b>  | <b>76.8</b>  | <b>91.9</b>  | <b>19.6%</b>          | <b>13.9%</b> | <b>9.7%</b>   |
| <b>Other Asia</b>             |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| LNG imports                   | 12.6         | 12.4         | 15.0         | 17.3         | 18.5         | 22.4         | 25.2         | 29.8         | 33.0         | 40.2         | <b>45.6</b>  | 13.4%                 | 13.4%        | 4.8%          |
| <b>Total imports</b>          | <b>12.6</b>  | <b>12.4</b>  | <b>15.0</b>  | <b>17.3</b>  | <b>18.5</b>  | <b>22.4</b>  | <b>25.2</b>  | <b>29.8</b>  | <b>33.0</b>  | <b>40.2</b>  | <b>45.6</b>  | <b>13.4%</b>          | <b>13.4%</b> | <b>4.8%</b>   |
| Pipeline exports              | 5.9          | 6.0          | 5.5          | 5.9          | 5.4          | 6.5          | 8.8          | 10.5         | 10.2         | 9.0          | <b>8.7</b>   | -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         | <b>72.6</b>  | -7.5%                 | 1.3%         | 7.7%          |
| <b>Total exports</b>          | <b>73.6</b>  | <b>72.3</b>  | <b>77.9</b>  | <b>77.4</b>  | <b>70.3</b>  | <b>72.7</b>  | <b>78.1</b>  | <b>85.5</b>  | <b>86.0</b>  | <b>87.6</b>  | <b>81.3</b>  | <b>-7.1%</b>          | <b>1.7%</b>  | <b>8.6%</b>   |
| <b>Total World</b>            |              |              |              |              |              |              |              |              |              |              |              |                       |              |               |
| Inter-regional pipeline trade | 527.5        | 420.5        | 435.6        | 466.9        | 460.3        | 459.5        | 436.1        | 445.6        | 479.6        | 510.5        | <b>512.4</b> | 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        | <b>431.0</b> | 9.4%                  | 5.4%         | 45.7%         |
| <b>Total trade</b>            | <b>762.4</b> | <b>670.3</b> | <b>738.0</b> | <b>795.2</b> | <b>785.2</b> | <b>786.4</b> | <b>769.7</b> | <b>782.7</b> | <b>838.0</b> | <b>904.4</b> | <b>943.4</b> | <b>4.3%</b>           | <b>2.1%</b>  | <b>100.0%</b> |

\*LNG exports include re-exports.

†Less than 0.05%.

♦Less than 0.05%.

n/a not available.

Pipeline trade excludes intra-regional trade.

## Natural gas: LNG imports

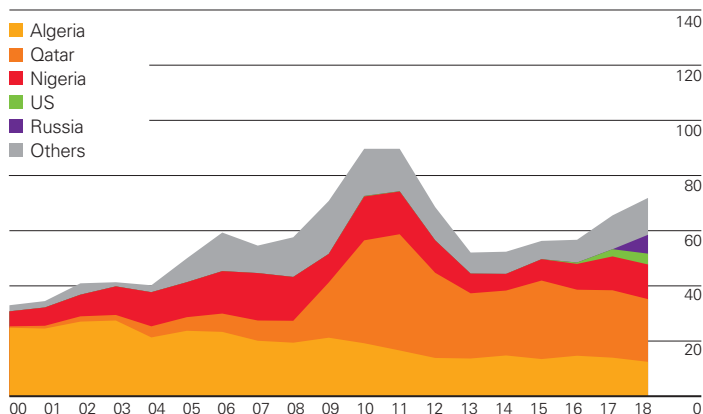
| Billion cubic metres                  | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |              | Share 2018    |
|---------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                       |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17      |               |
| Canada                                | –            | 1.0          | 2.0          | 3.2          | 1.6          | 1.0          | 0.5          | 0.6          | 0.3          | 0.4          | <b>0.6</b>   | 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          | <b>6.9</b>   | 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          | <b>2.1</b>   | -2.0%                 | -20.5%       | 0.5%          |
| <b>Total North America</b>            | <b>13.5</b>  | <b>17.3</b>  | <b>20.2</b>  | <b>16.8</b>  | <b>11.4</b>  | <b>11.4</b>  | <b>11.5</b>  | <b>10.0</b>  | <b>8.3</b>   | <b>9.2</b>   | <b>9.6</b>   | <b>5.0%</b>           | <b>-9.1%</b> | <b>2.2%</b>   |
| Argentina                             | 0.4          | 1.0          | 1.9          | 3.7          | 4.7          | 6.3          | 6.2          | 5.6          | 5.1          | 4.6          | <b>3.6</b>   | -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          | <b>2.9</b>   | 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          | <b>4.3</b>   | -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          | <b>3.7</b>   | 32.9%                 | 9.3%         | 0.9%          |
| <b>Total S. &amp; Cent. America</b>   | <b>1.8</b>   | <b>3.5</b>   | <b>9.2</b>   | <b>9.9</b>   | <b>14.6</b>  | <b>18.1</b>  | <b>19.6</b>  | <b>18.9</b>  | <b>15.2</b>  | <b>13.5</b>  | <b>14.5</b>  | <b>7.6%</b>           | <b>27.9%</b> | <b>3.4%</b>   |
| Belgium                               | 3.0          | 6.8          | 6.5          | 6.3          | 4.1          | 3.1          | 2.9          | 3.6          | 2.4          | 1.3          | <b>3.7</b>   | 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         | <b>13.1</b>  | 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          | <b>8.0</b>   | -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         | <b>15.0</b>  | -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         | <b>11.5</b>  | 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          | <b>7.3</b>   | 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         | <b>12.8</b>  | 25.3%                 | 10.8%        | 3.0%          |
| Rest of Europe                        | –            | –            | †            | –            | †            | –            | †            | –            | †            | 0.1          | <b>†</b>     | -97.9%                | n/a          | ♦             |
| <b>Total Europe</b>                   | <b>57.4</b>  | <b>70.5</b>  | <b>89.1</b>  | <b>89.2</b>  | <b>68.2</b>  | <b>51.8</b>  | <b>52.1</b>  | <b>56.0</b>  | <b>56.5</b>  | <b>65.3</b>  | <b>71.5</b>  | <b>9.6%</b>           | <b>1.8%</b>  | <b>16.6%</b>  |
| Egypt                                 | –            | –            | –            | –            | –            | –            | –            | 3.9          | 10.7         | 8.3          | <b>3.2</b>   | -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          | <b>4.3</b>   | -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          | <b>1.0</b>   | -65.2%                | n/a          | 0.2%          |
| Other Middle East & Africa            | –            | –            | –            | –            | –            | 0.5          | 0.1          | 2.7          | 4.8          | 5.3          | <b>4.0</b>   | -23.6%                | n/a          | 0.9%          |
| <b>Total Middle East &amp; Africa</b> | <b>–</b>     | <b>0.9</b>   | <b>3.0</b>   | <b>4.4</b>   | <b>4.2</b>   | <b>4.3</b>   | <b>5.3</b>   | <b>13.7</b>  | <b>24.5</b>  | <b>21.4</b>  | <b>12.5</b>  | <b>-41.3%</b>         | <b>n/a</b>   | <b>2.9%</b>   |
| China                                 | 4.6          | 8.0          | 13.0         | 16.9         | 20.1         | 25.1         | 27.3         | 27.0         | 36.8         | 52.9         | <b>73.5</b>  | 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         | <b>30.6</b>  | 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        | <b>113.0</b> | -0.9%                 | 2.2%         | 26.2%         |
| Malaysia                              | –            | –            | –            | –            | –            | 2.0          | 2.2          | 2.2          | 1.5          | 2.0          | <b>1.8</b>   | -11.1%                | n/a          | 0.4%          |
| Pakistan                              | –            | –            | –            | –            | –            | –            | –            | 1.5          | 4.0          | 6.1          | <b>9.4</b>   | 54.2%                 | n/a          | 2.2%          |
| Singapore                             | –            | –            | –            | –            | –            | 1.3          | 2.6          | 3.0          | 3.2          | 4.1          | <b>4.5</b>   | 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         | <b>60.2</b>  | 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         | <b>22.8</b>  | 0.5%                  | 7.1%         | 5.3%          |
| Thailand                              | –            | –            | –            | 1.1          | 1.4          | 2.0          | 1.9          | 3.6          | 3.9          | 5.2          | <b>6.2</b>   | 19.1%                 | n/a          | 1.4%          |
| Other Asia Pacific                    | –            | –            | –            | –            | 0.1          | –            | –            | –            | –            | –            | <b>0.8</b>   | n/a                   | n/a          | 0.2%          |
| <b>Total Asia Pacific</b>             | <b>162.2</b> | <b>157.5</b> | <b>180.9</b> | <b>207.9</b> | <b>226.6</b> | <b>241.2</b> | <b>245.2</b> | <b>238.5</b> | <b>253.9</b> | <b>284.6</b> | <b>322.8</b> | <b>13.4%</b>          | <b>6.3%</b>  | <b>74.9%</b>  |
| <b>Total LNG imports</b>              | <b>234.9</b> | <b>249.7</b> | <b>302.4</b> | <b>328.3</b> | <b>324.9</b> | <b>326.8</b> | <b>333.6</b> | <b>337.1</b> | <b>358.3</b> | <b>393.9</b> | <b>431.0</b> | <b>9.4%</b>           | <b>5.4%</b>  | <b>100.0%</b> |

Gross LNG trade  
†Less than 0.05.

♦Less than 0.05%.  
n/a not available.

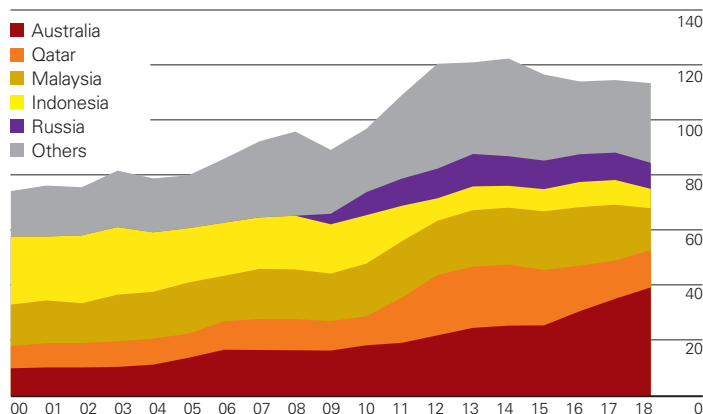
### LNG imports by source: Europe

Billion cubic metres



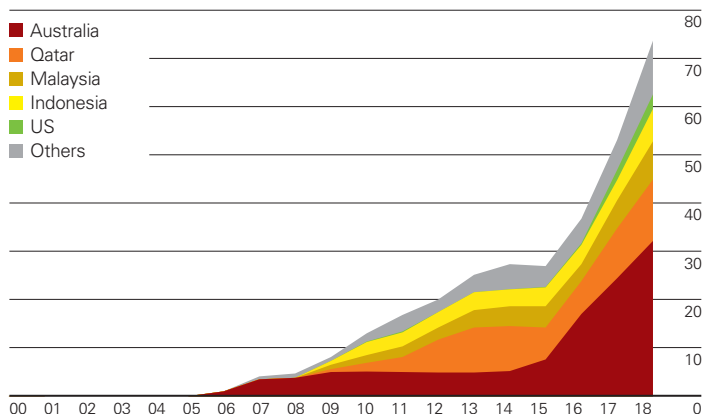
### LNG imports by source: Japan

Billion cubic metres



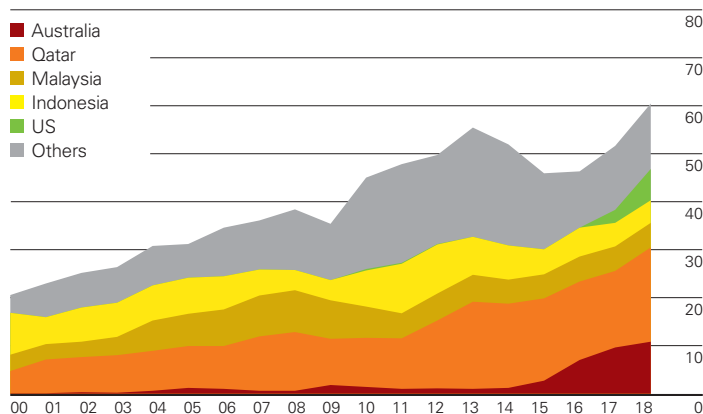
### LNG imports by source: China

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 |              | Share 2018    |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                               |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2017-17      |               |
| US                            | 1.0          | 0.8          | 1.5          | 1.8          | 0.8          | 0.2          | 0.4          | 0.7          | 4.0          | 17.2         | <b>28.4</b>  | 65.4%                 | 30.1%        | 6.6%          |
| Peru                          | –            | –            | 1.9          | 5.2          | 5.1          | 5.7          | 5.7          | 5.0          | 5.5          | 5.6          | <b>4.8</b>   | -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         | <b>16.8</b>  | 25.0%                 | -2.9%        | 3.9%          |
| Other Americas*               | –            | –            | –            | 0.1          | 0.5          | 0.1          | 0.2          | †            | 0.6          | 0.3          | <b>0.1</b>   | -61.3%                | n/a          | ♦             |
| <b>Total Americas</b>         | <b>19.3</b>  | <b>20.3</b>  | <b>22.9</b>  | <b>25.2</b>  | <b>24.7</b>  | <b>24.3</b>  | <b>23.9</b>  | <b>22.1</b>  | <b>24.5</b>  | <b>36.5</b>  | <b>50.1</b>  | <b>37.2%</b>          | <b>6.6%</b>  | <b>11.6%</b>  |
| Russia                        | –            | 6.8          | 13.5         | 14.3         | 14.3         | 14.5         | 13.6         | 14.6         | 14.6         | 15.4         | <b>24.9</b>  | 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          | <b>6.6</b>   | 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          | <b>5.0</b>   | 99.3%                 | n/a          | 1.2%          |
| <b>Total Europe &amp; CIS</b> | <b>2.5</b>   | <b>10.2</b>  | <b>18.6</b>  | <b>20.4</b>  | <b>22.4</b>  | <b>23.5</b>  | <b>26.6</b>  | <b>25.6</b>  | <b>25.2</b>  | <b>23.4</b>  | <b>36.6</b>  | <b>56.4%</b>          | <b>64.6%</b> | <b>8.5%</b>   |
| Algeria                       | 21.9         | 21.4         | 19.5         | 16.7         | 14.9         | 15.0         | 17.4         | 16.6         | 15.7         | 16.5         | <b>13.5</b>  | -17.9%                | -3.8%        | 3.1%          |
| Angola                        | –            | –            | –            | –            | –            | 0.4          | 0.4          | –            | 0.9          | 5.0          | <b>5.2</b>   | 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          | <b>2.0</b>   | 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         | <b>27.8</b>  | -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          | <b>5.4</b>   | 8.9%                  | 8.2%         | 1.3%          |
| <b>Total Africa</b>           | <b>63.8</b>  | <b>56.0</b>  | <b>58.8</b>  | <b>56.4</b>  | <b>54.2</b>  | <b>47.0</b>  | <b>49.5</b>  | <b>48.5</b>  | <b>46.3</b>  | <b>55.8</b>  | <b>54.0</b>  | <b>-3.4%</b>          | <b>-1.2%</b> | <b>12.5%</b>  |
| Oman                          | 11.3         | 11.8         | 11.7         | 11.0         | 11.1         | 11.5         | 10.6         | 10.2         | 11.0         | 11.4         | <b>13.6</b>  | 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        | <b>104.8</b> | 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          | <b>7.4</b>   | 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          | –             |
| <b>Total Middle East</b>      | <b>60.7</b>  | <b>71.8</b>  | <b>103.8</b> | <b>128.7</b> | <b>130.3</b> | <b>135.2</b> | <b>132.2</b> | <b>125.4</b> | <b>126.0</b> | <b>122.7</b> | <b>125.8</b> | <b>2.5%</b>           | <b>7.3%</b>  | <b>29.2%</b>  |
| Australia                     | 20.9         | 25.1         | 25.8         | 26.0         | 28.3         | 30.5         | 32.0         | 39.9         | 60.4         | 76.6         | <b>91.8</b>  | 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          | <b>8.8</b>   | -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         | <b>20.8</b>  | -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         | <b>33.0</b>  | -8.5%                 | 1.6%         | 7.7%          |
| Papua New Guinea              | –            | –            | –            | –            | –            | –            | 5.0          | 10.1         | 10.9         | 11.1         | <b>9.5</b>   | -14.6%                | n/a          | 2.2%          |
| Other Asia Pacific*           | –            | –            | –            | –            | –            | 0.1          | 0.2          | 0.8          | 0.5          | 0.8          | <b>0.6</b>   | -27.0%                | n/a          | 0.1%          |
| <b>Total Asia Pacific</b>     | <b>88.6</b>  | <b>91.5</b>  | <b>98.3</b>  | <b>97.5</b>  | <b>93.3</b>  | <b>96.8</b>  | <b>101.5</b> | <b>115.5</b> | <b>136.4</b> | <b>155.4</b> | <b>164.5</b> | <b>5.8%</b>           | <b>5.6%</b>  | <b>38.2%</b>  |
| <b>Total LNG exports</b>      | <b>234.9</b> | <b>249.7</b> | <b>302.4</b> | <b>328.3</b> | <b>324.9</b> | <b>326.8</b> | <b>333.6</b> | <b>337.1</b> | <b>358.3</b> | <b>393.9</b> | <b>431.0</b> | <b>9.4%</b>           | <b>5.4%</b>  | <b>100.0%</b> |

