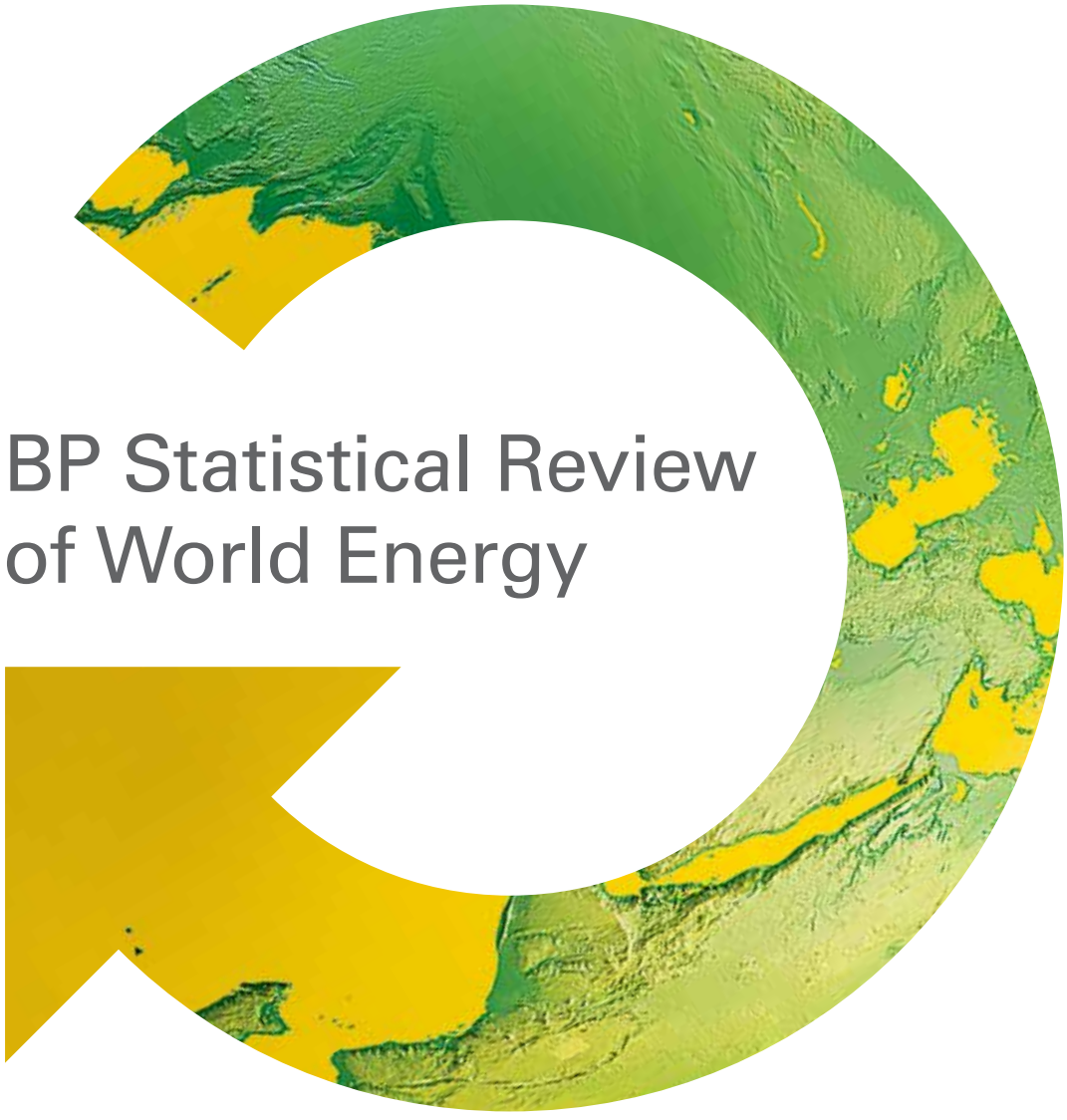
June 2018

BP Statistical Review of World Energy



67th edition

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Methodological changes

This year's Statistical Review introduces two changes in how oil and gas are reported in energy units. First, primary consumption of energy from oil is now reported in tonnes of oil equivalent where one tonne of oil is defined as 10 Gcal (gigacalories) or 41.868 GJ (gigajoules). Second, the tables now report natural gas volumes in terms of a standardized gas at a temperature of 15°C and a pressure of 1013 mbar with a gross calorific value of 40 MJ (megajoules) per cubic metre.

Group chief executive's introduction

> Welcome to BP's Statistical Review of World Energy which records the events of 2017, a year in which global energy markets took a partial step back from the exceptional momentum of recent years towards a lower carbon energy system.

Prior to 2017, there had been three successive years of little or no growth in carbon emissions from energy consumption. This came about through accelerating gains in energy efficiency muting growth in energy demand, and rapid growth in renewable energy combined with successive falls in global coal consumption leading to improvements in the fuel mix.

That progress partially reversed last year. Growth in energy demand picked up as gains in energy efficiency slowed, coal consumption increased for the first time in four years, and carbon emissions from energy consumption grew.

This reversal should not come as a complete surprise. As we highlighted at the time, in addition to benefitting from longer-term structural forces, some of the exceptional performance seen in recent years had been boosted by temporary, cyclical developments, particularly in China, and so some reversal was always likely.

Those longer-term forces shaping the transition continued last year. Renewable energy grew strongly again, with particularly striking gains in solar capacity and generation. Natural gas was the largest source of energy growth, boosted by a massive programme of coal-to-gas switching in industrial and residential sectors in China.

But much more progress is needed. In particular, data included in this year's Review for the first time highlight the need for greater advances in the power sector. The power sector really matters. It absorbs more primary energy than any other sector. It accounts for over a third of carbon emissions from energy consumption. However, despite the huge policy push encouraging a switch away from coal and the rapid expansion of renewable energy in recent years, there has been no improvement in the mix of fuels feeding the global power sector over the past 20 years. Astonishingly, the share of coal in 2017 was exactly the same as in 1998. The share of non-fossil fuels was actually lower, as growth in renewables has failed to compensate for the decline in nuclear energy. The failure to make any inroads into the power sector since the turn of the century should be both a cause for concern and a focus for future action.

As well as highlighting these longer-term trends, this year's Statistical Review also shines a light on the shorter-term developments affecting our industry. In the oil market, yet another year of robust demand growth, combined with the production cuts of OPEC and other participating countries, allowed oil inventories to fall back towards more normal levels. But the rapid growth of US tight oil over the same period should caution us that the recent firming in oil prices is unlikely to persist. In BP, we remain firmly focused on efficiency, reliability and capital discipline.

In natural gas markets, another year of strong expansion of global LNG supplies helped to improve the accessibility of gas around the globe, with clear signs that the major regional gas markets are becoming increasingly integrated. This greater accessibility and integration should help to underpin the long-term use of natural gas.

Our industry operates and makes decisions at many different frequencies. Day-to-day, year-to-year, we need to understand how the markets in which we operate are changing and developing as new sources of supply emerge and demand evolves. Over the longer-term, we need to gauge the forces shaping the energy transition and ensure that we play our part in meeting the dual challenge of supplying the energy the world needs to grow and prosper, while also reducing carbon emissions.

These judgements and decisions require timely and reliable data. This is the role that the Statistical Review has been playing for the past 67 years. I know that in BP we find the data and analysis invaluable for our own decision making. I hope you find it a useful resource for your own work.

Let me conclude by thanking BP's economics team and all those who helped us prepare this review – in particular those in the governments around the world who contributed their official data again this year. Thank you for your continuing cooperation and transparency.

Bob Dudley
Group chief executive
June 2018

2017 at a glance

Global primary energy consumption grew strongly in 2017, led by natural gas and renewables, with coal's share of the energy mix continuing to decline.

Energy developments

- Primary energy consumption growth averaged 2.2% in 2017, up from 1.2% last year and the fastest since 2013. This compares with the 10-year average of 1.7% per year.
- By fuel, natural gas accounted for the largest increment in energy consumption, followed by renewables and then oil.
- Energy consumption rose by 3.1% in China. China was the largest growth market for energy for the 17th consecutive year.

Carbon emissions

- Carbon emissions from energy consumption increased by 1.6%, after little or no growth for the three years from 2014 to 2016.

Oil

- The oil price (Dated Brent) averaged $54.19 per barrel, up from $43.73/barrel in 2016. This was the first annual increase since 2012.
- Global oil consumption growth averaged 1.8%, or 1.7 million barrels per day (b/d), above its 10-year average of 1.2% for the third consecutive year. China (500,000 b/d) and the US (190,000 b/d) were the single largest contributors to growth.
- Global oil production rose by 0.6 million b/d, below average for the second consecutive year. US (690,000 b/d) and Libya (440,000 b/d) posted the largest increases in output, while Saudi Arabia (-450,000 b/d) and Venezuela (-280,000 b/d) saw the largest declines.
- Refinery throughput rose by an above-average 1.6 million b/d, while refining capacity growth was only 0.6 million b/d, below average for the third consecutive year. As a result, refinery utilization climbed to its highest level in nine years.

Natural gas

- Natural gas consumption rose by 96 billion cubic metres (bcm), or 3%, the fastest since 2010.
- Consumption growth was driven by China (31 bcm), the Middle East (28 bcm) and Europe (26 bcm). Consumption in the US fell by 1.2%, or 11 bcm.
- Global natural gas production increased by 131 bcm, or 4%, almost double the 10-year average growth rate. Russian growth was the largest at 46 bcm, followed by Iran (21 bcm).

+2.2%

Growth of global primary energy consumption, the fastest growth since 2013

- Gas trade expanded by 63 bcm, or 6.2%, with growth in LNG outpacing growth in pipeline trade.
- The increase in gas exports was driven largely by Australian and US LNG (up by 17 and 13 bcm respectively), and Russian pipeline exports (15 bcm).

Coal

- Coal consumption increased by 25 million tonnes of oil equivalent (mtoe), or 1%, the first growth since 2013.
- Consumption growth was driven largely by India (18 mtoe), with China consumption also up slightly (4 Mtoe) following three successive annual declines during 2014-2016. OECD demand fell for the fourth year in a row (-4 mtoe).
- Coal's share in primary energy fell to 27.6%, the lowest since 2004.
- World coal production grew by 105 mtoe or 3.2%, the fastest rate of growth since 2011. Production rose by 56 mtoe in China and 23 mtoe in the US.

Renewables, hydro and nuclear

- Renewable power grew by 17%, higher than the 10-year average and the largest increment on record (69 mtoe).
- Wind provided more than half of renewables growth, while solar contributed more than a third despite accounting for just 21% of the total.
- In China, renewable power generation rose by 25 mtoe – a country record, and the second largest contribution to global primary energy growth from any single fuel and country, behind natural gas in China.
- Hydroelectric power rose by just 0.9%, compared with the 10-year average of 2.9%. China's growth was the slowest since 2011, while European output declined by 10.5% (-16 mtoe).
- Global nuclear generation grew by 1.1%. Growth in China (8 mtoe) and Japan (3 mtoe) was partially offset by declines in South Korea (-3 mtoe) and Taiwan (-2 mtoe).

Power generation

- Power generation rose by 2.8%, close to the 10-year average. Practically all growth came from emerging economies (94%). Generation in the OECD has remained relatively flat since 2010.
- Renewables accounted for almost half of the growth in power generation (49%), with most of the remainder provided for by coal (44%).
- The share of renewables in global power generation increased from 7.4% to 8.4%.

Key materials

- Cobalt production has grown by only 0.9% per annum since 2010, while lithium production has increased by 6.8% p.a. over the same period.
- Cobalt prices more than doubled in 2017, while lithium carbonate prices increased by 37%.

Left: China Hong Kong SAR at night.

Group chief economist's analysis

Energy in 2017: two steps forward, one step back

At first blush, some of last year's data might seem a little disappointing. Growth in overall energy demand is up; gains in energy intensity are down. Coal consumption grew for the first time in four years. And, perhaps most striking of all, carbon emissions are up after three consecutive years of little or no growth.

What does this tell us about the energy transition? Is it progressing less rapidly than we thought? Has it gone into reverse?

I would caution against being too alarmed by the recent data. We always knew that some of the exceptional outcomes seen in recent years reflected the impact of short-run cyclical factors, as well as longer-term structural forces shaping the energy transition. Global GDP was growing at below average rates, weighed down by weakness in the energy-intensive industrial sector. Output from some of China's most energy-intensive sectors was falling in outright terms. Those factors were unlikely to persist. Indeed, last year's Statistical Review presentation had the title of "short-run adjustments and long-run transition".

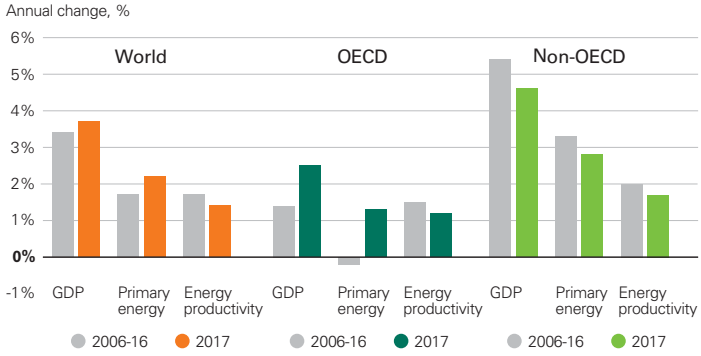
And sure enough, some of those short-run adjustments came to an end last year. But many of the structural forces shaping the energy transition continued, particularly robust growth in renewables and natural gas. Last year's energy data is perhaps best seen as a case of "two steps forward, one step back".

Key features of 2017

Let's start by looking at some of the headline numbers. Global energy demand grew by 2.2% in 2017, up from 1.2% last year and above its 10-year average of 1.7%. This above-trend growth was driven by the OECD, particularly the EU. Much of this strength can be directly related to the pickup in economic growth. But it also reflected a slight slowing in the pace of improvement in energy intensity (or energy productivity): the amount of energy needed to produce a unit of output.

Despite the unusually strong growth in the OECD, the vast majority of the increase in global energy consumption came from the developing world, accounting for nearly 80% of the expansion.

Growth in GDP and energy



China alone contributed over a third of that growth, with energy consumption growing by over 3% in 2017, almost three times the rate seen over the past couple of years. This sharp pickup was driven by a rebound in the output of some of China's most energy-intensive sectors, particularly iron, crude steel and non-ferrous metals. Despite this increase, the growth of China's energy demand in 2017 was still significantly slower than its 10-year average, and its rate of decline in energy intensity was more than twice the global average. Two steps forward, one step back.

This phrase can be equally applied to the fuel mix. The forward progression can be seen in that around 60% of the increase in primary energy was provided by natural gas and renewable energy. Natural gas (3.0%, 83 Mtoe) provided the single largest contribution to the growth of primary energy, buoyed by exceptional growth in China. This was closely followed by renewable energy (including biofuels) (14.8%, 72 Mtoe), which again grew rapidly driven by robust growth in both wind and solar power.

The step back was coal (1.0%, 25 Mtoe), which grew for the first time since 2013. This was largely driven by India, but it's also notable that Chinese coal consumption increased after three years of successive falls.

That's a very quick summary of the big picture for 2017. I will now take you through some of the developments and issues in last year's energy markets in a little more detail.

3.1%

Growth of primary energy consumption in China, up from 1% in 2016.

Above: The financial centre of São Paulo in Brazil.

Above: A view of Atlantis platform in the Gulf of Mexico.

Oil

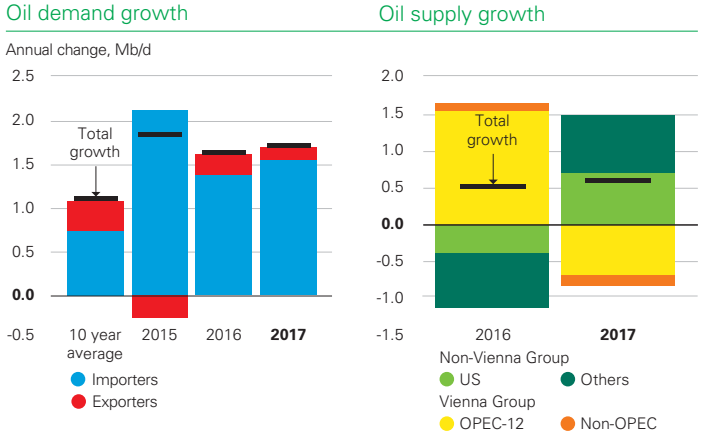
To remind you where we left off at the time of last year's Statistical Review: flows of oil production and consumption had come back broadly into balance, but inventories remained at record-high levels; OPEC, together with 10 non-OPEC countries led by Russia – sometimes known as the Vienna group – had begun to implement their promised cuts in oil production in order to accelerate the adjustment in inventories; but US tight oil had started to pick up threatening to offset the impact of the production cuts. So what happened next?

Starting first with consumption, oil demand grew by 1.7 Mb/d – similar to that seen in 2016 and significantly greater than the 10-year average of around 1.1 Mb/d. To put the recent strength of oil demand in context, average growth over the past five years is at its highest level since the height of the commodity super-cycle in 2006/7. This was despite all the talk of peak oil demand, increasing car efficiency, growth of electrical vehicles. All of those factors are real and are happening, but persistently low oil prices can have a very powerful offsetting effect.

Not surprisingly, oil demand in 2017 continued to be driven by oil importers benefitting from the windfall of low prices, with both Europe (0.3 Mb/d) and the US (0.2 Mb/d) posting notable increases, compared with average declines over the previous 10 years. Growth in China (0.5 Mb/d) was closer to its 10-year average.

But there were some signs in the product mix that the boost from low oil prices may be beginning to wane. Growth in consumer-led fuels most exposed to oil price movements – especially gasoline – slowed in 2017. In contrast, diesel demand bounced back, buoyed by the acceleration in industrial activity.

Oil demand and supply growth



That was demand, what about supply, particularly the interaction between the OPEC production cuts and the response of US tight oil? The impact of the production cuts can be seen in growth of supply last year. At an aggregate level, output growth in 2017 (0.6 Mb/d) was similar to that in 2016. But the pattern of that growth flip-flopped quite sharply. After growing by 1.6 Mb/d in 2016, output by OPEC and other members of the Vienna group fell 0.9 Mb/d last year as the cuts in production took effect. In contrast, after falling in 2016, oil production by countries outside of the Vienna group grew by 1.5 Mb/d, led by the US and a bounce back in Libya (which was not part of the Vienna agreement).

The Vienna group had a target for production cuts of almost 1.8 Mb/d, relative to the base month of October 2016. In practice, the production cuts have far exceeded that, with cuts totalling nearly 2.5 Mb/d in April 2018. This overshoot has been concentrated in Venezuela – where the economic and political crisis has caused production to fall by almost 700 Kb/d, far in excess of the target reduction of 100 Kb/d – and to a lesser extent in Saudi Arabia and Angola.

The production cuts were instrumental in increasing the pace at which oil stocks fell back to more normal levels last year. With the cuts in place, daily consumption exceeded production for much of 2017. As a result, OECD commercial inventories fell by about 150 million barrels in 2017, and in March of this year were broadly in line with the five-year moving average measure originally highlighted by the Vienna group.

That said; the impact of the production cuts would have been even bigger had it not been for the response of US tight oil and NGLs, which have grown by almost 2 Mb/d since October 2016. Indeed, the pace of this second wave of growth in US tight oil seen over the past 18 months or so is comparable to the rapid growth seen in 2012-2014, even though prices in the earlier period were materially higher. The scale of the increase in US tight oil meant the impact of the production cuts was increasingly offset as we moved through 2017.

The speed and scale of OPEC's actions mean that it continues to have the ability to smooth temporary disturbances to the oil market. But the relatively rapid response of US tight oil reinforces the limits on OPEC's power. If OPEC tries to resist more permanent or structural changes in the market, there is an increasing risk that these actions will quickly be cancelled out by the responsiveness of US tight oil.

Finally; bringing these developments in demand and supply together in terms of their implications for prices. Prices drifted lower during the first half of 2017 as stocks remained stubbornly high. But as the production cuts started to bite and inventories began to fall, prices increased with Dated Brent reaching a high of $66/bbl by the end of last year. For the year as a whole, Brent averaged $54/bbl, up from $44/bbl in 2016 – the first annual increase since 2012.

Refining

The strong growth in oil demand fed through into refining, with refining runs increasing by 1.6 Mb/d in 2017, more than twice their 10-year average. The increase in throughput, together with continuing declines in availability in Latin America, allowed space for refinery runs in US and Europe to expand after being squeezed in 2016. The increase in refinery runs, together with another year of weak capacity growth, pushed refining utilization to its highest levels for almost 10 years. Refining margins also rose, supported by the impact of hurricane Harvey, high utilization rates and product stocks falling back to more normal levels.

1.7 Mb/d

Growth of global oil consumption, above the 10-year average of 1.1 Mb/d.

Natural gas

2017 was a bumper year for natural gas, with consumption (3.0%, 96 bcm) and production (4.0%, 131 bcm) both increasing at their fastest rates since the immediate aftermath of the financial crises. The growth in consumption was led by Asia, with particularly strong growth in China (15.1%, 31 bcm), supported by increases in the Middle East (Iran 6.8%, 13 bcm) and Europe.

The growth in consumption was more than matched by increasing production, particularly in Russia (8.2%, 46 bcm), supported by Iran (10.5%, 21 bcm), Australia (18%, 17 bcm) and China (8.5%, 11 bcm).

Surge in China's gas demand

The single biggest factor driving global gas consumption last year was the surge in Chinese gas demand, where consumption increased by over 15%, accounting for around a third of the global increase in gas consumption. Much of this rapid expansion can be traced back to the Environmental Action Plan announced in 2013, which set targets for improvements in air quality over the subsequent five years. With that five-year deadline looming, the Chinese authorities in the spring of last year announced an enhanced set of measures for Beijing, Tiajing and 26 other cities in the North-East provinces of China, designed to meet the environmental objectives.

These measures, which were further reinforced in the autumn of last year, were focused on the use of coal outside of the power sector. In particular, a combination of very sizeable carrots and sticks were used to encourage industrial and residential users to switch away from coal to either gas or electricity, with the vast majority opting for gas. Although most attention has focused on the 3 million households affected by this policy, the biggest factor driving the expansion in gas demand was switching within the industrial sector. The resulting increase in gas demand was greatly compounded by the switch into gas reaching a peak just as winter heating demand was ramping up.

Chinese gas demand looks set to continue to increase strongly this year, but it seems unlikely that the extent of the surge in gas demand seen in China last year will be repeated in 2019 and beyond.

Growth in LNG trade

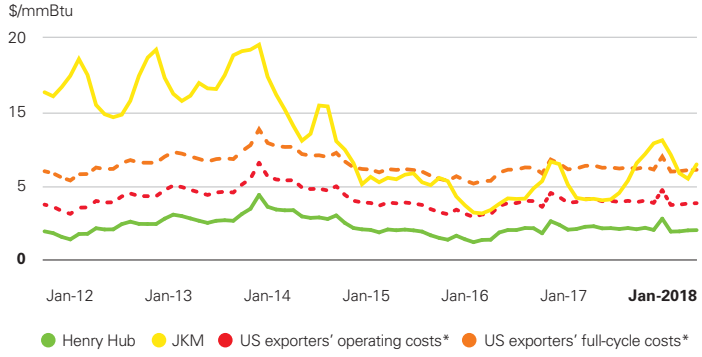
The other central factor supporting the strength of global gas markets last year was the continued expansion of liquified natural gas (LNG), which increased by over 10% in 2017, its strongest growth since 2010, aided by the start-up of new LNG trains in Australia and the US. China's increased need for LNG accounted for almost half of the global expansion, with China overtaking Korea to be the world's second largest importer of LNG after Japan.

The tidal wave of LNG projects that were sanctioned between 2009 and 2014 led many to predict the emergence of surplus LNG as it took time for demand to catch up with the rapid growth in supplies. But many observers have so far been surprised by the apparent absence of such a glut. There is certainly little evidence of LNG facilities standing idle due to a lack of demand. This absence partly reflects that, due to a variety of technical issues, actual LNG supplies have come on stream less quickly than originally planned, moving supply more into line with the original demand profiles. However, the apparent absence of a glut also reflects the fact that the surplus LNG supplies which did emerge resulted in bouts of unsustainably low prices rather than a build-up of idle capacity.

15.1%

Growth of Chinese natural gas consumption, the fastest since 2011.

US LNG exporters' costs and Asian spot prices



Operating costs = 1.15 Henry Hub + $2/mmBtu (transport); Full costs also include liquefaction fee ($3/mmBtu).

This is illustrated by Asian spot LNG prices – shown by the Japan Korea Marker (JKM) – over the past couple of years fluctuating in a range between US LNG exporters' full-cycle costs and their short-run operating costs. Exporters of US LNG have been willing to supply LNG as long as they covered their operating costs, even if that was less than their full-cycle costs. So there has in fact been an LNG glut of sorts in recent years, but this has manifested itself in periods of unsustainably low prices rather than idle LNG capacity.

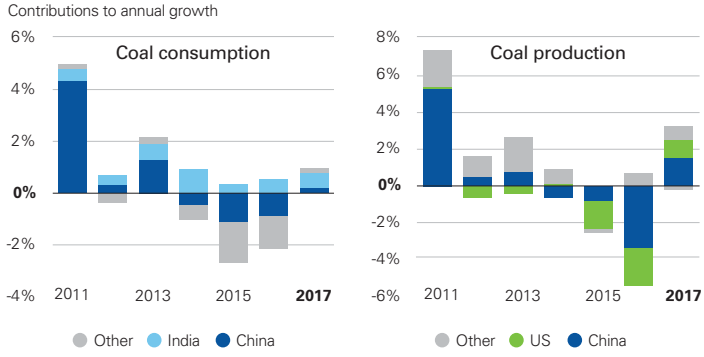
Coal

After several years of free-fall, the coal market experienced a mini-revival last year, with both global consumption and production increasing. Global coal consumption rose by 1%, (25 mtoe), with India (4.8%, 18 Mtoe) recording the fastest growth, as demand both inside and outside of the power sector increased. Interestingly, after three years of successive declines, China's coal consumption (0.5%, 4 Mtoe) also ticked-up. This is despite the substantial coal-to-gas switching in the industrial and residential sector, as increases in power demand in China sucked in additional coal as the balancing fuel.

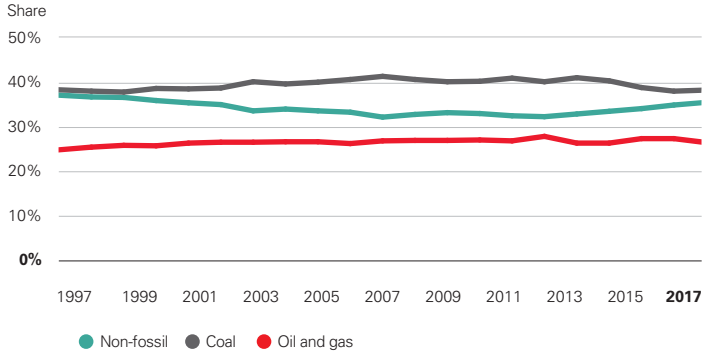
World production of coal increased more strongly (3.2%, 105 mtoe), driven by notable increases in both Chinese (3.6%, 56 Mtoe) and US (6.9%, 23 Mtoe) output. Interestingly, the increase in US production came despite a further fall in domestic consumption, with US coal producers instead increasing exports to Asia.

Above: Trucks move coal at a mine.

Global coal consumption and production



Fuel shares in power generation



Somewhat counter-intuitively, the increase in Chinese coal production was a result of the on-going measures to reduce excess capacity within the Chinese coal sector. A central part of this reform process has been managing the need for a Goldilocks-type price for coal. Too hot and it would reduce the pressure for inefficient mines to close or merge, as well as raising general energy costs. Too cold and it would threaten the underlying viability of a sector that still provides around 60% of China's energy.

The fact that Chinese spot coal prices were above the government's target price band through much of last year spurred a series of policy measures to increase coal supplies and so ease price pressures. The increase in Chinese coal production of over 3.5% last year, its strongest growth for six years, was a direct result of these actions.

Power sector

The power sector really matters. It's by far the single biggest market for energy: absorbing over 40% of primary energy last year. And it's at the leading edge of the energy transition, as renewables grow and the world electrifies. This year's Statistical Review for the first time includes comprehensive data on the fuel mix within the power sector, aiding our understanding of this key sector.

Global power generation increased by 2.8% in 2017 close to its 10-year average. Almost all that growth came from the developing world. OECD demand edged up slightly, but essentially the decoupling of economic growth and power demand in the OECD seen over the past 10 years continued, with OECD power broadly flat over the past decade.

The increase in global power generation was driven by strong expansion in renewable energy, led by wind (17%, 163 TWh) and solar (35%, 114 TWh), which accounted for almost half of the total growth in power generation, despite accounting for only 8% of total generation. Although wind continued in its role of the bigger, more established, elder cousin, it was solar energy that made all the waves.

In particular, solar capacity increased by nearly 100 GW last year, with China on its own building by over 50 GW – that is roughly equivalent to the generation potential of more than two-and-a-half Hinkley Point nuclear power plants. Global solar generation increased by more than a third last year. Much of this growth continues to be underpinned by policy support. But it has been aided by continuing falls in solar costs, with auction bids of less than 5 cents/KWh – which would have been unthinkable for most projects even just a few years ago – now almost common place.

38%

The share of coal in global power generation, similar to the share in 1998.

Standing back from the detail of what happened last year, the most striking – and worrying – chart in the whole of this Statistical Review is the trends in the power sector fuel mix over the past 20 years.

Striking: because despite the extraordinary growth in renewables in recent years, and the huge policy efforts to encourage a shift away from coal into cleaner, lower carbon fuels, there has been almost no improvement in the power sector fuel mix over the past 20 years. The share of coal in the power sector in 1998 was 38% – exactly the same as in 2017 – with the slight edging down in recent years simply reversing the drift up in the early 2000s associated with China's rapid expansion. The share of non-fossil in 2017 is actually a little lower than it was 20 years ago, as the growth of renewables hasn't offset the declining share of nuclear. I had no idea that so little progress had been made until I looked at these data.

Worrying: because the power sector is the single most important source of carbon emissions from energy consumption, accounting for over a third of those emissions in 2017. To have any chance of getting on a path consistent with meeting the Paris climate goals there will need to be significant improvements in the power sector. But this is one area where at the global level we haven't even taken one step forward, we have stood still: perfectly still for the past 20 years. This chart should serve as a wake-up call for all of us.

Carbon emissions from energy consumption

The backward step in last year's data is most stark in carbon emissions from energy consumption, which are estimated to have increased by 1.6% in 2017. That follows three consecutive years of little or no growth in carbon emissions. So, on the face of it, a pretty big backward step.

Above: Lightsource BP's floating solar farm near London in the UK.

The factors driving the pick-up in carbon emissions are of course the same factors that we have just been discussing. Global GDP growth picked up to above trend rates. Much of that growth was driven by industrial activity, which is more energy hungry, causing gains in energy intensity to slow. And the turnaround in coal consumption, from the substantial falls seen in the previous three years to a small rise last year, meant the improvement in carbon intensity was more muted. How worried should we be?

Last year when we discussed the exceptional performance seen over the previous three years, I suggested that some of that improvement was likely to be structural and would persist, but that the degree of improvement was probably exaggerated by several cyclical factors, particularly in China. Given that, as those short-run factors unwind – like they have done this year – it's not surprising that carbon emissions increased to some extent.

But the extent of that pick-up has probably also been exaggerated by some short-run factors working in the opposite direction. The unusually strong economic and industrial growth in the OECD and the extent of the bounce back in power demand in China, which sucked in coal as the balancing fuel.

My guess is that some of the deterioration in 2017 relative to the previous three years will persist, but not all of it. So I'm a bit worried, but not overly so. Personally, I am more worried by the lack of progress in the power sector over the past 20 years, than by the pickup in carbon emissions last year.

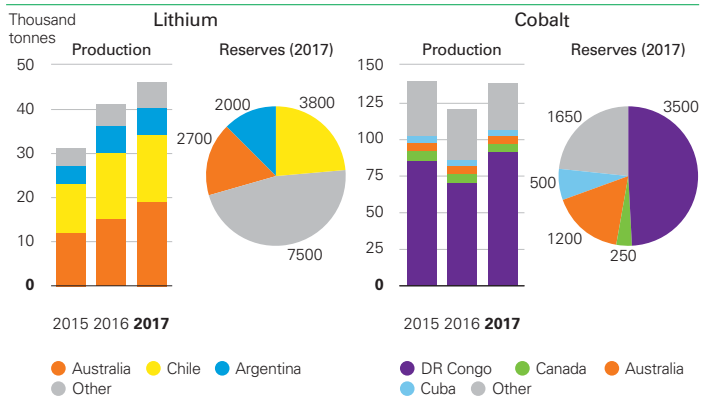
Cobalt and lithium

A key challenge for the Statistical Review is that it needs to adapt to the changing needs of you, our customers. One of the questions I am most often asked is whether the available supplies of raw materials used to produce batteries for electric cars could act as a constraint on the speed with which they grow. That question was one of the reasons why we included a new section in this year's Statistical Review on 'Key Materials for the Changing Energy System', including data on cobalt and lithium, which are used in the production of batteries for electric cars.

In terms of the basic facts: lithium production is concentrated in Chile and Australia, with Chile holding the majority of proved reserves. Lithium production increased by almost 50% between 2015 and 2017, as prices more than doubled.

For cobalt, the Democratic Republic of Congo accounts for the vast majority of both production (66%) and proved reserves (49%). Cobalt prices picked up sharply last year as demand increased, but this has not yet fed through into a significant increase in production. The pace of this response may be affected by the fact that cobalt is produced as a by-product of copper and nickel mining and so production depends on price trends in these metals as well.

Lithium and cobalt: reserves and production



In terms of whether the availability of either of these metals could act as a constraint on the growth of electric cars, that question really deserves a whole presentation on its own. The short answer is that if either metal is likely to pose a bottleneck, it appears most likely to be cobalt. The announced expansion plans for lithium production look sufficient to ensure ample supplies for the next 10 or 15 years. In contrast, the geographical concentration of reserves, together with the nature of its production process, means this is less clear for cobalt. But the new wave of battery technologies now being developed require less cobalt. So rather than act as a constraint on the growth of electric vehicles, the availability of cobalt could simply provide further momentum to this technological change. Watch this space.

Conclusion

Global energy markets in 2017 took a backward step in terms of the transition to a lower carbon energy system: growth in energy demand, coal consumption and carbon emissions all increased. But that should be seen in the context of the exceptional outcomes recorded in the previous three years. Some backsliding was almost inevitable.

The road to meeting the Paris climate goals is likely to long and challenging, with many twists and turns, forward lurches and backward stumbles. To navigate our progress will require timely, comprehensive and relevant data.

That's the role of BP's Statistical Review.

Spencer Dale
Group chief economist
June 2018

This is a shortened version of the presentation given at the launch of BP's Statistical Review of World Energy in London on 13 June 2018.

In detail

New data has been included on the fuel mix of power generation and the production and reserves of key material for the changing energy system (cobalt, lithium, graphite and rare earth metals).

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

Acknowledgements

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1 Primary energy

Consumption*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	2320.8	2267.9	2159.3	2235.6	2216.7	2161.0	2221.1	2246.2	2227.0	2228.0	**2234.9**	0.6%	-0.3%	16.5%
Canada	321.4	320.7	303.7	310.5	323.2	319.9	331.5	335.4	331.1	339.0	**348.7**	3.2%	0.9%	2.6%
Mexico	167.3	170.8	169.5	174.6	183.1	184.2	185.7	185.2	181.6	194.9	**189.3**	-2.6%	1.6%	1.4%
Total North America	2809.5	2759.4	2632.5	2720.7	2722.9	2665.1	2738.3	2766.8	2739.7	2761.9	**2772.8**	0.7%	◆	20.5%
Argentina	73.3	74.7	72.6	77.4	78.9	81.2	84.5	84.6	86.4	86.6	**85.9**	-0.5%	2.1%	0.6%
Brazil	229.6	240.3	238.9	263.6	276.6	283.5	294.3	301.8	299.1	293.0	**294.4**	0.8%	3.1%	2.2%
Chile	32.5	32.2	31.5	31.7	34.5	35.3	35.7	35.1	35.9	37.6	**38.3**	2.2%	1.7%	0.3%
Colombia	30.8	33.9	31.7	34.0	35.6	38.3	38.8	40.7	41.5	42.1	**42.6**	1.6%	3.2%	0.3%
Ecuador	11.3	12.0	11.8	13.1	13.9	14.7	15.2	16.0	15.9	15.8	**16.5**	4.3%	4.0%	0.1%
Peru	15.1	16.4	16.8	18.6	20.3	21.2	21.9	22.6	23.8	25.3	**25.9**	2.6%	6.2%	0.2%
Trinidad & Tobago	20.5	20.1	20.7	21.7	21.6	20.6	21.1	20.5	20.3	18.2	**18.1**	-0.5%	-0.7%	0.1%
Venezuela	81.8	84.8	83.5	80.5	82.8	86.4	85.4	81.1	78.8	74.3	**74.2**	0.2%	-0.9%	0.5%
Other S. & Cent. America	92.2	91.4	89.3	92.0	94.6	95.2	95.2	95.4	99.3	103.9	**104.7**	1.0%	1.4%	0.8%
Total S. & Cent. America	587.0	605.8	596.8	632.5	658.9	676.5	692.0	697.7	701.1	696.8	**700.6**	0.8%	2.1%	5.2%
Austria	34.7	35.3	34.3	35.5	33.4	35.0	34.8	33.7	33.7	34.9	**35.9**	3.3%	-0.2%	0.3%
Belgium	66.3	67.5	62.5	66.6	61.9	59.5	60.9	56.8	58.0	62.4	**62.3**	0.1%	-0.5%	0.5%
Czech Republic	45.4	44.0	41.7	44.0	42.6	42.2	42.1	40.5	40.5	39.8	**41.6**	5.0%	-1.3%	0.3%
Finland	32.5	31.4	29.2	31.9	29.3	28.4	28.0	27.0	27.6	28.3	**27.6**	-2.3%	-1.4%	0.2%
France	260.2	261.9	248.0	256.0	247.2	247.4	250.3	240.6	242.3	238.9	**237.9**	-0.1%	-1.0%	1.8%
Germany	331.9	335.5	315.0	328.7	317.0	321.3	330.7	317.2	323.3	328.2	**335.1**	2.4%	-0.5%	2.5%
Greece	35.0	33.9	33.1	31.8	31.0	29.5	28.0	26.4	26.6	26.6	**27.6**	4.3%	-2.6%	0.2%
Hungary	25.7	25.3	23.3	23.8	22.9	21.3	20.3	20.3	21.4	22.0	**23.2**	5.8%	-1.7%	0.2%
Italy	183.4	181.5	169.6	174.9	171.0	164.6	158.0	149.1	152.2	153.8	**156.0**	1.8%	-1.9%	1.2%
Netherlands	94.7	93.6	91.9	97.0	92.9	89.4	87.3	82.2	83.3	85.2	**86.1**	1.3%	-0.9%	0.6%
Norway	45.9	46.8	43.7	41.9	42.8	47.6	44.8	46.3	47.0	47.3	**47.5**	0.5%	1.1%	0.4%
Poland	95.7	97.4	93.9	100.1	100.6	97.6	97.9	94.3	95.3	99.5	**102.1**	2.9%	0.4%	0.8%
Portugal	25.4	24.3	24.5	25.8	24.6	22.5	24.6	24.8	24.7	26.8	**26.4**	-1.4%	0.6%	0.2%
Romania	38.8	38.7	33.8	34.0	34.9	33.7	31.3	32.7	32.8	32.8	**33.9**	3.7%	-1.9%	0.3%
Spain	158.6	154.5	143.5	146.6	143.8	143.0	135.7	133.3	135.3	136.7	**138.8**	1.8%	-1.2%	1.0%
Sweden	54.0	53.6	49.0	51.9	51.8	55.1	51.9	52.1	53.4	52.8	**54.4**	3.3%	◆	0.4%
Switzerland	28.9	29.9	30.0	29.2	27.7	29.3	30.2	28.9	28.3	27.3	**26.4**	-2.9%	-0.7%	0.2%
Turkey	100.4	100.8	102.2	107.7	115.1	122.3	121.6	125.6	137.5	144.4	**157.7**	9.5%	4.4%	1.2%
United Kingdom	223.1	219.2	208.4	213.5	202.0	204.5	203.7	192.0	194.4	192.2	**191.3**	-0.1%	-1.8%	1.4%
Other Europe	161.4	163.3	154.6	160.2	156.6	149.7	152.0	147.6	151.0	155.0	**157.6**	2.0%	-0.5%	1.2%
Total Europe	2041.7	2038.5	1932.1	2001.1	1949.1	1944.3	1934.0	1871.2	1908.7	1934.6	**1969.5**	2.1%	-0.6%	14.6%
Azerbaijan	12.7	12.8	11.3	11.2	12.5	12.8	13.2	13.5	14.7	14.6	**13.9**	-4.1%	0.4%	0.1%
Belarus	25.7	26.0	24.5	26.1	26.0	28.0	25.0	25.0	22.7	22.8	**23.2**	1.9%	-1.4%	0.2%
Kazakhstan	54.1	56.4	50.8	54.9	60.5	62.7	63.5	64.4	63.1	64.5	**67.4**	4.8%	2.9%	0.5%
Russian Federation	673.1	676.6	644.6	668.2	691.7	694.7	683.9	689.6	676.8	689.6	**698.3**	1.5%	0.3%	5.2%
Turkmenistan	24.4	24.7	22.9	26.1	27.2	29.9	27.0	29.7	33.2	33.7	**31.7**	-5.6%	4.6%	0.2%
Ukraine	134.9	133.5	113.4	121.5	126.3	123.1	115.2	101.6	84.0	86.1	**81.9**	-4.6%	-4.6%	0.6%
Uzbekistan	48.4	52.0	43.4	43.9	44.9	44.4	44.0	45.6	48.4	42.8	**43.0**	0.8%	-0.7%	0.3%
Other CIS	16.6	16.1	15.8	16.0	16.9	18.4	17.5	17.5	17.8	18.0	**18.6**	3.3%	1.5%	0.1%
Total CIS	989.8	998.1	926.8	967.8	1006.0	1014.1	989.2	987.0	960.7	972.0	**978.0**	0.9%	-0.1%	7.2%
Iran	202.6	210.4	217.7	218.8	228.6	229.9	240.6	255.1	254.1	259.8	**275.4**	6.3%	3.2%	2.0%
Iraq	28.1	29.2	32.6	34.7	36.7	39.0	42.0	40.2	40.3	46.1	**49.2**	7.0%	5.7%	0.4%
Israel	23.0	23.3	22.3	23.7	24.2	25.3	24.9	23.3	24.6	24.9	**25.8**	4.1%	1.3%	0.2%
Kuwait	27.3	29.7	31.1	33.5	33.6	37.3	38.7	35.2	38.2	38.8	**39.3**	1.5%	3.3%	0.3%
Oman	14.9	17.5	17.6	20.6	22.5	24.5	27.4	27.3	28.9	29.2	**29.4**	1.0%	6.9%	0.2%
Qatar	26.3	23.3	23.4	28.3	32.3	38.1	40.4	44.1	49.6	49.9	**54.1**	8.7%	8.6%	0.4%
Saudi Arabia	169.0	184.3	194.3	213.0	219.8	233.1	234.0	250.6	258.7	264.5	**268.3**	1.7%	5.0%	2.0%
United Arab Emirates	70.7	81.0	79.8	83.7	88.2	92.7	97.3	97.2	106.3	109.6	**108.7**	-0.5%	5.5%	0.8%
Other Middle East	56.3	58.3	58.5	58.0	54.8	51.1	49.9	50.1	47.8	46.8	**46.9**	0.5%	-1.5%	0.3%
Total Middle East	618.2	657.1	677.2	714.3	740.9	771.1	795.3	823.1	848.3	869.7	**897.2**	3.4%	4.1%	6.6%
Algeria	34.4	36.4	38.6	37.6	39.9	43.6	46.2	50.4	53.0	53.0	**53.2**	0.6%	5.0%	0.4%
Egypt	67.3	71.7	74.6	78.4	79.7	83.8	83.2	82.9	84.4	88.2	**91.6**	4.2%	3.3%	0.7%
Morocco	14.0	15.4	15.0	16.7	17.5	17.8	18.2	18.4	18.9	19.1	**19.6**	2.7%	3.1%	0.1%
South Africa	116.9	125.4	125.1	126.5	124.8	123.0	123.8	125.5	120.6	123.0	**120.6**	-1.6%	0.8%	0.9%
Other Africa	114.3	119.8	120.1	127.7	123.7	131.6	139.2	147.9	152.5	154.7	**164.5**	6.6%	3.6%	1.2%
Total Africa	346.9	368.7	373.4	386.9	385.6	399.8	410.6	425.1	429.4	438.0	**449.5**	2.9%	2.8%	3.3%
Australia	126.7	128.9	128.2	129.2	133.5	132.0	132.9	135.1	138.0	139.5	**139.4**	0.2%	1.1%	1.0%
Bangladesh	17.8	18.8	20.6	21.6	23.0	25.0	25.5	26.8	31.1	31.9	**33.0**	3.6%	6.5%	0.2%
China	2150.3	2231.2	2329.5	2491.3	2690.1	2799.1	2907.0	2973.5	3009.8	3047.2	**3132.2**	3.1%	4.4%	23.2%
China Hong Kong SAR	26.2	24.4	26.6	27.7	28.4	27.3	28.0	27.3	28.1	28.8	**30.9**	7.4%	1.6%	0.2%
India	450.4	476.3	512.0	538.0	570.7	600.3	623.6	666.8	686.9	722.3	**753.7**	4.6%	5.7%	5.6%
Indonesia	134.4	132.7	137.4	150.9	164.6	173.2	177.6	166.0	165.4	167.4	**175.2**	5.0%	2.9%	1.3%
Japan	524.4	516.9	472.3	503.8	477.8	475.0	471.3	456.7	453.0	451.2	**456.4**	1.4%	-1.6%	3.4%
Malaysia	77.2	80.0	77.7	81.6	82.9	89.1	93.1	93.9	95.1	97.6	**99.6**	2.4%	2.9%	0.7%
New Zealand	19.3	19.5	19.4	20.0	19.8	20.0	20.2	21.1	21.3	21.7	**22.1**	2.2%	1.2%	0.2%
Pakistan	62.0	62.4	63.2	63.4	63.5	64.1	64.8	66.7	70.2	76.5	**80.9**	6.1%	2.8%	0.6%
Philippines	27.1	28.0	28.3	29.3	29.9	30.9	33.1	34.9	38.3	40.6	**43.3**	6.9%	4.6%	0.3%
Singapore	55.8	59.3	63.8	68.6	71.3	71.6	73.6	75.8	80.6	83.6	**86.5**	3.7%	4.9%	0.6%
South Korea	236.7	241.2	242.3	259.7	273.0	276.3	276.7	279.3	284.9	292.2	**295.9**	1.6%	2.5%	2.2%
Sri Lanka	5.5	5.1	5.3	5.7	5.9	6.0	6.1	6.4	7.4	7.4	**7.7**	4.8%	3.3%	0.1%
Taiwan	111.8	105.8	104.1	110.4	110.3	110.1	111.9	114.4	112.9	114.0	**115.1**	1.3%	0.6%	0.9%
Thailand	94.2	95.5	98.8	105.0	109.1	116.7	118.7	122.1	124.9	126.9	**129.7**	2.5%	3.6%	1.0%
Vietnam	31.1	38.6	39.4	44.6	51.0	53.4	57.2	62.7	68.8	73.6	**75.3**	2.7%	10.0%	0.6%
Other Asia Pacific	44.5	46.2	42.2	45.4	46.0	48.1	48.6	53.3	55.5	63.1	**66.5**	5.8%	3.4%	0.5%
Total Asia Pacific	4195.2	4310.8	4411.1	4696.1	4951.1	5118.2	5269.9	5382.9	5472.4	5585.5	**5743.6**	3.1%	3.5%	42.5%
Total World	**11588.4**	**11738.5**	**11549.9**	**12119.4**	**12414.4**	**12589.0**	**12829.3**	**12953.9**	**13060.2**	**13258.5**	**13511.2**	**2.2%**	**1.7%**	**100.0%**
of which: OECD	5693.9	5639.3	5367.8	5574.9	5519.4	5463.5	5525.8	5481.1	5494.6	5549.8	**5605.0**	1.3%	-0.2%	41.5%
Non-OECD	5894.5	6099.3	6182.1	6544.6	6895.0	7125.5	7303.4	7472.8	7565.6	7708.7	**7906.1**	2.8%	3.3%	58.5%
European Union	1823.9	1816.5	1711.3	1774.7	1716.6	1700.8	1690.7	1626.7	1649.2	1666.4	**1689.2**	1.6%	-1.0%	12.5%

*In this review, primary energy comprises commercially-traded fuels, including modern renewables used to generate electricity.
◆Less than 0.05%.
Note: Growth rates are adjusted for leap years.

