



# BP Statistical Review of World Energy

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



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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.

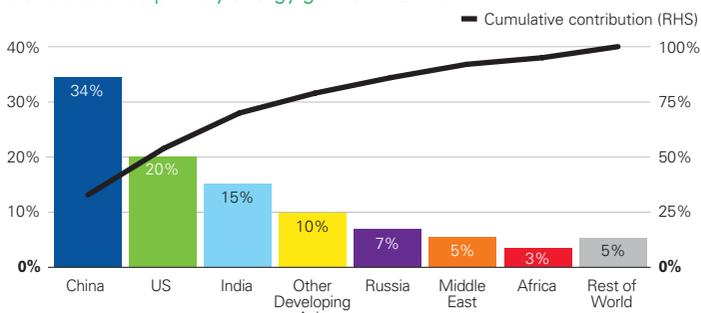
The strength in energy consumption was pretty much reflected across all the fuels, most of which grew more strongly than their historical averages. This acceleration was particularly pronounced in natural gas demand, which increased 5.3%, one of its strongest growth rates for over 30 years, accounting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

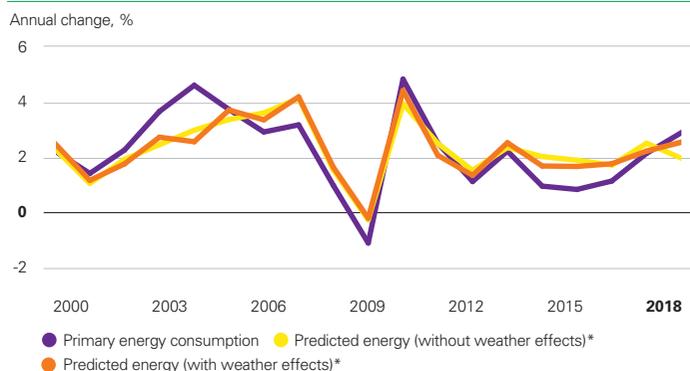
In terms of why the growth in energy demand was so strong: a simple model provides a way of gauging the extent of the surprise in this year's energy data. The model uses GDP growth and oil prices (as a proxy for energy prices) to predict primary energy growth at a country level and then aggregates to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

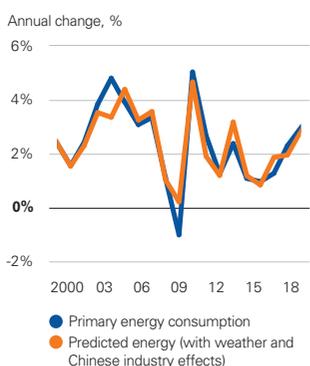
## Global energy consumption growth



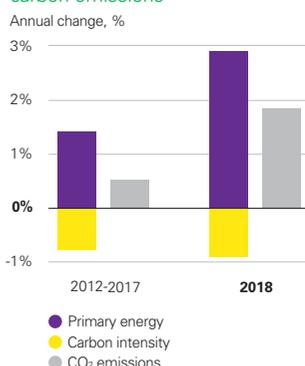
\*These econometric models do not include Chinese energy intensive industries

## 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.

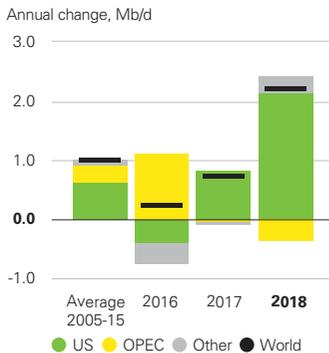
Against this backdrop of steady demand growth, all the excitement came from the supply side, where global production grew by a whopping 2.2 Mb/d, more than double its historical average. The vast majority of this growth was driven by US production, which grew by 2.2 Mb/d – the largest ever annual increase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

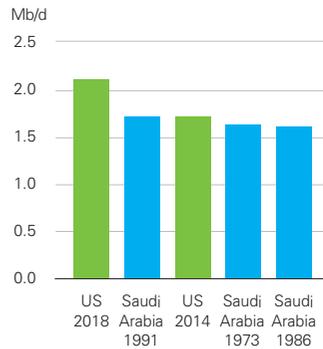
Growth of US oil production, the largest ever annual increase by a single country.

## 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

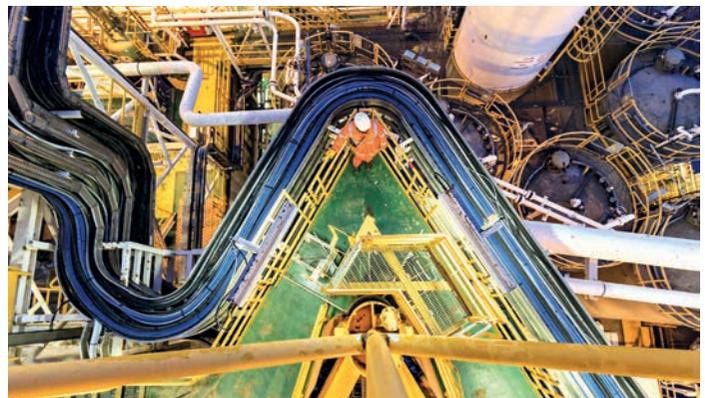
2018 was a bonanza year for natural gas, with both global consumption and production increasing by over 5%, one of the strongest growth rates in either gas demand or output for over 30 years. The main actor here was the US, accounting for almost 40% of global demand growth and over 45% of the increase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



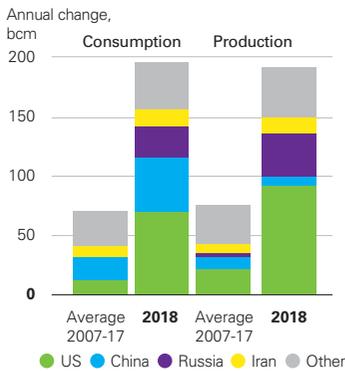
**Above:** Birds eye view of the Shah Deniz Alpha platform in the Caspian Sea, off the coast of Azerbaijan.

# 78 bcm

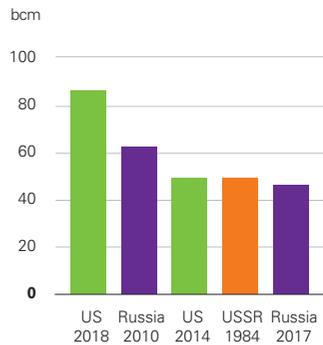
Growth of US gas consumption, a record high for any country.

## 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.

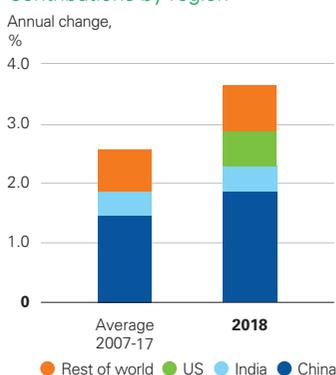


Above: Turbines at Goshen wind farm in Idaho Falls, US.

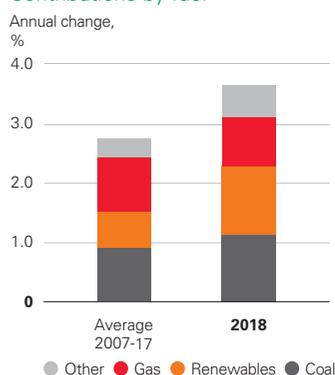
**45%**  
China's contribution to global renewables growth, more than the entire OECD combined.

## Growth in power generation

### Contributions by region



### Contributions by fuel



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.

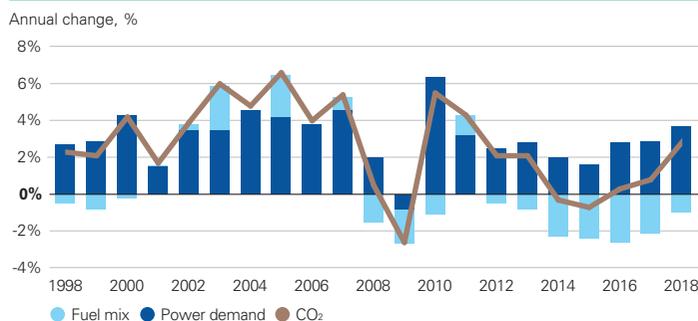
Over the past five years or so, the rapid growth in renewable energy, together with an edging down in the coal share, has led to a more sustained improvement in the carbon intensity of the power sector, such that the impact of increasing power demand on carbon emissions has been partially offset. But 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

## Carbon emissions from power sector



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

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# ① Primary energy

## Consumption\*

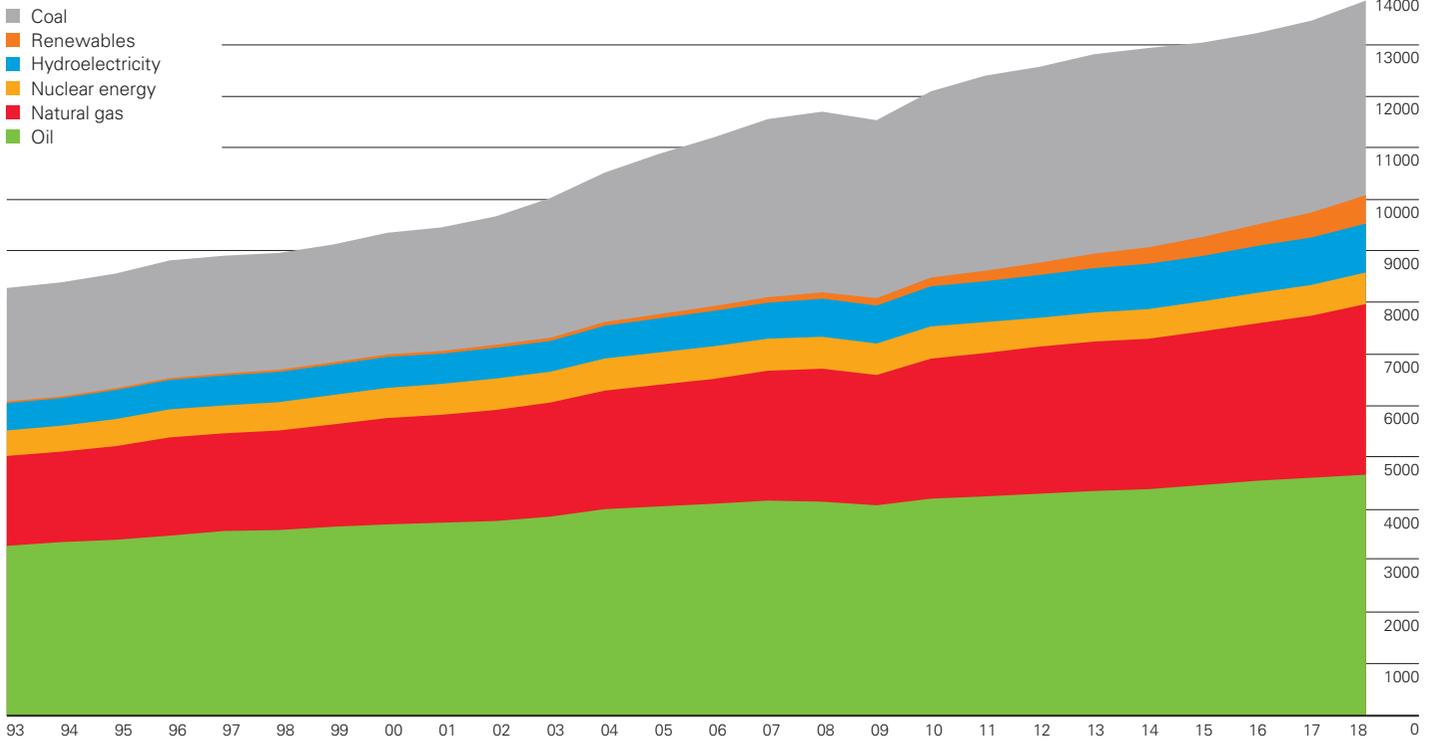
| Million tonnes oil equivalent       |               |               |               |               |               |               |               |               |               |               |               | Growth rate per annum |              | Share 2018   |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|--------------|
|                                     | 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.</b>   |                       |              |              |

**Primary energy: consumption by fuel\***

| Million tonnes oil equivalent       | 2017          |               |               |                |                   |              |                | 2018          |               |               |                |                   |              |                |
|-------------------------------------|---------------|---------------|---------------|----------------|-------------------|--------------|----------------|---------------|---------------|---------------|----------------|-------------------|--------------|----------------|
|                                     | Oil           | Natural gas   | Coal          | Nuclear energy | Hydro-electricity | Renewables   | Total          | Oil           | Natural gas   | Coal          | Nuclear energy | Hydro-electricity | Renewables   | 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.         |               |               |                |                   |              |                |               |               |               |                |                   |              |                |

## World consumption

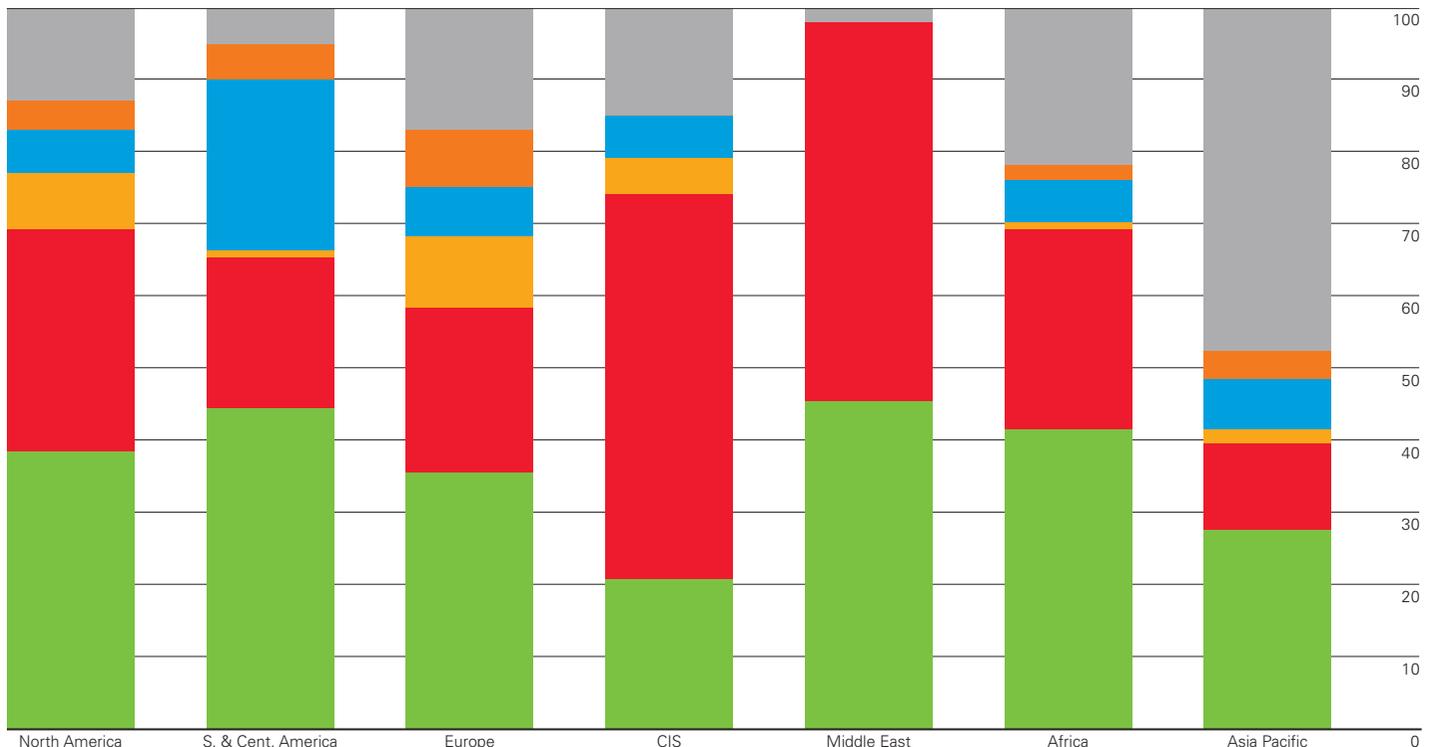
Million tonnes oil equivalent



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

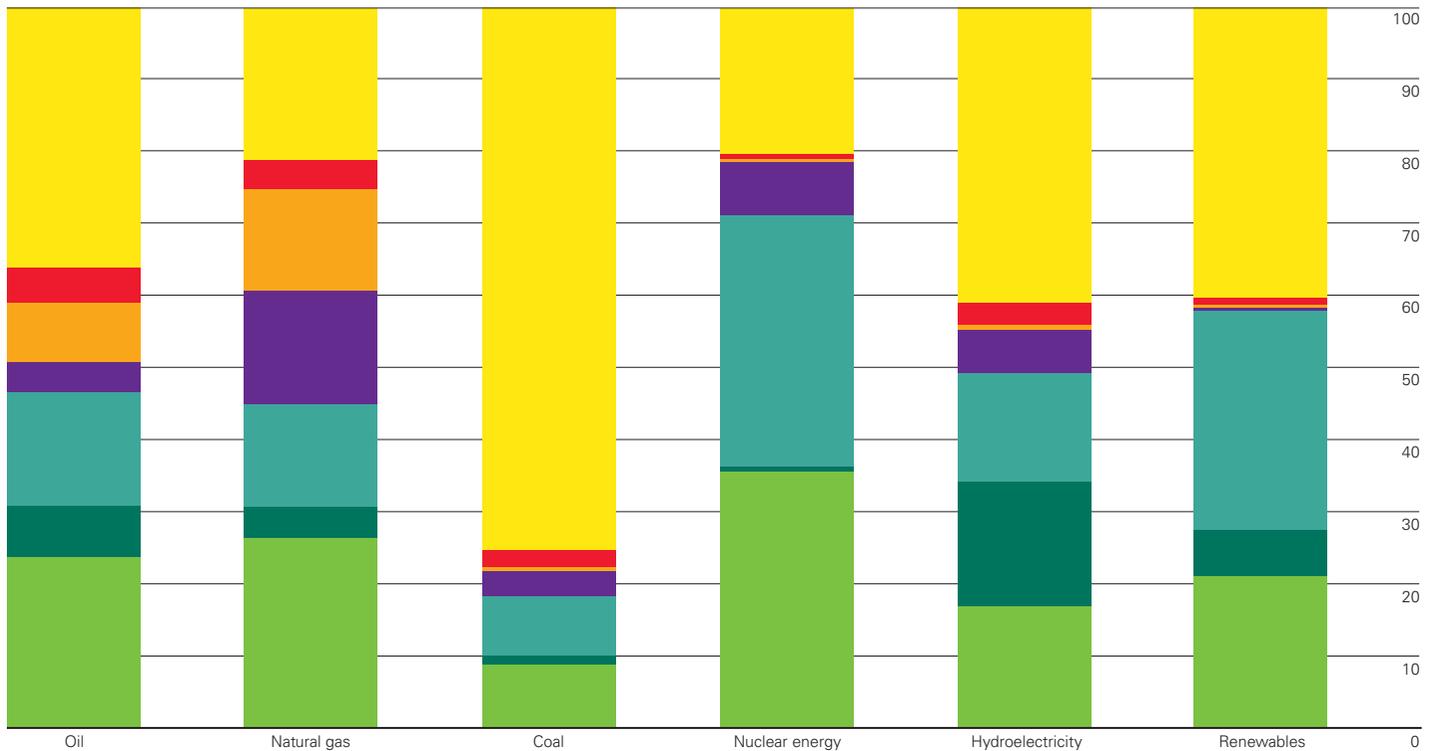
Percentage



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

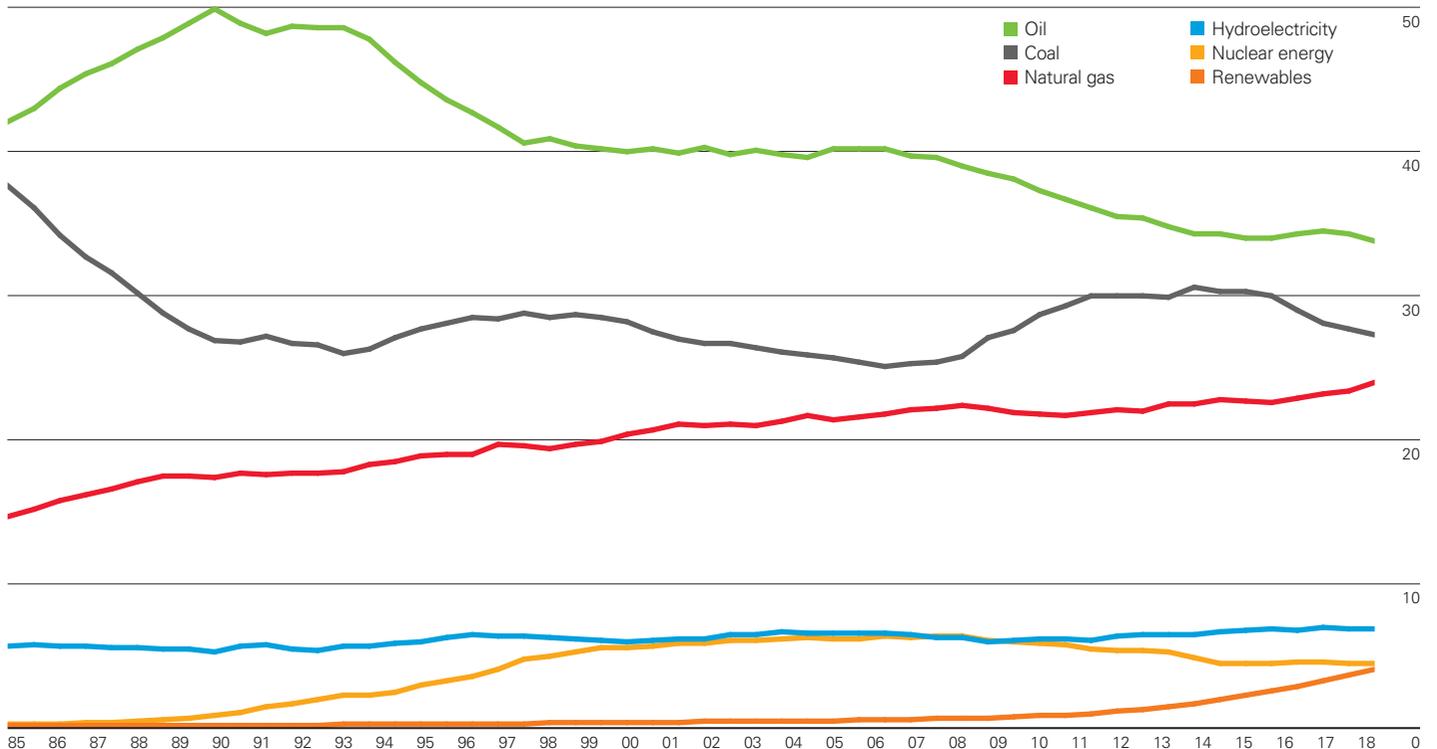
Percentage



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%   |

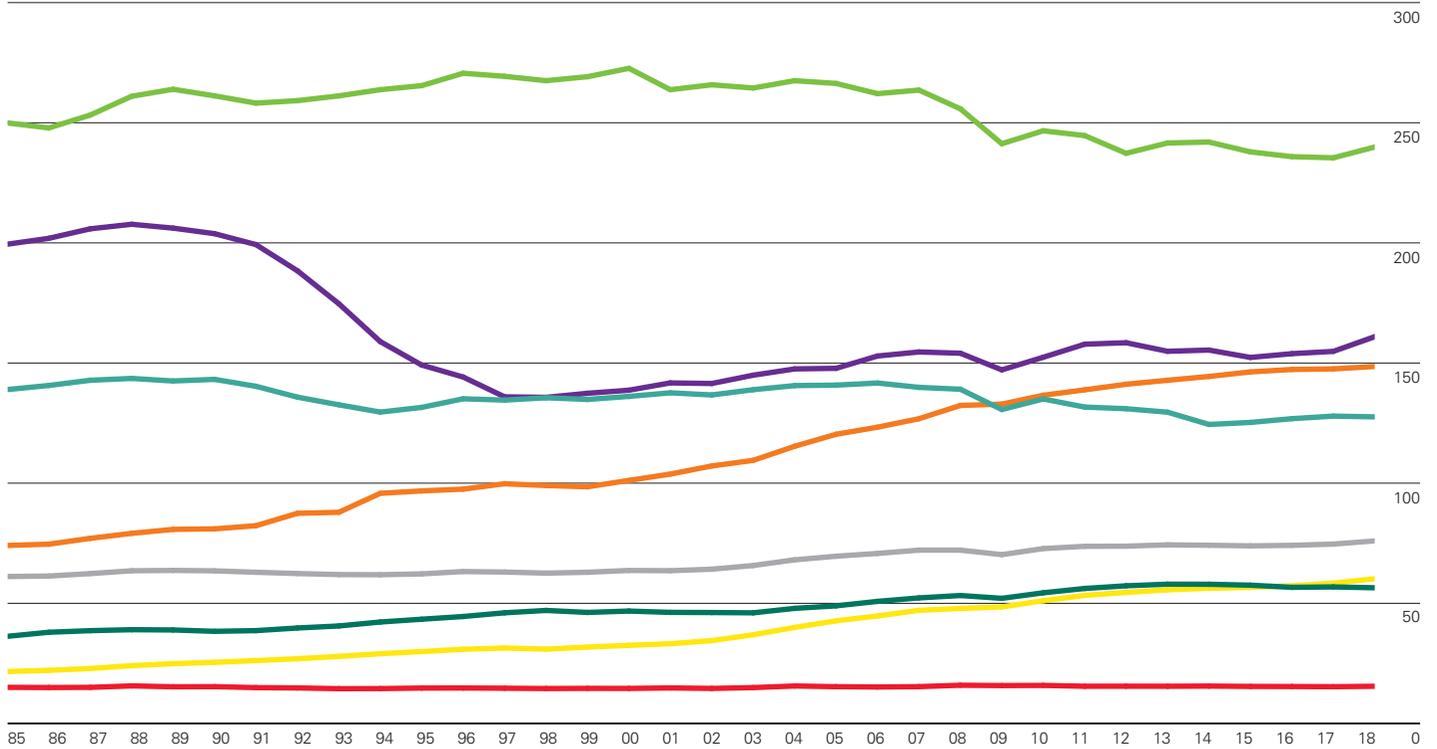
\*Primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.