\*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        |            |                   |                 |            |               |                    |             |              |                      |          |             |            |            |             |              |             |            |             |             |
|---------------------------------|-------------|------------|-------------------|-----------------|------------|---------------|--------------------|-------------|--------------|----------------------|----------|-------------|------------|------------|-------------|--------------|-------------|------------|-------------|-------------|
|                                 | 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    |
| 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    |
| Canada                          | †           | –          | 0.4               | –               | 0.1        | †             | 0.1                | –           | –            | –                    | –        | –           | –          | –          | –           | –            | –           | –          | –           | –           |
| Mexico                          | 4.9         | 0.1        | 0.3               | –               | –          | –             | –                  | –           | –            | –                    | –        | –           | –          | –          | 1.4         | –            | –           | –          | 0.2         | –           |
| US                              | –           | –          | 1.8               | 0.1             | –          | 0.2           | –                  | –           | –            | –                    | –        | –           | –          | –          | 0.1         | –            | –           | –          | –           | –           |
| <b>North America</b>            | <b>4.9</b>  | <b>0.1</b> | <b>2.5</b>        | <b>0.1</b>      | <b>0.1</b> | <b>0.2</b>    | <b>0.1</b>         | <b>–</b>    | <b>–</b>     | <b>–</b>             | <b>–</b> | <b>–</b>    | <b>–</b>   | <b>–</b>   | <b>1.5</b>  | <b>–</b>     | <b>–</b>    | <b>0.2</b> | <b>–</b>    | <b>–</b>    |
| Argentina                       | 0.7         | –          | 0.6               | –               | –          | 0.1           | 0.1                | –           | 1.5          | –                    | –        | 0.1         | –          | –          | 0.5         | 0.1          | –           | –          | –           | –           |
| Brazil                          | 0.7         | –          | 0.8               | –               | 0.2        | 0.4           | 0.2                | –           | 0.2          | –                    | –        | –           | 0.1        | –          | 0.4         | –            | –           | –          | –           | –           |
| Chile                           | 1.1         | –          | 2.5               | –               | –          | –             | –                  | –           | –            | –                    | –        | –           | –          | –          | –           | 0.7          | –           | –          | –           | –           |
| Other S. & Cent. America        | 0.5         | –          | 3.2               | –               | –          | –             | –                  | –           | –            | –                    | –        | –           | –          | –          | –           | –            | –           | –          | –           | –           |
| <b>S. &amp; Cent. America</b>   | <b>3.0</b>  | <b>–</b>   | <b>7.1</b>        | <b>–</b>        | <b>0.2</b> | <b>0.4</b>    | <b>0.2</b>         | <b>–</b>    | <b>1.6</b>   | <b>–</b>             | <b>–</b> | <b>0.1</b>  | <b>0.1</b> | <b>–</b>   | <b>0.9</b>  | <b>0.8</b>   | <b>–</b>    | <b>–</b>   | <b>–</b>    | <b>–</b>    |
| Belgium                         | –           | –          | –                 | –               | 0.1        | †             | 0.8                | –           | 2.7          | –                    | –        | –           | 0.1        | –          | –           | –            | –           | –          | –           | –           |
| France                          | 0.5         | 0.3        | 0.1               | –               | 1.5        | †             | 1.5                | –           | 1.1          | –                    | –        | –           | 0.1        | –          | 3.6         | –            | –           | –          | –           | –           |
| Italy                           | 0.5         | –          | –                 | –               | 0.1        | †             | –                  | –           | 6.3          | –                    | –        | –           | 0.7        | –          | 0.2         | 0.1          | 0.1         | –          | –           | –           |
| Spain                           | 0.3         | 1.7        | 2.2               | –               | 0.6        | 0.1           | 0.9                | –           | 3.4          | –                    | –        | –           | 1.5        | 0.1        | –           | 4.1          | 0.1         | –          | –           | –           |
| Turkey                          | 0.4         | –          | 0.4               | –               | 0.1        | 0.3           | –                  | –           | 3.1          | –                    | –        | –           | 4.7        | 0.1        | 0.2         | 2.2          | 0.1         | –          | –           | –           |
| United Kingdom                  | 1.2         | 0.1        | 0.8               | –               | 0.2        | –             | 1.7                | –           | 2.9          | –                    | –        | –           | 0.3        | –          | 0.2         | –            | 0.1         | –          | –           | –           |
| Other EU                        | 1.1         | 0.3        | 0.2               | –               | 2.0        | 0.3           | 2.0                | –           | 3.1          | –                    | –        | –           | 1.1        | 0.2        | –           | 2.5          | 0.1         | –          | –           | –           |
| Rest of Europe                  | –           | –          | –                 | –               | –          | †             | –                  | –           | –            | –                    | –        | –           | –          | –          | –           | –            | –           | –          | –           | –           |
| <b>Europe</b>                   | <b>3.9</b>  | <b>2.4</b> | <b>3.7</b>        | <b>–</b>        | <b>4.6</b> | <b>0.8</b>    | <b>6.8</b>         | <b>–</b>    | <b>22.6</b>  | <b>–</b>             | <b>–</b> | <b>12.4</b> | <b>0.5</b> | <b>0.9</b> | <b>12.5</b> | <b>0.4</b>   | <b>–</b>    | <b>–</b>   | <b>–</b>    | <b>–</b>    |
| Egypt                           | 0.2         | –          | 0.1               | –               | 0.6        | 0.2           | 0.3                | –           | 1.5          | –                    | –        | –           | –          | –          | 0.3         | 0.1          | –           | –          | –           | –           |
| Kuwait                          | 0.3         | –          | 0.1               | –               | 0.2        | –             | –                  | 0.6         | 1.6          | –                    | –        | –           | –          | 0.6        | 0.1         | 0.6          | 0.2         | –          | –           | –           |
| United Arab Emirates            | 0.1         | –          | –                 | –               | –          | 0.2           | –                  | –           | –            | –                    | –        | –           | 0.4        | 0.1        | –           | 0.1          | –           | –          | –           | –           |
| Other Middle East & Africa      | 1.1         | –          | 0.9               | –               | 0.2        | 0.2           | 0.3                | 0.1         | 0.3          | –                    | –        | –           | 0.1        | –          | –           | 0.8          | 0.1         | –          | –           | –           |
| <b>Middle East &amp; Africa</b> | <b>1.7</b>  | <b>–</b>   | <b>1.1</b>        | <b>–</b>        | <b>0.9</b> | <b>0.5</b>    | <b>0.6</b>         | <b>0.7</b>  | <b>3.4</b>   | <b>–</b>             | <b>–</b> | <b>0.5</b>  | <b>0.7</b> | <b>0.1</b> | <b>1.8</b>  | <b>0.4</b>   | <b>0.2</b>  | <b>–</b>   | <b>–</b>    | <b>–</b>    |
| 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         |
| 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         |
| 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        |
| Malaysia                        | –           | –          | –                 | –               | –          | –             | –                  | –           | –            | –                    | –        | –           | –          | –          | –           | –            | 1.2         | 0.6        | –           | –           |
| 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         |
| Singapore                       | 0.1         | –          | 0.1               | –               | –          | 0.1           | –                  | –           | 0.6          | –                    | –        | –           | 0.2        | –          | –           | 0.3          | 2.8         | –          | 0.2         | –           |
| 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         |
| 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         |
| Thailand                        | –           | –          | 0.5               | –               | –          | –             | 0.1                | 0.1         | 2.8          | 0.1                  | –        | –           | –          | –          | 1.3         | –            | 0.1         | 0.3        | 0.3         | 0.7         |
| Other Asia Pacific              | –           | –          | –                 | –               | –          | –             | –                  | –           | 0.8          | –                    | –        | –           | –          | –          | –           | –            | –           | –          | –           | –           |
| <b>Asia Pacific</b>             | <b>14.9</b> | <b>2.2</b> | <b>2.4</b>        | <b>0.1</b>      | <b>0.8</b> | <b>3.1</b>    | <b>17.2</b>        | <b>12.8</b> | <b>77.3</b>  | <b>7.4</b>           | <b>–</b> | <b>0.6</b>  | <b>3.8</b> | <b>1.0</b> | <b>11.2</b> | <b>3.8</b>   | <b>91.6</b> | <b>8.8</b> | <b>20.6</b> | <b>33.0</b> |
| <b>Total exports</b>            | <b>28.4</b> | <b>4.8</b> | <b>16.8</b>       | <b>0.1</b>      | <b>6.6</b> | <b>5.0</b>    | <b>24.9</b>        | <b>13.6</b> | <b>104.8</b> | <b>7.4</b>           | <b>–</b> | <b>13.5</b> | <b>5.2</b> | <b>2.0</b> | <b>27.8</b> | <b>5.4</b>   | <b>91.8</b> | <b>8.8</b> | <b>20.8</b> | <b>33.0</b> |

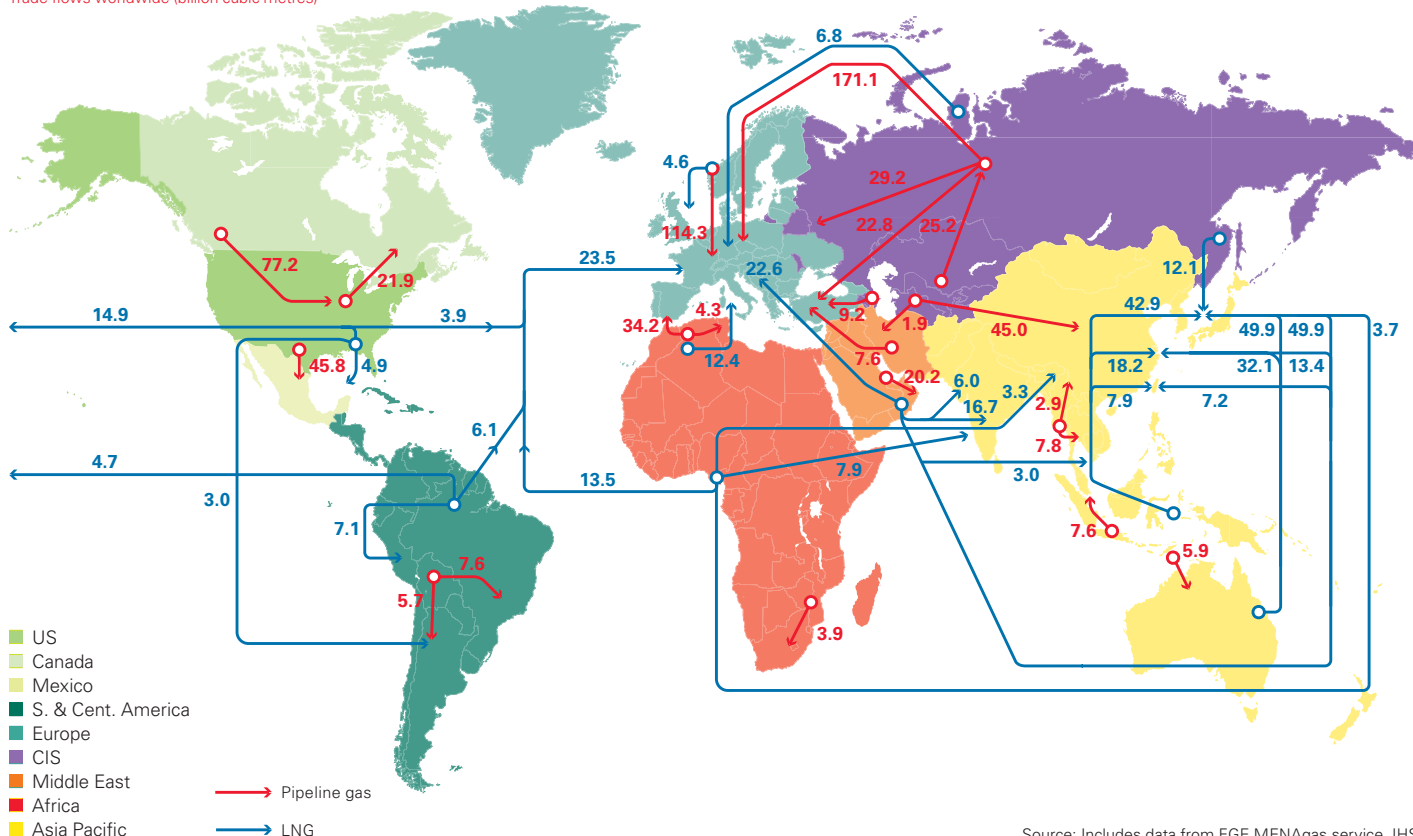
\*Includes re-exports.

†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/m³.

## 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         |

† 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.

Source: Includes data from FGE MENAgas service, IHS.

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

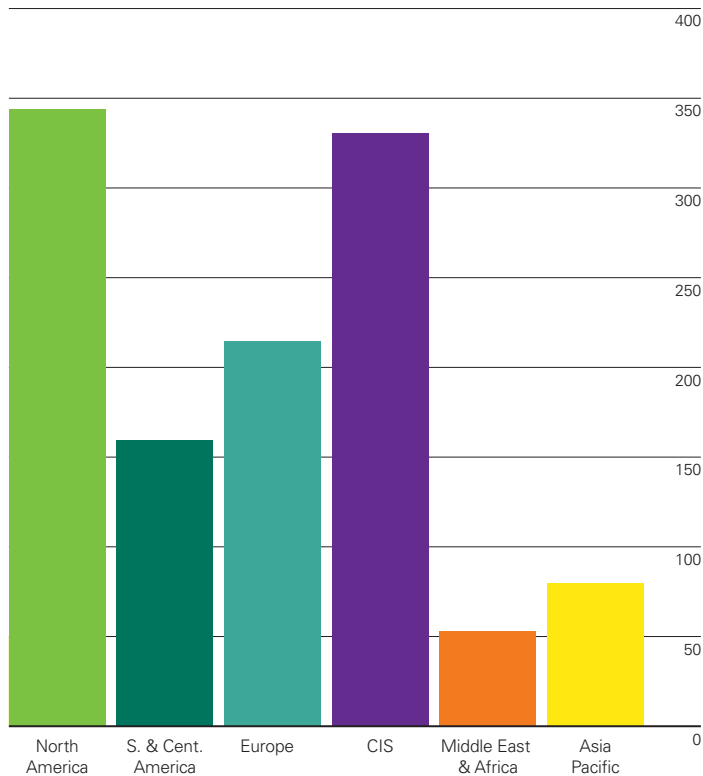
**Reserves-to-production (R/P) ratios** are calculated excluding other solid fuels in reserves and production.