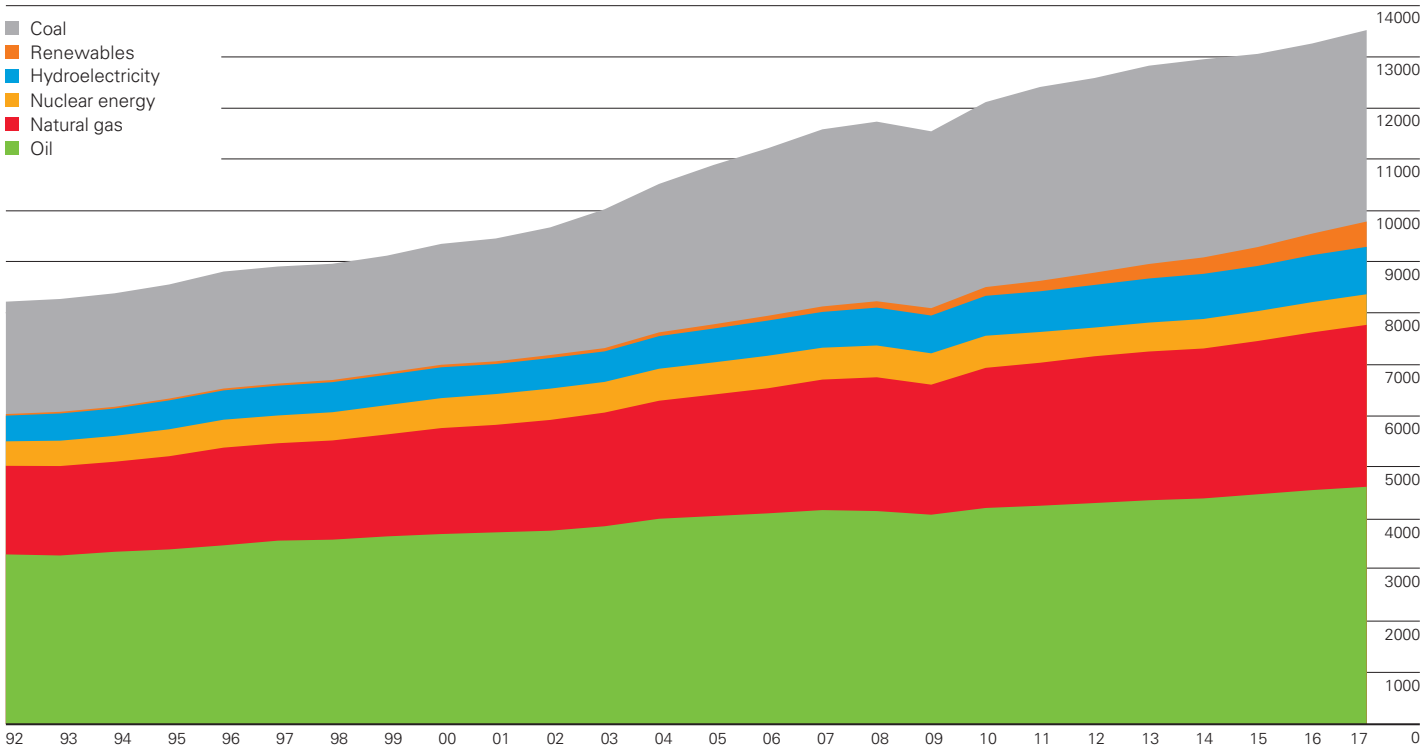
Primary energy: consumption by fuel*

Million tonnes oil equivalent	2016 Oil	2016 Natural gas	2016 Coal	2016 Nuclear energy	2016 Hydro-electricity	2016 Renew-ables	2016 Total	2017 Oil	2017 Natural gas	2017 Coal	2017 Nuclear energy	2017 Hydro-electricity	2017 Renew-ables	2017 Total
US	907.6	645.1	340.6	191.9	59.7	83.1	2228.0	913.3	635.8	332.1	191.7	67.1	94.8	**2234.9**
Canada	107.0	94.1	18.9	21.8	87.6	9.6	339.0	108.6	99.5	18.6	21.9	89.8	10.3	**348.7**
Mexico	90.1	79.0	12.4	2.4	6.9	4.1	194.9	86.8	75.3	13.1	2.5	7.2	4.4	**189.3**
Total North America	1104.6	818.2	371.9	216.1	154.2	96.8	2761.9	1108.6	810.7	363.8	216.1	164.1	109.5	**2772.8**
Argentina	32.7	41.6	1.0	1.9	8.7	0.7	86.6	31.6	41.7	1.1	1.4	9.4	0.7	**85.9**
Brazil	135.7	32.4	15.9	3.6	86.2	19.1	293.0	135.6	33.0	16.5	3.6	83.6	22.2	**294.4**
Chile	18.1	5.1	7.4	–	4.5	2.5	37.6	18.3	5.2	6.7	–	5.1	3.0	**38.3**
Colombia	16.5	9.2	5.5	–	10.6	0.4	42.1	16.7	8.6	4.0	–	13.0	0.4	**42.6**
Ecuador	11.5	0.6	–	–	3.6	0.1	15.8	11.3	0.5	–	–	4.5	0.1	**16.5**
Peru	11.8	6.5	1.0	–	5.4	0.6	25.3	12.1	5.8	1.0	–	6.5	0.6	**25.9**
Trinidad & Tobago	2.2	16.0	–	–	–	†	18.2	2.2	15.9	–	–	–	†	**18.1**
Venezuela	26.0	33.0	0.3	–	15.0	†	74.3	24.2	32.4	0.3	–	17.4	†	**74.2**
Other S. & Cent. America	66.1	6.3	3.8	–	22.6	5.2	103.9	66.8	6.1	3.2	–	22.9	5.6	**104.7**
Total S. & Cent. America	320.8	150.6	34.9	5.5	156.4	28.6	696.8	318.8	149.1	32.7	5.0	162.3	32.6	**700.6**
Austria	13.3	7.1	3.0	–	9.0	2.5	34.9	13.4	7.7	3.2	–	8.8	2.8	**35.9**
Belgium	32.5	13.9	3.0	9.8	0.1	3.1	62.4	32.2	14.1	2.9	9.5	0.1	3.5	**62.3**
Czech Republic	8.6	7.0	16.6	5.5	0.5	1.7	39.8	9.8	7.2	16.0	6.4	0.4	1.7	**41.6**
Finland	10.0	1.7	4.4	5.3	3.6	3.3	28.3	9.7	1.6	4.1	5.1	3.3	3.7	**27.6**
France	79.2	38.3	8.2	91.2	13.6	8.4	238.9	79.7	38.5	9.1	90.1	11.1	9.4	**237.9**
Germany	117.3	73.0	75.8	19.2	4.6	38.3	328.2	119.8	77.5	71.3	17.2	4.5	44.8	**335.1**
Greece	15.4	3.4	4.4	–	1.3	2.1	26.6	15.5	4.1	4.9	–	0.9	2.2	**27.6**
Hungary	7.3	8.0	2.3	3.6	0.1	0.7	22.0	7.9	8.5	2.3	3.6	†	0.7	**23.2**
Italy	59.8	58.5	11.0	–	9.6	14.8	153.8	60.6	62.0	9.8	–	8.2	15.5	**156.0**
Netherlands	41.1	29.7	10.2	0.9	†	3.3	85.2	40.8	31.0	9.1	1.2	†	4.0	**86.1**
Norway	10.1	3.8	0.8	–	32.2	0.5	47.3	10.1	3.9	0.8	–	32.0	0.7	**47.5**
Poland	29.2	15.7	49.5	–	0.5	4.7	99.5	31.6	16.5	48.7	–	0.6	4.8	**102.1**
Portugal	12.0	4.4	3.2	–	3.6	3.7	26.8	12.5	5.3	3.5	–	1.3	3.7	**26.4**
Romania	9.9	8.9	5.3	2.6	4.1	2.0	32.8	10.0	10.2	5.7	2.6	3.2	2.2	**33.9**
Spain	10.6	2.7	0.1	5.2	7.9	0.7	27.3	10.9	2.7	0.1	4.6	7.2	0.8	**26.4**
Sweden	64.2	25.0	10.5	13.3	8.2	15.4	136.7	64.8	27.5	13.4	13.1	4.2	15.7	**138.8**
Switzerland	15.5	0.8	2.1	14.3	14.0	6.1	52.8	15.6	0.7	1.9	14.9	14.6	6.8	**54.4**
Turkey	47.1	38.2	38.5	–	15.2	5.4	144.4	48.8	44.4	44.6	–	13.2	6.6	**157.7**
United Kingdom	76.3	69.6	11.2	16.2	1.2	17.6	192.2	76.3	67.7	9.0	15.9	1.3	21.0	**191.3**
Other Europe	60.0	24.8	35.3	8.2	16.8	9.8	155.0	61.2	25.9	36.1	8.1	15.2	11.0	**157.6**
Total Europe	719.3	434.7	295.1	195.2	146.1	144.2	1934.6	731.2	457.2	296.4	192.5	130.4	161.8	**1969.5**
Azerbaijan	4.7	9.4	†	–	0.4	†	14.6	4.4	9.1	†	–	0.4	†	**13.9**
Belarus	6.8	15.2	0.7	–	†	†	22.8	6.7	15.5	0.9	–	0.1	0.1	**23.2**
Kazakhstan	14.3	13.6	33.9	–	2.6	0.1	64.5	14.6	14.0	36.2	–	2.5	0.1	**67.4**
Russian Federation	152.5	361.3	89.2	44.5	41.8	0.3	689.6	153.0	365.2	92.3	46.0	41.5	0.3	**698.3**
Turkmenistan	7.1	26.5	–	–	–	†	33.7	7.3	24.4	–	–	–	†	**31.7**
Ukraine	9.9	26.1	29.7	18.3	1.7	0.4	86.1	10.0	25.6	24.6	19.4	2.0	0.4	**81.9**
Uzbekistan	3.3	35.8	1.0	–	2.7	†	42.8	3.3	35.8	1.2	–	2.7	†	**43.0**
Other CIS	4.2	4.7	1.6	0.5	7.0	†	18.0	4.1	4.4	1.9	0.6	7.6	†	**18.6**
Total CIS	202.8	492.6	156.2	63.3	56.3	0.8	972.0	203.4	494.1	157.0	65.9	56.7	0.9	**978.0**
Iran	80.7	173.1	0.9	1.5	3.5	0.1	259.8	84.6	184.4	0.9	1.6	3.7	0.1	**275.4**
Iraq	36.8	8.5	–	–	0.8	†	46.1	38.5	10.3	–	–	0.5	†	**49.2**
Israel	10.8	8.0	5.7	–	†	0.4	24.9	11.7	8.5	5.2	–	†	0.4	**25.8**
Kuwait	20.4	18.1	0.2	–	–	†	38.8	20.0	19.0	0.2	–	–	†	**39.3**
Oman	9.4	19.7	0.1	–	–	†	29.2	9.3	20.0	0.1	–	–	†	**29.4**
Qatar	12.8	37.1	–	–	–	†	49.9	13.3	40.8	–	–	–	†	**54.1**
Saudi Arabia	173.8	90.6	0.1	–	–	†	264.5	172.4	95.8	0.1	–	–	†	**268.3**
United Arab Emirates	45.7	62.3	1.5	–	–	0.1	109.6	45.0	62.1	1.6	–	–	0.1	**108.7**
Other Middle East	25.5	20.3	0.4	–	0.3	0.3	46.8	25.2	20.4	0.4	–	0.3	0.6	**46.9**
Total Middle East	416.0	437.6	9.1	1.5	4.6	1.0	869.7	420.0	461.3	8.5	1.6	4.5	1.4	**897.2**
Algeria	19.7	33.2	†	–	†	0.1	53.0	19.5	33.4	†	–	†	0.1	**53.2**
Egypt	42.0	42.4	0.2	–	3.0	0.6	88.2	39.7	48.1	0.2	–	3.0	0.6	**91.6**
Morocco	12.8	1.0	4.3	–	0.3	0.8	19.1	13.1	1.0	4.5	–	0.3	0.8	**19.6**
South Africa	28.7	4.0	84.7	3.6	0.2	1.8	123.0	28.8	3.9	82.2	3.6	0.2	2.0	**120.6**
Other Africa	89.4	33.9	5.7	–	23.7	2.0	154.7	95.2	35.5	6.2	–	25.6	2.1	**164.5**
Total Africa	192.6	114.5	94.9	3.6	27.1	5.2	438.0	196.3	121.9	93.1	3.6	29.1	5.5	**449.5**
Australia	50.5	35.9	43.6	–	4.0	5.4	139.5	52.4	36.0	42.3	–	3.1	5.7	**139.4**
Bangladesh	6.7	22.7	2.2	–	0.2	0.1	31.9	7.5	22.9	2.3	–	0.2	0.1	**33.0**
China	587.2	180.1	1889.1	48.3	261.0	81.7	3047.2	608.4	206.7	1892.6	56.2	261.5	106.7	**3132.2**
China Hong Kong SAR	19.4	2.7	6.7	–	–	†	28.8	21.9	2.7	6.3	–	–	†	**30.9**
India	217.1	43.7	405.6	8.6	29.0	18.3	722.3	222.1	46.6	424.0	8.5	30.7	21.8	**753.7**
Indonesia	74.2	32.9	53.4	–	4.4	2.6	167.4	77.3	33.7	57.2	–	4.2	2.9	**175.2**
Japan	191.4	100.1	118.8	4.0	18.1	18.8	451.2	188.3	100.7	120.5	6.6	17.9	22.4	**456.4**
Malaysia	36.7	36.1	19.6	–	4.9	0.3	97.6	36.9	36.8	20.0	–	5.6	0.4	**99.6**
New Zealand	7.9	4.2	1.2	–	5.9	2.4	21.7	8.5	4.2	1.2	–	5.7	2.4	**22.1**
Pakistan	28.3	32.9	5.6	1.3	7.8	0.6	76.5	29.2	35.0	7.1	1.8	7.0	0.8	**80.9**
Philippines	20.6	3.3	11.7	–	1.8	3.1	40.6	21.7	3.2	13.1	–	2.2	3.1	**43.3**
Singapore	72.7	10.2	0.4	–	–	0.2	83.6	75.3	10.6	0.4	–	–	0.3	**86.5**
South Korea	128.9	41.0	81.9	36.7	0.6	3.1	292.2	129.3	42.4	86.3	33.6	0.7	3.6	**295.9**
Sri Lanka	5.0	–	1.3	–	1.0	0.1	7.4	5.3	–	1.4	–	0.9	0.1	**7.7**
Taiwan	48.6	17.2	38.6	7.2	1.5	1.0	114.0	49.2	19.1	39.4	5.1	1.2	1.2	**115.1**
Thailand	62.1	43.5	17.7	–	0.8	2.8	126.9	63.9	43.1	18.3	–	1.1	3.4	**129.7**
Vietnam	21.9	8.8	28.3	–	14.5	0.1	73.6	23.0	8.1	28.2	–	15.9	0.1	**75.3**
Other Asia Pacific	21.8	9.8	18.3	–	13.0	0.1	63.1	23.3	10.0	19.4	–	13.7	0.1	**66.5**
Total Asia Pacific	1601.1	625.1	2744.0	106.0	368.5	140.8	5585.5	1643.4	661.8	2780.0	111.7	371.6	175.1	**5743.6**
Total World	**4557.3**	**3073.2**	**3706.0**	**591.2**	**913.3**	**417.4**	**13258.5**	**4621.9**	**3156.0**	**3731.5**	**596.4**	**918.6**	**486.8**	**13511.2**
of which: OECD	2190.6	1427.3	897.6	445.9	318.3	270.1	5549.8	2206.8	1442.5	893.4	442.6	314.8	304.9	**5605.0**
Non-OECD	2366.7	1645.9	2808.4	145.4	594.9	147.3	7708.7	2415.1	1713.5	2838.0	153.8	603.9	181.9	**7906.1**
European Union	635.5	385.9	239.5	190.1	79.2	136.3	1666.4	645.4	401.4	234.3	187.9	67.8	152.3	**1689.2**

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

World consumption

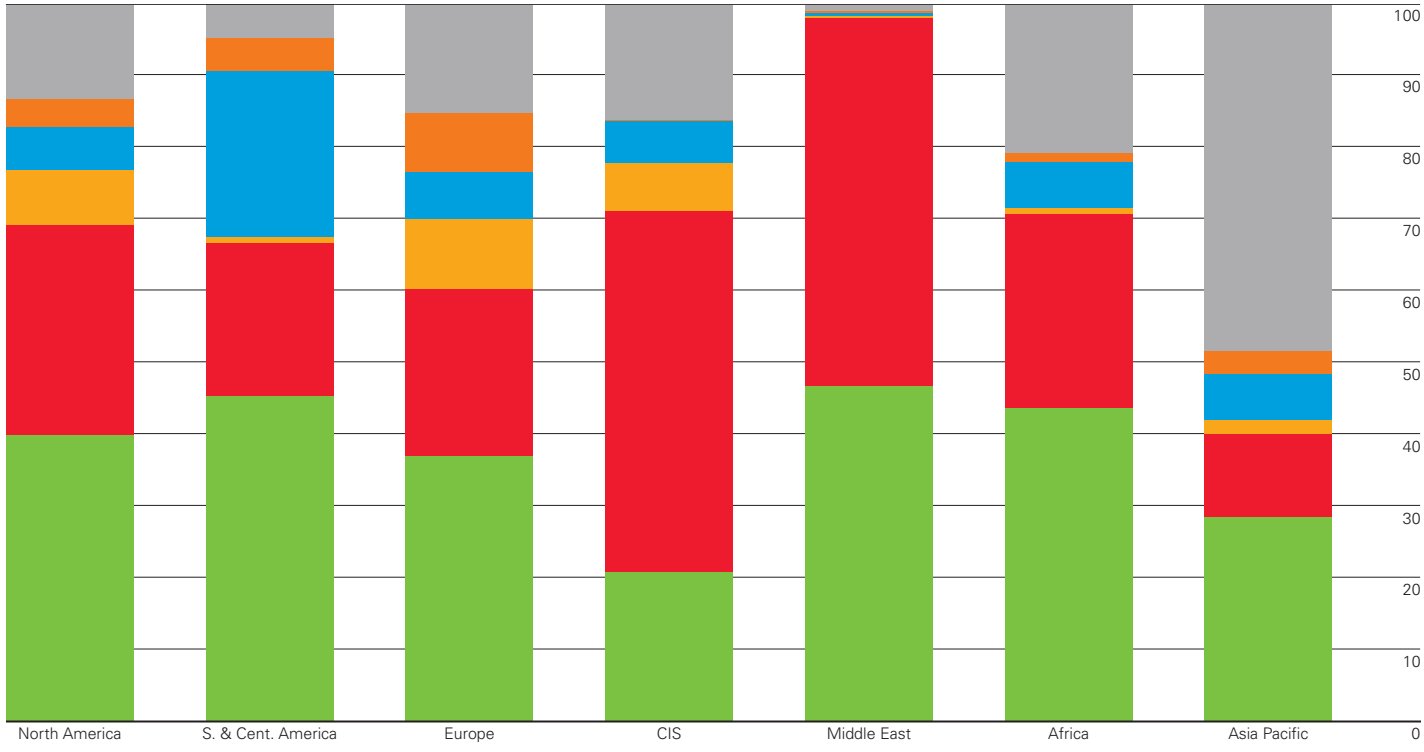
Million tonnes oil equivalent



World primary energy consumption grew by 2.2% in 2017, up from 1.2% in 2016 and the highest since 2013. Growth was below average in Asia Pacific, the Middle East and S. & Cent. America but above average in other regions. All fuels except coal and hydroelectricity grew at above-average rates. Natural gas provided the largest increment to energy consumption at 83 million tonnes of oil equivalent (mtoe), followed by renewable power (69 mtoe) and oil (65 mtoe).

Regional consumption by fuel 2017

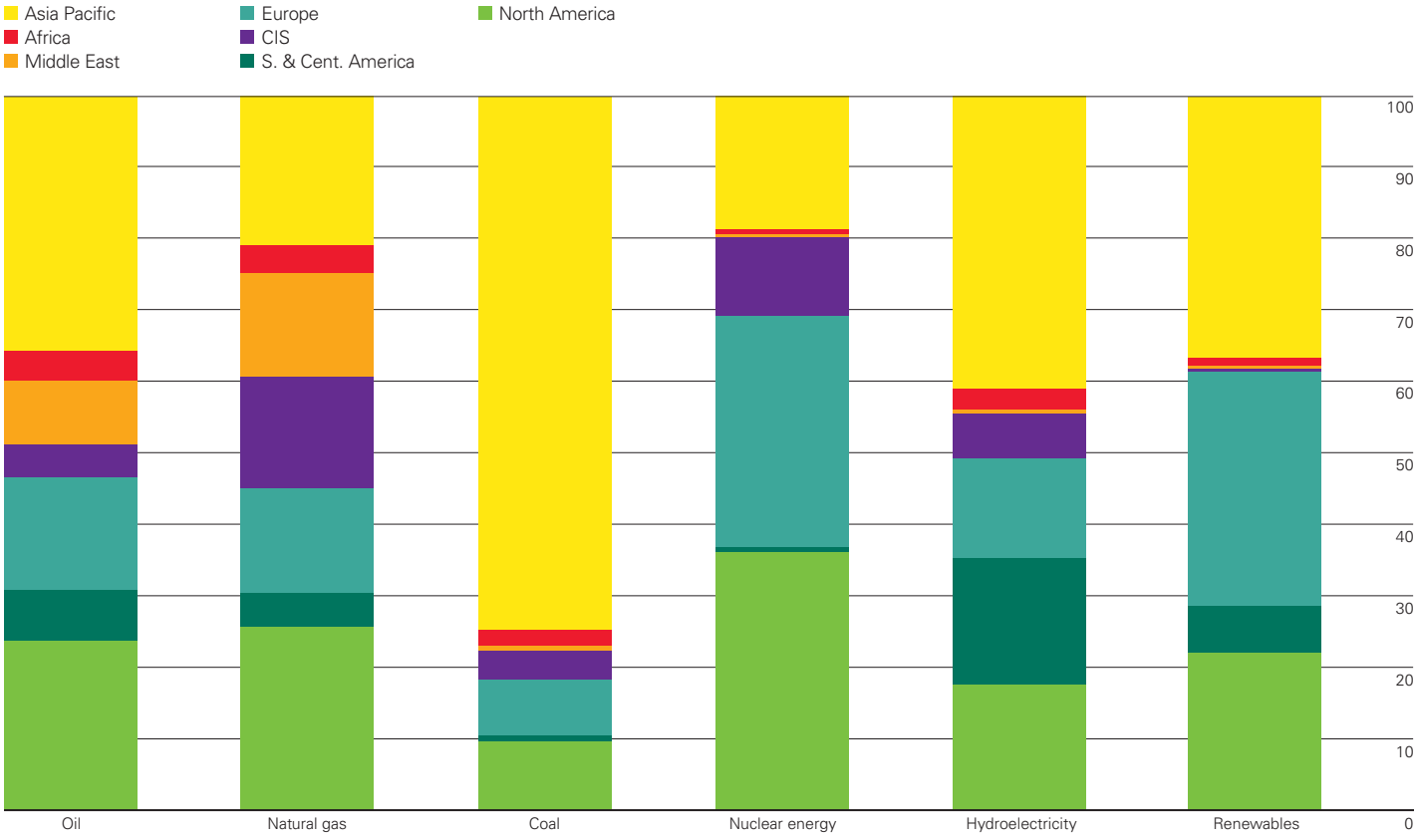
Percentage



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 2017 coal's share of primary energy fell to its lowest level in our data series in North America, Europe, CIS and Africa.

Fuel consumption by region 2017

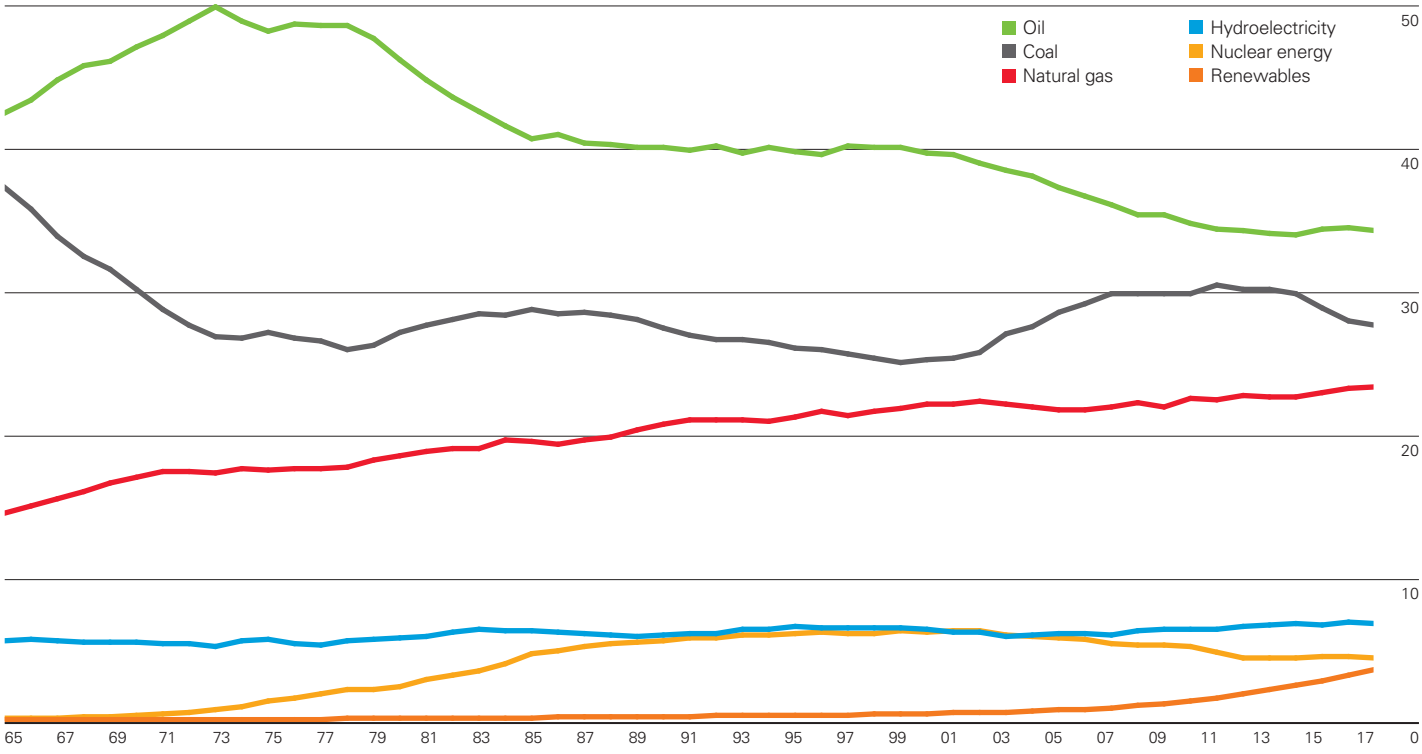
Percentage



Asia is the leading regional consumer of oil, coal, renewable power and hydroelectricity, while North America leads for nuclear power and natural gas. Asia dominates global coal consumption, accounting for almost three quarters of global consumption (74.5%). Asia's share of the coal market has grown steadily since 1965 when it made up only 17% of the coal consumption. It reached the 50% mark in 2001.

Shares of global primary energy consumption by fuel

Percentage



Oil remains the world's dominant fuel, making up just over a third of all energy consumed. In 2017 oil's market share declined slightly, following two years of growth. Coal's market share fell to 27.6%, the lowest level since 2004. Natural gas accounted for a record 23.4% of global primary energy consumption, while renewable power hit a new high of 3.6%.

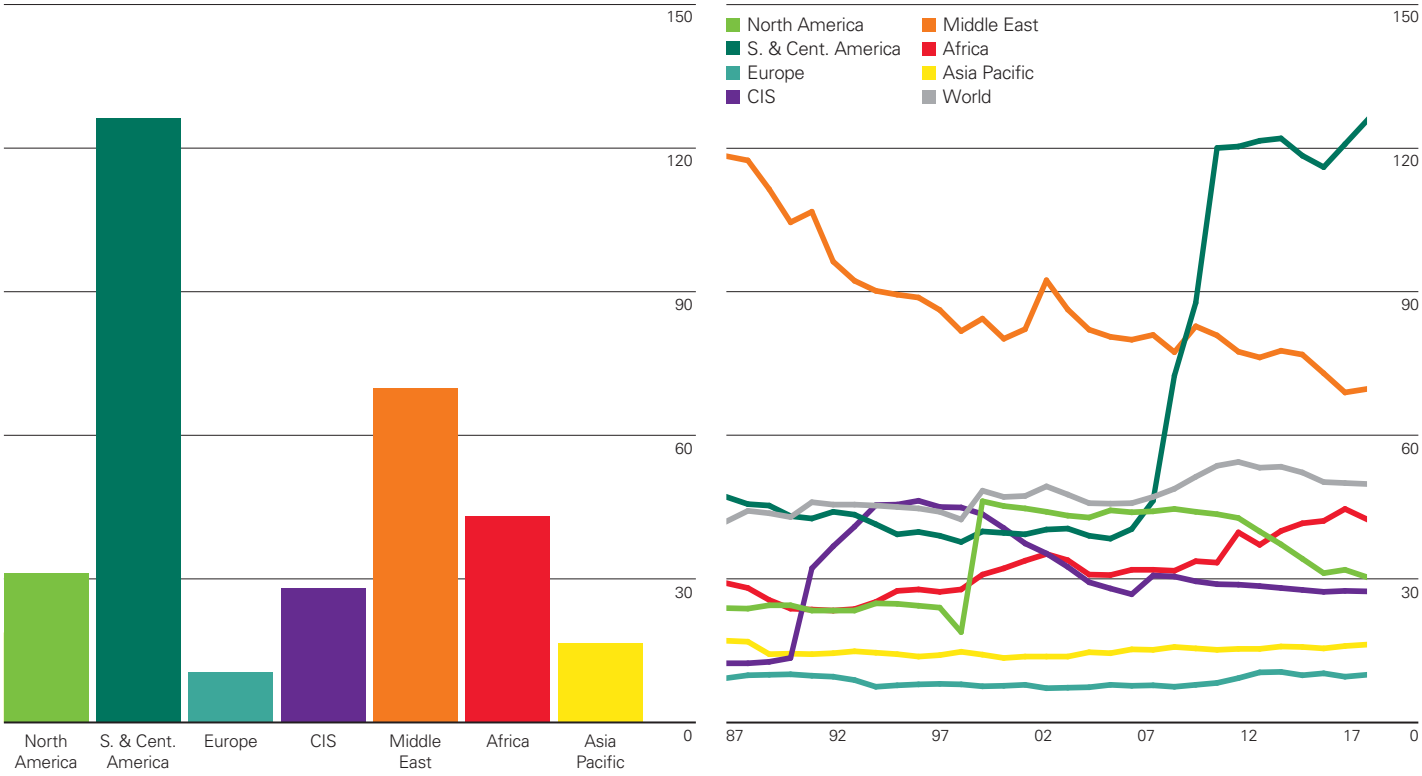
Total proved reserves

	At end 1997 Thousand million barrels	At end 2007 Thousand million barrels	At end 2016 Thousand million barrels	At end 2017 Thousand million barrels	At end 2017 Thousand million tonnes	At end 2017 Share of total	At end 2017 R/P ratio
US	30.5	30.5	50.0	**50.0**	**6.0**	2.9%	10.5
Canada	48.8	178.8	170.6	**168.9**	**27.2**	10.0%	95.8
Mexico	47.8	12.2	7.2	**7.2**	**1.0**	0.4%	8.9
Total North America	127.1	221.5	227.7	**226.1**	**34.2**	13.3%	30.8
Argentina	2.6	2.6	2.2	**2.2**	**0.3**	0.1%	10.0
Brazil	7.1	12.6	12.6	**12.8**	**1.9**	0.8%	12.8
Colombia	2.6	1.5	2.0	**1.7**	**0.2**	0.1%	5.4
Ecuador	3.7	6.4	8.3	**8.3**	**1.2**	0.5%	42.7
Peru	0.8	1.1	1.2	**1.2**	**0.1**	0.1%	26.4
Trinidad & Tobago	0.7	0.9	0.2	**0.2**	**†**	◆	6.7
Venezuela	74.9	99.4	301.8	**303.2**	**47.3**	17.9%	393.6
Other S. & Cent. America	1.1	0.8	0.5	**0.5**	**0.1**	◆	10.5
Total S. & Cent. America	93.4	125.3	328.9	**330.1**	**51.2**	19.5%	125.9
Denmark	0.9	1.1	0.4	**0.4**	**0.1**	◆	8.7
Italy	0.6	0.5	0.5	**0.6**	**0.1**	◆	18.9
Norway	12.0	8.2	7.6	**7.9**	**1.0**	0.5%	11.0
Romania	0.9	0.5	0.6	**0.6**	**0.1**	◆	21.8
United Kingdom	5.2	3.4	2.3	**2.3**	**0.3**	0.1%	6.3
Other Europe	1.6	1.5	1.6	**1.5**	**0.2**	0.1%	16.2
Total Europe	21.3	15.1	13.1	**13.4**	**1.7**	0.8%	10.4
Azerbaijan	1.2	7.0	7.0	**7.0**	**1.0**	0.4%	24.1
Kazakhstan	5.3	30.0	30.0	**30.0**	**3.9**	1.8%	44.8
Russian Federation	113.1	106.4	106.2	**106.2**	**14.5**	6.3%	25.8
Turkmenistan	0.5	0.6	0.6	**0.6**	**0.1**	◆	6.4
Uzbekistan	0.6	0.6	0.6	**0.6**	**0.1**	◆	30.0
Other CIS	0.6	0.6	0.5	**0.5**	**0.1**	◆	15.0
Total CIS	121.4	145.3	144.9	**144.9**	**19.7**	8.5%	27.8
Iran	92.6	138.2	157.2	**157.2**	**21.6**	9.3%	86.5
Iraq	112.5	115.0	148.8	**148.8**	**20.1**	8.8%	90.2
Kuwait	96.5	101.5	101.5	**101.5**	**14.0**	6.0%	91.9
Oman	5.4	5.6	5.4	**5.4**	**0.7**	0.3%	15.2
Qatar	12.5	27.3	25.2	**25.2**	**2.6**	1.5%	36.1
Saudi Arabia	261.5	264.2	266.2	**266.2**	**36.6**	15.7%	61.0
Syria	2.3	2.5	2.5	**2.5**	**0.3**	0.1%	278.4
United Arab Emirates	97.8	97.8	97.8	**97.8**	**13.0**	5.8%	68.1
Yemen	1.8	2.7	3.0	**3.0**	**0.4**	0.2%	156.6
Other Middle East	0.2	0.1	0.1	**0.1**	**†**	◆	1.6
Total Middle East	683.2	754.9	807.7	**807.7**	**109.3**	47.6%	70.0
Algeria	11.2	12.2	12.2	**12.2**	**1.5**	0.7%	21.7
Angola	3.9	9.5	9.5	**9.5**	**1.3**	0.6%	15.6
Chad	–	1.5	1.5	**1.5**	**0.2**	0.1%	39.7
Republic of Congo	1.6	1.6	1.6	**1.6**	**0.2**	0.1%	15.1
Egypt	3.7	4.1	3.4	**3.3**	**0.4**	0.2%	13.8
Equatorial Guinea	0.6	1.7	1.1	**1.1**	**0.1**	0.1%	15.2
Gabon	2.7	2.0	2.0	**2.0**	**0.3**	0.1%	27.4
Libya	29.5	43.7	48.4	**48.4**	**6.3**	2.9%	153.3
Nigeria	20.8	37.2	37.5	**37.5**	**5.1**	2.2%	51.6
South Sudan	n/a	n/a	3.5	**3.5**	**0.5**	0.2%	88.3
Sudan	0.3	5.0	1.5	**1.5**	**0.2**	0.1%	47.8
Tunisia	0.3	0.6	0.4	**0.4**	**0.1**	◆	22.1
Other Africa	0.7	0.7	4.0	**4.0**	**0.5**	0.2%	35.6
Total Africa	75.3	119.7	126.5	**126.5**	**16.7**	7.5%	42.9
Australia	4.0	3.4	4.0	**4.0**	**0.4**	0.2%	31.6
Brunei	1.1	1.1	1.1	**1.1**	**0.1**	0.1%	26.6
China	17.0	20.8	25.7	**25.7**	**3.5**	1.5%	18.3
India	5.6	5.5	4.7	**4.5**	**0.6**	0.3%	14.4
Indonesia	4.9	4.0	3.3	**3.2**	**0.4**	0.2%	9.2
Malaysia	5.0	5.5	3.6	**3.6**	**0.5**	0.2%	14.1
Thailand	0.3	0.5	0.3	**0.3**	**†**	◆	2.1
Vietnam	1.2	3.4	4.4	**4.4**	**0.6**	0.3%	36.0
Other Asia Pacific	1.2	1.3	1.2	**1.2**	**0.2**	0.1%	12.6
Total Asia Pacific	40.3	45.3	48.3	**48.0**	**6.4**	2.8%	16.7
Total World	**1162.1**	**1427.1**	**1697.1**	**1696.6**	**239.3**	**100.0%**	**50.2**
of which: OECD	151.4	239.3	244.0	**242.6**	**36.3**	14.3%	27.8
Non-OECD	1010.6	1187.8	1453.1	**1454.0**	**203.0**	85.7%	57.9
OPEC	820.7	956.1	1217.4	**1218.8**	**171.0**	71.8%	84.7
Non-OPEC	341.4	471.0	479.6	**477.8**	**68.3**	28.2%	24.6
European Union	8.7	6.4	4.8	**4.8**	**0.6**	0.3%	9.0
Canadian oil sands: Total	42.0	172.6	164.4	**163.4**	**26.6**	9.6%	
of which: Under active development	3.9	22.0	23.1	**22.1**	**3.6**	1.3%	
Venezuela: Orinoco Belt	–	20.0	223.0	**224.0**	**35.9**	13.2%	

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

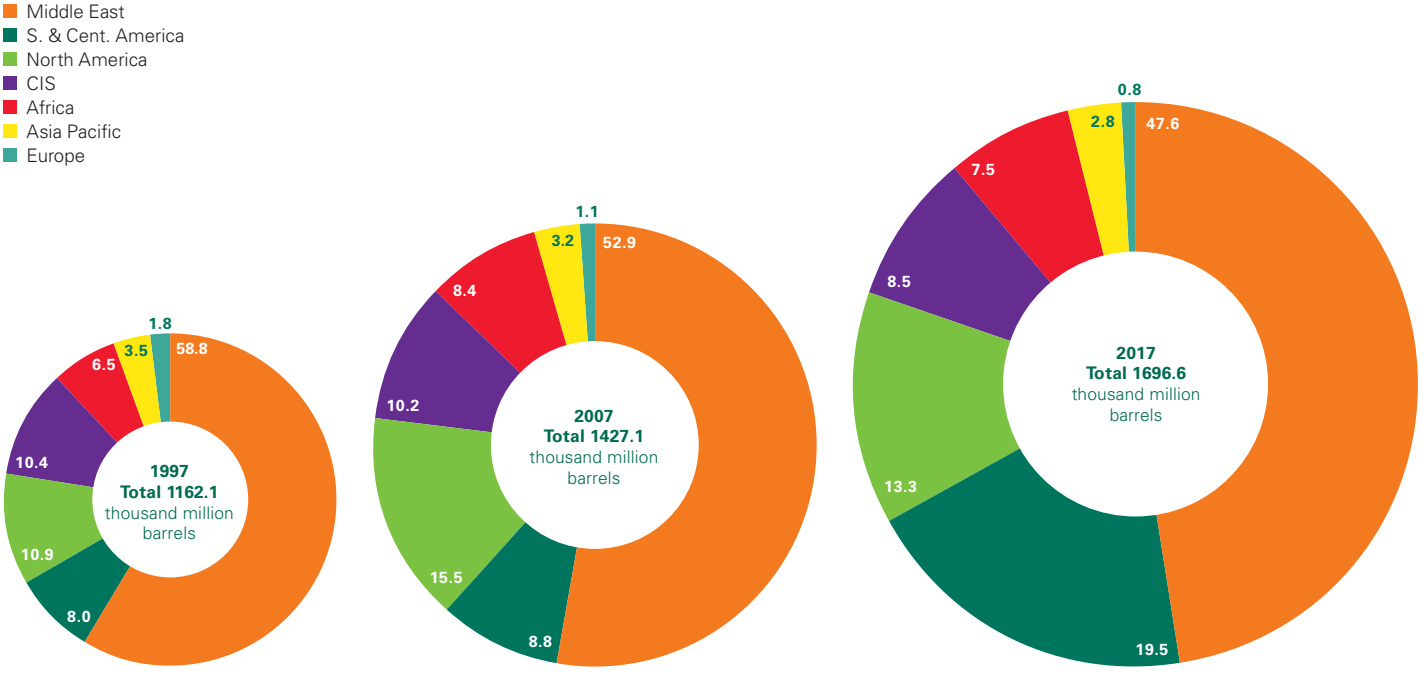
Notes: Total proved reserves of oil – Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. The data series for total proved oil reserves 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 independent estimates of Russian reserves based on official data 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.
Shares of total and R/P ratios are calculated using thousand million barrels figures.

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



Global proved oil reserves in 2017 fell slightly by 0.5 billion barrels (-0.03%) to 1696.6 billion barrels, which would be sufficient to meet 50.2 years of global production at 2017 levels. Higher reserves in Venezuela (up by 1.4 billion barrels) were outweighed by declines in Canada (-1.6 billion barrels) and smaller declines in a number of other non-OPEC countries. OPEC countries currently hold 71.8% of global proved reserves.
Note: Lags in reporting official data mean that 2017 figures for many countries are not yet available.

Distribution of proved reserves in 1997, 2007 and 2017
Percentage



Oil: Production in thousands of barrels per day*

Thousand barrels daily	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	6860	6784	7263	7549	7859	8904	10071	11768	12750	12366	**13057**	5.6%	6.1%	14.1%
Canada	3290	3207	3202	3332	3515	3740	4000	4271	4389	4470	**4831**	8.1%	3.4%	5.2%
Mexico	3479	3165	2978	2959	2940	2911	2875	2784	2587	2456	**2224**	-9.4%	-4.0%	2.4%
Total North America	13628	13156	13444	13841	14314	15555	16946	18823	19726	19292	**20112**	4.3%	3.5%	21.7%
Argentina	816	804	731	714	668	658	647	640	649	626	**593**	-5.2%	-3.0%	0.6%
Brazil	1831	1897	2029	2137	2179	2145	2110	2341	2525	2608	**2734**	4.8%	3.7%	3.0%
Colombia	531	588	671	786	915	944	1004	990	1006	886	**851**	-3.9%	5.3%	0.9%
Ecuador	513	507	488	488	501	505	527	557	543	548	**531**	-3.1%	0.2%	0.6%
Peru	116	122	147	158	153	154	167	169	145	128	**127**	-0.3%	0.8%	0.1%
Trinidad & Tobago	154	152	150	145	137	117	116	114	109	97	**99**	2.1%	-5.9%	0.1%
Venezuela	3237	3228	3038	2842	2755	2704	2680	2692	2631	2387	**2110**	-11.6%	-3.3%	2.3%
Other S. & Cent. America	146	140	131	140	141	147	152	159	152	140	**135**	-3.0%	0.2%	0.1%
Total S. & Cent. America	7344	7439	7385	7410	7449	7373	7403	7663	7759	7418	**7182**	-3.2%	-0.1%	7.8%
Denmark	311	287	265	249	225	204	178	167	158	142	**138**	-2.4%	-8.5%	0.1%
Italy	122	108	95	106	110	112	114	120	113	78	**86**	10.6%	-4.2%	0.1%
Norway	2551	2466	2349	2137	2039	1917	1838	1889	1946	1995	**1969**	-1.3%	-3.2%	2.1%
Romania	100	99	94	90	89	83	86	84	83	79	**76**	-4.7%	-2.8%	0.1%
United Kingdom	1651	1549	1469	1356	1112	946	864	852	963	1013	**999**	-1.3%	-4.8%	1.1%
Other Europe	298	281	268	261	260	261	275	277	274	260	**251**	-3.6%	-1.4%	0.3%
Total Europe	5032	4790	4539	4198	3835	3523	3356	3390	3538	3566	**3519**	-1.3%	-3.9%	3.8%
Azerbaijan	876	916	1027	1037	932	882	888	861	851	838	**795**	-5.1%	2.6%	0.9%
Kazakhstan	1415	1485	1609	1676	1684	1664	1737	1710	1695	1655	**1835**	10.8%	1.9%	2.0%
Russian Federation	10062	9969	10157	10383	10538	10660	10809	10860	11009	11269	**11257**	-0.1%	1.4%	12.2%
Turkmenistan	204	222	218	212	215	225	232	241	261	253	**258**	1.9%	3.7%	0.3%
Uzbekistan	104	102	95	78	77	68	63	61	59	58	**54**	-6.1%	-6.6%	0.1%
Other CIS	135	131	126	117	111	111	105	97	91	89	**90**	0.8%	-4.0%	0.1%
Total CIS	12795	12825	13232	13502	13557	13609	13834	13830	13966	14162	**14288**	0.9%	1.4%	15.4%
Iran	4359	4421	4292	4430	4472	3820	3617	3724	3862	4602	**4982**	8.2%	0.7%	5.4%
Iraq	2143	2428	2446	2469	2773	3079	3103	3239	3986	4423	**4520**	2.2%	8.3%	4.9%
Kuwait	2660	2784	2499	2560	2913	3169	3129	3101	3065	3145	**3025**	-3.8%	1.4%	3.3%
Oman	710	757	813	865	885	918	942	943	981	1004	**971**	-3.4%	3.1%	1.0%
Qatar	1267	1438	1421	1638	1834	1939	2002	1985	1958	1970	**1916**	-2.7%	4.7%	2.1%
Saudi Arabia	10268	10663	9663	10075	11144	11635	11393	11505	11994	12402	**11951**	-3.6%	1.5%	12.9%
Syria	404	406	401	385	353	171	59	33	27	25	**25**	-1.6%	-24.6%	◆
United Arab Emirates	3094	3113	2783	2915	3285	3430	3543	3599	3873	4020	**3935**	-2.1%	2.5%	4.2%
Yemen	341	316	308	307	221	178	198	153	64	43	**52**	21.8%	-19.7%	0.1%
Other Middle East	194	193	192	192	201	184	209	214	213	214	**220**	2.8%	1.6%	0.2%
Total Middle East	25440	26517	24818	25834	28082	28523	28194	28496	30023	31849	**31597**	-0.8%	2.1%	34.1%
Algeria	1992	1969	1775	1689	1642	1537	1485	1589	1558	1577	**1540**	-2.3%	-2.2%	1.7%
Angola	1656	1876	1754	1812	1670	1734	1748	1668	1772	1755	**1674**	-4.6%	2.3%	1.8%
Chad	144	127	118	122	114	101	91	89	111	103	**103**	0.5%	-3.9%	0.1%
Republic of Congo	224	237	276	314	301	281	250	264	247	250	**291**	16.4%	-1.1%	0.3%
Egypt	698	715	730	725	714	715	710	714	726	691	**660**	-4.5%	0.2%	0.7%
Equatorial Guinea	374	369	332	306	301	320	282	284	260	223	**199**	-10.9%	-4.8%	0.2%
Gabon	246	240	241	249	246	242	226	226	225	220	**200**	-9.3%	-0.9%	0.2%
Libya	1820	1820	1652	1659	479	1509	989	498	432	426	**865**	102.9%	-13.5%	0.9%
Nigeria	2208	2174	2212	2534	2463	2413	2280	2278	2204	1903	**1988**	4.5%	-2.2%	2.1%
South Sudan	n/a	n/a	n/a	n/a	n/a	31	100	155	148	117	**109**	-7.4%	n/a	0.1%
Sudan	483	457	475	462	291	103	118	120	109	104	**86**	-17.0%	-11.6%	0.1%
Tunisia	104	96	91	83	77	82	76	71	64	60	**53**	-11.8%	-2.3%	0.1%
Other Africa	191	184	181	149	198	196	225	234	276	258	**306**	18.4%	1.3%	0.3%
Total Africa	10139	10263	9838	10104	8494	9264	8580	8191	8130	7687	**8072**	5.0%	-2.5%	8.7%
Australia	549	538	507	548	483	479	407	436	384	359	**346**	-3.6%	-3.9%	0.4%
Brunei	194	175	168	172	165	159	135	126	127	121	**113**	-6.4%	-5.8%	0.1%
China	3742	3814	3805	4077	4074	4155	4216	4246	4309	3999	**3846**	-3.8%	0.8%	4.2%
India	768	803	816	882	916	906	906	887	876	856	**865**	1.1%	1.2%	0.9%
Indonesia	972	1006	994	1003	952	918	882	852	841	882	**949**	7.6%	-1.4%	1.0%
Malaysia	730	731	691	726	660	662	626	650	698	704	**697**	-1.0%	0.1%	0.8%
Thailand	343	360	375	389	419	457	452	450	468	475	**465**	-2.1%	3.8%	0.5%
Vietnam	334	309	341	323	327	358	361	373	403	374	**335**	-10.4%	0.5%	0.4%
Other Asia Pacific	319	341	330	315	299	287	272	307	299	280	**263**	-6.3%	-0.8%	0.3%
Total Asia Pacific	7951	8076	8028	8436	8296	8382	8257	8327	8405	8050	**7879**	-2.1%	0.2%	8.5%
Total World	**82330**	**83067**	**81284**	**83325**	**84027**	**86229**	**86570**	**88721**	**91547**	**92023**	**92649**	**0.7%**	**1.1%**	**100.0%**
of which: OECD	19136	18426	18436	18534	18566	19487	20626	22571	23571	23139	**23901**	3.3%	1.8%	25.8%
Non-OECD	63194	64641	62848	64792	65461	66742	65944	66149	67976	68884	**68748**	-0.2%	0.9%	74.2%
OPEC	35835	37029	34596	35665	36478	38034	37004	36945	38362	39601	**39436**	-0.4%	0.9%	42.6%
Non-OPEC	46494	46039	46688	47660	47549	48195	49565	51775	53186	52422	**53213**	1.5%	1.2%	57.4%
European Union	2416	2258	2119	1982	1712	1519	1425	1405	1499	1484	**1464**	-1.3%	-4.9%	1.6%

*Includes crude oil, shale oil, oil sands and NGLs (natural gas liquids – the liquid content of natural gas where this is recovered separately). 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: Consumption in thousands of barrels per day*

Thousand barrels daily	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	20680	19490	18771	19180	18882	18490	18961	19106	19531	19687	**19880**	1.0%	-0.5%	20.2%
Canada	2342	2297	2174	2306	2381	2342	2383	2399	2348	2401	**2428**	1.2%	0.5%	2.5%
Mexico	2089	2080	2021	2040	2065	2083	2034	1960	1939	1977	**1910**	-3.4%	-0.2%	1.9%
Total North America	25111	23868	22967	23526	23329	22915	23379	23465	23818	24065	**24219**	0.6%	-0.4%	24.7%
Argentina	528	540	532	594	609	636	683	673	696	687	**670**	-2.4%	3.8%	0.7%
Brazil	2308	2481	2498	2716	2839	2915	3124	3242	3181	3013	**3017**	0.1%	3.4%	3.1%
Chile	377	390	383	343	371	376	362	353	355	376	**383**	1.8%	2.5%	0.4%
Colombia	234	251	232	258	277	297	298	316	330	339	**344**	1.5%	3.7%	0.4%
Ecuador	183	188	191	220	226	233	247	260	254	240	**237**	-1.1%	2.9%	0.2%
Peru	153	172	178	189	208	213	227	225	239	254	**259**	2.0%	5.6%	0.3%
Trinidad & Tobago	43	45	44	45	42	40	45	42	46	45	**44**	-1.7%	1.7%	◆
Venezuela	640	716	726	725	737	792	782	720	637	539	**505**	-6.4%	-2.1%	0.5%
Other S. & Cent. America	1276	1248	1223	1244	1262	1241	1218	1227	1283	1319	**1336**	1.3%	0.4%	1.4%
Total S. & Cent. America	5742	6032	6006	6334	6570	6742	6987	7058	7021	6811	**6794**	-0.2%	2.2%	6.9%
Austria	276	274	264	276	262	259	264	260	262	266	**268**	1.0%	-0.9%	0.3%
Belgium	700	731	654	678	637	622	636	635	666	670	**661**	-1.4%	-0.2%	0.7%
Czech Republic	205	209	204	195	193	192	184	195	189	175	**204**	16.4%	-1.6%	0.2%
Finland	226	223	212	222	204	193	191	183	203	211	**203**	-3.6%	-0.6%	0.2%
France	1911	1889	1822	1763	1730	1676	1664	1616	1615	1600	**1615**	1.0%	-1.9%	1.6%
Germany	2380	2502	2409	2445	2369	2356	2408	2348	2340	2378	**2447**	2.9%	-0.9%	2.5%
Greece	435	414	398	369	348	312	295	294	306	312	**314**	0.7%	-3.2%	0.3%
Hungary	168	164	154	146	139	129	129	144	153	154	**167**	8.3%	-0.9%	0.2%
Italy	1740	1661	1563	1532	1475	1346	1260	1184	1222	1228	**1247**	1.6%	-3.7%	1.3%
Netherlands	1031	977	945	964	971	926	898	866	835	851	**848**	-0.4%	-1.4%	0.9%
Norway	237	228	237	235	239	235	243	232	237	221	**223**	0.9%	-0.3%	0.2%
Poland	548	567	567	594	592	571	538	539	559	606	**659**	8.7%	1.4%	0.7%
Portugal	307	291	273	271	255	230	239	238	244	245	**256**	4.6%	-2.1%	0.3%
Romania	218	216	195	184	191	191	174	187	191	202	**203**	0.6%	-0.6%	0.2%
Spain	1613	1558	1473	1446	1378	1291	1195	1191	1237	1280	**1293**	1.1%	-2.2%	1.3%
Sweden	363	356	329	331	313	311	309	311	300	319	**320**	0.3%	-1.3%	0.3%
Switzerland	241	256	260	242	235	238	249	224	228	216	**222**	3.2%	-2.1%	0.2%
Turkey	695	686	709	694	673	704	757	777	915	972	**1007**	3.5%	3.6%	1.0%
United Kingdom	1752	1720	1646	1623	1590	1533	1518	1518	1561	1592	**1598**	0.3%	-1.3%	1.6%
Other Europe	1306	1306	1224	1208	1181	1127	1111	1107	1151	1197	**1224**	2.3%	-0.6%	1.2%
Total Europe	16356	16227	15537	15418	14975	14443	14263	14049	14413	14696	**14980**	1.9%	-1.2%	15.3%
Azerbaijan	91	74	73	72	89	92	101	99	100	98	**92**	-5.8%	0.2%	0.1%
Belarus	162	159	182	150	175	211	145	165	139	136	**135**	-0.7%	-2.6%	0.1%
Kazakhstan	241	240	198	211	243	245	260	262	284	302	**311**	2.9%	3.2%	0.3%
Russian Federation	2780	2861	2775	2878	3074	3119	3135	3301	3162	3193	**3224**	1.0%	1.5%	3.3%
Turkmenistan	111	114	106	118	125	129	137	143	145	152	**155**	2.3%	3.7%	0.2%
Ukraine	308	299	282	267	278	267	257	221	194	204	**206**	1.1%	-4.1%	0.2%
Uzbekistan	94	93	89	76	71	63	60	57	57	70	**71**	1.8%	-3.8%	0.1%
Other CIS	56	60	63	63	65	79	80	76	81	89	**88**	-1.4%	6.5%	0.1%
Total CIS	3844	3900	3768	3834	4118	4206	4176	4323	4162	4243	**4282**	0.9%	1.1%	4.4%
Iran	1838	1925	1919	1791	1826	1849	2011	1953	1766	1722	**1816**	5.4%	-0.4%	1.8%
Iraq	490	481	536	570	629	666	716	681	687	758	**791**	4.4%	4.1%	0.8%
Israel	262	254	232	241	254	295	247	212	225	228	**247**	8.4%	-0.8%	0.3%
Kuwait	383	406	455	470	445	491	508	446	456	453	**449**	-0.8%	1.8%	0.5%
Oman	90	123	119	135	146	157	178	185	186	191	**189**	-1.3%	7.6%	0.2%
Qatar	148	177	173	191	246	257	287	293	316	343	**354**	3.1%	9.6%	0.4%
Saudi Arabia	2407	2622	2914	3206	3294	3461	3451	3753	3875	3939	**3918**	-0.5%	5.6%	4.0%
United Arab Emirates	576	603	603	654	733	772	849	878	949	1003	**1007**	0.4%	6.4%	1.0%
Other Middle East	777	795	774	716	698	648	622	632	569	523	**520**	-0.7%	-3.5%	0.5%
Total Middle East	6970	7385	7724	7973	8271	8595	8870	9032	9029	9161	**9290**	1.4%	3.1%	9.5%
Algeria	286	309	327	327	349	370	387	401	423	411	**411**	-0.1%	4.8%	0.4%
Egypt	642	686	725	766	720	747	756	806	833	854	**816**	-4.5%	3.6%	0.8%
Morocco	211	231	234	258	275	277	280	269	268	275	**282**	2.8%	3.2%	0.3%
South Africa	539	511	507	541	544	556	572	569	592	577	**580**	0.6%	0.9%	0.6%
Other Africa	1362	1465	1533	1590	1499	1619	1729	1741	1762	1833	**1958**	6.8%	3.2%	2.0%
Total Africa	3040	3201	3325	3482	3388	3569	3724	3785	3877	3950	**4047**	2.5%	3.1%	4.1%
Australia	935	944	950	957	1001	1025	1034	1046	1030	1041	**1079**	3.6%	1.1%	1.1%
Bangladesh	76	77	72	80	104	110	107	116	125	131	**146**	11.6%	5.0%	0.1%
China	7808	7941	8278	9436	9796	10230	10734	11209	11986	12302	**12799**	4.0%	5.2%	13.0%
China Hong Kong SAR	322	292	332	359	361	344	352	336	368	380	**427**	12.4%	2.3%	0.4%
India	2941	3077	3237	3319	3488	3685	3727	3849	4164	4560	**4690**	2.9%	5.2%	4.8%
Indonesia	1318	1287	1317	1411	1589	1640	1663	1681	1564	1580	**1652**	4.5%	2.4%	1.7%
Japan	5013	4847	4390	4442	4442	4702	4516	4303	4151	4031	**3988**	-1.1%	-2.5%	4.1%
Malaysia	701	672	679	689	725	759	803	801	789	799	**803**	0.5%	1.9%	0.8%
New Zealand	154	154	148	150	150	148	151	154	160	163	**175**	7.3%	0.7%	0.2%
Pakistan	384	389	415	411	414	402	442	458	505	566	**589**	4.0%	4.8%	0.6%
Philippines	295	283	300	313	298	309	326	347	397	430	**455**	5.9%	4.3%	0.5%
Singapore	921	973	1049	1157	1208	1202	1225	1268	1338	1381	**1430**	3.5%	5.0%	1.5%
South Korea	2399	2308	2339	2370	2394	2458	2455	2454	2577	2771	**2796**	0.9%	1.8%	2.8%
Sri Lanka	91	83	87	87	92	95	81	89	97	101	**107**	5.9%	1.6%	0.1%
Taiwan	1110	1005	1020	1045	983	983	1010	1040	1037	1043	**1051**	0.8%	-0.1%	1.1%
Thailand	1030	1018	1076	1122	1185	1250	1299	1310	1354	1377	**1423**	3.4%	3.3%	1.4%
Vietnam	283	300	305	332	361	368	398	410	437	461	**486**	5.3%	6.1%	0.5%
Other Asia Pacific	259	250	267	285	320	327	365	405	442	446	**479**	7.3%	6.6%	0.5%
Total Asia Pacific	26041	25901	26260	27967	28911	30038	30689	31274	32521	33562	**34574**	3.0%	2.9%	35.2%
Total World	**87105**	**86515**	**85587**	**88535**	**89561**	**90509**	**92088**	**92986**	**94843**	**96488**	**98186**	**1.8%**	**1.2%**	**100.0%**
of which: OECD	49744	48131	46127	46657	46126	45600	45679	45291	45953	46552	**47033**	1.0%	-0.7%	47.9%
Non-OECD	37361	38384	39460	41877	43435	44908	46409	47695	48890	49936	**51152**	2.4%	3.4%	52.1%
European Union	14868	14746	14021	13941	13521	12977	12724	12530	12737	12970	**13211**	1.9%	-1.5%	13.5%

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

◆Less than 0.05%.