♦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

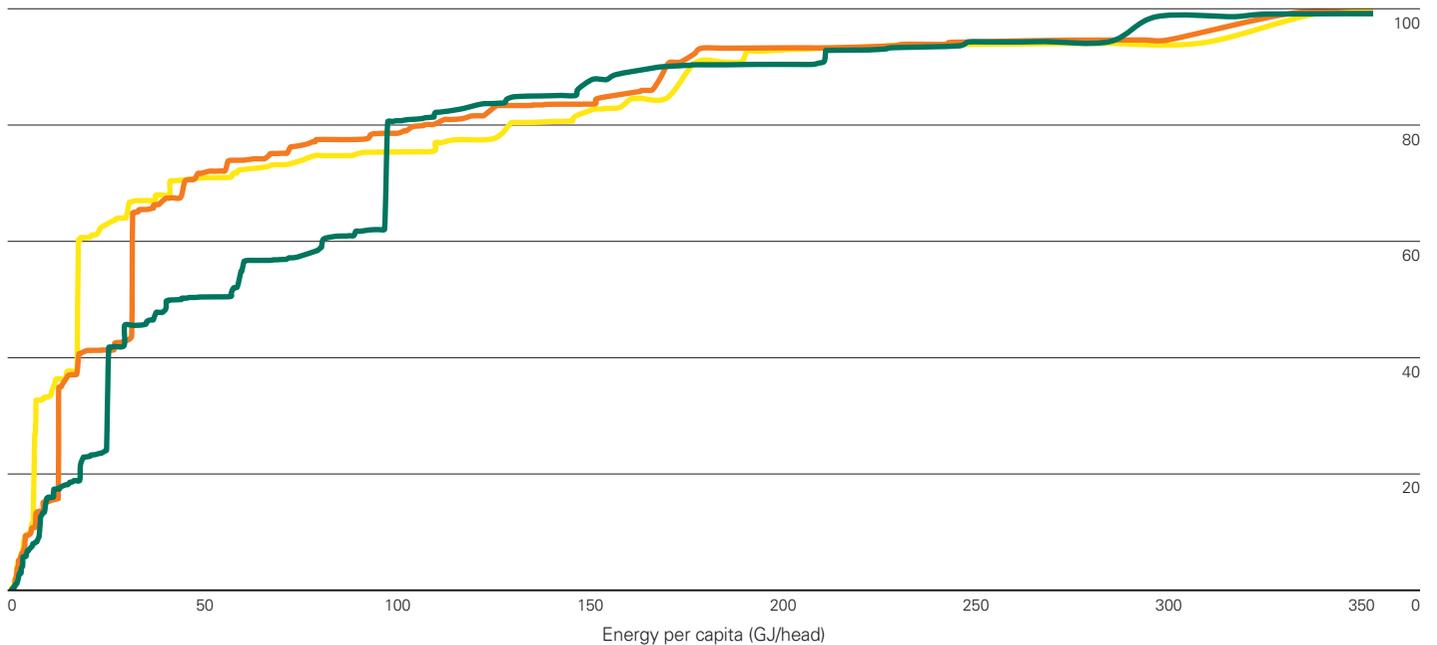


Average global energy consumption per capita increased by 1.8% in 2018 to 76 GJ/head in 2018. Growth in 2018 was significantly higher than the historical average (0.3% for the period 2007-17). North America is the region with the highest consumption per capita (240 GJ/head), followed by (161 GJ/head) 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<br>Thousand million barrels | At end 2008<br>Thousand million barrels | At end 2017<br>Thousand million barrels | At end 2018              |                         |                |              |
|-------------------------------------|---|---|---|--------------------------|-------------------------|----------------|--------------|
|                                     |   |   |   | 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>               | †                       | ♦              | 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>               | †                       | ♦              | 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>               | †                       | ♦              | 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>               | †                       | ♦              | 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.

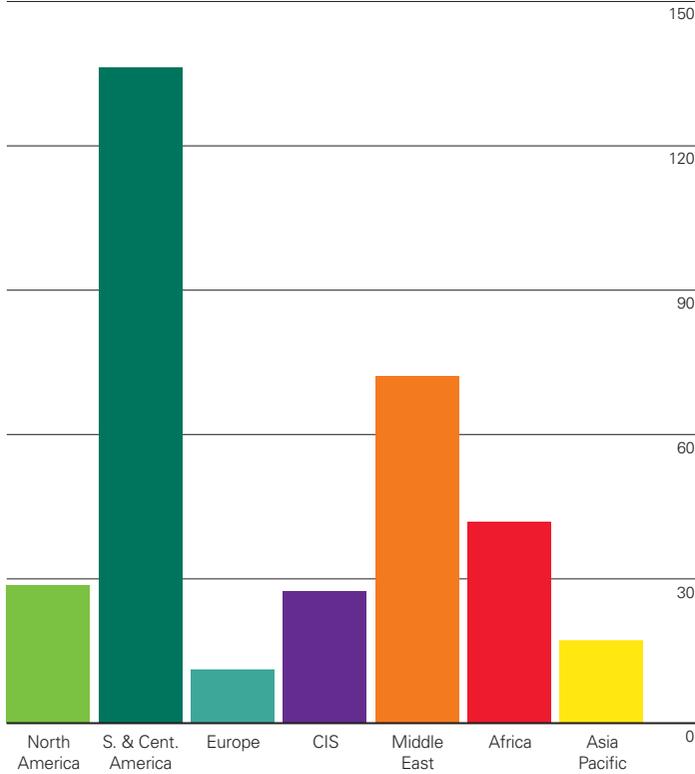
**Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil.** Saudi Arabia's oil reserves include NGLs from 2017.

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

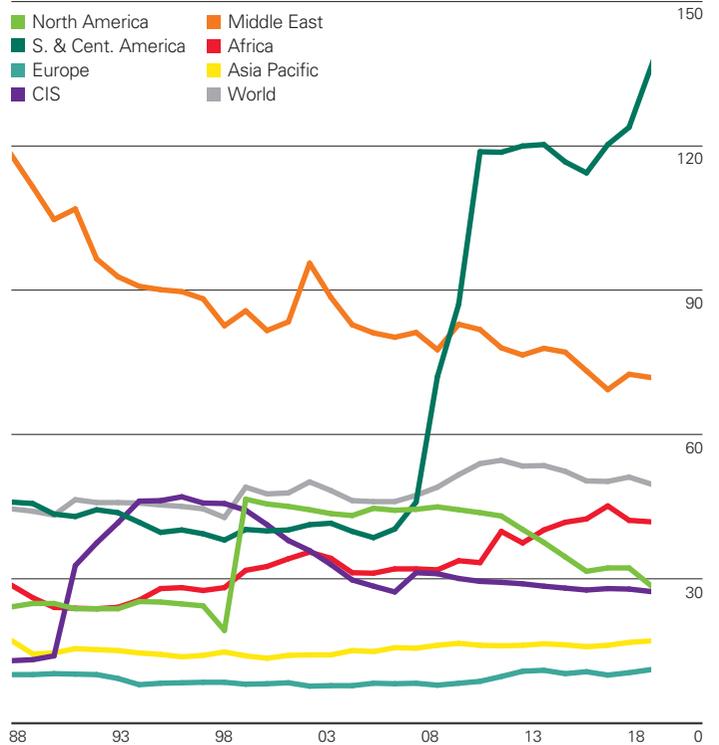
## Reserves-to-production (R/P) ratios

Years

### 2018 by region



### History

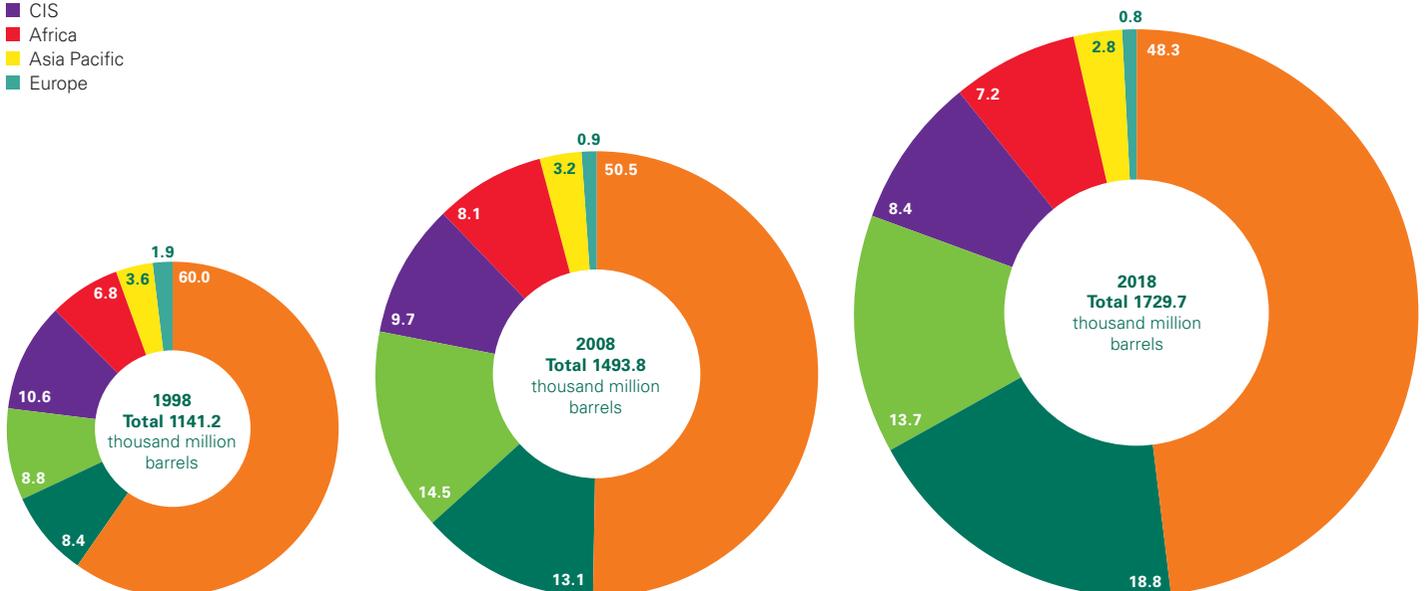


Oil reserves at the end of 2018 totalled 1730 billion barrels, up 2 billion barrels with respect to 2017. The global R/P ratio shows that oil reserves in 2018 accounted for 50 years of current production. Regionally, South & Central America has the highest R/P ratio (136 years) while Europe has the lowest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

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

\*Includes crude oil, shale oil, oil sands, condensates (both lease condensate and gas plant condensate) and NGLs (natural gas liquids – ethane, LPG and naphtha separated from the production of natural gas). Excludes liquid fuels from other sources such as biomass and derivatives of coal and natural gas.

♦Less than 0.05%.

n/a not available.

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

**Oil: Production in million tonnes\***

| Million tonnes                      | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | Growth rate per annum |              | Share 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        | 2358.7        | 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              | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |              | Share 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              | 2008        | 2009        | 2010        | 2011        | 2012        | 2013        | 2014        | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |              | Share 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          | <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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Italy                               | 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           | 4            | 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          | <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          | <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          | <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          | <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          | <b>n/a</b>   | n/a                   | n/a          | n/a           |
| Sudan                               | 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          | <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          | <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\*

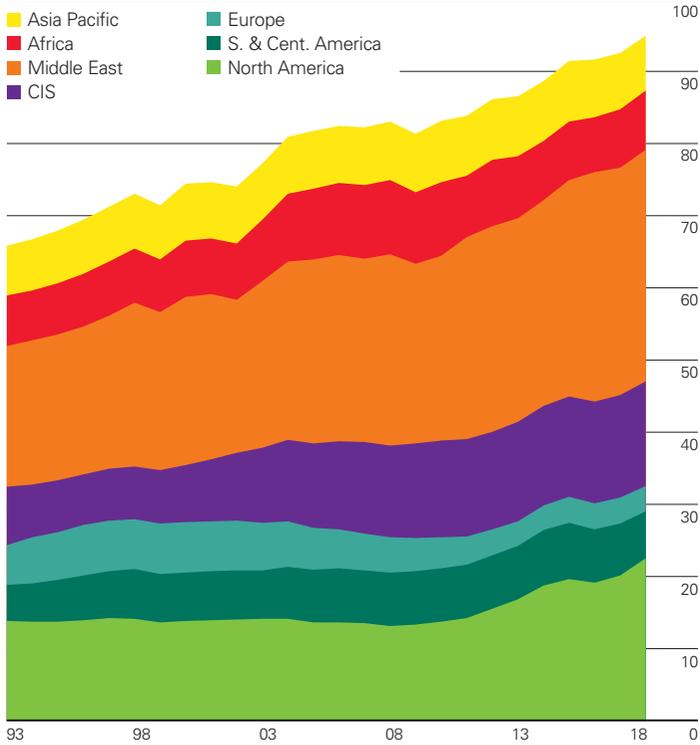
| Thousand barrels daily              | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |         | Share 2018 |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|---------|------------|
|                                     |              |              |              |              |              |              |              |              |              |              |              | 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> | 1.8%                  | -0.3%   | 24.8%      |
| 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> | -0.5%                 | -0.8%   | 15.3%      |
| 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>  | 1.6%                  | 1.3%    | 4.1%       |
| 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>  | -0.1%                 | 2.7%    | 4.0%       |
| 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          | 364          | 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> | 3.0%                  |         |            |

## 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           | 4.7           | 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%         |

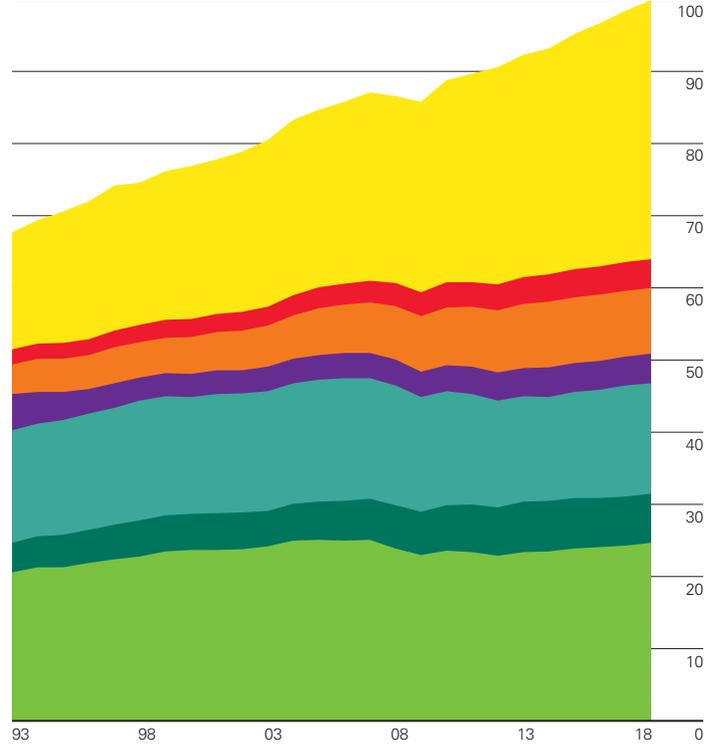
## Oil: Production by region

Million barrels daily



## Oil: Consumption by region

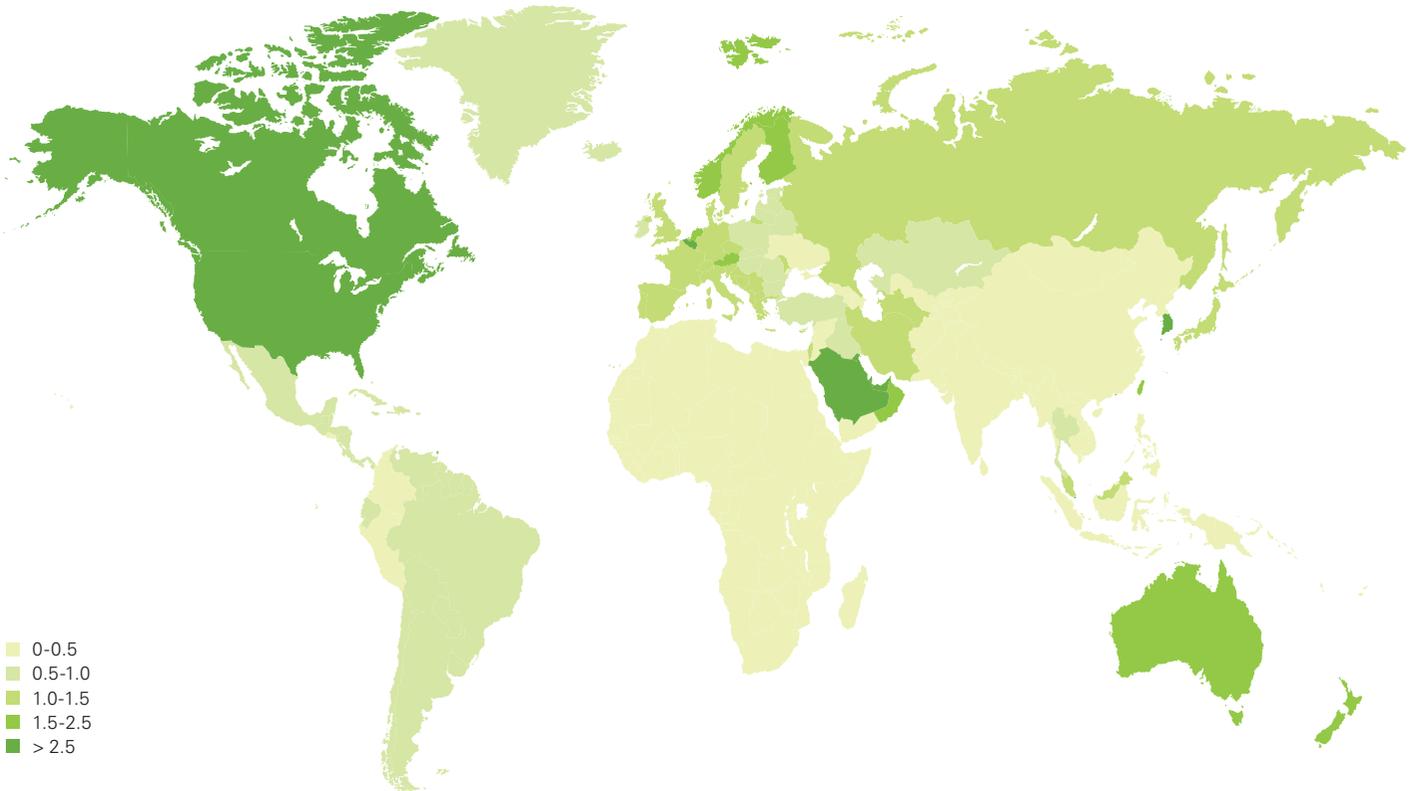
Million barrels daily



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                              | 516          | 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> | 1.8%                  | -0.3%   | 100.0%     |
| 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> | 2.5%                  | -0.4%   | 100.0%     |
| S. & Cent. America                  |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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>  | ♦                     | 1.7%    | 100.0%     |
| Europe                              |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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> | -0.5%                 | -0.8%   | 100.0%     |
| CIS                                 |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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>  | 1.6%                  | 1.3%    | 100.0%     |
| Middle East                         |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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>  | ♦                     | 2.7%    | 100.0%     |
| Africa                              |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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>  | -0.1%                 | 2.7%    | 100.0%     |
| Asia Pacific                        |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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> | 3.0%                  | 2.9%    | 100.0%     |
| 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> | 5.3%                  | 5.1%    | 100.0%     |
| 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>  | 5.9%                  | 5.0%    | 100.0%     |
| 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>  | -3.1%                 | -2.3%   | 100.0%     |
| World                               |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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> | 1.5%                  | 1.2%    | 100.0%     |
| OECD                                |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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> | 0.6%                  | -0.5%   | 100.0%     |
| Non-OECD                            |              |              |              |              |              |              |              |              |              |              |              |                       |         |            |
| 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> | 2.3%                  | 3.2%    | 100.0%     |

♦Less than 0.05%.

**Notes:** 'Light distillates

## Spot crude prices

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

\*1983-1985 Arabian Light, 1986-2018 Dubai dated.

†1983 Forties, 1984-2018 Brent dated.