**Shares of total and R/P ratios** are calculated using million tonnes figures.

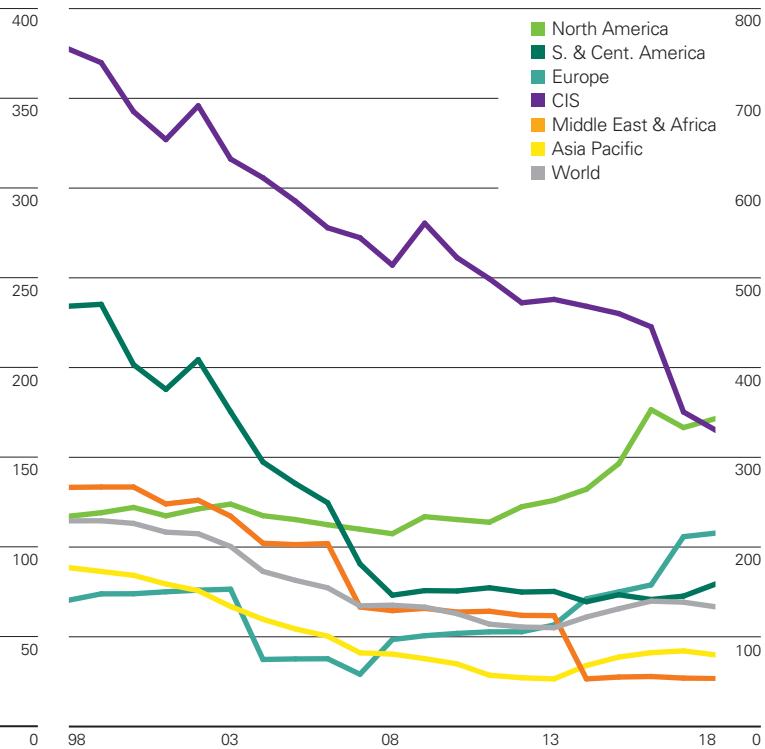
## Reserves-to-production (R/P) ratios

Years

### 2018 by region



### History

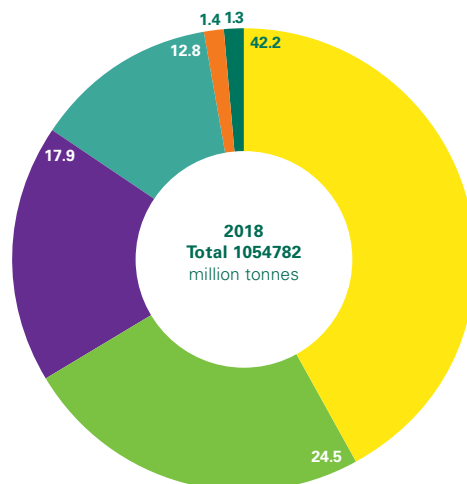
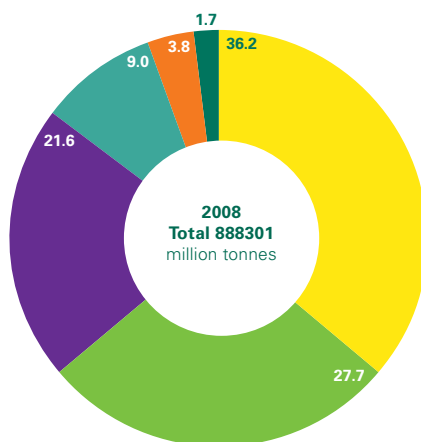
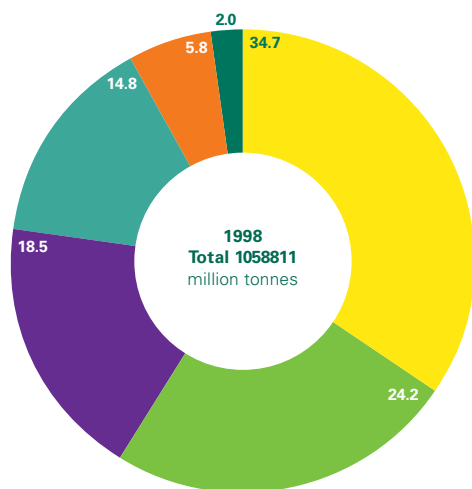


World coal reserves in 2018 stood at 1055 billion tonnes and are heavily concentrated in just a few countries: US (24%), Russia (15%), Australia (14%) and China (13%). Most of the reserves are anthracite and bituminous (70%). The current global R/P ratio shows that coal reserves in 2018 accounted for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

- Asia Pacific
- North America
- CIS
- Europe
- Middle East & Africa
- S. & Cent. America



## Coal: Production\*

| Million tonnes oil equivalent | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | Growth rate per annum |             | Share 2018    |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-------------|---------------|
|                               |               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2017-17     |               |
| Canada                        | 35.6          | 33.1          | 35.4          | 35.5          | 35.5          | 36.1          | 35.9          | 32.4          | 32.7          | 31.8          | <b>28.6</b>   | -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           | <b>7.7</b>    | 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         | <b>364.5</b>  | -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         | <b>400.7</b>  | -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           | <b>1.2</b>    | -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          | <b>57.9</b>   | -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           | <b>0.2</b>    | -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           | <b>1.1</b>    | -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          | <b>60.4</b>   | -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           | <b>5.2</b>    | -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          | <b>14.6</b>   | -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          | <b>37.6</b>   | -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           | <b>4.4</b>    | -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           | <b>1.3</b>    | -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          | <b>47.5</b>   | -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           | <b>4.1</b>    | -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           | <b>6.9</b>    | -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           | <b>1.1</b>    | -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          | <b>17.0</b>   | 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          | <b>14.5</b>   | 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           | <b>1.6</b>    | -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          | <b>14.1</b>   | 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         | <b>170.0</b>  | -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          | <b>50.6</b>   | 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         | <b>220.2</b>  | 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           | <b>3.0</b>    | -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           | <b>2.2</b>    | 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         | <b>276.0</b>  | 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           | <b>0.7</b>    | —                     | -3.6%       | ♦             |
| South Africa                  | 141.0         | 139.7         | 144.1         | 143.2         | 146.6         | 145.3         | 148.2         | 142.9         | 142.4         | 143.0         | <b>143.2</b>  | 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           | <b>2.0</b>    | 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          | <b>10.6</b>   | 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         | <b>155.8</b>  | 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         | <b>301.1</b>  | 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        | <b>1828.8</b> | 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         | <b>308.0</b>  | 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         | <b>323.3</b>  | 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           | <b>0.6</b>    | -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          | <b>34.4</b>   | 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           | <b>1.9</b>    | 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           | <b>1.7</b>    | -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           | <b>0.6</b>    | -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           | <b>3.8</b>    | -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          | <b>23.3</b>   | 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          | <b>25.6</b>   | 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        | <b>2853.1</b> | 6.1%                  | 2.7%        | 72.8%         |
| <b>Total World</b>            | <b>3410.0</b> | <b>3409.8</b> | <b>3601.4</b> | <b>3866.5</b> | <b>3909.1</b> | <b>3978.0</b> | <b>3966.0</b> | <b>3860.9</b> | <b>3660.8</b> | <b>3755.0</b> | <b>3916.8</b> | <b>4.3%</b>           | <b>1.3%</b> | <b>100.0%</b> |
| of which: OECD                | 1034.1        | 976.2         | 995.7         | 997.5         | 979.5         | 975.1         | 996.3         | 924.8         | 838.0         | 849.5         | <b>839.5</b>  | -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        | <b>3077.2</b> | 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         | <b>125.8</b>  | -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](http://bp.com/statisticalreview).

# Coal: Consumption\*

| Million tonnes oil equivalent       | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | Growth rate per annum |             | Share 2018    |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-------------|---------------|
|                                     |               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2007-17     |               |
| Canada                              | 29.4          | 23.5          | 24.8          | 22.2          | 21.1          | 20.8          | 19.6          | 19.9          | 18.7          | 18.6          | <b>14.4</b>   | -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          | <b>11.9</b>   | -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         | <b>317.0</b>  | -4.3%                 | -4.9%       | 8.4%          |
| <b>Total North America</b>          | <b>575.5</b>  | <b>505.2</b>  | <b>536.3</b>  | <b>507.5</b>  | <b>449.9</b>  | <b>465.4</b>  | <b>463.2</b>  | <b>404.8</b>  | <b>371.7</b>  | <b>365.1</b>  | <b>343.3</b>  | -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           | <b>1.2</b>    | 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          | <b>15.9</b>   | -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           | <b>7.7</b>    | -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           | <b>5.9</b>    | 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           | <b>0.9</b>    | 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           | <b>0.1</b>    | -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           | <b>4.3</b>    | 22.0%                 | 3.1%        | 0.1%          |
| <b>Total S. &amp; Cent. America</b> | <b>27.7</b>   | <b>23.3</b>   | <b>28.3</b>   | <b>30.2</b>   | <b>31.7</b>   | <b>34.6</b>   | <b>36.4</b>   | <b>35.8</b>   | <b>35.5</b>   | <b>34.8</b>   | <b>36.0</b>   | 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           | <b>2.9</b>    | -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           | <b>3.3</b>    | 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          | <b>15.7</b>   | 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           | <b>4.3</b>    | 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           | <b>8.4</b>    | -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          | <b>66.4</b>   | -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           | <b>4.7</b>    | -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           | <b>2.2</b>    | -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           | <b>8.9</b>    | -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           | <b>8.2</b>    | -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           | <b>0.8</b>    | 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          | <b>50.5</b>   | 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           | <b>2.7</b>    | -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           | <b>5.3</b>    | -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          | <b>11.1</b>   | -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           | <b>2.0</b>    | -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           | <b>0.1</b>    | —                     | -4.5%       | ♦             |
| Turkey                              | 29.6          | 30.9          | 31.4          | 33.9          | 36.5          | 31.6          | 36.1          | 34.7          | 38.5          | 39.5          | <b>42.3</b>   | 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          | <b>26.2</b>   | 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           | <b>7.6</b>    | -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          | <b>33.6</b>   | -1.5%                 | -1.4%       | 0.9%          |
| <b>Total Europe</b>                 | <b>391.2</b>  | <b>350.4</b>  | <b>366.3</b>  | <b>381.8</b>  | <b>390.2</b>  | <b>377.6</b>  | <b>354.5</b>  | <b>339.2</b>  | <b>326.8</b>  | <b>315.5</b>  | <b>307.1</b>  | -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           | <b>1.0</b>    | 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          | <b>40.8</b>   | 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          | <b>88.0</b>   | 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           | <b>3.1</b>    | -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           | <b>2.0</b>    | 10.6%                 | 8.4%        | 0.1%          |
| <b>Total CIS</b>                    | <b>137.2</b>  | <b>125.6</b>  | <b>126.4</b>  | <b>133.2</b>  | <b>139.6</b>  | <b>131.4</b>  | <b>128.3</b>  | <b>130.0</b>  | <b>128.3</b>  | <b>126.4</b>  | <b>134.9</b>  | 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           | <b>1.5</b>    | 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           | <b>4.7</b>    | -6.5%                 | -4.6%       | 0.1%          |
| Kuwait                              | †             | —             | †             | †             | —             | 0.3           | 0.2           | 0.2           | 0.2           | 0.2           | <b>0.2</b>    | —                     | 81.9%       | ♦             |
| Oman                                | †             | †             | †             | †             | †             | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           | <b>0.1</b>    | —                     | 35.8%       | ♦             |
| Qatar                               | —             | —             | —             | —             | —             | —             | —             | —             | —             | —             | —             | —                     | —           | —             |
| Saudi Arabia                        | 0.1           | †             | 0.1           | 0.1           | 0.1           | 0.1           | 0.2           | 0.1           | 0.1           | 0.1           | <b>0.1</b>    | —                     | 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           | <b>1.1</b>    | 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           | <b>0.4</b>    | ♦                     | 11.2%       | ♦             |
| <b>Total Middle East</b>            | <b>9.7</b>    | <b>9.6</b>    | <b>10.1</b>   | <b>10.3</b>   | <b>11.9</b>   | <b>11.2</b>   | <b>11.2</b>   | <b>10.5</b>   | <b>9.7</b>    | <b>8.2</b>    | <b>7.9</b>    | -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           | <b>0.2</b>    | —                     | -13.3%      | ♦             |
| Egypt                               | 0.7           | 0.6           | 0.5           | 0.4           | 0.4           | 0.4           | 0.4           | 1.1           | 1.7           | 1.6           | <b>2.8</b>    | 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           | <b>5.4</b>    | 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          | <b>86.0</b>   | 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           | <b>7.0</b>    | 0.2%                  | 6.9%        | 0.2%          |
| <b>Total Africa</b>                 | <b>101.4</b>  | <b>101.0</b>  | <b>100.1</b>  | <b>98.4</b>   | <b>96.0</b>   | <b>97.2</b>   | <b>101.9</b>  | <b>97.7</b>   | <b>99.1</b>   | <b>97.6</b>   | <b>101.4</b>  | 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          | <b>44.3</b>   | -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           | <b>2.1</b>    | 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        | <b>1906.7</b> | 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           | <b>6.3</b>    | —                     | -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         | <b>452.2</b>  | 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          | <b>61.6</b>   | 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         | <b>117.5</b>  | -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          | <b>21.1</b>   | 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           | <b>1.3</b>    | 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           | <b>11.6</b>   | 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          | <b>16.3</b>   | 5.2%                  | 11.1%       | 0.4%          |
| Singapore                           | †             | †             | †             | †             | †             | 0.3           | 0.4           | 0.4           | 0.4           | 0.9           | <b>0.9</b>    | 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          | <b>88.2</b>   | 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           | <b>1.2</b>    | -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          | <b>39.3</b>   | -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          | <b>18.5</b>   | 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          | <b>34.3</b>   | 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          | <b>18.0</b>   | 7.0%                  | -1.0%       | 0.5%          |
| <b>Total Asia Pacific</b>           | <b>2260.8</b> | <b>2335.5</b> | <b>2442.6</b> | <b>2621.1</b> | <b>2677.8</b> | <b>2749.7</b> | <b>2768.6</b> | <b>2751.0</b> | <b>2738.9</b> | <b>2770.8</b> | <b>2841.3</b> | 2.5%                  | 2.3%        | 75.3%         |
| <b>Total World</b>                  | <b>3503.4</b> | <b>3450.6</b> | <b>3610.1</b> | <b>3782.5</b> | <b>3797.2</b> | <b>3867.0</b> | <b>3864.2</b> | <b>3769.0</b> | <b>3710.0</b> | <b>3718.4</b> | <b>3772.1</b> | <b>1.4%</b>           | <b>0.7%</b> | <b>100.0%</b> |
| of which: OECD                      | 1150.8        | 1029.9        | 1092.9        | 1072.8        | 1028.2        | 1037.1        | 1020.1        | 954.9         | 900.0         | 892.9         | <b>861.3</b>  | -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        | <b>2910.8</b> | 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         | <b>222.4</b>  | -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.

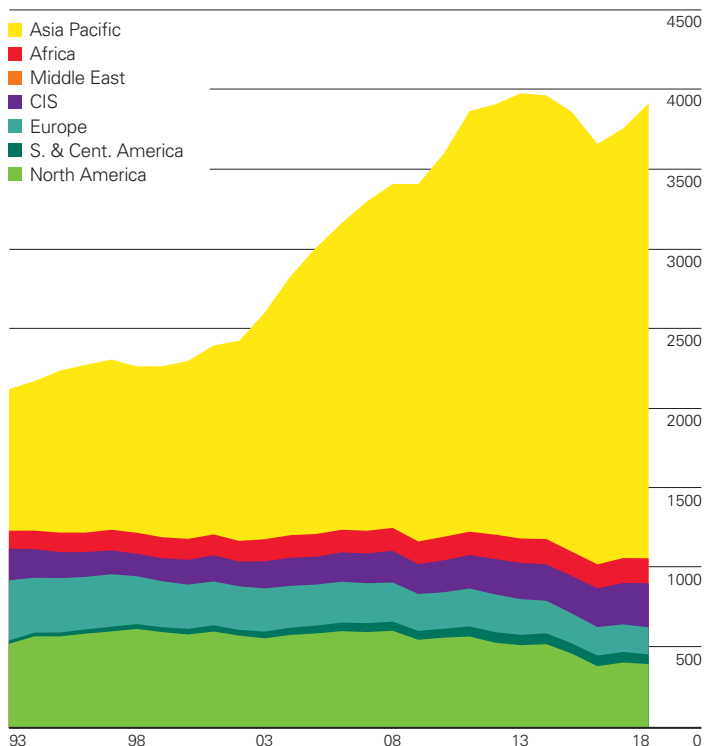
†Less than 0.05.

♦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.