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

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

Oil: Production in million tonnes*

Million tonnes	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	305.1	302.3	322.4	332.7	344.8	393.8	447.0	522.5	565.3	543.1	**571.0**	5.4%	6.0%	13.0%
Canada	155.3	152.9	152.8	160.3	169.8	182.6	195.1	209.4	215.6	218.6	**236.3**	8.4%	3.8%	5.4%
Mexico	172.2	156.9	146.7	145.6	144.5	143.9	141.8	137.1	127.5	121.4	**109.5**	-9.5%	-4.0%	2.5%
Total North America	632.6	612.0	621.9	638.6	659.1	720.3	783.9	869.0	908.4	883.0	**916.8**	4.1%	3.3%	20.9%
Argentina	38.3	37.9	34.1	33.3	31.2	30.9	30.3	29.8	30.1	29.0	**27.4**	-5.6%	-3.0%	0.6%
Brazil	95.4	99.1	106.0	111.6	114.0	112.4	110.2	122.5	132.2	136.7	**142.7**	4.7%	3.8%	3.3%
Colombia	28.0	31.1	35.3	41.4	48.2	49.9	52.9	52.2	53.0	46.8	**44.8**	-3.9%	5.3%	1.0%
Ecuador	27.5	27.2	26.1	26.1	26.8	27.1	28.2	29.8	29.1	29.5	**28.5**	-3.1%	0.2%	0.6%
Peru	5.5	5.7	6.5	7.0	6.7	6.7	7.1	7.3	6.2	5.3	**5.4**	0.6%	-0.3%	0.1%
Trinidad & Tobago	7.1	7.0	6.8	6.2	5.9	5.2	5.1	5.0	4.8	4.3	**4.4**	1.5%	-6.3%	0.1%
Venezuela	165.7	165.8	155.9	145.8	141.5	139.3	137.8	138.5	135.4	123.1	**108.3**	-11.8%	-3.2%	2.5%
Other S. & Cent. America	7.3	7.1	6.6	7.0	7.1	7.4	7.6	8.0	7.6	7.0	**6.8**	-3.0%	0.1%	0.2%
Total S. & Cent. America	374.7	380.9	377.3	378.5	381.5	378.9	379.2	393.1	398.4	381.9	**368.3**	-3.3%	◆	8.4%
Denmark	15.2	14.0	12.9	12.2	10.9	10.0	8.7	8.1	7.7	6.9	**6.7**	-2.4%	-8.5%	0.2%
Italy	5.9	5.2	4.6	5.1	5.3	5.4	5.5	5.8	5.5	3.8	**4.1**	10.6%	-4.2%	0.1%
Norway	118.6	114.8	108.7	98.9	93.7	87.3	83.2	85.3	87.9	90.4	**88.8**	-1.5%	-3.5%	2.0%
Romania	4.7	4.7	4.5	4.3	4.2	4.0	4.1	4.1	4.0	3.8	**3.6**	-4.5%	-2.7%	0.1%
United Kingdom	76.9	72.0	68.3	63.2	52.1	44.7	40.7	40.0	45.4	47.5	**46.6**	-1.8%	-4.7%	1.1%
Other Europe	14.9	14.1	13.4	13.1	13.1	13.2	13.9	14.0	13.8	13.2	**12.7**	-3.6%	-1.2%	0.3%
Total Europe	236.1	224.8	212.4	196.7	179.4	164.5	156.1	157.3	164.3	165.6	**162.6**	-1.6%	-4.0%	3.7%
Azerbaijan	43.4	45.3	50.9	51.3	46.1	43.7	43.8	42.5	42.0	41.4	**39.2**	-5.2%	2.5%	0.9%
Kazakhstan	67.2	70.7	76.5	79.7	80.1	79.3	82.3	81.1	80.2	78.6	**86.9**	10.8%	1.9%	2.0%
Russian Federation	497.5	494.4	501.5	512.5	519.6	526.9	532.3	535.1	541.9	555.9	**554.4**	◆	1.3%	12.6%
Turkmenistan	10.1	11.0	10.7	10.4	10.6	11.0	11.3	11.7	12.7	12.3	**12.4**	1.5%	3.6%	0.3%
Uzbekistan	4.9	4.8	4.5	3.6	3.6	3.2	2.9	2.8	2.7	2.6	**2.5**	-6.1%	-6.9%	0.1%
Other CIS	6.4	6.3	6.0	5.6	5.3	5.3	5.0	4.6	4.4	4.3	**4.3**	0.1%	-4.1%	0.1%
Total CIS	629.5	632.5	650.0	663.1	665.2	669.4	677.6	677.9	683.9	695.1	**699.6**	0.9%	1.4%	15.9%
Iran	213.3	215.6	207.4	212.3	213.0	180.7	169.9	174.3	180.5	216.8	**234.2**	8.3%	0.3%	5.3%
Iraq	105.1	119.3	119.7	120.8	135.8	151.3	152.0	158.8	195.6	217.6	**221.5**	2.1%	8.3%	5.0%
Kuwait	129.9	136.1	120.9	123.3	140.8	153.9	151.3	150.1	148.1	152.6	**146.0**	-4.1%	1.3%	3.3%
Oman	34.8	37.1	39.7	42.2	43.2	45.0	46.1	46.2	48.0	49.3	**47.6**	-3.3%	3.1%	1.1%
Qatar	57.6	64.7	62.6	71.1	78.0	82.5	84.5	83.8	82.1	82.5	**79.9**	-2.9%	3.8%	1.8%
Saudi Arabia	488.9	509.9	456.7	473.8	525.9	549.8	538.4	543.4	567.9	586.6	**561.7**	-4.0%	1.4%	12.8%
Syria	19.5	19.6	19.3	18.5	16.9	8.1	2.7	1.5	1.2	1.1	**1.1**	-1.8%	-25.3%	◆
United Arab Emirates	143.6	145.2	128.8	134.2	149.8	156.5	161.8	163.2	175.0	181.6	**176.3**	-2.6%	2.2%	4.0%
Yemen	16.0	14.8	14.4	14.3	10.2	8.2	9.0	6.9	2.6	1.6	**2.1**	27.0%	-21.4%	◆
Other Middle East	9.5	9.5	9.4	9.4	9.9	9.0	10.3	10.5	10.5	10.6	**10.9**	2.9%	1.7%	0.2%
Total Middle East	1218.2	1271.7	1179.0	1220.0	1323.6	1345.1	1326.0	1338.8	1411.5	1500.3	**1481.1**	-1.0%	1.9%	33.8%
Algeria	86.5	85.6	77.2	73.8	71.7	67.2	64.8	68.8	67.2	68.4	**66.6**	-2.3%	-2.3%	1.5%
Angola	81.2	92.3	86.0	88.9	82.0	85.3	85.7	81.6	87.0	86.3	**81.8**	-4.9%	2.3%	1.9%
Chad	7.5	6.7	6.2	6.4	6.0	5.3	4.8	4.7	5.8	5.4	**5.4**	0.5%	-3.9%	0.1%
Republic of Congo	11.5	12.2	14.1	16.0	15.3	14.3	12.6	13.3	12.4	12.6	**14.7**	17.0%	-1.2%	0.3%
Egypt	33.8	34.7	35.3	35.0	34.6	34.7	34.4	35.1	35.4	33.8	**32.2**	-4.6%	0.2%	0.7%
Equatorial Guinea	18.1	18.0	16.0	14.8	14.5	15.5	13.6	13.7	12.5	10.7	**9.5**	-11.2%	-4.9%	0.2%
Gabon	12.3	12.0	12.0	12.4	12.3	12.1	11.3	11.3	11.2	11.0	**10.0**	-9.3%	-0.9%	0.2%
Libya	85.4	85.6	77.4	77.9	22.5	71.2	46.6	23.4	20.3	20.1	**40.8**	103.7%	-13.5%	0.9%
Nigeria	107.2	105.8	106.9	122.1	118.5	116.5	109.5	109.4	105.8	91.4	**95.3**	4.5%	-2.3%	2.2%
South Sudan	n/a	n/a	n/a	n/a	n/a	1.5	4.9	7.7	7.3	5.8	**5.3**	-7.4%	n/a	0.1%
Sudan	23.8	22.6	23.4	22.8	14.3	5.1	5.8	5.9	5.4	5.1	**4.2**	-17.0%	-11.6%	0.1%
Tunisia	4.9	4.5	4.2	3.9	3.6	3.8	3.5	3.3	2.9	2.8	**2.4**	-12.1%	-2.4%	0.1%
Other Africa	9.6	9.2	9.1	7.4	9.8	9.8	11.2	11.6	13.7	12.8	**15.1**	17.7%	1.2%	0.3%
Total Africa	481.7	489.1	468.0	481.5	405.1	442.3	408.5	389.7	387.0	366.2	**383.3**	5.0%	-2.5%	8.7%
Australia	24.5	24.1	22.4	24.5	21.5	21.4	17.8	19.1	17.0	15.5	**14.8**	-4.2%	-4.1%	0.3%
Brunei	9.5	8.6	8.2	8.4	8.1	7.8	6.6	6.1	6.2	5.9	**5.5**	-6.7%	-5.9%	0.1%
China	186.3	190.4	189.5	203.0	202.9	207.5	210.0	211.4	214.6	199.7	**191.5**	-3.8%	0.8%	4.4%
India	36.4	37.8	38.0	41.3	42.9	42.5	42.5	41.6	41.2	40.2	**40.4**	0.8%	1.1%	0.9%
Indonesia	47.8	49.4	48.4	48.6	46.3	44.6	42.7	41.2	40.7	43.0	**46.4**	8.1%	-1.5%	1.1%
Malaysia	33.5	33.7	31.9	32.9	29.7	30.1	28.7	29.8	32.3	32.6	**32.2**	-1.1%	0.1%	0.7%
Thailand	13.2	14.0	14.5	14.9	15.4	16.6	16.5	16.2	17.0	17.5	**16.8**	-3.9%	3.4%	0.4%
Vietnam	16.3	15.2	16.7	15.6	15.8	17.4	17.4	18.0	19.5	18.0	**16.1**	-10.4%	0.5%	0.4%
Other Asia Pacific	13.9	14.9	14.4	13.8	13.0	12.6	12.0	13.6	13.3	12.5	**11.8**	-5.4%	-0.5%	0.3%
Total Asia Pacific	381.4	388.1	384.0	403.0	395.5	400.4	394.0	397.3	401.7	385.0	**375.5**	-2.2%	0.1%	8.6%
Total World	**3954.2**	**3999.0**	**3892.6**	**3981.4**	**4009.5**	**4120.8**	**4125.3**	**4223.0**	**4355.2**	**4377.1**	**4387.1**	**0.5%**	**1.0%**	**100.0%**
of which: OECD	889.4	857.9	853.8	856.8	856.6	902.4	953.4	1041.3	1085.6	1060.1	**1090.3**	3.1%	1.6%	24.9%
Non-OECD	3064.9	3141.1	3038.8	3124.6	3152.9	3218.4	3171.9	3181.8	3269.6	3317.0	**3296.8**	-0.3%	0.8%	75.1%
OPEC	1722.2	1783.0	1653.9	1697.4	1733.2	1809.0	1755.3	1750.1	1817.7	1878.1	**1860.3**	-0.7%	0.8%	42.4%
Non-OPEC	2232.0	2216.0	2238.7	2284.0	2276.3	2311.8	2369.9	2472.9	2537.5	2498.9	**2526.9**	1.4%	1.2%	57.6%
European Union	114.1	106.6	100.0	93.6	81.3	72.7	68.1	67.0	71.5	70.6	**69.2**	-1.6%	-4.8%	1.6%

*Includes crude oil, shale oil, oil sands and NGLs (natural gas liquids – the liquid content of natural gas where this is recovered separately). Excludes liquid fuels from other sources such as biomass and derivatives of coal and natural gas.
◆Less than 0.05%.
n/a not available.
Notes: Annual changes and shares of total are calculated using million tonnes figures.
Growth rates are adjusted for leap years.

Oil: Consumption in million tonnes oil equivalent*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	967.6	912.8	871.2	889.8	874.7	856.4	872.8	879.4	898.3	907.6	**913.3**	0.9%	-0.7%	19.8%
Canada	106.0	104.8	98.6	105.3	108.5	106.4	107.7	108.2	105.0	107.0	**108.6**	1.8%	0.4%	2.3%
Mexico	96.4	96.2	92.9	93.3	94.9	96.4	93.8	89.5	88.5	90.1	**86.8**	-3.4%	-0.3%	1.9%
Total North America	1170.1	1113.7	1062.7	1088.4	1078.1	1059.2	1074.3	1077.1	1091.7	1104.6	**1108.6**	0.6%	-0.5%	24.0%
Argentina	24.8	25.5	25.0	28.7	29.0	30.3	32.6	32.2	33.2	32.7	**31.6**	-3.0%	3.9%	0.7%
Brazil	105.3	112.6	112.9	122.9	128.7	133.0	141.7	147.5	143.1	135.7	**135.6**	0.2%	3.2%	2.9%
Chile	18.5	19.2	18.7	16.6	18.1	18.1	17.5	17.0	17.1	18.1	**18.3**	1.6%	2.3%	0.4%
Colombia	11.2	12.1	11.1	12.4	13.3	14.4	14.5	15.4	16.0	16.5	**16.7**	1.4%	3.9%	0.4%
Ecuador	8.8	9.1	9.2	10.7	10.9	11.3	12.0	12.7	12.3	11.5	**11.3**	-2.0%	2.9%	0.2%
Peru	7.4	8.3	8.5	9.0	9.9	10.0	10.6	10.5	11.1	11.8	**12.1**	2.2%	5.3%	0.3%
Trinidad & Tobago	2.2	2.3	2.2	2.3	2.1	2.1	2.3	2.1	2.3	2.2	**2.2**	-1.4%	1.7%	◆
Venezuela	30.8	34.8	35.3	35.2	35.7	38.4	38.0	34.8	30.7	26.0	**24.2**	-6.7%	-2.2%	0.5%
Other S. & Cent. America	65.0	63.6	61.9	62.8	63.9	63.0	61.3	61.6	64.3	66.1	**66.8**	1.2%	0.2%	1.4%
Total S. & Cent. America	273.9	287.6	284.9	300.5	311.7	320.7	330.4	333.8	330.3	320.8	**318.8**	-0.4%	2.0%	6.9%
Austria	13.9	13.8	13.3	13.8	13.1	12.9	13.1	12.9	13.0	13.3	**13.4**	1.2%	-1.0%	0.3%
Belgium	35.3	36.8	32.4	33.6	31.4	30.5	31.1	30.7	32.0	32.5	**32.2**	-0.6%	-0.6%	0.7%
Czech Republic	10.0	10.2	10.0	9.5	9.3	9.3	8.9	9.4	9.2	8.6	**9.8**	14.6%	-1.6%	0.2%
Finland	11.1	11.0	10.3	10.8	10.0	9.4	9.3	8.9	9.6	10.0	**9.7**	-3.2%	-0.9%	0.2%
France	94.5	93.8	90.3	87.3	85.7	83.1	82.1	79.8	79.7	79.2	**79.7**	1.0%	-1.9%	1.7%
Germany	117.2	123.7	118.7	120.3	116.6	116.2	118.3	115.3	115.0	117.3	**119.8**	2.5%	-0.9%	2.6%
Greece	21.7	20.8	19.9	18.4	17.3	15.5	14.6	14.5	15.0	15.4	**15.5**	0.9%	-3.4%	0.3%
Hungary	8.1	7.8	7.4	7.0	6.6	6.2	6.1	6.8	7.2	7.3	**7.9**	8.3%	-0.9%	0.2%
Italy	86.2	82.5	77.2	75.3	72.6	66.2	61.3	57.6	59.5	59.8	**60.6**	1.5%	-3.9%	1.3%
Netherlands	50.4	47.9	46.1	46.7	47.4	45.1	42.8	40.9	39.9	41.1	**40.8**	-0.5%	-1.7%	0.9%
Norway	11.0	10.6	11.0	11.0	10.9	10.9	11.1	10.5	10.6	10.1	**10.1**	0.6%	-0.7%	0.2%
Poland	26.1	27.2	27.1	28.6	28.5	27.6	25.7	25.7	26.8	29.2	**31.6**	8.7%	1.5%	0.7%
Portugal	15.1	14.4	13.4	13.3	12.4	11.3	11.6	11.5	11.8	12.0	**12.5**	5.1%	-2.1%	0.3%
Romania	10.5	10.5	9.5	9.0	9.3	9.4	8.6	9.1	9.3	9.9	**10.0**	1.2%	-0.6%	0.2%
Spain	81.1	78.6	74.2	72.8	69.5	65.4	60.2	60.1	62.1	64.2	**64.8**	1.2%	-2.2%	1.4%
Sweden	17.7	17.5	16.3	16.4	15.4	15.3	15.0	15.1	14.6	15.5	**15.6**	0.8%	-1.5%	0.3%
Switzerland	11.8	12.6	12.8	11.9	11.5	11.7	12.3	11.0	11.2	10.6	**10.9**	3.2%	-2.1%	0.2%
Turkey	33.5	33.1	33.6	32.8	32.1	33.8	36.5	37.4	44.2	47.1	**48.8**	3.8%	3.7%	1.1%
United Kingdom	84.0	82.6	78.8	77.9	76.5	74.2	73.1	73.0	74.7	76.3	**76.3**	0.3%	-1.3%	1.7%
Other Europe	65.5	65.6	61.3	60.6	59.2	56.7	55.5	55.3	57.6	60.0	**61.2**	2.2%	-0.6%	1.3%
Total Europe	804.8	801.0	763.4	756.8	735.5	710.5	697.1	685.6	703.2	719.3	**731.2**	1.9%	-1.3%	15.8%
Azerbaijan	4.6	3.7	3.5	3.4	4.2	4.4	4.8	4.7	4.7	4.7	**4.4**	-6.0%	-0.4%	0.1%
Belarus	8.1	8.0	9.3	7.6	8.7	10.4	7.3	8.2	7.0	6.8	**6.7**	-0.8%	-2.5%	0.1%
Kazakhstan	11.9	11.9	9.6	10.2	11.9	12.0	12.6	12.6	13.5	14.3	**14.6**	2.5%	2.7%	0.3%
Russian Federation	134.0	138.1	132.5	137.9	147.0	149.6	149.5	157.5	149.9	152.5	**153.0**	0.6%	1.3%	3.3%
Turkmenistan	5.3	5.4	5.2	5.7	6.0	6.2	6.4	6.7	6.8	7.1	**7.3**	2.4%	3.6%	0.2%
Ukraine	15.0	14.7	14.0	13.1	13.6	13.1	12.4	10.7	9.4	9.9	**10.0**	1.1%	-4.0%	0.2%
Uzbekistan	4.8	4.7	4.4	3.7	3.5	3.1	3.0	2.8	2.8	3.3	**3.3**	0.7%	-4.6%	0.1%
Other CIS	2.7	2.9	3.1	3.1	3.2	3.8	3.8	3.6	3.8	4.2	**4.1**	-1.6%	6.2%	0.1%
Total CIS	186.4	189.4	181.6	184.8	198.1	202.6	199.8	206.8	198.0	202.8	**203.4**	0.6%	0.9%	4.4%
Iran	90.6	94.7	93.9	85.7	87.3	88.8	96.9	93.6	83.7	80.7	**84.6**	5.1%	-0.9%	1.8%
Iraq	23.2	23.0	26.1	27.8	30.5	32.6	34.9	33.1	33.4	36.8	**38.5**	4.7%	4.3%	0.8%
Israel	12.7	12.3	11.1	11.5	12.2	14.3	11.7	10.0	10.6	10.8	**11.7**	8.1%	-1.0%	0.3%
Kuwait	18.1	19.4	20.9	21.5	19.9	22.3	23.2	19.9	20.6	20.4	**20.0**	-1.7%	1.3%	0.4%
Oman	4.5	6.0	5.8	6.6	6.9	7.5	8.7	8.9	9.1	9.4	**9.3**	-1.4%	7.4%	0.2%
Qatar	5.7	6.8	6.5	7.0	8.8	9.0	10.2	10.7	11.6	12.8	**13.3**	4.3%	9.8%	0.3%
Saudi Arabia	108.2	118.6	130.2	141.3	144.4	151.9	152.2	166.8	173.2	173.8	**172.4**	-0.6%	5.5%	3.7%
United Arab Emirates	29.3	30.8	30.0	32.1	34.8	36.3	40.1	40.7	43.5	45.7	**45.0**	-1.2%	5.2%	1.0%
Other Middle East	38.5	39.5	38.2	35.3	34.4	31.9	30.4	30.9	27.8	25.5	**25.2**	-0.7%	-3.6%	0.5%
Total Middle East	330.7	351.0	362.7	368.7	379.2	394.6	408.3	414.5	413.5	416.0	**420.0**	1.2%	2.7%	9.1%
Algeria	13.4	14.6	15.5	15.5	16.5	17.6	18.4	19.1	20.2	19.7	**19.5**	-0.5%	5.1%	0.4%
Egypt	31.4	33.6	35.4	37.4	34.8	36.5	36.9	39.5	41.0	42.0	**39.7**	-5.2%	3.6%	0.9%
Morocco	10.0	11.0	11.1	12.3	13.2	13.3	13.3	12.6	12.5	12.8	**13.1**	2.6%	3.0%	0.3%
South Africa	26.7	25.3	25.0	26.7	26.8	27.6	28.4	28.2	29.4	28.7	**28.8**	0.6%	0.9%	0.6%
Other Africa	67.1	72.2	75.3	78.1	73.3	79.4	84.6	85.0	85.9	89.4	**95.2**	6.7%	3.1%	2.1%
Total Africa	148.6	156.7	162.3	170.0	164.7	174.3	181.5	184.4	188.9	192.6	**196.3**	2.2%	3.0%	4.2%
Australia	44.5	45.2	45.4	45.7	48.2	49.6	49.9	50.5	49.9	50.5	**52.4**	4.0%	1.2%	1.1%
Bangladesh	3.8	3.9	3.6	4.0	5.2	5.6	5.4	5.9	6.4	6.7	**7.5**	11.5%	5.2%	0.2%
China	377.7	385.5	400.0	455.2	472.1	494.9	516.8	538.1	573.5	587.2	**608.4**	3.9%	5.0%	13.2%
China Hong Kong SAR	16.4	14.9	16.9	18.3	18.4	17.6	18.0	17.1	18.7	19.4	**21.9**	13.2%	2.4%	0.5%
India	140.9	147.8	155.4	159.0	166.8	176.7	177.9	183.0	197.8	217.1	**222.1**	2.6%	5.2%	4.8%
Indonesia	64.2	62.6	63.3	67.4	76.0	78.2	78.9	79.4	73.5	74.2	**77.3**	4.4%	2.0%	1.7%
Japan	239.3	232.4	208.2	210.5	211.0	224.9	214.7	204.0	196.5	191.4	**188.3**	-1.4%	-2.5%	4.1%
Malaysia	32.3	31.0	30.8	30.9	33.1	34.6	36.8	36.8	36.2	36.7	**36.9**	0.6%	2.0%	0.8%
New Zealand	7.4	7.5	7.2	7.3	7.3	7.2	7.3	7.5	7.8	7.9	**8.5**	7.5%	0.7%	0.2%
Pakistan	19.5	19.8	21.2	21.0	21.1	20.5	22.4	23.2	25.3	28.3	**29.2**	3.5%	4.6%	0.6%
Philippines	14.4	13.8	14.5	15.2	14.4	15.0	15.8	16.7	19.1	20.6	**21.7**	5.5%	4.1%	0.5%
Singapore	48.6	51.7	55.8	61.3	64.0	63.8	64.6	66.3	70.0	72.7	**75.3**	3.8%	5.0%	1.6%
South Korea	112.6	108.0	108.8	110.2	111.1	114.4	113.9	113.7	119.7	128.9	**129.3**	0.6%	1.7%	2.8%
Sri Lanka	4.5	4.1	4.3	4.3	4.6	4.7	4.0	4.4	4.7	5.0	**5.3**	6.1%	1.7%	0.1%
Taiwan	52.8	47.6	47.9	49.1	46.3	46.3	47.1	48.5	48.3	48.6	**49.2**	1.5%	-0.4%	1.1%
Thailand	47.7	46.6	48.8	50.4	52.6	55.4	57.6	58.0	60.4	62.1	**63.9**	3.2%	3.0%	1.4%
Vietnam	13.8	14.6	14.8	16.0	17.4	17.6	19.0	19.5	20.8	21.9	**23.0**	5.2%	5.9%	0.5%
Other Asia Pacific	12.9	12.5	13.2	14.0	15.6	16.0	17.8	19.8	21.6	21.8	**23.3**	7.1%	6.4%	0.5%
Total Asia Pacific	1253.3	1249.3	1260.0	1339.8	1385.1	1442.9	1467.9	1492.5	1550.1	1601.1	**1643.4**	2.9%	2.8%	35.6%
Total World	**4167.8**	**4148.8**	**4077.6**	**4208.9**	**4252.4**	**4304.9**	**4359.3**	**4394.7**	**4475.8**	**4557.3**	**4621.9**	**1.7%**	**1.1%**	**100.0%**
of which: OECD	2366.8	2296.1	2184.7	2207.4	2181.9	2160.0	2150.0	2128.2	2157.8	2190.6	**2206.8**	1.0%	-0.8%	47.7%
Non-OECD	1801.0	1852.7	1892.9	2001.5	2070.5	2144.9	2209.2	2266.4	2318.0	2366.7	**2415.1**	2.3%	3.2%	52.3%
European Union	732.5	728.9	690.4	685.6	665.4	639.4	622.7	612.3	622.3	635.5	**645.4**	1.8%	-1.6%	14.0%

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

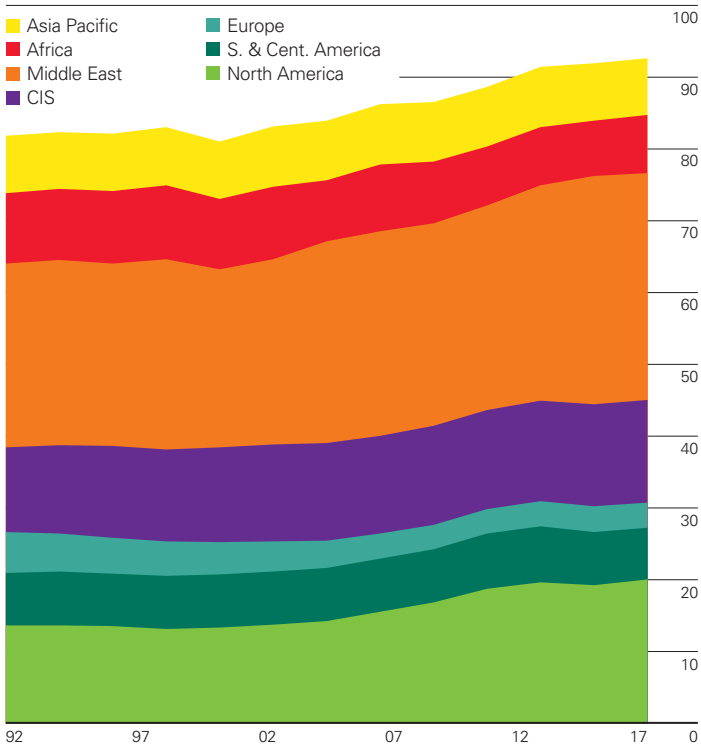
◆Less than 0.05%.

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

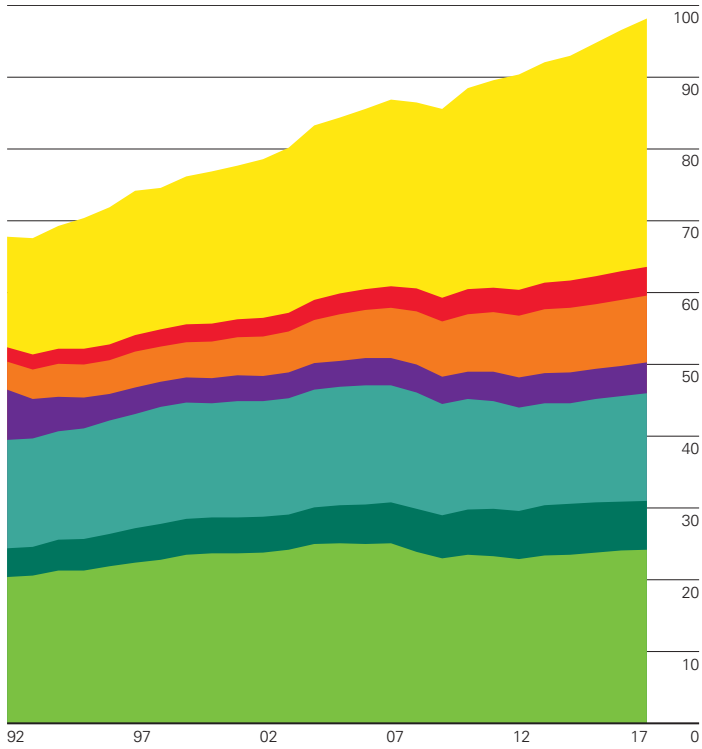
Annual changes and shares of total are calculated using million tonnes oil equivalent figures.

Growth rates are adjusted for leap years.

Oil: Production by region
Million barrels daily

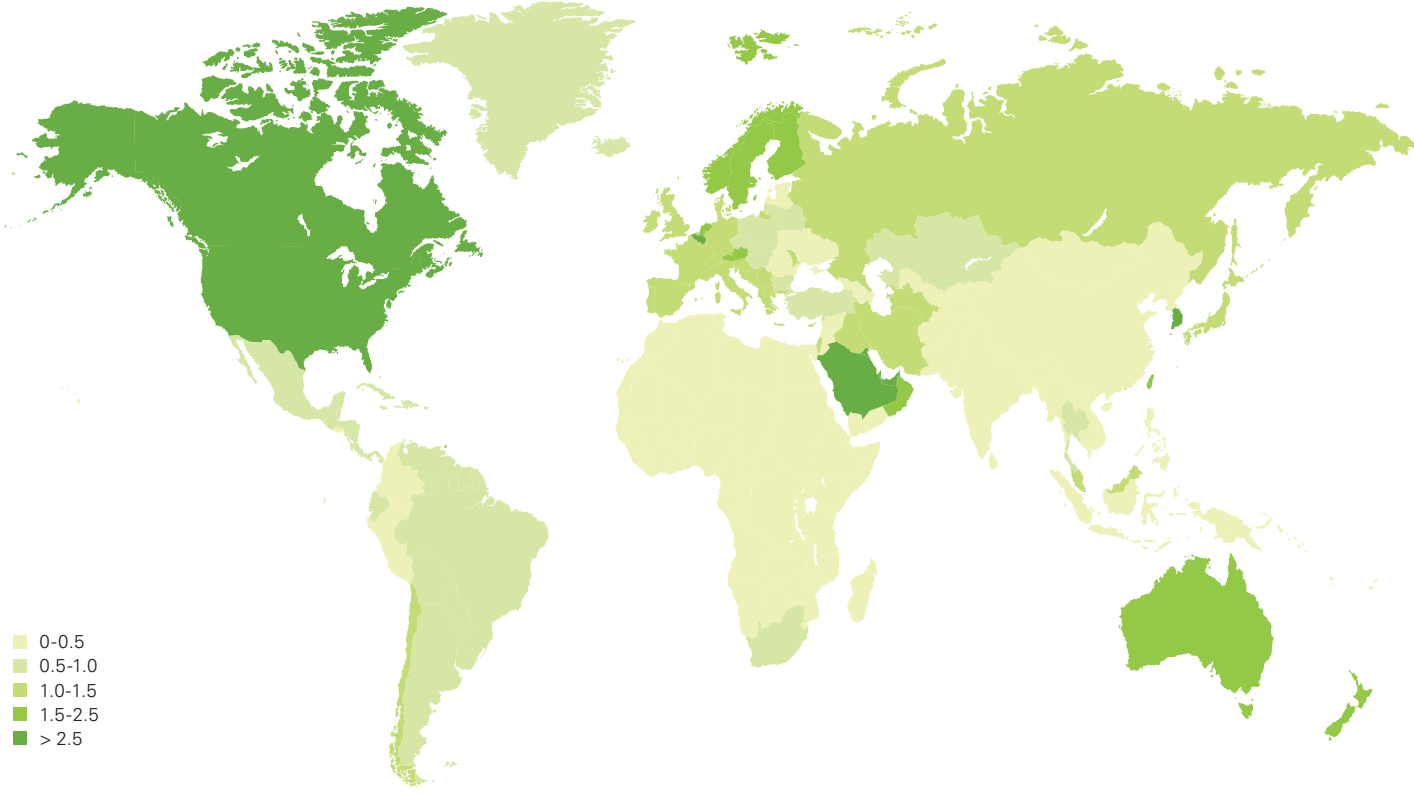


Oil: Consumption by region
Million barrels daily



World oil production rose by only 0.6 million b/d in 2017, below average for the second consecutive year. Production fell in the Middle East (-250,000 b/d) and South & Central America (-240,000 Kb/d) but this was outweighed by growth from North America (820,000 b/d) and Africa (390,000 b/d). Global oil consumption growth averaged 1.7 million b/d, above its 10-year average of 1.1 million b/d for the third consecutive year. China (500,000 b/d) and the US (190,000 b/d) were the single largest contributors to growth.

Oil: Consumption per capita 2017
Tonnes



Oil: Regional consumption – by product group

Thousand barrels daily	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
North America														
Light distillates	11200	10859	10839	10950	10697	10572	10778	10841	11092	11287	**11260**	-0.2%	0.1%	46.5%
Middle distillates	7318	6934	6281	6567	6694	6409	6519	6801	6813	6759	**6933**	2.6%	-0.8%	28.6%
Fuel oil	1081	941	801	810	745	662	576	447	418	474	**529**	11.4%	-7.7%	2.2%
Others	5512	5135	5046	5199	5193	5272	5506	5376	5495	5544	**5497**	-0.9%	0.1%	22.7%
Total North America	25111	23868	22967	23526	23329	22915	23379	23465	23818	24065	**24219**	0.6%	-0.4%	100.0%
of which: US														
Light distillates	9597	9253	9257	9263	9022	8932	9125	9164	9413	9547	**9558**	0.1%	-0.1%	48.1%
Middle distillates	6199	5801	5241	5464	5518	5278	5371	5632	5657	5603	**5746**	2.6%	-1.0%	28.9%
Fuel oil	718	609	508	532	459	367	317	256	258	325	**358**	9.9%	-7.1%	1.8%
Others	4166	3827	3766	3921	3883	3913	4147	4054	4203	4212	**4218**	0.2%	0.1%	21.2%
Total US	20680	19490	18771	19180	18882	18490	18961	19106	19531	19687	**19880**	1.0%	-0.5%	100.0%
S. & Cent. America														
Light distillates	1589	1671	1760	1860	1936	1981	2084	2145	2203	2166	**2174**	0.3%	3.8%	32.0%
Middle distillates	2118	2177	2144	2368	2487	2604	2729	2743	2729	2650	**2671**	0.8%	3.2%	39.3%
Fuel oil	802	830	781	761	738	737	712	734	717	654	**614**	-6.1%	-1.9%	9.0%
Others	1234	1354	1321	1345	1409	1420	1462	1436	1372	1341	**1335**	-0.4%	0.7%	19.7%
Total S. & Cent. America	5742	6032	6006	6334	6570	6742	6987	7058	7021	6811	**6794**	-0.2%	2.2%	100.0%
Europe														
Light distillates	3766	3532	3448	3395	3176	3026	2936	2885	2824	2835	**2867**	1.1%	-2.9%	19.1%
Middle distillates	7706	7905	7627	7714	7594	7469	7504	7471	7826	7976	**8221**	3.1%	0.2%	54.9%
Fuel oil	1643	1581	1419	1308	1259	1141	1023	951	899	938	**963**	2.7%	-6.0%	6.4%
Others	3241	3209	3042	3001	2945	2807	2800	2742	2864	2946	**2929**	-0.6%	-0.9%	19.6%
Total Europe	16356	16227	15537	15418	14975	14443	14263	14049	14413	14696	**14980**	1.9%	-1.2%	100.0%
CIS														
Light distillates	1171	1233	1211	1267	1273	1300	1338	1328	1307	1313	**1344**	2.3%	1.7%	31.4%
Middle distillates	1219	1286	1168	1273	1386	1395	1379	1339	1269	1301	**1351**	3.8%	1.2%	31.6%
Fuel oil	423	397	379	350	373	361	369	435	354	377	**319**	-15.3%	-3.8%	7.5%
Others	1030	984	1010	944	1086	1151	1090	1221	1232	1251	**1267**	1.2%	2.2%	29.6%
Total CIS	3844	3900	3768	3834	4118	4206	4176	4323	4162	4243	**4282**	0.9%	1.1%	100.0%
Middle East														
Light distillates	1453	1565	1627	1665	1756	1837	1910	1981	2026	2055	**2145**	4.4%	3.7%	23.1%
Middle distillates	2260	2303	2301	2279	2392	2488	2622	2526	2418	2302	**2295**	-0.3%	0.8%	24.7%
Fuel oil	1580	1747	1901	1934	1951	1991	2067	2172	2215	2137	**2108**	-1.4%	3.4%	22.7%
Others	1677	1771	1895	2096	2172	2280	2272	2354	2370	2666	**2742**	2.8%	5.0%	29.5%
Total Middle East	6970	7385	7724	7973	8271	8595	8870	9032	9029	9161	**9290**	1.4%	3.1%	100.0%
Africa														
Light distillates	703	760	801	836	816	867	885	906	970	1046	**1103**	5.5%	4.3%	27.3%
Middle distillates	1376	1458	1510	1611	1608	1678	1807	1845	1881	1864	**1929**	3.5%	3.7%	47.7%
Fuel oil	422	434	445	458	392	438	433	432	428	419	**387**	-7.8%	-0.1%	9.6%
Others	538	550	568	577	572	586	599	602	598	621	**628**	1.0%	1.9%	15.5%
Total Africa	3040	3201	3325	3482	3388	3569	3724	3785	3877	3950	**4047**	2.5%	3.1%	100.0%
Asia Pacific														
Light distillates	7401	7454	7697	8320	8525	8954	9482	9806	10596	10952	**11304**	3.2%	4.5%	32.7%
Middle distillates	9303	9388	9391	9917	10345	10780	10987	11085	11334	11498	**11907**	3.6%	2.4%	34.4%
Fuel oil	3583	3361	3043	3047	3114	3218	2984	2823	2809	2844	**2770**	-2.6%	-2.1%	8.0%
Others	5754	5698	6129	6683	6927	7086	7236	7560	7782	8269	**8593**	3.9%	4.2%	24.9%
Total Asia Pacific	26041	25901	26260	27967	28911	30038	30689	31274	32521	33562	**34574**	3.0%	2.9%	100.0%
of which: China														
Light distillates	1846	1975	2046	2406	2593	2776	3105	3324	3768	3940	**4106**	4.2%	8.7%	32.1%
Middle distillates	2859	3078	3127	3452	3667	3963	4068	4114	4220	4155	**4312**	3.8%	4.5%	33.7%
Fuel oil	906	724	662	666	588	560	564	592	591	556	**573**	3.0%	-5.3%	4.5%
Others	2198	2164	2443	2912	2948	2932	2998	3179	3408	3651	**3807**	4.3%	5.8%	29.7%
Total China	7808	7941	8278	9436	9796	10230	10734	11209	11986	12302	**12799**	4.0%	5.2%	100.0%
of which: India														
Light distillates	550	581	569	573	607	644	665	688	797	868	**883**	1.7%	5.0%	18.8%
Middle distillates	1252	1350	1439	1519	1601	1686	1685	1694	1774	1848	**1879**	1.7%	4.7%	40.1%
Fuel oil	232	226	222	199	178	147	117	107	113	136	**122**	-10.6%	-4.4%	2.6%
Others	907	921	1006	1028	1102	1209	1260	1360	1480	1708	**1807**	5.8%	7.5%	38.5%
Total India	2941	3077	3237	3319	3488	3685	3727	3849	4164	4560	**4690**	2.9%	5.2%	100.0%
of which: Japan														
Light distillates	1731	1614	1634	1696	1635	1614	1631	1575	1621	1581	**1591**	0.6%	-1.1%	39.9%
Middle distillates	1621	1502	1381	1391	1343	1361	1345	1319	1281	1291	**1296**	0.4%	-3.1%	32.5%
Fuel oil	657	707	450	442	577	824	646	532	433	371	**285**	-23.2%	-5.6%	7.1%
Others	1005	1025	925	913	887	903	895	876	816	788	**817**	3.7%	-2.3%	20.5%
Total Japan	5013	4847	4390	4442	4442	4702	4516	4303	4151	4031	**3988**	-1.1%	-2.5%	100.0%
World														
Light distillates	27284	27074	27384	28293	28178	28537	29413	29892	31018	31655	**32198**	1.7%	1.7%	32.8%
Middle distillates	31301	31451	30423	31729	32507	32823	33547	33809	34271	34350	**35307**	2.8%	1.1%	36.0%
Fuel oil	9535	9289	8769	8668	8572	8548	8163	7994	7840	7843	**7690**	-2.0%	-2.0%	7.8%
Others	18986	18701	19012	19845	20305	20601	20964	21291	21713	22640	**22990**	1.5%	2.0%	23.4%
Total World	**87105**	**86515**	**85587**	**88535**	**89561**	**90509**	**92088**	**92986**	**94843**	**96488**	**98186**	**1.8%**	**1.2%**	**100.0%**
OECD														
Light distillates	18112	17389	17361	17535	17069	16870	17003	16998	17291	17507	**17623**	0.7%	-0.3%	37.5%
Middle distillates	17670	17348	16269	16687	16692	16363	16506	16726	17120	17263	**17735**	2.7%	-0.3%	37.7%
Fuel oil	3703	3499	2901	2773	2775	2828	2429	2078	1906	1971	**1925**	-2.3%	-6.3%	4.1%
Others	10259	9894	9596	9663	9590	9540	9741	9489	9636	9811	**9750**	-0.6%	-0.4%	20.7%
Total OECD	49744	48131	46127	46657	46126	45600	45679	45291	45953	46552	**47033**	1.0%	-0.7%	100.0%
Non-OECD														
Light distillates	9172	9685	10023	10758	11109	11667	12411	12894	13728	14148	**14575**	3.0%	5.0%	28.5%
Middle distillates	13630	14103	14154	15042	15815	16460	17041	17083	17151	17087	**17572**	2.8%	2.9%	34.4%
Fuel oil	5832	5790	5868	5895	5796	5720	5734	5917	5934	5873	**5766**	-1.8%	◆	11.3%
Others	8727	8807	9416	10182	10715	11061	11223	11802	12078	12829	**13240**	3.2%	4.4%	25.9%
Total Non-OECD	37361	38384	39460	41877	43435	44908	46409	47695	48890	49936	**51152**	2.4%	3.4%	100.0%

◆Less than 0.05%.

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

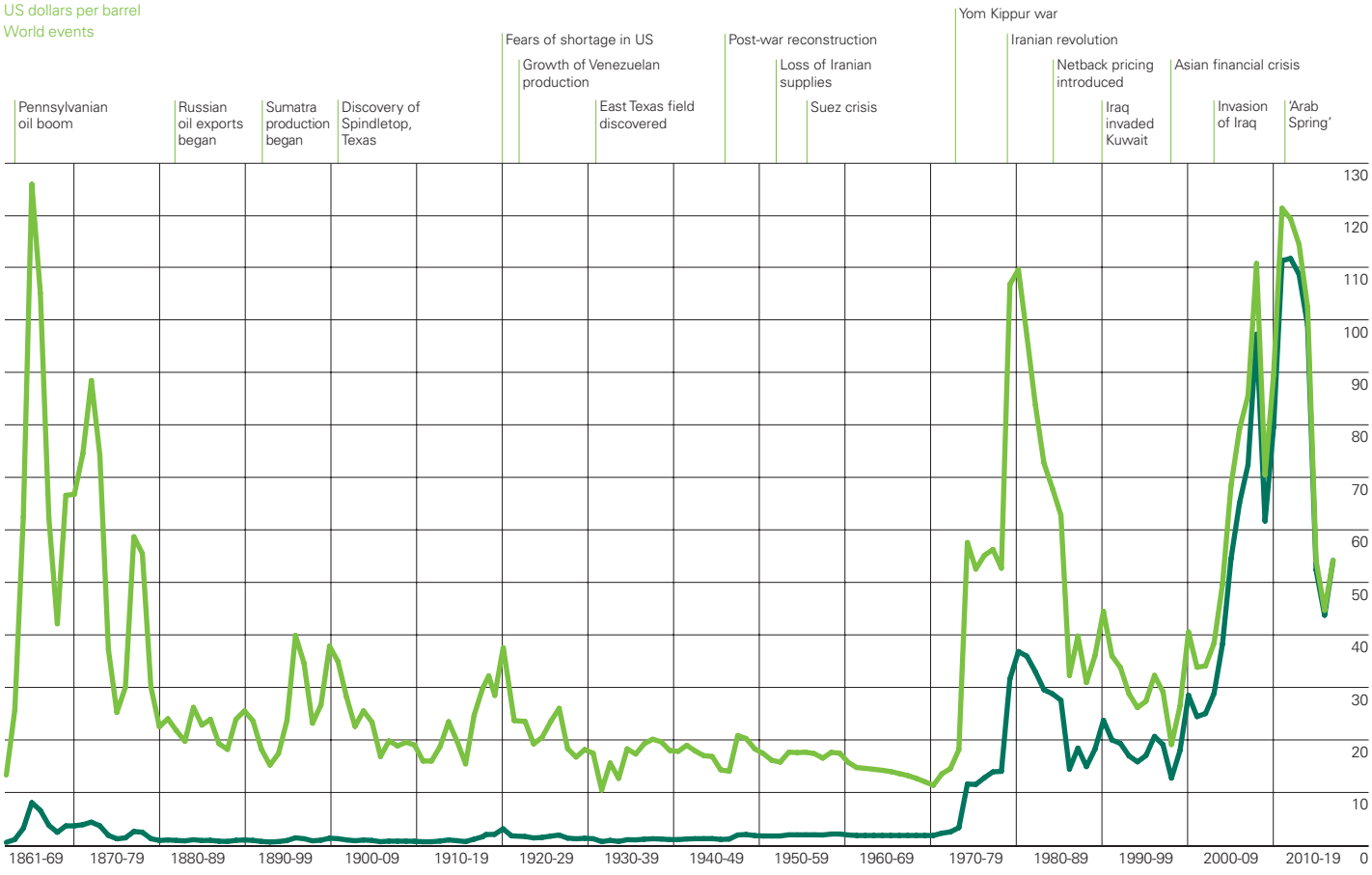
Spot crude prices

US dollars per barrel	Dubai $/bbl*	Brent $/bbl†	Nigerian Forcados $/bbl	West Texas Intermediate $/bbl‡
1982	31.80	32.97	33.29	33.65
1983	28.78	29.55	29.54	30.30
1984	28.06	28.78	28.14	29.39
1985	27.53	27.56	27.75	27.98
1986	13.10	14.43	14.46	15.10
1987	16.95	18.44	18.39	19.18
1988	13.27	14.92	15.00	15.97
1989	15.62	18.23	18.30	19.68
1990	20.45	23.73	23.85	24.50
1991	16.63	20.00	20.11	21.54
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	31.07
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	66.02
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

*1982-1985 Arabian Light, 1986-2017 Dubai dated.
†1982-1983 Forties, 1984-2017 Brent dated.
‡1982-1983 Posted WTI prices, 1984-2017 Spot WTI (Cushing) prices.

Source: S&P Global Platts, © 2018, S&P Global Inc.

Crude oil prices 1861-2017

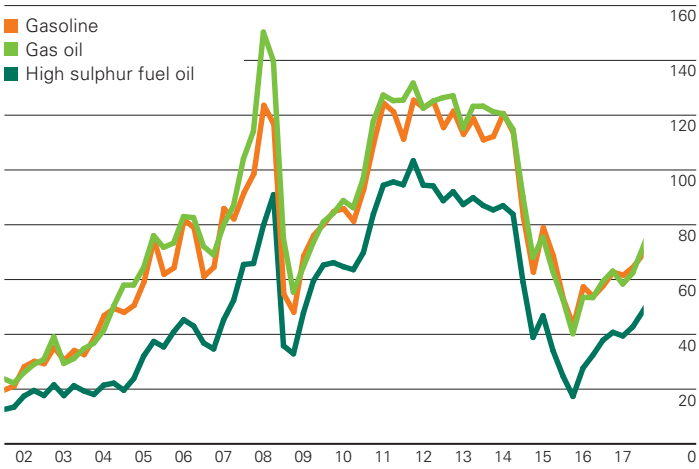


■ $ 2017 (deflated using the Consumer Price Index for the US)
■ $ money of the day

1861-1944 US average.
1945-1983 Arabian Light posted at Ras Tanura.
1984-2017 Brent dated.

Oil product prices (Rotterdam)

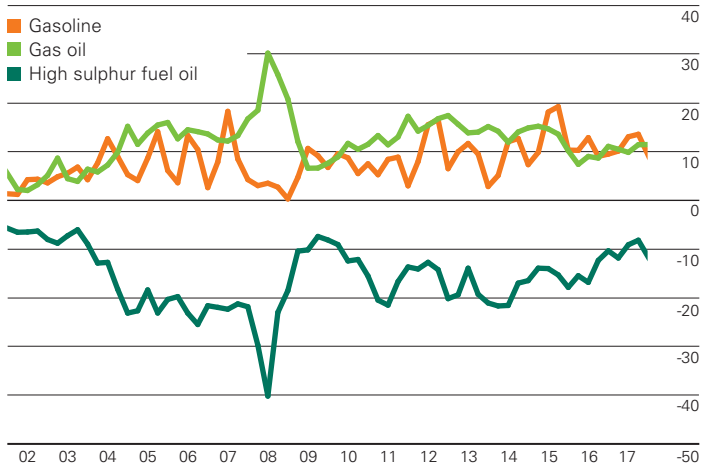
US dollars per barrel



Source: S&P Global Platts, © 2018, S&P Global Inc.

Product differentials to crude (Rotterdam products minus Dated Brent)

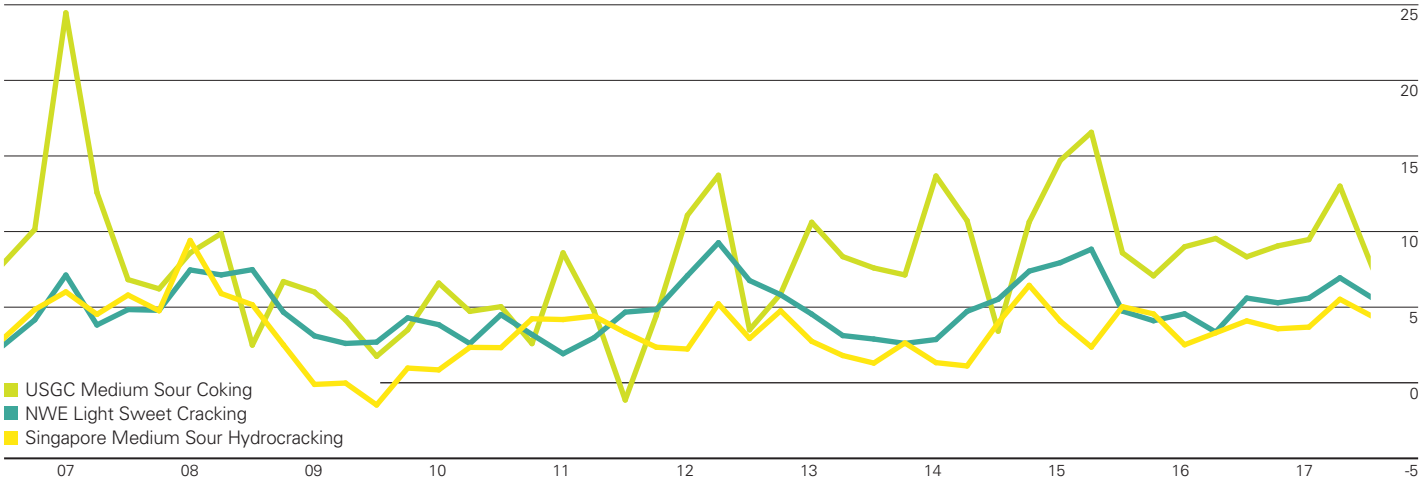
US dollars per barrel



Source: S&P Global Platts, © 2018, S&P Global Inc.

Regional refining margins

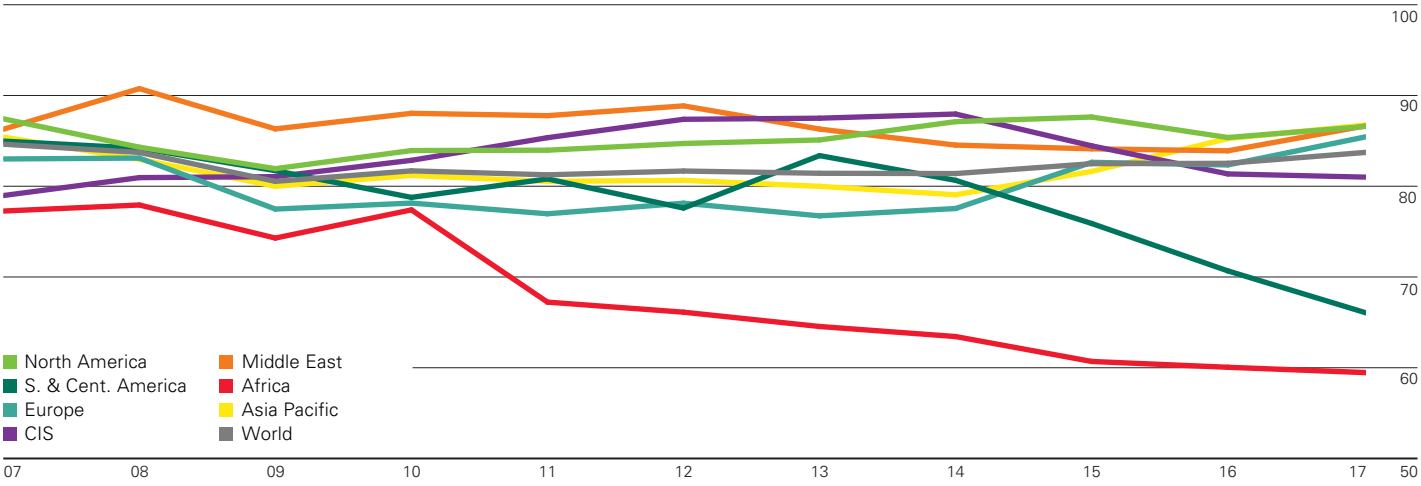
US dollars per barrel



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

Refinery utilization

Percentage (based on average annual capacity)



Refinery throughput growth averaged 1.6 million b/d, up from only 0.5 million b/d in 2016. Growth was driven by China (570,000 b/d), the US (410,000 b/d) and Europe (370,000 b/d) which outweighed a decline of 280,000 b/d in South & Central America. Global refining capacity growth was 0.6 million b/d, below average for the third consecutive year, with China and India the main contributors to growth. As a result, refinery utilization rose from 82.5% to 83.7% – the highest in nine years. Utilization in South & Central America fell to 66.1% – the lowest since 1985.