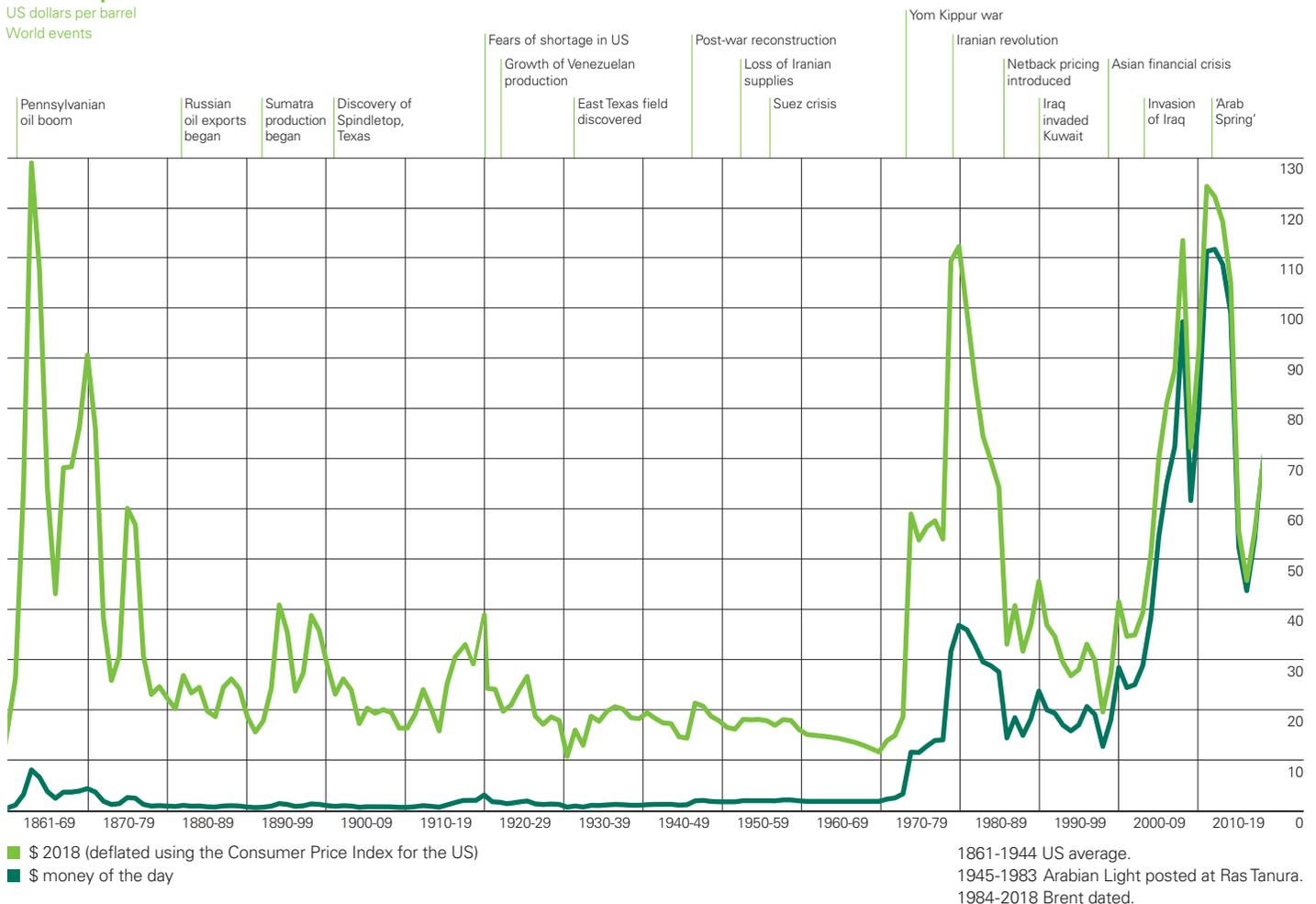
‡1983 Posted WTI prices, 1984-2018 Spot WTI (Cushing) prices.

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

## Crude oil prices 1861-2018

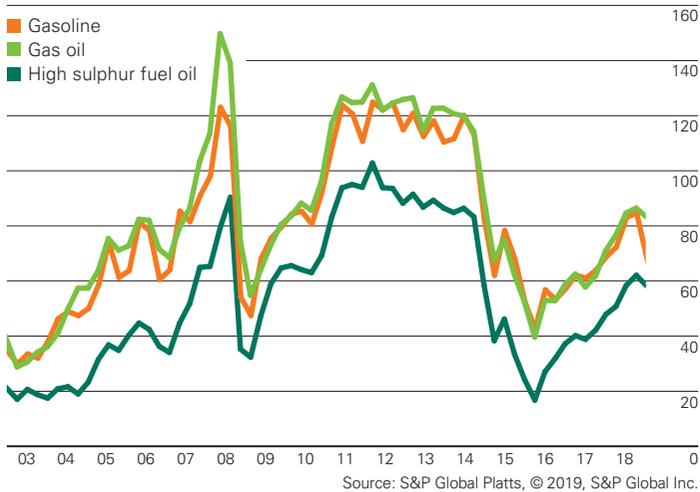
US dollars per barrel

World events



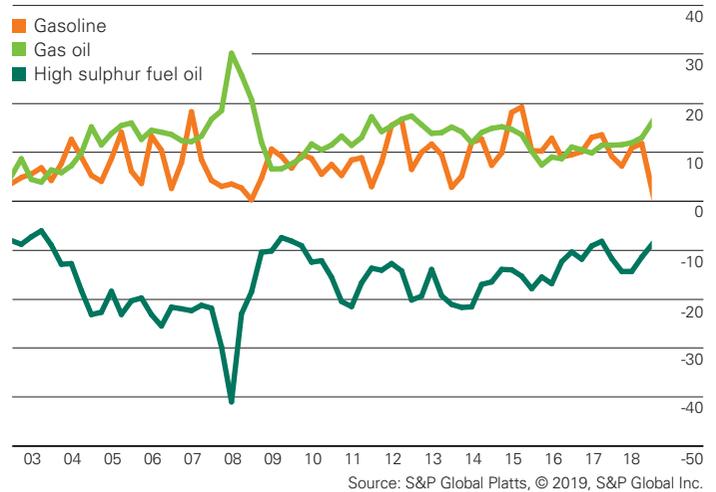
## Oil product prices (Rotterdam)

US dollars per barrel



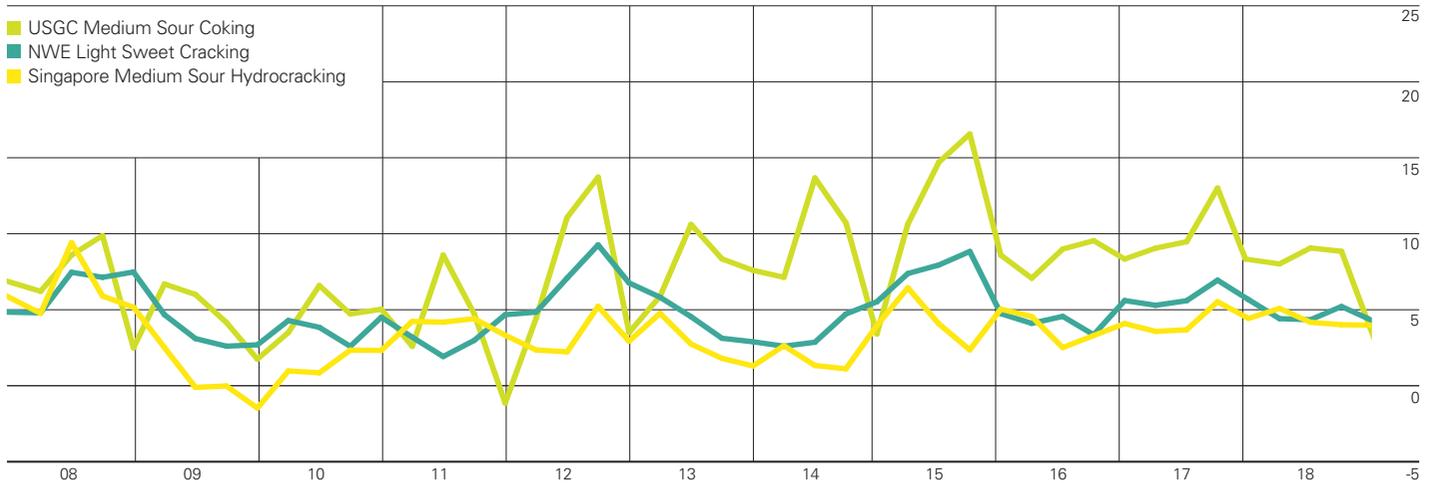
## Product differentials to crude (Rotterdam products minus Dated Brent)

US dollars per barrel



## Regional refining margins

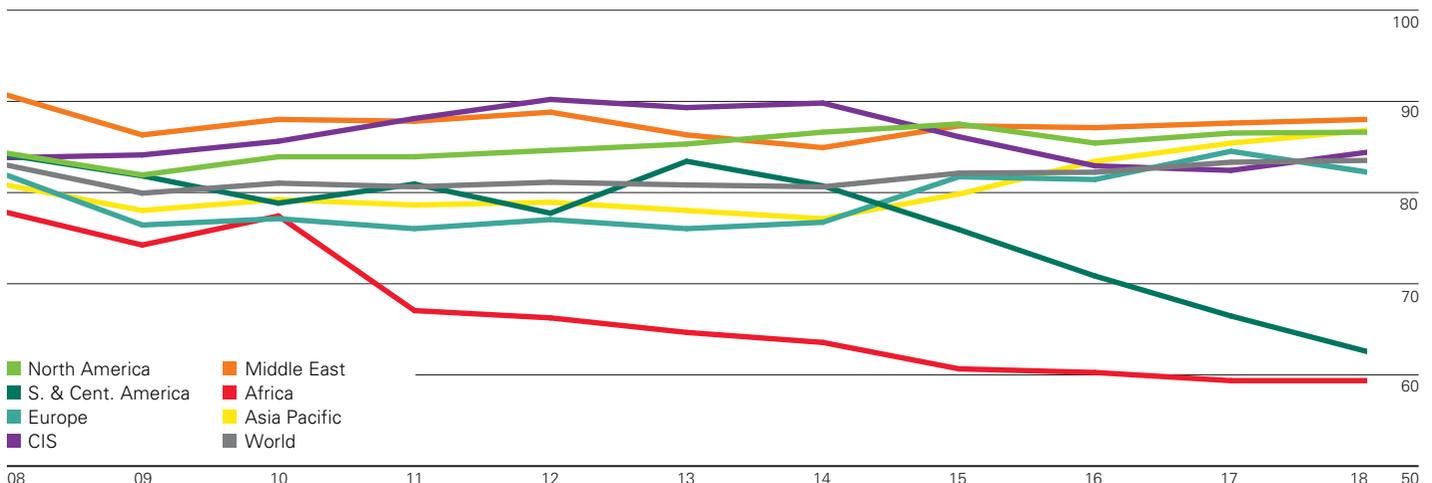
US dollars per barrel



**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

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

## 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         | 2285         | 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         | 2105         | 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>1116</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                  |              |              |              |              |              |              |              |              |              |              |              |                       |              |              |

## Oil: Trade movements

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

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

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

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

## Oil: Inter-area movements 2018

| Crude (million tonnes) | To          |            |              |                    |              |            |             |             |             |             |              |              |              |             |                    | Total         |
|------------------------|-------------|------------|--------------|--------------------|--------------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|--------------------|---------------|
|                        | Canada      | Mexico     | US           | S. & Cent. America | Europe       | Russia     | Other CIS   | Middle East | Africa      | Australasia | China        | India        | Japan        | Singapore   | Other Asia Pacific |               |
| 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> |

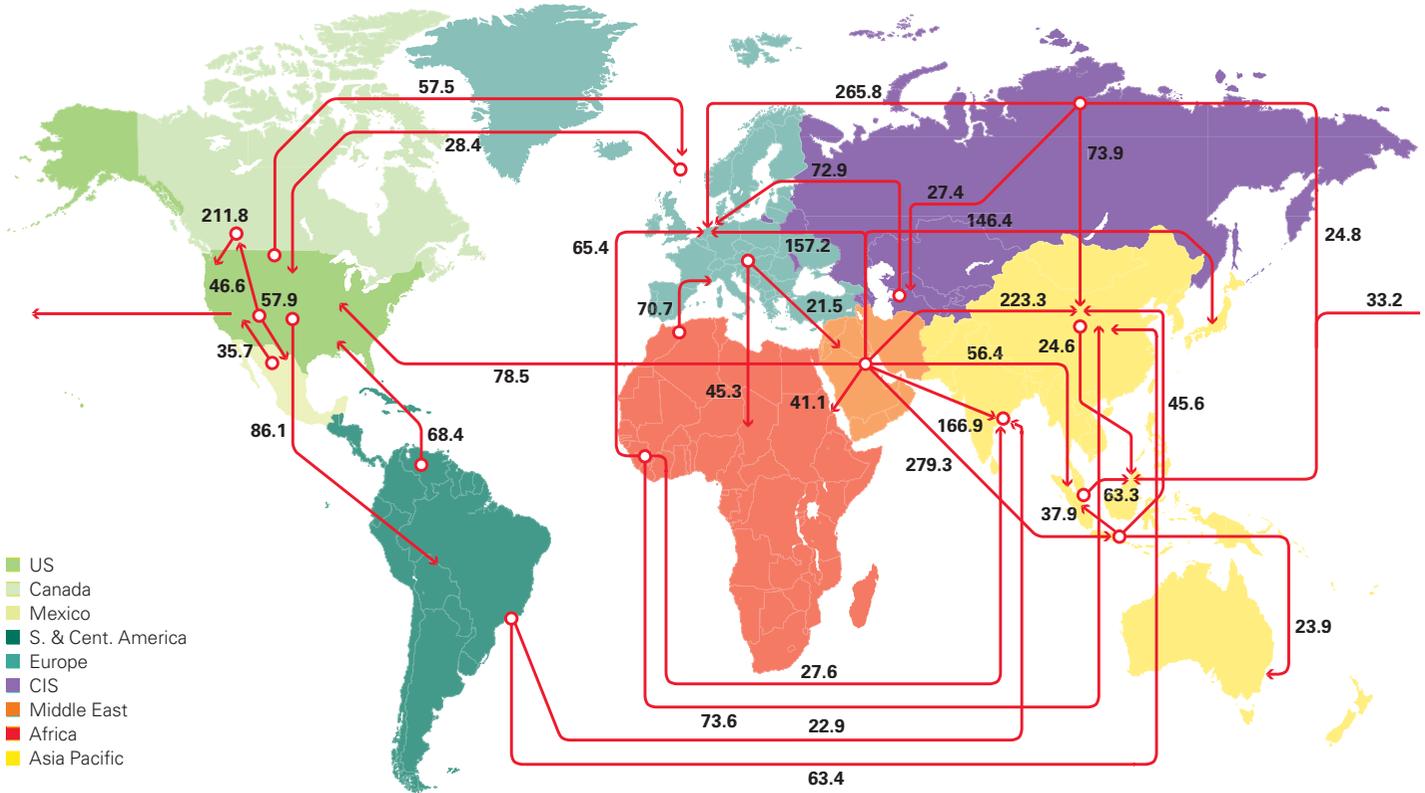
| Product (million tonnes) | To          |             |              |                    |              |            |             |             |              |             |             |             |             |              |                    | Total         |
|--------------------------|-------------|-------------|--------------|--------------------|--------------|------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|--------------------|---------------|
|                          | Canada      | Mexico      | US           | S. & Cent. America | Europe       | Russia     | Other CIS   | Middle East | Africa       | Australasia | China       | India       | Japan       | Singapore    | Other Asia Pacific |               |
| 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>   |
| <b>Thousand barrels daily</b> |               |                 |               |                 |               |                 |               |                 |
| 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                   | <b>1.9</b>            | <b>65.4</b>         | 0.9%           | 10.0         |
| Mexico                              | 0.8                   | 0.4                   | 0.2                   | <b>0.2</b>            | <b>6.5</b>          | 0.1%           | 4.9          |
| US                                  | 4.4                   | 6.6                   | 11.9                  | <b>11.9</b>           | <b>419.8</b>        | 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                   | <b>0.3</b>            | <b>12.2</b>         | 0.2%           | 8.8          |
| Bolivia                             | 0.1                   | 0.3                   | 0.3                   | <b>0.3</b>            | <b>10.3</b>         | 0.1%           | 18.3         |
| Brazil                              | 0.2                   | 0.4                   | 0.4                   | <b>0.4</b>            | <b>13.4</b>         | 0.2%           | 15.1         |
| Colombia                            | 0.2                   | 0.1                   | 0.1                   | <b>0.1</b>            | <b>3.7</b>          | 0.1%           | 8.3          |
| Peru                                | 0.2                   | 0.3                   | 0.4                   | <b>0.4</b>            | <b>12.4</b>         | 0.2%           | 27.4         |
| Trinidad & Tobago                   | 0.5                   | 0.4                   | 0.3                   | <b>0.3</b>            | <b>10.9</b>         | 0.2%           | 9.1          |
| Venezuela                           | 4.6                   | 5.5                   | 6.3                   | <b>6.3</b>            | <b>223.8</b>        | 3.2%           | 190.7        |
| Other S. & Cent. America            | 0.1                   | 0.1                   | 0.1                   | <b>0.1</b>            | <b>2.2</b>          | ♦              | 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                   | †                     | †                     | <b>1.0</b>          | ♦              | 6.6          |
| Germany                             | 0.2                   | 0.1                   | †                     | †                     | <b>0.9</b>          | ♦              | 4.8          |
| Italy                               | 0.3                   | 0.1                   | †                     | †                     | <b>1.6</b>          | ♦              | 8.9          |
| Netherlands                         | 1.7                   | 1.2                   | 0.6                   | <b>0.6</b>            | <b>20.7</b>         | 0.3%           | 18.2         |
| Norway                              | 1.2                   | 2.2                   | 1.7                   | <b>1.6</b>            | <b>56.8</b>         | 0.8%           | 13.3         |
| Poland                              | 0.1                   | 0.1                   | 0.1                   | <b>0.1</b>            | <b>2.2</b>          | ♦              | 16.0         |
| Romania                             | 0.3                   | 0.6                   | 0.1                   | <b>0.1</b>            | <b>3.6</b>          | 0.1%           | 10.7         |
| Ukraine                             | 0.8                   | 0.8                   | 1.0                   | <b>1.1</b>            | <b>38.5</b>         | 0.6%           | 54.9         |
| United Kingdom                      | 0.8                   | 0.3                   | 0.2                   | <b>0.2</b>            | <b>6.6</b>          | 0.1%           | 4.6          |
| Other Europe                        | 0.2                   | 0.2                   | 0.1                   | <b>0.1</b>            | <b>5.0</b>          | 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                   | <b>2.1</b>            | <b>75.2</b>         | 1.1%           | 113.6        |
| Kazakhstan                          | 1.3                   | 1.3                   | 1.0                   | <b>1.0</b>            | <b>35.0</b>         | 0.5%           | 40.7         |
| Russian Federation                  | 33.4                  | 34.0                  | 38.9                  | <b>38.9</b>           | <b>1375.0</b>       | 19.8%          | 58.2         |
| Turkmenistan                        | 2.5                   | 8.2                   | 19.5                  | <b>19.5</b>           | <b>688.1</b>        | 9.9%           | 316.8        |
| Uzbekistan                          | 1.2                   | 1.3                   | 1.2                   | <b>1.2</b>            | <b>42.7</b>         | 0.6%           | 21.4         |
| Other CIS                           | †                     | †                     | †                     | †                     | <b>1.2</b>          | ♦              | 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                   | <b>0.2</b>            | <b>6.4</b>          | 0.1%           | 12.3         |
| Iran                                | 22.8                  | 28.0                  | 31.9                  | <b>31.9</b>           | <b>1127.7</b>       | 16.2%          | 133.3        |
| Iraq                                | 3.0                   | 3.0                   | 3.6                   | <b>3.6</b>            | <b>125.6</b>        | 1.8%           | 273.8        |
| Israel                              | †                     | †                     | 0.5                   | <b>0.4</b>            | <b>14.6</b>         | 0.2%           | 41.1         |
| Kuwait                              | 1.4                   | 1.7                   | 1.7                   | <b>1.7</b>            | <b>59.9</b>         | 0.9%           | 97.0         |
| Oman                                | 0.5                   | 0.9                   | 0.7                   | <b>0.7</b>            | <b>23.5</b>         | 0.3%           | 18.5         |
| Qatar                               | 11.3                  | 26.3                  | 24.7                  | <b>24.7</b>           | <b>872.1</b>        | 12.5%          | 140.7        |
| Saudi Arabia                        | 5.8                   | 7.1                   | 5.7                   | <b>5.9</b>            | <b>208.1</b>        | 3.0%           | 52.6         |
| Syria                               | 0.2                   | 0.3                   | 0.3                   | <b>0.3</b>            | <b>9.5</b>          | 0.1%           | 75.4         |
| United Arab Emirates                | 5.8                   | 5.9                   | 5.9                   | <b>5.9</b>            | <b>209.7</b>        | 3.0%           | 91.8         |
| Yemen                               | 0.3                   | 0.3                   | 0.3                   | <b>0.3</b>            | <b>9.4</b>          | 0.1%           | 480.7        |
| Other Middle East                   | †                     | †                     | †                     | †                     | <b>0.2</b>          | ♦              | 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                   | <b>4.3</b>            | <b>153.1</b>        | 2.2%           | 47.0         |
| Egypt                               | 1.0                   | 2.1                   | 2.1                   | <b>2.1</b>            | <b>75.5</b>         | 1.1%           | 36.5         |
| Libya                               | 1.2                   | 1.5                   | 1.4                   | <b>1.4</b>            | <b>50.5</b>         | 0.7%           | 145.9        |
| Nigeria                             | 3.3                   | 5.0                   | 5.3                   | <b>5.3</b>            | <b>188.8</b>        | 2.7%           | 108.6        |
| Other Africa                        | 0.8                   | 1.1                   | 1.2                   | <b>1.2</b>            | <b>41.7</b>         | 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                   | <b>2.4</b>            | <b>84.4</b>         | 1.2%           | 18.4         |
| Bangladesh                          | 0.3                   | 0.3                   | 0.2                   | <b>0.2</b>            | <b>5.7</b>          | 0.1%           | 5.9          |
| Brunei                              | 0.4                   | 0.3                   | 0.3                   | <b>0.3</b>            | <b>9.5</b>          | 0.1%           | 21.4         |
| China                               | 1.4                   | 2.7                   | 6.1                   | <b>6.1</b>            | <b>214.4</b>        | 3.1%           | 37.6         |
| India                               | 0.6                   | 1.0                   | 1.2                   | <b>1.3</b>            | <b>45.5</b>         | 0.7%           | 46.9         |
| Indonesia                           | 2.2                   | 3.2                   | 2.9                   | <b>2.8</b>            | <b>97.5</b>         | 1.4%           | 37.7         |
| Malaysia                            | 2.4                   | 2.4                   | 2.4                   | <b>2.4</b>            | <b>84.5</b>         | 1.2%           | 33.0         |
| Myanmar                             | 0.3                   | 0.3                   | 1.2                   | <b>1.2</b>            | <b>41.3</b>         | 0.6%           | 65.6         |
| Pakistan                            | 0.4                   | 0.6                   | 0.4                   | <b>0.4</b>            | <b>12.9</b>         | 0.2%           | 10.7         |
| Papua New Guinea                    | †                     | †                     | 0.2                   | <b>0.2</b>            | <b>6.4</b>          | 0.1%           | 17.8         |
| Thailand                            | 0.4                   | 0.4                   | 0.2                   | <b>0.2</b>            | <b>6.6</b>          | 0.1%           | 5.0          |
| Vietnam                             | 0.2                   | 0.6                   | 0.6                   | <b>0.6</b>            | <b>22.8</b>         | 0.3%           | 67.0         |
| Other Asia Pacific                  | 0.4                   | 0.3                   | 0.2                   | <b>0.2</b>            | <b>8.8</b>          | 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                  | <b>19.4</b>           | <b>686.8</b>        | 9.9%           | 13.7         |
| Non-OECD                            | 117.7                 | 154.5                 | 176.4                 | <b>177.4</b>          | <b>6265.1</b>       | 90.1%          | 72.5         |
| European Union                      | 3.5                   | 2.5                   | 1.1                   | <b>1.1</b>            | <b>39.6</b>         | 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.