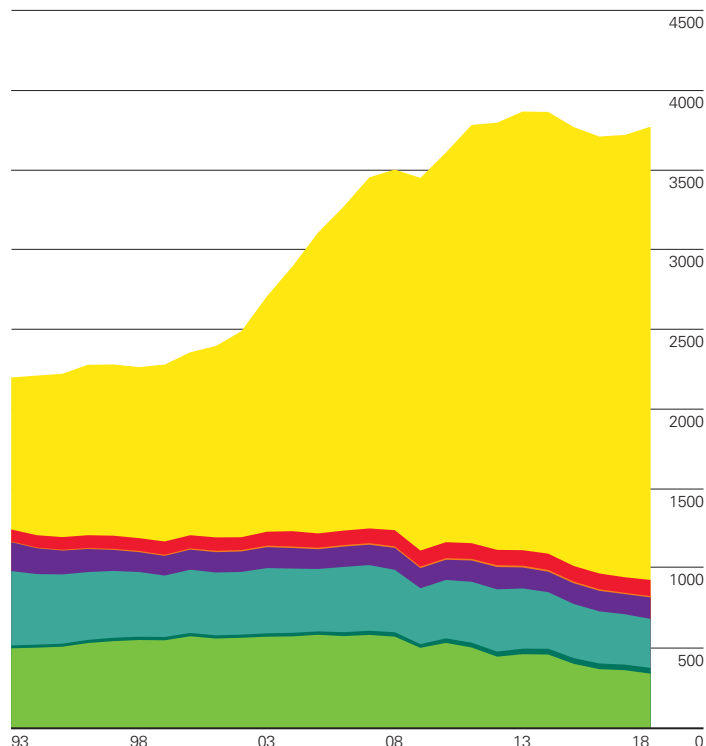
## Coal: Production by region

Million tonnes oil equivalent



## Coal: Consumption by region

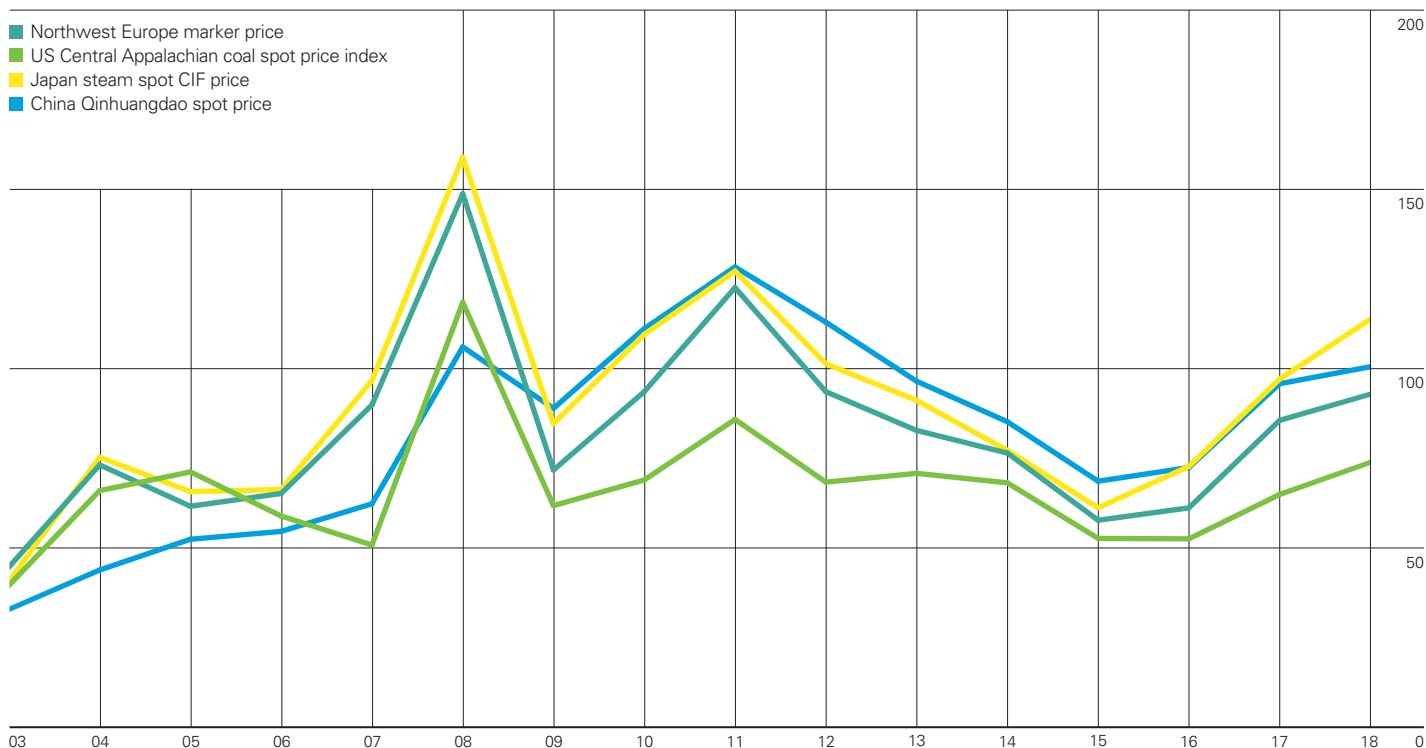
Million tonnes oil equivalent



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<sub>2</sub> 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<sub>2</sub> 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 |             | Share 2018    |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-------------|---------------|
|                               |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17     |               |
| Imports                       |              |              |              |              |              |              |              |              |              |              |              |                       |             |               |
| Canada                        | 16.1         | 8.5          | 8.7          | 5.6          | 5.5          | 5.2          | 6.1          | 5.2          | 4.4          | 5.2          | <b>5.5</b>   | 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          | <b>5.8</b>   | -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          | <b>2.6</b>   | -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         | <b>26.6</b>  | -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        | <b>149.6</b> | 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         | <b>14.5</b>  | 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          | <b>7.9</b>   | -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         | <b>14.4</b>  | 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        | <b>146.5</b> | 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        | <b>141.7</b> | 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        | <b>119.7</b> | -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         | <b>92.7</b>  | 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        | <b>131.1</b> | 10.7%                 | 5.3%        | 15.3%         |
| <b>Total World</b>            | <b>557.0</b> | <b>535.3</b> | <b>606.6</b> | <b>659.7</b> | <b>728.8</b> | <b>778.3</b> | <b>757.4</b> | <b>744.2</b> | <b>762.0</b> | <b>806.6</b> | <b>858.8</b> | <b>6.5%</b>           | <b>3.8%</b> | <b>100.0%</b> |
| Exports                       |              |              |              |              |              |              |              |              |              |              |              |                       |             |               |
| Canada                        | 18.6         | 17.0         | 19.9         | 20.9         | 20.1         | 23.6         | 20.1         | 18.1         | 18.1         | 19.6         | <b>21.0</b>  | 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         | <b>66.3</b>  | 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         | <b>46.7</b>  | -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          | <b>6.2</b>   | 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        | <b>136.2</b> | 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         | <b>11.9</b>  | 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         | <b>49.2</b>  | -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          | <b>5.3</b>   | -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        | <b>249.4</b> | 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          | <b>9.9</b>   | -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        | <b>220.3</b> | 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         | <b>23.9</b>  | 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          | <b>9.5</b>   | 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          | <b>3.3</b>   | 15.3%                 | -8.9%       | 0.4%          |
| <b>Total World</b>            | <b>557.0</b> | <b>535.3</b> | <b>606.6</b> | <b>659.7</b> | <b>728.8</b> | <b>778.3</b> | <b>757.4</b> | <b>744.2</b> | <b>762.0</b> | <b>806.6</b> | <b>858.8</b> | <b>6.5%</b>           | <b>3.8%</b> | <b>100.0%</b> |

**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

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

†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.

## Consumption\*

| Million tonnes oil equivalent       | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |              | Share 2018    |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                     |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17      |               |
| Canada                              | 21.6         | 20.2         | 20.4         | 21.0         | 21.3         | 23.2         | 24.1         | 22.9         | 22.7         | 22.7         | <b>22.6</b>  | -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          | <b>3.1</b>   | 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        | <b>192.2</b> | 0.3%                  | ♦            | 31.4%         |
| <b>Total North America</b>          | <b>215.8</b> | <b>212.9</b> | <b>213.9</b> | <b>211.5</b> | <b>206.5</b> | <b>213.8</b> | <b>216.2</b> | <b>215.4</b> | <b>217.0</b> | <b>216.9</b> | <b>217.9</b> | <b>0.5%</b>           | <b>0.1%</b>  | <b>35.7%</b>  |
| Argentina                           | 1.7          | 1.9          | 1.6          | 1.4          | 1.4          | 1.4          | 1.2          | 1.6          | 1.9          | 1.4          | <b>1.6</b>   | 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          | <b>3.5</b>   | -0.7%                 | 2.5%         | 0.6%          |
| Chile                               | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Colombia                            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Ecuador                             | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Peru                                | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Trinidad & Tobago                   | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Venezuela                           | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Other S. & Cent. America            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| <b>Total S. &amp; Cent. America</b> | <b>4.8</b>   | <b>4.8</b>   | <b>4.9</b>   | <b>5.0</b>   | <b>5.1</b>   | <b>4.9</b>   | <b>4.7</b>   | <b>4.9</b>   | <b>5.5</b>   | <b>4.9</b>   | <b>5.1</b>   | <b>3.1%</b>           | <b>1.1%</b>  | <b>0.8%</b>   |
| Austria                             | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Belgium                             | 10.3         | 10.7         | 10.8         | 10.9         | 9.1          | 9.6          | 7.6          | 5.9          | 9.8          | 9.6          | <b>6.4</b>   | -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          | <b>6.8</b>   | 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          | <b>5.2</b>   | 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         | <b>93.5</b>  | 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         | <b>17.2</b>  | -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          | <b>3.6</b>   | -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          | <b>0.8</b>   | 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          | <b>2.6</b>   | -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         | <b>12.6</b>  | -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         | <b>15.5</b>  | 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          | <b>5.8</b>   | 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         | <b>19.1</b>  | -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         | <b>14.7</b>  | -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          | <b>8.3</b>   | -0.4%                 | -2.1%        | 1.4%          |
| <b>Total Europe</b>                 | <b>238.7</b> | <b>227.3</b> | <b>233.5</b> | <b>231.7</b> | <b>225.9</b> | <b>223.2</b> | <b>224.6</b> | <b>219.1</b> | <b>213.2</b> | <b>211.8</b> | <b>212.1</b> | <b>0.1%</b>           | <b>-1.2%</b> | <b>34.7%</b>  |
| 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         | <b>46.3</b>  | 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          | <b>0.5</b>   | -20.7%                | 0.3%         | 0.1%          |
| <b>Total CIS</b>                    | <b>37.5</b>  | <b>37.6</b>  | <b>39.1</b>  | <b>39.7</b>  | <b>40.7</b>  | <b>39.6</b>  | <b>41.5</b>  | <b>44.9</b>  | <b>45.0</b>  | <b>46.6</b>  | <b>46.7</b>  | <b>0.4%</b>           | <b>2.4%</b>  | <b>7.6%</b>   |
| Iran                                | -            | -            | -            | †            | 0.3          | 1.0          | 0.9          | 0.8          | 1.5          | 1.6          | <b>1.6</b>   | -1.0%                 | -            | 0.3%          |
| Iraq                                | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Israel                              | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Kuwait                              | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Oman                                | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Qatar                               | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Saudi Arabia                        | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| United Arab Emirates                | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Other Middle East                   | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| <b>Total Middle East</b>            | <b>-</b>     | <b>-</b>     | <b>-</b>     | <b>†</b>     | <b>0.3</b>   | <b>1.0</b>   | <b>0.9</b>   | <b>0.8</b>   | <b>1.5</b>   | <b>1.6</b>   | <b>1.6</b>   | <b>-1.0%</b>          | <b>-</b>     | <b>0.3%</b>   |
| 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          | <b>2.5</b>   | -29.6%                | 3.4%         | 0.4%          |
| Other Africa                        | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| <b>Total Africa</b>                 | <b>2.9</b>   | <b>2.9</b>   | <b>3.1</b>   | <b>2.9</b>   | <b>2.9</b>   | <b>3.2</b>   | <b>3.1</b>   | <b>2.8</b>   | <b>3.6</b>   | <b>3.6</b>   | <b>2.5</b>   | <b>-29.6%</b>         | <b>3.4%</b>  | <b>0.4%</b>   |
| Australia                           | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Bangladesh                          | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| China                               | 15.5         | 15.9         | 16.7         | 19.5         | 22.0         | 25.3         | 30.0         | 38.6         | 48.3         | 56.1         | <b>66.6</b>  | 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          | <b>8.8</b>   | 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          | <b>11.1</b>  | 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          | <b>2.2</b>   | 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         | <b>30.2</b>  | -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          | <b>6.3</b>   | 23.3%                 | -5.7%        | 1.0%          |
| Thailand                            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Vietnam                             | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| Other Asia Pacific                  | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -                     | -            | -             |
| <b>Total Asia Pacific</b>           | <b>119.7</b> | <b>125.3</b> | <b>131.7</b> | <b>109.1</b> | <b>78.0</b>  | <b>78.1</b>  | <b>83.9</b>  | <b>95.0</b>  | <b>106.0</b> | <b>111.7</b> | <b>125.3</b> | <b>12.1%</b>          | <b>-1.0%</b> | <b>20.5%</b>  |
| <b>Total World</b>                  | <b>619.5</b> | <b>610.8</b> | <b>626.2</b> | <b>600.0</b> | <b>559.5</b> | <b>563.8</b> | <b>574.9</b> | <b>582.8</b> | <b>591.8</b> | <b>597.1</b> | <b>611.3</b> | <b>2.4%</b>           | <b>-0.4%</b> | <b>100.0%</b> |
| of which: OECD                      | 517.0        | 508.5        | 521.0        | 488.4        | 444.0        | 447.1        | 450.0        | 446.8        | 446.4        | 443.4        | <b>446.1</b> | 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        | <b>165.2</b> | 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        | <b>187.2</b> | -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](http://bp.com/statisticalreview).