Oil: Refinery throughput

Thousand barrels daily*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	15156	14648	14336	14724	14806	14999	15312	15848	16188	16187	**16593**	2.5%	0.6%	20.3%
Canada	1849	1781	1731	1774	1680	1751	1719	1640	1635	1594	**1754**	10.0%	-1.1%	2.1%
Mexico	1261	1295	1184	1184	1166	1199	1224	1155	1064	933	**767**	-17.8%	-3.0%	0.9%
Total North America	18266	17724	17251	17682	17652	17949	18255	18643	18887	18714	**19114**	2.1%	0.2%	23.3%
Argentina	600	578	532	531	516	530	527	526	536	511	**500**	-2.2%	-1.1%	0.6%
Brazil	1741	1760	1781	1787	1813	1889	2035	2085	1972	1812	**1741**	-3.9%	0.6%	2.1%
Chile	201	204	192	159	173	164	174	174	165	163	**172**	5.5%	-2.8%	0.2%
Colombia	313	313	302	300	306	305	284	247	244	339	**354**	4.5%	0.7%	0.4%
Curacao	209	197	183	64	164	165	170	189	178	156	**95**	-39.2%	-2.7%	0.1%
Ecuador	150	155	156	137	156	152	141	125	121	150	**156**	3.9%	-0.1%	0.2%
Peru	177	177	192	195	189	189	183	185	182	186	**217**	16.8%	0.8%	0.3%
Trinidad & Tobago	154	150	152	126	137	107	132	105	125	148	**131**	-11.8%	-0.3%	0.2%
Venezuela	1004	1010	961	969	991	936	952	920	863	654	**513**	-21.5%	-4.4%	0.6%
Other S. & Cent. America	966	961	801	702	712	325	297	283	280	275	**234**	-15.1%	-11.6%	0.3%
Total S. & Cent. America	5516	5505	5251	4970	5157	4761	4895	4839	4666	4395	**4113**	-6.4%	-2.1%	5.0%
Austria	174	176	169	158	168	170	174	173	179	164	**163**	-1.1%	-0.4%	0.2%
Belgium	662	675	629	668	598	634	555	645	644	640	**685**	6.9%	0.1%	0.8%
Bulgaria	143	143	125	110	102	118	113	104	121	125	**136**	8.5%	-1.3%	0.2%
Czech Republic	149	165	148	159	143	145	134	151	145	109	**158**	45.7%	-3.7%	0.2%
Denmark	157	156	157	146	137	153	144	139	147	140	**151**	7.7%	-1.3%	0.2%
Finland	218	222	220	211	225	215	227	225	197	226	**226**	◆	0.8%	0.3%
France	1654	1676	1449	1314	1313	1138	1117	1096	1152	1122	**1148**	2.3%	-3.8%	1.4%
Germany	2193	2151	2026	1915	1876	1901	1857	1833	1875	1887	**1878**	-0.5%	-1.7%	2.3%
Greece	385	360	346	393	331	410	399	416	436	464	**480**	3.5%	2.1%	0.6%
Hungary	142	140	127	128	132	122	120	131	130	133	**131**	-1.4%	-0.4%	0.2%
Italy	1863	1741	1614	1673	1570	1475	1259	1198	1347	1293	**1392**	7.6%	-3.5%	1.7%
Lithuania	118	195	174	190	189	181	192	160	170	187	**192**	2.6%	1.1%	0.2%
Netherlands	1131	1120	1104	1156	1115	1110	1065	1090	1157	1171	**1179**	0.7%	0.3%	1.4%
Norway	305	279	278	259	289	287	292	274	293	230	**311**	35.0%	-2.9%	0.4%
Poland	402	417	408	458	482	505	488	486	532	517	**508**	-1.7%	2.7%	0.6%
Portugal	247	241	209	227	206	221	239	217	278	279	**290**	4.0%	0.5%	0.4%
Romania	280	282	247	217	194	182	189	194	208	228	**225**	-1.3%	-1.5%	0.3%
Slovakia	120	117	114	110	120	108	116	105	119	115	**112**	-2.9%	0.1%	0.1%
Spain	1159	1174	1057	1060	1051	1186	1168	1185	1306	1302	**1325**	1.8%	0.7%	1.6%
Sweden	369	413	394	406	374	417	332	380	401	395	**392**	-0.9%	-0.5%	0.5%
Turkey	518	490	375	392	394	398	421	406	526	531	**542**	1.9%	◆	0.7%
United Kingdom	1528	1533	1440	1395	1433	1348	1197	1125	1118	1071	**1064**	-0.6%	-3.5%	1.3%
Other Europe	357	343	349	334	304	262	291	281	264	270	**282**	4.5%	-2.8%	0.3%
Total Europe	14274	14210	13159	13078	12748	12685	12088	12013	12746	12600	**12968**	2.9%	-1.4%	15.8%
Azerbaijan	150	147	121	124	127	124	132	135	130	120	**117**	-2.2%	-2.2%	0.1%
Belarus	429	427	434	330	411	434	425	448	462	372	**362**	-2.7%	-1.4%	0.4%
Kazakhstan	229	236	235	257	326	331	341	361	342	339	**355**	4.7%	4.2%	0.4%
Russian Federation	4597	4742	4765	5018	5185	5438	5636	5926	5773	5715	**5708**	-0.1%	2.6%	7.0%
Turkmenistan	144	149	152	170	165	157	146	136	127	118	**125**	5.7%	-1.5%	0.2%
Ukraine	279	243	255	249	206	108	85	69	64	62	**66**	6.4%	-14.3%	0.1%
Uzbekistan	95	93	88	73	69	62	58	55	51	51	**52**	2.2%	-7.0%	0.1%
Other CIS	3	3	2	2	2	2	3	5	9	10	**10**	3.7%	18.4%	◆
Total CIS	5927	6041	6053	6224	6492	6656	6826	7135	6959	6787	**6795**	0.1%	1.7%	8.3%
Bahrain	261	257	256	265	259	263	264	257	256	247	**249**	1.0%	-0.5%	0.3%
Iran	1719	1779	1826	1829	1873	1932	1999	1932	1867	1882	**1968**	4.6%	1.2%	2.4%
Iraq	342	476	417	520	543	579	598	487	409	440	**527**	19.7%	-0.1%	0.6%
Israel	189	215	220	226	218	219	221	230	236	223	**224**	0.3%	1.0%	0.3%
Kuwait	923	906	869	892	852	916	873	879	905	841	**701**	-16.6%	-0.7%	0.9%
Oman	69	224	203	167	201	193	187	180	190	178	**204**	15.0%	7.6%	0.2%
Qatar	149	145	158	294	278	292	270	261	253	280	**379**	35.2%	8.0%	0.5%
Saudi Arabia	1936	2018	1928	1922	1884	1953	1876	2201	2447	2651	**2802**	5.7%	2.9%	3.4%
United Arab Emirates	529	493	492	571	635	638	650	659	929	1000	**1008**	0.7%	5.4%	1.2%
Other Middle East	396	391	386	381	349	268	238	237	182	144	**166**	15.6%	-9.8%	0.2%
Total Middle East	6515	6904	6754	7067	7091	7253	7176	7323	7673	7886	**8228**	4.3%	1.7%	10.0%
Algeria	391	429	475	548	520	478	492	615	591	584	**573**	-1.9%	4.3%	0.7%
Egypt	653	617	598	580	523	534	514	530	530	509	**508**	-0.1%	-2.1%	0.6%
Morocco	128	114	93	110	103	111	111	104	53	–	**–**	n/a	-100.0%	–
Nigeria	52	107	49	96	108	92	97	64	22	62	**67**	8.6%	-6.4%	0.1%
South Africa	388	408	388	389	383	403	413	431	443	464	**447**	-3.7%	1.9%	0.5%
Other Africa	732	720	698	702	518	584	594	445	459	456	**453**	-0.5%	-4.2%	0.6%
Total Africa	2345	2396	2301	2425	2155	2202	2221	2189	2096	2074	**2049**	-1.2%	-1.2%	2.5%
Australia	614	570	577	606	627	600	588	538	427	433	**419**	-3.3%	-3.2%	0.5%
China	6594	6828	7452	8408	8686	9199	9599	10155	10684	11084	**11656**	5.2%	5.9%	14.2%
India	3107	3213	3641	3899	4085	4302	4462	4475	4561	4930	**5010**	1.6%	5.6%	6.1%
Indonesia	904	910	900	853	880	820	822	848	836	885	**887**	0.2%	-0.3%	1.1%
Japan	3995	3946	3627	3619	3410	3400	3453	3289	3258	3280	**3215**	-2.0%	-2.0%	3.9%
Malaysia	557	560	554	470	516	575	558	553	514	543	**565**	4.1%	0.4%	0.7%
New Zealand	91	99	95	99	108	109	105	101	109	108	**108**	0.3%	1.1%	0.1%
Pakistan	238	226	209	190	193	192	223	232	257	242	**261**	7.7%	0.9%	0.3%
Philippines	206	184	147	181	190	170	158	168	212	216	**211**	-2.0%	0.2%	0.3%
Singapore	1163	1161	844	979	1035	1020	936	871	937	965	**1068**	10.7%	-1.8%	1.3%
South Korea	2417	2365	2297	2390	2533	2582	2484	2516	2784	2928	**3061**	4.5%	2.0%	3.7%
Taiwan	992	900	956	876	809	897	847	850	838	861	**848**	-1.4%	-1.5%	1.0%
Thailand	922	927	938	963	937	978	1078	1029	1132	1096	**1064**	-2.9%	1.7%	1.3%
Vietnam	10	10	28	121	137	130	140	121	146	145	**144**	-0.7%	32.0%	0.2%
Other Asia Pacific	120	118	115	122	126	113	124	119	113	128	**130**	1.8%	-0.2%	0.2%
Total Asia Pacific	21930	22017	22380	23776	24270	25086	25576	25865	26808	27843	**28647**	2.9%	2.7%	35.0%
Total World	**74772**	**74797**	**73148**	**75222**	**75564**	**76593**	**77038**	**78009**	**79836**	**80299**	**81914**	**2.0%**	**0.8%**	**100.0%**
of which: OECD	39311	38532	36672	37158	36824	37096	36738	36919	37972	37762	**38567**	2.1%	-0.5%	47.1%
Non-OECD	35461	36265	36476	38064	38740	39498	40300	41090	41864	42537	**43347**	1.9%	2.0%	52.9%
European Union	13260	13246	12307	12237	11885	11861	11202	11154	11788	11697	**11970**	2.3%	-1.4%	14.6%

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

Source: Includes data from ICIS.

Oil: Refining capacity

Thousand barrels daily*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	17594	17672	17584	17736	17322	17824	17925	17889	18315	18621	**18567**	-0.3%	0.7%	18.9%
Canada	1907	1951	1976	1913	2005	2015	1929	1929	1931	1934	**1968**	1.8%	0.1%	2.0%
Mexico	1463	1463	1463	1463	1606	1606	1606	1522	1522	1522	**1546**	1.6%	0.4%	1.6%
Total North America	20964	21086	21023	21113	20932	21444	21460	21340	21768	22077	**22081**	◆	0.6%	22.5%
Argentina	628	628	625	625	625	657	657	657	657	657	**657**	–	0.6%	0.7%
Brazil	1964	1977	1992	1992	2014	2004	2097	2238	2281	2289	**2285**	-0.2%	1.7%	2.3%
Chile	242	242	242	242	250	254	254	258	258	258	**258**	–	1.0%	0.3%
Colombia	324	326	336	336	336	336	336	336	421	421	**421**	–	2.7%	0.4%
Curacao	320	320	320	320	320	320	320	320	320	320	**320**	–	–	0.3%
Ecuador	175	175	175	175	175	175	175	175	175	175	**175**	–	-0.1%	0.2%
Peru	223	230	252	252	252	252	253	253	253	253	**253**	–	1.3%	0.3%
Trinidad & Tobago	165	165	165	165	165	165	165	165	165	165	**165**	–	–	0.2%
Venezuela	1303	1303	1303	1303	1303	1303	1303	1303	1303	1303	**1303**	–	0.1%	1.3%
Other S. & Cent. America	1192	1176	900	901	1013	356	361	376	384	384	**384**	–	-10.4%	0.4%
Total S. & Cent. America	6536	6542	6310	6311	6453	5822	5921	6081	6217	6225	**6221**	-0.1%	-0.3%	6.3%
Austria	201	201	201	201	193	193	193	193	193	193	**193**	–	-0.4%	0.2%
Belgium	781	786	786	787	788	753	776	776	776	776	**776**	–	0.1%	0.8%
Bulgaria	175	175	180	195	195	195	195	195	195	195	**195**	–	-0.5%	0.2%
Czech Republic	193	193	193	193	193	175	175	175	175	175	**175**	–	-1.0%	0.2%
Denmark	189	189	189	189	181	181	181	180	180	180	**181**	0.3%	-0.5%	0.2%
Finland	261	261	261	261	261	261	261	261	261	261	**261**	–	–	0.3%
France	1962	1971	1842	1702	1610	1513	1375	1375	1375	1245	**1245**	–	-4.4%	1.3%
Germany	2390	2366	2362	2091	2077	2097	2061	2077	2049	2051	**2069**	0.8%	-1.5%	2.1%
Greece	425	425	425	490	495	498	498	498	528	528	**528**	–	2.2%	0.5%
Hungary	165	165	165	165	165	165	165	165	165	165	**165**	–	–	0.2%
Italy	2377	2396	2396	2396	2276	2098	1861	1900	1900	1900	**1900**	–	-2.8%	1.9%
Lithuania	241	241	241	241	241	241	241	241	241	241	**241**	–	–	0.2%
Netherlands	1236	1280	1280	1274	1276	1274	1274	1274	1293	1293	**1294**	0.1%	0.1%	1.3%
Norway	316	316	316	316	329	342	342	342	342	342	**342**	–	0.8%	0.3%
Poland	493	492	491	560	580	582	582	582	581	581	**559**	-3.8%	1.6%	0.6%
Portugal	306	306	306	306	306	330	330	330	330	330	**330**	–	0.7%	0.3%
Romania	389	358	283	247	229	214	235	228	239	256	**247**	-3.7%	-4.1%	0.3%
Slovakia	122	122	122	122	122	122	122	122	122	122	**122**	–	–	0.1%
Spain	1362	1362	1362	1421	1542	1546	1546	1546	1562	1562	**1562**	–	1.4%	1.6%
Sweden	454	454	454	454	454	454	454	454	454	454	**454**	–	–	0.5%
Turkey	613	613	613	613	596	596	596	596	596	596	**596**	–	-0.3%	0.6%
United Kingdom	1819	1827	1757	1757	1787	1526	1498	1337	1337	1227	**1227**	–	-3.9%	1.3%
Other Europe	616	613	635	635	619	607	591	591	519	519	**519**	–	-1.7%	0.5%
Total Europe	17088	17113	16860	16618	16516	15962	15552	15438	15414	15193	**15180**	-0.1%	-1.3%	15.5%
Azerbaijan	205	205	205	205	205	205	205	205	205	205	**205**	–	–	0.2%
Belarus	460	460	460	460	460	460	460	460	460	460	**470**	2.2%	–	0.5%
Kazakhstan	330	330	330	330	330	330	350	350	350	350	**360**	2.9%	0.6%	0.4%
Russian Federation	5471	5387	5425	5563	5721	5816	6279	6407	6513	6583	**6584**	◆	1.8%	6.7%
Turkmenistan	251	251	251	251	251	251	251	251	271	271	**271**	–	0.8%	0.3%
Ukraine	526	566	582	474	474	248	262	240	240	240	**240**	–	-7.5%	0.2%
Uzbekistan	232	232	232	232	232	232	232	232	232	232	**232**	–	–	0.2%
Other CIS	10	10	10	14	10	10	11	28	37	37	**37**	–	14.0%	◆
Total CIS	7485	7441	7495	7529	7683	7552	8050	8173	8308	8378	**8399**	0.3%	1.1%	8.6%
Bahrain	260	260	260	260	260	260	260	260	260	260	**260**	–	–	0.3%
Iran	1772	1805	1860	1860	1860	1952	1985	1985	1985	1985	**2105**	6.0%	1.1%	2.1%
Iraq	738	738	853	914	935	971	823	931	903	919	**919**	–	2.1%	0.9%
Israel	272	275	275	280	292	292	294	301	301	301	**301**	–	1.1%	0.3%
Kuwait	936	936	936	936	936	936	936	936	936	936	**736**	-21.4%	–	0.7%
Oman	216	222	222	222	222	222	222	222	222	222	**304**	36.9%	1.0%	0.3%
Qatar	137	137	283	283	283	283	283	283	283	429	**429**	–	12.1%	0.4%
Saudi Arabia	2107	2107	2109	2109	2107	2107	2507	2899	2899	2899	**2821**	-2.7%	3.2%	2.9%
United Arab Emirates	625	680	700	700	705	710	710	726	1147	1147	**1147**	–	6.3%	1.2%
Other Middle East	496	496	496	496	496	496	382	382	382	382	**496**	29.8%	-2.6%	0.5%
Total Middle East	7559	7656	7994	8060	8096	8229	8402	8925	9318	9480	**9518**	0.4%	2.3%	9.7%
Algeria	443	444	554	554	652	652	647	651	651	651	**651**	◆	3.9%	0.7%
Egypt	810	810	810	810	810	810	810	810	810	810	**810**	–	–	0.8%
Morocco	156	131	131	131	131	201	201	201	201	201	**201**	–	2.7%	0.2%
Nigeria	150	250	110	211	336	342	342	345	345	345	**345**	–	8.7%	0.4%
South Africa	520	520	520	520	520	520	520	520	520	520	**520**	–	–	0.5%
Other Africa	958	958	958	959	780	910	930	930	930	930	**910**	-2.2%	-0.3%	0.9%
Total Africa	3037	3113	3083	3185	3229	3435	3449	3457	3457	3457	**3437**	-0.6%	1.3%	3.5%
Australia	733	734	734	740	742	663	662	536	443	452	**454**	0.5%	-4.2%	0.5%
China	8737	9670	10616	11604	12296	12962	13594	14534	14306	14177	**14513**	2.4%	5.2%	14.8%
India	2983	2992	3574	3703	3795	4279	4319	4319	4307	4620	**4972**	7.6%	4.9%	5.1%
Indonesia	1094	1094	1099	1099	1099	1099	1099	1099	1111	1111	**1111**	–	1.0%	1.1%
Japan	4650	4650	4630	4291	4274	4254	4123	3749	3721	3600	**3343**	-7.1%	-2.4%	3.4%
Malaysia	534	568	572	582	601	606	612	612	612	618	**625**	1.1%	1.6%	0.6%
New Zealand	103	103	136	136	136	136	136	136	136	136	**136**	–	2.8%	0.1%
Pakistan	271	274	273	277	277	275	390	390	389	389	**401**	3.1%	3.7%	0.4%
Philippines	270	270	267	264	261	261	270	271	271	271	**271**	0.1%	-0.2%	0.3%
Singapore	1427	1427	1427	1427	1427	1422	1414	1514	1514	1514	**1514**	–	0.6%	1.5%
South Korea	2679	2712	2746	2774	2864	2878	2878	3123	3123	3246	**3246**	–	2.1%	3.3%
Taiwan	1197	1197	1197	1197	1197	1197	1197	1197	988	988	**1083**	9.6%	-1.4%	1.1%
Thailand	1100	1165	1236	1230	1230	1230	1237	1252	1252	1235	**1235**	–	1.2%	1.3%
Vietnam	11	11	159	159	159	159	159	159	159	163	**167**	2.5%	30.9%	0.2%
Other Asia Pacific	206	208	216	216	217	218	227	234	234	234	**234**	–	1.3%	0.2%
Total Asia Pacific	25995	27075	28880	29699	30575	31639	32316	33125	32564	32753	**33303**	1.7%	2.6%	33.9%
Total World	**88663**	**90025**	**91645**	**92513**	**93484**	**94083**	**95150**	**96540**	**97046**	**97562**	**98139**	**0.6%**	**1.0%**	**100.0%**
of which: OECD	45524	45742	45521	45089	44938	44806	44311	43841	44112	44194	**43940**	-0.6%	-0.3%	44.8%
Non-OECD	43139	44283	46124	47424	48547	49277	50839	52698	52934	53368	**54199**	1.6%	2.3%	55.2%
European Union	15790	15818	15543	15301	15219	14664	14270	14156	14204	13983	**13970**	-0.1%	-1.3%	14.2%

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

Source: Includes data from ICIS.

Oil: Trade movements

Thousand barrels daily	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
Imports														
US	13632	12872	11453	11689	11338	10587	9859	9241	9451	10056	**10077**	0.2%	-3.0%	14.9%
Europe	14034	13885	12608	12201	12272	12569	12815	12855	13877	13817	**14060**	1.8%	0.2%	20.8%
China	4172	4494	5100	5886	6295	6675	6978	7398	8333	9214	**10241**	11.1%	9.0%	15.2%
India	2924	3066	3491	3749	3823	4168	4370	4155	4380	4912	**4947**	0.7%	6.5%	7.3%
Japan	5032	4925	4263	4567	4494	4743	4637	4383	4332	4180	**4142**	-0.9%	-2.2%	6.1%
Rest of World	17598	17282	17332	17143	17717	17862	20085	21261	22103	22617	**24125**	6.7%	3.7%	35.7%
Total World	**57392**	**56524**	**54247**	**55234**	**55938**	**56604**	**58744**	**59293**	**62477**	**64795**	**67592**	**4.3%**	**1.7%**	**100.0%**
Exports														
US	1439	1967	1947	2154	2495	2682	3563	4033	4521	4873	**5540**	13.7%	14.0%	8.2%
Canada	2457	2498	2518	2599	2798	3056	3296	3536	3836	3887	**4201**	8.1%	5.3%	6.2%
Mexico	1975	1609	1449	1539	1487	1366	1347	1293	1323	1376	**1279**	-7.1%	-4.1%	1.9%
S. & Cent. America	3570	3616	3748	3568	3755	3830	3790	3939	4107	4144	**3993**	-3.6%	1.2%	5.9%
Europe	2305	2086	2074	1949	2106	2193	2578	2512	2968	2966	**3281**	10.6%	2.8%	4.9%
Russia	7827	7540	7257	7397	7448	7457	7948	7792	8313	8354	**8611**	3.1%	2.1%	12.7%
Other CIS	1538	1680	1790	1944	2080	1848	2102	2012	2021	1847	**1974**	6.9%	3.5%	2.9%
Saudi Arabia	8101	8357	7276	7595	8120	8468	8365	7911	7968	8515	**8238**	-3.2%	0.2%	12.2%
Middle East (ex S. Arabia)	12198	12415	11744	11976	12188	11742	12242	12699	13537	14950	**15680**	4.9%	1.8%	23.2%
North Africa	3341	3268	2943	2878	1951	2602	2127	1743	1701	1697	**2155**	27.0%	-6.3%	3.2%
West Africa	4961	4712	4531	4755	4759	4724	4590	4849	4880	4396	**4470**	1.7%	-0.9%	6.6%
Asia Pacific (ex Japan)	6004	5392	5631	6226	6088	6299	6307	6450	6780	7297	**7641**	4.7%	4.8%	11.3%
Rest of World	1675	1385	1340	653	663	338	491	524	525	494	**528**	7.0%	-9.6%	0.8%
Total World	**57392**	**56524**	**54247**	**55234**	**55938**	**56604**	**58744**	**59293**	**62477**	**64795**	**67592**	**4.3%**	**1.7%**	**100.0%**

Notes: Unless otherwise stated, this table shows inter-regional trade based on the regional classification in the table 'Oil trade in 2016 and 2017' (see page 25).
Bunkers are not included as exports.
Annual changes and shares of total are calculated using thousand barrels daily figures.

Oil: Inter-area movements 2017

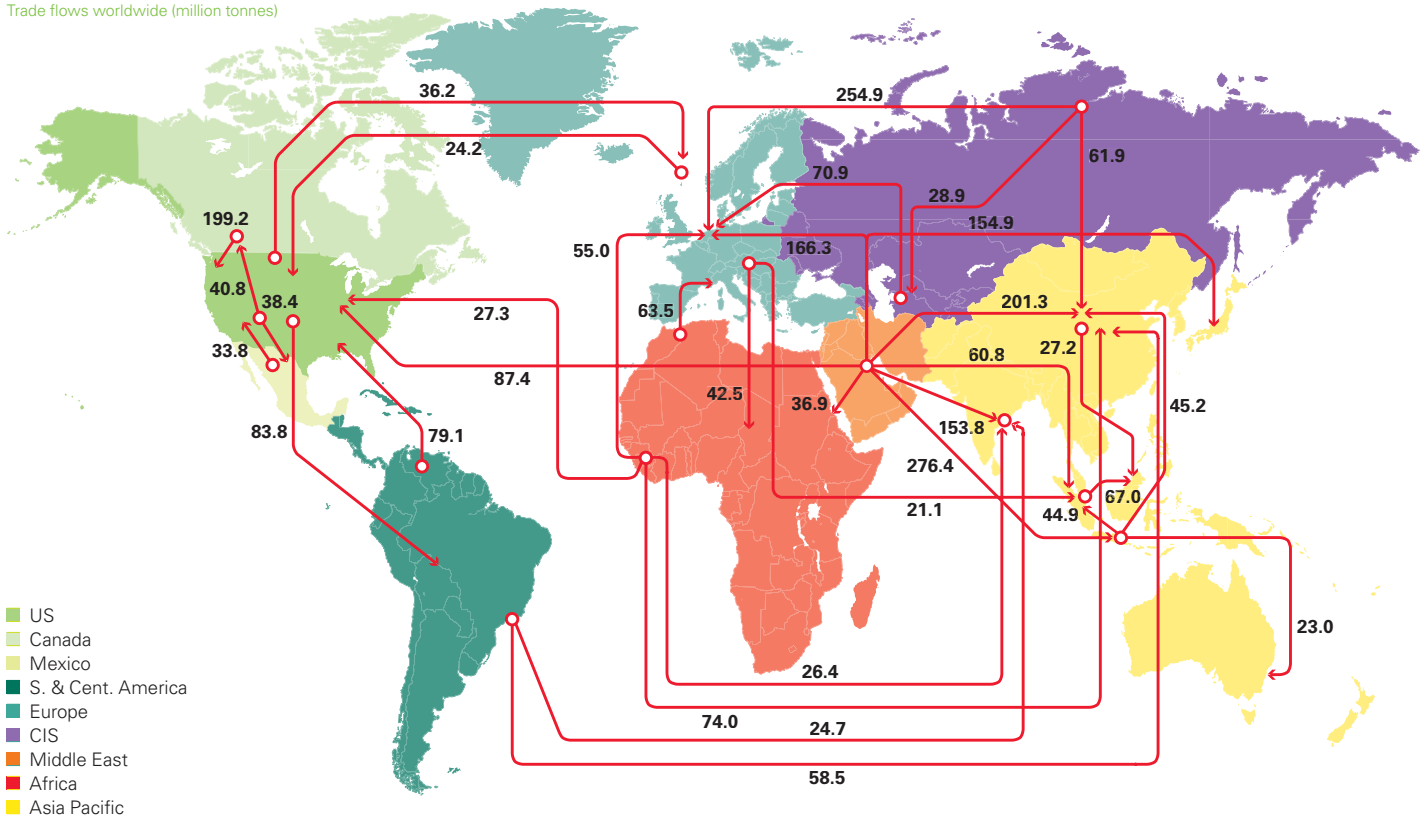
Crude (million tonnes) **From**	To: US	Canada	Mexico	S. & Cent. America	Europe	Russia	Other CIS	Middle East	Africa	Australasia	China	India	Japan	Singapore	Other Asia Pacific	**Total exports**
US	–	16.1	–	3.9	10.8	–	†	0.1	0.3	0.2	7.7	1.2	1.4	0.1	4.2	**45.8**
Canada	170.3	–	†	0.1	2.2	–	–	†	†	†	0.6	0.1	–	–	–	**173.3**
Mexico	30.3	–	–	1.0	10.9	–	–	0.1	–	†	1.3	7.2	2.2	†	4.2	**57.3**
S. & Cent. America	68.4	0.5	†	–	11.0	†	–	–	0.1	–	57.2	24.5	2.3	0.4	4.3	**168.8**
Europe	3.2	2.2	–	0.5	–	†	†	0.4	0.3	†	9.9	0.5	0.1	0.3	6.2	**23.6**
Russia	2.4	0.3	–	3.0	170.2	–	18.1	2.8	†	0.7	59.8	2.8	9.0	1.4	6.7	**277.2**
Other CIS	0.3	1.7	–	–	66.4	0.6	–	5.3	0.4	–	3.8	3.2	1.3	0.2	6.7	**90.0**
Iraq	30.0	0.1	–	0.4	50.6	†	–	4.5	1.7	–	36.9	41.0	2.7	1.0	20.1	**189.0**
Kuwait	7.2	–	–	–	9.9	–	–	†	2.8	0.1	18.2	11.2	11.5	6.5	34.2	**101.6**
Saudi Arabia	47.0	5.0	–	3.9	37.0	–	–	13.7	8.3	0.3	52.2	34.1	63.4	10.1	82.4	**357.5**
UAE	1.0	–	–	†	0.4	†	–	†	0.1	5.0	10.2	16.4	37.7	14.4	40.6	**125.7**
Other Middle East	0.8	–	–	†	39.6	–	0.1	0.1	0.1	0.2	66.5	31.6	24.1	11.1	41.1	**215.4**
North Africa	6.5	1.4	–	2.1	52.8	–	0.1	1.6	†	1.2	5.6	4.1	†	0.8	4.9	**81.2**
West Africa	25.3	2.3	–	8.2	53.0	†	†	†	8.3	1.9	72.3	26.4	0.8	0.5	15.1	**214.2**
East & S. Africa	†	–	–	–	1.2	†	†	†	†	–	4.7	1.2	†	†	0.2	**7.4**
Australasia	0.1	†	–	0.1	†	–	†	†	†	–	2.1	–	0.4	0.8	6.5	**9.9**
China	–	–	–	†	–	–	–	†	†	†	–	–	1.9	0.2	2.6	**4.7**
India	–	–	–	†	†	–	–	–	†	†	†	–	–	†	†	**†**
Japan	–	–	–	–	†	–	–	–	–	†	–	–	–	–	0.1	**0.1**
Singapore	–	–	–	†	–	–	–	–	†	1.5	–	†	–	–	0.1	**1.7**
Other Asia Pacific	1.2	–	–	†	†	–	–	0.1	†	10.4	13.3	5.5	3.5	5.9	–	**39.9**
Total imports	**394.1**	**29.7**	**†**	**23.1**	**516.0**	**0.6**	**18.3**	**28.6**	**22.7**	**21.5**	**422.1**	**211.1**	**162.5**	**53.7**	**280.2**	**2184.2**

Product (million tonnes) **From**	US	Canada	Mexico	S. & Cent. America	Europe	Russia	Other CIS	Middle East	Africa	Australasia	China	India	Japan	Singapore	Other Asia Pacific	**Total exports**
US	–	24.7	38.4	80.0	25.5	†	†	2.1	6.5	0.8	8.2	8.4	10.5	6.9	9.1	**221.0**
Canada	28.8	–	0.9	0.6	2.4	†	†	†	0.1	†	0.4	0.6	0.4	0.2	†	**34.5**
Mexico	3.5	†	–	0.9	0.1	†	†	†	0.3	†	†	†	–	1.2	0.1	**6.2**
S. & Cent. America	10.6	0.1	1.1	–	3.9	†	†	0.3	2.0	0.2	1.3	0.1	0.2	8.6	0.4	**28.8**
Europe	20.9	5.3	2.3	8.5	–	0.3	2.6	17.5	42.2	0.1	5.2	0.7	0.4	20.8	7.4	**134.2**
Russia	16.1	0.3	†	1.9	84.7	–	10.7	2.4	3.4	†	2.1	0.4	2.0	12.5	9.1	**145.6**
Other CIS	0.7	0.5	†	0.1	4.5	0.5	–	0.1	0.4	†	0.5	0.1	†	0.1	0.6	**8.0**
Iraq	0.2	–	†	–	0.2	–	–	0.2	†	–	–	†	–	4.0	0.5	**5.1**
Kuwait	†	–	–	0.2	2.9	–	†	0.1	2.7	†	1.4	1.5	3.1	2.1	9.6	**23.5**
Saudi Arabia	0.3	†	–	0.3	12.3	†	0.1	1.4	9.5	†	2.8	8.1	2.5	4.8	8.7	**50.7**
UAE	0.6	†	0.1	0.2	6.5	†	†	2.1	7.7	0.1	8.9	5.4	4.8	4.3	25.0	**65.8**
Other Middle East	0.4	†	†	0.1	7.0	†	0.1	6.8	3.9	0.1	4.2	4.4	5.1	2.7	14.1	**48.9**
North Africa	6.4	†	†	3.7	10.7	†	†	0.5	0.5	†	0.6	0.2	0.6	0.2	1.7	**25.1**
West Africa	2.0	†	†	0.7	2.0	†	†	†	0.3	0.4	1.7	†	†	0.1	0.8	**8.1**
East & S. Africa	†	†	†	0.1	0.3	†	†	0.8	0.6	†	†	†	†	0.1	0.2	**2.2**
Australasia	–	†	†	†	†	†	†	†	0.1	–	0.4	0.1	0.7	0.5	0.8	**2.6**
China	1.0	0.3	†	3.7	2.5	0.3	†	1.2	1.5	2.4	–	1.0	0.6	8.9	24.6	**48.0**
India	4.0	†	–	0.2	6.7	†	0.1	10.5	8.3	1.6	0.9	–	2.5	8.7	12.7	**56.2**
Japan	1.2	†	0.3	0.6	†	†	†	†	†	4.1	2.3	†	–	3.0	4.1	**15.9**
Singapore	0.9	0.1	0.4	0.4	1.3	†	†	0.9	2.6	9.0	11.5	0.8	1.0	–	66.9	**95.9**
Other Asia Pacific	5.8	†	0.3	0.5	3.3	0.1	†	1.4	4.4	12.6	31.9	1.9	7.7	39.0	–	**108.9**
Total imports	**103.5**	**31.2**	**43.9**	**102.9**	**176.9**	**1.2**	**13.7**	**48.5**	**96.8**	**31.2**	**84.4**	**33.9**	**42.1**	**128.5**	**196.6**	**1135.1**

†Less than 0.05.
Notes: Bunkers are not included as exports. Intra-area movements (for example, between countries in Europe) are excluded.
Crude imports and exports include condensates.

Major trade movements 2017

Trade flows worldwide (million tonnes)



Oil trade in 2016 and 2017

Million tonnes	2016 Crude imports	2016 Product imports	2016 Crude exports	2016 Product exports	2017 Crude imports	2017 Product imports	2017 Crude exports	2017 Product exports
US	392.0	105.8	27.6	207.2	394.1	103.5	45.8	221.0
Canada	31.2	32.1	163.0	29.9	29.7	31.2	173.3	34.5
Mexico	†	38.0	59.6	8.8	†	43.9	57.3	6.2
S. & Cent. America	24.8	90.9	176.2	29.5	23.1	102.9	168.8	28.8
Europe	489.7	192.3	18.2	124.8	516.0	176.9	23.6	134.2
Russia	0.2	1.4	272.2	139.2	0.6	1.2	277.2	145.6
Other CIS	18.2	10.6	82.7	9.1	18.3	13.7	90.0	8.0
Iraq	†	1.7	179.0	1.4	†	1.3	189.0	5.1
Kuwait	†	0.7	103.2	25.6	†	0.7	101.6	23.5
Saudi Arabia	†	4.4	375.5	47.7	†	5.9	357.5	50.7
United Arab Emirates	1.1	12.5	124.4	60.6	1.3	21.8	125.7	65.8
Other Middle East	26.5	17.4	202.1	44.9	27.2	18.7	215.4	48.9
North Africa	4.3	38.1	58.5	25.2	5.2	34.3	81.2	25.1
West Africa	0.6	26.1	212.2	7.0	0.3	31.6	214.2	8.1
East & S. Africa	21.2	27.1	7.0	2.5	17.2	31.0	7.4	2.2
Australasia	20.7	29.2	10.6	4.0	21.5	31.2	9.9	2.6
China	382.6	74.4	2.7	45.9	422.1	84.4	4.7	48.0
India	214.0	30.0	†	49.2	211.1	33.9	†	56.2
Japan	168.0	39.1	†	14.4	162.5	42.1	0.1	15.9
Singapore	48.1	121.7	0.7	94.5	53.7	128.5	1.7	95.9
Other Asia Pacific	272.6	181.7	41.0	103.6	280.2	196.6	39.9	108.9
Total World	**2116.2**	**1075.2**	**2116.2**	**1075.2**	**2184.2**	**1135.1**	**2184.2**	**1135.1**
Thousand barrels daily								
US	7851	2205	553	4320	7914	2163	919	4621
Canada	626	670	3264	623	596	653	3481	720
Mexico	1	793	1193	183	‡	917	1150	129
S. & Cent. America	498	1894	3528	616	465	2151	3391	603
Europe	9807	4010	364	2602	10363	3697	474	2806
Russia	3	30	5451	2903	13	25	5567	3044
Other CIS	365	222	1657	190	368	285	1807	167
Iraq	‡	36	3585	28	‡	28	3796	107
Kuwait	‡	15	2066	534	‡	15	2040	492
Saudi Arabia	‡	91	7520	995	‡	124	7178	1060
United Arab Emirates	22	260	2491	1263	27	456	2524	1374
Other Middle East	532	362	4048	935	547	390	4325	1022
North Africa	87	795	1171	526	103	717	1631	524
West Africa	12	543	4250	146	7	660	4302	168
East & S. Africa	424	564	140	53	345	648	148	47
Australasia	415	609	213	83	432	653	199	55
China	7663	1551	54	957	8477	1764	94	1003
India	4286	625	‡	1026	4239	708	1	1174
Japan	3365	815	‡	301	3263	879	2	331
Singapore	963	2538	13	1971	1078	2685	34	2004
Other Asia Pacific	5460	3787	820	2161	5628	4109	801	2276
Total World	**42381**	**22414**	**42381**	**22414**	**43864**	**23728**	**43864**	**23728**

†Less than 0.05.
‡Less than 0.5.
Notes: Bunkers are not included as exports. Intra-area movements (for example, between countries in Europe) are excluded.
Crude imports and exports include condensates.

Natural gas

Total proved reserves

	At end 1997 Trillion cubic metres	At end 2007 Trillion cubic metres	At end 2016 Trillion cubic metres	At end 2017 Trillion cubic metres	At end 2017 Trillion cubic feet	At end 2017 Share of total	At end 2017 R/P ratio
US	4.5	6.4	8.7	**8.7**	**308.5**	4.5%	11.9
Canada	1.7	1.6	2.0	**1.9**	**66.5**	1.0%	10.7
Mexico	1.8	0.4	0.2	**0.2**	**6.9**	0.1%	4.8
Total North America	8.0	8.4	10.9	**10.8**	**381.9**	5.6%	11.4
Argentina	0.7	0.4	0.3	**0.3**	**11.6**	0.2%	8.8
Bolivia	0.1	0.7	0.3	**0.3**	**9.6**	0.1%	15.8
Brazil	0.2	0.4	0.4	**0.4**	**13.5**	0.2%	13.8
Colombia	0.2	0.1	0.1	**0.1**	**3.9**	0.1%	10.8
Peru	0.2	0.3	0.4	**0.4**	**15.5**	0.2%	33.7
Trinidad & Tobago	0.5	0.5	0.3	**0.3**	**9.2**	0.1%	7.7
Venezuela	4.6	5.4	6.4	**6.4**	**225.0**	3.3%	170.2
Other S. & Cent. America	0.1	0.1	0.1	**0.1**	**2.2**	♦	21.6
Total S. & Cent. America	6.6	7.8	8.3	**8.2**	**290.3**	4.2%	45.9
Denmark	0.1	0.1	†	**†**	**0.5**	♦	2.7
Germany	0.2	0.1	†	**†**	**1.1**	♦	5.1
Italy	0.3	0.1	†	**†**	**1.5**	♦	8.1
Netherlands	1.7	1.2	0.7	**0.7**	**23.1**	0.3%	17.9
Norway	1.2	2.3	1.8	**1.7**	**60.6**	0.9%	13.9
Poland	0.1	0.1	0.1	**0.1**	**2.4**	♦	16.6
Romania	0.3	0.6	0.1	**0.1**	**3.6**	0.1%	9.9
United Kingdom	0.8	0.3	0.2	**0.2**	**6.5**	0.1%	4.4
Other Europe	0.2	0.2	0.1	**0.1**	**5.1**	0.1%	16.0
Total Europe	4.9	5.0	3.0	**3.0**	**104.5**	1.5%	12.2
Azerbaijan	0.7	1.0	1.3	**1.3**	**46.6**	0.7%	74.4
Kazakhstan	1.5	1.5	1.1	**1.1**	**40.4**	0.6%	42.2
Russian Federation	33.6	33.9	34.8	**35.0**	**1234.9**	18.1%	55.0
Turkmenistan	2.6	2.6	19.5	**19.5**	**688.1**	10.1%	314.1
Ukraine	0.7	0.8	1.1	**1.1**	**37.1**	0.5%	54.0
Uzbekistan	1.2	1.3	1.2	**1.2**	**42.7**	0.6%	22.7
Other CIS	†	†	†	**†**	**1.2**	♦	160.0
Total CIS	40.3	41.2	59.0	**59.2**	**2091.1**	30.6%	72.6
Bahrain	0.1	0.1	0.2	**0.2**	**5.5**	0.1%	10.3
Iran	22.7	27.7	33.2	**33.2**	**1173.0**	17.2%	148.4
Iraq	3.0	3.0	3.5	**3.5**	**123.9**	1.8%	337.7
Israel	†	†	0.2	**0.5**	**16.1**	0.2%	48.3
Kuwait	1.4	1.7	1.7	**1.7**	**59.9**	0.9%	97.6
Oman	0.5	0.9	0.7	**0.7**	**23.5**	0.3%	20.6
Qatar	8.8	26.4	24.9	**24.9**	**879.9**	12.9%	141.8
Saudi Arabia	5.6	6.9	8.0	**8.0**	**283.8**	4.2%	72.1
Syria	0.2	0.3	0.3	**0.3**	**9.5**	0.1%	86.5
United Arab Emirates	5.9	6.3	5.9	**5.9**	**209.7**	3.1%	98.2
Yemen	0.3	0.3	0.3	**0.3**	**9.4**	0.1%	410.6
Other Middle East	†	†	†	**†**	**0.2**	♦	48.2
Total Middle East	48.6	73.6	78.8	**79.1**	**2794.2**	40.9%	119.9
Algeria	3.9	4.3	4.3	**4.3**	**153.1**	2.2%	47.5
Egypt	0.9	2.0	1.8	**1.8**	**62.8**	0.9%	36.3
Libya	1.2	1.5	1.4	**1.4**	**50.5**	0.7%	124.0
Nigeria	3.3	5.0	5.2	**5.2**	**183.7**	2.7%	110.2
Other Africa	0.8	1.2	1.1	**1.1**	**37.8**	0.6%	41.1
Total Africa	10.2	14.0	13.8	**13.8**	**487.8**	7.1%	61.4
Australia	1.2	1.8	3.6	**3.6**	**128.3**	1.9%	32.0
Bangladesh	0.3	0.4	0.2	**0.2**	**6.3**	0.1%	6.7
Brunei	0.4	0.3	0.3	**0.3**	**9.5**	0.1%	22.4
China	1.2	2.3	5.5	**5.5**	**193.5**	2.8%	36.7
India	0.7	1.0	1.2	**1.2**	**43.8**	0.6%	43.6
Indonesia	2.2	3.0	2.9	**2.9**	**102.9**	1.5%	42.9
Malaysia	2.2	2.4	2.7	**2.7**	**96.6**	1.4%	34.9
Myanmar	0.3	0.5	1.2	**1.2**	**41.3**	0.6%	65.0
Pakistan	0.4	0.7	0.4	**0.4**	**13.4**	0.2%	11.0
Papua New Guinea	†	†	0.2	**0.2**	**6.8**	0.1%	15.7
Thailand	0.2	0.3	0.2	**0.2**	**7.1**	0.1%	5.2
Vietnam	0.2	0.5	0.6	**0.6**	**22.8**	0.3%	68.3
Other Asia Pacific	0.4	0.3	0.3	**0.3**	**9.5**	0.1%	14.7
Total Asia Pacific	9.4	13.6	19.2	**19.3**	**681.8**	10.0%	31.8
Total World	**128.1**	**163.5**	**193.1**	**193.5**	**6831.7**	**100.0%**	**52.6**
of which: OECD	13.8	14.7	17.7	**17.8**	**628.9**	9.2%	13.6
Non-OECD	114.2	148.9	175.4	**175.6**	**6202.8**	90.8%	74.2
European Union	3.6	2.6	1.2	**1.2**	**41.7**	0.6%	10.0

†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.

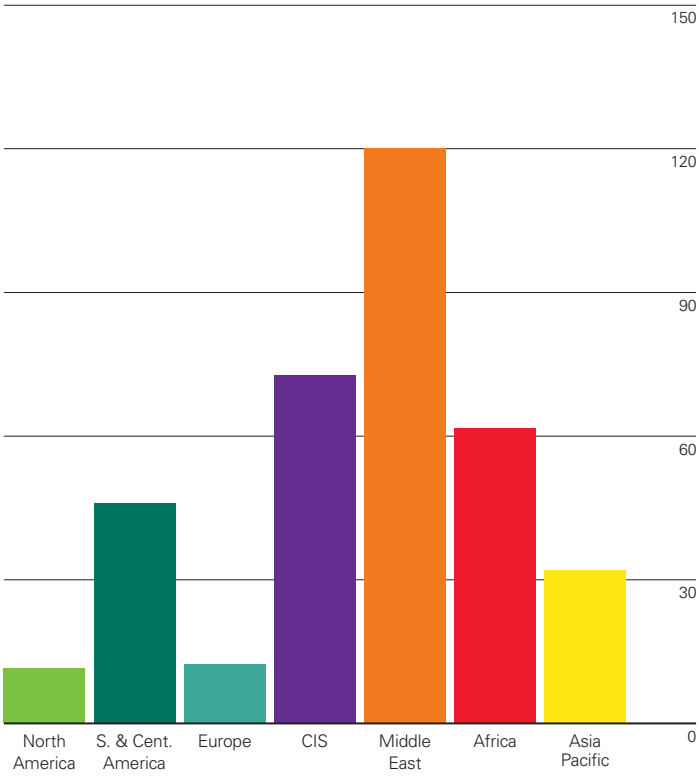
Reserves-to-production (R/P) ratio – If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.

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

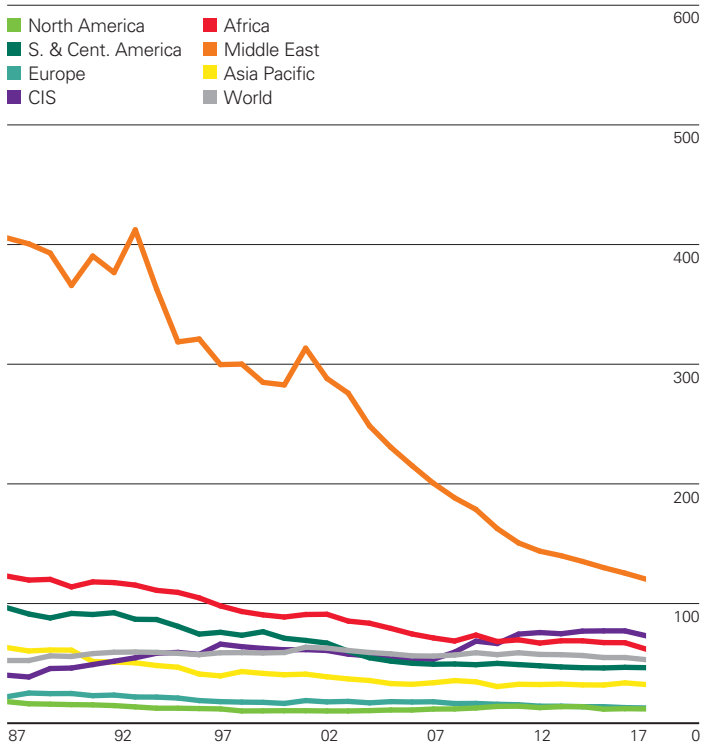
Source of data – The estimates in this table have been compiled using a combination of primary official sources and third-party data from Cedigaz and the OPEC Secretariat.

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

2017 by region

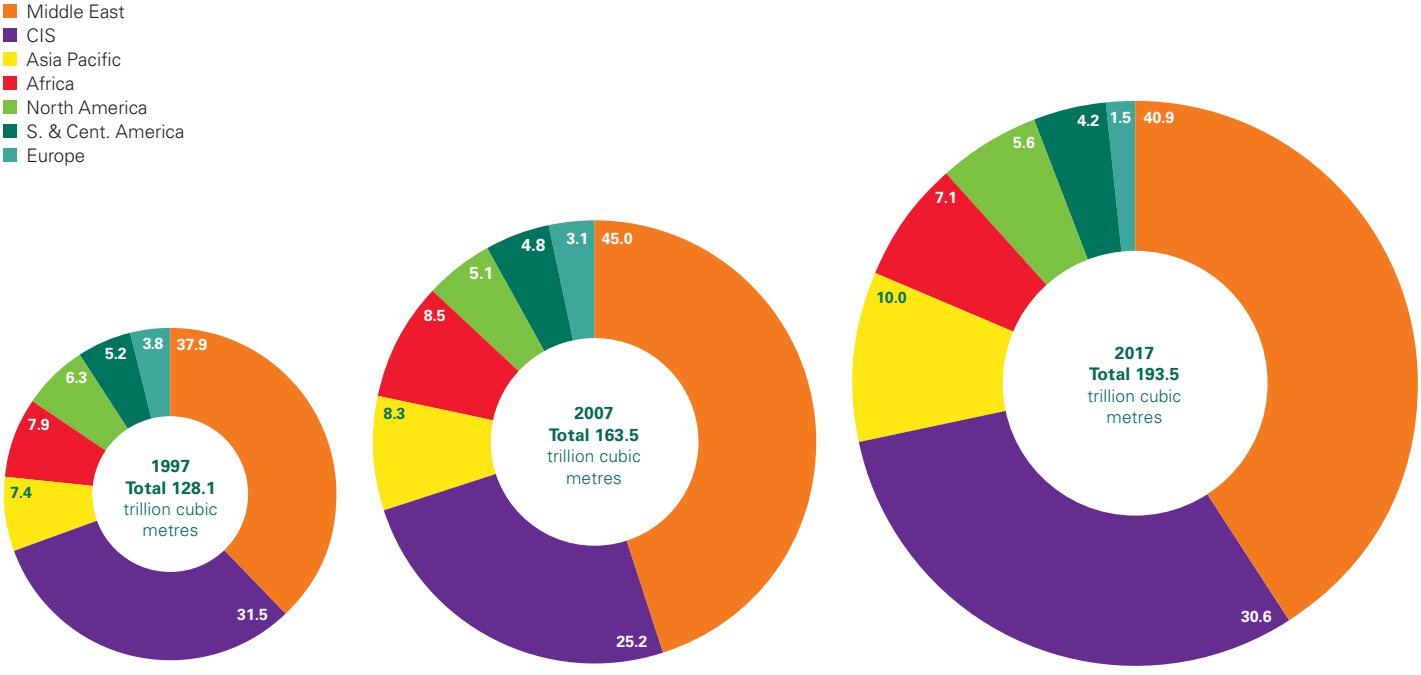


History



Global proved gas reserves in 2017 rose slightly by 0.4 trillion cubic metres (tcm) or 0.2% to 193.5 tcm. This is sufficient to meet 52.6 years of global production at 2017 levels. Israel was the largest single contributor to growth (0.3 tcm), while the CIS region also added 0.2 tcm to reserves. By region, the Middle East holds the largest proved reserves (79.1 tcm, 40.9% of the global total), followed by CIS (59.2 tcm, a 30.6% share).
Note: Lags in reporting official data mean that 2017 figures for many countries are not yet available.