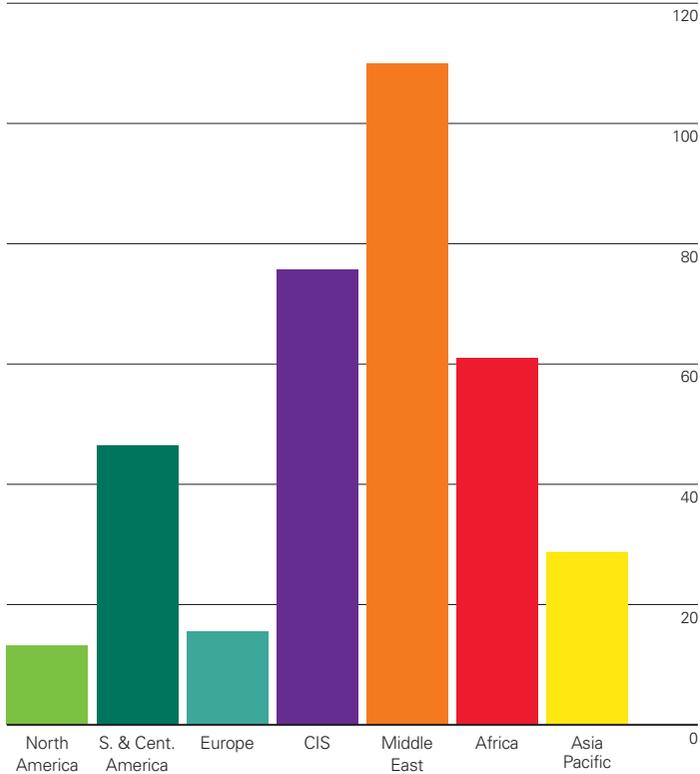
**Source of data** – The estimates in this table have been compiled using a combination of primary official sources and third-party data from Cedigaz and the OPEC Secretariat.

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/m<sup>3</sup>.

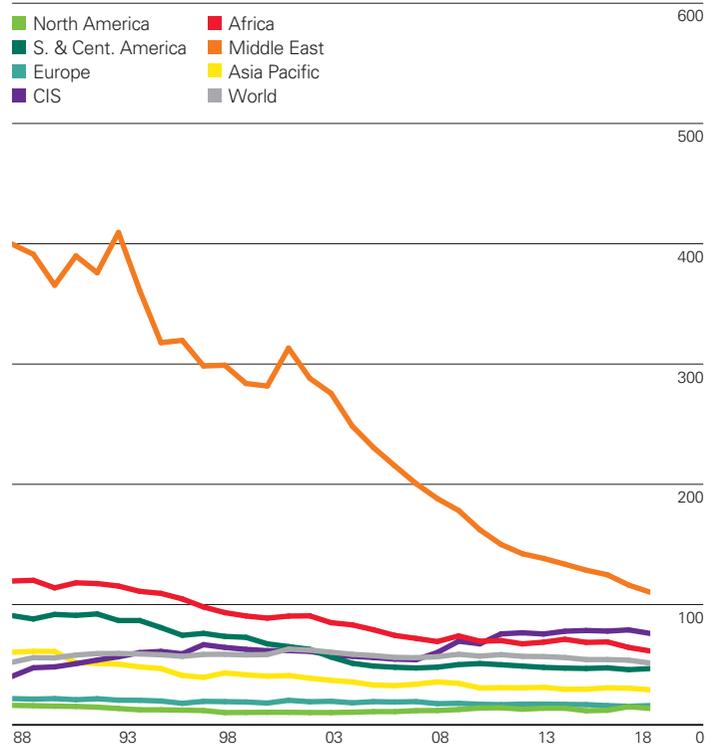
## Reserves-to-production (R/P) ratios

Years

### 2018 by region



### History

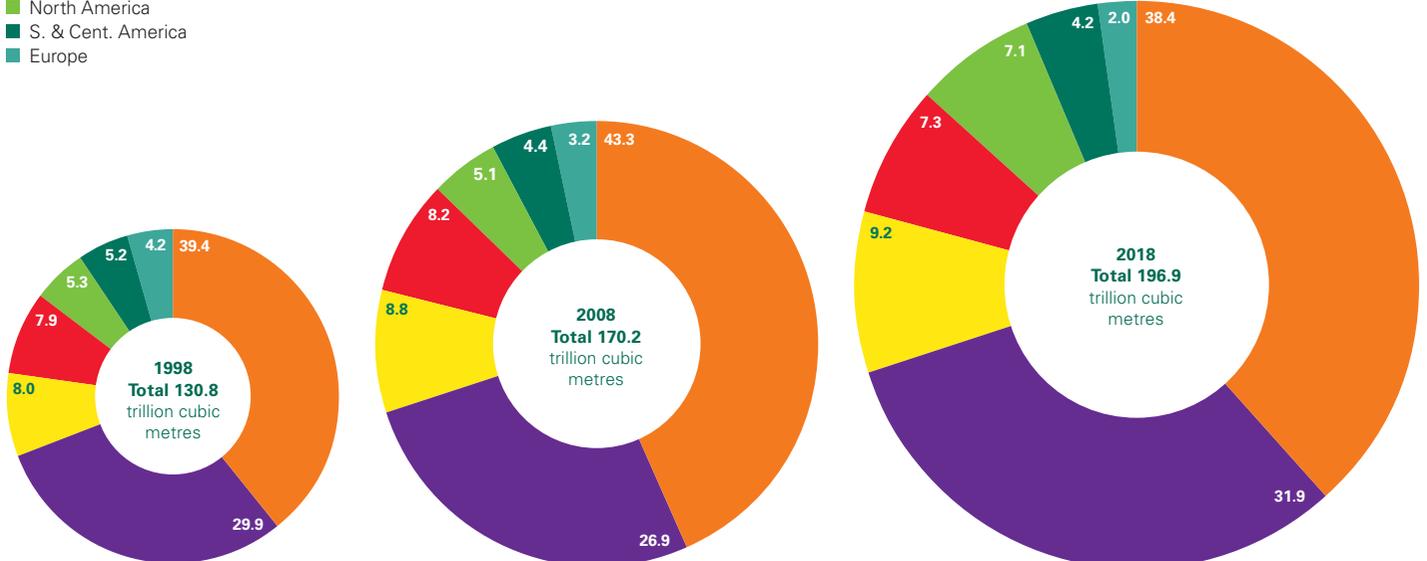


World proved gas reserves in 2018 increased by 0.7 Tcm to 196.9 Tcm mainly as a result of increased reserves in Azerbaijan (0.8 Tcm). Russia (38.9 Tcm), Iran (31.9 Tcm) and Qatar (24.7 Tcm) are the countries with the biggest reserves. The current global R/P ratio shows that gas reserves in 2018 accounted 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                | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | Growth rate per annum |              | Share 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/m<sup>3</sup>.

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\*

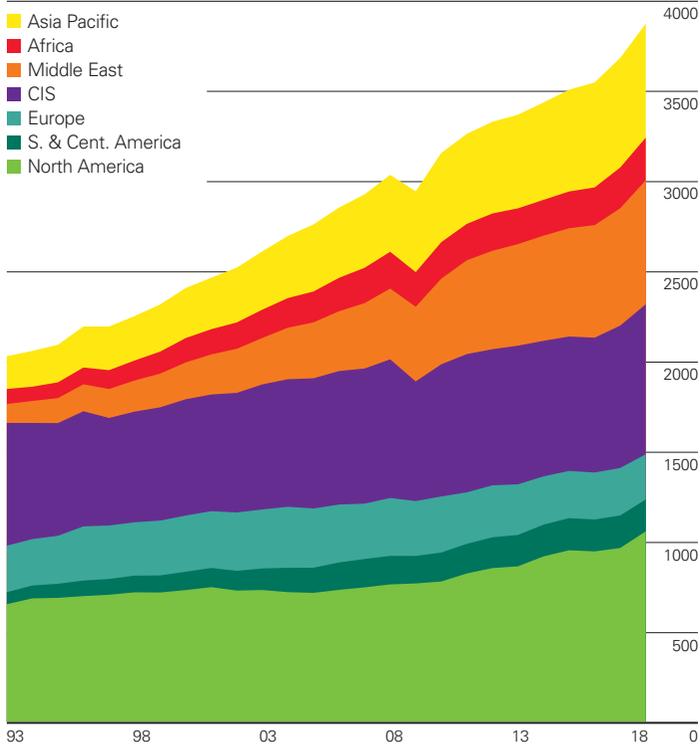
| Billion cubic metres                | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018          | Growth rate per annum |              | Share 2018   |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|-----------------------|--------------|--------------|
|                                     |              |              |              |              |              |              |              |              |              |              |               | 2018                  | 2007-17      |              |
| Canada                              | 89.3         | 86.6         | 88.3         | 97.5         | 97.2         | 104.3        | 109.6        | 109.8        | 105.9        | 109.7        | 115.7         | 5.5%                  | 1.9%         | 3.0%         |
| Mexico                              | 60.0         | 65.2         | 66.0         | 70.8         | 73.7         | 77.8         | 78.8         | 80.8         | 83.0         | 86.4         | 89.5          | 3.6%                  | 4.2%         | 2.3%         |
| US                                  | 628.9        | 617.6        | 648.2        | 658.2        | 688.1        | 707.0        | 722.3        | 743.6        | 749.1        | 739.4        | 817.1         | 10.5%                 | 1.7%         | 21.2%        |
| <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         | 48.7          | 0.8%                  | 1.2%         | 1.3%         |
| Brazil                              | 25.7         | 20.7         | 27.6         | 27.5         | 32.6         | 38.4         | 40.7         | 42.9         | 37.1         | 37.6         | 35.9          | -4.6%                 | 5.6%         | 0.9%         |
| Chile                               | 2.8          | 2.8          | 5.7          | 5.8          | 5.3          | 5.3          | 4.4          | 4.8          | 5.9          | 5.6          | 6.4           | 14.2%                 | 1.2%         | 0.2%         |
| Colombia                            | 7.3          | 8.4          | 8.7          | 8.5          | 9.5          | 10.5         | 11.4         | 11.2         | 11.8         | 12.2         | 13.0          | 7.1%                  | 5.4%         | 0.3%         |
| Ecuador                             | 0.5          | 0.6          | 0.6          | 0.6          | 0.7          | 0.9          | 0.9          | 0.8          | 0.9          | 0.8          | 0.7           | -14.1%                | 4.2%         | •            |
| Peru                                | 3.3          | 3.3          | 4.9          | 5.4          | 6.0          | 5.9          | 6.7          | 7.1          | 7.6          | 6.7          | 7.0           | 4.4%                  | 10.1%        | 0.2%         |
| Trinidad & Tobago                   | 15.8         | 16.1         | 17.7         | 18.0         | 17.1         | 17.4         | 17.0         | 17.0         | 15.1         | 15.3         | 15.3          | 0.3%                  | -0.8%        | 0.4%         |
| Venezuela                           | 34.9         | 34.2         | 31.3         | 33.3         | 34.6         | 32.3         | 34.0         | 37.0         | 37.5         | 38.8         | 33.4          | -13.9%                | 0.4%         | 0.9%         |
| Other S. & Cent. America            | 4.7          | 4.9          | 5.1          | 5.8          | 6.3          | 6.9          | 7.2          | 7.1          | 7.4          | 7.3          | 7.9           | 8.4%                  | 5.0%         | 0.2%         |
| <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          | 8.7           | -4.2%                 | 0.7%         | 0.2%         |
| Belgium                             | 17.4         | 17.6         | 19.4         | 16.5         | 16.7         | 16.5         | 14.5         | 15.8         | 16.2         | 16.4         | 16.9          | 2.8%                  | -0.7%        | 0.4%         |
| Czech Republic                      | 8.3          | 7.9          | 9.4          | 7.9          | 8.0          | 8.1          | 7.2          | 7.5          | 8.2          | 8.4          | 8.0           | -4.7%                 | -0.1%        | 0.2%         |
| Finland                             | 4.2          | 3.7          | 4.1          | 3.6          | 3.2          | 3.0          | 2.7          | 2.3          | 2.0          | 1.8          | 2.0           | 11.5%                 | -7.7%        | 0.1%         |
| France                              | 46.4         | 44.7         | 49.6         | 43.0         | 44.4         | 45.1         | 37.9         | 40.8         | 44.5         | 44.8         | 42.7          | -4.6%                 | •            | 1.1%         |
| Germany                             | 89.5         | 84.4         | 88.1         | 80.9         | 81.1         | 85.0         | 73.9         | 77.0         | 84.9         | 89.7         | 88.3          | -1.6%                 | 0.1%         | 2.3%         |
| Greece                              | 4.1          | 3.4          | 3.7          | 4.6          | 4.2          | 3.7          | 2.8          | 3.1          | 4.0          | 4.8          | 4.7           | -1.8%                 | 2.2%         | 0.1%         |
| Hungary                             | 12.3         | 10.6         | 11.4         | 10.9         | 9.7          | 9.1          | 8.1          | 8.7          | 9.3          | 9.9          | 9.6           | -3.3%                 | -2.2%        | 0.2%         |
| Italy                               | 80.9         | 74.3         | 79.1         | 74.2         | 71.4         | 66.7         | 59.0         | 64.3         | 67.5         | 71.6         | 69.2          | -3.3%                 | -1.3%        | 1.8%         |
| Netherlands                         | 40.4         | 41.4         | 46.8         | 40.9         | 39.3         | 39.1         | 34.5         | 34.1         | 35.2         | 36.1         | 35.7          | -1.1%                 | -0.7%        | 0.9%         |
| Norway                              | 4.3          | 4.1          | 4.1          | 4.0          | 4.0          | 4.0          | 4.3          | 4.5          | 4.4          | 4.6          | 4.5           | -2.2%                 | 0.9%         | 0.1%         |
| Poland                              | 15.6         | 15.1         | 16.2         | 16.5         | 17.4         | 17.4         | 17.0         | 17.1         | 18.3         | 19.2         | 19.7          | 2.9%                  | 2.9%         | 0.5%         |
| Portugal                            | 4.8          | 4.8          | 5.2          | 5.3          | 4.6          | 4.3          | 4.1          | 4.8          | 5.1          | 6.3          | 5.9           | -7.6%                 | 3.7%         | 0.2%         |
| Romania                             | 14.1         | 12.3         | 12.5         | 12.9         | 12.5         | 11.4         | 11.0         | 10.4         | 10.5         | 11.2         | 10.9          | -2.8%                 | -2.8%        | 0.3%         |
| Spain                               | 40.6         | 36.3         | 36.2         | 33.6         | 33.2         | 30.3         | 27.5         | 28.5         | 29.1         | 31.7         | 31.5          | -0.8%                 | -1.5%        | 0.8%         |
| Sweden                              | 0.9          | 1.1          | 1.5          | 1.3          | 1.1          | 1.1          | 0.9          | 0.9          | 1.0          | 0.8          | 0.8           | 2.4%                  | -2.6%        | •            |
| Switzerland                         | 2.9          | 2.8          | 3.2          | 2.8          | 3.1          | 3.2          | 2.8          | 3.0          | 3.1          | 3.1          | 3.0           | -5.0%                 | 1.3%         | 0.1%         |
| Turkey                              | 35.3         | 33.7         | 35.8         | 41.8         | 43.3         | 44.0         | 46.6         | 46.0         | 44.5         | 51.6         | 47.3          | -8.3%                 | 4.3%         | 1.2%         |
| Ukraine                             | 62.7         | 48.9         | 54.6         | 56.1         | 51.8         | 47.7         | 40.3         | 32.0         | 31.4         | 30.2         | 30.6          | 1.3%                  | -7.5%        | 0.8%         |
| United Kingdom                      | 97.8         | 91.2         | 98.5         | 81.9         | 76.9         | 76.3         | 70.1         | 72.0         | 81.2         | 78.8         | 78.9          | 0.1%                  | -1.9%        | 2.0%         |
| Other Europe                        | 34.0         | 29.8         | 33.5         | 32.3         | 30.7         | 30.0         | 27.2         | 28.1         | 28.9         | 30.3         | 30.1          | -0.6%                 | -1.4%        | 0.8%         |
| <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         | 10.8          | 1.9%                  | 1.9%         | 0.3%         |
| Belarus                             | 19.9         | 16.9         | 20.7         | 19.2         | 19.4         | 19.3         | 19.1         | 17.9         | 17.8         | 18.2         | 19.3          | 6.1%                  | -0.7%        | 0.5%         |
| Kazakhstan                          | 10.6         | 10.1         | 11.0         | 12.2         | 13.0         | 13.6         | 15.0         | 15.3         | 15.8         | 15.9         | 19.4          | 22.4%                 | 4.1%         | 0.5%         |
| Russian Federation                  | 422.7        | 397.8        | 423.9        | 435.6        | 428.6        | 424.9        | 422.2        | 408.7        | 420.6        | 431.1        | 454.5         | 5.4%                  | 0.1%         | 11.8%        |
| Turkmenistan                        | 7.9          | 17.1         | 18.3         | 20.7         | 22.9         | 19.3         | 20.0         | 25.4         | 24.1         | 25.3         | 28.4          | 12.0%                 | 8.5%         | 0.7%         |
| Uzbekistan                          | 44.1         | 44.1         | 44.0         | 47.4         | 46.2         | 46.2         | 48.5         | 46.3         | 43.3         | 43.1         | 42.6          | -1.2%                 | -0.8%        | 1.1%         |
| Other CIS                           | 5.9          | 5.3          | 5.2          | 5.5          | 5.7          | 4.8          | 5.3          | 5.2          | 5.1          | 5.1          | 5.7           | 13.2%                 | -1.5%        | 0.1%         |
| <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        | 225.6         | 7.4%                  | 5.9%         | 5.9%         |
| Iraq                                | 6.5          | 6.9          | 7.1          | 6.3          | 6.3          | 7.1          | 7.5          | 7.3          | 9.9          | 12.7         | 17.0          | 33.9%                 | 10.9%        | 0.4%         |
| Israel                              | 3.6          | 4.0          | 5.1          | 4.7          | 2.4          | 6.6          | 7.2          | 8.1          | 9.2          | 9.9          | 10.5          | 6.4%                  | 14.2%        | 0.3%         |
| Kuwait                              | 12.1         | 11.8         | 14.0         | 15.9         | 17.5         | 17.8         | 17.9         | 20.3         | 21.1         | 21.0         | 21.8          | 3.6%                  | 7.0%         | 0.6%         |
| Oman                                | 13.4         | 13.7         | 16.3         | 18.1         | 19.7         | 21.7         | 21.3         | 23.0         | 22.8         | 23.3         | 24.9          | 6.9%                  | 6.7%         | 0.6%         |
| Qatar                               | 20.7         | 21.3         | 25.4         | 28.7         | 33.6         | 35.6         | 38.6         | 42.5         | 40.4         | 43.1         | 41.9          | -2.8%                 | 8.4%         | 1.1%         |
| Saudi Arabia                        | 76.4         | 74.5         | 83.3         | 87.6         | 94.4         | 95.0         | 97.3         | 99.2         | 105.3        | 109.3        | 112.1         | 2.6%                  | 4.4%         | 2.9%         |
| United Arab Emirates                | 58.0         | 57.6         | 59.3         | 61.6         | 63.9         | 64.7         | 63.4         | 71.5         | 72.7         | 74.4         | 76.6          | 2.9%                  | 4.5%         | 2.0%         |
| Other Middle East                   | 20.7         | 22.7         | 25.2         | 21.9         | 20.4         | 21.0         | 20.9         | 22.4         | 23.0         | 23.4         | 22.7          | -2.9%                 | 1.8%         | 0.6%         |
| <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         | 42.7          | 9.9%                  | 5.2%         | 1.1%         |
| Egypt                               | 39.3         | 40.9         | 43.4         | 47.8         | 50.6         | 49.5         | 46.2         | 46.0         | 49.4         | 55.9         | 59.6          | 6.5%                  | 4.2%         | 1.5%         |
| Morocco                             | 0.6          | 0.6          | 0.7          | 0.9          | 1.2          | 1.1          | 1.1          | 1.1          | 1.1          | 1.1          | 1.0           | -9.6%                 | 6.7%         | •            |
| South Africa                        | 3.9          | 3.3          | 4.1          | 4.3          | 4.4          | 4.1          | 4.3          | 4.3          | 4.5          | 4.4          | 4.3           | -2.2%                 | 1.6%         | 0.1%         |
| Other Africa                        | 26.6         | 24.5         | 25.4         | 27.5         | 29.1         | 29.8         | 32.1         | 38.7         | 41.4         | 40.4         | 42.3          | 4.9%                  | 4.5%         | 1.1%         |
| <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         | 41.4          | 0.4%                  | 3.6%         | 1.1%         |
| Bangladesh                          | 16.4         | 18.7         | 19.3         | 19.6         | 21.3         | 22.0         | 23.0         | 25.9         | 26.5         | 26.7         | 28.4          | 6.4%                  | 5.7%         | 0.7%         |
| China                               | 81.9         | 90.2         | 108.9        | 135.2        | 150.9        | 171.9        | 188.4        | 194.7        | 209.4        | 240.4        | 283.0         | 17.7%                 | 13.0%        | 7.4%         |
| China Hong Kong SAR                 | 3.0          | 2.9          | 3.6          | 2.9          | 2.6          | 2.5          | 2.4          | 3.0          | 3.1          | 3.1          | 3.0           | -3.2%                 | 1.9%         | 0.1%         |
| India                               | 40.0         | 49.1         | 59.0         | 60.3         | 55.7         | 49.0         | 48.5         | 47.8         | 50.8         | 53.7         | 58.1          | 8.1%                  | 3.3%         | 1.5%         |
| Indonesia                           | 39.7         | 42.1         | 44.0         | 42.7         | 42.9         | 41.4         | 41.5         | 41.0         | 39.1         | 38.5         | 39.0          | 1.1%                  | 1.1%         | 1.0%         |
| Japan                               | 99.1         | 92.5         | 99.9         | 112.0        | 123.2        | 123.5        | 124.8        | 118.7        | 116.4        | 117.0        | 115.7         | -1.1%                 | 2.1%         | 3.0%         |
| Malaysia                            | 43.5         | 40.0         | 38.0         | 38.3         | 42.0         | 44.6         | 44.7         | 43.9         | 42.4         | 41.8         | 41.3          | -1.2%                 | 0.3%         | 1.1%         |
| New Zealand                         | 3.9          | 4.0          | 4.4          | 4.0          | 4.4          | 4.7          | 5.2          | 4.8          | 4.8          | 5.0          | 4.3           | -12.9%                | 1.7%         | 0.1%         |
| Pakistan                            | 34.6         | 34.7         | 35.3         | 35.3         | 36.6         | 35.6         | 35.0         | 36.5         | 38.7         | 40.7         | 43.6          | 7.0%                  | 1.9%         | 1.1%         |
| Philippines                         | 3.7          | 3.7          | 3.5          | 3.8          | 3.6          | 3.4          | 3.5          | 3.3          | 3.8          | 3.8          | 4.1           | 8.3%                  | 0.7%         | 0.1%         |
| Singapore                           | 8.7          | 9.2          | 8.3          | 8.3          | 8.9          | 10.0         | 10.4         | 11.6         | 11.9         | 12.3         | 12.3          | •                     | 4.2%         | 0.3%         |
| South Korea                         | 37.3         | 35.5         | 45.0         | 48.4         | 52.5         | 55.0         | 50.0         | 45.6         | 47.6         | 49.8         | 55.9          | 12.4%                 | 3.2%         | 1.5%         |
| Sri Lanka                           | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | -             | n/a                   | n/a          | n/a          |
| Taiwan                              | 12.8         | 12.5         | 15.5         | 17.0         | 17.9         | 17.9         | 18.9         | 20.2         | 21.0         | 23.2         | 23.7          | 1.8%                  | 7.1%         | 0.6%         |
| Thailand                            | 36.9         | 38.1         | 43.2         | 44.3         | 48.6         | 48.9         | 49.9         | 51.0         | 50.6         | 50.1         | 49.9          | -0.3%                 | 3.6%         | 1.3%         |
| Vietnam                             | 7.2          | 7.7          | 9.1          | 8.2          | 9.0          | 9.4          | 9.9          | 10.3         | 10.2         | 9.5          | 9.6           | 1.3%                  | 3.4%         | 0.3%         |
| Other Asia Pacific                  | 6.3          | 5.5          | 6.8          | 7.5          | 8.5          | 8.6          | 10.1         | 12.0         | 11.4         | 11.4         | 12.0          | 5.3%                  | 5.9%         | 0.3%         |
| <b>Total Asia Pacific</b>           | <b>503.7</b> |              |              |              |              |              |              |              |              |              |               |                       |              |              |