## Consumption\*

| Million tonnes oil equivalent       | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |              | Share 2018    |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                     |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17      |               |
| Canada                              | 85.4         | 83.4         | 79.5         | 85.0         | 86.0         | 88.7         | 86.6         | 86.5         | 87.6         | 89.7         | <b>87.6</b>  | -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          | <b>7.3</b>   | 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         | <b>65.3</b>  | -2.7%                 | 2.0%         | 6.9%          |
| <b>Total North America</b>          | <b>151.1</b> | <b>150.9</b> | <b>146.1</b> | <b>164.7</b> | <b>155.3</b> | <b>155.3</b> | <b>153.2</b> | <b>149.2</b> | <b>154.2</b> | <b>164.1</b> | <b>160.3</b> | <b>-2.3%</b>          | <b>1.3%</b>  | <b>16.9%</b>  |
| Argentina                           | 8.4          | 9.2          | 9.2          | 9.0          | 8.3          | 9.2          | 9.2          | 9.5          | 8.7          | 9.4          | <b>9.4</b>   | 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         | <b>87.7</b>  | 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          | <b>5.2</b>   | 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         | <b>12.8</b>  | -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          | <b>4.7</b>   | 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          | <b>7.0</b>   | 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         | <b>16.3</b>  | -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         | <b>22.3</b>  | -2.0%                 | 1.6%         | 2.4%          |
| <b>Total S. &amp; Cent. America</b> | <b>153.9</b> | <b>157.8</b> | <b>158.6</b> | <b>168.4</b> | <b>165.3</b> | <b>160.6</b> | <b>155.3</b> | <b>151.9</b> | <b>155.3</b> | <b>163.0</b> | <b>165.5</b> | <b>1.5%</b>           | <b>0.6%</b>  | <b>17.4%</b>  |
| Austria                             | 8.7          | 9.3          | 8.7          | 7.7          | 9.9          | 9.5          | 9.3          | 8.4          | 9.0          | 8.7          | <b>8.5</b>   | -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          | <b>0.1</b>   | 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          | <b>0.4</b>   | -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          | <b>3.0</b>   | -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         | <b>14.5</b>  | 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          | <b>3.8</b>   | -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          | <b>1.3</b>   | 44.4%                 | 4.3%         | 0.1%          |
| Hungary                             | †            | 0.1          | †            | 0.1          | †            | †            | 0.1          | 0.1          | 0.1          | †            | <b>0.1</b>   | 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          | <b>10.4</b>  | 33.4%                 | 0.5%         | 1.1%          |
| Netherlands                         | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | 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         | <b>31.3</b>  | -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          | <b>0.4</b>   | -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          | <b>2.8</b>   | 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          | <b>4.0</b>   | 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          | <b>8.0</b>   | 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         | <b>14.0</b>  | -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          | <b>7.9</b>   | 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         | <b>13.5</b>  | 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          | <b>2.2</b>   | 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          | <b>1.2</b>   | -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         | <b>17.9</b>  | 19.9%                 | 2.0%         | 1.9%          |
| <b>Total Europe</b>                 | <b>134.2</b> | <b>133.4</b> | <b>147.0</b> | <b>128.9</b> | <b>141.6</b> | <b>149.7</b> | <b>145.7</b> | <b>143.9</b> | <b>147.4</b> | <b>132.3</b> | <b>145.3</b> | <b>9.8%</b>           | <b>0.4%</b>  | <b>15.3%</b>  |
| Azerbaijan                          | 0.5          | 0.5          | 0.8          | 0.6          | 0.4          | 0.3          | 0.3          | 0.4          | 0.4          | 0.4          | <b>0.4</b>   | 1.2%                  | -3.0%        | ♦             |
| Belarus                             | †            | †            | †            | †            | †            | †            | †            | †            | †            | 0.1          | <b>0.1</b>   | 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          | <b>2.3</b>   | -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         | <b>43.0</b>  | 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          | <b>1.6</b>   | -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          | <b>8.0</b>   | 4.0%                  | 0.2%         | 0.8%          |
| <b>Total CIS</b>                    | <b>47.0</b>  | <b>49.4</b>  | <b>49.1</b>  | <b>48.1</b>  | <b>48.2</b>  | <b>51.9</b>  | <b>50.0</b>  | <b>48.8</b>  | <b>53.1</b>  | <b>54.3</b>  | <b>55.4</b>  | <b>2.0%</b>           | <b>0.5%</b>  | <b>5.8%</b>   |
| Iran                                | 1.7          | 1.5          | 2.3          | 2.4          | 2.8          | 3.3          | 3.3          | 3.0          | 3.5          | 3.9          | <b>2.4</b>   | -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          | <b>0.7</b>   | 42.8%                 | -7.1%        | 0.1%          |
| Israel                              | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | —                     | 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          | <b>0.3</b>   | -4.9%                 | -10.6%       | ♦             |
| <b>Total Middle East</b>            | <b>3.1</b>   | <b>2.7</b>   | <b>3.9</b>   | <b>4.1</b>   | <b>4.8</b>   | <b>5.3</b>   | <b>4.5</b>   | <b>3.8</b>   | <b>4.6</b>   | <b>4.7</b>   | <b>3.4</b>   | <b>-26.9%</b>         | <b>-2.5%</b> | <b>0.4%</b>   |
| Algeria                             | 0.1          | 0.1          | †            | 0.1          | 0.1          | †            | †            | †            | †            | †            | <b>†</b>     | 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          | <b>3.1</b>   | 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          | <b>0.4</b>   | 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          | <b>0.2</b>   | 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         | <b>26.4</b>  | 6.9%                  | 3.5%         | 2.8%          |
| <b>Total Africa</b>                 | <b>22.0</b>  | <b>22.6</b>  | <b>24.3</b>  | <b>25.0</b>  | <b>25.1</b>  | <b>26.6</b>  | <b>28.0</b>  | <b>27.2</b>  | <b>26.4</b>  | <b>28.2</b>  | <b>30.1</b>  | <b>6.6%</b>           | <b>2.7%</b>  | <b>3.2%</b>   |
| Australia                           | 2.7          | 2.9          | 3.1          | 4.4          | 3.9          | 4.3          | 3.3          | 3.2          | 4.0          | 3.1          | <b>3.9</b>   | 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          | <b>0.2</b>   | -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        | <b>272.1</b> | 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         | <b>31.6</b>  | 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          | <b>3.7</b>   | -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         | <b>18.3</b>  | 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          | <b>5.5</b>   | 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          | <b>6.0</b>   | 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          | <b>8.1</b>   | 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          | <b>2.1</b>   | -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          | <b>0.7</b>   | 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          | <b>1.4</b>   | 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          | <b>1.0</b>   | -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          | <b>1.7</b>   | 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         | <b>18.3</b>  | 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         | <b>14.2</b>  | 4.7%                  | 6.3%         | 1.5%          |
| <b>Total Asia Pacific</b>           | <b>225.5</b> | <b>218.5</b> | <b>247.7</b> | <b>252.5</b> | <b>289.4</b> | <b>308.9</b> | <b>341.9</b> | <b>354.1</b> | <b>368.1</b> | <b>373.2</b> | <b>388.9</b> | <b>4.2%</b>           | <b>6.8%</b>  | <b>41.0%</b>  |
| <b>Total World</b>                  | <b>736.8</b> | <b>735.4</b> | <b>776.8</b> | <b>791.8</b> | <b>829.7</b> | <b>858.3</b> | <b>878.7</b> | <b>878.9</b> | <b>909.1</b> | <b>919.9</b> | <b>948.8</b> | <b>3.1%</b>           | <b>2.8%</b>  | <b>100.0%</b> |
| of which: OECD                      | 301.1        | 298.3        | 306.8        | 313.6        | 315.1        | 319.7        | 314.8        | 311.1        | 317.8        | 314.6        | <b>321.3</b> | 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        | <b>627.5</b> | 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         | <b>78.0</b>  | 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.

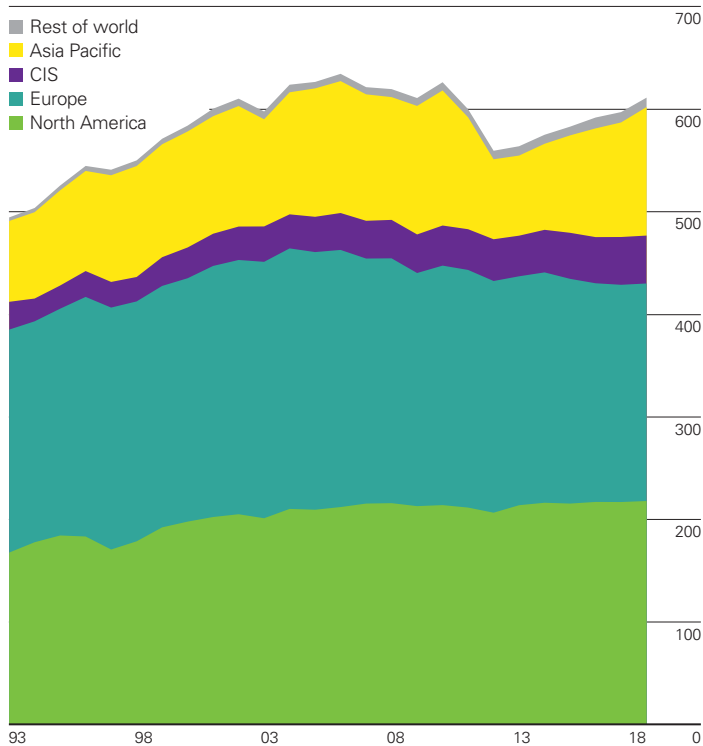
†Less than 0.05.

•Less than 0.05%.

Hydroelectricity data expressed in terawatt-hours is available at [bp.com/statisticalreview](http://bp.com/statisticalreview).

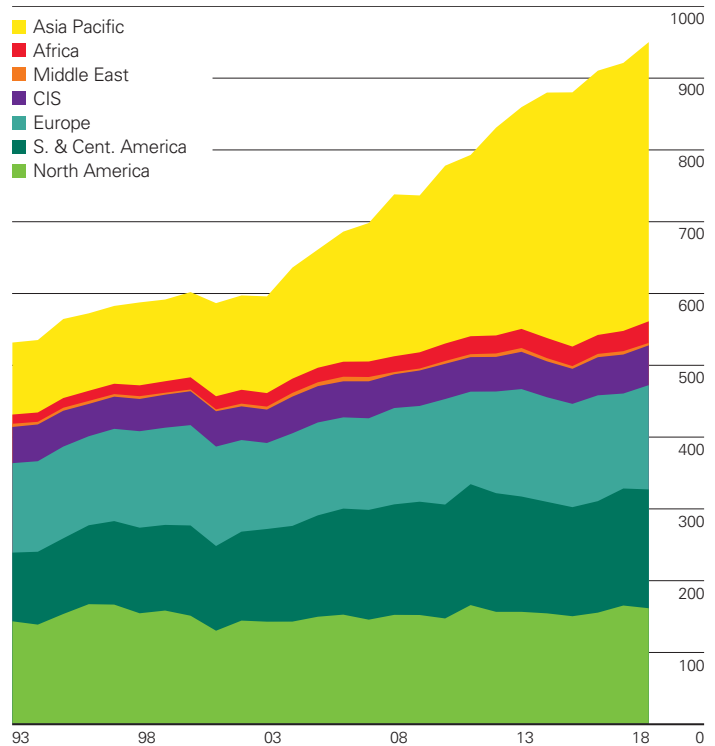
## Nuclear energy consumption by region

Million tonnes oil equivalent



## Hydroelectricity consumption by region

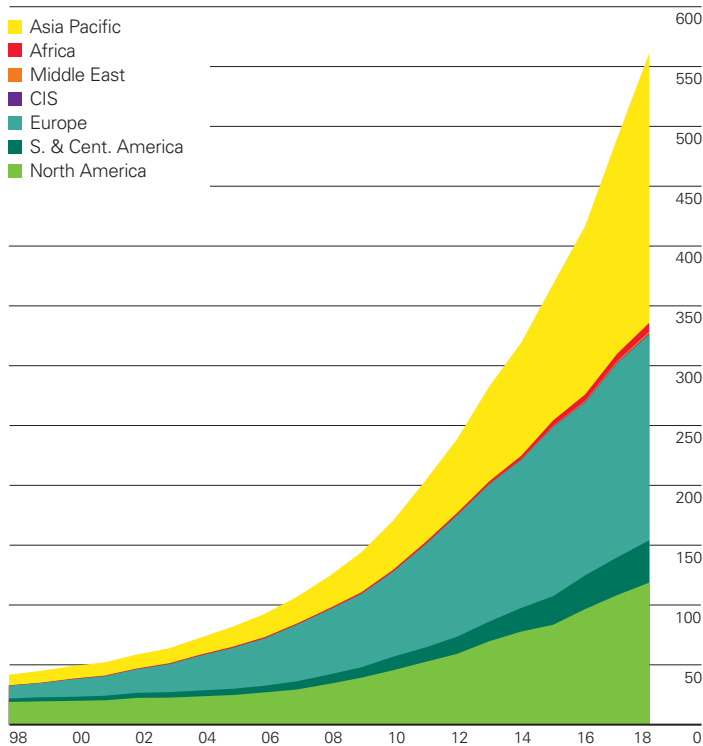
Million tonnes oil equivalent



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%.

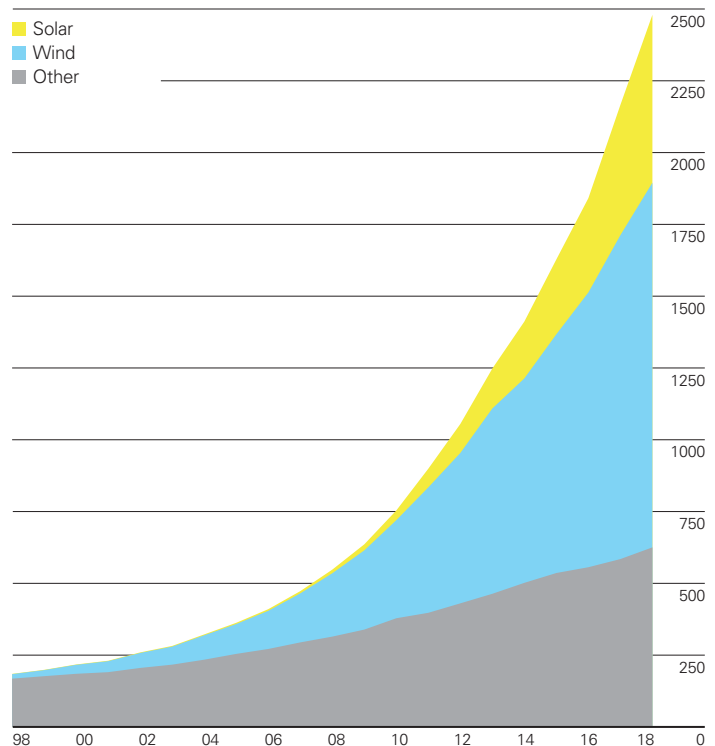
## Renewables consumption by region

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.