Distribution of proved reserves in 1997, 2007 and 2017
Percentage



Natural gas: Production in billion cubic metres*

Billion cubic metres	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	521.9	546.1	557.6	575.2	617.4	649.1	655.7	704.7	740.3	729.3	**734.5**	1.0%	3.8%	20.0%
Canada	174.7	166.5	155.0	149.6	151.1	150.3	151.9	159.1	160.9	171.6	**176.3**	3.0%	-0.4%	4.8%
Mexico	46.9	47.2	52.6	51.2	52.1	50.9	52.5	51.3	47.9	43.7	**40.7**	-6.5%	-1.0%	1.1%
Total North America	743.4	759.8	765.2	775.9	820.5	850.3	860.1	915.1	949.2	944.6	**951.5**	1.0%	2.6%	25.9%
Argentina	43.6	42.8	40.3	39.0	37.7	36.7	34.6	34.5	35.5	37.3	**37.1**	-0.1%	-1.8%	1.0%
Bolivia	13.3	13.8	11.9	13.7	15.0	17.1	19.6	20.3	19.6	17.6	**17.1**	-2.6%	3.5%	0.5%
Brazil	11.8	14.6	12.5	15.3	17.5	20.2	22.3	23.7	24.2	24.5	**27.5**	12.4%	7.7%	0.7%
Colombia	7.3	8.7	10.1	10.8	10.5	11.5	13.2	12.3	11.6	10.9	**10.1**	-6.5%	4.9%	0.3%
Peru	2.6	3.5	3.6	7.3	11.5	12.0	12.4	13.1	12.7	14.0	**13.0**	-6.9%	23.4%	0.4%
Trinidad & Tobago	41.0	40.8	42.4	43.5	41.9	41.5	41.7	40.9	38.5	33.5	**33.8**	1.2%	-1.5%	0.9%
Venezuela	37.2	33.4	31.8	30.5	30.2	31.9	30.6	31.8	36.1	38.0	**37.4**	-1.3%	0.9%	1.0%
Other S. & Cent. America	3.9	3.7	3.7	3.7	3.0	2.8	2.5	2.4	2.7	2.9	**2.8**	-2.5%	-2.8%	0.1%
Total S. & Cent. America	160.7	161.5	156.3	163.8	167.5	173.8	176.9	179.1	180.9	178.8	**179.0**	0.4%	1.4%	4.9%
Denmark	9.6	10.5	8.8	8.5	6.9	6.0	5.0	4.8	4.8	4.7	**5.1**	7.7%	-8.0%	0.1%
Germany	15.0	13.6	12.7	11.1	10.5	9.5	8.6	8.1	7.5	6.9	**6.4**	-7.6%	-8.2%	0.2%
Italy	9.3	8.9	7.7	8.1	8.1	8.3	7.4	6.9	6.5	5.6	**5.3**	-4.0%	-6.2%	0.1%
Netherlands	63.3	69.6	65.6	73.8	67.1	66.8	71.8	60.6	45.4	42.0	**36.6**	-12.6%	-4.2%	1.0%
Norway	89.6	99.4	103.6	106.4	100.5	113.9	107.9	108.0	116.2	115.8	**123.2**	6.7%	2.8%	3.3%
Poland	4.5	4.3	4.3	4.3	4.5	4.5	4.4	4.3	4.3	4.1	**4.0**	-2.0%	-0.9%	0.1%
Romania	10.7	10.5	10.4	10.0	10.1	10.1	10.0	10.2	10.2	9.1	**10.3**	14.2%	-2.0%	0.3%
United Kingdom	75.5	72.8	61.2	57.9	46.1	39.2	37.0	37.4	40.7	41.8	**41.9**	0.6%	-6.7%	1.1%
Other Europe	10.0	9.4	9.2	9.3	9.2	8.3	7.2	6.3	6.1	8.7	**9.1**	5.0%	-2.1%	0.2%
Total Europe	287.6	299.0	283.5	289.5	262.9	266.5	259.4	246.7	241.7	238.6	**241.9**	1.7%	-2.3%	6.6%
Azerbaijan	10.6	15.9	15.9	16.3	16.0	16.8	17.4	18.4	18.8	18.3	**17.7**	-2.7%	10.7%	0.5%
Kazakhstan	15.8	18.3	19.0	20.4	20.1	19.8	21.4	21.7	22.0	22.9	**27.1**	18.6%	4.2%	0.7%
Russian Federation	601.6	611.5	536.2	598.4	616.8	601.9	614.5	591.2	584.4	589.3	**635.6**	8.2%	-0.3%	17.3%
Turkmenistan	68.4	69.1	38.0	44.3	62.3	65.1	65.2	70.2	72.8	66.9	**62.0**	-7.1%	0.6%	1.7%
Ukraine	20.0	20.3	20.3	19.4	19.5	19.4	20.2	20.2	18.8	19.0	**19.4**	2.5%	-0.5%	0.5%
Uzbekistan	60.9	60.4	58.1	56.9	53.9	53.9	53.9	54.2	54.6	53.1	**53.4**	0.8%	-1.1%	1.5%
Other CIS	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	**0.2**	-6.1%	-0.4%	◆
Total CIS	777.4	795.7	687.8	755.9	788.9	777.1	792.8	776.1	771.6	769.8	**815.5**	6.2%	◆	22.2%
Bahrain	11.2	12.0	12.1	12.4	12.6	13.1	14.0	14.7	14.8	14.7	**15.1**	3.0%	3.2%	0.4%
Iran	123.1	128.9	141.6	150.1	157.5	163.7	164.3	183.1	191.4	203.2	**223.9**	10.5%	6.3%	6.1%
Iraq	4.5	6.5	6.9	7.1	6.3	6.3	7.1	7.5	7.3	9.9	**10.4**	5.3%	21.8%	0.3%
Kuwait	10.7	12.1	10.9	11.1	12.9	14.7	15.5	14.3	16.1	16.4	**17.4**	6.1%	3.4%	0.5%
Oman	24.6	24.1	23.9	25.7	27.1	28.3	30.8	29.3	30.7	31.4	**32.3**	2.9%	2.6%	0.9%
Qatar	65.4	79.7	92.4	123.9	150.4	162.5	167.7	169.1	175.2	177.0	**175.7**	-0.5%	12.9%	4.8%
Saudi Arabia	70.7	76.4	74.5	83.3	87.6	94.4	95.0	97.3	99.2	105.3	**111.4**	6.1%	4.2%	3.0%
Syria	5.7	5.6	6.1	8.4	7.4	6.1	5.0	4.6	4.1	3.6	**3.1**	-14.6%	-4.7%	0.1%
United Arab Emirates	49.0	49.0	47.6	50.0	51.0	52.9	53.2	52.9	58.7	59.6	**60.4**	1.8%	2.3%	1.6%
Yemen	–	–	0.8	6.3	9.4	7.6	10.4	9.8	2.9	0.6	**0.7**	2.1%	n/a	◆
Other Middle East	2.8	3.5	2.7	3.3	4.2	2.5	6.3	7.3	8.1	9.0	**9.5**	5.7%	14.1%	0.3%
Total Middle East	367.7	397.6	419.6	481.6	526.4	552.2	569.1	589.9	608.4	630.8	**659.9**	4.9%	6.5%	17.9%
Algeria	81.6	82.6	76.6	77.4	79.6	78.4	79.3	80.2	81.4	91.4	**91.2**	0.1%	1.2%	2.5%
Egypt	53.6	56.8	60.3	59.0	59.1	58.6	54.0	47.0	42.6	40.3	**49.0**	22.1%	-2.6%	1.3%
Libya	14.5	15.1	15.1	16.0	7.5	11.6	12.2	11.8	12.4	11.2	**11.5**	2.9%	-1.1%	0.3%
Nigeria	35.0	34.4	24.7	35.5	38.6	41.1	34.4	42.8	47.6	42.6	**47.2**	11.0%	4.3%	1.3%
Other Africa	12.6	16.7	16.1	18.2	17.9	18.1	18.5	18.8	19.7	21.5	**26.0**	21.7%	7.0%	0.7%
Total Africa	197.4	205.5	192.8	206.1	202.6	207.8	198.3	200.6	203.6	207.0	**225.0**	9.0%	1.1%	6.1%
Australia	42.8	41.7	46.7	54.0	55.7	59.5	61.8	66.6	76.0	96.4	**113.5**	18.0%	9.0%	3.1%
Bangladesh	15.3	16.4	18.7	19.3	19.6	21.3	22.0	23.0	25.9	26.5	**26.6**	0.8%	6.3%	0.7%
Brunei	11.9	11.8	11.1	12.0	12.5	12.3	11.9	11.6	12.2	11.7	**12.0**	2.5%	-0.4%	0.3%
China	69.8	80.9	85.9	96.5	106.2	111.5	121.8	131.2	135.7	137.9	**149.2**	8.5%	8.9%	4.1%
India	29.0	29.4	35.7	48.0	44.0	38.2	31.9	30.2	29.2	27.3	**28.5**	4.5%	-0.3%	0.8%
Indonesia	72.6	74.8	78.0	87.0	82.7	78.3	77.6	76.4	76.2	70.7	**68.0**	-3.6%	-0.6%	1.8%
Malaysia	67.6	69.2	66.9	67.6	67.0	69.3	72.9	72.0	73.9	75.6	**78.4**	4.1%	1.0%	2.1%
Myanmar	13.3	12.2	11.4	12.2	12.6	12.5	12.9	16.5	19.2	18.3	**18.0**	-1.4%	4.0%	0.5%
Pakistan	33.8	34.6	34.7	35.3	35.3	36.6	35.6	35.0	35.0	34.7	**34.7**	0.2%	0.4%	0.9%
Thailand	26.9	29.8	32.0	37.5	38.3	42.9	43.3	43.6	41.2	40.4	**38.7**	-4.0%	4.8%	1.1%
Vietnam	6.8	7.2	7.7	9.1	8.2	9.0	9.4	9.9	10.3	10.2	**9.5**	-7.4%	4.2%	0.3%
Other Asia Pacific	17.2	18.3	18.6	18.1	18.3	18.0	18.6	23.5	29.3	30.5	**30.6**	0.6%	7.7%	0.8%
Total Asia Pacific	407.1	426.4	447.5	496.5	500.1	509.4	519.6	539.4	564.0	580.3	**607.5**	5.0%	4.0%	16.5%
Total World	**2941.3**	**3045.4**	**2952.8**	**3169.3**	**3269.0**	**3337.1**	**3376.2**	**3446.9**	**3519.4**	**3549.8**	**3680.4**	**4.0%**	**2.2%**	**100.0%**
of which: OECD	1072.7	1100.4	1095.1	1120.2	1139.6	1175.5	1184.2	1232.3	1271.1	1286.6	**1313.6**	2.4%	1.9%	35.7%
Non-OECD	1868.7	1945.0	1857.7	2049.1	2129.4	2161.6	2192.0	2214.6	2248.3	2263.2	**2366.8**	4.9%	2.3%	64.3%
European Union	196.8	198.4	179.0	182.0	161.2	151.5	150.4	137.6	124.5	121.8	**117.8**	-3.1%	-5.3%	3.2%

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

Source: Includes data from Cedigaz.

◆Less than 0.05%.

n/a not available.

Notes: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar); as they are derived directly from tonnes of oil equivalent using an average conversion factor and have been standardized using a gross calorific value (GCV) of 40 MJ/m^3.

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

Growth rates are adjusted for leap years.

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

Natural gas: Consumption in billion cubic metres*

Billion cubic metres	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	624.1	628.9	617.6	648.2	658.2	688.1	707.0	722.3	743.6	750.3	**739.5**	-1.2%	2.5%	20.1%
Canada	90.9	89.3	86.6	88.7	95.6	92.8	98.0	103.2	102.9	109.5	**115.7**	6.0%	2.5%	3.2%
Mexico	57.0	60.0	65.2	66.0	70.8	73.7	78.5	80.1	78.0	91.8	**87.6**	-4.4%	4.7%	2.4%
Total North America	772.1	778.2	769.4	803.0	824.6	854.6	883.6	905.6	924.5	951.6	**942.8**	-0.7%	2.7%	25.7%
Argentina	42.7	43.2	41.0	42.2	44.0	45.7	45.8	46.2	46.7	48.3	**48.5**	0.5%	1.7%	1.3%
Brazil	22.2	26.1	21.0	28.0	28.0	33.1	39.0	41.3	43.7	37.7	**38.3**	1.9%	5.8%	1.0%
Chile	5.0	2.8	2.8	5.7	5.8	5.3	5.3	4.4	4.8	5.9	**6.0**	1.6%	-3.5%	0.2%
Colombia	7.2	7.3	8.4	8.7	8.5	9.5	10.5	11.4	11.2	10.6	**10.0**	-5.8%	4.6%	0.3%
Ecuador	0.5	0.4	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.7	**0.6**	-9.9%	5.2%	◆
Peru	2.6	3.3	3.3	4.9	5.4	6.0	5.9	6.7	7.1	7.6	**6.7**	-11.1%	16.1%	0.2%
Trinidad & Tobago	21.3	20.7	21.6	22.5	22.7	21.6	21.8	21.4	20.9	18.6	**18.5**	-0.4%	-1.0%	0.5%
Venezuela	37.3	35.1	33.2	32.2	32.6	34.0	32.9	32.9	36.5	38.3	**37.6**	-1.5%	0.9%	1.0%
Other S. & Cent. America	4.4	4.7	4.9	5.2	5.8	6.3	6.9	7.2	7.1	7.3	**7.1**	-1.9%	6.5%	0.2%
Total S. & Cent. America	143.1	143.5	136.6	150.1	153.1	162.2	168.7	172.2	178.6	175.1	**173.4**	-0.7%	2.3%	4.7%
Austria	8.3	8.9	8.7	9.4	8.9	8.5	8.1	7.5	7.9	8.3	**9.0**	9.0%	-0.6%	0.2%
Belgium	17.4	17.3	17.6	19.8	16.5	16.7	16.5	14.4	15.8	16.1	**16.4**	1.7%	-0.8%	0.4%
Czech Republic	8.4	8.3	7.9	9.4	7.9	8.0	8.1	7.2	7.5	8.2	**8.4**	2.9%	-0.8%	0.2%
Finland	4.1	4.2	3.7	4.1	3.6	3.2	3.0	2.7	2.3	2.0	**1.8**	-7.9%	-7.7%	0.1%
France	44.7	46.4	44.7	49.6	43.0	44.5	45.2	37.9	40.8	44.6	**44.7**	0.7%	-0.3%	1.2%
Germany	88.6	89.5	84.4	88.1	80.9	81.1	85.0	73.9	77.0	84.9	**90.2**	6.5%	-0.8%	2.5%
Greece	3.9	4.1	3.4	3.7	4.6	4.2	3.7	2.8	3.1	4.0	**4.8**	20.9%	2.7%	0.1%
Hungary	12.4	12.3	10.6	11.4	10.9	9.7	9.1	8.1	8.7	9.3	**9.9**	6.7%	-3.5%	0.3%
Italy	81.5	81.4	74.9	79.7	74.8	71.9	67.2	59.4	64.8	68.0	**72.1**	6.3%	-1.7%	2.0%
Netherlands	38.6	40.3	40.7	45.6	39.8	37.7	38.2	33.3	32.9	34.5	**36.1**	4.7%	-1.4%	1.0%
Norway	4.2	4.3	4.1	4.1	4.0	4.0	4.0	4.3	4.5	4.4	**4.5**	3.8%	◆	0.1%
Poland	14.4	15.6	15.1	16.2	16.5	17.4	17.4	17.0	17.1	18.3	**19.1**	5.1%	2.4%	0.5%
Portugal	4.4	4.8	4.8	5.2	5.3	4.6	4.3	4.1	4.8	5.1	**6.2**	21.4%	2.1%	0.2%
Romania	14.8	14.1	12.3	12.5	12.9	12.5	11.4	11.0	10.4	10.4	**11.9**	14.6%	-4.5%	0.3%
Spain	37.0	40.6	36.3	36.2	33.6	33.2	30.3	27.5	28.5	29.1	**32.0**	10.2%	-2.2%	0.9%
Sweden	1.0	0.9	1.1	1.5	1.3	1.1	1.1	0.9	0.9	1.0	**0.8**	-19.1%	0.2%	◆
Switzerland	2.8	2.9	2.8	3.2	2.8	3.1	3.2	2.8	3.0	3.1	**3.1**	0.7%	1.0%	0.1%
Turkey	33.9	35.3	33.7	35.8	41.8	43.3	44.0	46.6	46.0	44.4	**51.7**	16.6%	4.3%	1.4%
United Kingdom	95.3	97.9	91.2	98.5	81.9	76.9	76.3	70.1	71.8	81.0	**78.8**	-2.4%	-1.5%	2.1%
Other Europe	34.8	34.0	29.8	33.5	32.3	30.7	30.0	27.2	28.1	28.9	**30.2**	4.7%	-1.8%	0.8%
Total Europe	550.7	563.1	527.9	567.7	523.3	512.3	506.2	458.9	475.8	505.6	**531.7**	5.5%	-0.9%	14.5%
Azerbaijan	8.8	10.0	8.6	8.1	8.9	9.4	9.4	9.9	11.1	10.9	**10.6**	-2.9%	0.9%	0.3%
Belarus	19.7	20.2	16.9	20.7	19.3	19.5	19.5	18.6	17.4	17.7	**18.0**	2.2%	-1.0%	0.5%
Kazakhstan	10.6	10.6	10.1	11.0	12.2	13.0	13.6	15.0	15.3	15.8	**16.3**	3.4%	6.0%	0.4%
Russian Federation	428.8	422.7	399.5	422.6	435.6	429.6	423.0	423.6	409.6	420.2	**424.8**	1.4%	◆	11.6%
Turkmenistan	22.2	22.4	20.6	23.7	24.6	27.5	23.9	26.7	30.8	30.9	**28.4**	-7.7%	4.9%	0.8%
Ukraine	66.1	62.7	48.9	54.6	56.1	51.8	45.2	38.5	30.1	30.3	**29.8**	-1.5%	-8.0%	0.8%
Uzbekistan	48.0	50.9	41.7	42.7	44.1	43.7	43.3	45.3	48.6	41.6	**41.6**	0.3%	-0.5%	1.1%
Other CIS	5.7	5.8	5.6	5.3	5.4	6.0	5.1	5.2	5.4	5.5	**5.2**	-5.8%	0.4%	0.1%
Total CIS	609.9	605.4	551.8	588.7	606.2	600.5	583.1	582.7	568.4	572.9	**574.6**	0.6%	-0.4%	15.7%
Iran	123.6	131.2	140.6	150.6	159.8	159.1	160.4	180.9	191.9	201.4	**214.4**	6.8%	6.2%	5.8%
Iraq	4.5	6.5	6.9	7.1	6.3	6.3	7.1	7.5	7.3	9.9	**12.0**	21.2%	21.8%	0.3%
Israel	2.6	3.6	4.0	5.1	4.7	2.4	6.6	7.2	8.1	9.2	**9.9**	7.4%	15.5%	0.3%
Kuwait	10.7	12.1	11.8	14.0	15.9	17.5	17.8	17.6	20.3	21.1	**22.2**	5.4%	6.0%	0.6%
Oman	12.2	13.4	13.7	16.3	18.1	19.7	21.7	21.3	23.0	22.9	**23.3**	2.2%	6.6%	0.6%
Qatar	24.0	19.3	19.6	24.7	27.3	33.7	35.0	38.8	44.1	43.1	**47.4**	10.3%	8.3%	1.3%
Saudi Arabia	70.7	76.4	74.5	83.3	87.6	94.4	95.0	97.3	99.2	105.3	**111.4**	6.1%	4.2%	3.0%
United Arab Emirates	47.9	58.0	57.6	59.3	61.6	63.9	64.4	63.4	71.0	72.5	**72.2**	-0.2%	5.5%	2.0%
Other Middle East	19.5	20.7	22.7	25.2	22.2	20.5	21.0	20.9	22.4	23.6	**23.7**	0.9%	2.2%	0.6%
Total Middle East	315.8	341.0	351.3	385.6	403.6	417.6	429.0	455.0	487.2	508.9	**536.5**	5.7%	5.9%	14.6%
Algeria	23.4	24.4	26.2	25.3	26.8	29.9	32.1	36.1	37.9	38.6	**38.9**	1.0%	5.4%	1.1%
Egypt	36.9	39.3	40.9	43.4	47.8	50.6	49.5	46.2	46.0	49.4	**56.0**	13.7%	3.5%	1.5%
Morocco	0.6	0.6	0.6	0.7	0.9	1.2	1.1	1.1	1.1	1.1	**1.1**	-0.6%	8.1%	◆
South Africa	3.8	3.9	3.3	4.1	4.3	4.4	4.1	4.3	4.4	4.6	**4.5**	-2.3%	2.1%	0.1%
Other Africa	29.9	30.4	26.1	29.0	28.6	30.2	29.8	34.4	40.1	39.5	**41.3**	4.9%	4.6%	1.1%
Total Africa	94.6	98.6	97.2	102.5	108.3	116.2	116.6	122.1	129.6	133.2	**141.8**	6.8%	4.3%	3.9%
Australia	29.0	28.5	29.1	33.8	35.3	35.4	37.2	40.1	42.1	41.7	**41.9**	0.6%	4.9%	1.1%
Bangladesh	15.3	16.4	18.7	19.3	19.6	21.3	22.0	23.0	25.9	26.5	**26.6**	0.8%	6.3%	0.7%
China	71.1	81.9	90.2	108.9	135.2	150.9	171.9	188.4	194.7	209.4	**240.4**	15.1%	13.7%	6.6%
China Hong Kong SAR	2.6	3.0	2.9	3.6	2.9	2.7	2.5	2.4	3.1	3.2	**3.2**	-0.1%	1.3%	0.1%
India	38.8	40.0	48.3	59.5	61.3	56.7	49.8	49.6	46.4	50.8	**54.2**	6.9%	3.5%	1.5%
Indonesia	34.6	39.7	42.1	44.0	42.7	42.9	41.4	41.5	41.0	38.3	**39.2**	2.6%	0.3%	1.1%
Japan	94.4	98.1	91.5	98.9	110.4	122.4	122.3	120.5	118.7	116.4	**117.1**	0.8%	2.9%	3.2%
Malaysia	40.4	43.5	40.0	39.8	38.3	42.0	44.6	44.7	43.9	41.9	**42.8**	2.4%	0.5%	1.2%
New Zealand	4.2	4.0	4.2	4.5	4.0	4.4	4.7	5.1	4.7	4.9	**4.9**	-0.5%	2.4%	0.1%
Pakistan	33.8	34.6	34.7	35.3	35.3	36.6	35.6	35.0	36.5	38.3	**40.7**	6.7%	1.4%	1.1%
Philippines	3.5	3.7	3.7	3.5	3.8	3.6	3.4	3.5	3.3	3.8	**3.8**	-0.7%	2.6%	0.1%
Singapore	8.1	8.7	9.2	8.3	8.3	8.9	10.0	10.4	11.6	11.9	**12.3**	3.5%	3.9%	0.3%
South Korea	36.3	37.3	35.5	45.0	48.4	52.5	55.0	50.0	45.6	47.6	**49.4**	3.9%	3.6%	1.3%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Taiwan	11.2	12.2	11.9	14.8	16.2	17.1	17.1	18.0	19.2	20.0	**22.2**	11.2%	6.6%	0.6%
Thailand	35.2	36.9	38.1	43.2	44.3	48.6	48.9	49.9	51.0	50.6	**50.1**	-0.7%	4.4%	1.4%
Vietnam	6.8	7.2	7.7	9.1	8.2	9.0	9.4	9.9	10.3	10.2	**9.5**	-7.4%	4.2%	0.3%
Other Asia Pacific	6.4	6.3	5.5	6.8	7.5	8.5	8.6	10.1	12.0	11.4	**11.6**	2.1%	7.2%	0.3%
Total Asia Pacific	472.0	502.3	513.5	578.3	621.9	663.6	684.3	702.2	710.1	727.0	**769.6**	6.2%	5.2%	21.0%
Total World	**2958.0**	**3032.1**	**2947.8**	**3175.9**	**3241.0**	**3327.1**	**3371.5**	**3398.7**	**3474.2**	**3574.2**	**3670.4**	**3.0%**	**2.3%**	**100.0%**
of which: OECD	1465.2	1488.3	1441.3	1538.9	1530.2	1564.1	1597.1	1569.1	1601.4	1660.0	**1677.6**	1.3%	1.6%	45.7%
Non-OECD	1492.8	1543.8	1506.5	1637.0	1710.9	1763.0	1774.4	1829.6	1872.8	1914.2	**1992.8**	4.4%	3.0%	54.3%
European Union	505.4	516.8	484.2	521.0	470.3	457.9	450.7	400.9	417.7	448.8	**466.8**	4.3%	-1.3%	12.7%

Source: Includes data from Cedigaz.

*Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in gas-to-lquids transformation.
◆Less than 0.05%.

Notes: As far as possible, the data above represents standard cubic metres (measured at 15°C and 1013 mbar); as they are derived directly from tonnes of oil equivalent using an average conversion factor and have been standardized using a gross calorific value (GCV) of 40 MJ/m^3.
The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.
Annual changes and shares of total are calculated using billion cubic metres figures.
Growth rates are adjusted for leap years.
Natural gas consumption data expressed in billion cubic feet per day is available at *bp.com/statisticalreview*.

Natural gas: Production in million tonnes oil equivalent*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	448.7	469.5	479.4	494.5	530.8	558.1	563.8	606.0	636.5	627.1	**631.6**	1.0%	3.8%	20.0%
Canada	150.2	143.2	133.3	128.6	129.9	129.2	130.6	136.8	138.4	147.6	**151.6**	3.0%	-0.4%	4.8%
Mexico	40.3	40.6	45.2	44.0	44.8	43.7	45.1	44.1	41.2	37.5	**35.0**	-6.5%	-1.0%	1.1%
Total North America	639.2	653.3	658.0	667.2	705.5	731.1	739.6	786.9	816.2	812.2	**818.2**	1.0%	2.6%	25.9%
Argentina	37.5	36.8	34.6	33.5	32.4	31.5	29.7	29.7	30.5	32.1	**31.9**	-0.1%	-1.8%	1.0%
Bolivia	11.5	11.9	10.2	11.8	12.9	14.7	16.8	17.4	16.8	15.1	**14.7**	-2.6%	3.5%	0.5%
Brazil	10.1	12.6	10.7	13.1	15.1	17.3	19.2	20.4	20.8	21.1	**23.7**	12.4%	7.7%	0.7%
Colombia	6.2	7.5	8.7	9.3	9.1	9.9	11.4	10.6	10.0	9.4	**8.7**	-6.5%	4.9%	0.3%
Peru	2.2	3.0	3.1	6.3	9.9	10.3	10.7	11.3	10.9	12.1	**11.2**	-6.9%	23.4%	0.4%
Trinidad & Tobago	35.3	35.1	36.5	37.4	36.0	35.7	35.8	35.2	33.1	28.8	**29.1**	1.2%	-1.5%	0.9%
Venezuela	32.0	28.7	27.3	26.2	26.0	27.4	26.3	27.3	31.0	32.7	**32.2**	-1.3%	0.9%	1.0%
Other S. & Cent. America	3.4	3.2	3.2	3.2	2.6	2.4	2.2	2.1	2.4	2.5	**2.4**	-2.5%	-2.8%	0.1%
Total S. & Cent. America	138.2	138.8	134.4	140.8	144.0	149.4	152.1	154.0	155.5	153.7	**153.9**	0.4%	1.4%	4.9%
Denmark	8.3	9.0	7.5	7.3	5.9	5.2	4.3	4.1	4.1	4.0	**4.3**	7.7%	-8.0%	0.1%
Germany	12.9	11.7	11.0	9.6	9.0	8.1	7.4	7.0	6.5	6.0	**5.5**	-7.6%	-8.2%	0.2%
Italy	8.0	7.6	6.6	6.9	7.0	7.1	6.4	5.9	5.6	4.8	**4.6**	-4.0%	-6.2%	0.1%
Netherlands	54.4	59.9	56.4	63.4	57.7	57.4	61.8	52.1	39.0	36.1	**31.5**	-12.6%	-4.2%	1.0%
Norway	77.1	85.4	89.1	91.5	86.4	97.9	92.8	92.9	99.9	99.6	**106.0**	6.7%	2.8%	3.3%
Poland	3.9	3.7	3.7	3.7	3.8	3.9	3.8	3.7	3.7	3.6	**3.5**	-2.0%	-0.9%	0.1%
Romania	9.2	9.0	8.9	8.6	8.7	8.7	8.6	8.8	8.8	7.8	**8.9**	14.2%	-2.0%	0.3%
United Kingdom	64.9	62.6	52.6	49.8	39.6	33.7	31.8	32.2	35.0	35.9	**36.0**	0.6%	-6.7%	1.1%
Other Europe	8.6	8.1	7.9	8.0	7.9	7.2	6.1	5.4	5.2	7.5	**7.8**	5.0%	-2.1%	0.2%
Total Europe	247.3	257.1	243.7	248.9	226.1	229.2	223.0	212.1	207.8	205.1	**208.0**	1.7%	-2.3%	6.6%
Azerbaijan	9.1	13.7	13.7	14.0	13.7	14.5	15.0	15.8	16.2	15.7	**15.2**	-2.7%	10.7%	0.5%
Kazakhstan	13.6	15.7	16.3	17.6	17.3	17.1	18.4	18.6	18.9	19.7	**23.3**	18.6%	4.2%	0.7%
Russian Federation	517.3	525.8	461.0	514.5	530.4	517.5	528.4	508.3	502.5	506.7	**546.5**	8.2%	-0.3%	17.3%
Turkmenistan	58.8	59.4	32.7	38.1	53.5	56.0	56.1	60.3	62.6	57.6	**53.3**	-7.1%	0.6%	1.7%
Ukraine	17.2	17.5	17.5	16.7	16.8	16.7	17.3	17.4	16.2	16.4	**16.7**	2.5%	-0.5%	0.5%
Uzbekistan	52.3	51.9	50.0	48.9	46.4	46.3	46.3	46.6	47.0	45.7	**45.9**	0.8%	-1.1%	1.5%
Other CIS	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	**0.2**	-6.1%	-0.4%	◆
Total CIS	668.5	684.2	591.4	650.0	678.3	668.2	681.7	667.3	663.5	661.9	**701.2**	6.2%	◆	22.2%
Bahrain	9.6	10.3	10.4	10.7	10.9	11.2	12.0	12.6	12.7	12.6	**13.0**	3.0%	3.2%	0.4%
Iran	105.8	110.8	121.7	129.0	135.4	140.7	141.3	157.4	164.6	174.7	**192.5**	10.5%	6.3%	6.1%
Iraq	3.9	5.6	5.9	6.1	5.4	5.5	6.1	6.5	6.3	8.5	**8.9**	5.3%	21.8%	0.3%
Kuwait	9.2	10.4	9.4	9.6	11.1	12.7	13.3	12.3	13.8	14.1	**14.9**	6.1%	3.4%	0.5%
Oman	21.2	20.8	20.6	22.1	23.3	24.4	26.5	25.2	26.4	27.0	**27.7**	2.9%	2.6%	0.9%
Qatar	56.2	68.5	79.5	106.5	129.3	139.8	144.2	145.4	150.7	152.2	**151.1**	-0.5%	12.9%	4.8%
Saudi Arabia	60.8	65.7	64.1	71.6	75.4	81.1	81.7	83.6	85.3	90.6	**95.8**	6.1%	4.2%	3.0%
Syria	4.9	4.8	5.3	7.2	6.4	5.2	4.3	4.0	3.5	3.1	**2.7**	-14.6%	-4.7%	0.1%
United Arab Emirates	42.2	42.1	40.9	43.0	43.9	45.5	45.8	45.5	50.5	51.2	**52.0**	1.8%	2.3%	1.6%
Yemen	–	–	0.7	5.4	8.1	6.5	8.9	8.4	2.5	0.5	**0.6**	2.1%	n/a	◆
Other Middle East	2.4	3.0	2.4	2.8	3.6	2.2	5.4	6.3	6.9	7.8	**8.2**	5.7%	14.1%	0.3%
Total Middle East	316.2	341.9	360.8	414.1	452.7	474.8	489.4	507.2	523.1	542.4	**567.4**	4.9%	6.5%	17.9%
Algeria	70.2	71.0	65.8	66.5	68.4	67.4	68.2	68.9	70.0	78.6	**78.5**	0.1%	1.2%	2.5%
Egypt	46.1	48.8	51.9	50.7	50.9	50.4	46.4	40.4	36.6	34.6	**42.1**	22.1%	-2.6%	1.3%
Libya	12.5	13.0	13.0	13.7	6.4	10.0	10.5	10.2	10.6	9.7	**9.9**	2.9%	-1.1%	0.3%
Nigeria	30.1	29.5	21.2	30.5	33.1	35.4	29.6	36.8	40.9	36.7	**40.6**	11.0%	4.3%	1.3%
Other Africa	10.8	14.4	13.9	15.7	15.4	15.5	15.9	16.2	16.9	18.4	**22.4**	21.7%	7.0%	0.7%
Total Africa	169.7	176.7	165.8	177.2	174.2	178.7	170.5	172.5	175.1	178.0	**193.5**	9.0%	1.1%	6.1%
Australia	36.8	35.8	40.2	46.4	47.9	51.2	53.1	57.3	65.4	82.9	**97.6**	18.0%	9.0%	3.1%
Bangladesh	13.2	14.1	16.1	16.6	16.8	18.3	18.9	19.8	22.2	22.7	**22.9**	0.8%	6.3%	0.7%
Brunei	10.3	10.2	9.6	10.3	10.7	10.5	10.2	9.9	10.5	10.1	**10.3**	2.5%	-0.4%	0.3%
China	60.0	69.6	73.9	83.0	91.3	95.9	104.7	112.8	116.7	118.6	**128.3**	8.5%	8.9%	4.1%
India	24.9	25.3	30.7	41.2	37.8	32.9	27.4	26.0	25.1	23.5	**24.5**	4.5%	-0.3%	0.8%
Indonesia	62.4	64.3	67.1	74.8	71.1	67.3	66.7	65.7	65.5	60.8	**58.4**	-3.6%	-0.6%	1.8%
Malaysia	58.2	59.5	57.5	58.1	57.6	59.5	62.7	61.9	63.5	65.0	**67.4**	4.1%	1.0%	2.1%
Myanmar	11.4	10.5	9.8	10.5	10.8	10.8	11.1	14.2	16.5	15.7	**15.5**	-1.4%	4.0%	0.5%
Pakistan	29.1	29.8	29.8	30.4	30.4	31.5	30.6	30.1	30.1	29.8	**29.8**	0.2%	0.4%	0.9%
Thailand	23.1	25.6	27.5	32.2	32.9	36.9	37.2	37.5	35.4	34.7	**33.3**	-4.0%	4.8%	1.1%
Vietnam	5.9	6.2	6.6	7.8	7.0	7.8	8.1	8.5	8.8	8.8	**8.1**	-7.4%	4.2%	0.3%
Other Asia Pacific	14.8	15.7	16.0	15.6	15.7	15.5	16.0	20.2	25.2	26.2	**26.3**	0.6%	7.7%	0.8%
Total Asia Pacific	350.0	366.6	384.8	426.9	430.0	438.0	446.8	463.8	485.0	498.9	**522.4**	5.0%	4.0%	16.5%
Total World	**2529.1**	**2618.6**	**2538.9**	**2725.1**	**2810.8**	**2869.4**	**2903.0**	**2963.8**	**3026.2**	**3052.3**	**3164.6**	**4.0%**	**2.2%**	**100.0%**
of which: OECD	922.3	946.2	941.6	963.2	979.9	1010.8	1018.2	1059.6	1093.0	1106.3	**1129.5**	2.4%	1.9%	35.7%
Non-OECD	1606.8	1672.4	1597.3	1761.9	1831.0	1858.7	1884.8	1904.2	1933.2	1946.0	**2035.1**	4.9%	2.3%	64.3%
European Union	169.3	170.6	153.9	156.5	138.6	130.3	129.3	118.3	107.0	104.8	**101.3**	-3.1%	-5.3%	3.2%

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

Source: Includes data from Cedigaz.

Natural gas: Consumption in million tonnes oil equivalent*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	536.7	540.7	531.1	557.3	566.0	591.7	607.9	621.0	639.4	645.1	**635.8**	-1.2%	2.5%	20.1%
Canada	78.2	76.8	74.4	76.3	82.2	79.8	84.3	88.8	88.5	94.1	**99.5**	6.0%	2.5%	3.2%
Mexico	49.0	51.6	56.0	56.8	60.9	63.3	67.5	68.9	67.1	79.0	**75.3**	-4.4%	4.7%	2.4%
Total North America	663.9	669.2	661.5	690.4	709.0	734.8	759.7	778.7	794.9	818.2	**810.7**	-0.7%	2.7%	25.7%
Argentina	36.7	37.1	35.2	36.3	37.8	39.3	39.4	39.8	40.1	41.6	**41.7**	0.5%	1.7%	1.3%
Brazil	19.1	22.4	18.1	24.1	24.0	28.5	33.6	35.6	37.5	32.4	**33.0**	1.9%	5.8%	1.0%
Chile	4.3	2.4	2.4	4.9	5.0	4.6	4.6	3.8	4.1	5.1	**5.2**	1.6%	-3.5%	0.2%
Colombia	6.2	6.3	7.2	7.5	7.3	8.1	9.0	9.8	9.6	9.2	**8.6**	-5.8%	4.6%	0.3%
Ecuador	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.6	**0.5**	-9.9%	5.2%	◆
Peru	2.2	2.8	2.9	4.2	4.6	5.2	5.1	5.8	6.1	6.5	**5.8**	-11.1%	16.1%	0.2%
Trinidad & Tobago	18.3	17.8	18.5	19.4	19.5	18.6	18.7	18.4	18.0	16.0	**15.9**	-0.4%	-1.0%	0.5%
Venezuela	32.0	30.2	28.5	27.7	28.0	29.3	28.3	28.2	31.4	33.0	**32.4**	-1.5%	0.9%	1.0%
Other S. & Cent. America	3.8	4.0	4.2	4.5	5.0	5.4	5.9	6.2	6.1	6.3	**6.1**	-1.9%	6.5%	0.2%
Total S. & Cent. America	123.0	123.4	117.5	129.1	131.6	139.4	145.1	148.1	153.6	150.6	**149.1**	-0.7%	2.3%	4.7%
Austria	7.2	7.7	7.5	8.1	7.6	7.3	7.0	6.4	6.8	7.1	**7.7**	9.0%	-0.6%	0.2%
Belgium	14.9	14.8	15.1	17.0	14.2	14.4	14.2	12.4	13.6	13.9	**14.1**	1.7%	-0.8%	0.4%
Czech Republic	7.2	7.2	6.8	8.1	6.8	6.9	6.9	6.2	6.5	7.0	**7.2**	2.9%	-0.8%	0.2%
Finland	3.5	3.6	3.2	3.6	3.1	2.7	2.6	2.3	1.9	1.7	**1.6**	-7.9%	-7.7%	0.1%
France	38.5	39.9	38.4	42.6	37.0	38.2	38.8	32.6	35.1	38.3	**38.5**	0.7%	-0.3%	1.2%
Germany	76.2	77.0	72.6	75.7	69.5	69.7	73.1	63.5	66.2	73.0	**77.5**	6.5%	-0.8%	2.5%
Greece	3.3	3.5	2.9	3.2	4.0	3.6	3.2	2.4	2.6	3.4	**4.1**	20.9%	2.7%	0.1%
Hungary	10.7	10.6	9.2	9.8	9.4	8.4	7.8	7.0	7.5	8.0	**8.5**	6.7%	-3.5%	0.3%
Italy	70.0	70.0	64.4	68.6	64.3	61.8	57.8	51.1	55.7	58.5	**62.0**	6.3%	-1.7%	2.0%
Netherlands	33.2	34.6	35.0	39.2	34.3	32.4	32.8	28.6	28.3	29.7	**31.0**	4.7%	-1.4%	1.0%
Norway	3.6	3.7	3.5	3.5	3.5	3.4	3.4	3.7	3.9	3.8	**3.9**	3.8%	◆	0.1%
Poland	12.4	13.5	13.0	14.0	14.1	15.0	15.0	14.6	14.7	15.7	**16.5**	5.1%	2.4%	0.5%
Portugal	3.8	4.1	4.1	4.5	4.5	3.9	3.7	3.5	4.1	4.4	**5.3**	21.4%	2.1%	0.2%
Romania	12.8	12.2	10.6	10.8	11.1	10.8	9.8	9.5	9.0	8.9	**10.2**	14.6%	-4.5%	0.3%
Spain	31.8	34.9	31.2	31.1	28.9	28.6	26.1	23.7	24.5	25.0	**27.5**	10.2%	-2.2%	0.9%
Sweden	0.9	0.8	1.0	1.3	1.1	0.9	0.9	0.8	0.8	0.8	**0.7**	-19.1%	0.2%	◆
Switzerland	2.4	2.5	2.4	2.7	2.4	2.6	2.8	2.4	2.6	2.7	**2.7**	0.7%	1.0%	0.1%
Turkey	29.1	30.4	29.0	30.8	36.0	37.2	37.8	40.1	39.5	38.2	**44.4**	16.6%	4.3%	1.4%
United Kingdom	82.0	84.1	78.5	84.7	70.4	66.1	65.6	60.2	61.7	69.6	**67.7**	-2.4%	-1.5%	2.1%
Other Europe	30.0	29.2	25.6	28.8	27.8	26.4	25.8	23.4	24.1	24.8	**25.9**	4.7%	-1.8%	0.8%
Total Europe	473.5	484.2	453.9	488.1	450.0	440.5	435.2	394.6	409.1	434.7	**457.2**	5.5%	-0.9%	14.5%
Azerbaijan	7.5	8.6	7.4	7.0	7.7	8.0	8.1	8.5	9.6	9.4	**9.1**	-2.9%	0.9%	0.3%
Belarus	16.9	17.3	14.5	17.8	16.6	16.8	16.8	16.0	15.0	15.2	**15.5**	2.2%	-1.0%	0.5%
Kazakhstan	9.2	9.1	8.7	9.5	10.5	11.1	11.7	12.9	13.2	13.6	**14.0**	3.4%	6.0%	0.4%
Russian Federation	368.7	363.5	343.5	363.4	374.5	369.4	363.8	364.2	352.2	361.3	**365.2**	1.4%	◆	11.6%
Turkmenistan	19.1	19.2	17.7	20.3	21.2	23.7	20.6	23.0	26.5	26.5	**24.4**	-7.7%	4.9%	0.8%
Ukraine	56.8	54.0	42.1	46.9	48.3	44.6	38.9	33.1	25.9	26.1	**25.6**	-1.5%	-8.0%	0.8%
Uzbekistan	41.3	43.8	35.9	36.7	38.0	37.5	37.3	39.0	41.7	35.8	**35.8**	0.3%	-0.5%	1.1%
Other CIS	4.9	5.0	4.8	4.5	4.7	5.1	4.4	4.5	4.7	4.7	**4.4**	-5.8%	0.4%	0.1%
Total CIS	524.4	520.5	474.5	506.2	521.3	516.3	501.4	501.0	488.7	492.6	**494.1**	0.6%	-0.4%	15.7%
Iran	106.3	112.8	120.9	129.5	137.4	136.8	137.9	155.6	165.0	173.1	**184.4**	6.8%	6.2%	5.8%
Iraq	3.9	5.6	5.9	6.1	5.4	5.5	6.1	6.5	6.3	8.5	**10.3**	21.2%	21.8%	0.3%
Israel	2.3	3.1	3.4	4.4	4.1	2.1	5.7	6.2	6.9	8.0	**8.5**	7.4%	15.5%	0.3%
Kuwait	9.2	10.4	10.2	12.0	13.6	15.1	15.3	15.1	17.5	18.1	**19.0**	5.4%	6.0%	0.6%
Oman	10.5	11.5	11.8	14.0	15.6	16.9	18.6	18.3	19.8	19.7	**20.0**	2.2%	6.6%	0.6%
Qatar	20.6	16.6	16.8	21.3	23.5	29.0	30.1	33.4	37.9	37.1	**40.8**	10.3%	8.3%	1.3%
Saudi Arabia	60.8	65.7	64.1	71.6	75.4	81.1	81.7	83.6	85.3	90.6	**95.8**	6.1%	4.2%	3.0%
United Arab Emirates	41.2	49.8	49.5	51.0	53.0	55.0	55.4	54.5	61.0	62.3	**62.1**	-0.2%	5.5%	2.0%
Other Middle East	16.8	17.8	19.5	21.7	19.1	17.7	18.0	18.0	19.3	20.3	**20.4**	0.9%	2.2%	0.6%
Total Middle East	271.5	293.2	302.1	331.6	347.1	359.1	368.9	391.2	418.9	437.6	**461.3**	5.7%	5.9%	14.6%
Algeria	20.1	21.0	22.5	21.8	23.0	25.7	27.6	31.0	32.6	33.2	**33.4**	1.0%	5.4%	1.1%
Egypt	31.7	33.8	35.2	37.3	41.1	43.5	42.6	39.7	39.6	42.4	**48.1**	13.7%	3.5%	1.5%
Morocco	0.5	0.5	0.6	0.6	0.8	1.0	1.0	1.0	1.0	1.0	**1.0**	-0.6%	8.1%	◆
South Africa	3.3	3.4	2.9	3.5	3.7	3.7	3.5	3.7	3.8	4.0	**3.9**	-2.3%	2.1%	0.1%
Other Africa	25.7	26.1	22.4	24.9	24.6	25.9	25.6	29.6	34.5	33.9	**35.5**	4.9%	4.6%	1.1%
Total Africa	81.3	84.8	83.6	88.2	93.1	99.9	100.3	105.0	111.4	114.5	**121.9**	6.8%	4.3%	3.9%
Australia	25.0	24.5	25.1	29.0	30.3	30.4	32.0	34.5	36.2	35.9	**36.0**	0.6%	4.9%	1.1%
Bangladesh	13.2	14.1	16.1	16.6	16.8	18.3	18.9	19.8	22.2	22.7	**22.9**	0.8%	6.3%	0.7%
China	61.1	70.4	77.6	93.6	116.2	129.7	147.8	162.0	167.4	180.1	**206.7**	15.1%	13.7%	6.6%
China Hong Kong SAR	2.2	2.6	2.5	3.1	2.5	2.3	2.2	2.1	2.7	2.7	**2.7**	-0.1%	1.3%	0.1%
India	33.4	34.4	41.6	51.2	52.7	48.7	42.8	42.7	39.9	43.7	**46.6**	6.9%	3.5%	1.5%
Indonesia	29.8	34.1	36.2	37.9	36.7	36.9	35.6	35.7	35.3	32.9	**33.7**	2.6%	0.3%	1.1%
Japan	81.2	84.4	78.7	85.1	95.0	105.3	105.2	103.6	102.1	100.1	**100.7**	0.8%	2.9%	3.2%
Malaysia	34.7	37.4	34.4	34.2	32.9	36.1	38.3	38.4	37.8	36.1	**36.8**	2.4%	0.5%	1.2%
New Zealand	3.6	3.4	3.6	3.9	3.5	3.8	4.0	4.4	4.0	4.2	**4.2**	-0.5%	2.4%	0.1%
Pakistan	29.1	29.8	29.8	30.4	30.4	31.5	30.6	30.1	31.4	32.9	**35.0**	6.7%	1.4%	1.1%
Philippines	3.0	3.2	3.2	3.0	3.3	3.1	2.9	3.0	2.9	3.3	**3.2**	-0.7%	2.6%	0.1%
Singapore	7.0	7.5	7.9	7.2	7.1	7.7	8.6	8.9	10.0	10.2	**10.6**	3.5%	3.9%	0.3%
South Korea	31.2	32.1	30.5	38.7	41.7	45.2	47.3	43.0	39.3	41.0	**42.4**	3.9%	3.6%	1.3%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Taiwan	9.6	10.5	10.2	12.7	14.0	14.7	14.7	15.5	16.5	17.2	**19.1**	11.2%	6.6%	0.6%
Thailand	30.2	31.8	32.8	37.2	38.1	41.8	42.0	42.9	43.8	43.5	**43.1**	-0.7%	4.4%	1.4%
Vietnam	5.9	6.2	6.6	7.8	7.0	7.8	8.1	8.5	8.8	8.8	**8.1**	-7.4%	4.2%	0.3%
Other Asia Pacific	5.5	5.5	4.7	5.8	6.5	7.3	7.4	8.7	10.3	9.8	**10.0**	2.1%	7.2%	0.3%
Total Asia Pacific	405.8	431.9	441.6	497.3	534.7	570.6	588.4	603.7	610.6	625.1	**661.8**	6.2%	5.2%	21.0%
Total World	**2543.4**	**2607.2**	**2534.6**	**2730.8**	**2786.8**	**2860.8**	**2899.0**	**2922.3**	**2987.3**	**3073.2**	**3156.0**	**3.0%**	**2.3%**	**100.0%**
of which: OECD	1259.9	1279.7	1239.3	1323.2	1315.7	1344.9	1373.3	1349.2	1377.0	1427.3	**1442.5**	1.3%	1.6%	45.7%
Non-OECD	1283.6	1327.4	1295.3	1407.6	1471.1	1515.9	1525.7	1573.2	1610.3	1645.9	**1713.5**	4.4%	3.0%	54.3%
European Union	434.6	444.4	416.4	447.9	404.4	393.7	387.5	344.7	359.1	385.9	**401.4**	4.3%	-1.3%	12.7%

Source: Includes data from Cedigaz.

*Excludes natural gas converted to liquid fuels but includes derivatives of coal as well as natural gas consumed in gas-to-liquids transformation.

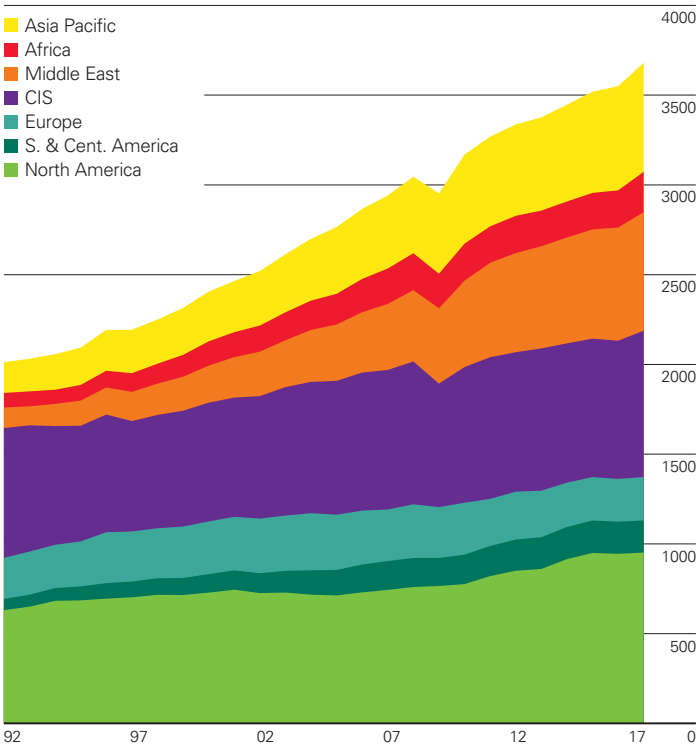
◆Less than 0.05%.

Notes: The difference between these world consumption figures and the world production statistics is due to variations in stocks at storage facilities and liquefaction plants, together with unavoidable disparities in the definition, measurement or conversion of gas supply and demand data.

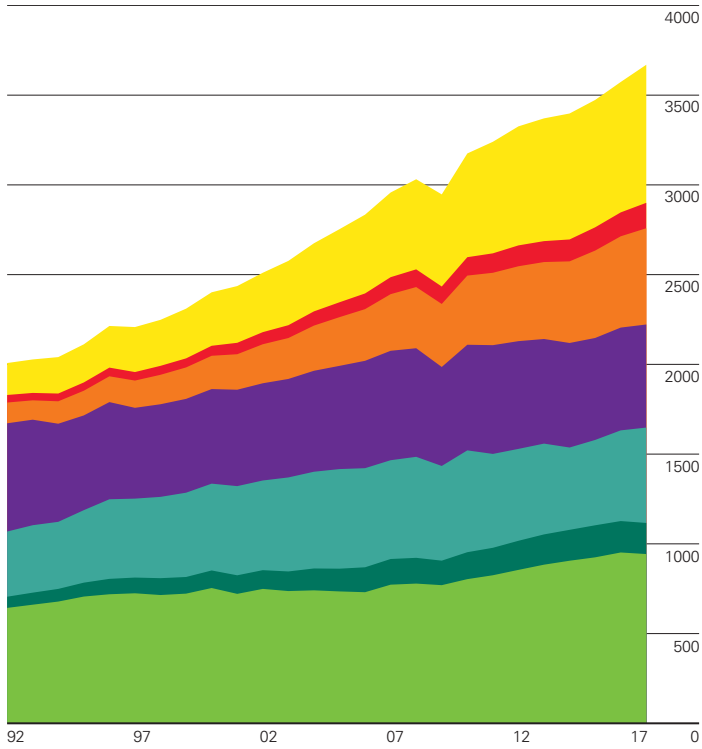
Annual changes and shares of total are calculated using million tonnes oil equivalent figures.

Growth rates are adjusted for leap years.

Natural gas: Production by region
Billion cubic metres

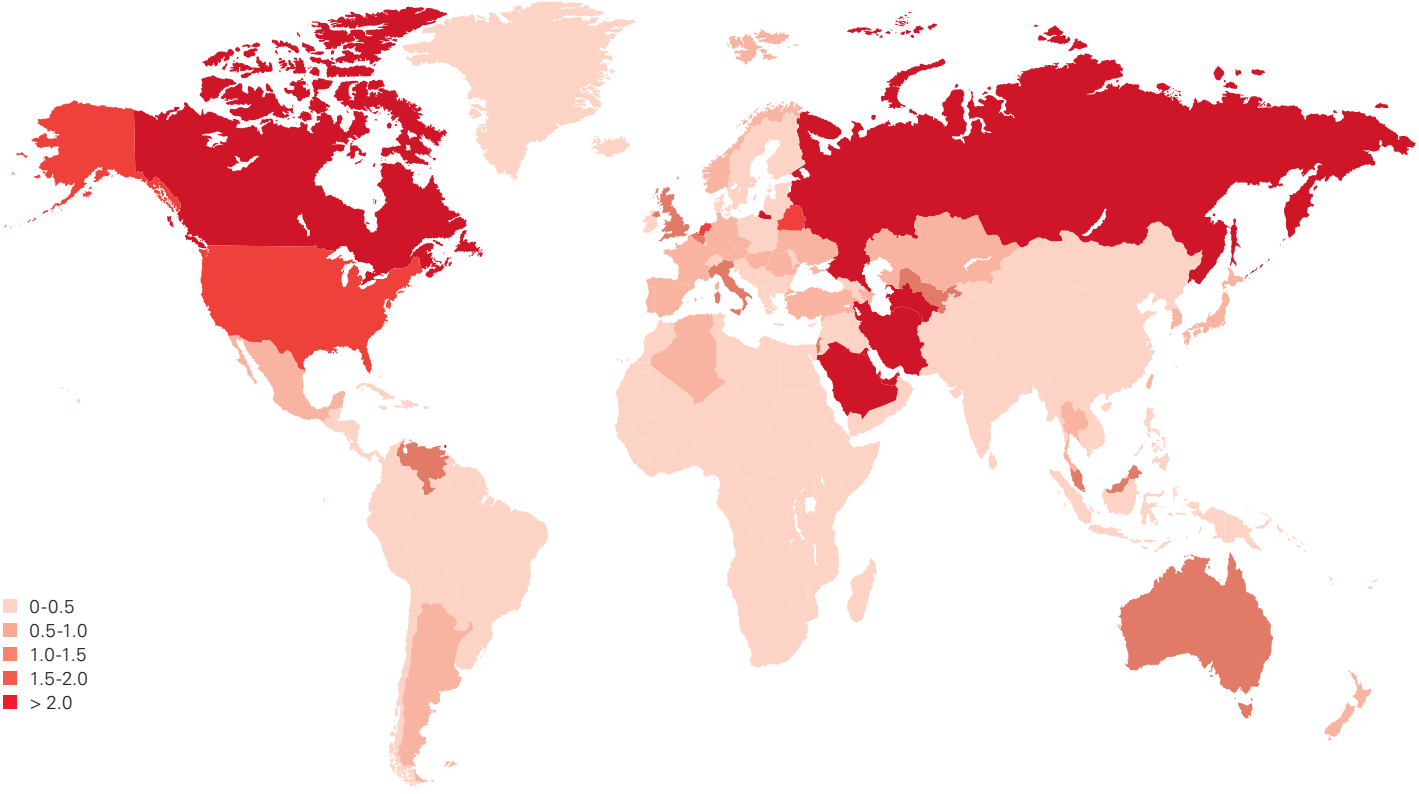


Natural gas: Consumption by region
Billion cubic metres



Global natural gas production increased by 131 billion cubic metres (bcm), or 4%, almost double the 10-year average growth rate of 2.2%. Russian growth was the largest by far at 46 bcm, followed by Iran at 21 bcm, and Australia at 17 bcm. Gas consumption rose by 96 bcm, or 3% – the fastest growth since 2010. Growth was driven by China (31 bcm, or 15.1%), the Middle East (28 bcm) and Europe (26 bcm). Consumption in the US fell by 1.2%, or 11 bcm.