## 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%         | •            |
| 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%                 | •            | 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%        | •            |
| 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%         | •            |
| 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>  | •                     | 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          |              |              |              |              |                       |              |              |

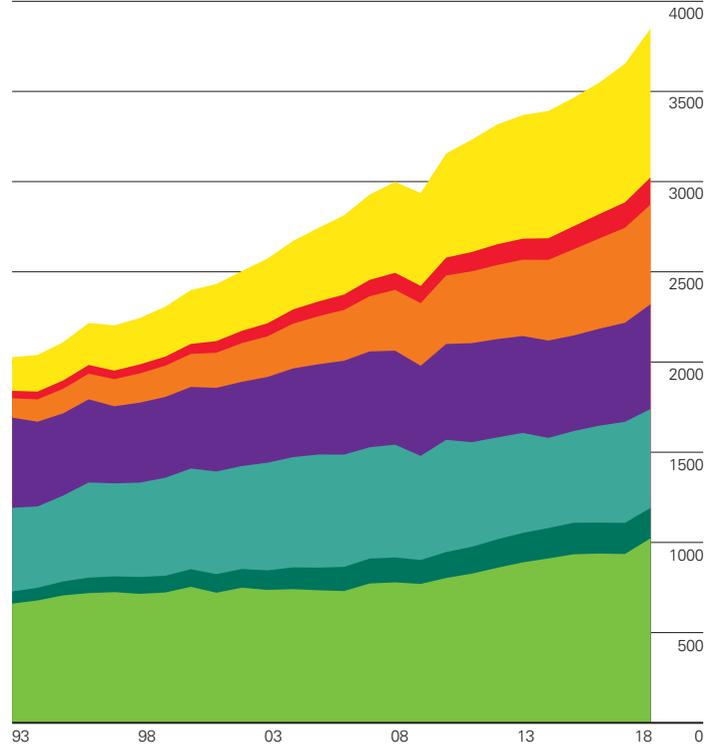
## Natural gas: Production by region

Billion cubic metres



## Natural gas: Consumption by region

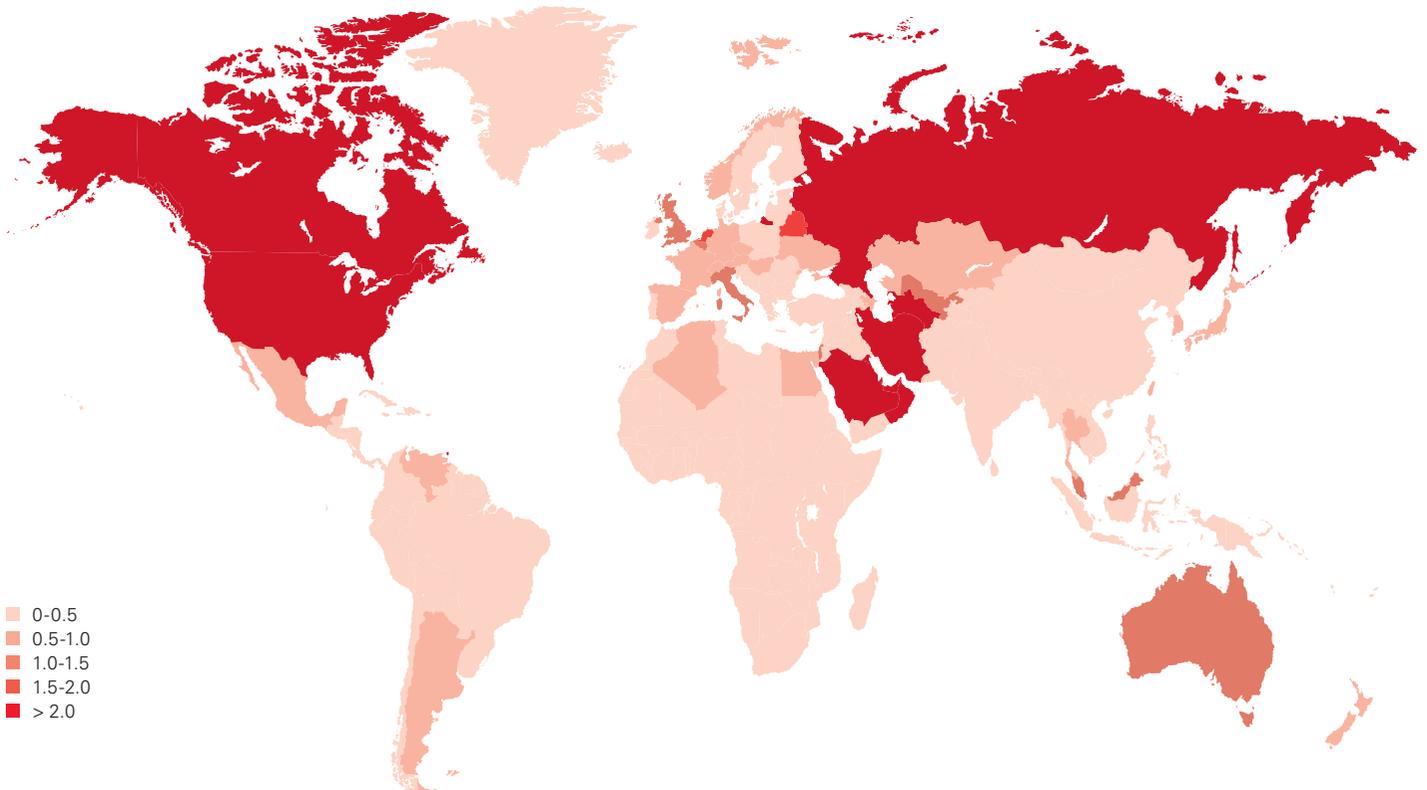
Billion cubic metres



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

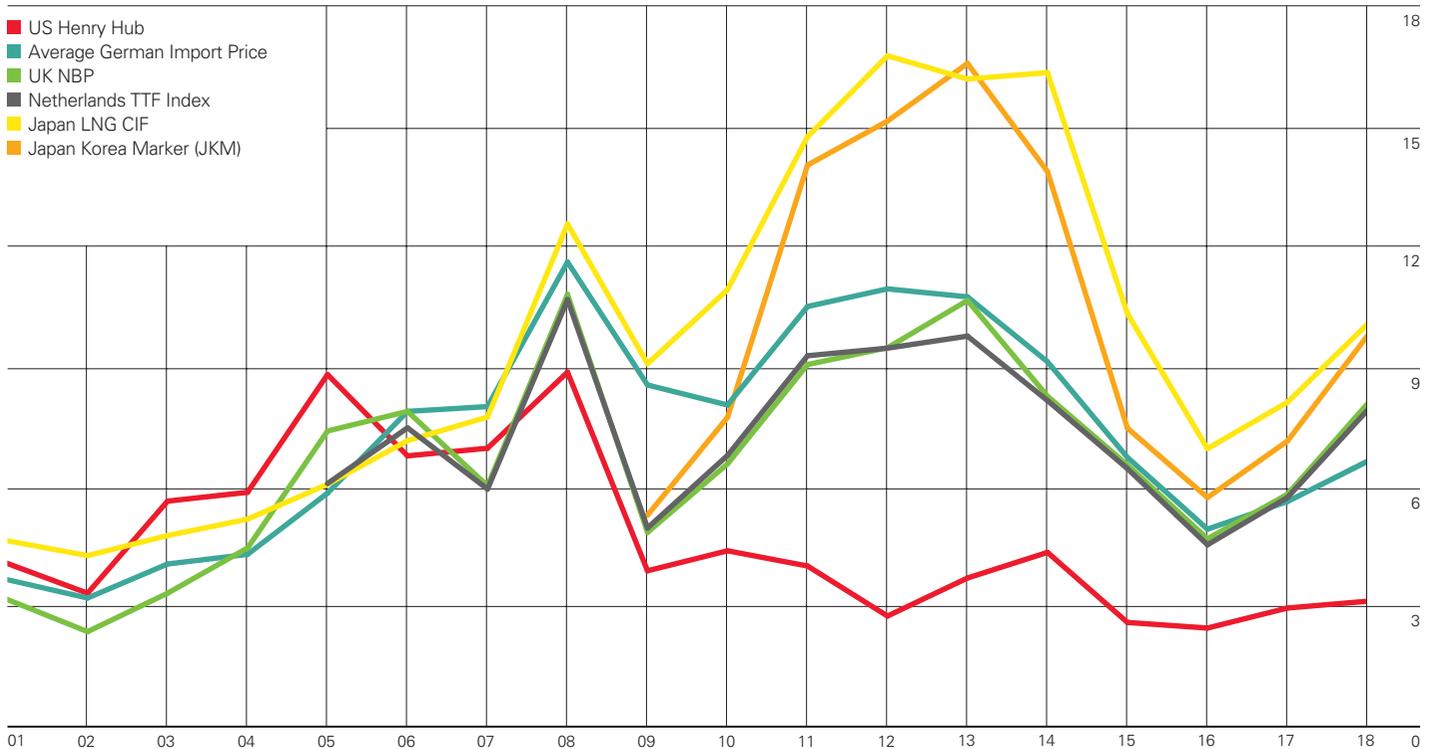
<sup>5</sup>Source: Energy Intelligence Group, Natural Gas Week.

<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>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          | -            | -100.0%               | n/a          | -             |
| <b>Total exports</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

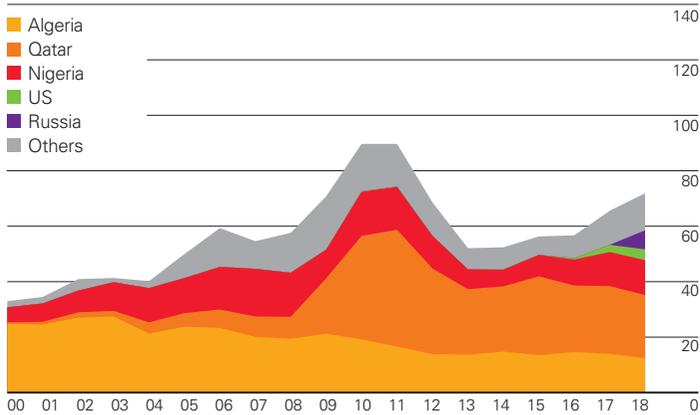
## Natural gas: LNG imports

| 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          | 0.6          | 56.1%                 | n/a          | 0.1%          |
| Mexico                                | 3.8          | 3.7          | 6.1          | 3.8          | 4.9          | 7.8          | 9.3          | 6.8          | 5.6          | 6.6          | 6.9          | 4.2%                  | 11.3%        | 1.6%          |
| US                                    | 9.7          | 12.6         | 12.1         | 9.9          | 4.9          | 2.7          | 1.7          | 2.5          | 2.4          | 2.2          | 2.1          | -2.0%                 | -20.5%       | 0.5%          |
| <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          | 3.6          | -21.9%                | n/a          | 0.8%          |
| Brazil                                | -            | 0.4          | 2.8          | 0.7          | 3.5          | 5.2          | 7.1          | 6.8          | 2.6          | 1.7          | 2.9          | 67.8%                 | n/a          | 0.7%          |
| Chile                                 | -            | 0.7          | 3.1          | 3.7          | 4.0          | 3.8          | 3.5          | 3.7          | 4.5          | 4.4          | 4.3          | -1.2%                 | n/a          | 1.0%          |
| Other S. & Cent. America              | 1.3          | 1.4          | 1.4          | 1.9          | 2.4          | 2.8          | 2.8          | 2.8          | 3.0          | 2.8          | 3.7          | 32.9%                 | 9.3%         | 0.9%          |
| <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          | 3.7          | 185.2%                | -7.4%        | 0.9%          |
| France                                | 12.8         | 13.3         | 14.7         | 14.4         | 9.8          | 8.3          | 6.9          | 6.4          | 9.1          | 10.9         | 13.1         | 20.8%                 | -1.9%        | 3.1%          |
| Italy                                 | 1.6          | 3.0          | 9.3          | 9.1          | 7.1          | 5.8          | 4.5          | 5.9          | 5.9          | 8.2          | 8.0          | -1.8%                 | 12.4%        | 1.9%          |
| Spain                                 | 29.8         | 27.5         | 28.2         | 23.9         | 21.4         | 15.7         | 16.2         | 13.7         | 13.8         | 16.6         | 15.0         | -9.2%                 | -4.1%        | 3.5%          |
| Turkey                                | 5.6          | 6.0          | 7.8          | 5.9          | 7.6          | 5.9          | 7.1          | 7.5          | 7.6          | 10.9         | 11.5         | 6.1%                  | 6.8%         | 2.7%          |
| United Kingdom                        | 0.8          | 10.1         | 18.8         | 24.7         | 13.9         | 9.2          | 11.2         | 13.7         | 10.8         | 7.2          | 7.3          | 1.5%                  | 18.3%        | 1.7%          |
| Other EU                              | 3.7          | 3.7          | 3.9          | 4.9          | 4.4          | 3.7          | 3.3          | 5.2          | 6.9          | 10.2         | 12.8         | 25.3%                 | 10.8%        | 3.0%          |
| Rest of Europe                        | -            | -            | †            | -            | †            | -            | †            | -            | †            | 0.1          | †            | -97.9%                | n/a          | ♦             |
| <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          | 3.2          | -61.9%                | n/a          | 0.7%          |
| Kuwait                                | -            | 0.9          | 2.8          | 3.0          | 2.8          | 2.3          | 3.6          | 4.3          | 4.7          | 4.8          | 4.3          | -10.0%                | n/a          | 1.0%          |
| United Arab Emirates                  | -            | -            | 0.2          | 1.4          | 1.4          | 1.6          | 1.6          | 2.9          | 4.2          | 3.0          | 1.0          | -65.2%                | n/a          | 0.2%          |
| Other Middle East & Africa            | -            | -            | -            | -            | -            | 0.5          | 0.1          | 2.7          | 4.8          | 5.3          | 4.0          | -23.6%                | n/a          | 0.9%          |
| <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         | 73.5         | 38.8%                 | 29.3%        | 17.0%         |
| India                                 | 11.3         | 13.0         | 11.5         | 17.4         | 18.4         | 18.0         | 19.1         | 20.0         | 24.3         | 26.1         | 30.6         | 17.0%                 | 9.6%         | 7.1%          |
| Japan                                 | 95.4         | 88.9         | 96.4         | 108.6        | 119.8        | 120.4        | 121.8        | 115.9        | 113.6        | 113.9        | 113.0        | -0.9%                 | 2.2%         | 26.2%         |
| Malaysia                              | -            | -            | -            | -            | -            | 2.0          | 2.2          | 2.2          | 1.5          | 2.0          | 1.8          | -11.1%                | n/a          | 0.4%          |
| Pakistan                              | -            | -            | -            | -            | -            | -            | -            | 1.5          | 4.0          | 6.1          | 9.4          | 54.2%                 | n/a          | 2.2%          |
| Singapore                             | -            | -            | -            | -            | -            | -            | -            | 1.5          | 4.0          | 6.1          | 9.4          | 54.2%                 | n/a          | 2.2%          |
| South Korea                           | 38.3         | 35.3         | 45.0         | 47.7         | 49.7         | 55.3         | 51.8         | 45.8         | 46.3         | 51.4         | 60.2         | 17.1%                 | 3.6%         | 14.0%         |
| Taiwan                                | 12.6         | 12.4         | 15.0         | 16.3         | 17.1         | 17.2         | 18.6         | 19.6         | 20.4         | 22.7         | 22.8         | 0.5%                  | 7.1%         | 5.3%          |
| Thailand                              | -            | -            | -            | 1.1          | 1.4          | 2.0          | 1.9          | 3.6          | 3.9          | 5.2          | 6.2          | 19.1%                 | n/a          | 1.4%          |
| Other Asia Pacific                    | -            | -            | -            | -            | 0.1          | -            | -            | -            | -            | -            | 0.8          | n/a                   | n/a          | 0.2%          |
| <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.

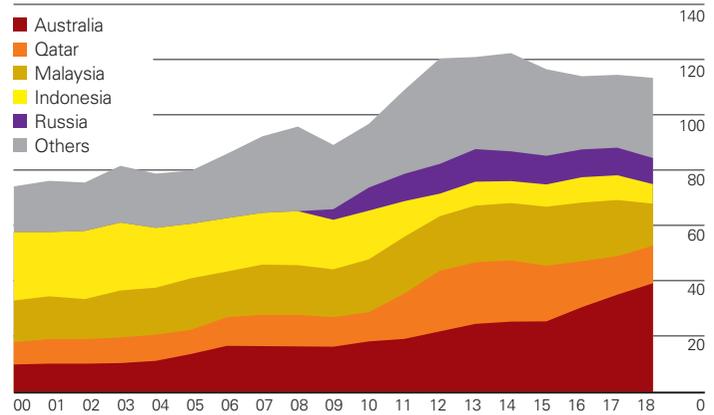
### LNG imports by source: Europe

Billion cubic metres



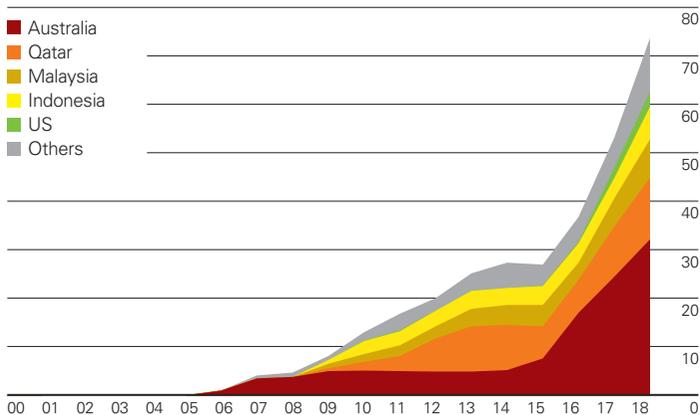
### LNG imports by source: Japan

Billion cubic metres



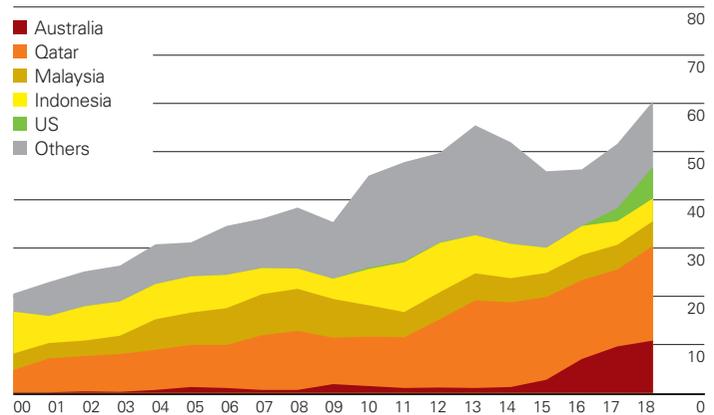
### LNG imports by source: China

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                  | 2007-17      |               |
| 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.

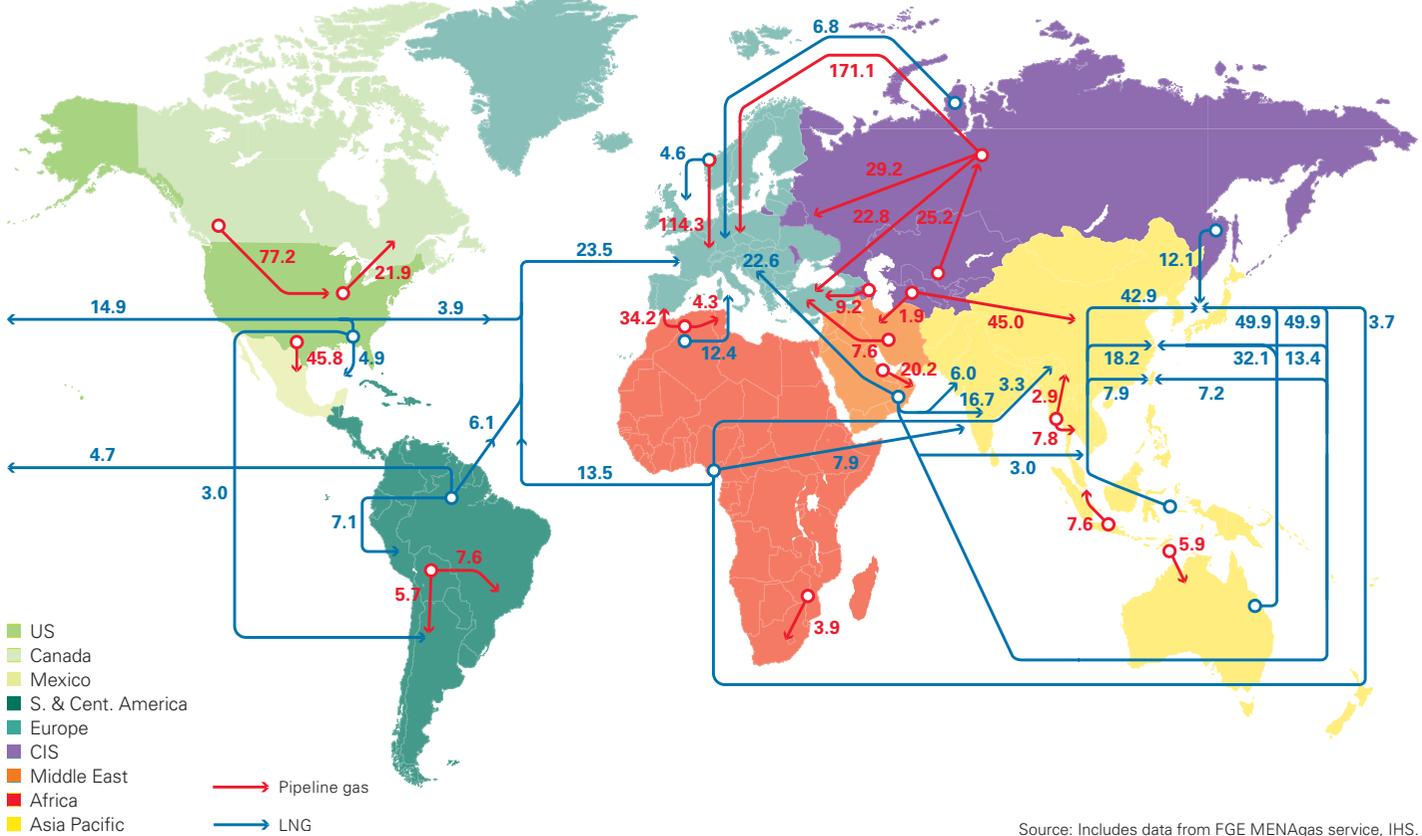
Gross LNG trade.