## Renewables consumption\*

| Million tonnes oil equivalent       | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |              | Share 2018    |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                     |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17      |               |
| Canada                              | 2.7          | 3.5          | 4.3          | 4.7          | 5.2          | 6.9          | 7.6          | 8.5          | 9.5          | 9.5          | <b>10.3</b>  | 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          | <b>4.8</b>   | 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         | <b>103.8</b> | 9.8%                  | 14.3%        | 18.5%         |
| <b>Total North America</b>          | <b>34.2</b>  | <b>39.3</b>  | <b>45.6</b>  | <b>52.5</b>  | <b>59.3</b>  | <b>69.8</b>  | <b>77.9</b>  | <b>83.6</b>  | <b>96.7</b>  | <b>108.4</b> | <b>118.8</b> | <b>9.6%</b>           | <b>13.9%</b> | <b>21.2%</b>  |
| Argentina                           | 0.4          | 0.4          | 0.5          | 0.5          | 0.6          | 0.7          | 0.7          | 0.7          | 0.6          | 0.7          | <b>0.9</b>   | 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         | <b>23.6</b>  | 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          | <b>3.5</b>   | 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          | <b>0.5</b>   | 7.5%                  | 13.6%        | 0.1%          |
| Ecuador                             | †            | †            | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | <b>0.1</b>   | 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          | <b>0.7</b>   | 50.3%                 | 16.6%        | 0.1%          |
| Trinidad & Tobago                   | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | —                     | -15.7%       | ♦             |
| Venezuela                           | —            | —            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | —                     | —            | ♦             |
| Other S. & Cent. America            | 1.6          | 1.8          | 2.0          | 2.1          | 2.6          | 2.9          | 3.4          | 4.3          | 4.9          | 5.2          | <b>6.1</b>   | 17.0%                 | 13.9%        | 1.1%          |
| <b>Total S. &amp; Cent. America</b> | <b>7.8</b>   | <b>8.7</b>   | <b>11.3</b>  | <b>12.0</b>  | <b>14.3</b>  | <b>16.4</b>  | <b>19.7</b>  | <b>23.9</b>  | <b>28.2</b>  | <b>31.5</b>  | <b>35.4</b>  | <b>12.2%</b>          | <b>16.4%</b> | <b>6.3%</b>   |
| Austria                             | 1.4          | 1.4          | 1.5          | 1.5          | 1.7          | 1.9          | 2.0          | 2.3          | 2.5          | 2.8          | <b>2.8</b>   | -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          | <b>3.8</b>   | 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          | <b>1.7</b>   | -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          | <b>4.3</b>   | 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          | <b>10.6</b>  | 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         | <b>47.3</b>  | 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          | <b>2.4</b>   | 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          | <b>0.8</b>   | 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         | <b>14.9</b>  | -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          | <b>4.2</b>   | 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          | <b>0.9</b>   | 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          | <b>4.4</b>   | -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          | <b>3.9</b>   | 2.6%                  | 10.5%        | 0.7%          |
| Romania                             | †            | †            | 0.1          | 0.4          | 0.6          | 1.2          | 1.5          | 2.2          | 2.0          | 2.2          | <b>2.0</b>   | -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         | <b>16.0</b>  | 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          | <b>6.6</b>   | -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          | <b>0.9</b>   | 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          | <b>8.5</b>   | 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          | <b>0.6</b>   | 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         | <b>23.9</b>  | 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         | <b>11.7</b>  | 2.8%                  | 11.3%        | 2.1%          |
| <b>Total Europe</b>                 | <b>54.1</b>  | <b>61.2</b>  | <b>71.0</b>  | <b>85.9</b>  | <b>101.5</b> | <b>114.7</b> | <b>123.8</b> | <b>141.5</b> | <b>144.5</b> | <b>162.3</b> | <b>172.2</b> | <b>6.1%</b>           | <b>13.1%</b> | <b>30.7%</b>  |
| Azerbaijan                          | —            | †            | †            | —            | —            | †            | †            | †            | †            | †            | <b>†</b>     | 40.2%                 | —            | ♦             |
| Belarus                             | †            | †            | †            | †            | †            | †            | †            | †            | †            | 0.1          | <b>0.1</b>   | 23.8%                 | 34.6%        | ♦             |
| Kazakhstan                          | —            | —            | —            | †            | †            | †            | †            | †            | 0.1          | 0.1          | <b>0.1</b>   | 56.8%                 | —            | ♦             |
| Russian Federation                  | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.2          | 0.2          | 0.2          | 0.3          | <b>0.3</b>   | 10.5%                 | 8.8%         | 0.1%          |
| Turkmenistan                        | —            | —            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | —                     | —            | ♦             |
| Uzbekistan                          | —            | —            | —            | —            | —            | —            | —            | —            | —            | —            | <b>—</b>     | —                     | —            | ♦             |
| Other CIS                           | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | 11.2%                 | 30.1%        | ♦             |
| <b>Total CIS</b>                    | <b>0.1</b>   | <b>0.1</b>   | <b>0.1</b>   | <b>0.2</b>   | <b>0.1</b>   | <b>0.2</b>   | <b>0.2</b>   | <b>0.3</b>   | <b>0.4</b>   | <b>0.5</b>   | <b>0.6</b>   | <b>24.0%</b>          | <b>14.9%</b> | <b>0.1%</b>   |
| Iran                                | †            | 0.1          | †            | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | <b>0.1</b>   | 28.2%                 | 8.8%         | ♦             |
| Iraq                                | —            | —            | —            | —            | —            | †            | †            | †            | †            | †            | <b>†</b>     | —                     | —            | ♦             |
| Israel                              | †            | †            | †            | 0.1          | 0.1          | 0.1          | 0.2          | 0.3          | 0.4          | 0.4          | <b>0.5</b>   | 10.9%                 | 68.2%        | 0.1%          |
| Kuwait                              | —            | —            | —            | —            | —            | †            | †            | †            | †            | †            | <b>†</b>     | —                     | —            | ♦             |
| Oman                                | —            | —            | —            | —            | —            | †            | †            | †            | †            | †            | <b>†</b>     | 57.5%                 | —            | ♦             |
| Qatar                               | —            | —            | —            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | —                     | —            | ♦             |
| Saudi Arabia                        | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | 9.2%                  | —            | ♦             |
| United Arab Emirates                | —            | †            | †            | †            | †            | †            | 0.1          | 0.1          | 0.1          | 0.1          | <b>0.2</b>   | 76.9%                 | —            | ♦             |
| Other Middle East                   | †            | †            | †            | †            | †            | †            | †            | 0.2          | 0.4          | 0.5          | <b>0.8</b>   | 48.5%                 | 67.3%        | 0.1%          |
| <b>Total Middle East</b>            | <b>0.1</b>   | <b>0.1</b>   | <b>0.1</b>   | <b>0.2</b>   | <b>0.2</b>   | <b>0.3</b>   | <b>0.4</b>   | <b>0.7</b>   | <b>1.0</b>   | <b>1.3</b>   | <b>1.7</b>   | <b>34.2%</b>          | <b>42.1%</b> | <b>0.3%</b>   |
| Algeria                             | —            | —            | †            | †            | †            | †            | †            | †            | 0.1          | 0.1          | <b>0.1</b>   | 17.2%                 | —            | ♦             |
| Egypt                               | 0.2          | 0.2          | 0.3          | 0.4          | 0.4          | 0.4          | 0.3          | 0.4          | 0.6          | 0.6          | <b>0.8</b>   | 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          | <b>1.1</b>   | 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          | <b>2.8</b>   | 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          | <b>2.4</b>   | 11.0%                 | 13.2%        | 0.4%          |
| <b>Total Africa</b>                 | <b>1.0</b>   | <b>1.2</b>   | <b>1.4</b>   | <b>1.6</b>   | <b>1.7</b>   | <b>2.0</b>   | <b>2.8</b>   | <b>4.4</b>   | <b>5.3</b>   | <b>6.1</b>   | <b>7.2</b>   | <b>18.5%</b>          | <b>20.4%</b> | <b>1.3%</b>   |
| Australia                           | 1.7          | 1.7          | 1.9          | 2.5          | 3.0          | 3.7          | 4.1          | 4.9          | 5.5          | 5.8          | <b>7.2</b>   | 24.1%                 | 13.5%        | 1.3%          |
| Bangladesh                          | †            | †            | †            | †            | †            | †            | †            | †            | 0.1          | 0.1          | <b>0.1</b>   | 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        | <b>143.5</b> | 28.8%                 | 41.4%        | 25.6%         |
| China Hong Kong SAR                 | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | <b>†</b>     | -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         | <b>27.5</b>  | 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          | <b>3.3</b>   | 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         | <b>25.4</b>  | 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          | <b>0.3</b>   | 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          | <b>2.4</b>   | -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          | <b>1.2</b>   | 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          | <b>3.2</b>   | 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          | <b>0.3</b>   | 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          | <b>5.0</b>   | 24.8%                 | 37.0%        | 0.9%          |
| Sri Lanka                           | †            | †            | †            | †            | †            | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | <b>0.1</b>   | 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          | <b>1.5</b>   | 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          | <b>4.0</b>   | 19.1%                 | 19.8%        | 0.7%          |
| Vietnam                             | †            | †            | †            | †            | †            | †            | †            | 0.1          | 0.1          | 0.1          | <b>0.1</b>   | 39.8%                 | 15.5%        | ♦             |
| Other Asia Pacific                  | †            | †            | †            | †            | 0.1          | 0.1          | 0.1          | 0.1          | 0.2          | 0.2          | <b>0.3</b>   | 32.2%                 | 25.6%        | 0.1%          |
| <b>Total Asia Pacific</b>           | <b>26.8</b>  | <b>33.4</b>  | <b>41.1</b>  | <b>51.3</b>  | <b>61.7</b>  | <b>79.2</b>  | <b>94.5</b>  | <b>114.0</b> | <b>140.7</b> | <b>180.2</b> | <b>225.4</b> | <b>25.0%</b>          | <b>23.2%</b> | <b>40.2%</b>  |
| <b>Total World</b>                  | <b>124.1</b> | <b>144.0</b> | <b>170.6</b> | <b>203.6</b> | <b>238.8</b> | <b>282.5</b> | <b>319.5</b> | <b>368.5</b> | <b>416.8</b> | <b>490.2</b> | <b>561.3</b> | <b>14.5%</b>          | <b>16.4%</b> | <b>100.0%</b> |
| of which: OECD                      | 98.1         | 110.7        | 127.8        | 150.5        | 174.2        | 199.9        | 220.6        | 248.8        | 269.9        | 304.3        | <b>330.4</b> | 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        | <b>230.8</b> | 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        | <b>159.6</b> | 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](http://bp.com/statisticalreview).

## Renewable energy: Generation by source\*

| Terawatt-hours                      |               |              |                   |               |               |              |                   |               | 2018 Growth rate |              |                   |              |
|-------------------------------------|---------------|--------------|-------------------|---------------|---------------|--------------|-------------------|---------------|------------------|--------------|-------------------|--------------|
|                                     | Wind          | Solar        | Other renewables† | 2017 Total    | Wind          | Solar        | Other renewables† | 2018 Total    | 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%         |
| <b>Total North America</b>          | <b>296.6</b>  | <b>82.5</b>  | <b>99.9</b>       | <b>479.0</b>  | <b>322.5</b>  | <b>102.9</b> | <b>99.7</b>       | <b>525.2</b>  | <b>8.8%</b>      | <b>24.7%</b> | <b>-0.1%</b>      | <b>9.6%</b>  |
| 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%        |
| <b>Total S. &amp; Cent. America</b> | <b>56.1</b>   | <b>7.5</b>   | <b>75.8</b>       | <b>139.4</b>  | <b>65.9</b>   | <b>12.4</b>  | <b>78.0</b>       | <b>156.3</b>  | <b>17.3%</b>     | <b>66.7%</b> | <b>3.0%</b>       | <b>12.2%</b> |
| 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%        |
| <b>Total Europe</b>                 | <b>384.3</b>  | <b>124.5</b> | <b>208.2</b>      | <b>717.1</b>  | <b>404.4</b>  | <b>139.1</b> | <b>217.6</b>      | <b>761.1</b>  | <b>5.2%</b>      | <b>11.7%</b> | <b>4.5%</b>       | <b>6.1%</b>  |
| 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%        |
| <b>Total CIS</b>                    | <b>0.6</b>    | <b>0.8</b>   | <b>0.7</b>        | <b>2.0</b>    | <b>1.0</b>    | <b>0.9</b>   | <b>0.7</b>        | <b>2.5</b>    | <b>63.5%</b>     | <b>14.9%</b> | <b>-0.4%</b>      | <b>24.0%</b> |
| 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%        |
| <b>Total Middle East</b>            | <b>0.9</b>    | <b>4.4</b>   | <b>0.3</b>        | <b>5.5</b>    | <b>1.1</b>    | <b>6.1</b>   | <b>0.3</b>        | <b>7.4</b>    | <b>21.4%</b>     | <b>38.8%</b> | <b>–</b>          | <b>34.2%</b> |
| 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%        |
| <b>Total Africa</b>                 | <b>12.8</b>   | <b>6.6</b>   | <b>7.5</b>        | <b>26.9</b>   | <b>14.7</b>   | <b>9.0</b>   | <b>8.2</b>        | <b>31.9</b>   | <b>14.8%</b>     | <b>36.6%</b> | <b>8.9%</b>       | <b>18.5%</b> |
| 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%        |
| <b>Total Asia Pacific</b>           | <b>376.7</b>  | <b>227.2</b> | <b>192.6</b>      | <b>796.6</b>  | <b>460.5</b>  | <b>314.2</b> | <b>221.3</b>      | <b>996.0</b>  | <b>22.2%</b>     | <b>38.3%</b> | <b>14.9%</b>      | <b>25.0%</b> |
| <b>Total World</b>                  | <b>1128.0</b> | <b>453.5</b> | <b>585.0</b>      | <b>2166.5</b> | <b>1270.0</b> | <b>584.6</b> | <b>625.8</b>      | <b>2480.4</b> | <b>12.6%</b>     | <b>28.9%</b> | <b>7.0%</b>       | <b>14.5%</b> |
| 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](http://bp.com/statisticalreview).

## Biofuels production

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

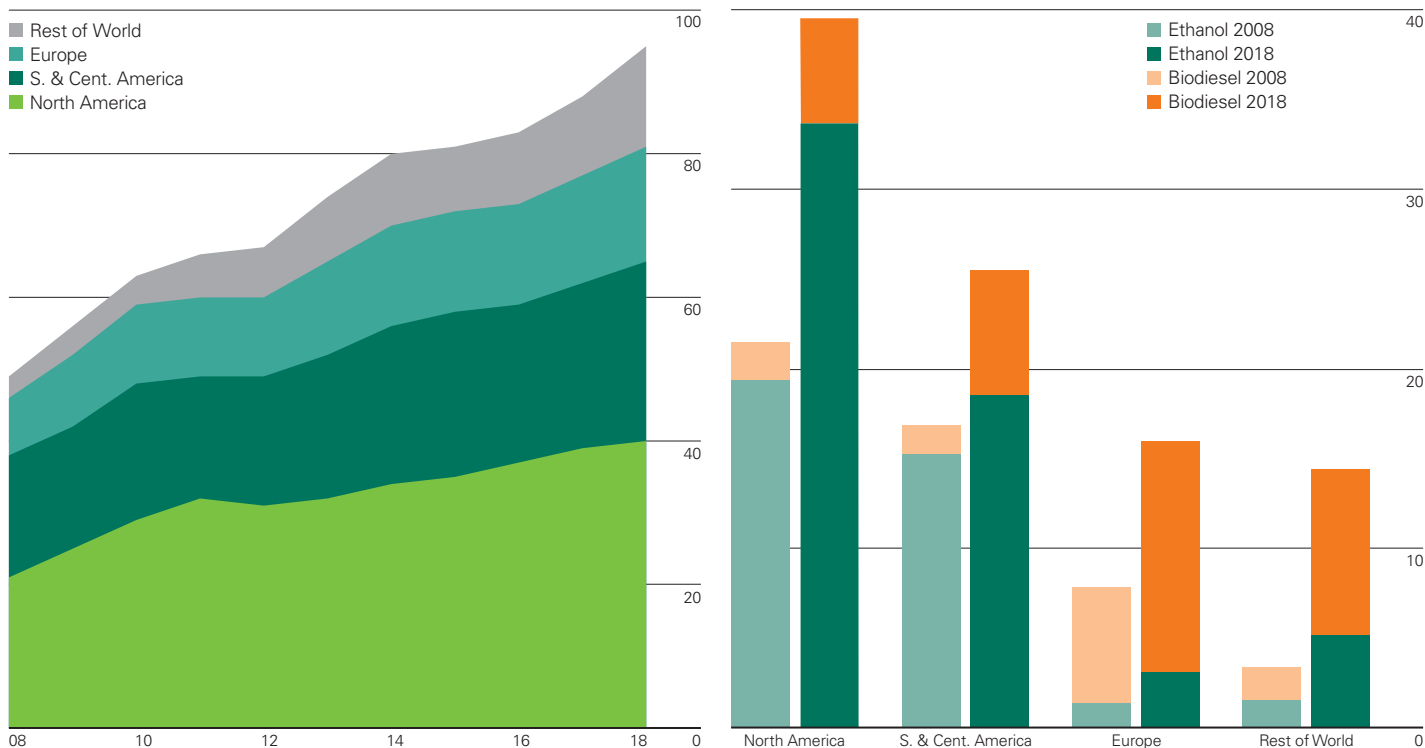
♦ Less than 0.05%.

**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



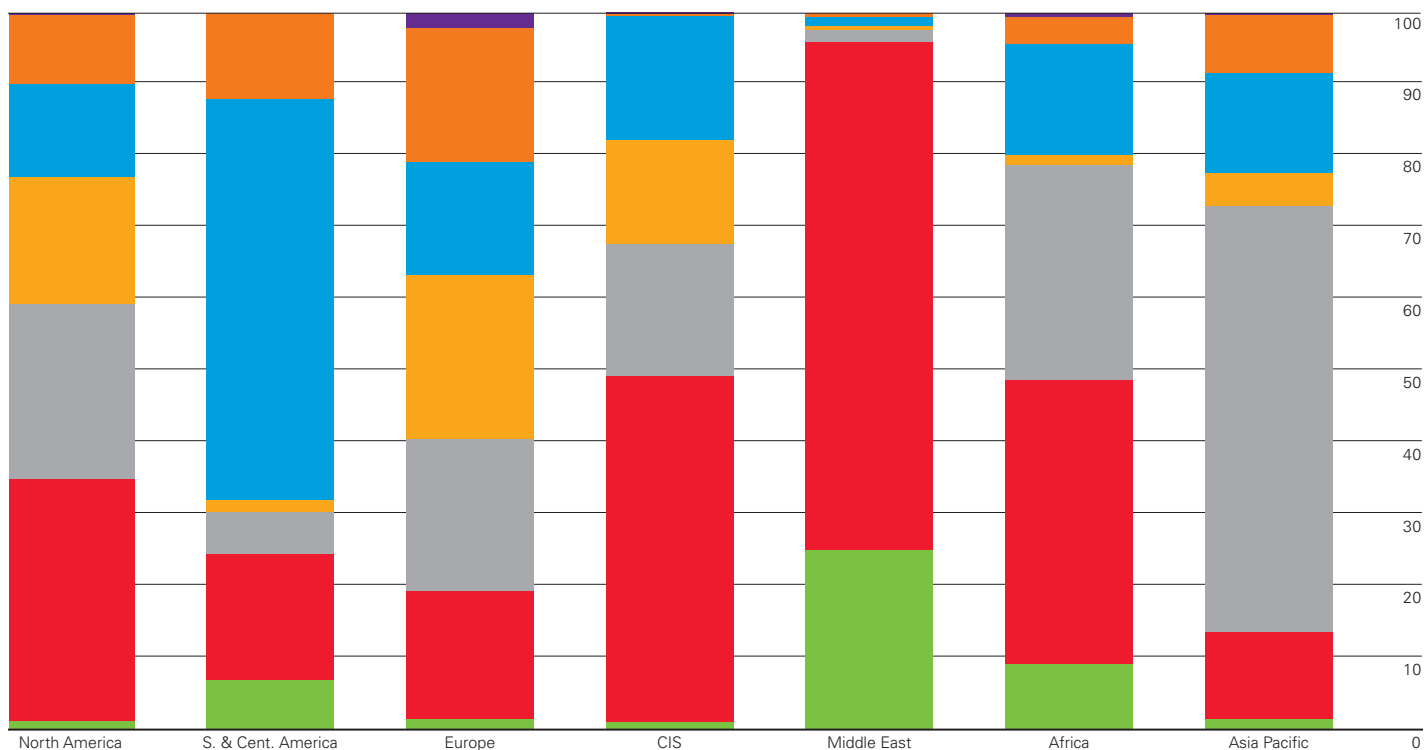
Biofuels production growth averaged 9.7% in 2018, the highest growth since 2010 and slightly above the 10-year average. Brazil (3.1 mtoe) and Indonesia (2.2 mtoe) together accounted for almost two thirds of global growth (8.5 mtoe). By fuel, ethanol production in 2018 totalled 60.4 mtoe with North America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

