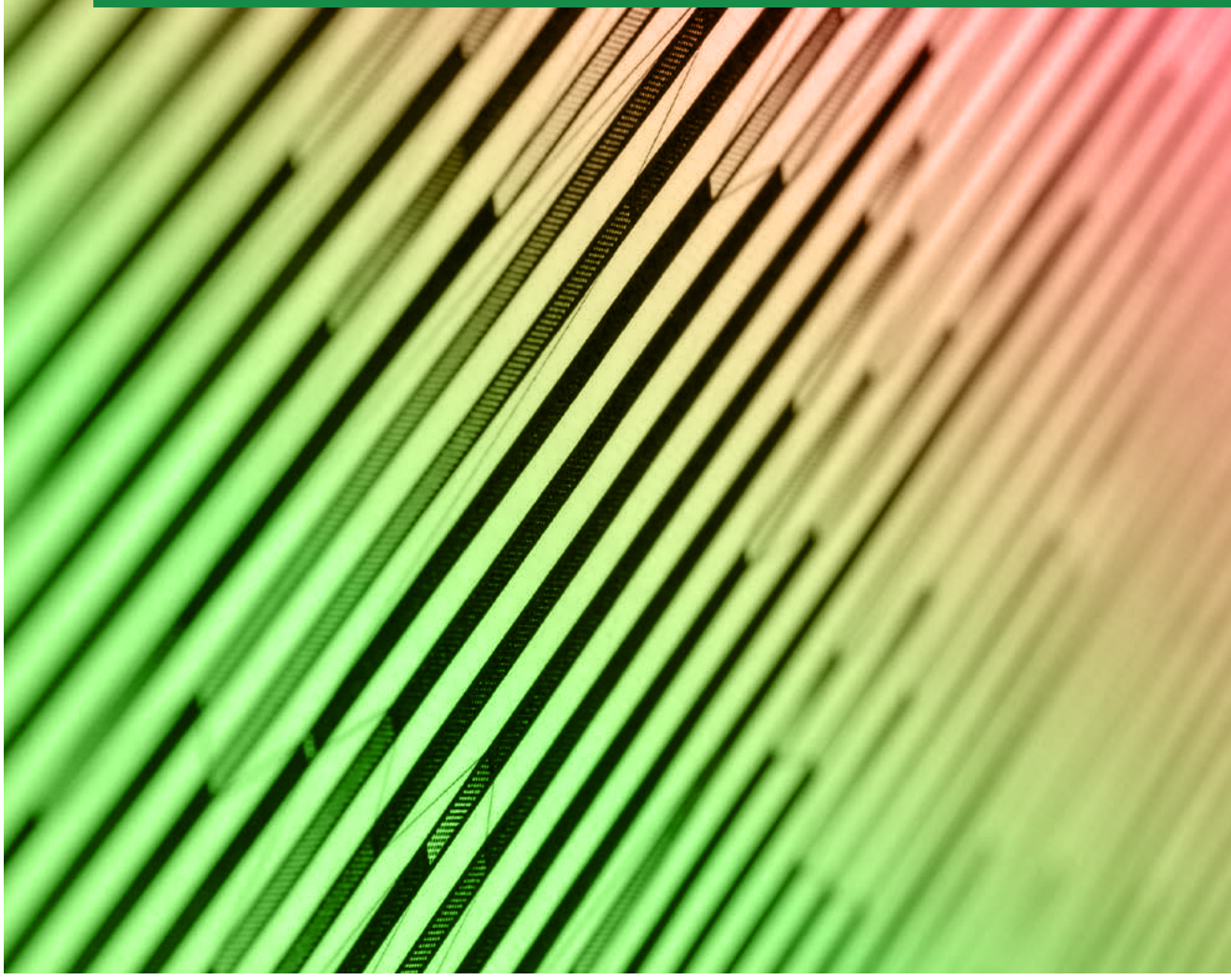
statistics

Key Natural Gas Trends

Excerpt from : Natural Gas information



International Energy Agency
Secure Sustainable Together

2016

The following analysis is an excerpt from the publication "Natural Gas Information (2016 edition)".