## Natural gas: Trade movements 2018 as LNG\*

| Billion cubic metres            | To          | From       |            |                   |                 |            |               |                    |             |            |                      |             |            |            |             |            |              |            |                |           | Total imports |          |                  |                     |              |
|---------------------------------|-------------|------------|------------|-------------------|-----------------|------------|---------------|--------------------|-------------|------------|----------------------|-------------|------------|------------|-------------|------------|--------------|------------|----------------|-----------|---------------|----------|------------------|---------------------|--------------|
|                                 |             | US         | Peru       | Trinidad & Tobago | Other Americas* | Norway     | Other Europe* | Russian Federation | Oman        | Qatar      | United Arab Emirates | Yemen       | Algeria    | Angola     | Egypt       | Nigeria    | Other Africa | Australia  | Brunei         | Indonesia |               | Malaysia | Papua New Guinea | Other Asia Pacific* |              |
| Canada                          | †           | -          | 0.4        | -                 | 0.1             | †          | 0.1           | -                  | -           | -          | -                    | -           | -          | -          | -           | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>0.6</b>   |
| Mexico                          | 4.9         | 0.1        | 0.3        | -                 | -               | -          | -             | -                  | -           | -          | -                    | -           | -          | -          | 1.4         | -          | -            | -          | 0.2            | -         | -             | -        | -                | -                   | <b>6.9</b>   |
| US                              | -           | -          | 1.8        | 0.1               | -               | 0.2        | -             | -                  | -           | -          | -                    | -           | -          | -          | 0.1         | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>2.1</b>   |
| <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>1.5</b>  | -          | -            | -          | <b>0.2</b>     | -         | -             | -        | -                | -                   | <b>9.6</b>   |
| Argentina                       | 0.7         | -          | 0.6        | -                 | -               | 0.1        | 0.1           | -                  | 1.5         | -          | -                    | 0.1         | -          | -          | 0.5         | 0.1        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>3.6</b>   |
| Brazil                          | 0.7         | -          | 0.8        | -                 | 0.2             | 0.4        | 0.2           | -                  | 0.2         | -          | -                    | -           | 0.1        | -          | 0.4         | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>2.9</b>   |
| Chile                           | 1.1         | -          | 2.5        | -                 | -               | -          | -             | -                  | -           | -          | -                    | -           | -          | -          | -           | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>4.3</b>   |
| Other S. & Cent. America        | 0.5         | -          | 3.2        | -                 | -               | -          | -             | -                  | -           | -          | -                    | -           | -          | -          | -           | 0.7        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>3.7</b>   |
| <b>S. &amp; Cent. America</b>   | <b>3.0</b>  | -          | <b>7.1</b> | -                 | <b>0.2</b>      | <b>0.4</b> | <b>0.2</b>    | -                  | <b>1.6</b>  | -          | -                    | <b>0.1</b>  | <b>0.1</b> | -          | <b>0.9</b>  | <b>0.8</b> | -            | -          | -              | -         | -             | -        | -                | -                   | <b>14.5</b>  |
| Belgium                         | -           | -          | -          | -                 | 0.1             | †          | 0.8           | -                  | 2.7         | -          | -                    | -           | 0.1        | -          | -           | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>3.7</b>   |
| France                          | 0.5         | 0.3        | 0.1        | -                 | 1.5             | †          | 1.5           | -                  | 1.1         | -          | -                    | 4.0         | 0.1        | 0.4        | 3.6         | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>13.1</b>  |
| Italy                           | 0.5         | -          | -          | -                 | 0.1             | †          | -             | -                  | 6.3         | -          | -                    | 0.7         | -          | 0.2        | 0.1         | 0.1        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>8.0</b>   |
| Spain                           | 0.3         | 1.7        | 2.2        | -                 | 0.6             | 0.1        | 0.9           | -                  | 3.4         | -          | -                    | 1.5         | 0.1        | -          | 4.1         | 0.1        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>15.0</b>  |
| Turkey                          | 0.4         | -          | 0.4        | -                 | 0.1             | 0.3        | -             | -                  | 3.1         | -          | -                    | 4.7         | 0.1        | 0.2        | 2.2         | 0.1        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>11.5</b>  |
| United Kingdom                  | 1.2         | 0.1        | 0.8        | -                 | 0.2             | -          | 1.7           | -                  | 2.9         | -          | -                    | 0.3         | -          | 0.2        | -           | 0.1        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>7.3</b>   |
| Other EU                        | 1.1         | 0.3        | 0.2        | -                 | 2.0             | 0.3        | 2.0           | -                  | 3.1         | -          | -                    | 1.1         | 0.2        | -          | 2.5         | 0.1        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>12.8</b>  |
| Rest of Europe                  | -           | -          | -          | -                 | -               | †          | -             | -                  | -           | -          | -                    | -           | -          | -          | -           | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>†</b>     |
| <b>Europe</b>                   | <b>3.9</b>  | <b>2.4</b> | <b>3.7</b> | -                 | <b>4.6</b>      | <b>0.8</b> | <b>6.8</b>    | -                  | <b>22.6</b> | -          | -                    | <b>12.4</b> | <b>0.5</b> | <b>0.9</b> | <b>12.5</b> | <b>0.4</b> | -            | -          | -              | -         | -             | -        | -                | -                   | <b>71.5</b>  |
| Egypt                           | 0.2         | -          | 0.1        | -                 | 0.6             | 0.2        | 0.3           | -                  | 1.5         | -          | -                    | -           | -          | -          | 0.3         | 0.1        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>3.2</b>   |
| Kuwait                          | 0.3         | -          | 0.1        | -                 | 0.2             | -          | -             | 0.6                | 1.6         | -          | -                    | -           | 0.6        | 0.1        | 0.6         | 0.2        | -            | -          | -              | -         | -             | -        | -                | -                   | <b>4.3</b>   |
| United Arab Emirates            | 0.1         | -          | -          | -                 | -               | 0.2        | -             | -                  | -           | -          | -                    | 0.4         | 0.1        | -          | 0.1         | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>1.0</b>   |
| 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>4.0</b>   |
| <b>Middle East &amp; Africa</b> | <b>1.7</b>  | -          | <b>1.1</b> | -                 | <b>0.9</b>      | <b>0.5</b> | <b>0.6</b>    | <b>0.7</b>         | <b>3.4</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>12.5</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       | 3.3           | 0.2      | -                | -                   | <b>73.5</b>  |
| India                           | 1.3         | -          | 0.5        | -                 | 0.1             | 0.6        | 0.5           | 1.5                | 14.8        | -          | -                    | 0.3         | 2.2        | 0.2        | 4.0         | 1.7        | 2.0          | -          | -              | 0.4       | -             | -        | -                | -                   | <b>30.6</b>  |
| Japan                           | 3.4         | 0.8        | 0.2        | -                 | 0.1             | 0.5        | 9.4           | 4.2                | 13.5        | 6.8        | -                    | -           | 0.4        | 0.2        | 2.1         | 0.2        | 39.1         | 5.7        | 7.0            | 15.1      | 4.3           | 0.1      | -                | -                   | <b>113.0</b> |
| Malaysia                        | -           | -          | -          | -                 | -               | -          | -             | -                  | -           | -          | -                    | -           | -          | -          | -           | -          | 1.2          | 0.6        | -              | -         | -             | -        | -                | -                   | <b>1.8</b>   |
| 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       | -             | -        | -                | -                   | <b>9.4</b>   |
| Singapore                       | 0.1         | -          | 0.1        | -                 | -               | 0.1        | -             | -                  | 0.6         | -          | -                    | -           | 0.2        | -          | -           | 0.3        | 2.8          | -          | 0.2            | -         | 0.2           | -        | -                | -                   | <b>4.5</b>   |
| South Korea                     | 6.5         | 1.3        | 0.3        | 0.1               | 0.1             | 0.8        | 2.6           | 5.8                | 19.6        | -          | -                    | -           | 0.3        | 0.4        | 0.6         | 0.1        | 10.8         | 1.0        | 4.7            | 5.1       | 0.1           | 0.2      | -                | -                   | <b>60.2</b>  |
| Taiwan                          | 0.4         | 0.1        | 0.3        | -                 | 0.1             | -          | 3.2           | 0.4                | 6.6         | 0.1        | -                    | -           | -          | -          | 0.3         | -          | 3.5          | 0.9        | 1.6            | 3.8       | 1.6           | -        | -                | -                   | <b>22.8</b>  |
| Thailand                        | -           | -          | 0.5        | -                 | -               | -          | 0.1           | 0.1                | 2.8         | 0.1        | -                    | -           | -          | -          | 1.3         | -          | 0.1          | 0.3        | 0.3            | 0.7       | -             | -        | -                | -                   | <b>6.2</b>   |
| Other Asia Pacific              | -           | -          | -          | -                 | -               | -          | -             | 0.8                | -           | -          | -                    | -           | -          | -          | -           | -          | -            | -          | -              | -         | -             | -        | -                | -                   | <b>0.8</b>   |
| <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>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> </ |           |               |          |                  |                     |              |

## 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

| To                            | From        |            |             |             |                          |             |              |              |            |             |                    |              |             |             |             |                   |             |            |              | Total imports |             |             |                    |              |
|-------------------------------|-------------|------------|-------------|-------------|--------------------------|-------------|--------------|--------------|------------|-------------|--------------------|--------------|-------------|-------------|-------------|-------------------|-------------|------------|--------------|---------------|-------------|-------------|--------------------|--------------|
|                               | 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 |              |
| Canada                        | -           | -          | 21.9        | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 21.9         |
| Mexico                        | -           | -          | 45.8        | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 45.8         |
| US                            | 77.2        | 0.1        | -           | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 77.3         |
| <b>North America</b>          | <b>77.2</b> | <b>0.1</b> | <b>67.6</b> | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | <b>145.0</b> |
| Argentina                     | -           | -          | -           | 5.7         | 0.2                      | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 5.9          |
| Brazil                        | -           | -          | -           | 7.6         | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 7.6          |
| Other S. & Cent. America      | -           | -          | -           | -           | 0.4                      | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 0.4          |
| <b>S. &amp; Cent. America</b> | -           | -          | -           | <b>13.4</b> | <b>0.6</b>               | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | <b>14.0</b>  |
| 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         |
| <b>Europe</b>                 | -           | -          | -           | -           | -                        | <b>32.5</b> | <b>114.3</b> | <b>83.1</b>  | <b>9.2</b> | -           | <b>193.8</b>       | -            | -           | <b>7.6</b>  | -           | <b>34.2</b>       | <b>4.3</b>  | -          | -            | -             | -           | -           | -                  | <b>478.9</b> |
| 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          |
| <b>CIS</b>                    | -           | -          | -           | -           | -                        | -           | -            | -            | -          | <b>20.1</b> | <b>29.2</b>        | -            | <b>7.7</b>  | <b>0.5</b>  | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | <b>57.5</b>  |
| United Arab Emirates          | -           | -          | -           | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | 18.2        | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 18.2         |
| Other Middle East             | -           | -          | -           | -           | -                        | -           | -            | -            | †          | -           | 1.9                | -            | 4.1         | 2.0         | 0.1         | -                 | -           | -          | 0.1          | -             | -           | -           | -                  | 8.3          |
| <b>Middle East</b>            | -           | -          | -           | -           | -                        | -           | -            | -            | †          | -           | 1.9                | -            | 4.1         | 2.0         | 0.1         | -                 | -           | -          | 0.1          | -             | -           | -           | -                  | <b>26.6</b>  |
| South Africa                  | -           | -          | -           | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | -                 | -           | -          | -            | -             | -           | -           | -                  | 3.9          |
| Other Africa                  | -           | -          | -           | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | 4.7               | -           | 3.9        | -            | -             | -           | -           | -                  | 5.5          |
| <b>Africa</b>                 | -           | -          | -           | -           | -                        | -           | -            | -            | -          | -           | -                  | -            | -           | -           | -           | <b>4.7</b>        | -           | <b>4.7</b> | -            | -             | -           | -           | -                  | <b>9.4</b>   |
| 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          |
| <b>Asia Pacific</b>           | -           | -          | -           | -           | -                        | -           | -            | -            | -          | <b>5.4</b>  | <b>33.3</b>        | <b>6.3</b>   | -           | -           | -           | -                 | -           | -          | -            | <b>7.6</b>    | <b>10.6</b> | <b>10.7</b> | -                  | <b>74.0</b>  |
| <b>Total exports</b>          | <b>77.2</b> | <b>0.1</b> | <b>67.6</b> | <b>13.4</b> | <b>0.6</b>               | <b>32.5</b> | <b>114.3</b> | <b>83.1</b>  | <b>9.2</b> | <b>25.6</b> | <b>223.0</b>       | <b>35.2</b>  | <b>14.0</b> | <b>12.1</b> | <b>20.2</b> | <b>0.1</b>        | <b>38.9</b> | <b>4.3</b> | <b>4.8</b>   | <b>7.6</b>    | <b>10.6</b> | <b>10.7</b> | -                  | <b>805.4</b> |

Source: Includes data from FGE MENAgas service, IHS.

† Less than 0.05.

Note: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar) and has been standardized using a gross calorific value (GCV) of 40 MJ/m<sup>3</sup>.

## 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.

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

♦Less than 0.05%.

**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.

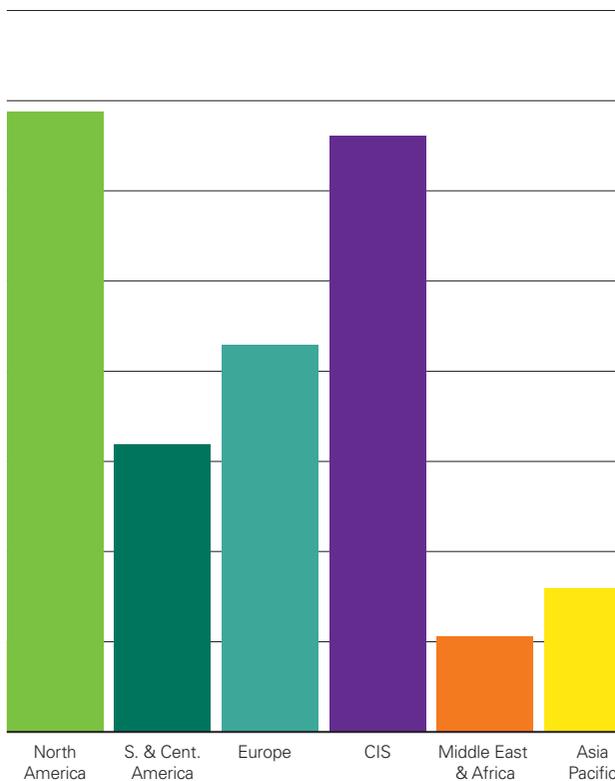
**Reserves-to-production (R/P) ratios are calculated excluding other solid fuels in reserves and production.**

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

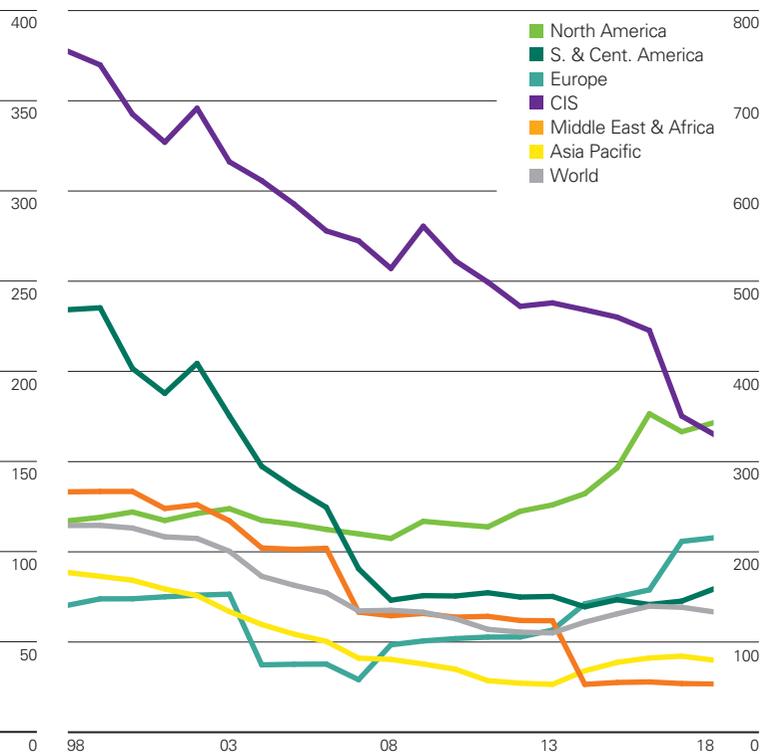
## Reserves-to-production (R/P) ratios

Years

### 2018 by region



### History

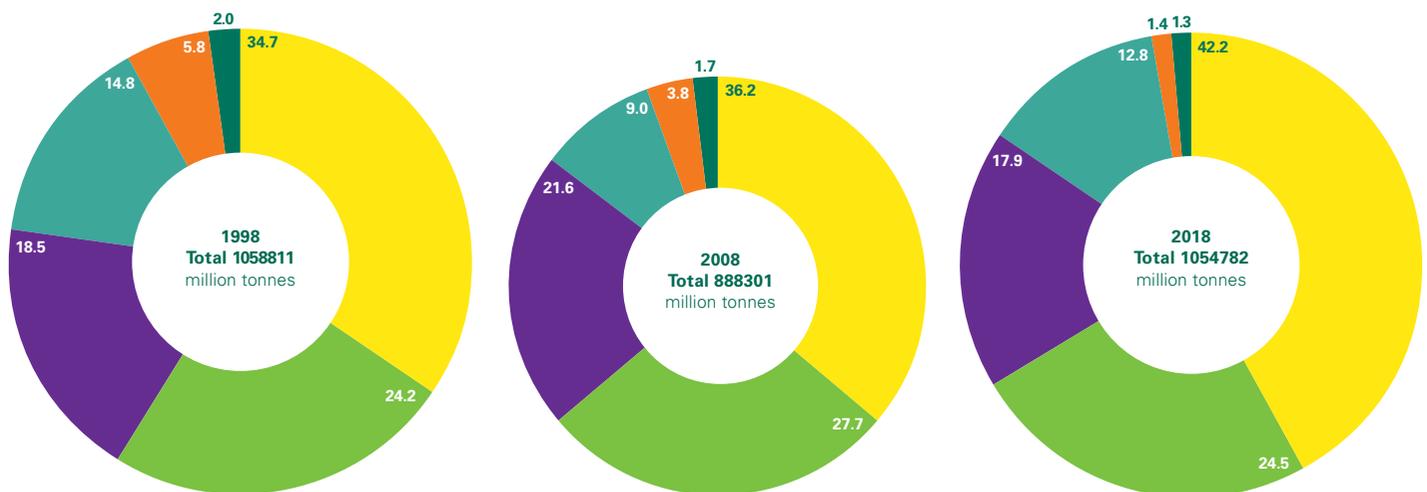


World coal reserves in 2018 stood at 1055 billion tonnes and are heavily concentrated in just a few countries: US (24%), Russia (15%), Australia (14%) and China (13%). Most of the reserves are anthracite and bituminous (70%). The current global R/P ratio shows that coal reserves in 2018 accounted for 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          | Growth rate per annum |             |             | Share 2018    |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-------------|-------------|---------------|
|                               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2017-17     | 2018        |               |
| 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           | 1.5           | 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%.

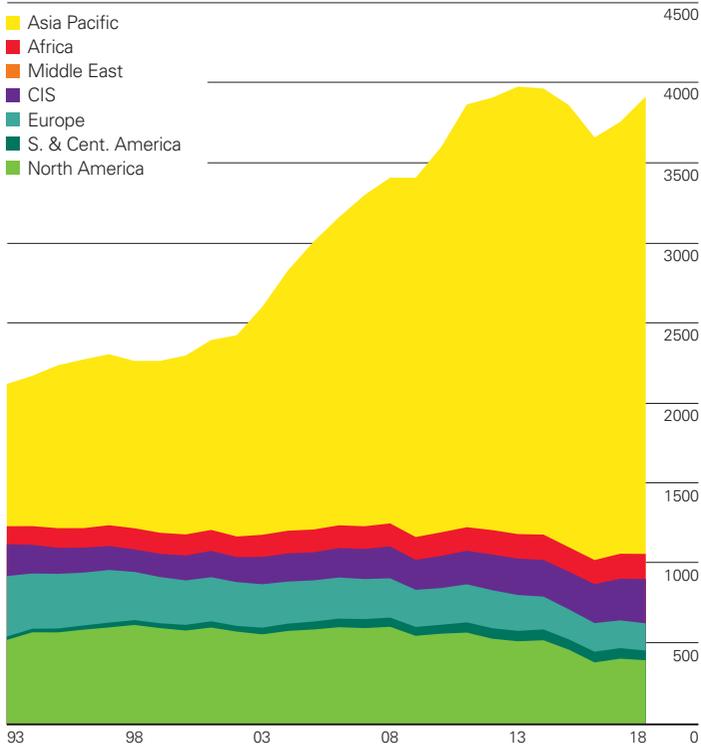
Coal production data expressed in million tonnes is available at [bp.com/statisticalreview](http://bp.com/statisticalreview).

## 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>  | <b>-6.0%</b>          | <b>-4.6%</b> | <b>9.1%</b>  |
| 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>   | <b>3.7%</b>           | <b>2.9%</b>  | <b>1.0%</b>  |
| 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           | 2.2           | 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>  | <b>-2.7%</b>          | <b>-2.6%</b> | <b>8.1%</b>  |
| 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>  | <b>6.7%</b>           | <b>-0.1%</b> | <b>3.6%</b>  |
| 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>    | <b>-2.7%</b>          | <b>-1.9%</b> | <b>0.2%</b>  |
| 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>  | <b>3.9%</b>           | <b>0.6%</b>  | <b>2.7%</b>  |
| 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> | <b>2.5%</b>           | <b>2.3%</b>  | <b>75.3%</b> |
| <b>Total World</b>                  | <b>3503.4</b> | <b>3450.6</b> | <             |               |               |               |               |               |               |               |               |                       |              |              |

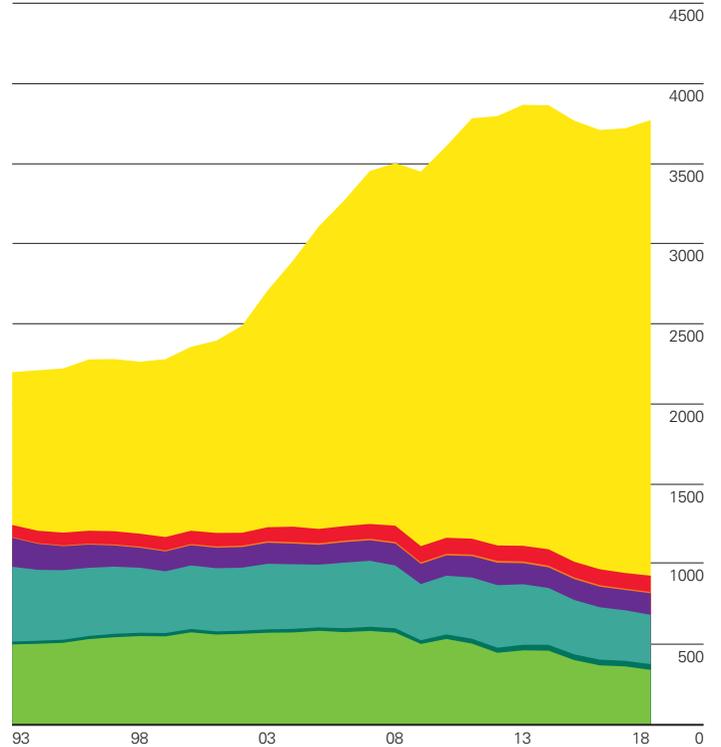
## Coal: Production by region

Million tonnes oil equivalent



## Coal: Consumption by region

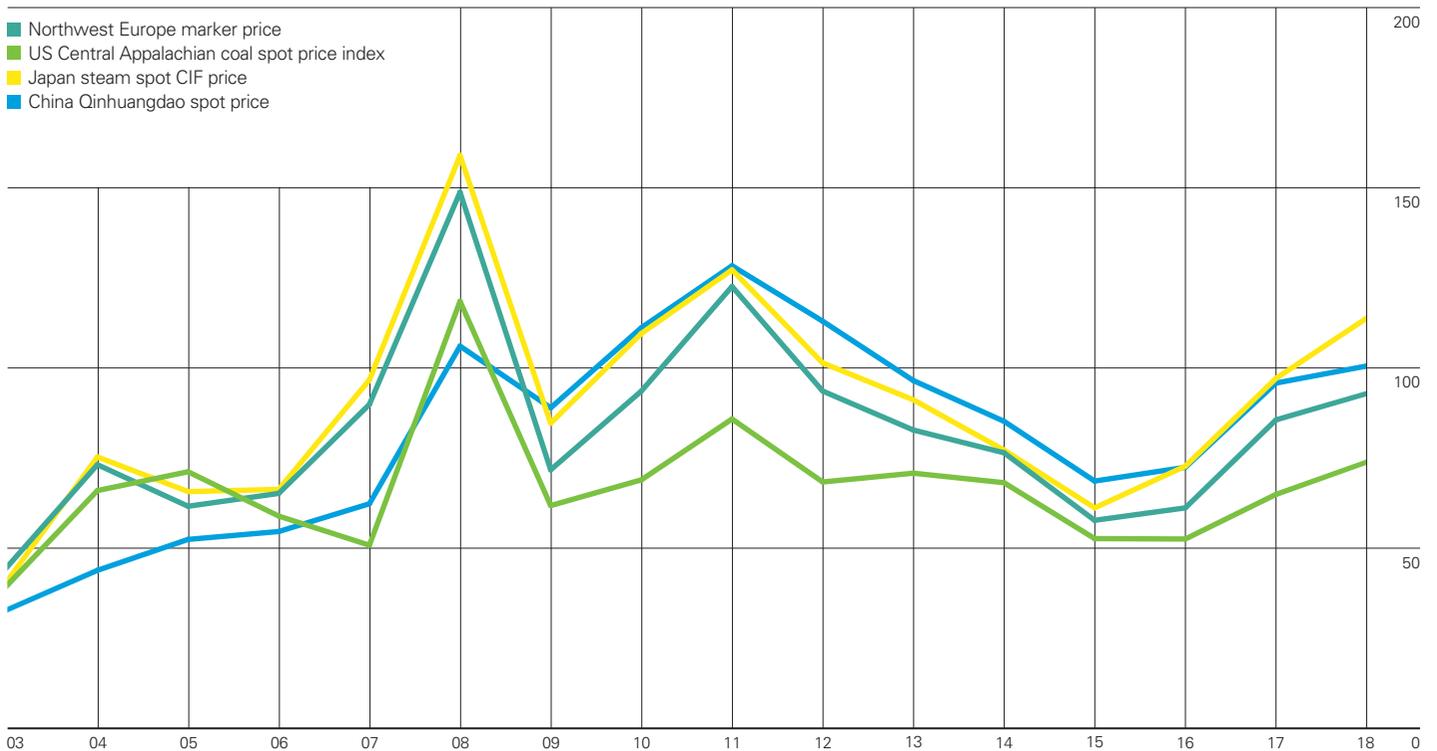
Million tonnes oil equivalent



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     |               |  |
| <b>Imports</b>                |              |              |              |              |              |              |              |              |              |              |              |                       |             |               |  |
| 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> |  |
| <b>Exports</b>                |              |              |              |              |              |              |              |              |              |              |              |                       |             |               |  |
| 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         | †           | 0.1         | 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%.