Natural gas: Consumption per capita 2017
Million tonnes oil equivalent



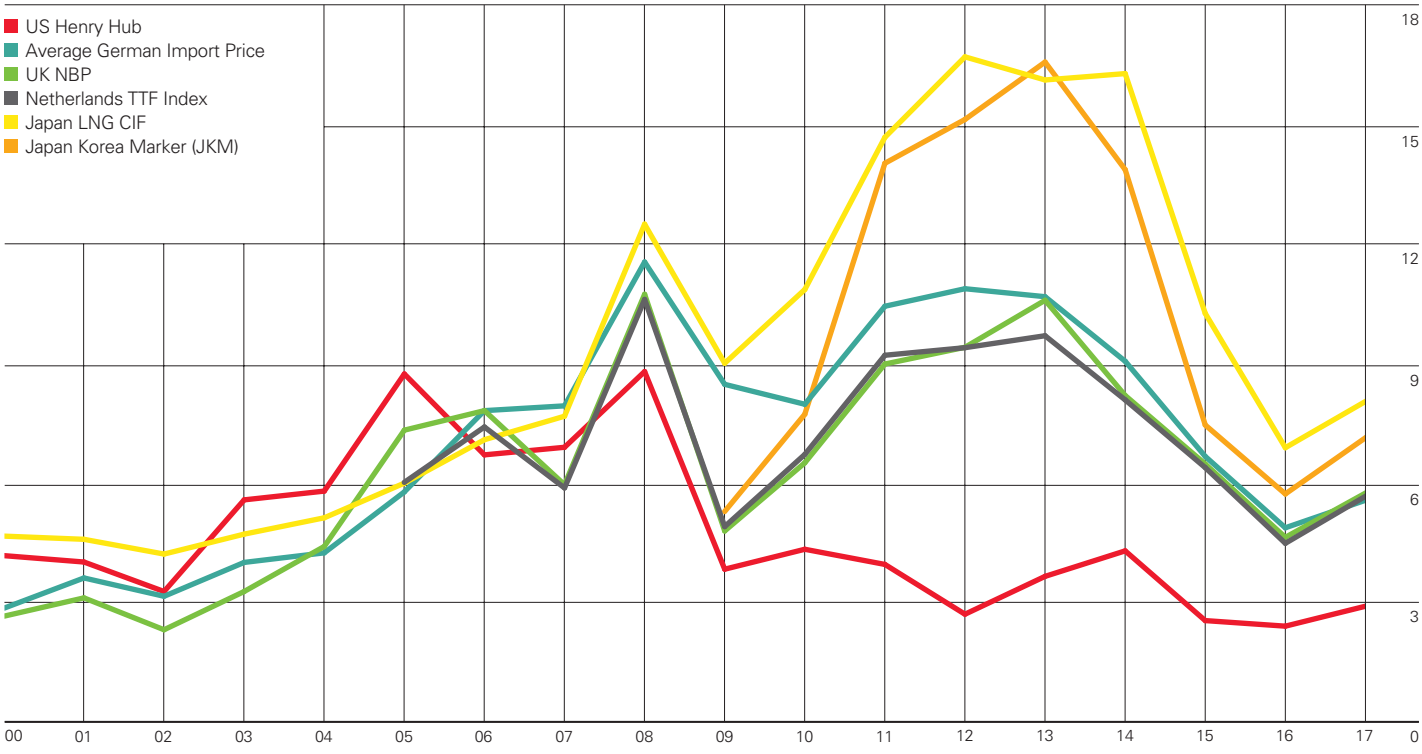
Prices

US dollars per million Btu	LNG Japan CIF[1]	LNG Japan Korea Marker (JKM)[2]	Natural gas Average German Import Price[3]	Natural gas UK (Heren NBP Index)[4]	Natural gas Netherlands TTF (DA Heren Index)[4]	Natural gas US Henry Hub[5]	Natural gas Canada (Alberta)[5]	Crude oil OECD countries CIF[6]
1987	3.35	–	2.55	–	–	–	–	3.09
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	18.55
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

[1]Source: EDMC Energy Trend.
[2]Source: S&P Global Platts ©2018, S&P Global Inc.
[3]Source: 1987-1990 German Federal Statistical Office, 1991-2017 German Federal Office of Economics and Export Control (BAFA).
[4]Source: ICIS Heren Energy Ltd.
[5]Source: Energy Intelligence Group, Natural Gas Week.
[6]Source: ©OECD/IEA 2018, Oil, Gas, Coal and Electricity Quarterly Statistics www.iea.org/statistics.

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

Prices
$/mmBtu



Natural gas: Trade movements 2017 by pipeline

Billion cubic metres To	From US	Canada	Mexico	Bolivia	Other S. & Cent. America	Netherlands	Norway	United Kingdom	Other Europe	Azerbaijan	Kazakhstan	Russian Federation	Turkmenistan	Uzbekistan	Iran	Qatar	Algeria	Libya	Other Africa	Indonesia	Myanmar	Other Asia Pacific	**Total imports**
US	–	80.7	†	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**80.7**
Canada	24.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**24.0**
Mexico	42.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**42.1**
North America	66.1	80.7	†	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**146.8**
Argentina	–	–	–	6.3	0.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**6.6**
Brazil	–	–	–	8.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**8.6**
Other S. & Cent. America	–	–	–	–	0.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.3**
S. & Cent. America	–	–	–	14.9	0.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**15.4**
Austria	–	–	–	–	–	–	–	–	–	–	–	8.6	–	–	–	–	–	–	–	–	–	–	**8.6**
Belgium	–	–	–	–	–	9.6	0.2	7.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**17.7**
Czech Republic	–	–	–	–	–	–	3.0	–	–	–	–	5.4	–	–	–	–	–	–	–	–	–	–	**8.5**
Finland	–	–	–	–	–	–	–	–	–	–	–	2.2	–	–	–	–	–	–	–	–	–	–	**2.2**
France	–	–	–	–	–	4.9	17.1	–	0.1	–	–	11.5	–	–	–	–	–	–	–	–	–	–	**33.5**
Germany	–	–	–	–	–	20.2	25.7	–	0.4	–	–	48.5	–	–	–	–	–	–	–	–	–	–	**94.8**
Greece	–	–	–	–	–	–	–	–	0.6	–	–	2.7	–	–	–	–	–	–	–	–	–	–	**3.4**
Hungary	–	–	–	–	–	–	–	–	–	–	–	8.2	–	–	–	–	–	–	–	–	–	–	**8.2**
Ireland	–	–	–	–	–	–	–	1.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1.8**
Italy	–	–	–	–	–	8.1	0.8	–	0.1	–	–	22.3	–	–	–	–	18.0	4.4	–	–	–	–	**53.8**
Netherlands	–	–	–	–	–	–	22.6	1.1	8.6	–	–	8.6	–	–	–	–	–	–	–	–	–	–	**40.9**
Poland	–	–	–	–	–	–	–	–	3.5	–	–	11.1	–	–	–	–	–	–	–	–	–	–	**14.7**
Slovakia	–	–	–	–	–	–	–	–	–	–	–	13.7	–	–	–	–	–	–	–	–	–	–	**13.7**
Spain	–	–	–	–	–	–	2.6	–	†	–	–	–	–	–	–	–	11.8	–	–	–	–	–	**14.4**
Turkey	–	–	–	–	–	–	–	–	–	6.3	–	27.6	–	–	8.9	–	–	–	–	–	–	–	**42.8**
United Kingdom	–	–	–	–	–	–	35.4	–	–	–	–	4.0	–	–	–	–	–	–	–	–	–	–	**39.4**
Other EU	–	–	–	–	–	–	0.9	–	0.9	–	–	12.1	–	–	–	–	3.2	–	–	–	–	–	**17.1**
Rest of Europe	–	–	–	–	–	0.5	0.7	†	1.9	2.1	–	2.7	–	–	–	–	–	–	–	–	–	–	**8.0**
Europe	–	–	–	–	–	43.3	109.2	10.8	16.2	8.4	–	189.3	–	–	8.9	–	33.0	4.4	–	–	–	–	**423.4**
Belarus	–	–	–	–	–	–	–	–	–	–	–	17.8	–	–	–	–	–	–	–	–	–	–	**17.8**
Kazakhstan	–	–	–	–	–	–	–	–	–	–	–	3.3	0.3	1.7	–	–	–	–	–	–	–	–	**5.3**
Russian Federation	–	–	–	–	–	–	–	–	–	–	12.1	–	–	6.7	–	–	–	–	–	–	–	–	**18.9**
Ukraine	–	–	–	–	–	–	–	–	13.3	–	–	–	–	–	–	–	–	–	–	–	–	–	**13.3**
Other CIS	–	–	–	–	–	–	–	–	–	–	–	5.0	–	–	2.0	–	–	–	–	–	–	–	**7.0**
CIS	–	–	–	–	–	–	–	–	13.3	–	12.1	26.2	0.3	8.4	2.0	–	–	–	–	–	–	–	**62.3**
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	16.4	–	–	–	–	–	–	**16.4**
Other Middle East	–	–	–	–	–	–	–	–	–	0.6	–	–	1.7	–	1.6	2.0	–	–	–	–	–	–	**5.8**
Middle East	–	–	–	–	–	–	–	–	–	0.6	–	–	1.7	–	1.6	18.4	–	–	–	–	–	–	**22.2**
South Africa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.9	–	–	–	**3.9**
Other Africa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.4	–	0.3	–	–	–	**3.7**
Africa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.4	–	4.2	–	–	–	**7.6**
Australia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5.8	**5.8**
China	–	–	–	–	–	–	–	–	–	–	1.1	–	31.7	3.4	–	–	–	–	–	–	3.3	–	**39.4**
Malaysia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.7	–	–	**0.7**
Singapore	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7.3	–	1.5	**8.9**
Thailand	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8.2	–	**8.2**
Asia Pacific	–	–	–	–	–	–	–	–	–	–	1.1	–	31.7	3.4	–	–	–	–	–	8.0	11.5	7.3	**62.9**
Total exports	**66.1**	**80.7**	**†**	**14.9**	**0.5**	**43.3**	**109.2**	**10.8**	**29.5**	**8.9**	**13.2**	**215.4**	**33.6**	**11.8**	**12.5**	**18.4**	**36.4**	**4.4**	**4.2**	**8.0**	**11.5**	**7.3**	**740.7**

Source: Includes data from FGE MENAgas service, IHS.

†Less than 0.05.

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

Natural gas: Trade movements 2017 as liquefied natural gas*

Billion cubic metres To	From US*	Brazil	Peru	Trinidad & Tobago	Norway	Other Europe*	Russian Federation	Oman	Qatar	United Arab Emirates	Algeria	Angola	Egypt	Equatorial Guinea	Nigeria	Australia	Brunei	Indonesia	Malaysia	Papua New Guinea	Other Asia Pacific*	**Total imports**
US	–	–	–	1.9	–	–	–	–	–	–	–	–	–	–	0.2	–	–	–	–	–	–	**2.2**
Canada	†	–	–	0.2	0.1	–	–	–	–	–	–	–	–	0.1	–	–	–	–	–	–	–	**0.4**
Mexico	3.8	–	0.6	0.4	–	–	–	–	–	–	–	–	–	0.1	1.5	–	–	0.3	–	–	–	**6.6**
North America	3.8	–	0.6	2.6	0.1	–	–	–	–	–	–	–	–	0.2	1.7	–	–	0.3	–	–	–	**9.2**
Argentina	0.4	0.1	0.1	0.7	–	–	–	–	2.0	–	0.1	–	–	0.7	0.6	–	–	–	–	–	0.2	**4.8**
Brazil	0.5	–	–	0.1	–	0.1	–	–	0.1	–	–	0.3	–	–	0.8	–	–	–	–	–	–	**1.9**
Chile	0.7	–	–	3.5	–	–	–	–	0.1	–	–	–	–	0.1	–	–	–	–	–	–	–	**4.4**
Other S. & Cent. America	0.2	–	–	2.5	–	–	–	–	0.1	–	–	–	–	–	–	–	–	–	–	–	–	**2.8**
S. & Cent. America	1.8	0.1	0.1	6.8	–	0.1	–	–	2.2	–	0.1	0.3	–	0.8	1.3	–	–	–	–	–	0.2	**13.8**
Belgium	–	–	–	–	†	0.1	–	–	1.2	–	–	–	–	–	–	–	–	–	–	–	–	**1.3**
France	–	–	0.2	0.1	0.8	†	–	–	2.0	–	4.1	0.2	0.1	–	3.3	–	–	–	–	–	–	**10.8**
Italy	0.2	–	–	0.3	†	†	–	–	6.8	–	1.0	–	0.1	–	–	–	–	–	–	–	–	**8.4**
Spain	0.8	–	3.6	0.6	0.9	0.1	–	–	3.5	–	2.4	0.3	0.1	–	4.4	–	–	–	–	–	–	**16.6**
Turkey	0.7	–	–	0.4	0.9	0.2	–	–	1.6	–	4.7	–	–	0.3	2.1	–	–	–	–	–	–	**10.9**
United Kingdom	0.1	–	0.1	0.2	0.1	–	0.1	–	6.1	–	0.3	–	–	–	0.1	–	–	–	–	–	–	**7.2**
Other EU	0.9	0.1	–	0.3	2.0	0.2	†	–	2.6	0.4	1.5	0.1	†	0.1	2.3	–	–	–	–	–	–	**10.5**
Rest of Europe	–	–	–	–	–	0.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.1**
Europe	2.6	0.1	3.9	1.8	4.8	0.7	0.1	–	23.7	0.4	14.1	0.6	0.3	0.4	12.2	–	–	–	–	–	–	**65.7**
Middle East	1.9	–	–	1.0	0.2	0.4	–	0.7	2.3	0.1	1.0	1.4	0.2	0.9	2.7	0.2	–	0.1	–	–	–	**13.0**
Africa	0.2	–	–	–	0.2	0.2	–	–	5.5	–	0.6	0.2	–	0.1	1.2	–	–	–	–	–	–	**8.2**
China	2.1	–	0.1	0.2	0.2	0.5	0.6	0.3	10.3	–	0.1	0.4	0.1	0.1	0.5	23.7	0.2	4.2	5.8	3.0	0.3	**52.6**
India	0.6	–	–	0.3	0.1	0.5	–	0.7	13.2	0.5	0.3	1.4	0.4	1.2	3.6	2.5	–	0.2	0.3	–	–	**25.7**
Japan	1.3	–	0.4	0.2	–	0.2	9.9	3.8	13.8	6.4	0.1	0.2	0.2	0.5	2.1	35.0	5.1	8.9	20.2	5.8	0.2	**113.9**
Malaysia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.8	1.1	–	–	–	–	**2.0**
Pakistan	0.1	–	–	0.1	–	–	–	–	5.0	–	–	–	–	0.3	0.5	–	–	–	–	–	–	**6.1**
Singapore	–	–	–	–	–	–	–	–	1.2	0.1	0.1	0.2	0.1	0.1	–	2.1	–	–	0.3	–	†	**4.1**
South Korea	2.7	–	0.5	0.2	0.1	–	2.6	5.7	15.9	–	0.2	0.4	–	0.2	1.1	9.6	2.0	4.9	5.1	0.1	0.1	**51.3**
Taiwan	0.2	–	0.1	0.3	–	–	2.3	0.2	7.0	0.1	0.1	–	–	–	0.7	1.4	0.6	2.9	4.1	2.6	–	**22.5**
Thailand	0.1	–	–	–	–	–	–	–	3.2	0.1	0.1	–	–	0.1	0.2	0.7	0.1	0.3	0.4	–	–	**5.2**
Asia Pacific	7.1	–	1.1	1.2	0.4	1.2	15.4	10.7	69.6	7.2	0.9	2.6	0.7	2.5	8.7	75.7	9.1	21.4	36.1	11.5	0.6	**283.5**
Total exports	**17.4**	**0.1**	**5.6**	**13.4**	**5.8**	**2.5**	**15.5**	**11.4**	**103.4**	**7.7**	**16.6**	**5.0**	**1.2**	**4.8**	**27.8**	**75.9**	**9.1**	**21.7**	**36.1**	**11.5**	**0.7**	**393.4**

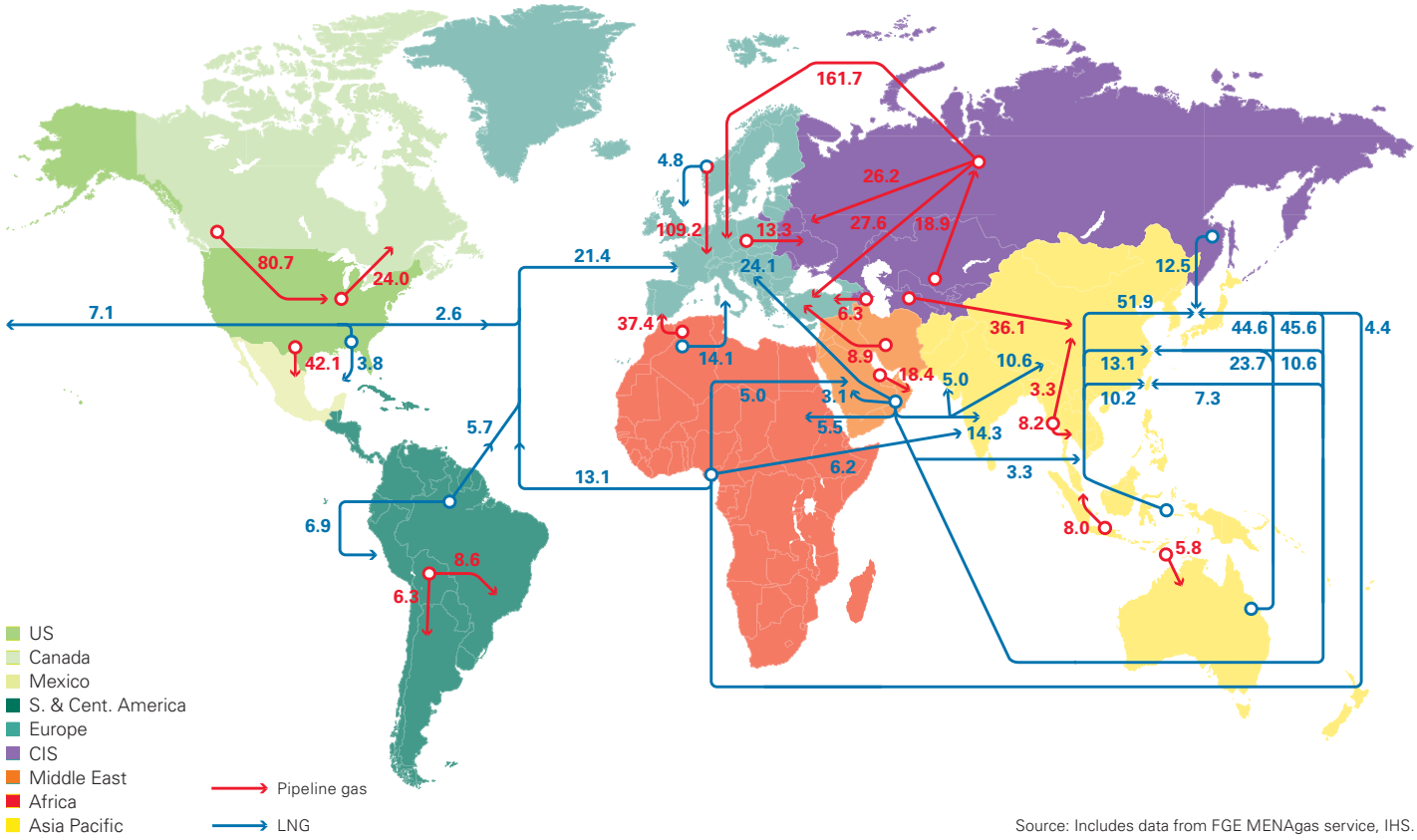
†Less than 0.05.

*Includes re-exports.

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

Major trade movements 2017

Trade flows worldwide (billion cubic metres)



Source: Includes data from FGE MENAgas service, IHS.

Gas trade in 2016 and 2017

Billion cubic metres	2016 Pipeline imports	2016 LNG imports	2016 Pipeline exports	2016 LNG exports	2017 Pipeline imports	2017 LNG imports	2017 Pipeline exports	2017 LNG exports
US	79.5	2.4	58.6	4.3	80.7	2.2	66.1	17.4
Canada	21.1	0.3	79.5	†	24.0	0.4	80.7	†
Mexico	37.5	5.9	†	–	42.1	6.6	†	–
Trinidad and Tobago	–	–	–	14.3	–	–	–	13.4
Other S. & Cent. America	16.2	15.6	16.2	6.4	15.4	13.8	15.4	5.8
France	32.2	9.1	–	1.5	33.5	10.8	–	1.0
Germany	95.6	–	9.1	–	94.8	–	7.1	–
Italy	60.5	5.9	–	–	53.8	8.4	–	–
Netherlands	36.8	1.3	46.8	0.9	40.9	1.6	43.3	0.8
Norway	†	–	109.4	6.0	†	–	109.2	5.8
Spain	15.5	13.8	0.6	0.2	14.4	16.6	0.1	0.1
Turkey	36.9	7.8	0.6	–	42.8	10.9	0.6	–
United Kingdom	35.2	11.0	9.7	0.6	39.4	7.2	10.8	0.3
Other Europe	94.8	7.9	13.9	1.3	103.7	10.2	21.6	0.2
Russian Federation	18.1	–	200.1	14.6	18.9	–	215.4	15.5
Ukraine	10.5	–	–	–	13.3	–	–	–
Other CIS	29.3	–	68.5	–	30.1	–	67.5	–
Qatar	–	–	18.5	107.2	–	–	18.4	103.4
Other Middle East	25.8	13.7	8.0	18.8	22.2	13.0	12.5	19.1
Algeria	–	–	38.1	15.8	–	–	36.4	16.6
Other Africa	8.3	10.7	8.6	30.0	7.6	8.2	8.7	38.9
Australia	6.4	0.1	–	59.2	5.8	–	–	75.9
China	36.0	35.9	–	–	39.4	52.6	–	–
India	–	23.6	–	0.1	–	25.7	–	–
Japan	–	113.6	–	–	–	113.9	–	–
Indonesia	–	–	8.2	22.2	–	–	8.0	21.7
South Korea	–	45.7	–	0.1	–	51.3	–	0.1
Other Asia Pacific	18.1	32.5	20.0	53.4	17.7	40.0	18.8	57.2
Total World	**714.4**	**356.7**	**714.4**	**356.7**	**740.7**	**393.4**	**740.7**	**393.4**

Source: Includes data from FGE MENAgas service, IHS.

†Less than 0.05.

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

Total proved reserves at end 2017

Million tonnes	Anthracite and bituminous	Sub-bituminous and lignite	Total	Share of total	R/P ratio
US	220800	30116	**250916**	24.2%	357
Canada	4346	2236	**6582**	0.6%	111
Mexico	1160	51	**1211**	0.1%	116
Total North America	226306	32403	**258709**	25.0%	335
Brazil	1547	5049	**6596**	0.6%	*
Colombia	4881	–	**4881**	0.5%	55
Venezuela	731	–	**731**	0.1%	*
Other S. & Cent. America	1784	24	**1808**	0.2%	*
Total S. & Cent. America	8943	5073	**14016**	1.4%	141
Bulgaria	192	2174	**2366**	0.2%	69
Czech Republic	1099	2541	**3640**	0.4%	81
Germany	8	36100	**36108**	3.5%	206
Greece	–	2876	**2876**	0.3%	76
Hungary	276	2633	**2909**	0.3%	366
Poland	19808	6003	**25811**	2.5%	203
Romania	11	280	**291**	◆	11
Serbia	402	7112	**7514**	0.7%	188
Spain	868	319	**1187**	0.1%	427
Turkey	378	10975	**11353**	1.1%	115
United Kingdom	70	–	**70**	◆	23
Other Europe	1108	5172	**6280**	0.6%	192
Total Europe	24220	76185	**100405**	9.7%	159
Kazakhstan	25605	–	**25605**	2.5%	230
Russian Federation	69634	90730	**160364**	15.5%	391
Ukraine	32039	2336	**34375**	3.3%	*
Uzbekistan	1375	–	**1375**	0.1%	340
Other CIS	1509	–	**1509**	0.1%	418
Total CIS	130162	93066	**223228**	21.6%	397
South Africa	9893	–	**9893**	1.0%	39
Zimbabwe	502	–	**502**	◆	171
Other Africa	2756	66	**2822**	0.3%	184
Middle East	1203	–	**1203**	0.1%	*
Total Middle East & Africa	14354	66	**14420**	1.4%	53
Australia	68310	76508	**144818**	14.0%	301
China	130851	7968	**138819**	13.4%	39
India	92786	4942	**97728**	9.4%	136
Indonesia	15068	7530	**22598**	2.2%	49
Japan	340	10	**350**	◆	252
Mongolia	1170	1350	**2520**	0.2%	51
New Zealand	825	6750	**7575**	0.7%	*
Pakistan	207	2857	**3064**	0.3%	*
South Korea	326	–	**326**	◆	219
Thailand	–	1063	**1063**	0.1%	65
Vietnam	3116	244	**3360**	0.3%	88
Other Asia Pacific	1326	687	**2013**	0.2%	31
Total Asia Pacific	314325	109909	**424234**	41.0%	79
Total World	**718310**	**316702**	**1035012**	**100.0%**	**134**
of which: OECD	320377	177608	**497985**	48.1%	282
Non-OECD	397933	139094	**537027**	51.9%	91
European Union	22913	53416	**76329**	7.4%	164

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

Source: Includes data from Federal Institute for Geosciences and Natural Resources (BGR) Energy Study 2017.

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.

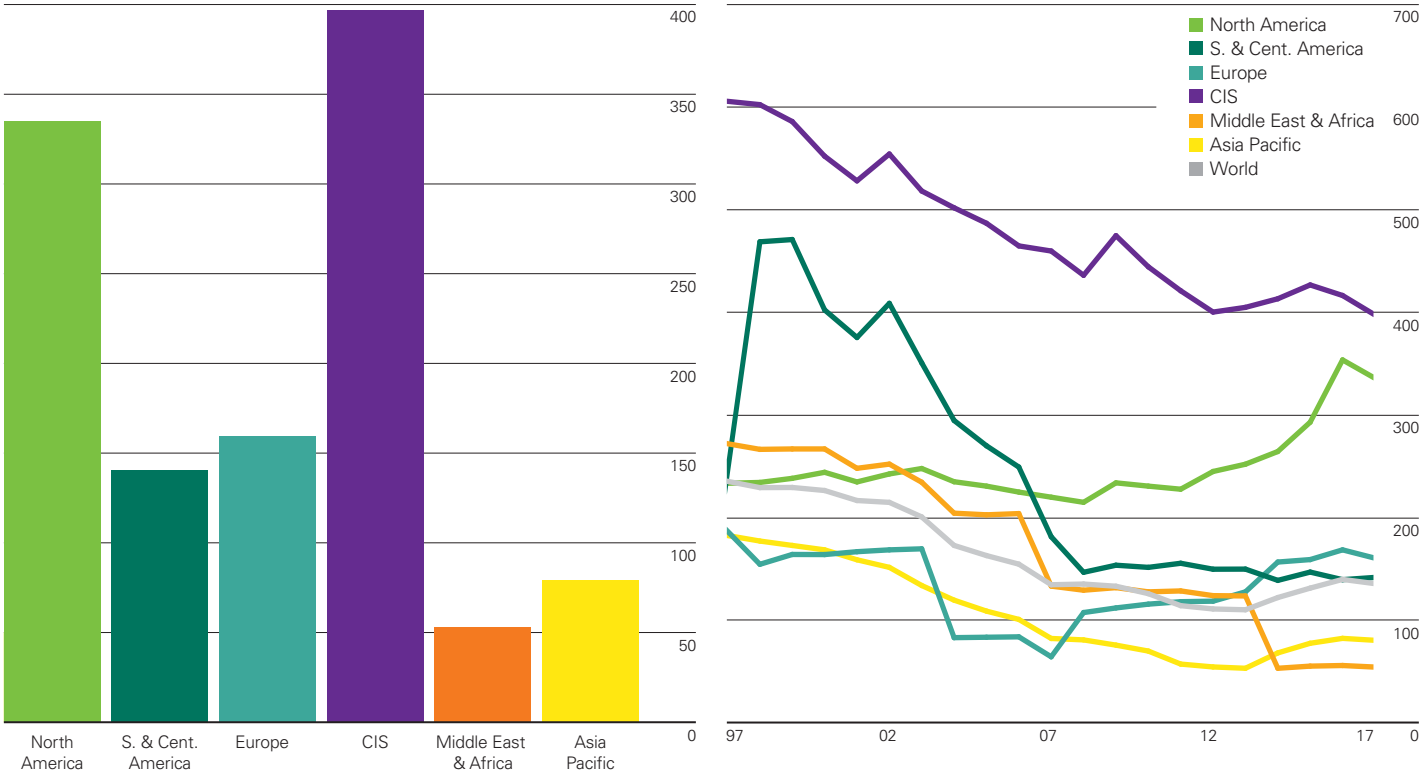
Prices

US dollars per tonne	Northwest Europe marker price†	US Central Appalachian coal spot price index‡	Japan steam spot CIF price†	China Qinhuangdao spot price†
1997	38.92	29.76	–	–
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

†Source: IHS Northwest Europe prices for 1997-2000 are the average of the monthly marker, 2001-2017 the average of weekly prices. IHS Japan prices basis = 6,000 kilocalories per kilogram NAR CIF. Chinese prices are the average monthly price for 2000-2005, weekly prices 2006-2017, 5,500 kilocalories per kilogram NAR, including cost and freight (CFR).
‡Source: S&P Global Platts, © 2018, S&P Global Inc. Prices are for Central Appalachian 12,500 BTU, 1.2 SO2 coal, FOB. Prices for 1997-2000 are by coal price publication date, 2001-2005 by coal price assessment date. 2006-2017 weekly CAPP 12,500 BTU, 1.6 SO2 coal, FOB.
Note: CIF = cost+insurance+freight (average prices); FOB = free on board.

Reserves-to-production (R/P) ratios

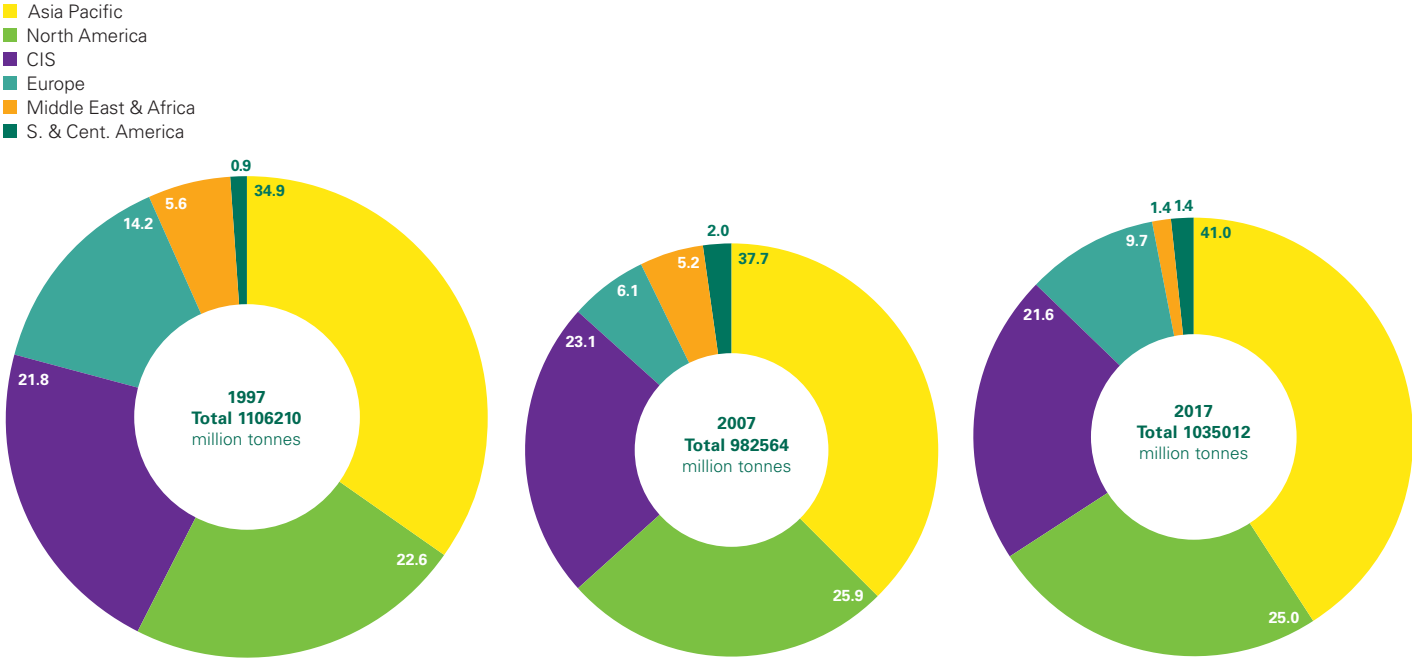
Years



World proved coal reserves are currently sufficient to meet 134 years of global production, much higher than the R/P ratio for oil and gas. By region, Asia Pacific holds the most proved reserves (41% of total), split mainly between Australia, China and India. The US remains the largest single reserve holder (24.2% of total).

Distribution of proved reserves in 1997, 2007 and 2017

Percentage



Coal: Production*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	558.3	566.9	513.7	523.7	528.3	491.9	475.8	482.3	426.9	348.3	**371.3**	6.9%	-4.7%	9.9%
Canada	35.7	35.6	33.1	35.4	35.5	35.5	36.1	35.9	32.3	31.8	**31.1**	-2.0%	-0.9%	0.8%
Mexico	7.3	6.9	6.1	7.3	9.4	7.4	7.2	7.3	6.9	6.1	**5.5**	-8.5%	-1.1%	0.1%
Total North America	601.3	609.4	552.9	566.4	573.1	534.9	519.1	525.5	466.1	386.2	**407.9**	5.9%	-4.4%	10.8%
Brazil	2.7	2.9	2.3	2.3	2.4	2.9	3.7	3.4	2.7	3.0	**3.0**	–	1.5%	0.1%
Colombia	48.0	50.5	50.0	51.1	58.9	61.2	58.7	60.8	58.8	62.2	**61.4**	-0.9%	3.2%	1.6%
Venezuela	5.0	3.7	2.4	1.9	1.9	1.4	0.9	0.6	0.6	0.7	**0.3**	-52.4%	-18.3%	◆
Other S. & Cent. America	0.3	0.4	0.4	0.4	0.4	0.5	1.7	3.0	2.3	2.0	**2.0**	1.1%	17.6%	0.1%
Total S. & Cent. America	55.9	57.5	55.1	55.7	63.6	65.9	65.0	67.8	64.4	67.8	**66.8**	-1.3%	2.4%	1.8%
Bulgaria	4.8	4.9	4.6	4.9	6.2	5.6	4.8	5.1	5.9	5.1	**5.6**	10.3%	1.7%	0.1%
Czech Republic	23.8	22.8	20.9	20.8	21.0	20.3	17.8	17.0	17.1	16.1	**15.4**	-3.8%	-3.9%	0.4%
Germany	54.4	50.1	46.4	45.9	46.7	47.8	45.1	44.1	42.8	39.8	**39.6**	-0.3%	-2.9%	1.0%
Greece	8.4	8.1	8.2	7.3	7.5	8.0	6.7	6.4	5.7	4.0	**4.6**	16.2%	-7.0%	0.1%
Hungary	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	**1.3**	-13.5%	-1.8%	◆
Poland	62.5	60.9	56.4	55.4	55.7	57.8	57.2	54.0	53.0	52.1	**49.6**	-4.4%	-2.6%	1.3%
Romania	6.9	7.0	6.6	5.9	6.7	6.3	4.7	4.4	4.7	4.2	**4.7**	12.1%	-4.2%	0.1%
Serbia	7.2	7.5	7.4	7.2	7.8	7.3	7.7	5.7	7.2	7.3	**7.5**	3.9%	n/a	0.2%
Spain	5.9	4.4	3.8	3.3	2.6	2.5	1.8	1.6	1.2	0.7	**1.0**	47.6%	-19.8%	◆
Turkey	14.8	16.7	17.4	17.5	17.9	17.0	15.5	16.4	12.8	15.5	**20.8**	34.8%	1.6%	0.6%
United Kingdom	10.7	11.3	11.0	11.4	11.5	10.6	8.0	7.3	5.4	2.6	**1.9**	-27.0%	-13.6%	0.1%
Other Europe	15.5	15.7	15.8	16.0	16.0	14.4	16.7	15.4	13.9	12.5	**12.5**	-0.2%	-6.3%	0.3%
Total Europe	216.6	211.0	200.1	197.4	201.4	199.2	187.5	179.0	171.2	161.3	**164.6**	2.3%	-3.1%	4.4%
Kazakhstan	42.2	47.9	43.4	47.5	49.8	51.6	51.4	48.9	46.2	44.3	**47.9**	8.5%	0.7%	1.3%
Russian Federation	143.5	149.0	141.7	151.0	157.6	168.3	173.1	176.6	186.4	194.0	**206.3**	6.7%	3.2%	5.5%
Ukraine	34.0	34.4	31.8	31.8	36.3	38.0	36.6	25.9	16.4	17.1	**14.4**	-15.6%	-7.1%	0.4%
Uzbekistan	1.0	0.9	1.0	1.0	1.1	1.2	1.1	1.2	1.1	1.1	**1.1**	4.2%	3.3%	◆
Other CIS	0.8	0.8	0.8	0.9	1.0	1.2	1.3	1.4	1.4	1.7	**2.0**	19.7%	9.4%	0.1%
Total CIS	221.5	233.0	218.8	232.0	245.7	260.3	263.5	254.0	251.5	258.1	**271.8**	5.6%	1.6%	7.2%
Total Middle East	1.1	1.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	**0.8**	–	-2.9%	◆
South Africa	138.4	141.0	139.7	144.1	143.2	146.6	145.3	148.2	142.9	142.4	**143.0**	0.7%	0.3%	3.8%
Zimbabwe	1.3	1.0	1.1	1.7	1.7	1.0	2.0	3.7	2.8	1.7	**1.9**	8.7%	2.5%	0.1%
Other Africa	0.8	0.8	0.7	0.9	1.1	4.3	5.1	5.8	6.0	5.4	**9.6**	77.3%	19.7%	0.3%
Total Africa	140.5	142.7	141.5	146.8	146.0	151.9	152.4	157.7	151.6	149.6	**154.5**	3.6%	0.6%	4.1%
Australia	227.0	234.2	242.5	250.6	245.1	265.9	285.8	305.9	306.4	307.7	**297.4**	-3.1%	3.4%	7.9%
China	1439.3	1491.8	1537.9	1665.3	1851.7	1873.5	1894.6	1864.2	1825.6	1691.4	**1747.2**	3.6%	2.4%	46.4%
India	210.3	227.5	246.0	252.4	250.8	255.0	255.7	269.5	281.0	284.9	**294.2**	3.5%	3.7%	7.8%
Indonesia	127.8	141.6	151.0	162.1	208.2	227.4	279.7	269.9	272.0	268.8	**271.6**	1.3%	8.9%	7.2%
Japan	0.8	0.7	0.7	0.5	0.7	0.7	0.7	0.7	0.6	0.7	**0.8**	3.9%	-0.1%	◆
Mongolia	4.8	5.2	8.2	15.2	19.9	17.9	18.0	15.2	14.3	21.5	**30.3**	41.4%	18.2%	0.8%
New Zealand	3.0	3.0	2.8	3.3	3.1	3.0	2.9	2.5	2.0	1.7	**1.8**	2.2%	-7.1%	◆
Pakistan	1.7	1.8	1.6	1.5	1.4	1.4	1.3	1.5	1.5	1.8	**1.8**	-0.8%	0.2%	◆
South Korea	1.3	1.3	1.2	1.0	1.0	1.0	0.8	0.8	0.8	0.8	**0.7**	-8.0%	-4.7%	◆
Thailand	4.9	4.9	4.7	4.9	5.9	4.8	4.8	4.7	3.9	4.3	**4.1**	-4.5%	-2.3%	0.1%
Vietnam	23.8	22.3	24.7	25.1	26.1	23.6	23.0	23.0	23.3	21.6	**21.3**	-0.9%	-0.1%	0.6%
Other Asia Pacific	20.7	22.1	19.3	20.7	22.2	22.8	23.4	23.8	25.2	34.3	**31.0**	-9.2%	4.3%	0.8%
Total Asia Pacific	2065.5	2156.2	2240.5	2402.6	2636.0	2697.0	2790.6	2781.7	2756.7	2639.6	**2702.3**	2.7%	3.2%	71.7%
Total World	**3302.4**	**3410.8**	**3409.6**	**3601.6**	**3866.6**	**3909.8**	**3978.9**	**3966.4**	**3862.1**	**3663.5**	**3768.6**	**3.2%**	**1.5%**	**100.0%**
of which: OECD	1026.5	1034.7	976.4	995.9	997.8	979.9	975.5	996.5	925.9	838.0	**851.6**	1.9%	-2.0%	22.6%
Non-OECD	2275.9	2376.0	2433.2	2605.7	2868.8	2930.0	3003.4	2969.9	2936.3	2825.5	**2917.0**	3.5%	2.8%	77.4%
European Union	187.1	179.0	168.0	165.8	168.6	168.2	157.4	150.5	144.9	132.4	**130.8**	-0.9%	-3.7%	3.5%

*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%.
n/a not available.
Note: Growth rates are adjusted for leap years.
Coal production data expressed in million tonnes is available at *bp.com/statisticalreview*.

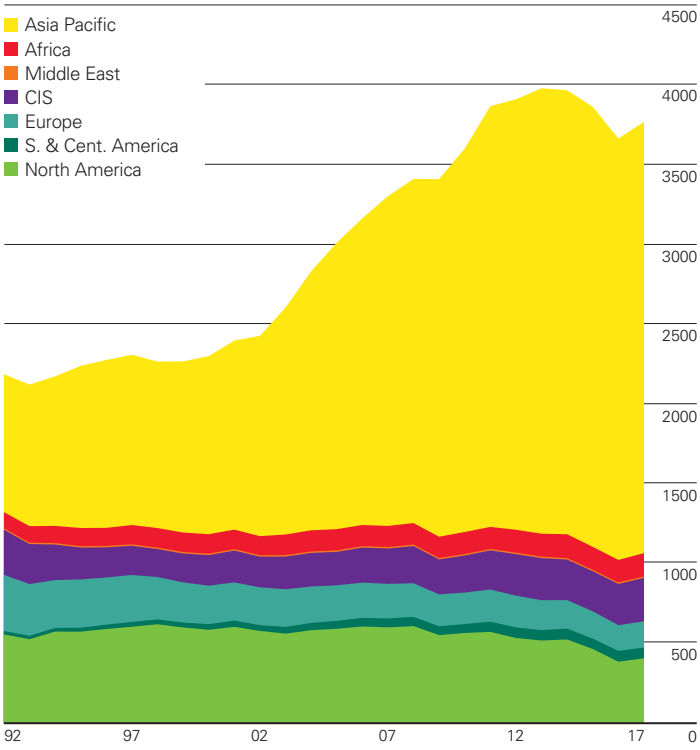
Coal: Consumption*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	544.6	535.9	471.4	498.8	470.6	416.0	431.8	430.9	372.2	340.6	**332.1**	-2.2%	-4.5%	8.9%
Canada	30.3	29.4	23.5	24.8	21.8	21.1	20.8	19.6	19.9	18.9	**18.6**	-1.4%	-4.2%	0.5%
Mexico	11.3	10.1	10.3	12.7	14.7	12.8	12.7	12.7	12.7	12.4	**13.1**	5.6%	0.1%	0.4%
Total North America	586.2	575.5	505.2	536.3	507.1	449.9	465.4	463.2	404.8	371.9	**363.8**	-1.9%	-4.3%	9.7%
Argentina	1.2	1.5	0.8	1.2	1.3	1.2	1.3	1.4	1.4	1.0	**1.1**	1.7%	2.1%	◆
Brazil	13.6	13.8	11.1	14.5	15.4	15.3	16.5	17.5	17.6	15.9	**16.5**	4.1%	2.2%	0.4%
Chile	4.1	4.4	4.0	4.5	5.8	6.7	7.5	7.6	7.3	7.4	**6.7**	-9.1%	8.0%	0.2%
Colombia	3.2	5.0	4.0	4.6	3.7	4.7	5.0	5.1	5.4	5.5	**4.0**	-27.6%	3.9%	0.1%
Ecuador	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	1.0	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.8	1.0	**1.0**	–	2.2%	◆
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	**0.3**	-10.8%	1.7%	◆
Other S. & Cent. America	2.5	2.6	2.1	2.3	2.8	2.7	2.9	3.2	3.6	3.8	**3.2**	-14.0%	4.6%	0.1%
Total S. & Cent. America	25.8	28.3	23.1	28.1	30.0	31.6	34.3	35.9	36.2	34.9	**32.7**	-5.9%	3.7%	0.9%
Austria	3.9	3.8	2.9	3.4	3.5	3.2	3.3	3.0	3.2	3.0	**3.2**	5.0%	-2.9%	0.1%
Belgium	4.4	4.5	3.1	3.8	3.5	3.2	3.3	3.3	3.2	3.0	**2.9**	-1.5%	-5.0%	0.1%
Czech Republic	21.4	19.7	17.7	18.8	18.4	17.4	17.2	16.0	16.6	16.6	**16.0**	-3.0%	-2.4%	0.4%
Finland	7.0	5.3	5.4	6.8	5.5	4.5	5.0	4.5	3.8	4.4	**4.1**	-5.6%	-5.1%	0.1%
France	12.8	12.1	10.8	11.5	9.8	11.1	11.6	8.6	8.4	8.2	**9.1**	11.4%	-4.1%	0.2%
Germany	86.7	80.1	71.7	77.1	78.3	80.5	82.8	79.6	78.7	75.8	**71.3**	-5.8%	-1.1%	1.9%
Greece	8.8	8.3	8.4	7.9	7.9	8.1	7.0	6.7	5.6	4.4	**4.9**	11.7%	-6.4%	0.1%
Hungary	3.1	3.1	2.6	2.7	2.7	2.6	2.3	2.2	2.4	2.3	**2.3**	1.8%	-3.0%	0.1%
Italy	16.3	15.8	12.4	13.7	15.4	15.7	13.5	13.1	12.3	11.0	**9.8**	-10.5%	-4.1%	0.3%
Netherlands	8.4	8.0	7.5	7.5	7.4	8.2	8.2	9.1	11.0	10.2	**9.1**	-10.4%	2.8%	0.2%
Norway	0.7	0.7	0.6	0.8	0.8	0.8	0.8	0.9	0.8	0.8	**0.8**	2.3%	2.0%	◆
Poland	55.9	55.2	51.8	55.1	55.0	51.2	53.4	49.4	48.7	49.5	**48.7**	-1.4%	-1.5%	1.3%
Portugal	2.9	2.5	2.9	1.6	2.2	2.9	2.6	2.7	3.3	3.2	**3.5**	10.6%	-0.4%	0.1%
Romania	10.1	9.6	7.6	7.0	8.2	7.6	5.8	5.7	5.9	5.3	**5.7**	6.8%	-5.6%	0.2%
Spain	20.0	13.5	9.4	6.9	12.8	15.5	11.4	11.6	13.7	10.5	**13.4**	28.5%	-5.2%	0.4%
Sweden	2.7	2.4	1.9	2.5	2.5	2.2	2.2	2.1	2.1	2.1	**1.9**	-6.2%	-2.7%	0.1%
Switzerland	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	–	-3.0%	◆
Turkey	29.5	29.6	30.9	31.4	33.9	36.5	31.6	36.1	34.7	38.5	**44.6**	16.3%	3.9%	1.2%
United Kingdom	38.4	35.6	29.8	30.9	31.4	39.0	37.0	29.8	23.2	11.2	**9.0**	-19.4%	-12.2%	0.2%
Other Europe	39.5	39.3	36.9	38.4	40.9	36.9	37.3	34.7	35.4	35.3	**36.1**	2.6%	-1.2%	1.0%
Total Europe	372.9	349.3	314.3	327.8	340.2	347.3	336.4	319.3	313.1	295.1	**296.4**	0.7%	-2.2%	7.9%
Azerbaijan	†	†	†	†	†	†	†	†	†	†	**†**	–	-15.0%	◆
Belarus	0.7	0.6	0.6	0.6	0.8	0.8	0.9	0.8	0.6	0.7	**0.9**	16.2%	1.9%	◆
Kazakhstan	31.1	33.8	30.9	33.4	36.3	37.9	37.5	37.0	34.2	33.9	**36.2**	7.0%	1.8%	1.0%
Russian Federation	93.9	100.7	92.2	90.5	94.0	98.4	90.5	87.6	92.1	89.2	**92.3**	3.8%	-0.8%	2.5%
Turkmenistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ukraine	39.8	41.8	35.9	38.3	41.5	42.5	41.6	35.6	27.3	29.7	**24.6**	-17.1%	-2.9%	0.7%
Uzbekistan	1.0	1.0	1.0	0.9	1.1	1.2	1.1	1.2	1.1	1.0	**1.2**	20.8%	2.1%	◆
Other CIS	0.8	1.1	0.9	0.9	1.0	1.4	1.4	1.7	1.8	1.6	**1.9**	16.0%	8.8%	0.1%
Total CIS	167.3	179.0	161.5	164.7	174.7	182.1	173.0	163.8	157.3	156.2	**157.0**	0.8%	-0.7%	4.2%
Iran	1.6	1.2	1.4	1.3	1.4	1.1	1.4	1.6	1.5	0.9	**0.9**	3.0%	-5.0%	◆
Iraq	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Israel	8.0	7.9	7.7	7.7	7.9	8.8	7.4	6.9	6.8	5.7	**5.2**	-8.4%	-3.1%	0.1%
Kuwait	†	†	–	†	†	–	0.3	0.2	0.2	0.2	**0.2**	-29.1%	57.7%	◆
Oman	†	†	†	†	†	†	0.1	0.1	0.1	0.1	**0.1**	–	62.2%	◆
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	0.1	0.1	†	0.1	0.1	0.1	0.1	0.2	0.1	0.1	**0.1**	–	17.4%	◆
United Arab Emirates	0.1	0.3	0.3	0.7	0.4	1.4	1.8	2.0	1.7	1.5	**1.6**	1.7%	18.6%	◆
Other Middle East	0.1	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.4	0.4	**0.4**	-9.8%	12.7%	◆
Total Middle East	9.9	9.7	9.6	10.1	10.3	11.9	11.5	11.5	10.7	9.1	**8.5**	-5.9%	-0.8%	0.2%
Algeria	0.8	0.8	0.5	0.3	0.3	0.3	0.2	0.2	0.1	†	**†**	–	-25.1%	◆
Egypt	0.8	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.2	**0.2**	4.2%	-15.5%	◆
Morocco	3.2	3.7	2.7	2.8	3.0	3.0	3.0	4.0	4.4	4.3	**4.5**	4.2%	1.0%	0.1%
South Africa	83.7	93.3	93.8	92.8	90.5	88.3	88.4	89.5	83.0	84.7	**82.2**	-2.7%	0.4%	2.2%
Other Africa	3.6	3.0	3.3	3.7	4.2	3.9	5.3	7.8	6.7	5.7	**6.2**	8.9%	5.1%	0.2%
Total Africa	92.0	101.4	101.0	100.1	98.4	96.0	97.2	101.9	94.6	94.9	**93.1**	-1.7%	0.5%	2.5%
Australia	52.7	54.9	53.1	49.4	48.1	45.1	43.0	42.6	43.9	43.6	**42.3**	-2.8%	-1.9%	1.1%
Bangladesh	0.6	0.6	0.8	0.8	0.7	0.9	1.0	0.9	2.3	2.2	**2.3**	7.3%	16.6%	0.1%
China	1584.2	1609.3	1685.8	1748.9	1903.9	1927.8	1969.1	1954.5	1914.0	1889.1	**1892.6**	0.5%	2.6%	50.7%
China Hong Kong SAR	7.5	6.9	7.2	6.2	7.4	7.3	7.8	8.1	6.7	6.7	**6.3**	-6.1%	-0.2%	0.2%
India	240.0	259.3	280.8	290.4	304.6	330.0	352.8	387.5	395.3	405.6	**424.0**	4.8%	6.3%	11.4%
Indonesia	36.2	31.5	33.2	39.5	46.9	53.0	57.0	45.1	51.2	53.4	**57.2**	7.4%	6.3%	1.5%
Japan	117.7	120.3	101.6	115.7	109.6	115.8	121.2	119.1	119.0	118.8	**120.5**	1.7%	0.6%	3.2%
Malaysia	8.8	9.8	10.6	14.8	14.8	15.9	15.1	15.4	17.4	19.6	**20.0**	2.5%	10.4%	0.5%
New Zealand	1.7	2.1	1.6	1.4	1.4	1.7	1.5	1.5	1.4	1.2	**1.2**	5.2%	-6.1%	◆
Pakistan	5.4	6.0	4.9	4.6	4.0	4.0	3.2	4.7	4.7	5.6	**7.1**	26.2%	3.6%	0.2%
Philippines	5.4	6.4	6.1	7.0	7.7	8.1	10.0	10.6	11.6	11.7	**13.1**	12.0%	8.8%	0.4%
Singapore	†	†	†	†	†	†	0.3	0.4	0.4	0.4	**0.4**	-6.7%	56.0%	◆
South Korea	59.7	66.1	68.6	75.9	83.6	81.0	81.9	84.6	85.5	81.9	**86.3**	5.7%	4.1%	2.3%
Sri Lanka	†	0.1	0.1	0.1	0.3	0.5	0.5	0.9	1.2	1.3	**1.4**	5.4%	40.5%	◆
Taiwan	38.8	37.0	35.2	37.6	38.9	38.0	38.6	39.0	37.8	38.6	**39.4**	2.5%	0.4%	1.1%
Thailand	13.9	15.0	15.0	15.4	15.7	16.5	16.2	17.9	17.5	17.7	**18.3**	3.7%	3.7%	0.5%
Vietnam	6.3	11.9	11.2	14.6	17.3	16.1	17.2	20.8	26.2	28.3	**28.2**	-3.6%	17.3%	0.8%
Other Asia Pacific	18.7	20.5	16.6	16.2	13.2	13.9	11.2	12.7	12.2	18.3	**19.4**	6.2%	-1.7%	0.5%
Total Asia Pacific	2197.6	2257.5	2332.3	2438.6	2618.3	2675.5	2747.5	2766.5	2748.3	2744.0	**2780.0**	1.6%	3.1%	74.5%
Total World	**3451.8**	**3500.6**	**3447.0**	**3605.6**	**3778.9**	**3794.5**	**3865.3**	**3862.2**	**3765.0**	**3706.0**	**3731.5**	**1.0%**	**1.3%**	**100.0%**
of which: OECD	1169.8	1147.1	1026.3	1088.7	1069.4	1025.5	1035.9	1017.9	952.9	897.6	**893.4**	-0.2%	-2.4%	23.9%
Non-OECD	2281.9	2353.5	2420.6	2516.9	2709.5	2769.0	2829.4	2844.2	2812.1	2808.4	**2838.0**	1.3%	2.9%	76.1%
European Union	328.3	303.6	267.4	280.2	288.1	294.3	288.1	268.2	261.7	239.5	**234.3**	-1.9%	-3.1%	6.3%

*Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), lignite and brown (sub-bituminous) coal, and other commercial solid fuels. Excludes coal converted to liquid or gaseous fuels, but includes coal consumed in transformation processes.
†Less than 0.05.
◆Less than 0.05%.
Notes: Differences between these world consumption figures and the world production statistics are accounted for by stock changes, and unavoidable disparities in the definition, measurement or conversion of coal supply and demand data.
Growth rates are adjusted for leap years.