## Electricity generation\*

|                          |        |        |        |        |        |        |        |        |        |        |        | Growth rate per annum |         |       | Share |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------------|---------|-------|-------|
| Terawatt-hours           | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2018                  | 2007-17 | 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</ |        |        |        |        |        |        |                       |         |       |       |

## Regional electricity generation by fuel 2018

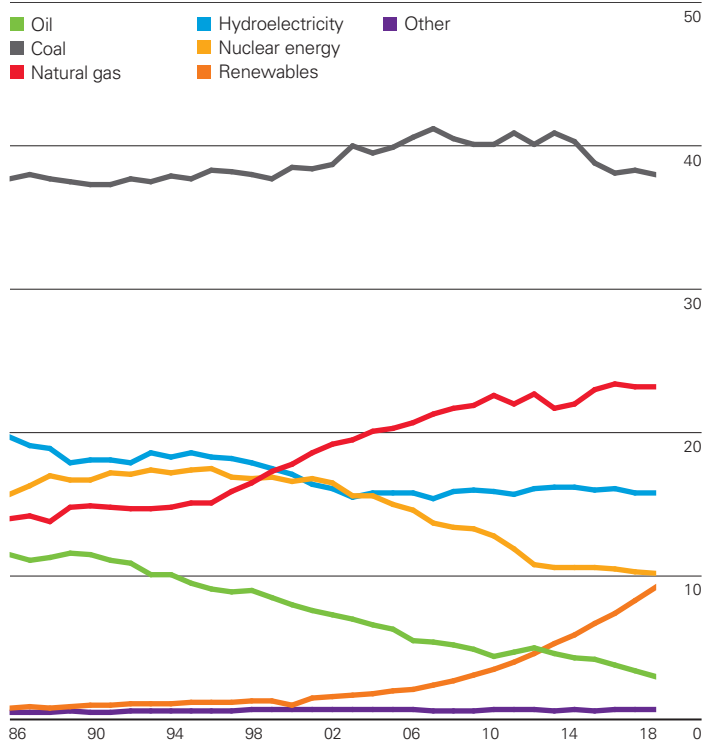
Percentage



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.

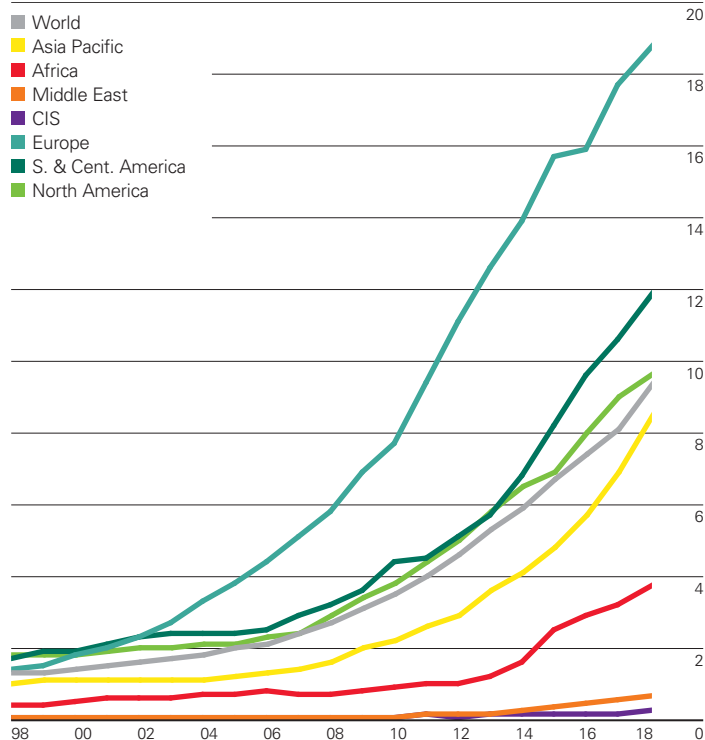
## Share of global electricity generation by fuel

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         |               |               |                |                |               |              |                | 2018         |               |                |                |                |               |              |                |
|----------------------------------|--------------|---------------|---------------|----------------|----------------|---------------|--------------|----------------|--------------|---------------|----------------|----------------|----------------|---------------|--------------|----------------|
|                                  | Oil          | Natural Gas   | Coal          | Nuclear energy | Hydro electric | Renew-ables   | Other†       | Total          | Oil          | Natural Gas   | Coal           | Nuclear energy | Hydro electric | Renew-ables   | Other†       | 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          | <b>654.4</b>   |
| 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          | <b>332.1</b>   |
| 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         | <b>4460.8</b>  |
| <b>Total North America</b>       | <b>65.1</b>  | <b>1649.9</b> | <b>1401.0</b> | <b>958.6</b>   | <b>725.2</b>   | <b>479.0</b>  | <b>15.6</b>  | <b>5294.4</b>  | <b>66.3</b>  | <b>1833.9</b> | <b>1334.3</b>  | <b>963.2</b>   | <b>708.4</b>   | <b>525.2</b>  | <b>16.0</b>  | <b>5447.3</b>  |
| 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          | <b>146.6</b>   |
| 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         | –            | <b>588.0</b>   |
| 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          | †            | <b>570.6</b>   |
| <b>Total S. &amp; C. America</b> | <b>107.5</b> | <b>244.3</b>  | <b>77.5</b>   | <b>21.8</b>    | <b>720.4</b>   | <b>139.4</b>  | <b>0.6</b>   | <b>1311.6</b>  | <b>90.2</b>  | <b>227.9</b>  | <b>76.5</b>    | <b>22.5</b>    | <b>731.3</b>   | <b>156.3</b>  | <b>0.5</b>   | <b>1305.3</b>  |
| 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         | <b>648.7</b>   |
| 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          | <b>290.6</b>   |
| 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          | <b>117.5</b>   |
| 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          | <b>170.1</b>   |
| 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          | <b>275.0</b>   |
| 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          | <b>302.5</b>   |
| 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          | <b>159.4</b>   |
| 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          | <b>333.9</b>   |
| 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         | <b>1779.5</b>  |
| <b>Total Europe</b>              | <b>61.9</b>  | <b>787.5</b>  | <b>888.5</b>  | <b>936.1</b>   | <b>584.9</b>   | <b>717.1</b>  | <b>85.8</b>  | <b>4061.8</b>  | <b>56.0</b>  | <b>731.3</b>  | <b>862.7</b>   | <b>937.5</b>   | <b>642.1</b>   | <b>761.1</b>  | <b>86.6</b>  | <b>4073.3</b>  |
| Kazakhstan                       | 1.9          | 19.8          | 69.9          | –              | 11.2           | 0.4           | –            | 103.1          | 1.7          | 24.2          | 70.2           | –              | 10.3           | 0.7           | –            | <b>107.1</b>   |
| 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          | <b>1110.8</b>  |
| 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          | <b>199.5</b>   |
| <b>Total CIS</b>                 | <b>14.4</b>  | <b>663.2</b>  | <b>251.4</b>  | <b>205.8</b>   | <b>240.1</b>   | <b>2.0</b>    | <b>4.7</b>   | <b>1381.7</b>  | <b>13.7</b>  | <b>686.1</b>  | <b>259.0</b>   | <b>206.6</b>   | <b>244.8</b>   | <b>2.5</b>    | <b>4.7</b>   | <b>1417.4</b>  |
| 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           | –            | <b>310.8</b>   |
| Saudi Arabia                     | 156.9        | 225.1         | –             | –              | –              | 0.1           | –            | 382.1          | 150.6        | 233.0         | –              | –              | –              | 0.2           | –            | <b>383.8</b>   |
| United Arab Emirates             | 1.6          | 132.4         | –             | –              | –              | 0.5           | –            | 134.6          | 1.6          | 134.4         | –              | –              | –              | 1.0           | –            | <b>136.9</b>   |
| 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          | <b>408.9</b>   |
| <b>Total Middle East</b>         | <b>322.1</b> | <b>841.0</b>  | <b>22.8</b>   | <b>7.1</b>     | <b>20.8</b>    | <b>5.5</b>    | <b>†</b>     | <b>1219.3</b>  | <b>310.9</b> | <b>878.5</b>  | <b>21.3</b>    | <b>7.0</b>     | <b>15.2</b>    | <b>7.4</b>    | <b>0.1</b>   | <b>1240.4</b>  |
| Egypt                            | 27.7         | 149.4         | –             | –              | 13.4           | 2.7           | –            | 193.2          | 22.1         | 160.9         | –              | –              | 13.5           | 3.5           | –            | <b>200.0</b>   |
| 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          | <b>256.0</b>   |
| 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          | <b>397.7</b>   |
| <b>Total Africa</b>              | <b>83.8</b>  | <b>324.9</b>  | <b>248.8</b>  | <b>15.8</b>    | <b>124.6</b>   | <b>26.9</b>   | <b>4.9</b>   | <b>829.6</b>   | <b>77.6</b>  | <b>339.3</b>  | <b>255.9</b>   | <b>11.1</b>    | <b>132.8</b>   | <b>31.9</b>   | <b>5.1</b>   | <b>853.7</b>   |
| 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          | <b>261.4</b>   |
| 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         | <b>7111.8</b>  |
| 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          | <b>1561.1</b>  |
| Indonesia                        | 18.9         | 55.7          | 148.0         | –              | 18.6           | 13.4          | –            | 254.6          | 20.2         | 59.6          | 156.4          | –              | 16.4           | 14.8          | –            | <b>267.3</b>   |
| 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         | <b>1051.6</b>  |
| Malaysia                         | 5.0          | 65.1          | 67.7          | –              | 23.1           | 1.3           | †            | 162.3          | 2.3          | 66.4          | 74.1           | –              | 24.2           | 1.5           | †            | <b>168.4</b>   |
| 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          | <b>594.3</b>   |
| 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          | <b>273.6</b>   |
| Thailand                         | 0.3          | 121.0         | 35.7          | –              | 4.7            | 14.9          | –            | 176.7          | 0.2          | 116.3         | 35.8           | –              | 7.6            | 17.8          | –            | <b>177.6</b>   |
| Vietnam                          | 0.7          | 44.4          | 76.1          | –              | 70.9           | 0.3           | –            | 192.5          | 0.7          | 44.3          | 86.7           | –              | 80.7           | 0.5           | –            | <b>212.9</b>   |
| 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          | <b>593.6</b>   |
| <b>Total Asia Pacific</b>        | <b>215.1</b> | <b>1442.1</b> | <b>6916.2</b> | <b>493.8</b>   | <b>1649.4</b>  | <b>796.6</b>  | <b>65.0</b>  | <b>11578.2</b> | <b>188.0</b> | <b>1485.8</b> | <b>7290.8</b>  | <b>553.6</b>   | <b>1718.5</b>  | <b>996.0</b>  | <b>40.9</b>  | <b>12273.6</b> |
| <b>Total World</b>               | <b>870.0</b> | <b>5952.8</b> | <b>9806.2</b> | <b>2639.0</b>  | <b>4065.4</b>  | <b>2166.5</b> | <b>176.7</b> | <b>25676.6</b> | <b>802.8</b> | <b>6182.8</b> | <b>10100.5</b> | <b>2701.4</b>  | <b>4193.1</b>  | <b>2480.4</b> | <b>153.8</b> | <b>26614.8</b> |
| 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        | <b>11233.6</b> |
| 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         | <b>15381.2</b> |
| 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         | <b>3282.2</b>  |