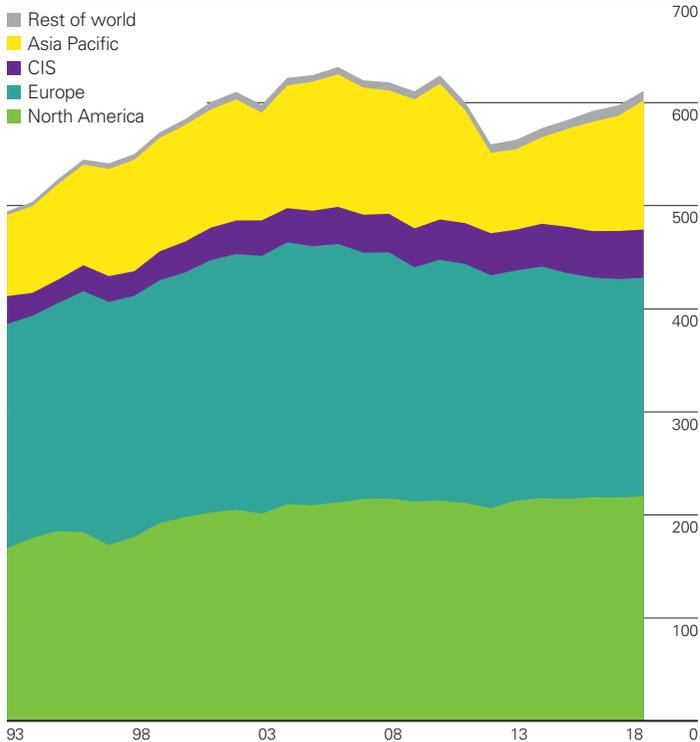
Nuclear data expressed in terawatt-hours is available at [bp.com/statisticalreview](http://bp.com/statisticalreview).

**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          | 0.5          | 0.4          | 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        |              |              |                       |              |               |

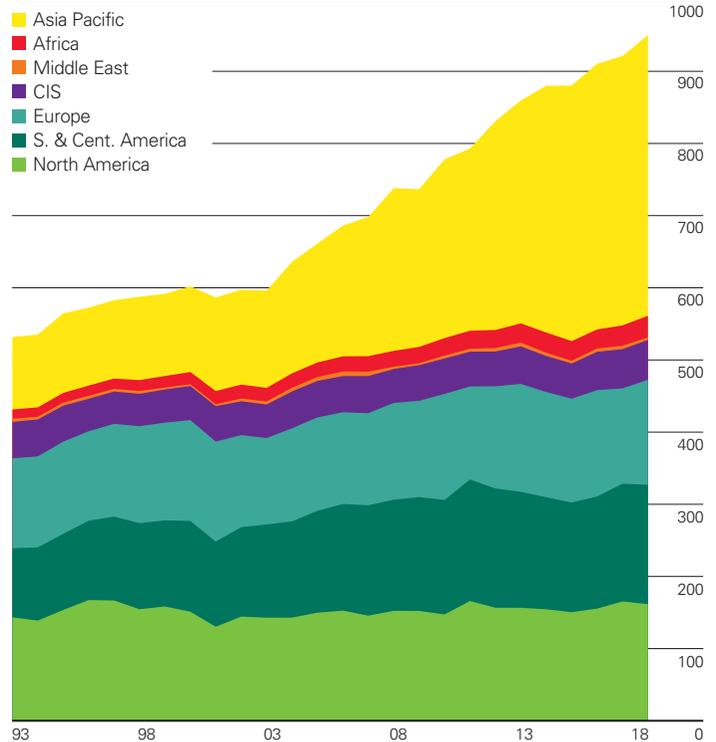
## Nuclear energy consumption by region

Million tonnes oil equivalent



## Hydroelectricity consumption by region

Million tonnes oil equivalent

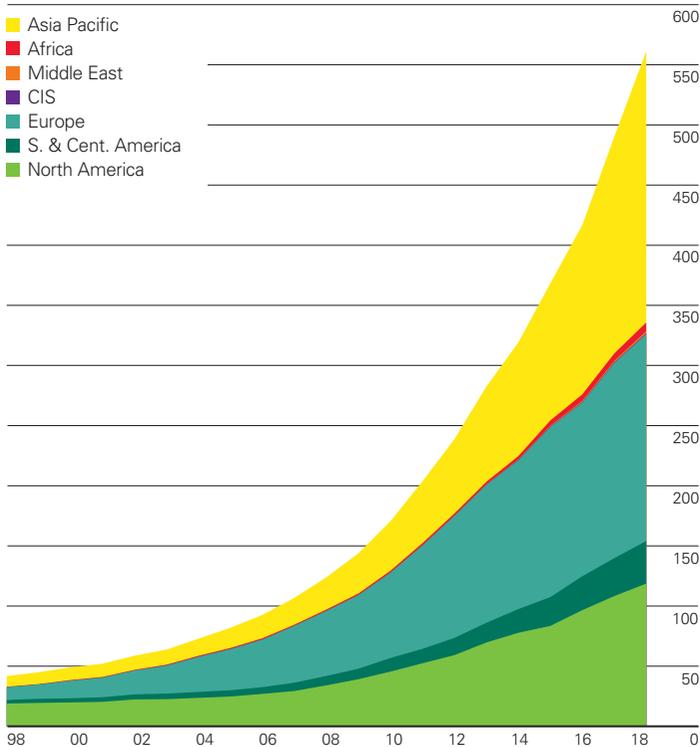


Nuclear consumption increased by 2.4% in 2018. China (10 mtoe) accounted for almost three quarters of global growth. In fact, nuclear consumption in China has more than quadrupled in the last 10 years. The largest declines were recorded in South Korea (-3 mtoe) and Belgium (-3 mtoe).

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%.

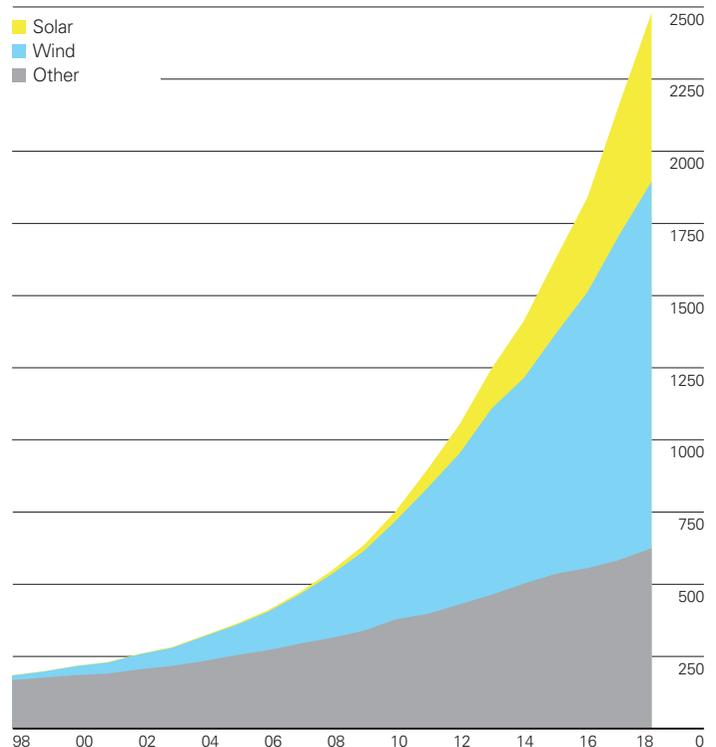
## Renewables consumption by region

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                   | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | –                     | -15.7%       | ♦             |
| Venezuela                           | –            | –            | †            | †            | †            | †            | †            | †            | †            | †            | †            | –                     | –            | ♦             |
| Other S. & Cent. America            | 1.6          | 1.8          | 2.0          | 2.1          | 2.6          | 2.9          | 3.4          | 4.3          | 4.9          | 5.2          | <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                          | –            | †            | †            | –            | –            | †            | †            | †            | †            | †            | †            | 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                        | –            | –            | †            | †            | †            | †            | †            | †            | †            | †            | †            | –                     | –            | ♦             |
| Uzbekistan                          | –            | –            | –            | –            | –            | –            | –            | –            | –            | –            | –            | –                     | –            | ♦             |
| Other CIS                           | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | 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                                | –            | –            | –            | –            | –            | †            | †            | †            | †            | †            | †            | –                     | –            | ♦             |
| 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                              | –            | –            | –            | –            | –            | †            | †            | †            | †            | †            | †            | –                     | –            | ♦             |
| Oman                                | –            | –            | –            | –            | –            | †            | †            | †            | †            | †            | †            | 57.5%                 | –            | ♦             |
| Qatar                               | –            | –            | –            | †            | †            | †            | †            | †            | †            | †            | †            | –                     | –            | ♦             |
| Saudi Arabia                        | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | 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                 | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | †            | -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 |              |               |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|--------------|---------------|
|                                     |              |              |              |              |              |              |              |              |              |              |              | 2018                  | 2017-18      | Share 2018    |
| 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          | 219          | 207          | 180          | 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>  |
| Total CIS                           | 7            | 20           | 34           | 27           | 29           | 23           | 25           | 20           | 18           | 18           | <b>18</b>    | –                     | 27.5%        | ♦             |
| Total Middle East                   | –            | 12           | 12           | 13           | 14           | 15           | 16           | 17           | 16           | 16           | <b>16</b>    | –                     | –            | ♦             |
| Total Africa                        | 48           | 285          | 299          | 325          | 232          | 237          | 273          | 353          | 430          | 434          | <b>437</b>   | 0.6%                  | 21.8%        | 0.5%          |
| 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%         |

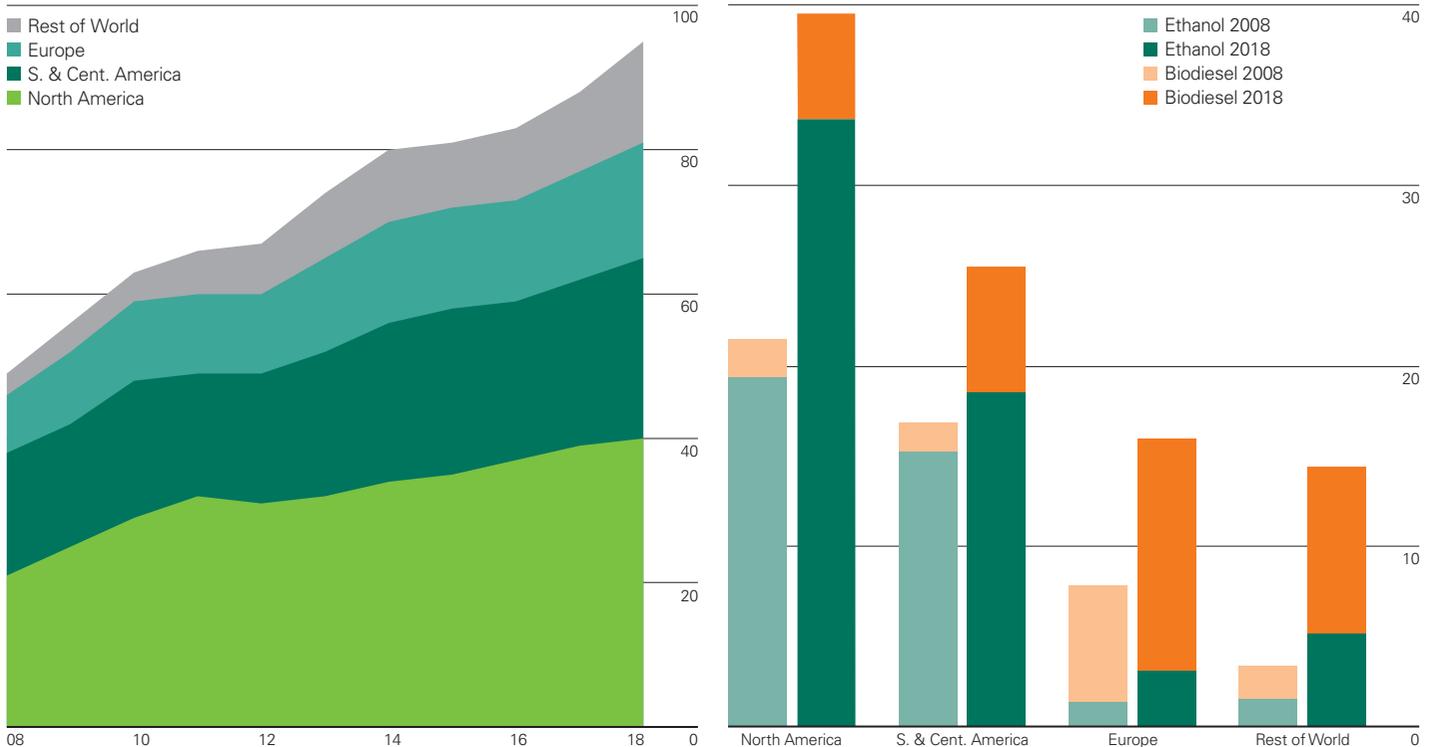
♦ Less than 0.05%.

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



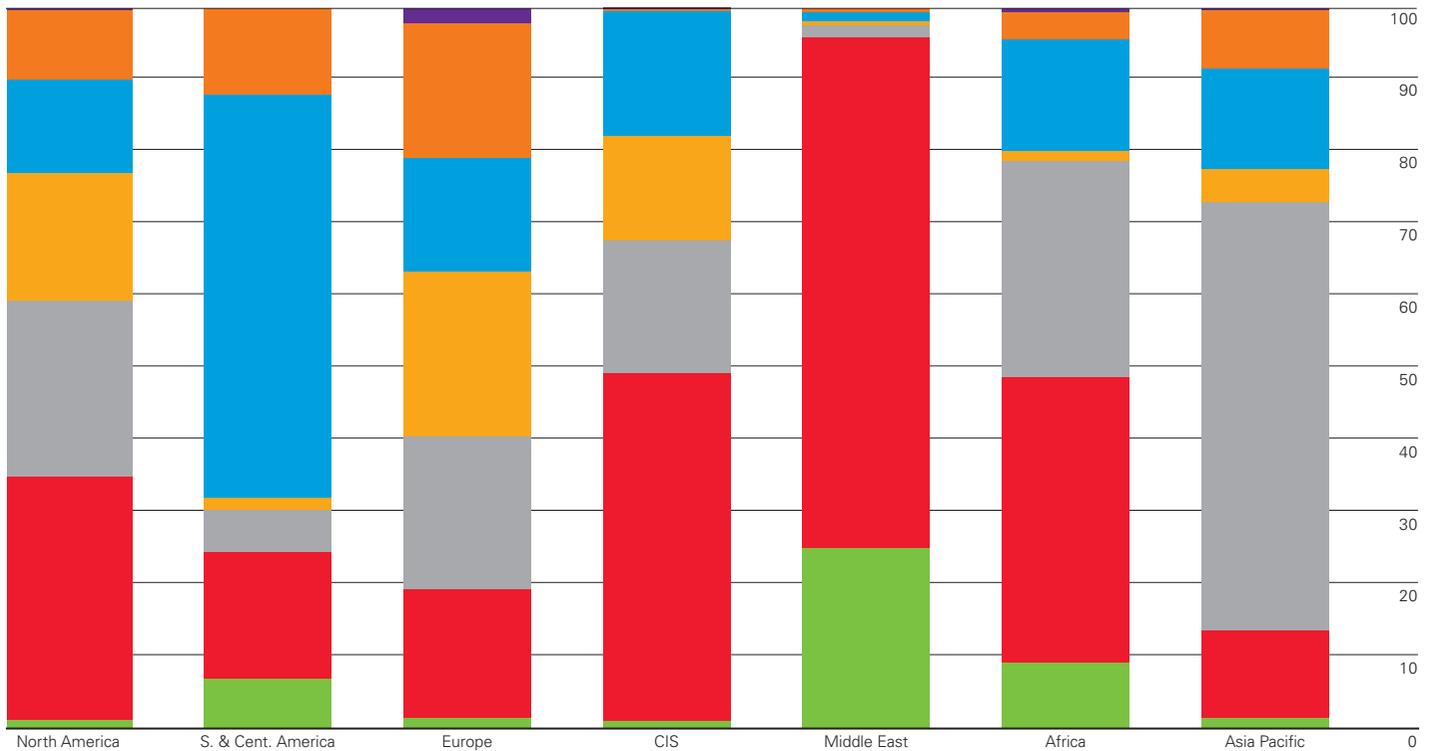
Biofuels production growth averaged 9.7% in 2018, the highest growth since 2010 and slightly above the 10-year average. Brazil (3.1 mtoe) and Indonesia (2.2 mtoe) together accounted for almost two thirds of global growth (8.5 mtoe). By fuel, ethanol production in 2018 totalled 60.4 mtoe with North America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

**Electricity generation\***

| Terawatt-hours                      | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          | 2018          | Growth rate per annum |              | Share 2018   |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------------|--------------|
|                                     |               |               |               |               |               |               |               |               |               |               |               | 2018                  | 2007-17      |              |
| Canada                              | 638.4         | 614.0         | 606.9         | 638.3         | 636.5         | 662.5         | 660.5         | 663.7         | 663.9         | 662.7         | <b>654.4</b>  | -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         | <b>332.1</b>  | 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        | <b>4460.8</b> | 3.7%                  | -0.3%        | 16.8%        |
| <b>Total North America</b>          | <b>5297.8</b> | <b>5088.3</b> | <b>5276.7</b> | <b>5293.8</b> | <b>5243.5</b> | <b>5289.9</b> | <b>5327.1</b> | <b>5322.7</b> | <b>5332.1</b> | <b>5294.4</b> | <b>5447.3</b> | <b>2.9%</b>           | <b>-0.1%</b> | <b>20.5%</b> |
| Argentina                           | 121.9         | 122.3         | 126.0         | 129.5         | 136.0         | 139.4         | 138.6         | 145.4         | 147.2         | 145.6         | <b>146.6</b>  | 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         | <b>588.0</b>  | ♦                     | 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          | <b>80.2</b>   | 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          | <b>77.4</b>   | 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          | <b>29.4</b>   | 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          | <b>54.0</b>   | 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          | <b>10.3</b>   | 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         | <b>99.2</b>   | -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         | <b>220.1</b>  | 1.8%                  | 1.5%         | 0.8%         |
| <b>Total S. &amp; Cent. America</b> | <b>1070.7</b> | <b>1082.0</b> | <b>1139.5</b> | <b>1180.1</b> | <b>1230.4</b> | <b>1266.7</b> | <b>1286.5</b> | <b>1295.9</b> | <b>1304.8</b> | <b>1311.6</b> | <b>1305.3</b> | <b>-0.5%</b>          | <b>2.4%</b>  | <b>4.9%</b>  |
| Austria                             | 66.9          | 69.1          | 71.1          | 65.9          | 72.4          | 68.0          | 65.1          | 64.9          | 67.9          | 70.8          | <b>68.2</b>   | -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          | <b>74.6</b>   | -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          | <b>88.0</b>   | 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          | <b>69.6</b>   | 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         | <b>574.2</b>  | 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         | <b>648.7</b>  | -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          | <b>54.2</b>   | -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          | <b>32.0</b>   | -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         | <b>290.6</b>  | -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         | <b>117.5</b>  | 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         | <b>147.0</b>  | -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         | <b>170.1</b>  | -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          | <b>59.9</b>   | 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          | <b>65.2</b>   | 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         | <b>275.0</b>  | -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         | <b>163.5</b>  | -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          | <b>69.8</b>   | 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         | <b>302.5</b>  | 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         | <b>159.4</b>  | 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         | <b>333.9</b>  | -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         | <b>313.4</b>  | 3.3%                  | 0.2%         | 1.2%         |
| <b>Total Europe</b>                 | <b>4088.5</b> | <b>3894.7</b> | <b>4065.7</b> | <b>4019.4</b> | <b>4052.3</b> | <b>4020.4</b> | <b>3938.4</b> | <b>3982.8</b> | <b>4023.0</b> | <b>4061.8</b> | <b>4077.3</b> | <b>0.4%</b>           | <b>♦</b>     | <b>15.3%</b> |
| Azerbaijan                          | 21.6          | 18.9          | 18.7          | 20.3          | 23.0          | 23.4          | 24.7          | 24.7          | 25.0          | 24.3          | <b>25.2</b>   | 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          | <b>38.8</b>   | 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         | <b>107.1</b>  | 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        | <b>1110.8</b> | 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          | <b>24.2</b>   | 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          | <b>62.4</b>   | 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          | <b>48.9</b>   | 3.9%                  | 0.6%         | 0.2%         |
| <b>Total CIS</b>                    | <b>1282.0</b> | <b>1226.2</b> | <b>1284.0</b> | <b>1308.5</b> | <b>1330.4</b> | <b>1323.7</b> | <b>1337.9</b> | <b>1340.9</b> | <b>1368.5</b> | <b>1381.7</b> | <b>1417.4</b> | <b>2.6%</b>           | <b>0.9%</b>  | <b>5.3%</b>  |
| Iran                                | 210.5         | 221.8         | 235.7         | 235.6         | 248.8         | 258.9         | 275.6         | 280.2         | 286.1         | 305.2         | <b>310.8</b>  | 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          | <b>103.3</b>  | 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          | <b>69.6</b>   | 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          | <b>74.2</b>   | 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          | <b>37.3</b>   | 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          | <b>39.5</b>   | -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         | <b>383.8</b>  | 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         | <b>136.9</b>  | 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          | <b>84.9</b>   | 1.4%                  | 0.3%         | 0.3%         |
| <b>Total Middle East</b>            | <b>775.0</b>  | <b>819.8</b>  | <b>885.0</b>  | <b>901.9</b>  | <b>961.2</b>  | <b>997.2</b>  | <b>1073.2</b> | <b>1128.7</b> | <b>1165.7</b> | <b>1219.3</b> | <b>1240.4</b> | <b>1.7%</b>           | <b>5.2%</b>  | <b>4.7%</b>  |
| Algeria                             | 40.2          | 43.1          | 45.7          | 53.1          | 57.4          | 59.9          | 64.2          | 68.8          | 71.0          | 76.0          | <b>76.4</b>   | 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         | <b>200.0</b>  | 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          | <b>34.4</b>   | 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         | <b>256.0</b>  | 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         | <b>286.9</b>  | 4.8%                  | 4.9%         | 1.1%         |
| <b>Total Africa</b>                 | <b>622.9</b>  | <b>629.4</b>  | <b>671.7</b>  | <b>689.1</b>  | <b>720.7</b>  | <b>743.5</b>  | <b>767.8</b>  | <b>786.8</b>  | <b>801.2</b>  | <b>829.6</b>  | <b>853.7</b>  | <b>2.9%</b>           | <b>3.1%</b>  | <b>3.2%</b>  |
| Australia                           | 245.4         | 249.9         | 251.0         | 256.3         | 250.7         | 249.6         | 247.6         | 254.3         | 258.5         | 259.0         | <b>261.4</b>  | 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          | <b>79.1</b>   | 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        | <b>7111.8</b> | 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          | <b>36.7</b>   | -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        | <b>1561.1</b> | 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         | <b>267.3</b>  | 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        | <b>1051.6</b> | 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         | <b>168.4</b>  | 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          | <b>44.3</b>   | 0.2%                  | 0.1%         | 0.2%         |
| Pakistan                            | 96.2          | 97.1          | 100.0         | 99.9          | 99.0          | 102.2         | 107.3         | 110.5         | 122.9         | 126.6         | <b>140.6</b>  | 11.1%                 | 2.6%         | 0.5%         |
| Philippines                         | 60.8          | 61.9          | 67.7          | 69.2          | 72.9          | 75.3          | 77.3          | 82.4          | 90.8          | 94.4          | <b>99.8</b>   | 5.7%                  | 4.7%         | 0.4%         |
| Singapore                           | 41.7          | 41.8          | 45.4          | 46.0          | 46.9          | 48.0          | 49.3          | 50.3          |               |               |               |                       |              |              |