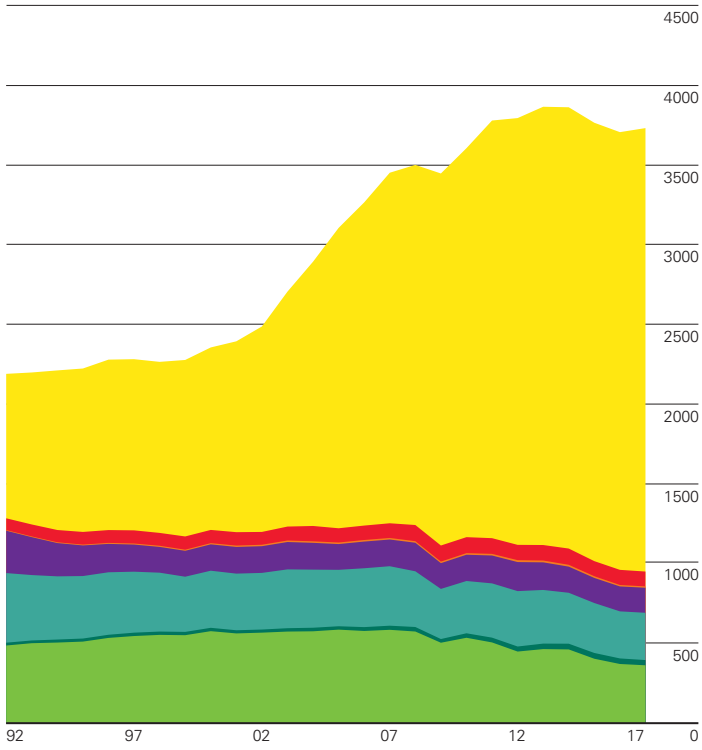
Coal: Production by region

Million tonnes oil equivalent



Coal: Consumption by region

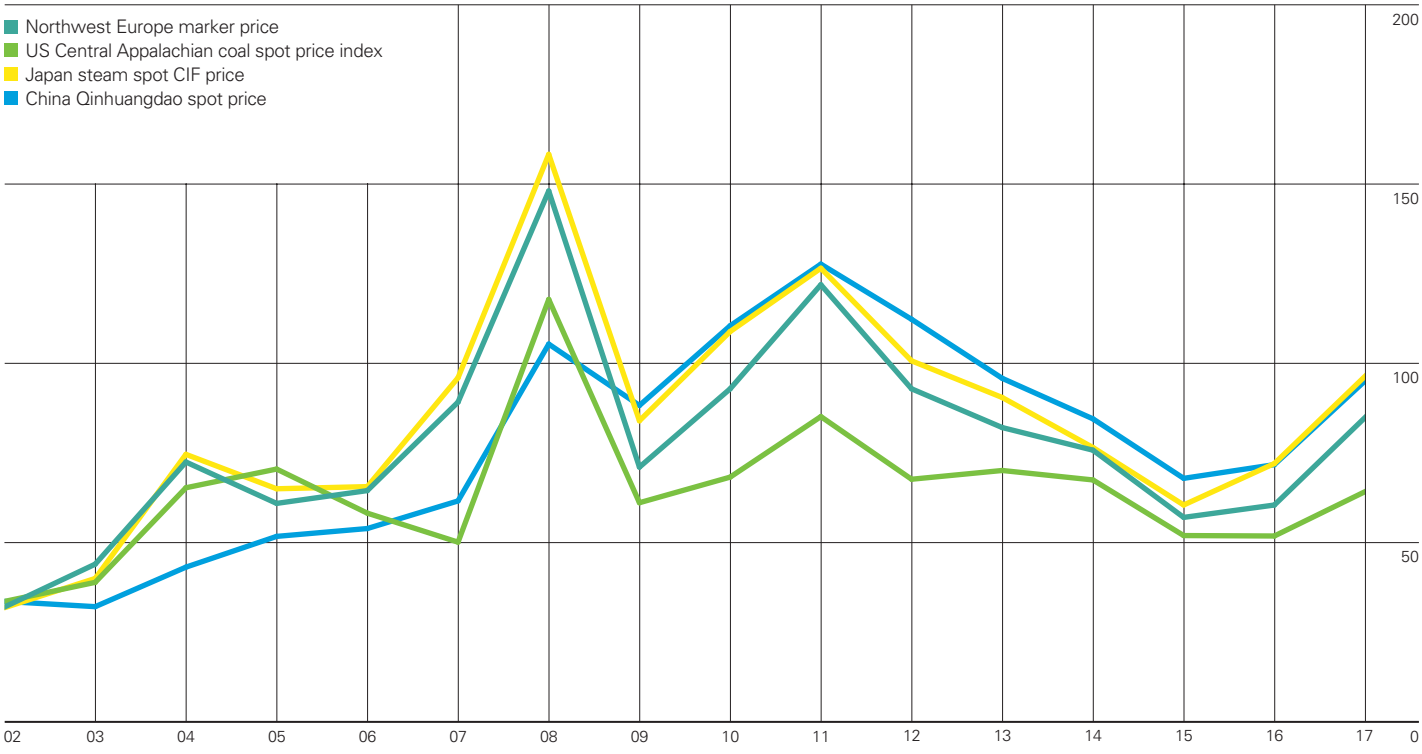
Million tonnes oil equivalent



World coal production increased by 105 million tonnes of oil equivalent or 3.2%, the fastest rate of growth since 2011. Production rose by 56 mtoe in China and 23 mtoe in the US. Global coal consumption grew by 25 mtoe, or 1%, the first growth since 2013. Growth was driven largely by India (18 mtoe), with China consumption also up slightly (4 mtoe) following three successive annual declines during 2014-2016. OECD demand fell for the fourth year in a row (-4 mtoe).

Coal prices

US dollars per tonne



Nuclear energy

Consumption*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	192.1	192.0	190.3	192.2	188.2	183.2	187.9	189.9	189.9	191.9	**191.7**	0.2%	0.2%	32.1%
Canada	21.0	21.6	20.2	20.4	21.0	21.3	23.2	24.1	22.9	21.8	**21.9**	0.6%	-0.1%	3.7%
Mexico	2.4	2.2	2.4	1.3	2.3	2.0	2.7	2.2	2.6	2.4	**2.5**	3.3%	-0.3%	0.4%
Total North America	215.4	215.8	212.9	213.9	211.5	206.5	213.8	216.2	215.4	216.1	**216.1**	0.3%	0.2%	36.2%
Argentina	1.6	1.7	1.9	1.6	1.4	1.4	1.4	1.3	1.6	1.9	**1.4**	-25.3%	0.9%	0.2%
Brazil	2.8	3.2	2.9	3.3	3.5	3.6	3.5	3.5	3.3	3.6	**3.6**	-0.3%	1.4%	0.6%
Chile	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Colombia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ecuador	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Peru	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other S. & Cent. America	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total S. & Cent. America	4.4	4.8	4.8	4.9	5.0	5.1	4.9	4.8	5.0	5.5	**5.0**	–9.0%	1.2%	0.8%
Austria	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Belgium	10.9	10.3	10.7	10.8	10.9	9.1	9.6	7.6	5.9	9.8	**9.5**	-2.8%	-0.7%	1.6%
Czech Republic	5.9	6.0	6.2	6.3	6.4	6.9	7.0	6.9	6.1	5.5	**6.4**	17.9%	-0.8%	1.1%
Finland	5.4	5.3	5.4	5.2	5.3	5.3	5.4	5.4	5.3	5.3	**5.1**	-2.9%	0.1%	0.9%
France	99.5	99.4	92.7	97.0	100.1	96.3	95.9	98.8	99.0	91.2	**90.1**	-0.9%	-1.1%	15.1%
Germany	31.8	33.7	30.5	31.8	24.4	22.5	22.0	22.0	20.8	19.2	**17.2**	-10.1%	-6.6%	2.9%
Greece	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Hungary	3.3	3.4	3.5	3.6	3.5	3.6	3.5	3.5	3.6	3.6	**3.6**	0.5%	1.8%	0.6%
Italy	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Netherlands	1.0	0.9	1.0	0.9	0.9	0.9	0.7	0.9	0.9	0.9	**1.2**	35.2%	1.3%	0.2%
Norway	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Poland	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Portugal	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Romania	1.7	2.5	2.7	2.6	2.7	2.6	2.6	2.6	2.6	2.6	**2.6**	2.3%	7.2%	0.4%
Spain	12.5	13.3	11.9	13.9	13.1	13.9	12.8	13.0	13.0	13.3	**13.1**	-0.6%	-0.3%	2.2%
Sweden	15.2	14.5	11.8	13.1	13.7	14.5	15.0	14.7	12.8	14.3	**14.9**	4.4%	-0.6%	2.5%
Switzerland	6.3	6.2	6.2	6.0	6.1	5.8	5.9	6.3	5.3	5.2	**4.6**	-11.2%	-1.9%	0.8%
Turkey	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
United Kingdom	14.3	11.9	15.6	14.1	15.6	15.9	16.0	14.4	15.9	16.2	**15.9**	-1.7%	-0.5%	2.7%
Other Europe	10.3	11.0	10.4	8.0	8.6	8.3	8.0	8.5	8.2	8.2	**8.1**	-0.7%	-3.5%	1.4%
Total Europe	218.0	218.4	208.6	213.4	211.3	205.5	204.4	204.6	199.3	195.2	**192.5**	-1.1%	-1.6%	32.3%
Azerbaijan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Belarus	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Kazakhstan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Russian Federation	36.2	36.9	37.0	38.6	39.1	40.2	39.0	40.9	44.2	44.5	**46.0**	3.6%	2.3%	7.7%
Turkmenistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Ukraine	20.9	20.3	18.8	20.2	20.4	20.4	18.8	20.0	19.8	18.3	**19.4**	6.0%	-1.1%	3.2%
Uzbekistan	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other CIS	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.5	**0.6**	10.3%	-1.0%	0.1%
Total CIS	57.7	57.8	56.3	59.3	60.1	61.1	58.4	61.5	64.7	63.3	**65.9**	4.4%	1.2%	11.1%
Iran	–	–	–	–	†	0.3	1.0	0.9	0.8	1.5	**1.6**	7.8%	–	0.3%
Iraq	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Israel	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Kuwait	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Oman	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Middle East	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Middle East	–	–	–	–	†	0.3	1.0	0.9	0.8	1.5	**1.6**	7.8%	–	0.3%
Algeria	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Egypt	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Morocco	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Africa	2.6	2.9	2.9	3.1	2.9	2.9	3.2	3.1	2.8	3.6	**3.6**	-0.7%	4.7%	0.6%
Other Africa	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Africa	2.6	2.9	2.9	3.1	2.9	2.9	3.2	3.1	2.8	3.6	**3.6**	–0.7%	4.7%	0.6%
Australia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Bangladesh	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
China	14.1	15.5	15.9	16.7	19.5	22.0	25.3	30.0	38.6	48.3	**56.2**	16.7%	14.5%	9.4%
China Hong Kong SAR	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
India	4.0	3.4	3.8	5.2	7.3	7.5	7.5	7.8	8.7	8.6	**8.5**	-1.0%	8.0%	1.4%
Indonesia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Japan	63.1	57.0	62.1	66.2	36.9	4.1	3.3	–	1.0	4.0	**6.6**	64.9%	-24.8%	1.1%
Malaysia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
New Zealand	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Pakistan	0.6	0.4	0.6	0.5	0.9	1.2	1.2	1.1	1.1	1.3	**1.8**	39.5%	7.8%	0.3%
Philippines	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Singapore	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Korea	32.3	34.2	33.4	33.6	35.0	34.0	31.4	35.4	37.3	36.7	**33.6**	-8.1%	0.9%	5.6%
Sri Lanka	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Taiwan	9.2	9.2	9.4	9.4	9.5	9.1	9.4	9.6	8.3	7.2	**5.1**	-28.9%	-2.3%	0.9%
Thailand	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Vietnam	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Asia Pacific	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Total Asia Pacific	123.3	119.7	125.3	131.7	109.1	78.0	78.1	83.9	95.0	106.0	**111.7**	5.7%	-1.9%	18.7%
Total World	**621.5**	**619.5**	**610.8**	**626.2**	**600.0**	**559.5**	**563.8**	**575.0**	**582.8**	**591.2**	**596.4**	**1.1%**	**-0.7%**	**100.0%**
of which: OECD	521.6	517.0	508.5	521.0	488.4	444.0	447.1	450.0	446.8	445.9	**442.6**	-0.5%	-1.8%	74.2%
Non-OECD	99.8	102.5	102.3	105.3	111.7	115.5	116.7	125.0	136.0	145.4	**153.8**	6.1%	4.1%	25.8%
European Union	211.7	212.2	202.4	207.4	205.2	199.7	198.5	198.3	194.0	190.1	**187.9**	-0.9%	-1.6%	31.5%

*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 modern thermal power station.
†Less than 0.05.
Notes: Growth rates are adjusted for leap years.
Nuclear energy data expressed in terawatt-hours is available at *bp.com/statisticalreview*.

Hydroelectricity

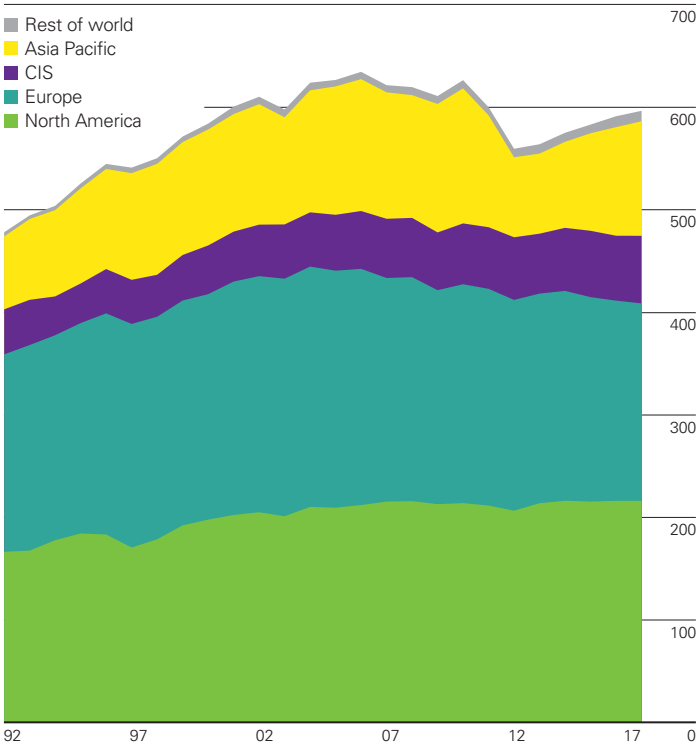
Consumption*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	55.0	56.8	61.4	58.2	71.5	62.0	60.3	57.9	55.8	59.7	**67.1**	12.7%	-0.8%	7.3%
Canada	83.2	85.4	83.4	79.5	85.0	86.0	88.7	86.6	86.5	87.6	**89.8**	2.8%	0.9%	9.8%
Mexico	6.2	8.9	6.0	8.4	8.2	7.2	6.3	8.8	7.0	6.9	**7.2**	3.5%	0.1%	0.8%
Total North America	144.4	151.1	150.9	146.1	164.7	155.3	155.3	153.2	149.2	154.2	**164.1**	6.7%	0.2%	17.9%
Argentina	8.5	8.4	9.2	9.2	9.0	8.3	9.2	9.2	9.5	8.7	**9.4**	8.9%	-1.3%	1.0%
Brazil	84.6	83.6	88.5	91.3	96.9	94.0	88.5	84.5	81.4	86.2	**83.6**	-2.7%	0.9%	9.1%
Chile	5.1	5.5	5.7	4.9	4.6	4.6	4.5	5.2	5.3	4.5	**5.1**	13.8%	-3.5%	0.6%
Colombia	10.0	10.4	9.2	9.2	11.0	10.8	10.0	10.1	10.1	10.6	**13.0**	22.9%	1.0%	1.4%
Ecuador	2.0	2.6	2.1	2.0	2.5	2.8	2.5	2.6	3.0	3.6	**4.5**	27.2%	8.3%	0.5%
Peru	4.4	4.3	4.5	4.5	4.9	5.0	5.1	5.0	5.4	5.4	**6.5**	20.9%	2.0%	0.7%
Trinidad & Tobago	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Venezuela	18.8	19.6	19.4	17.3	18.8	18.5	18.9	17.8	16.6	15.0	**17.4**	16.1%	-2.0%	1.9%
Other S. & Cent. America	19.5	19.5	19.3	20.3	20.8	21.5	22.1	20.8	20.7	22.6	**22.9**	1.8%	2.0%	2.5%
Total S. & Cent. America	153.0	154.0	157.9	158.7	168.5	165.4	160.7	155.4	152.0	156.4	**162.3**	4.1%	0.6%	17.7%
Austria	8.4	8.7	9.3	8.7	7.7	9.9	9.5	9.3	8.4	9.0	**8.8**	-1.6%	1.1%	1.0%
Belgium	0.1	0.1	0.1	0.1	†	0.1	0.1	0.1	0.1	0.1	**0.1**	-25.7%	0.3%	◆
Czech Republic	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.4	0.4	0.5	**0.4**	-6.3%	-2.4%	◆
Finland	3.2	3.9	2.9	2.9	2.8	3.8	2.9	3.0	3.8	3.6	**3.3**	-6.1%	3.3%	0.4%
France	13.0	14.4	12.9	14.2	10.1	13.3	16.0	14.2	12.3	13.6	**11.1**	-17.8%	0.6%	1.2%
Germany	4.8	4.6	4.3	4.7	4.0	5.0	5.2	4.4	4.3	4.6	**4.5**	-3.9%	0.3%	0.5%
Greece	0.6	0.7	1.2	1.7	0.9	1.0	1.4	1.0	1.4	1.3	**0.9**	-27.1%	-0.6%	0.1%
Hungary	†	†	0.1	†	0.1	†	†	0.1	0.1	0.1	**†**	-14.5%	3.4%	◆
Italy	7.4	9.4	11.1	11.6	10.4	9.5	11.9	13.2	10.3	9.6	**8.2**	-14.3%	1.4%	0.9%
Netherlands	†	†	†	†	†	†	†	†	†	†	**†**	-37.8%	-0.5%	◆
Norway	30.2	31.5	28.3	26.4	27.2	32.1	29.0	30.6	31.1	32.2	**32.0**	-0.4%	1.8%	3.5%
Poland	0.5	0.5	0.5	0.7	0.5	0.5	0.6	0.5	0.4	0.5	**0.6**	20.5%	0.5%	0.1%
Portugal	2.3	1.5	1.9	3.7	2.6	1.3	3.1	3.5	2.0	3.6	**1.3**	-63.3%	3.7%	0.1%
Romania	3.6	3.9	3.5	4.5	3.3	2.7	3.3	4.2	3.8	4.1	**3.2**	-20.4%	-0.2%	0.4%
Spain	6.2	5.3	6.0	9.5	6.9	4.6	8.3	8.9	6.4	8.2	**4.2**	-49.1%	3.5%	0.5%
Sweden	15.0	15.6	14.8	15.0	15.2	17.9	13.9	14.4	17.0	14.0	**14.6**	4.7%	0.1%	1.6%
Switzerland	8.0	8.2	8.1	8.2	7.2	8.6	8.6	8.4	8.5	7.9	**7.2**	-8.5%	1.3%	0.8%
Turkey	8.1	7.5	8.1	11.7	11.8	13.1	13.4	9.2	15.2	15.2	**13.2**	-12.8%	4.3%	1.4%
United Kingdom	1.1	1.2	1.2	0.8	1.3	1.2	1.1	1.3	1.4	1.2	**1.3**	10.5%	1.6%	0.1%
Other Europe	12.2	14.1	15.9	19.0	13.6	14.0	17.3	16.7	16.1	16.8	**15.2**	-9.7%	1.9%	1.6%
Total Europe	125.3	131.6	130.7	144.0	126.2	139.1	146.4	143.6	142.8	146.1	**130.4**	-10.5%	1.6%	14.2%
Azerbaijan	0.5	0.5	0.5	0.8	0.6	0.4	0.3	0.3	0.4	0.4	**0.4**	-10.6%	-2.5%	◆
Belarus	†	†	†	†	†	†	†	†	†	†	**0.1**	57.7%	15.0%	◆
Kazakhstan	1.8	1.7	1.6	1.8	1.8	1.7	1.7	1.9	2.1	2.6	**2.5**	-3.6%	4.1%	0.3%
Russian Federation	40.1	37.3	39.4	37.7	36.9	37.0	41.0	39.2	38.0	41.8	**41.5**	-0.5%	0.6%	4.5%
Turkmenistan	†	†	†	†	–	–	–	–	–	–	**–**	–	-100.0%	–
Ukraine	2.3	2.6	2.7	3.0	2.5	2.4	3.1	1.9	1.2	1.7	**2.0**	13.1%	-5.1%	0.2%
Uzbekistan	1.4	2.6	2.1	2.5	2.3	2.5	2.6	2.7	2.7	2.7	**2.7**	0.9%	2.7%	0.3%
Other CIS	7.5	6.5	6.4	6.9	7.6	7.6	7.4	7.2	6.9	7.0	**7.6**	9.0%	-0.6%	0.8%
Total CIS	53.7	51.2	52.7	52.6	51.6	51.7	56.2	53.2	51.3	56.3	**56.7**	0.9%	0.4%	6.2%
Iran	4.1	1.7	1.5	2.3	2.4	2.8	3.3	3.3	3.0	3.5	**3.7**	6.5%	-1.8%	0.4%
Iraq	1.0	0.7	0.6	0.8	0.8	1.0	1.0	0.6	0.6	0.8	**0.5**	-35.3%	-3.8%	0.1%
Israel	†	†	†	†	†	†	†	†	†	†	**†**	–	5.1%	◆
Kuwait	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Oman	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Qatar	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Saudi Arabia	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
Other Middle East	0.9	0.7	0.6	0.8	1.0	1.0	0.9	0.6	0.2	0.3	**0.3**	5.0%	-11.8%	◆
Total Middle East	6.0	3.1	2.7	3.9	4.1	4.8	5.3	4.5	3.8	4.6	**4.5**	-0.6%	-3.3%	0.5%
Algeria	0.1	0.1	0.1	†	0.1	0.1	†	†	†	†	**†**	-21.6%	-10.5%	◆
Egypt	3.2	3.4	3.1	2.9	2.9	2.9	3.0	3.1	3.1	3.0	**3.0**	0.7%	0.4%	0.3%
Morocco	0.2	0.2	0.6	0.8	0.5	0.4	0.6	0.4	0.4	0.3	**0.3**	-5.4%	2.5%	◆
South Africa	0.6	0.3	0.3	0.3	0.7	0.2	0.2	0.4	0.2	0.2	**0.2**	24.2%	-13.3%	◆
Other Africa	17.5	18.0	18.5	20.3	20.8	21.5	22.7	24.1	23.6	23.7	**25.6**	8.3%	3.3%	2.8%
Total Africa	21.6	22.0	22.6	24.3	25.0	25.1	26.6	28.0	27.4	27.1	**29.1**	7.4%	2.7%	3.2%
Australia	3.0	2.7	2.9	3.1	4.4	3.9	4.3	3.3	3.2	4.0	**3.1**	-22.9%	1.8%	0.3%
Bangladesh	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	**0.2**	16.7%	1.7%	◆
China	109.8	144.1	139.3	161.0	155.7	195.2	205.8	237.8	252.2	261.0	**261.5**	0.5%	10.2%	28.5%
China Hong Kong SAR	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
India	27.7	26.1	24.1	24.6	29.8	26.2	29.9	31.5	30.2	29.0	**30.7**	6.0%	1.3%	3.3%
Indonesia	2.6	2.6	2.6	3.9	2.8	2.9	3.8	3.4	3.1	4.4	**4.2**	-5.0%	7.2%	0.5%
Japan	16.9	16.8	15.6	19.7	18.3	17.2	17.7	18.1	19.0	18.1	**17.9**	-0.6%	-0.9%	2.0%
Malaysia	1.3	1.8	1.6	1.4	1.8	2.1	2.6	3.0	3.5	4.9	**5.6**	14.2%	13.2%	0.6%
New Zealand	5.4	5.1	5.5	5.6	5.7	5.2	5.2	5.5	5.6	5.9	**5.7**	-2.7%	1.0%	0.6%
Pakistan	7.2	6.1	6.4	6.7	6.9	6.7	7.0	7.2	7.3	7.8	**7.0**	-9.8%	1.3%	0.8%
Philippines	1.9	2.2	2.2	1.8	2.2	2.3	2.3	2.1	2.0	1.8	**2.2**	18.7%	-2.0%	0.2%
Singapore	–	–	–	–	–	–	–	–	–	–	**–**	–	–	–
South Korea	0.8	0.7	0.6	0.8	1.0	0.9	1.0	0.6	0.5	0.6	**0.7**	5.5%	-2.0%	0.1%
Sri Lanka	0.9	0.9	0.9	1.3	1.0	0.7	1.6	1.0	1.4	1.0	**0.9**	-4.9%	-0.9%	0.1%
Taiwan	1.0	1.0	0.8	0.9	0.9	1.3	1.2	1.0	1.0	1.5	**1.2**	-17.0%	4.8%	0.1%
Thailand	1.8	1.6	1.6	1.2	1.8	1.9	1.2	1.2	0.9	0.8	**1.1**	32.7%	-7.8%	0.1%
Vietnam	5.1	5.9	6.8	6.2	9.3	11.9	13.0	13.8	12.9	14.5	**15.9**	10.1%	12.5%	1.7%
Other Asia Pacific	7.3	7.8	7.7	9.3	10.6	10.8	12.1	12.0	11.3	13.0	**13.7**	5.7%	7.0%	1.5%
Total Asia Pacific	192.9	225.5	218.5	247.7	252.5	289.4	308.8	341.8	354.0	368.5	**371.6**	1.1%	7.4%	40.4%
Total World	**696.9**	**738.5**	**736.2**	**777.5**	**792.7**	**830.7**	**859.4**	**879.7**	**880.5**	**913.3**	**918.6**	**0.9%**	**2.9%**	**100.0%**
of which: OECD	289.3	301.1	298.3	306.8	313.4	314.9	319.6	314.6	311.3	318.3	**314.8**	-0.9%	0.7%	34.3%
Non-OECD	407.5	437.4	437.9	470.7	479.3	515.8	539.8	565.1	569.2	594.9	**603.9**	1.8%	4.4%	65.7%
European Union	71.1	75.2	75.9	85.2	70.8	76.1	84.0	84.8	77.2	79.2	**67.8**	-14.1%	1.0%	7.4%

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

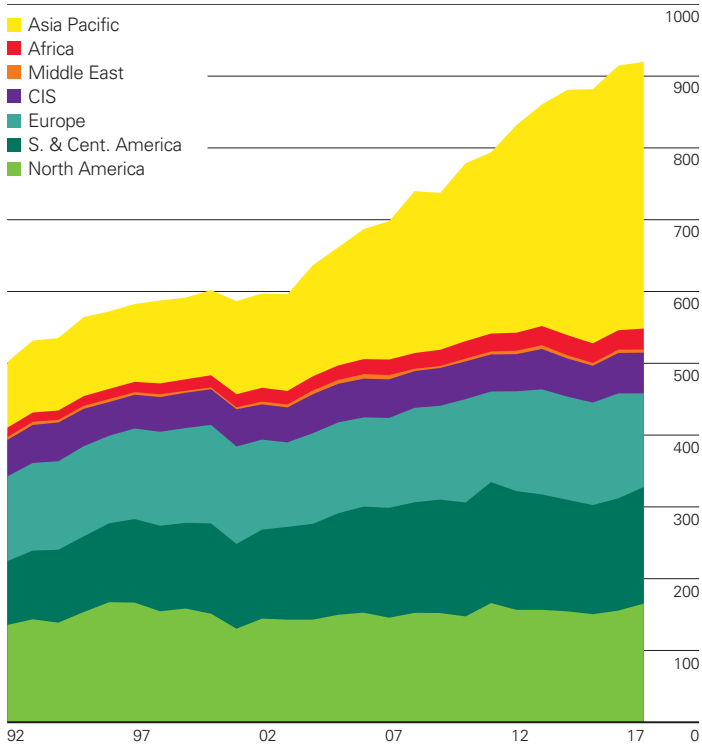
Nuclear energy consumption by region

Million tonnes oil equivalent



Hydroelectricity consumption by region

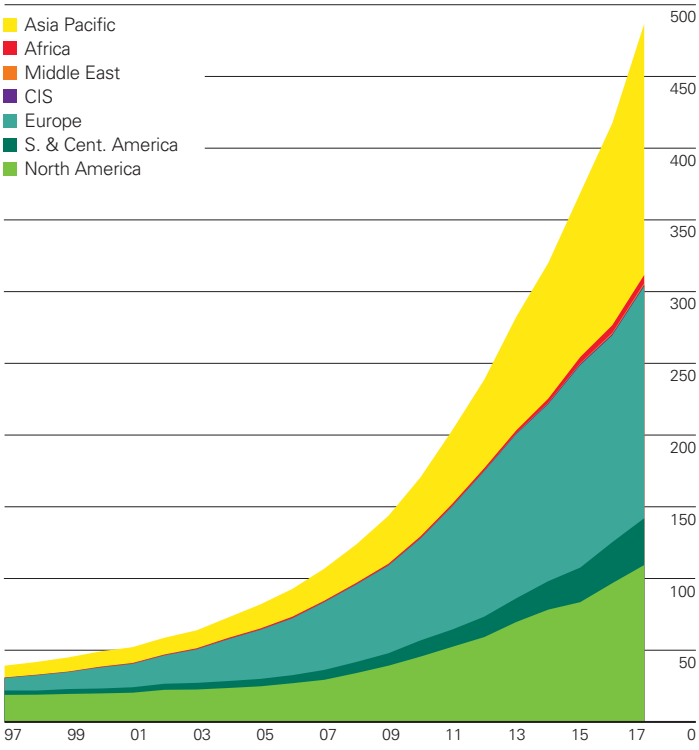
Million tonnes oil equivalent



Global nuclear generation rose by 5 million tonnes of oil equivalent (mtoe), or 1.1%, above the 10-year average growth rate of -0.7%. Growth in China (8 mtoe) and Japan (3 mtoe) was partially offset by declines in Europe (3 mtoe). World hydroelectric power generation rose by 5 mtoe, just 0.9%, compared with the 10-year average of 2.9%. The US (7 mtoe) provided the largest increment. China's growth was the slowest since 2011, while European output declined by 10.5% (-16 mtoe).

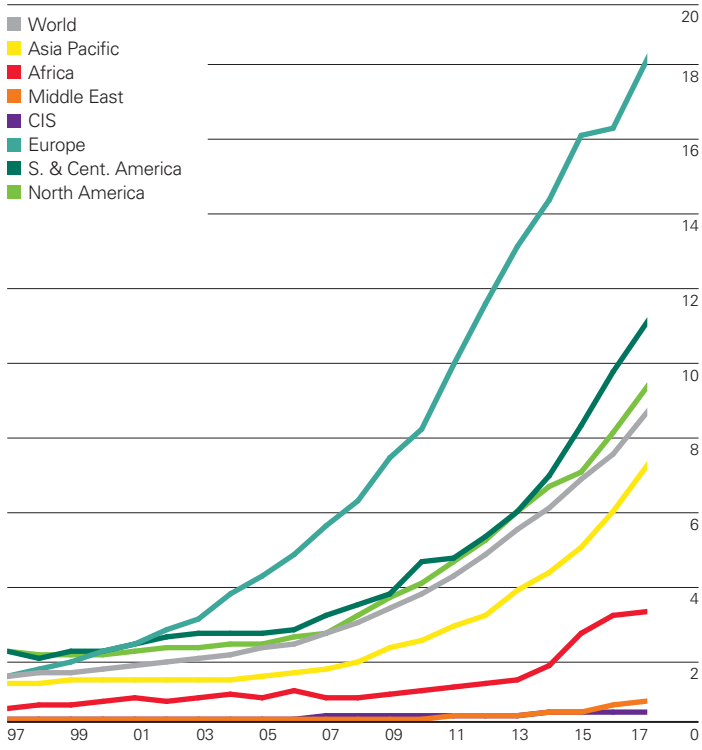
Other renewables consumption by region

Million tonnes oil equivalent



Other renewables share of power generation by region

Percentage



Renewable energy in power generation (not including hydro) grew by 17%, slightly higher than the 10-year average (16.2%) and the largest increment on record at 69 million tonnes of oil equivalent (mtoe). Wind provided more than half of renewables growth, while solar contributed more than a third despite accounting for just 21% of the total. In China, renewable power generation rose by 25 mtoe – a country record, and the second largest contribution to global primary energy growth from any single fuel and country, behind natural gas in China. The share of renewables in total power generation increased from 7.4% to 8.4% globally, and from 16.5% to 18.3% in Europe, a new high.

Other renewables consumption*

Million tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	24.8	29.7	33.9	39.3	45.7	51.7	60.2	67.2	71.5	83.1	**94.8**	14.3%	13.8%	19.5%
Canada	2.7	2.7	3.5	4.3	4.7	5.2	6.9	8.1	8.4	9.6	**10.3**	8.2%	14.0%	2.1%
Mexico	1.9	1.8	1.8	2.0	2.0	2.4	2.6	3.1	3.7	4.1	**4.4**	9.0%	9.1%	0.9%
Total North America	29.5	34.2	39.3	45.6	52.5	59.3	69.8	78.4	83.6	96.8	**109.5**	13.5%	13.6%	22.5%
Argentina	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	**0.7**	2.3%	6.1%	0.1%
Brazil	4.2	4.7	5.4	7.6	7.9	9.1	10.6	13.3	16.0	19.1	**22.2**	16.1%	18.9%	4.6%
Chile	0.6	0.8	0.7	0.8	1.0	1.4	1.6	1.5	2.0	2.5	**3.0**	20.5%	22.8%	0.6%
Colombia	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	**0.4**	7.9%	9.9%	0.1%
Ecuador	†	†	†	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	-6.8%	15.5%	◆
Peru	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.6	**0.6**	-2.4%	21.8%	0.1%
Trinidad & Tobago	†	†	†	†	†	†	†	†	†	†	**†**	–	-21.9%	◆
Venezuela	–	–	–	†	†	†	†	†	†	†	**†**	–	–	◆
Other S. & Cent. America	1.4	1.6	1.8	2.0	2.2	2.6	3.0	3.6	4.5	5.2	**5.6**	9.4%	15.1%	1.2%
Total S. & Cent. America	6.9	7.7	8.7	11.3	12.1	14.3	16.5	19.8	24.1	28.6	**32.6**	14.3%	17.7%	6.7%
Austria	1.4	1.4	1.4	1.5	1.5	1.7	1.9	2.0	2.3	2.5	**2.8**	14.6%	8.1%	0.6%
Belgium	0.7	0.9	1.2	1.4	1.9	2.3	2.6	2.7	3.2	3.1	**3.5**	12.0%	18.2%	0.7%
Czech Republic	0.3	0.4	0.5	0.7	1.2	1.3	1.5	1.6	1.7	1.7	**1.7**	4.8%	22.6%	0.4%
Finland	2.3	2.4	2.0	2.5	2.6	2.6	2.9	2.9	3.1	3.3	**3.7**	13.1%	2.9%	0.8%
France	1.9	2.3	2.9	3.5	4.4	5.5	5.9	6.6	7.9	8.4	**9.4**	11.8%	19.9%	1.9%
Germany	15.2	16.5	17.2	19.1	24.1	27.4	29.3	32.3	38.4	38.3	**44.8**	17.4%	12.6%	9.2%
Greece	0.5	0.6	0.6	0.7	0.9	1.3	1.8	1.7	2.0	2.1	**2.2**	5.3%	17.8%	0.5%
Hungary	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	**0.7**	10.1%	8.5%	0.2%
Italy	3.4	3.7	4.6	5.8	8.4	11.4	13.4	14.1	14.3	14.8	**15.5**	4.5%	17.0%	3.2%
Netherlands	1.7	2.1	2.4	2.5	2.8	2.8	2.7	2.6	3.1	3.3	**4.0**	19.9%	6.3%	0.8%
Norway	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.5	**0.7**	32.4%	8.7%	0.1%
Poland	0.7	1.0	1.4	1.8	2.4	3.4	3.3	4.0	4.7	4.7	**4.8**	2.7%	24.8%	1.0%
Portugal	1.4	1.8	2.3	2.8	2.8	3.1	3.6	3.6	3.6	3.7	**3.7**	0.1%	13.4%	0.8%
Romania	†	†	†	0.1	0.4	0.6	1.2	1.5	2.2	2.0	**2.2**	9.5%	111.5%	0.5%
Spain	7.0	8.8	10.7	12.3	12.6	15.0	16.8	16.1	15.6	15.4	**15.7**	2.2%	10.0%	3.2%
Sweden	2.5	2.8	3.2	3.6	4.0	4.4	4.8	5.0	6.1	6.1	**6.8**	10.4%	11.2%	1.4%
Switzerland	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.7	**0.8**	11.4%	10.3%	0.2%
Turkey	0.2	0.3	0.5	0.9	1.3	1.7	2.3	2.8	3.9	5.4	**6.6**	24.0%	51.4%	1.4%
United Kingdom	3.3	3.8	4.5	5.1	6.7	8.1	11.0	13.3	17.4	17.6	**21.0**	19.7%	19.1%	4.3%
Other Europe	3.9	4.2	4.5	5.3	6.5	7.2	8.0	8.9	9.7	9.8	**11.0**	13.2%	11.5%	2.3%
Total Europe	47.3	54.0	61.1	70.9	85.9	101.4	114.5	123.5	141.2	144.2	**161.8**	12.5%	13.8%	33.2%
Azerbaijan	–	–	†	†	–	–	†	†	†	†	**†**	-0.3%	–	◆
Belarus	†	†	†	†	†	†	†	†	†	†	**0.1**	36.9%	52.0%	◆
Kazakhstan	–	–	–	–	†	†	†	†	†	0.1	**0.1**	5.5%	–	◆
Russian Federation	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	**0.3**	8.7%	8.0%	0.1%
Turkmenistan	–	–	–	†	†	†	†	†	†	†	**†**	–	–	◆
Ukraine	0.1	0.1	†	0.1	0.1	0.2	0.3	0.4	0.4	0.4	**0.4**	9.6%	46.4%	0.1%
Uzbekistan	–	–	–	–	–	–	†	†	†	†	**†**	49.3%	–	◆
Other CIS	†	†	†	†	†	†	†	†	†	†	**†**	-1.7%	27.6%	◆
Total CIS	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.7	0.8	**0.9**	10.0%	20.1%	0.2%
Iran	†	†	0.1	†	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**	23.9%	14.4%	◆
Iraq	–	–	–	–	–	–	†	†	†	†	**†**	–	–	◆
Israel	†	†	†	†	0.1	0.1	0.1	0.2	0.3	0.4	**0.4**	8.2%	66.5%	0.1%
Kuwait	–	–	–	–	–	–	†	†	†	†	**†**	81.1%	–	◆
Oman	–	–	–	–	–	–	†	†	†	†	**†**	136.1%	–	◆
Qatar	–	–	–	–	†	†	†	†	†	†	**†**	0.6%	–	◆
Saudi Arabia	–	–	–	–	†	†	†	†	†	†	**†**	10.1%	–	◆
United Arab Emirates	–	–	†	†	†	†	†	0.1	0.1	0.1	**0.1**	65.0%	–	◆
Other Middle East	†	†	†	†	†	†	†	†	0.1	0.3	**0.6**	76.4%	66.6%	0.1%
Total Middle East	†	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.6	1.0	**1.4**	37.6%	40.6%	0.3%
Algeria	–	–	–	†	†	†	†	†	†	0.1	**0.1**	98.6%	–	◆
Egypt	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.4	0.6	**0.6**	3.4%	15.8%	0.1%
Morocco	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.6	0.8	**0.8**	1.7%	33.9%	0.2%
South Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.6	1.4	1.8	**2.0**	10.3%	33.7%	0.4%
Other Africa	0.5	0.5	0.6	0.7	0.7	0.9	1.0	1.4	1.8	2.0	**2.1**	5.5%	10.3%	0.4%
Total Africa	0.8	0.9	1.0	1.3	1.4	1.6	1.8	2.7	4.3	5.2	**5.5**	7.4%	17.8%	1.1%
Australia	1.6	1.7	1.7	1.9	2.5	3.0	3.7	4.1	4.9	5.4	**5.7**	4.8%	14.5%	1.2%
Bangladesh	†	†	†	†	†	†	†	†	0.1	0.1	**0.1**	18.2%	41.9%	◆
China	3.5	6.4	11.0	15.9	22.8	29.4	42.3	51.1	64.1	81.7	**106.7**	31.1%	41.9%	21.9%
China Hong Kong SAR	†	†	†	†	†	†	†	†	†	†	**†**	0.4%	65.2%	◆
India	4.3	5.4	6.3	7.7	9.5	11.2	12.7	14.3	15.1	18.3	**21.8**	19.7%	18.4%	4.5%
Indonesia	1.6	1.9	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.6	**2.9**	15.9%	5.4%	0.6%
Japan	6.2	6.1	6.1	6.7	7.0	7.7	9.3	11.8	15.4	18.8	**22.4**	19.4%	12.5%	4.6%
Malaysia	†	†	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	**0.4**	9.5%	–	0.1%
New Zealand	1.1	1.3	1.6	1.8	2.0	2.0	2.0	2.3	2.4	2.4	**2.4**	-0.3%	9.1%	0.5%
Pakistan	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	**0.8**	33.0%	11.7%	0.2%
Philippines	2.3	2.4	2.4	2.3	2.3	2.4	2.2	2.4	2.8	3.1	**3.1**	-1.8%	2.8%	0.6%
Singapore	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	**0.3**	6.2%	8.3%	0.1%
South Korea	0.2	0.3	0.4	0.5	0.6	0.9	1.2	2.1	2.7	3.1	**3.6**	15.7%	38.1%	0.7%
Sri Lanka	†	†	†	†	†	†	0.1	0.1	0.1	0.1	**0.1**	18.6%	48.7%	◆
Taiwan	0.5	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.0	1.0	**1.2**	17.5%	8.0%	0.2%
Thailand	0.6	0.5	0.5	0.8	0.9	1.2	1.6	2.0	2.3	2.8	**3.4**	19.6%	19.9%	0.7%
Vietnam	†	†	†	†	†	†	†	†	0.1	0.1	**0.1**	19.4%	18.1%	◆
Other Asia Pacific	†	†	†	†	†	†	0.1	0.1	0.1	0.1	**0.1**	25.2%	18.4%	◆
Total Asia Pacific	22.3	26.8	33.4	41.1	51.3	61.7	79.2	94.5	114.4	140.8	**175.1**	24.7%	21.9%	36.0%
Total World	**107.0**	**123.9**	**143.7**	**170.5**	**203.5**	**238.7**	**282.6**	**320.1**	**368.8**	**417.4**	**486.8**	**17.0%**	**16.2%**	**100.0%**
of which: OECD	86.4	98.1	110.7	127.9	150.6	174.3	200.0	221.2	248.9	270.1	**304.9**	13.2%	13.6%	62.6%
Non-OECD	20.6	25.8	33.0	42.6	53.0	64.5	82.6	98.9	120.0	147.3	**181.9**	23.8%	23.7%	37.4%
European Union	45.7	52.2	59.0	68.4	82.7	97.6	109.9	118.3	134.8	136.3	**152.3**	12.0%	13.5%	31.3%

*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 modern thermal power station.
†Less than 0.05.
◆Less than 0.05%.
Notes: Growth rates are adjusted for leap years.
Other renewables data expressed in terawatt-hours is available at *bp.com/statisticalreview*.

Biofuels production

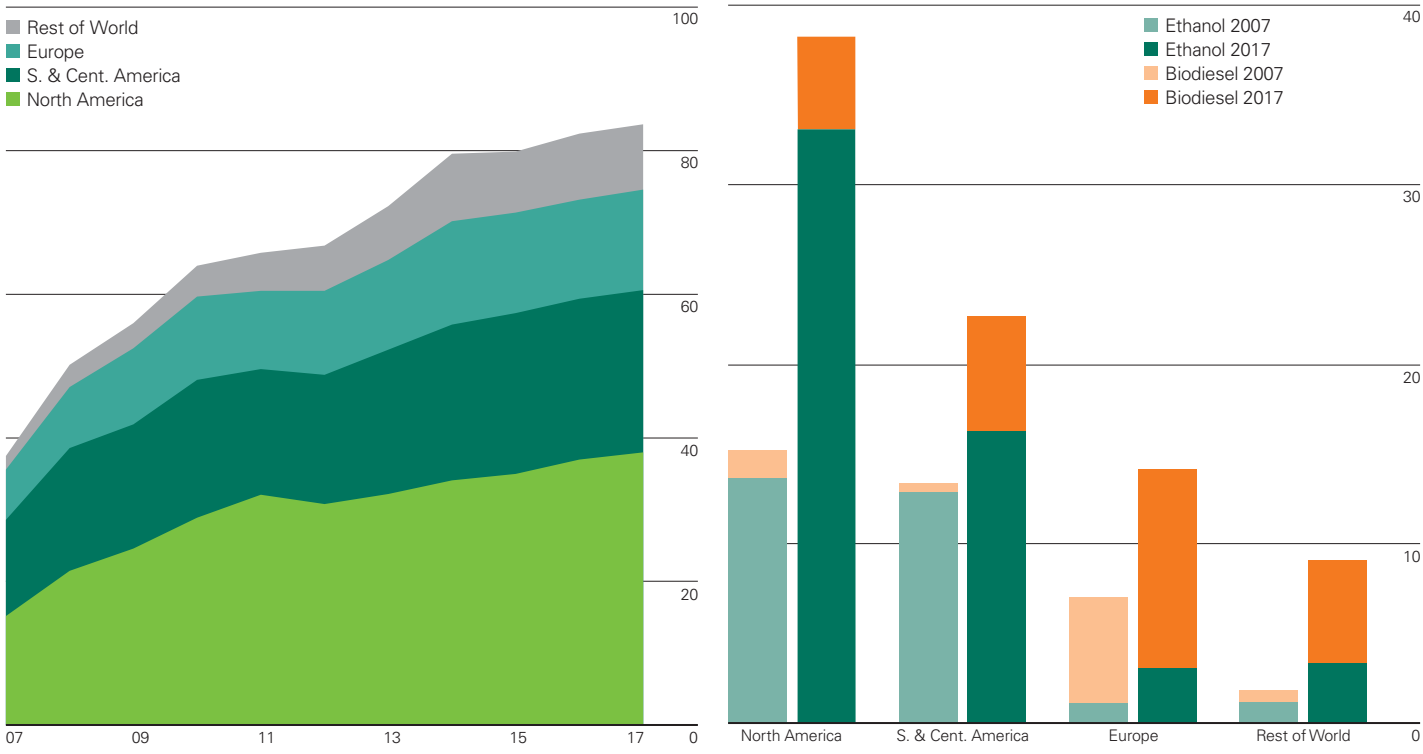
Thousand tonnes oil equivalent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	14709	20934	23761	28044	31184	29808	31057	32890	33849	35986	**36936**	2.9%	12.9%	43.9%
Canada	502	543	761	787	899	1004	1059	1188	1142	1197	**1239**	3.8%	21.4%	1.5%
Mexico	5	5	5	10	13	9	7	7	5	14	**14**	–	–	◆
Total North America	15216	21481	24527	28841	32095	30821	32124	34086	34996	37197	**38190**	3.0%	13.1%	45.4%
Argentina	173	635	1055	1670	2234	2295	2014	2644	2038	2828	**3131**	11.0%	57.3%	3.7%
Brazil	12427	15486	15277	16866	14403	14739	17114	18005	19332	18168	**18465**	1.9%	6.6%	22.0%
Colombia	155	158	320	455	572	627	650	676	693	626	**617**	-1.1%	15.8%	0.7%
Other S. & Cent. America	606	806	634	232	313	304	359	382	385	409	**456**	11.8%	-2.3%	0.5%
Total S. & Cent. America	13360	17085	17285	19223	17522	17965	20136	21707	22448	22030	**22669**	3.2%	7.9%	26.9%
Austria	222	269	373	391	390	390	374	329	381	419	**391**	-6.5%	14.4%	0.5%
Belgium	146	282	486	523	525	536	526	666	482	477	**471**	-1.0%	35.8%	0.6%
Finland	54	101	231	301	208	263	330	367	432	109	**219**	101.9%	24.2%	0.3%
France	1153	2064	2408	2353	1935	2145	2306	2573	2559	2405	**2224**	-7.3%	13.4%	2.6%
Germany	3243	2805	2834	3022	2967	3031	2770	3460	3191	3228	**3293**	2.3%	2.2%	3.9%
Italy	448	623	772	678	486	298	454	575	572	600	**595**	-0.5%	0.1%	0.7%
Netherlands	82	78	242	391	674	1276	1495	1980	1816	1477	**1658**	12.6%	51.4%	2.0%
Poland	103	290	408	439	414	652	697	750	940	928	**920**	-0.6%	19.7%	1.1%
Portugal	162	149	226	284	330	276	274	301	321	298	**315**	5.9%	15.5%	0.4%
Spain	378	384	1001	1312	851	620	749	1030	1122	1200	**1541**	28.7%	16.0%	1.8%
Sweden	150	183	254	339	400	491	635	789	222	211	**185**	-12.0%	8.7%	0.2%
United Kingdom	374	289	220	304	322	303	517	403	310	554	**617**	11.8%	9.3%	0.7%
Other Europe	504	956	1153	1153	1259	1413	1449	1494	1679	1745	**1738**	-0.1%	15.7%	2.1%
Total Europe	7019	8473	10609	11490	10761	11692	12578	14717	14025	13652	**14167**	4.1%	10.0%	16.8%
Total CIS	2	7	36	34	28	29	23	25	19	19	**19**	–	–	◆
Total Middle East	–	–	–	5	5	5	5	5	5	5	**5**	–	–	◆
Total Africa	6	11	18	8	8	23	32	40	40	40	**40**	–	15.8%	◆
Australia	75	111	174	222	223	241	210	163	162	183	**144**	-21.1%	13.4%	0.2%
China	982	1194	1224	1584	1970	2103	2346	2609	2653	1811	**2147**	18.8%	6.9%	2.6%
India	100	154	61	123	192	168	198	198	438	544	**435**	-19.9%	22.0%	0.5%
Indonesia	217	530	469	723	1110	1397	1750	3110	1314	2238	**2326**	4.2%	48.1%	2.8%
South Korea	78	146	358	511	309	283	321	337	385	386	**406**	5.3%	25.1%	0.5%
Thailand	148	525	656	700	765	1054	1330	1490	1603	1610	**1846**	15.0%	33.9%	2.2%
Other Asia Pacific	227	390	478	443	692	1067	1363	1522	1777	1767	**1727**	-2.0%	28.5%	2.1%
Total Asia Pacific	1827	3051	3419	4306	5262	6313	7518	9429	8333	8540	**9031**	6.0%	20.1%	10.7%
Total World	**37429**	**50109**	**55894**	**63906**	**65680**	**66848**	**72415**	**80009**	**79866**	**81483**	**84121**	**3.5%**	**11.4%**	**100.0%**
of which: OECD	22297	30020	35413	40832	43107	42773	44936	49000	49235	51054	**52552**	3.2%	12.2%	62.5%
Non-OECD	15133	20090	20481	23074	22573	24074	27478	31009	30630	30429	**31569**	4.0%	10.1%	37.5%
European Union	6944	8332	10460	11387	10569	11581	12492	14632	13906	13532	**14044**	4.1%	10.0%	16.7%

◆Less than 0.05%.
Notes: Consumption of fuel ethanol and biodiesel is included in oil consumption tables.
Growth rates are adjusted for leap years.

Source: Includes data from F.O. Lichts; Strategie grains; US Energy Information Administration (March 2018).

World biofuels production

Million tonnes oil equivalent



World biofuels production increased by 3.5% in 2017, well below the 10-year average of 11.4%, but the fastest for three years. The US provided the largest increment (950 thousand tonnes of oil equivalent, or ktoe). By fuel type, global ethanol production grew at a similar rate of 3.3%, and contributing over 60% to total biofuels growth. Biodiesel production rose by 4%, driven mainly by growth in Argentina, Brazil and Spain.