\*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 |         | Share 2018 |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------------|---------|------------|
|                                  |        |        |        |        |        |        |        |        |        |        |        | 2018                  | 2007-17 |            |
| Canada                           | 545.6  | 502.3  | 526.7  | 539.0  | 523.2  | 541.9  | 551.3  | 544.6  | 535.9  | 549.5  | 550.3  | 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                               | 5675.7 | 5263.9 | 5465.6 | 5355.7 | 5137.0 | 5260.5 | 5300.4 | 5153.7 | 5053.7 | 5014.4 | 5145.2 | 2.6%                  | -1.5%   | 15.2%      |
| Total North America              | 6652.9 | 6199.2 | 6434.7 | 6360.1 | 6134.0 | 6274.9 | 6310.9 | 6161.2 | 6058.2 | 6040.7 | 6157.9 | 1.9%                  | -1.2%   | 18.2%      |
| Argentina                        | 160.2  | 154.3  | 166.0  | 168.8  | 175.3  | 182.8  | 182.8  | 186.0  | 185.9  | 184.1  | 180.3  | -2.1%                 | 1.6%    | 0.5%       |
| Brazil                           | 374.0  | 351.4  | 399.4  | 424.4  | 443.4  | 483.4  | 504.6  | 487.6  | 451.0  | 458.9  | 441.8  | -3.7%                 | 2.7%    | 1.3%       |
| 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   | 72.6   | 71.3   | 79.7   | 83.5   | 89.2   | 89.8   | 97.9   | 93.2   | 98.1   | 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   | 7.9%                  | 2.4%    | 0.1%       |
| Peru                             | 34.7   | 34.9   | 38.6   | 44.1   | 43.8   | 45.1   | 46.0   | 49.7   | 53.2   | 49.2   | 52.3   | 6.4%                  | 4.6%    | 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         | 209.7  | 204.9  | 208.0  | 214.0  | 211.6  | 209.0  | 212.7  | 221.8  | 230.1  | 229.4  | 236.8  | 3.2%                  | 0.7%    | 0.7%       |
| Total S. & Cent. America         | 1144.4 | 1105.3 | 1181.8 | 1235.8 | 1280.7 | 1330.6 | 1355.2 | 1347.3 | 1320.4 | 1305.6 | 1286.5 | -1.5%                 | 1.7%    | 3.8%       |
| Austria                          | 69.0   | 62.9   | 68.1   | 62.4   | 60.4   | 59.6   | 56.4   | 59.4   | 59.7   | 62.5   | 61.2   | -2.0%                 | -0.9%   | 0.2%       |
| Belgium                          | 142.3  | 129.8  | 138.4  | 125.1  | 120.9  | 121.8  | 114.2  | 121.3  | 123.2  | 126.0  | 129.6  | 2.9%                  | -1.1%   | 0.4%       |
| Czech Republic                   | 120.0  | 113.3  | 116.3  | 112.8  | 109.0  | 104.8  | 101.7  | 102.9  | 104.9  | 103.0  | 103.2  | 0.2%                  | -1.9%   | 0.3%       |
| Finland                          | 60.0   | 57.4   | 65.5   | 57.6   | 51.5   | 52.9   | 48.5   | 44.7   | 48.2   | 45.4   | 46.6   | 2.7%                  | -3.9%   | 0.1%       |
| France                           | 371.1  | 356.3  | 361.5  | 334.9  | 336.3  | 336.0  | 302.3  | 310.5  | 315.3  | 321.4  | 311.8  | -3.0%                 | -1.4%   | 0.9%       |
| Germany                          | 806.5  | 751.0  | 780.6  | 761.0  | 770.3  | 794.6  | 748.4  | 751.9  | 766.6  | 762.6  | 725.7  | -4.8%                 | -0.6%   | 2.1%       |
| Greece                           | 108.9  | 104.2  | 96.0   | 95.4   | 89.8   | 81.3   | 77.7   | 75.1   | 71.9   | 77.1   | 76.2   | -1.2%                 | -3.9%   | 0.2%       |
| Hungary                          | 54.4   | 48.2   | 48.8   | 50.3   | 45.9   | 43.3   | 42.3   | 45.1   | 45.5   | 47.9   | 47.7   | -0.4%                 | -1.5%   | 0.1%       |
| Italy                            | 446.9  | 404.0  | 409.8  | 399.8  | 386.6  | 353.6  | 330.2  | 343.1  | 343.6  | 346.3  | 336.3  | -2.9%                 | -2.8%   | 1.0%       |
| Netherlands                      | 231.4  | 222.6  | 232.4  | 224.4  | 217.3  | 211.7  | 200.8  | 209.2  | 212.7  | 205.9  | 202.7  | -1.6%                 | -1.3%   | 0.6%       |
| Norway                           | 35.5   | 35.5   | 36.5   | 36.7   | 36.5   | 36.5   | 35.8   | 35.8   | 34.7   | 35.0   | 35.5   | 1.4%                  | -0.3%   | 0.1%       |
| Poland                           | 319.2  | 305.0  | 322.8  | 322.6  | 307.2  | 309.8  | 292.9  | 292.9  | 305.6  | 315.4  | 322.5  | 2.3%                  | -0.1%   | 1.0%       |
| Portugal                         | 57.7   | 56.9   | 51.5   | 51.4   | 50.7   | 49.3   | 49.3   | 53.7   | 53.0   | 57.8   | 54.5   | -5.7%                 | -0.2%   | 0.2%       |
| Romania                          | 93.3   | 79.7   | 77.5   | 83.3   | 80.1   | 69.2   | 69.7   | 70.6   | 69.3   | 72.6   | 72.0   | -0.9%                 | -2.7%   | 0.2%       |
| Spain                            | 352.3  | 314.4  | 298.7  | 308.8  | 307.2  | 275.9  | 273.6  | 289.2  | 282.3  | 299.9  | 295.2  | -1.6%                 | -2.3%   | 0.9%       |
| Sweden                           | 56.1   | 53.4   | 56.7   | 52.0   | 49.2   | 48.0   | 46.2   | 46.4   | 46.7   | 45.9   | 44.8   | -2.4%                 | -2.5%   | 0.1%       |
| Switzerland                      | 43.0   | 43.6   | 41.3   | 39.4   | 40.7   | 42.8   | 38.0   | 38.8   | 37.4   | 38.2   | 36.6   | -4.0%                 | -0.5%   | 0.1%       |
| Turkey                           | 276.9  | 276.1  | 278.6  | 301.5  | 316.9  | 305.5  | 337.5  | 346.1  | 366.0  | 388.5  | 389.9  | 0.3%                  | 3.6%    | 1.2%       |
| Ukraine                          | 317.3  | 271.8  | 286.9  | 303.0  | 296.7  | 285.7  | 244.9  | 192.5  | 213.7  | 185.0  | 186.5  | 0.9%                  | -5.2%   | 0.6%       |
| United Kingdom                   | 562.8  | 516.1  | 532.6  | 495.0  | 511.8  | 498.4  | 457.3  | 438.4  | 414.7  | 403.2  | 394.1  | -2.3%                 | -3.4%   | 1.2%       |
| Other Europe                     | 414.2  | 387.4  | 400.1  | 400.6  | 377.1  | 371.4  | 352.6  | 362.3  | 370.8  | 378.0  | 375.7  | -0.6%                 | -1.0%   | 1.1%       |
| Total Europe                     | 4939.0 | 4589.6 | 4700.6 | 4618.0 | 4562.0 | 4452.3 | 4220.3 | 4230.0 | 4285.9 | 4317.5 | 4248.4 | -1.6%                 | -1.5%   | 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   | -1.4%                 | 0.7%    | 0.1%       |
| Belarus                          | 59.4   | 57.2   | 60.2   | 57.1   | 58.5   | 58.1   | 57.3   | 53.1   | 53.4   | 54.0   | 56.6   | 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   | 27.3   | 28.3   | 28.6   | 28.0   | 30.3   | 8.5%                  | 2.0%    | 0.1%       |
| Total CIS                        | 1993.0 | 1875.6 | 1939.0 | 2035.1 | 2063.1 | 2014.6 | 2027.5 | 1986.8 | 1997.3 | 2001.2 | 2100.4 | 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  | 122.7  | -0.3%                 | -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 | 2118.8 | 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%    | 1.2%       |
| Other Africa                     | 270.4  | 276.8  | 290.6  | 289.9  | 308.6  | 326.9  | 343.5  | 353.3  | 359.8  | 378.5  | 391.0  | 3.3%                  | 3.9%    | 1.2%       |
| Total Africa                     | 1027.8 | 1041.6 | 1071.6 | 1073.1 | 1106.4 | 1130.7 | 1166.2 | 1173.7 | 1191.2 | 1206.1 | 1234.6 | 2.4%                  | 2.3%    | 3.6%       |
| Australia                        | 420.5  | 414.8  | 408.7  | 414.6  | 406.7  | 401.8  | 408.8  | 413.2  | 418.3  | 412.3  | 416.6  | 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                            | 7378.5 | 7708.8 | 8135.2 | 8805.8 | 8991.5 | 9237.7 | 9223.7 | 9174.6 | 9119.0 | 9229.8 | 9428.7 | 2.2%                  | 2.5%    | 27.8%      |
| China Hong Kong SAR              | 79.2   | 86.5   | 88.3   | 92.0   | 88.7   | 91.5   | 89.8   | 90.5   | 92.7   | 98.9   | 99.5   | 0.6%                  | 1.5%    | 0.3%       |
| India                            | 1466.9 | 1595.6 | 1661.0 | 1735.7 | 1849.2 | 1930.0 | 2083.3 | 2147.8 | 2234.2 | 2316.9 | 2479.1 | 7.0%                  | 5.4%    | 7.3%       |
| Indonesia                        | 376.1  | 387.9  | 427.6  | 479.0  | 511.8  | 526.4  | 480.6  | 488.6  | 493.1  | 516.1  | 543.0  | 5.2%                  | 2.9%    | 1.6%       |
| Japan                            | 1274.9 | 1112.5 | 1183.8 | 1194.7 | 1285.6 | 1273.6 | 1239.6 | 1197.4 | 1178.5 | 1171.8 | 1148.4 | -2.0%                 | -0.8%   | 3.4%       |
| Malaysia                         | 197.8  | 190.3  | 213.0  | 213.5  | 226.3  | 232.4  | 240.2  | 245.6  | 240.8  | 241.6  | 250.3  | 3.6%                  | 2.4%    | 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%</  |            |

## Cobalt production

### Mine production

| Thousand tonnes    | 2008        | 2009        | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |             | Share 2018    |
|--------------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-------------|---------------|
|                    |             |             |              |              |              |              |              |              |              |              |              | 2018                  | 2017-17     |               |
| Australia          | 4.8         | 4.6         | 3.9          | 3.9          | 5.9          | 6.4          | 6.2          | 6.0          | 5.5          | 5.8          | <b>4.7</b>   | -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          | <b>3.5</b>   | -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         | <b>111.7</b> | 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          | <b>4.5</b>   | -10.2%                | 0.9%        | 2.8%          |
| Madagascar         | —           | —           | 0.2          | 0.5          | 0.6          | 2.4          | 3.4          | 4.0          | 3.8          | 3.4          | <b>3.3</b>   | -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          | <b>2.3</b>   | -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          | <b>1.7</b>   | -40.7%                | 2.2%        | 1.1%          |
| Papua New Guinea   | —           | —           | —            | —            | 0.5          | 1.0          | 2.1          | 2.5          | 2.2          | 3.3          | <b>3.2</b>   | -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          | <b>4.4</b>   | -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          | <b>5.9</b>   | —                     | -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          | <b>2.2</b>   | -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          | <b>3.2</b>   | —                     | -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          | <b>7.4</b>   | 24.4%                 | -2.0%       | 4.7%          |
| <b>Total World</b> | <b>83.6</b> | <b>94.1</b> | <b>129.5</b> | <b>146.6</b> | <b>132.8</b> | <b>127.5</b> | <b>130.4</b> | <b>137.3</b> | <b>119.9</b> | <b>138.9</b> | <b>158.1</b> | <b>13.9%</b>          | <b>7.5%</b> | <b>100.0%</b> |

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 |             | Share 2018    |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------|---------------|
|                                    |             |             |             |             |             |             |             |             |             |             |             | 2018                  | 2017-17     |               |
| Argentina                          | 3.2         | 2.2         | 3.0         | 3.0         | 2.7         | 2.5         | 3.2         | 3.6         | 5.8         | 5.7         | <b>6.2</b>  | 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        | <b>27.2</b> | 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         | <b>0.6</b>  | 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        | <b>16.0</b> | 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         | <b>8.0</b>  | 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         | <b>0.8</b>  | —                     | 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         | <b>0.9</b>  | —                     | -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         | <b>1.6</b>  | 100.0%                | 10.3%       | 2.6%          |
| Rest of World                      | 0.7         | 0.3         | —           | —           | —           | —           | —           | —           | —           | 1.0         | <b>0.5</b>  | -50.0%                | —           | 0.8%          |
| <b>Total World</b>                 | <b>27.7</b> | <b>19.8</b> | <b>28.2</b> | <b>35.0</b> | <b>36.6</b> | <b>31.9</b> | <b>32.2</b> | <b>30.7</b> | <b>39.8</b> | <b>52.5</b> | <b>61.8</b> | <b>17.6%</b>          | <b>6.6%</b> | <b>100.0%</b> |

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 |              | Share 2018    |
|---------------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|-----------------------|--------------|---------------|
|                     |              |              |              |               |               |               |               |               |               |              |              | 2018                  | 2017-17      |               |
| Brazil <sup>1</sup> | 80.5         | 59.4         | 92.4         | 105.2         | 88.1          | 91.9          | 87.0          | 75.1          | 85.0          | 85.0         | <b>95.0</b>  | 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         | <b>40.0</b>  | —                     | 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        | <b>630.0</b> | 0.8%                  | -2.4%        | 70.3%         |
| India <sup>2</sup>  | 117.8        | 124.6        | 115.7        | 153.3         | 134.7         | 146.4         | 116.7         | 134.6         | 122.4         | 35.0         | <b>35.0</b>  | —                     | -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          | <b>9.0</b>   | 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          | <b>3.8</b>   | —                     | -9.0%        | 0.4%          |
| Mozambique          | —            | —            | —            | —             | —             | —             | —             | —             | —             | 0.3          | <b>20.0</b>  | 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         | <b>17.0</b>  | -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          | <b>3.1</b>   | —                     | -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         | <b>14.9</b>  | —                     | 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          | <b>2.0</b>   | 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         | <b>25.8</b>  | 12.6%                 | -4.7%        | 2.9%          |
| <b>Total World</b>  | <b>965.2</b> | <b>740.0</b> | <b>987.4</b> | <b>1144.6</b> | <b>1155.8</b> | <b>1099.3</b> | <b>1104.1</b> | <b>1098.7</b> | <b>1095.2</b> | <b>865.0</b> | <b>895.6</b> | <b>3.5%</b>           | <b>-3.0%</b> | <b>100.0%</b> |

<sup>1</sup>Including beneficiated and directly shipped material.

<sup>2</sup>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 <sup>1</sup> | 2008         | 2009         | 2010        | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |             | Share 2018    |
|------------------------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-------------|---------------|
|                              |              |              |             |              |              |              |              |              |              |              |              | 2018                  | 2017-17     |               |
| Australia                    | —            | —            | —           | 2.2          | 3.2          | 1.3          | 6.2          | 11.9         | 13.9         | 17.3         | <b>18.6</b>  | 7.5%                  | —           | 11.1%         |
| Brazil                       | 0.5          | 0.2          | 0.1         | 0.1          | 1.6          | 0.3          | —            | 0.9          | 2.2          | 1.7          | <b>1.0</b>   | -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        | <b>120.0</b> | 14.3%                 | -1.3%       | 72.0%         |
| India                        | †            | †            | —           | —            | —            | 0.3          | 1.7          | 1.0          | 1.5          | 1.5          | <b>1.8</b>   | 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          | <b>0.2</b>   | 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          | <b>2.7</b>   | —                     | ♦           | 1.6%          |
| Thailand                     | n/a          | 4.0          | 5.6         | 3.1          | 0.1          | 0.1          | 1.9          | 0.8          | 1.6          | 1.3          | <b>1.0</b>   | -23.1%                | —           | 0.6%          |
| US                           | —            | —            | —           | —            | 3.0          | 5.5          | 5.4          | 5.9          | —            | —            | <b>15.0</b>  | —                     | —           | 9.0%          |
| Rest of World                | —            | —            | 0.2         | 0.2          | 0.2          | 0.1          | —            | 0.3          | 0.2          | 0.3          | <b>6.4</b>   | 2460.0%               | —           | 3.8%          |
| <b>Total World</b>           | <b>128.1</b> | <b>135.1</b> | <b>97.0</b> | <b>101.3</b> | <b>104.2</b> | <b>103.0</b> | <b>122.6</b> | <b>128.3</b> | <b>127.8</b> | <b>129.9</b> | <b>166.7</b> | <b>28.3%</b>          | <b>0.5%</b> | <b>100.0%</b> |

<sup>1</sup>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        |
| <b>Total World</b>           | <b>6569</b>    | <b>100.0%</b> | <b>42</b> |

### 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       |
| <b>Total World</b> | <b>306700</b>  | <b>100.0%</b> | <b>342</b> |

### 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*     | —              | —             | —          |
| <b>Total World</b> | <b>13919</b>   | <b>100.0%</b> | <b>225</b> |

### 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       |
| <b>Total World</b> | <b>116749</b>  | <b>100.0%</b> | <b>701</b> |

\*Rest of World is the sum of only recorded reserves.

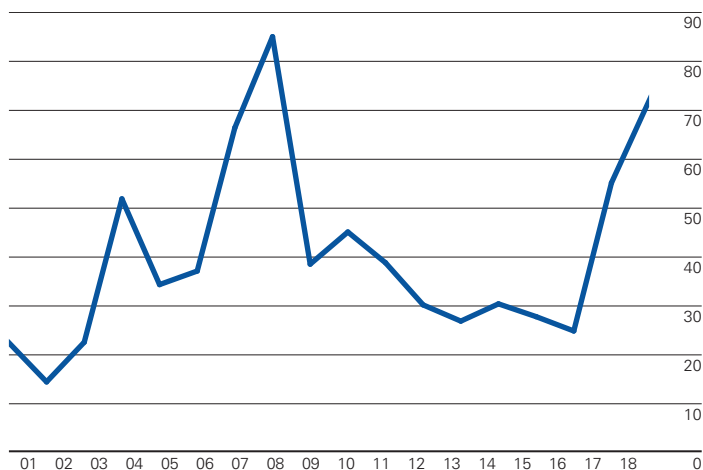
♦Less than 0.05%.

n/a not available.

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

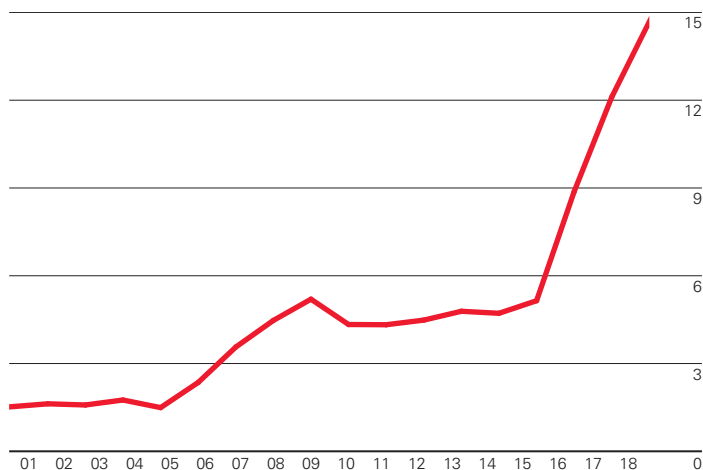
## Cobalt prices

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                          |

## 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.

#### OEPEC 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.

### 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:

|                      |                                                 |
|----------------------|-------------------------------------------------|
| <b>Heat units</b>    | 10 million kilocalories                         |
|                      | 42 gigajoules                                   |
|                      | 40 million British thermal units                |
| <b>Solid fuels</b>   | 1.5 tonnes of hard coal                         |
|                      | 3 tonnes of lignite and sub-bituminous coal     |
| <b>Gaseous fuels</b> | See Natural gas and liquefied natural gas table |
| <b>Electricity</b>   | 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

### 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.

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