## Regional electricity generation by fuel 2018

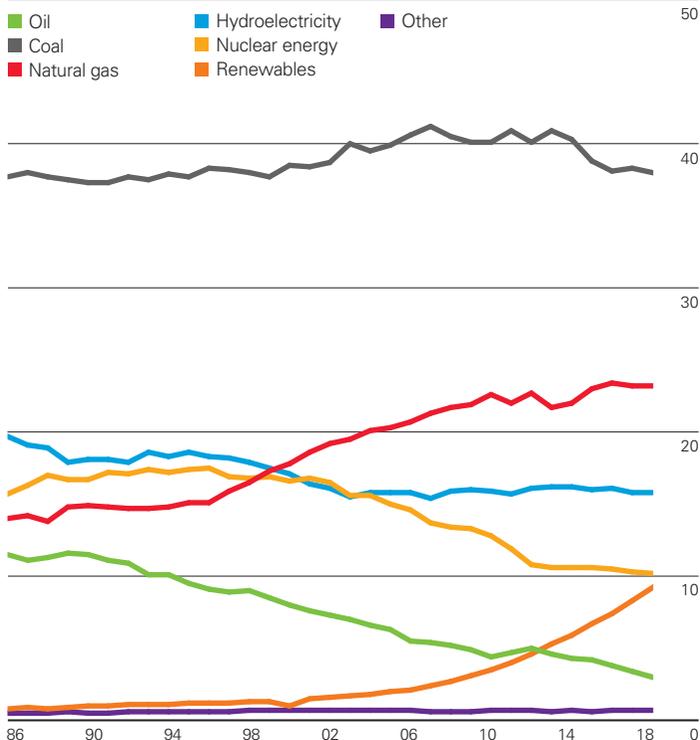
Percentage



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.

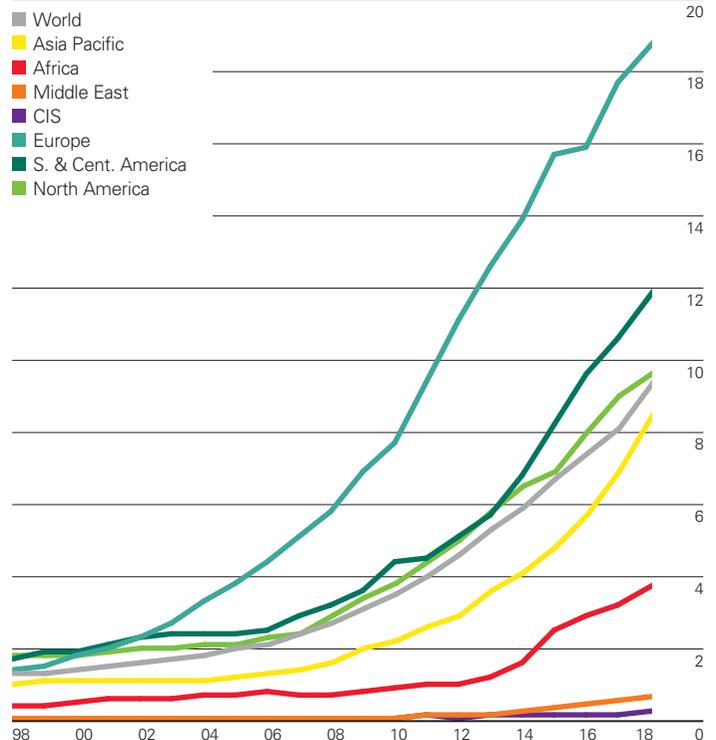
## Share of global electricity generation by fuel

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          | Growth rate per annum |        | Share 2018 |         |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|--------|------------|---------|
|                                     |               |               |               |               |               |               |               |               |               |               | 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         | <b>550.3</b>          | 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         | <b>462.5</b>          | -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        | <b>5145.2</b>         | 2.6%   | -1.5%      | 15.2%   |
| <b>Total North America</b>          | <b>6652.9</b> | <b>6199.2</b> | <b>6434.7</b> | <b>6360.1</b> | <b>6134.0</b> | <b>6274.9</b> | <b>6310.9</b> | <b>6161.2</b> | <b>6058.2</b> | <b>6040.7</b> | <b>6157.9</b>         | 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         | <b>180.3</b>          | -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         | <b>441.8</b>          | -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          | <b>95.8</b>           | 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          | <b>98.1</b>           | 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          | <b>37.1</b>           | 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          | <b>52.3</b>           | 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          | <b>20.7</b>           | -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         | <b>123.7</b>          | -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         | <b>236.8</b>          | 3.2%   | 0.7%       | 0.7%    |
| <b>Total S. &amp; Cent. America</b> | <b>1144.4</b> | <b>1105.3</b> | <b>1181.8</b> | <b>1235.8</b> | <b>1280.7</b> | <b>1330.6</b> | <b>1355.2</b> | <b>1347.3</b> | <b>1320.4</b> | <b>1305.6</b> | <b>1286.5</b>         | -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          | <b>61.2</b>           | -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         | <b>129.6</b>          | 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         | <b>103.2</b>          | 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          | <b>46.6</b>           | 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         | <b>311.8</b>          | -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         | <b>725.7</b>          | -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          | <b>76.2</b>           | -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          | <b>47.7</b>           | -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         | <b>336.3</b>          | -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         | <b>202.7</b>          | -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          | <b>35.5</b>           | 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         | <b>322.5</b>          | 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          | <b>54.5</b>           | -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          | <b>72.0</b>           | -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         | <b>295.2</b>          | -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          | <b>44.8</b>           | -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          | <b>36.6</b>           | -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         | <b>389.9</b>          | 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         | <b>186.5</b>          | 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         | <b>394.1</b>          | -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         | <b>375.7</b>          | -0.6%  | -1.0%      | 1.1%    |
| <b>Total Europe</b>                 | <b>4939.0</b> | <b>4589.6</b> | <b>4700.6</b> | <b>4618.0</b> | <b>4562.0</b> | <b>4452.3</b> | <b>4220.3</b> | <b>4230.0</b> | <b>4285.9</b> | <b>4317.5</b> | <b>4248.4</b>         | -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          | <b>31.8</b>           | -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          | <b>56.6</b>           | 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         | <b>248.1</b>          | 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        | <b>1550.8</b>         | 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          | <b>78.5</b>           | 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         | <b>104.3</b>          | -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          | <b>30.3</b>           | 8.5%   | 2.0%       | 0.1%    |
| <b>Total CIS</b>                    | <b>1993.0</b> | <b>1875.6</b> | <b>1939.0</b> | <b>2035.1</b> | <b>2063.1</b> | <b>2014.6</b> | <b>2027.5</b> | <b>1986.8</b> | <b>1997.3</b> | <b>2001.2</b> | <b>2100.4</b>         | 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         | <b>656.4</b>          | 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         | <b>151.4</b>          | 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          | <b>69.6</b>           | -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          | <b>98.2</b>           | -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          | <b>71.4</b>           | 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         | <b>101.2</b>          | -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         | <b>571.0</b>          | -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         | <b>277.0</b>          | 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         | <b>122.7</b>          | -0.3%  | -1.9%      | 0.4%    |
| <b>Total Middle East</b>            | <b>1620.5</b> | <b>1656.5</b> | <b>1736.2</b> | <b>1789.0</b> | <b>1853.3</b> | <b>1926.3</b> | <b>1965.2</b> | <b>2019.5</b> | <b>2061.5</b> | <b>2078.7</b> | <b>2118.8</b>         | 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         | <b>135.5</b>          | 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         | <b>224.2</b>          | 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          | <b>62.8</b>           | 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         | <b>421.1</b>          | 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         | <b>391.0</b>          | 3.3%   | 3.9%       | 1.2%    |
| <b>Total Africa</b>                 | <b>1027.8</b> | <b>1041.6</b> | <b>1071.6</b> | <b>1073.1</b> | <b>1106.4</b> | <b>1130.7</b> | <b>1166.2</b> | <b>1173.7</b> | <b>1191.2</b> | <b>1206.1</b> | <b>1234.6</b>         | 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         | <b>416.6</b>          | 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          | <b>90.4</b>           | 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        | <b>9428.7</b>         | 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          | <b>99.5</b>           | 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        | <b>2479.1</b>         | 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         | <b>543.0</b>          | 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        | <b>1148.4</b>         | -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         | <b>250.3</b>          | 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          | <b>35.9</b>           | -2.7%  | 0.3%       | 0.1%    |
| Pakistan                            | 146.4         | 146.0         | 145.7         | 144.1         | 145.5         | 145.5         | 152.3         | 159.9         | 175.5         | 188.5         | <b>195.7</b>          | 3.8%   | 2.9%       | 0.6%    |
| Philippines                         | 74.0          | 74.6          | 80.1          | 80.8          | 83.3          | 92.2          | 97.6          | 106.6         | 116.9         | 128.9         | <b>133.7</b>          | 3.8%   | 6.0%       | 0.4%    |
| Singapore                           | 163.4         | 176.7         | 185.3         | 192.7         | 192.0         | 192.8         | 192.6         |               |               |               |                       |        |            |         |

## Cobalt production

### Mine production

| Thousand tonnes    | 2008        | 2009        | 2010         | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | 2017         | 2018         | Growth rate per annum |             | Share 2018    |
|--------------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-------------|---------------|
|                    |             |             |              |              |              |              |              |              |              |              |              | 2018                  | 2007-17     |               |
| Australia          | 4.8         | 4.6         | 3.9          | 3.9          | 5.9          | 6.4          | 6.2          | 6.0          | 5.5          | 5.8          | 4.7          | -19.0%                | 2.0%        | 3.0%          |
| Canada             | 9.0         | 3.9         | 4.6          | 6.8          | 3.7          | 4.0          | 3.9          | 4.3          | 4.2          | 3.7          | 3.5          | -4.9%                 | -8.2%       | 2.2%          |
| DR Congo           | 42.5        | 56.1        | 84.0         | 99.5         | 86.4         | 76.6         | 76.5         | 84.4         | 69.0         | 90.3         | 111.7        | 23.7%                 | 13.5%       | 70.7%         |
| Cuba               | 4.0         | 4.6         | 4.8          | 5.1          | 4.7          | 4.0          | 3.7          | 4.3          | 5.1          | 5.0          | 4.5          | -10.2%                | 0.9%        | 2.8%          |
| Madagascar         | -           | -           | 0.2          | 0.5          | 0.6          | 2.4          | 3.4          | 4.0          | 3.8          | 3.4          | 3.3          | -2.8%                 | -           | 2.1%          |
| Morocco            | 1.7         | 2.6         | 3.1          | 2.2          | 2.0          | 2.0          | 2.2          | 2.3          | 2.7          | 2.5          | 2.3          | -8.9%                 | 3.4%        | 1.5%          |
| New Caledonia      | 2.1         | 2.0         | 2.9          | 3.1          | 2.7          | 3.2          | 4.0          | 3.7          | 3.4          | 2.8          | 1.7          | -40.7%                | 2.2%        | 1.1%          |
| Papua New Guinea   | -           | -           | -            | -            | 0.5          | 1.0          | 2.1          | 2.5          | 2.2          | 3.3          | 3.2          | -3.3%                 | -           | 2.0%          |
| Philippines        | 1.2         | 1.4         | 2.1          | 2.0          | 2.7          | 2.8          | 4.6          | 4.3          | 4.1          | 4.6          | 4.4          | -3.5%                 | 16.5%       | 2.8%          |
| Russian Federation | 6.2         | 6.1         | 6.2          | 6.1          | 6.3          | 6.3          | 6.3          | 6.2          | 5.5          | 5.9          | 5.9          | -                     | -0.7%       | 3.7%          |
| South Africa       | 0.6         | 0.6         | 1.8          | 1.6          | 2.5          | 3.0          | 3.0          | 2.9          | 2.3          | 2.3          | 2.2          | -4.3%                 | 14.4%       | 1.4%          |
| Zambia             | 4.6         | 5.9         | 8.6          | 7.7          | 5.4          | 5.9          | 4.6          | 3.0          | 5.0          | 3.2          | 3.2          | -                     | -3.6%       | 2.0%          |
| Rest of World      | 7.0         | 6.2         | 7.3          | 8.2          | 9.5          | 9.9          | 9.9          | 9.4          | 7.1          | 6.0          | 7.4          | 24.4%                 | -2.0%       | 4.7%          |
| <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                  | 2007-17     |               |
| Argentina                          | 3.2         | 2.2         | 3.0         | 3.0         | 2.7         | 2.5         | 3.2         | 3.6         | 5.8         | 5.7         | 6.2         | 8.8%                  | 6.6%        | 10.0%         |
| Australia                          | 6.7         | 5.5         | 8.5         | 11.7        | 12.7        | 10.1        | 12.4        | 11.9        | 14.0        | 21.3        | 27.2        | 27.5%                 | 12.0%       | 44.0%         |
| Brazil                             | 0.2         | 0.2         | 0.2         | 0.3         | 0.2         | 0.4         | 0.2         | 0.2         | 0.2         | 0.2         | 0.6         | 200.0%                | 1.1%        | 1.0%          |
| Chile                              | 11.0        | 6.0         | 10.4        | 13.6        | 13.9        | 11.7        | 12.0        | 10.9        | 15.2        | 15.0        | 16.0        | 6.6%                  | 2.7%        | 25.9%         |
| China                              | 3.3         | 3.8         | 4.0         | 4.1         | 4.5         | 4.7         | 2.3         | 2.0         | 2.3         | 6.8         | 8.0         | 17.6%                 | 8.5%        | 13.0%         |
| Portugal                           | 0.7         | -           | 0.8         | 0.8         | 0.6         | 0.6         | 0.3         | 0.2         | 0.4         | 0.8         | 0.8         | -                     | 3.4%        | 1.3%          |
| US                                 | 1.5         | 1.5         | 1.0         | 1.0         | 1.0         | 0.9         | 0.9         | 0.9         | 0.9         | 0.9         | 0.9         | -                     | -5.0%       | 1.5%          |
| Zimbabwe                           | 0.5         | 0.4         | 0.5         | 0.5         | 1.1         | 1.0         | 0.9         | 0.9         | 1.0         | 0.8         | 1.6         | 100.0%                | 10.3%       | 2.6%          |
| Rest of World                      | 0.7         | 0.3         | -           | -           | -           | -           | -           | -           | -           | 1.0         | 0.5         | -50.0%                | -           | 0.8%          |
| <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                  | 2007-17      |               |
| Brazil <sup>1</sup> | 80.5         | 59.4         | 92.4         | 105.2         | 88.1          | 91.9          | 87.0          | 75.1          | 85.0          | 85.0         | 95.0         | 11.8%                 | 1.0%         | 10.6%         |
| Canada              | 27.0         | 15.0         | 20.0         | 25.0          | 24.0          | 20.0          | 30.0          | 30.0          | 30.0          | 40.0         | 40.0         | -                     | 3.6%         | 4.5%          |
| China               | 650.0        | 450.0        | 700.0        | 800.0         | 820.0         | 750.0         | 780.0         | 780.0         | 780.0         | 625.0        | 630.0        | 0.8%                  | -2.4%        | 70.3%         |
| India <sup>2</sup>  | 117.8        | 124.6        | 115.7        | 153.3         | 134.7         | 146.4         | 116.7         | 134.6         | 122.4         | 35.0         | 35.0         | -                     | -14.7%       | 3.9%          |
| Madagascar          | 4.9          | 3.4          | 3.8          | 3.6           | 2.9           | 4.3           | 5.3           | 8.1           | 9.2           | 8.2          | 9.0          | 9.4%                  | 4.4%         | 1.0%          |
| Mexico              | 7.2          | 5.1          | 6.6          | 7.3           | 7.5           | 7.0           | 9.2           | 6.5           | 3.8           | 3.8          | 3.8          | -                     | -9.0%        | 0.4%          |
| Mozambique          | -            | -            | -            | -             | -             | -             | -             | -             | -             | 0.3          | 20.0         | 6566.7%               | -            | 2.2%          |
| Russian Federation  | 14.0         | 14.0         | 14.0         | 14.0          | 14.0          | 14.0          | 14.0          | 15.9          | 19.4          | 25.2         | 17.0         | -32.5%                | 6.1%         | 1.9%          |
| Sri Lanka           | 6.6          | 3.2          | 3.4          | 3.4           | 4.2           | 3.1           | 4.0           | 4.2           | 3.1           | 3.1          | 3.1          | -                     | -10.7%       | 0.3%          |
| Ukraine             | 11.3         | 4.3          | 2.8          | 0.6           | 4.6           | 6.9           | 13.8          | 14.5          | 14.6          | 14.9         | 14.9         | -                     | 3.4%         | 1.7%          |
| Zimbabwe            | 5.1          | 2.5          | 4.0          | 7.0           | 6.0           | 4.0           | 7.0           | 7.0           | 6.0           | 1.6          | 2.0          | 26.6%                 | -11.6%       | 0.2%          |
| Rest of World       | 40.7         | 58.5         | 24.7         | 25.2          | 49.7          | 51.6          | 37.1          | 22.8          | 21.6          | 22.9         | 25.8         | 12.6%                 | -4.7%        | 2.9%          |
| <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                  | 2007-17     |               |
| Australia                    | -            | -            | -           | 2.2          | 3.2          | 1.3          | 6.2          | 11.9         | 13.9         | 17.3         | 18.6         | 7.5%                  | -           | 11.1%         |
| Brazil                       | 0.5          | 0.2          | 0.1         | 0.1          | 1.6          | 0.3          | -            | 0.9          | 2.2          | 1.7          | 1.0          | -41.2%                | 10.2%       | 0.6%          |
| China                        | 125.0        | 129.0        | 89.2        | 93.8         | 93.8         | 93.8         | 105.0        | 105.0        | 105.0        | 105.0        | 120.0        | 14.3%                 | -1.3%       | 72.0%         |
| India                        | †            | †            | -           | -            | -            | 0.3          | 1.7          | 1.0          | 1.5          | 1.5          | 1.8          | 20.0%                 | 45.6%       | 1.1%          |
| Malaysia                     | 0.1          | †            | 0.4         | 0.4          | 0.1          | 0.2          | 0.2          | 0.3          | 0.3          | 0.2          | 0.2          | 11.1%                 | -7.2%       | 0.1%          |
| Russian Federation           | 2.5          | 1.9          | 1.5         | 1.4          | 2.1          | 1.4          | 2.1          | 2.3          | 3.1          | 2.7          | 2.7          | -                     | ♦           | 1.6%          |
| Thailand                     | n/a          | 4.0          | 5.6         | 3.1          | 0.1          | 0.1          | 1.9          | 0.8          | 1.6          | 1.3          | 1.0          | -23.1%                | -           | 0.6%          |
| US                           | -            | -            | -           | -            | 3.0          | 5.5          | 5.4          | 5.9          | -            | -            | 15.0         | -                     | -           | 9.0%          |
| Rest of World                | -            | -            | 0.2         | 0.2          | 0.2          | 0.1          | -            | 0.3          | 0.2          | 0.3          | 6.4          | 2460.0%               | -           | 3.8%          |
| <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> |

### 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> |

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

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

### 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> |

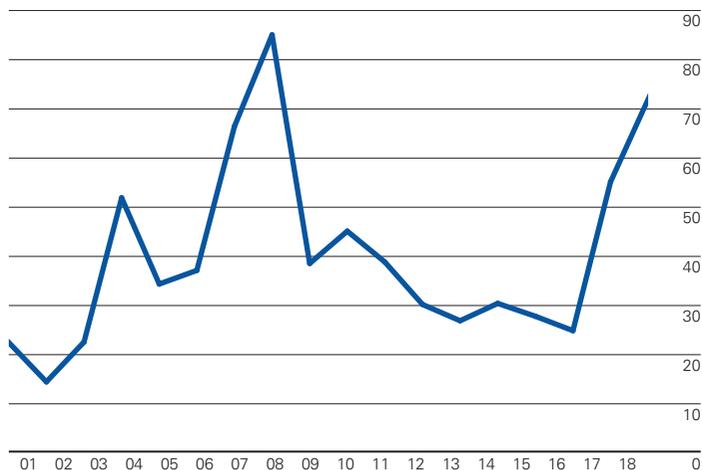
### Rare earth metals reserves

| 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> |

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

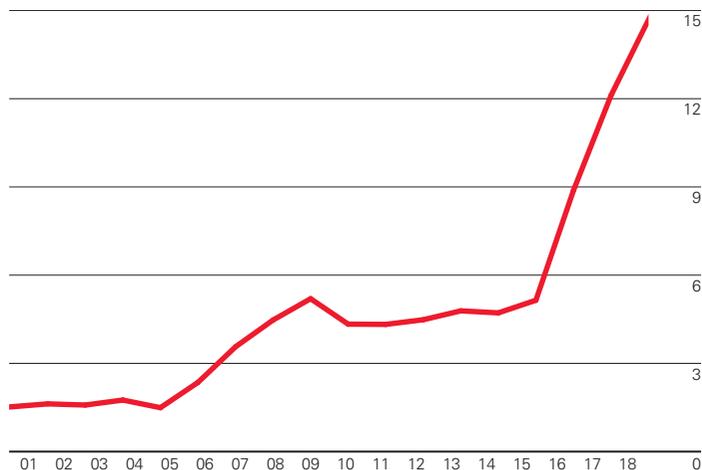
## Cobalt prices

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 |
|                 | <b>Multiply by</b> |            |         |            |                 |
| 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 |
|                               | <b>Multiply by</b> |                   |                      |                      |
| 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 |
|                                  | <b>Multiply by</b>      |                       |                               |                    |                                |                                |
| 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.

#### OPEC members

**Middle East:** Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates.

**North Africa:** Algeria, Libya.

**West Africa:** Angola, Equatorial Guinea, Gabon, Nigeria, Republic of Congo.

**South America:** Ecuador, Venezuela.

### 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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