Electricity

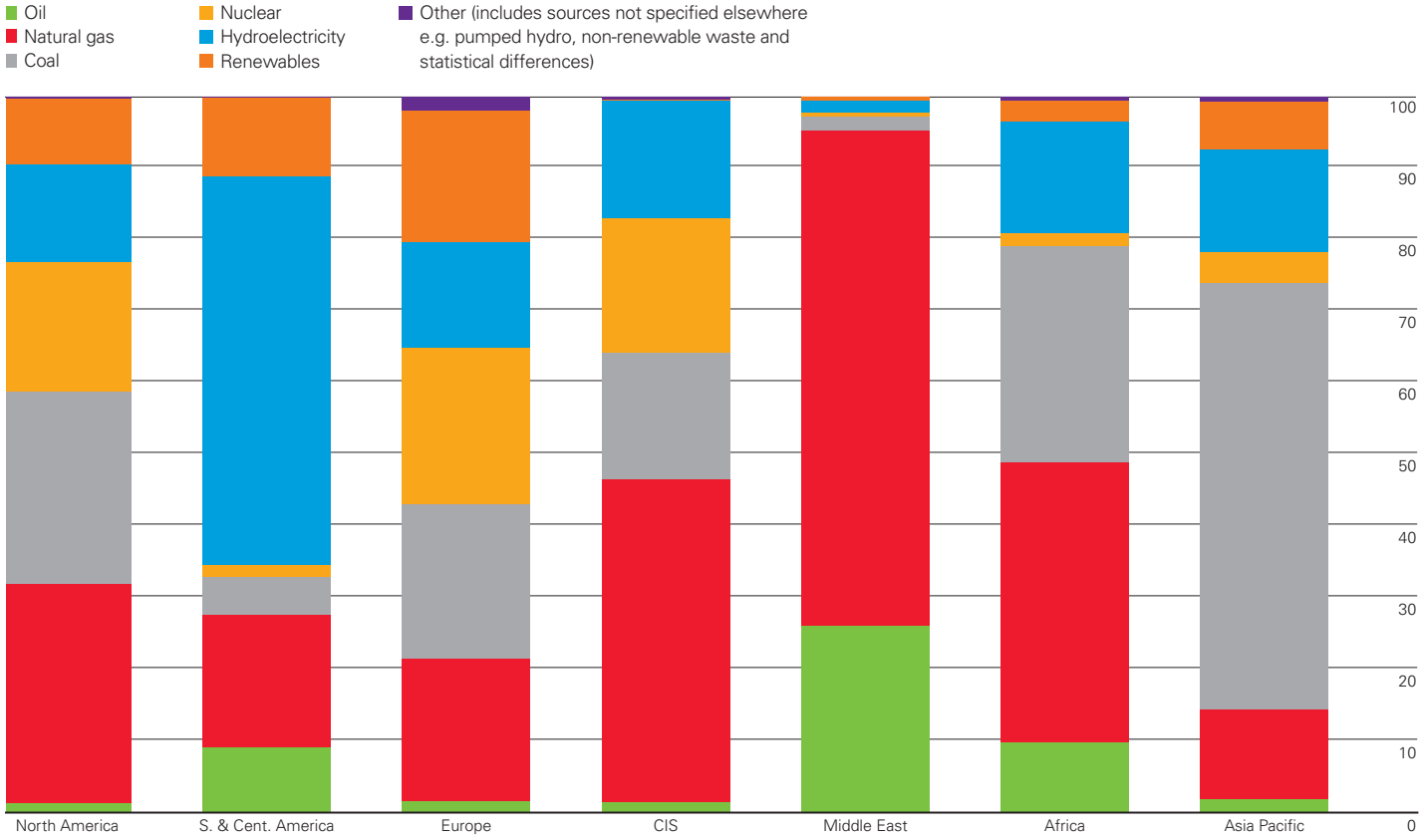
Electricity generation*

Terawatt-hours	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	4431.8	4390.1	4206.5	4394.3	4363.4	4310.6	4330.3	4363.3	4348.7	4347.9	**4281.8**	-1.3%	◆	16.8%
Canada	637.1	638.4	614.0	606.9	638.3	636.5	662.5	660.4	663.7	664.6	**693.4**	4.6%	0.8%	2.7%
Mexico	263.2	269.3	267.8	275.6	292.1	296.4	297.1	303.3	310.3	320.3	**315.0**	-1.4%	2.3%	1.2%
Total North America	5332.2	5297.8	5088.3	5276.7	5293.8	5243.5	5289.9	5327.1	5322.7	5332.9	**5290.2**	-0.5%	0.3%	20.7%
Argentina	113.5	121.9	122.3	126.0	129.5	136.0	139.4	138.6	145.4	147.2	**147.0**	0.2%	2.6%	0.6%
Brazil	445.1	462.9	466.2	515.8	531.8	552.5	570.8	590.5	581.2	578.9	**590.9**	2.4%	3.3%	2.3%
Chile	58.3	59.7	59.7	61.3	65.2	69.7	73.0	71.6	74.5	77.7	**78.6**	1.4%	3.6%	0.3%
Colombia	60.5	61.3	63.2	64.7	66.2	67.7	69.8	72.7	75.0	74.4	**75.3**	1.4%	2.3%	0.3%
Ecuador	17.3	18.6	18.3	19.5	20.5	22.8	23.3	24.3	26.0	27.3	**28.0**	2.9%	6.1%	0.1%
Peru	29.9	32.5	32.9	35.9	38.8	41.0	43.3	45.5	48.3	51.7	**52.5**	1.9%	6.6%	0.2%
Trinidad & Tobago	7.7	7.7	7.8	8.5	8.8	9.1	9.5	9.9	10.3	10.0	**10.3**	2.6%	3.4%	◆
Venezuela	113.7	119.3	124.8	116.7	122.9	127.9	130.0	128.3	123.8	111.8	**117.6**	5.6%	0.1%	0.5%
Other S. & Cent. America	188.5	188.1	188.0	192.3	198.2	205.3	209.3	206.6	213.2	224.4	**215.5**	-3.7%	2.1%	0.8%
Total S. & Cent. America	1034.7	1072.1	1083.3	1140.7	1181.8	1232.1	1268.5	1288.2	1297.7	1303.5	**1315.8**	1.2%	2.8%	5.1%
Austria	64.9	66.9	69.1	71.1	65.9	72.4	68.0	65.1	64.9	67.9	**70.1**	3.6%	0.5%	0.3%
Belgium	88.8	84.9	91.2	95.2	90.2	82.9	83.5	72.7	69.8	85.5	**86.4**	1.3%	◆	0.3%
Czech Republic	88.0	83.5	82.3	85.9	87.6	87.6	87.1	86.0	83.9	83.3	**87.0**	4.8%	-0.1%	0.3%
Finland	81.7	77.9	72.5	81.1	73.7	70.5	71.4	68.2	68.8	68.8	**67.9**	-1.0%	-1.8%	0.3%
France	569.8	573.8	535.9	569.3	565.0	564.5	573.8	564.2	570.3	556.2	**554.1**	-0.1%	-0.3%	2.2%
Germany	640.6	640.7	595.6	633.1	613.1	630.1	638.7	626.7	646.9	649.1	**654.2**	1.1%	0.1%	2.6%
Greece	63.5	63.7	61.4	57.4	59.4	61.0	57.2	50.5	51.9	51.4	**55.1**	7.4%	-1.7%	0.2%
Hungary	40.0	40.0	35.9	37.4	36.0	34.6	30.3	29.4	30.3	31.9	**32.9**	3.6%	-1.2%	0.1%
Italy	313.9	319.1	292.6	302.1	302.6	299.3	289.8	279.8	283.0	289.8	**295.4**	2.2%	-0.8%	1.2%
Netherlands	105.2	108.2	113.5	118.1	113.0	102.5	100.9	103.4	110.1	115.2	**116.6**	1.5%	1.5%	0.5%
Norway	137.2	142.1	131.8	123.6	127.6	147.7	134.0	142.0	144.5	149.0	**148.7**	0.1%	2.1%	0.6%
Poland	159.3	155.3	151.7	157.7	163.5	162.1	164.6	159.1	164.9	166.6	**170.3**	2.5%	0.3%	0.7%
Portugal	47.3	46.0	50.2	54.1	52.5	46.6	51.7	52.8	52.4	60.3	**60.0**	-0.1%	2.1%	0.2%
Romania	61.7	65.0	58.0	61.0	62.2	59.0	58.9	63.3	66.3	65.1	**63.6**	-2.0%	0.4%	0.2%
Spain	305.1	313.8	296.3	300.4	291.8	297.6	285.3	278.8	281.0	274.6	**275.4**	0.6%	-0.9%	1.1%
Sweden	148.7	149.7	136.7	148.3	151.2	166.3	153.2	153.7	162.1	156.1	**163.9**	5.3%	0.9%	0.6%
Switzerland	69.4	70.5	70.0	69.7	66.2	71.6	71.9	73.3	69.4	67.4	**63.2**	-6.1%	0.3%	0.2%
Turkey	191.6	198.4	194.8	211.2	229.4	239.5	240.2	252.0	261.8	274.4	**295.5**	8.0%	4.5%	1.2%
United Kingdom	396.8	388.9	376.8	382.1	368.0	363.9	358.3	338.1	338.9	339.4	**335.9**	-0.8%	-1.6%	1.3%
Other Europe	296.8	309.3	306.4	320.0	307.2	295.4	309.2	296.3	297.3	305.7	**305.0**	◆	◆	1.2%
Total Europe	3870.1	3897.8	3722.8	3878.6	3826.0	3855.1	3827.8	3755.1	3818.7	3857.8	**3901.3**	1.4%	0.1%	15.3%
Azerbaijan	21.8	21.6	18.9	18.7	20.3	23.0	23.4	24.7	24.7	25.0	**24.3**	-2.3%	0.2%	0.1%
Belarus	31.8	35.1	30.4	34.9	32.2	30.8	31.5	34.7	34.2	33.6	**34.3**	2.6%	0.5%	0.1%
Kazakhstan	76.6	80.3	78.7	82.6	86.6	90.6	92.6	94.6	91.6	94.6	**103.0**	9.1%	2.8%	0.4%
Russian Federation	1018.7	1040.0	993.1	1038.0	1054.9	1069.3	1059.1	1064.2	1067.5	1091.0	**1091.2**	0.3%	1.0%	4.3%
Turkmenistan	14.9	15.0	16.0	16.7	17.2	17.8	18.9	20.1	21.5	22.6	**22.8**	1.2%	5.2%	0.1%
Ukraine	196.3	192.6	173.6	188.8	194.9	198.9	194.4	182.8	163.7	164.6	**157.1**	-4.3%	-1.6%	0.6%
Uzbekistan	49.0	49.4	50.0	51.7	52.4	52.5	54.2	55.6	57.6	58.3	**60.1**	3.3%	1.4%	0.2%
Other CIS	44.1	39.7	39.1	41.1	44.6	46.0	43.3	44.1	43.3	43.0	**46.6**	8.7%	-0.1%	0.2%
Total CIS	1453.2	1473.8	1399.8	1472.6	1503.1	1528.9	1517.3	1520.9	1504.2	1532.6	**1539.5**	0.7%	0.8%	6.0%
Iran	203.1	210.5	221.8	235.7	235.6	248.8	258.9	275.6	280.2	286.1	**304.4**	6.7%	4.0%	1.2%
Iraq	32.3	35.3	41.3	41.7	42.2	47.8	62.1	71.2	75.3	86.3	**93.3**	8.3%	10.9%	0.4%
Israel	55.1	55.8	55.3	58.5	59.3	63.0	61.4	61.3	64.2	67.2	**68.3**	1.9%	2.6%	0.3%
Kuwait	48.8	51.7	53.2	57.1	57.5	62.7	61.0	65.1	68.3	70.1	**72.6**	3.8%	3.9%	0.3%
Oman	14.4	16.0	18.4	19.8	21.9	25.0	26.2	29.1	32.8	34.2	**35.9**	5.4%	9.7%	0.1%
Qatar	19.5	21.6	24.2	28.1	30.7	34.8	34.7	38.7	41.5	42.3	**43.8**	3.9%	10.7%	0.2%
Saudi Arabia	204.4	216.4	229.2	251.4	262.2	284.7	299.3	333.7	359.6	370.4	**375.6**	1.7%	6.6%	1.5%
United Arab Emirates	78.8	80.5	85.7	93.9	99.1	106.2	110.0	116.5	127.4	129.6	**135.8**	5.1%	6.9%	0.5%
Other Middle East	80.9	87.1	90.7	98.7	100.8	97.0	88.3	84.7	80.5	78.8	**81.3**	3.4%	0.4%	0.3%
Total Middle East	737.3	775.0	819.8	885.0	909.3	969.9	1001.8	1076.1	1129.9	1165.1	**1210.9**	4.2%	5.4%	4.7%
Algeria	37.3	40.2	43.1	45.7	53.1	57.4	59.9	64.2	68.8	71.0	**75.2**	6.2%	7.3%	0.3%
Egypt	119.9	128.8	134.3	144.4	149.6	162.8	165.1	171.2	181.8	188.2	**193.2**	2.9%	5.4%	0.8%
Morocco	20.3	21.0	21.7	23.7	25.4	27.7	28.1	29.3	30.3	30.7	**31.6**	3.3%	4.2%	0.1%
South Africa	263.5	258.3	249.6	259.6	262.5	257.9	256.1	254.8	250.1	252.7	**255.1**	1.2%	◆	1.0%
Other Africa	169.5	174.1	179.9	196.9	197.4	213.6	232.1	245.7	252.4	255.4	**275.6**	8.2%	4.4%	1.1%
Total Africa	610.5	622.4	628.5	670.4	688.0	719.4	741.3	765.2	783.6	798.0	**830.7**	4.4%	3.1%	3.3%
Australia	243.2	245.4	249.9	251.0	256.3	250.7	249.6	247.6	254.3	259.4	**259.4**	0.3%	0.9%	1.0%
Bangladesh	31.0	34.2	37.2	40.8	44.2	48.7	54.4	57.5	61.8	70.3	**74.7**	6.6%	9.1%	0.3%
China	3281.6	3495.8	3714.7	4207.2	4713.0	4987.6	5431.6	5649.6	5814.6	6133.2	**6495.1**	6.2%	7.9%	25.4%
China Hong Kong SAR	38.9	38.0	38.7	38.4	39.1	38.8	39.2	39.9	38.0	38.3	**37.0**	-3.0%	-0.1%	0.1%
India	796.3	828.4	879.7	937.5	1034.0	1091.8	1146.1	1262.2	1319.0	1421.5	**1497.0**	5.6%	6.7%	5.9%
Indonesia	142.4	149.4	156.8	169.8	183.4	200.3	216.2	228.6	234.0	248.6	**260.4**	5.0%	6.4%	1.0%
Japan	1180.1	1183.7	1114.0	1156.0	1104.2	1106.9	1087.8	1062.7	1030.1	1002.3	**1020.0**	2.0%	-1.5%	4.0%
Malaysia	103.6	106.9	111.3	120.1	120.9	127.3	138.3	143.6	147.2	159.3	**162.3**	2.2%	4.8%	0.6%
New Zealand	43.8	43.8	43.4	44.9	44.4	44.3	43.3	43.6	44.3	43.9	**44.3**	1.1%	0.1%	0.2%
Pakistan	98.1	96.2	97.1	100.0	99.9	99.0	102.2	107.3	110.5	118.6	**123.9**	4.8%	2.1%	0.5%
Philippines	59.6	60.8	61.9	67.7	69.2	72.9	75.3	77.3	82.4	90.8	**94.4**	4.2%	4.8%	0.4%
Singapore	41.1	41.7	41.8	45.4	46.0	46.9	48.0	49.3	50.3	51.6	**52.4**	1.9%	2.7%	0.2%
South Korea	425.4	442.6	452.4	495.0	517.6	531.2	537.2	540.4	547.8	561.0	**571.7**	2.2%	3.4%	2.2%
Sri Lanka	9.9	10.0	10.0	10.8	11.6	11.9	12.0	12.9	13.2	14.4	**14.9**	4.0%	4.2%	0.1%
Taiwan	243.1	238.3	230.0	247.1	252.2	250.4	252.4	260.0	258.2	264.1	**270.3**	2.6%	1.2%	1.1%
Thailand	142.5	145.4	145.9	157.6	153.3	169.0	168.6	173.8	177.8	179.7	**176.6**	-1.5%	2.8%	0.7%
Vietnam	64.1	71.0	80.6	91.7	101.5	115.1	124.5	141.3	157.9	174.6	**190.1**	9.2%	11.7%	0.7%
Other Asia Pacific	63.7	66.7	65.4	72.8	76.9	78.3	84.5	89.0	91.4	108.9	**118.3**	8.9%	6.1%	0.5%
Total Asia Pacific	7008.6	7298.3	7530.9	8253.7	8867.7	9271.1	9811.0	10186.4	10432.8	10940.3	**11462.9**	5.1%	5.4%	44.9%
Total World	**20046.5**	**20437.2**	**20273.3**	**21577.7**	**22269.8**	**22820.0**	**23457.6**	**23918.8**	**24289.5**	**24930.2**	**25551.3**	**2.8%**	**2.7%**	**100.0%**
of which: OECD	10993.6	11000.9	10563.7	10994.0	10944.1	10951.9	10947.8	10891.7	10930.3	10975.2	**11013.2**	0.6%	0.2%	43.1%
Non-OECD	9052.9	9436.3	9709.6	10583.7	11325.6	11868.1	12509.9	13027.1	13359.2	13954.9	**14538.1**	4.5%	5.2%	56.9%
European Union	3384.3	3388.7	3224.4	3364.7	3299.2	3295.4	3269.6	3187.3	3235.4	3254.6	**3286.6**	1.3%	-0.4%	12.9%

*Based on gross output.
◆Less than 0.05%.
Note: Growth rates are adjusted for leap years.

Regional electricity generation by fuel 2017

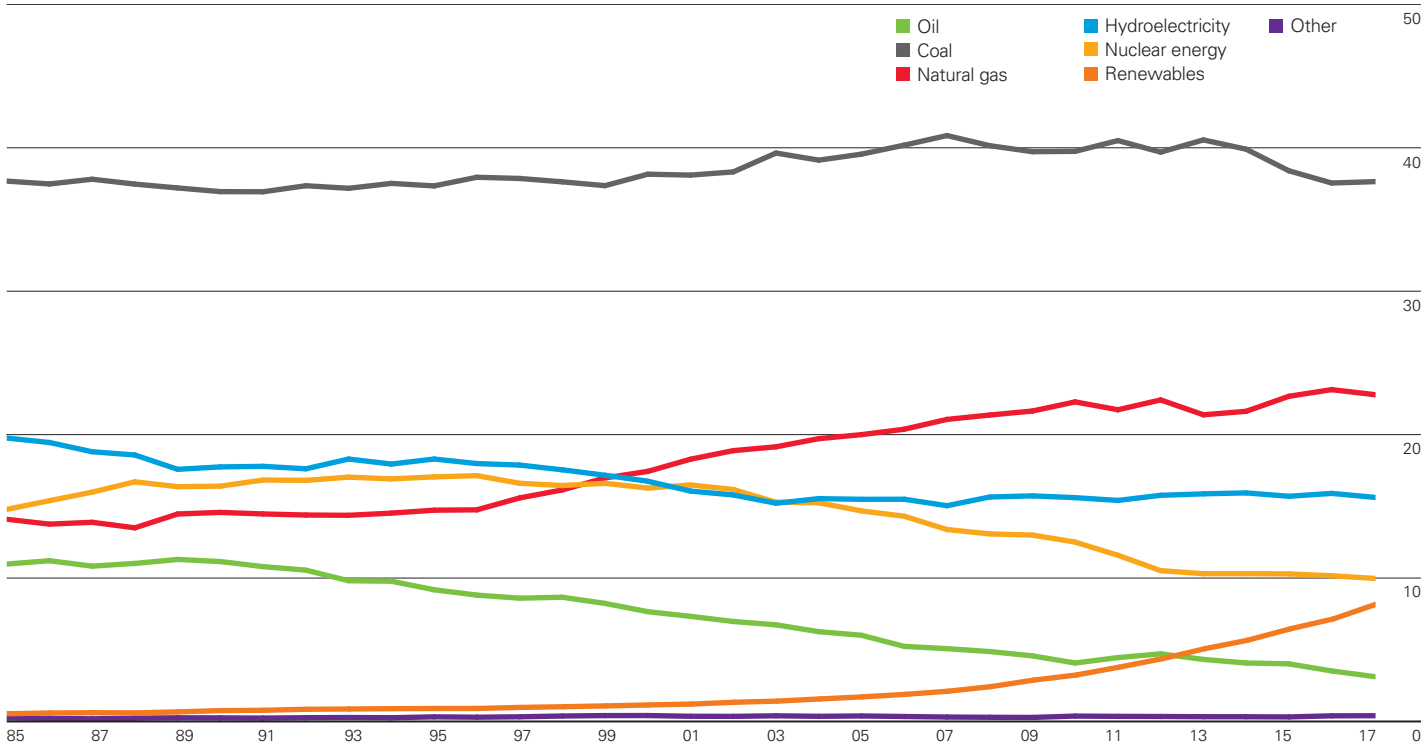
Percentage



Natural gas is the dominant fuel used for power generation in North America, CIS, the Middle East and Africa. South and Central America gets more than half of its power from hydroelectricity, with a share far higher than any other region. In Europe, nuclear energy is the top source of electricity, but only just, as the shares of nuclear, coal, natural gas and renewables are all in a narrow range of 18-22%.

Share of global electricity generation by fuel

Percentage



Coal remains the world's dominant source of power, with a share of 38.1% in 2017, almost as much as natural gas (23.2%) and hydroelectricity (15.9%) combined, which sit in second and third positions. Renewables' share of power generation was 8.4% in 2017, having risen 6.1% percentage points since 2007. Over the same period, nuclear's share declined by 3.4 percentage points while coal lost 3.1 percentage points.

Electricity generation by fuel*

Terawatt-hours	2016 Oil	2016 Natural Gas	2016 Coal	2016 Nuclear energy	2016 Hydro electric	2016 Renew-ables	2016 Other‡	2016 Total	2017 Oil	2017 Natural Gas	2017 Coal	2017 Nuclear energy	2017 Hydro electric	2017 Renew-ables	2017 Other‡	2017 Total
US	26.0	1482.1	1346.2	848.1	263.8	367.4	14.4	4347.9	22.7	1368.7	1314.0	847.3	296.5	418.9	13.6	**4281.8**
Canada	4.3	68.4	65.8	96.4	387.1	42.3	0.4	664.6	4.3	73.4	76.1	96.7	396.9	45.6	0.5	**693.4**
Mexico	33.5	192.0	34.4	10.6	30.7	18.0	1.1	320.3	40.8	181.1	31.0	10.9	31.7	19.6	–	**315.0**
Total North America	63.8	1742.5	1446.4	955.0	681.6	427.7	15.8	5332.9	67.7	1623.2	1421.1	954.9	725.1	484.1	14.1	**5290.2**
Argentina	20.7	74.4	1.9	8.4	38.3	3.0	0.4	147.2	11.1	82.8	1.7	6.3	41.6	3.0	0.5	**147.0**
Brazil	14.9	56.5	26.1	15.9	380.9	84.6	–	578.9	17.2	65.4	25.2	15.8	369.5	97.9	–	**590.9**
Other S. & C. America	106.1	108.3	51.9	–	272.1	38.9	0.1	577.4	90.8	94.7	42.4	–	306.4	43.2	0.4	**577.9**
Total S. & C. America	141.7	239.2	80.0	24.3	691.3	126.4	0.6	1303.5	119.2	242.8	69.4	22.0	717.4	144.1	0.9	**1315.8**
Germany	5.8	81.3	261.7	84.6	20.5	169.1	26.0	649.1	5.7	86.0	242.2	75.9	19.7	198.1	26.6	**654.2**
Italy	12.1	126.1	38.4	–	42.4	65.6	5.0	289.8	9.0	144.6	32.8	–	36.3	68.4	4.5	**295.4**
Netherlands	1.3	52.6	36.7	4.0	0.1	14.6	5.9	115.2	1.1	56.4	31.4	5.3	0.1	17.5	4.8	**116.6**
Poland	2.3	7.8	132.9	–	2.1	20.7	0.8	166.6	1.9	9.8	134.1	–	2.6	21.2	0.8	**170.3**
Spain	16.8	52.8	37.4	58.6	36.4	68.2	4.4	274.6	17.7	63.1	45.1	58.1	18.5	69.5	3.5	**275.4**
Turkey	1.9	89.2	92.3	–	67.2	23.8	–	274.4	2.0	108.2	97.6	–	58.4	29.4	–	**295.5**
United Kingdom	1.8	143.4	30.7	71.7	5.4	77.8	8.5	339.4	2.2	133.3	22.6	70.3	5.9	92.9	8.6	**335.9**
Other Europe	21.5	150.4	230.8	643.8	471.5	197.6	33.0	1748.6	22.1	173.2	235.6	641.0	434.7	218.2	33.2	**1758.0**
Total Europe	63.6	703.7	861.0	862.7	645.7	637.4	83.7	3857.8	61.6	774.6	841.3	850.7	576.2	715.1	81.9	**3901.3**
Kazakhstan	2.1	20.0	60.6	–	11.6	0.4	–	94.6	2.0	25.1	64.3	–	11.2	0.4	–	**103.0**
Russian Federation	25.2	529.4	149.3	196.6	184.8	1.1	4.7	1091.0	15.8	529.9	153.3	203.1	183.3	1.2	4.7	**1091.2**
Ukraine	1.6	9.8	61.2	81.0	7.7	1.6	1.7	164.6	1.3	7.3	50.6	85.6	8.7	1.7	1.9	**157.1**
Other CIS	3.3	127.5	3.8	2.4	44.8	0.4	0.3	182.4	3.8	129.8	3.8	2.6	47.5	0.5	0.3	**188.2**
Total CIS	32.1	686.7	274.8	279.9	248.9	3.4	6.6	1532.6	22.9	692.0	272.1	291.3	250.6	3.8	6.8	**1539.5**
Iran	39.7	223.5	0.5	6.6	15.4	0.5	–	286.1	34.3	245.5	0.5	7.1	16.4	0.6	–	**304.4**
Saudi Arabia	156.6	213.7	–	–	–	0.1	–	370.4	154.3	221.1	–	–	–	0.1	–	**375.6**
United Arab Emirates	1.6	127.7	–	–	–	0.3	–	129.6	1.6	133.7	–	–	–	0.5	–	**135.8**
Other Middle East	130.6	215.8	24.4	–	4.7	3.4	†	379.0	126.1	238.5	22.3	–	3.6	4.7	†	**395.2**
Total Middle East	328.5	780.7	24.9	6.6	20.2	4.3	†	1165.1	316.3	838.8	22.7	7.1	20.0	6.0	†	**1210.9**
Egypt	34.8	137.5	–	–	13.3	2.6	–	188.2	27.2	149.9	–	–	13.4	2.7	–	**193.2**
South Africa	†	1.7	223.2	15.9	0.7	7.9	3.3	252.7	†	1.9	223.8	15.8	0.9	8.7	4.1	**255.1**
Other Africa	51.0	160.8	26.5	–	105.9	12.3	0.5	357.1	54.2	173.3	27.1	–	114.2	13.1	0.4	**382.4**
Total Africa	85.9	300.0	249.7	15.9	119.9	22.9	3.8	798.0	81.5	325.1	250.9	15.8	128.5	24.5	4.5	**830.7**
Australia	6.0	48.9	162.3	–	17.8	24.1	0.2	259.4	6.3	54.9	159.1	–	13.7	25.2	0.2	**259.4**
China	10.4	188.3	4163.6	213.3	1153.3	360.9	43.5	6133.2	14.9	196.2	4360.9	248.3	1155.8	471.7	47.4	**6495.1**
India	10.0	74.0	1090.4	37.9	128.4	80.7	0.1	1421.5	10.3	75.5	1141.4	37.4	135.6	96.4	0.3	**1497.0**
Indonesia	23.3	59.3	135.4	–	19.4	11.3	†	248.6	23.5	53.2	152.3	–	18.4	13.0	†	**260.4**
Japan	82.0	397.2	330.9	17.7	80.0	83.1	11.5	1002.3	54.8	401.5	342.5	29.1	79.2	98.9	14.1	**1020.0**
Malaysia	1.5	63.7	70.9	–	21.8	1.4	–	159.3	1.6	61.9	72.5	–	24.8	1.6	–	**162.3**
South Korea	17.7	123.1	235.6	162.0	2.8	13.9	5.8	561.0	12.4	120.8	264.4	148.4	3.0	16.0	6.7	**571.7**
Taiwan	10.9	85.6	120.0	31.7	6.6	4.4	4.9	264.1	12.1	93.8	126.4	22.4	5.4	5.2	4.9	**270.3**
Thailand	0.5	126.1	37.1	–	3.5	12.5	–	179.7	0.3	121.0	35.7	–	4.7	14.8	–	**176.6**
Vietnam	0.7	45.0	64.5	–	63.9	0.3	–	174.6	0.8	44.4	74.3	–	70.2	0.4	–	**190.1**
Other Asia Pacific	79.8	185.8	103.5	5.8	131.0	29.8	0.9	536.7	76.9	195.6	116.6	8.1	131.4	30.7	0.7	**559.9**
Total Asia Pacific	242.8	1397.0	6514.2	468.3	1628.5	622.4	66.9	10940.3	213.9	1418.7	6846.0	493.7	1642.2	773.9	74.4	**11462.9**
Total World	**958.4**	**5849.7**	**9451.0**	**2612.8**	**4036.1**	**1844.6**	**177.5**	**24930.2**	**883.0**	**5915.3**	**9723.4**	**2635.6**	**4059.9**	**2151.5**	**182.6**	**25551.3**
of which: OECD	226.6	3056.4	3007.2	1970.4	1406.8	1193.7	114.2	10975.2	196.1	3016.2	2992.0	1956.1	1391.1	1347.7	114.2	**11013.2**
Non-OECD	731.8	2793.3	6443.8	642.4	2629.2	651.0	63.3	13954.9	686.9	2899.1	6731.5	679.5	2668.8	803.9	68.4	**14538.1**
EU	59.3	607.2	719.4	839.9	350.0	602.5	76.2	3254.6	57.2	658.5	693.8	830.5	299.7	673.3	73.6	**3286.6**

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

Carbon dioxide emissions

Million tonnes of carbon dioxide	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
US	5881.4	5704.0	5295.8	5508.3	5374.7	5168.6	5309.1	5360.1	5214.4	5129.5	**5087.7**	-0.5%	-1.2%	15.2%
Canada	551.6	545.9	502.1	525.7	532.1	513.6	529.1	538.0	529.9	543.0	**560.0**	3.4%	0.3%	1.7%
Mexico	428.9	431.6	433.0	442.4	465.4	473.7	474.0	461.7	457.4	488.7	**473.4**	-2.9%	1.4%	1.4%
Total North America	6861.9	6681.6	6230.9	6476.4	6372.2	6156.0	6312.2	6359.8	6201.7	6161.3	**6121.1**	-0.4%	-0.9%	18.3%
Argentina	156.7	160.2	152.7	166.2	169.2	175.6	182.5	183.8	187.0	187.3	**183.7**	-1.7%	2.7%	0.5%
Brazil	351.4	374.9	352.1	400.3	426.4	449.7	489.0	511.9	497.2	462.1	**466.8**	1.3%	3.2%	1.4%
Chile	76.5	77.4	74.3	76.1	87.0	89.4	91.1	88.4	88.9	94.2	**92.3**	-1.7%	3.7%	0.3%
Colombia	59.6	69.5	64.7	71.8	70.6	79.9	83.3	88.0	90.9	91.5	**84.7**	-7.1%	4.2%	0.3%
Ecuador	26.8	27.3	27.7	31.9	32.7	34.0	36.2	38.1	37.3	35.1	**34.0**	-2.9%	2.9%	0.1%
Peru	30.7	34.3	34.1	38.3	42.1	43.2	44.7	45.8	48.3	52.1	**50.9**	-2.1%	6.7%	0.2%
Trinidad & Tobago	26.0	26.3	25.1	26.8	26.7	26.1	27.4	26.8	26.3	24.0	**23.8**	-0.7%	0.3%	0.1%
Venezuela	164.0	172.2	169.9	168.3	169.3	180.1	177.1	168.0	162.4	154.0	**147.0**	-4.3%	-0.7%	0.4%
Other S. & Cent. America	214.1	208.8	203.6	207.7	213.6	210.9	207.9	211.2	220.5	227.0	**226.6**	0.1%	0.8%	0.7%
Total S. & Cent. America	1105.8	1150.9	1104.2	1187.3	1237.6	1288.8	1339.2	1362.1	1358.9	1327.3	**1309.8**	-1.0%	2.3%	3.9%
Austria	68.0	68.5	62.6	67.8	65.2	62.6	62.8	58.8	61.2	61.5	**64.2**	4.8%	-1.5%	0.2%
Belgium	139.6	141.6	129.0	137.1	123.2	118.8	119.5	111.9	118.7	119.6	**122.1**	2.4%	-1.6%	0.4%
Czech Republic	127.4	120.0	111.3	115.7	111.2	106.7	104.9	99.2	102.9	104.5	**103.9**	-0.3%	-1.9%	0.3%
Finland	67.6	60.2	57.7	65.7	56.8	50.3	50.8	45.8	44.3	46.9	**45.0**	-3.8%	-3.9%	0.1%
France	371.2	371.1	356.2	361.5	335.9	337.7	337.7	304.2	309.2	314.8	**320.3**	2.0%	-1.9%	1.0%
Germany	807.2	806.5	751.0	779.9	761.0	770.7	795.1	749.4	753.5	765.4	**763.8**	0.1%	-0.9%	2.3%
Greece	109.2	104.1	100.5	93.6	93.0	88.1	79.8	76.2	73.7	71.0	**74.9**	5.8%	-3.9%	0.2%
Hungary	55.6	54.5	48.2	49.0	48.6	44.6	42.0	40.8	43.8	45.0	**47.7**	6.4%	-2.4%	0.1%
Italy	460.9	448.1	405.1	410.9	401.0	381.5	350.9	325.9	339.1	339.7	**344.0**	1.5%	-3.2%	1.0%
Netherlands	234.1	231.2	222.8	232.5	224.6	216.3	210.9	199.7	207.4	210.9	**209.1**	-0.6%	-1.1%	0.6%
Norway	37.4	36.3	36.8	37.5	36.7	36.5	36.5	35.9	36.0	35.2	**35.3**	0.5%	-0.6%	0.1%
Poland	317.0	319.2	305.0	323.1	322.9	307.5	310.1	293.2	293.0	304.3	**308.6**	1.7%	-0.5%	0.9%
Portugal	59.2	57.5	56.9	51.5	51.3	50.6	49.0	48.9	53.5	54.8	**59.8**	9.3%	-1.1%	0.2%
Romania	96.6	93.9	79.9	77.4	83.2	80.3	68.7	69.4	70.2	69.3	**74.1**	7.3%	-3.4%	0.2%
Spain	378.6	352.4	314.6	299.0	308.3	306.5	275.3	272.9	288.9	283.2	**301.9**	6.9%	-2.5%	0.9%
Sweden	59.1	57.4	53.9	57.0	53.5	50.8	49.0	48.0	46.7	48.5	**48.0**	-0.8%	-2.3%	0.1%
Switzerland	40.3	43.0	43.6	41.3	39.4	40.7	42.8	38.1	38.9	37.4	**38.4**	2.9%	-1.7%	0.1%
Turkey	273.0	276.9	276.1	278.6	301.5	316.9	305.5	337.9	346.8	365.6	**410.9**	12.7%	3.9%	1.2%
United Kingdom	568.4	560.2	513.0	529.0	494.2	510.9	497.4	455.7	435.7	410.4	**398.2**	-2.7%	-3.4%	1.2%
Other Europe	418.2	414.0	386.5	398.8	399.5	374.9	370.4	353.9	364.1	372.9	**382.0**	2.7%	-1.1%	1.1%
Total Europe	4688.8	4616.6	4310.5	4406.9	4311.0	4252.7	4159.1	3965.9	4027.5	4060.6	**4152.2**	2.5%	-1.5%	12.4%
Azerbaijan	29.9	29.6	25.9	24.8	28.5	29.6	30.2	31.0	33.8	33.3	**32.2**	-3.1%	◆	0.1%
Belarus	57.1	59.8	57.6	60.5	57.6	58.8	59.3	56.5	52.2	52.8	**53.8**	2.1%	-1.0%	0.2%
Kazakhstan	175.5	189.4	170.6	183.9	202.5	209.7	211.0	212.5	205.8	207.7	**218.5**	5.4%	2.6%	0.7%
Russian Federation	1528.1	1554.3	1448.5	1489.8	1555.8	1571.0	1524.4	1533.3	1495.5	1510.5	**1525.3**	1.3%	-0.2%	4.6%
Turkmenistan	60.8	61.5	57.3	65.2	67.8	74.4	67.6	74.1	82.4	83.6	**79.1**	-5.1%	4.5%	0.2%
Ukraine	315.4	317.3	271.8	286.9	303.0	296.7	281.2	241.5	188.9	200.2	**179.4**	-10.1%	-4.6%	0.5%
Uzbekistan	113.9	115.9	97.7	97.5	100.2	98.4	97.4	101.2	107.3	94.5	**95.3**	1.1%	-1.1%	0.3%
Other CIS	22.6	24.4	23.9	23.1	24.1	28.5	26.8	27.3	29.2	29.7	**29.8**	0.7%	4.0%	0.1%
Total CIS	2303.3	2352.3	2153.4	2231.7	2339.4	2367.1	2297.9	2277.5	2195.1	2212.3	**2213.3**	0.3%	-0.3%	6.6%
Iraq	79.0	82.4	93.2	99.1	104.0	111.1	119.5	115.6	116.2	131.7	**140.8**	7.2%	5.7%	0.4%
Iran	490.5	514.0	527.7	530.0	542.3	545.6	575.4	602.0	595.5	598.6	**633.7**	6.1%	2.7%	1.9%
Israel	70.4	71.6	68.4	71.6	73.1	78.9	72.1	68.0	71.0	69.9	**71.4**	2.3%	0.4%	0.2%
Kuwait	73.1	79.6	81.2	87.0	85.9	96.0	100.5	89.7	97.8	99.1	**99.4**	0.6%	2.8%	0.3%
Oman	35.4	42.3	42.1	48.9	52.3	57.6	65.6	65.2	69.0	70.4	**70.5**	0.5%	7.0%	0.2%
Qatar	53.8	47.6	47.8	58.5	65.5	77.0	82.6	91.6	103.8	104.7	**114.8**	9.9%	9.4%	0.3%
Saudi Arabia	392.5	424.4	443.2	485.1	501.5	525.5	534.3	570.4	587.1	590.8	**594.7**	0.9%	4.7%	1.8%
United Arab Emirates	185.7	211.5	205.4	214.9	222.0	233.1	247.9	244.8	265.2	272.4	**267.3**	-1.6%	4.9%	0.8%
Other Middle East	149.2	154.8	155.3	150.8	143.9	134.2	130.5	132.3	125.1	120.2	**119.7**	-0.2%	-1.7%	0.4%
Total Middle East	1529.5	1628.3	1664.4	1745.8	1790.5	1859.0	1928.4	1979.5	2030.6	2057.9	**2112.3**	2.9%	3.6%	6.3%
Algeria	85.4	90.8	95.8	94.2	100.6	108.9	115.4	123.6	128.6	128.2	**128.1**	0.2%	4.7%	0.4%
Egypt	160.2	170.5	177.2	188.8	189.5	200.4	198.1	201.6	204.5	212.1	**217.3**	2.7%	3.4%	0.6%
Morocco	43.8	48.6	45.2	49.1	52.9	53.9	54.0	55.9	56.7	57.0	**58.5**	3.0%	2.5%	0.2%
South Africa	411.8	447.5	446.7	449.3	440.7	435.2	437.0	440.5	420.4	425.1	**415.6**	-2.0%	0.6%	1.2%
Other Africa	265.0	277.9	279.8	297.1	288.2	309.3	328.4	348.6	357.4	362.9	**385.3**	6.5%	3.8%	1.2%
Total Africa	966.1	1035.4	1044.6	1078.5	1072.0	1107.8	1132.9	1170.2	1167.7	1185.2	**1204.9**	1.9%	2.5%	3.6%
Australia	396.8	407.1	402.1	397.6	403.5	396.2	392.3	399.4	407.1	407.1	**406.0**	◆	0.4%	1.2%
Bangladesh	39.7	43.0	47.7	50.8	55.0	60.3	61.5	65.3	77.7	79.6	**82.8**	4.2%	7.7%	0.2%
China	7214.8	7351.8	7680.7	8104.9	8792.3	8966.3	9204.2	9206.5	9163.2	9113.6	**9232.6**	1.6%	3.2%	27.6%
China Hong Kong SAR	85.7	79.2	86.5	88.4	92.1	88.8	91.6	89.8	90.6	92.8	**99.0**	7.0%	1.5%	0.3%
India	1365.5	1466.9	1594.4	1661.8	1737.2	1850.5	1930.9	2084.6	2146.3	2251.0	**2344.2**	4.4%	6.0%	7.0%
Indonesia	386.5	376.0	387.8	427.0	478.7	510.8	524.2	476.5	485.2	486.0	**511.5**	5.5%	3.1%	1.5%
Japan	1266.0	1273.1	1110.7	1182.4	1192.1	1284.5	1274.6	1231.8	1196.9	1180.5	**1176.6**	-0.1%	-0.6%	3.5%
Malaysia	190.5	197.8	190.4	216.5	213.8	226.6	232.8	241.0	245.7	252.1	**255.8**	1.7%	2.9%	0.8%
New Zealand	36.0	37.2	34.2	34.3	33.7	35.2	34.8	35.0	35.3	35.2	**37.0**	5.4%	-0.5%	0.1%
Pakistan	142.0	146.4	146.0	145.7	144.1	145.5	145.5	152.3	160.6	176.7	**189.2**	7.4%	3.1%	0.6%
Philippines	71.8	74.0	74.6	80.1	80.8	83.4	92.2	97.6	106.6	111.7	**119.9**	7.7%	5.2%	0.4%
Singapore	151.4	163.4	176.7	185.3	192.7	192.0	192.8	192.6	204.4	218.6	**226.7**	4.0%	4.5%	0.7%
South Korea	545.4	556.8	559.0	609.8	645.6	644.1	646.5	644.4	655.5	665.2	**679.7**	2.5%	2.5%	2.0%
Sri Lanka	13.8	12.6	13.2	13.1	14.8	16.1	13.9	16.9	19.2	20.2	**21.4**	6.1%	4.5%	0.1%
Taiwan	276.3	258.9	248.1	261.3	271.4	266.1	266.2	271.8	267.7	274.6	**284.5**	3.9%	◆	0.9%
Thailand	236.9	238.1	237.1	249.3	254.2	271.7	275.1	282.2	290.1	294.0	**298.8**	1.9%	2.7%	0.9%
Vietnam	79.2	104.3	102.4	121.9	135.0	132.7	140.8	157.5	183.5	194.9	**196.0**	0.9%	10.4%	0.6%
Other Asia Pacific	125.1	130.3	114.7	117.2	110.8	115.7	112.4	126.4	134.9	159.2	**168.7**	6.2%	1.9%	0.5%
Total Asia Pacific	12623.2	12916.9	13206.3	13947.5	14847.8	15286.6	15632.3	15771.7	15870.4	16013.0	**16330.4**	2.3%	3.1%	48.8%
Total World	**30078.7**	**30381.8**	**29714.2**	**31074.2**	**31970.5**	**32317.8**	**32802.0**	**32886.8**	**32851.9**	**33017.6**	**33444.0**	**1.6%**	**1.3%**	**100.0%**
of which: OECD	13629.7	13413.6	12506.8	12970.7	12815.3	12652.8	12717.9	12533.6	12411.1	12398.4	**12448.4**	0.7%	-0.8%	37.2%
Non-OECD	16449.0	16968.3	17207.4	18103.5	19155.1	19665.0	20084.1	20353.2	20440.8	20619.3	**20995.5**	2.1%	2.9%	62.8%
European Union	4222.6	4144.0	3838.6	3933.7	3808.6	3742.0	3657.5	3445.5	3488.0	3499.3	**3541.7**	1.5%	-2.0%	10.6%

◆Less than 0.05%.

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

Growth rates are adjusted for leap years.

Key materials for the changing energy system

Cobalt production

Mine production

Thousand tonnes	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
Australia	4.7	4.8	4.7	3.9	3.9	5.9	6.4	6.2	5.7	5.1	**4.7**	-8.8%	◆	3.4%
Canada	8.7	9.0	3.9	4.6	6.8	6.7	7.2	6.9	7.5	7.0	**6.4**	-8.1%	-0.2%	4.6%
DR Congo	25.4	42.5	56.1	84.0	99.5	86.4	76.6	76.5	84.4	69.0	**90.3**	31.2%	9.8%	65.7%
Cuba	4.5	4.0	4.6	4.8	5.1	4.9	4.2	3.7	4.3	4.3	**4.1**	-2.3%	-2.7%	3.0%
Madagascar	–	–	–	0.2	0.5	0.6	2.2	3.1	3.7	3.5	**3.1**	-10.1%	–	2.3%
Morocco	1.8	1.7	2.6	3.1	2.2	2.0	2.0	2.2	2.6	2.7	**2.5**	-7.3%	0.5%	1.8%
New Caledonia	2.3	2.1	2.0	2.9	3.1	2.7	3.2	4.0	3.7	3.4	**2.8**	-17.2%	7.6%	2.0%
Papua New Guinea	–	–	–	–	–	0.5	1.0	2.1	2.5	2.2	**3.2**	46.5%	–	2.3%
Philippines	1.0	1.2	1.4	2.1	2.0	2.7	2.8	4.6	4.3	4.0	**4.2**	4.8%	16.2%	3.1%
Russian Federation	6.3	6.2	6.1	6.2	6.1	6.3	6.3	6.3	6.2	5.5	**5.6**	2.1%	-1.3%	4.1%
South Africa	0.6	0.6	0.6	1.8	1.6	2.5	3.0	3.0	3.0	2.3	**2.5**	9.0%	14.4%	1.8%
Zambia	4.7	4.6	5.9	8.6	7.7	5.4	5.9	4.6	3.0	5.0	**2.7**	-46.5%	0.7%	1.9%
Rest of World	7.3	7.0	6.2	7.3	8.2	7.7	8.2	8.3	7.7	5.5	**5.4**	-2.1%	-0.4%	3.9%
World	**67.3**	**83.6**	**94.1**	**129.6**	**146.7**	**134.3**	**129.0**	**131.5**	**138.6**	**119.5**	**137.5**	**15.4%**	**6%**	**100%**

◆Less than 0.05%.

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

Lithium production

Mine production

Thousand tonnes of Lithium content	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
Argentina	3.0	3.2	2.2	3.0	3.0	2.7	2.5	3.2	3.6	5.8	**5.5**	-4.9%	7.2%	12.3%
Australia	6.8	6.7	5.5	8.5	11.7	12.6	10.1	12.4	11.9	14.9	**18.7**	26.2%	9.1%	41.8%
Brazil	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.2	0.2	**0.2**	–*	-1.9%	0.4%
Chile	11.5	11.0	6.0	10.4	13.6	13.9	11.7	12.0	10.9	15.2	**15.0**	-1.0%	4.3%	33.6%
China	3.0	3.3	3.8	4.0	4.1	4.5	4.7	2.3	2.0	2.3	**3.0**	30.8%	-2.0%	6.7%
Portugal	0.6	0.7	–	0.8	0.8	0.6	0.6	0.3	0.2	0.4	**0.4**	–*	2.3%	0.9%
US	1.5	1.5	1.5	1.0	1.0	1.0	0.9	0.9	0.9	0.9	**0.9**	–*	-5.0%	2.0%
Zimbabwe	0.3	0.5	0.4	0.5	0.5	1.1	1.0	0.9	0.9	1.0	**1.0**	–*	5.2%	2.2%
Rest of World	0.7	0.7	0.3	–	–	–	–	–	–	–	**–**	–	-100.0%	–
World	**27.6**	**27.7**	**19.8**	**28.2**	**35.0**	**36.5**	**31.9**	**32.2**	**30.7**	**40.7**	**44.7**	**10.2%**	**5%**	**100%**

*Zero (not leap year adjusted).

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

Natural graphite production

Mine production

Thousand tonnes	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
Brazil[1]	77.2	80.5	59.4	92.4	105.2	88.1	91.9	87.0	75.1	72.0	**72.0**	–[3]	-0.6%	7.0%
Canada	28.0	27.0	15.0	20.0	25.0	24.0	20.0	30.0	30.0	30.0	**30.0**	–[3]	0.7%	2.9%
China	800.0	650.0	450.0	700.0	800.0	820.0	750.0	780.0	780.0	780.0	**780.0**	–[3]	0.8%	75.5%
India[2]	170.8	117.8	124.6	115.7	153.3	134.7	146.4	116.7	135.5	151.8	**46.4**	-69.4%	-0.7%	4.5%
Madagascar	5.4	4.9	3.4	3.8	3.6	2.9	4.3	5.3	8.1	9.2	**8.2**	-10.6%	6.6%	0.8%
Mexico	9.9	7.2	5.1	6.6	7.3	7.5	7.0	9.2	6.5	3.8	**3.8**	–[3]	-10.6%	0.4%
Mozambique	–	–	–	–	–	–	–	–	–	–	**23.0**	–	–	2.2%
Russian Federation	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	15.9	19.4	**25.0**	29.2%	3.3%	2.4%
Sri Lanka	9.6	6.6	3.2	3.4	3.4	4.2	3.1	3.1	2.8	3.1	**3.1**	–[3]	-6.0%	0.3%
Ukraine	10.6	11.3	4.3	2.8	0.6	4.6	6.9	13.8	14.5	14.6	**14.6**	–[3]	3.2%	1.4%
Zimbabwe	5.4	5.1	2.5	4.0	7.0	6.0	4.0	7.0	7.0	6.0	**6.0**	–[3]	-0.9%	0.6%
Rest of World	36.9	40.7	58.5	24.7	25.3	49.8	51.6	37.1	22.8	21.6	**21.6**	–[3]	-7.1%	2.1%
Total World	**1167.8**	**965.2**	**740.0**	**987.4**	**1144.7**	**1155.8**	**1099.3**	**1103.2**	**1098.2**	**1111.6**	**1033.8**	**-6.7%**	**0%**	**100%**

[1]Including beneficiated and directly shipped material.
[2]Run of the mine.
[3]Zero (not leap year adjusted).

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

Rare earth metals production

Mine production

Thousand tonnes[1]	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	Growth rate per annum 2017	Growth rate per annum 2006-16	Share 2017
Australia	–	–	–	–	2.2	3.2	1.3	6.2	11.9	13.9	**17.3**	24.8%	–	13.2%
Brazil	0.6	0.5	0.2	0.1	0.1	1.6	0.3	–	0.9	2.2	**2.0**	-8.8%	15.4%	1.5%
China	120.0	125.0	129.0	89.2	93.8	93.8	93.8	105.0	105.0	105.0	**105.0**	–[2]	–2.3%	80.5%
India	†	†	†	–	–	–	0.3	1.7	1.0	1.0	**1.0**	–[2]	35.7%	0.7%
Malaysia	0.4	0.1	†	0.4	0.4	0.1	0.2	0.2	0.3	0.3	**0.3**	–[2]	–3.5%	0.2%
Russian Federation	2.7	2.5	1.9	1.5	1.4	2.1	1.4	2.1	2.3	3.1	**3.3**	7.4%	0.4%	2.5%
Thailand	–	–	4.0	5.6	3.1	0.1	0.1	1.9	0.8	1.6	**1.6**	–[2]	–	1.2%
US	–	–	–	–	–	3.0	5.5	5.4	5.9	–	**–**	–	–	–
Rest of World	–	–	–	0.2	0.2	0.2	0.1	–	0.3	0.2	**0.1**	-54.4%	–	0.1%
World	**123.8**	**128.1**	**135.1**	**97.0**	**101.3**	**104.2**	**103.0**	**122.6**	**128.3**	**127.2**	**130.5**	**2.9%**	**–1%**	**100%**

†Less than 0.05.
[1]Thousand tonnes of rare earth oxide equivalent.
[2]Zero (not leap year adjusted).

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

Reserves of key materials

Cobalt reserves

Thousand tonnes	At end of 2017	Share	R/P ratio
Australia	1200	16.9%	257
Canada	250	3.5%	39
Democratic Republic of Congo	3500	49.3%	39
Cuba	500	7.0%	121
Madagascar	150	2.1%	48
Morocco	17	0.2%	7
New Caledonia	64	0.9%	23
Papua New Guinea	51	0.7%	16
Philippines	280	3.9%	66
Russian Federation	250	3.5%	45
South Africa	29	0.4%	12
Zambia	270	3.8%	102
Rest of World	539	7.6%	101
World	**7100**	**100.0%**	**52**

Natural graphite reserves

Thousand tonnes	At end of 2017	Share	R/P ratio
Brazil	70000	25.9%	972
Canada	*	n/a	n/a
China	55000	20.4%	71
India	8000	3.0%	173
Madagascar	1600	0.6%	194
Mexico	3100	1.1%	808
Mozambique	17000	6.3%	739
Russian Federation	14800	5.5%	592
Sri Lanka	*	n/a	n/a
Ukraine	*	n/a	n/a
Zimbabwe	*	n/a	n/a
Rest of World	*	n/a	n/a
World	**270000**	**100.0%**	**261**

Lithium reserves

Thousand tonnes	At end of 2017	Share	R/P ratio
Argentina	2000	12.5%	364
Australia	2700	16.9%	144
Brazil	48	0.3%	240
Chile	7500	46.9%	500
China	3200	20.0%	1067
Portugal	60	0.4%	150
US	35	0.2%	39
Zimbabwe	23	0.1%	23
Rest of World	434	2.7%	–
World	**16000**	**100.0%**	**358**

Rare earth metals reserves

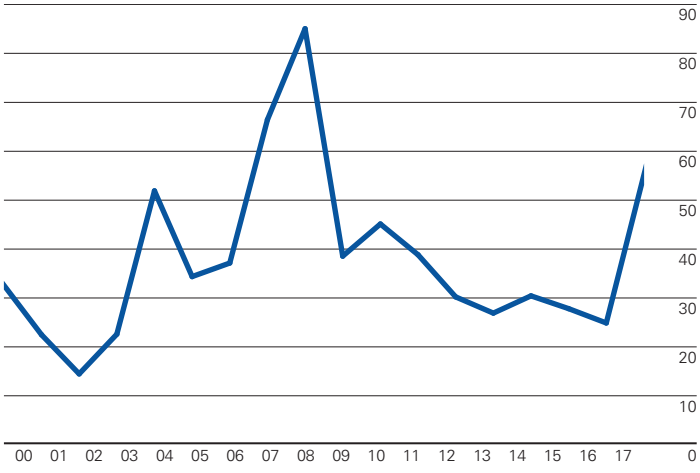
Thousand tonnes	At end of 2017	Share	R/P ratio
Australia	3400	2.8%	197
Brazil	22000	18.3%	11000
China	44000	36.7%	419
India	6900	5.8%	7218
Malaysia	30	◆	100
Russian Federation	18000	15.0%	5485
Thailand	*	n/a	n/a
US	1400	1.2%	–
Rest of World	*	n/a	n/a
World	**120000**	**100.0%**	**920**

*Reserves included in world total.
◆Less than 0.05%.
n/a not available.

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

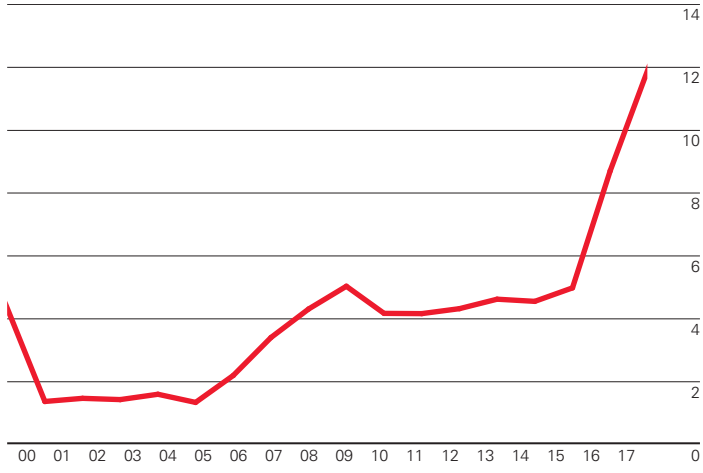
Cobalt prices

Thousands of US dollars per tonne*



Lithium carbonate prices

Thousands of US dollars per tonne†



*2000-2012 spot grade for cathodes, source US Geological Survey.
2013-2017 minimum purity 99.8%, source London Metal Exchange.
†2000-2008 unit value, data series 140, source US Geological Survey.
2009-2017 FOB South America, source Benchmark Mineral Intelligence.

Appendices

Approximate conversion factors

Crude oil*

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

*Based on worldwide average gravity.

Products

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

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

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

Units

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

Calorific equivalents

One tonne of oil equivalent equals approximately:

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

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

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

Definitions

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

Country, regions and geographic groupings

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

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

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

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

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

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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.
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North Africa: Algeria, Libya.
West Africa: Angola, Equatorial Guinea, Gabon, Nigeria.
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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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