Please note that we strongly advise users to read definitions, detailed methodology and country specific notes which can be found online under *References* at http://www.iea.org/statistics/topics/naturalgas/

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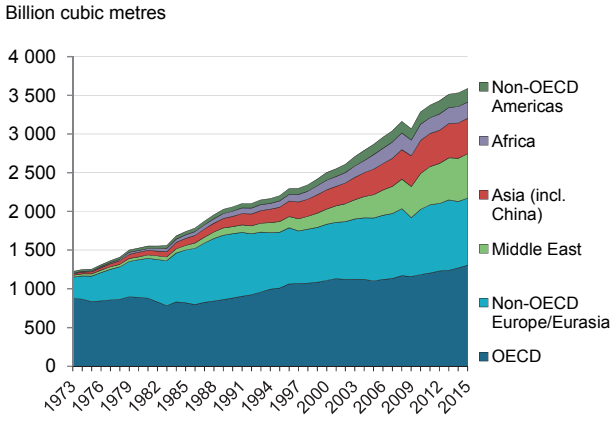
KEY NATURAL GAS TRENDS

Production

In 2015[1], global production of natural gas hit a record high of 3 590 Billion cubic metres (Bcm), which is 1.6% higher than the figure registered in 2014.

Figure 1. World natural gas production by region

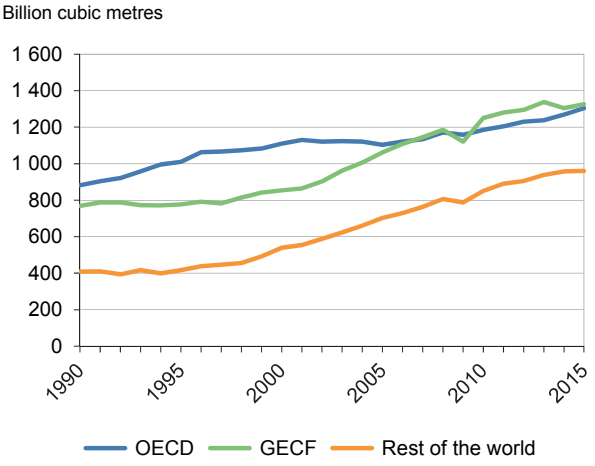


Since 1994, the share of natural gas production from countries that do not belong either to the OECD or to Non-OECD Europe/Eurasia almost doubled, rising from 20.3% to about 40%.

In the OECD, 2015 production rose by 2.7% year-on-year (from 1 270 Bcm to 1 304 Bcm). This growth was mostly driven by the United States (+5.5%), which offset the decrease in Europe (-2.5%). Production in OECD Asia Oceania rose by 4.8%, driven by growth in Australia (+5.4%)

Gas Exporting Countries Forum (GECF)[2] production increased by 1.6%, most of it in the Islamic Republic of Iran (+5.3%), which increased its production by 9.3 Bcm. Overall GECF countries produced 1 325 Bcm, slightly above OECD.

Figure 2. World natural gas production by organisation



In the rest of the world, the production of natural gas increased by 1.6%, exceeding for the first time 960 Bcm. The share of global production of these countries has grown from around 19.8% in 1990 to 26.8% now.

Analysing individual countries' production shows a range of factors implying production changes in 2015.

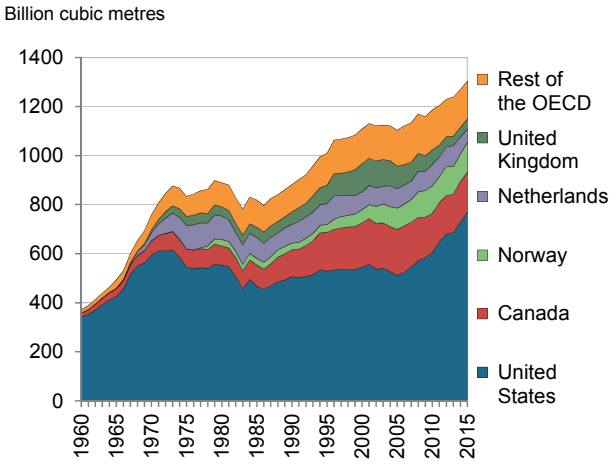
Within the OECD:

- In Australia, the start-up of new LNG projects helped a growth in production of 5.4%;

1. All energy data for 2015 are provisional.

2. GECF member countries are: Algeria, Bolivia, Egypt, Equatorial Guinea, Iran, Libya, Nigeria, Qatar, Russia, Trinidad and Tobago, United Arab Emirates and Venezuela.

Figure 3. Natural gas production in the OECD



- In the United States, the growth of natural gas production decelerated (+5.5%), but, despite the falling gas prices, not substantially compared to 2014;
- Norwegian gas production grew after two consecutive years of stability, mainly due to new fields start-ups (+8.1%);
- In the Netherlands, the decision of the Dutch government to cap gas production at the major Groningen gas field in response to the risk of earth quakes led to a further decline in natural gas production of 23.8% compared to 2014. The most recent ceiling is set at 24 Bcm, which is roughly half the level of Groningen production in 2013;
- In the United Kingdom, production rose (+7%) due to reduced maintenance and downtime, along with new fields such as Jasmine and Kew;
- The gas output in Mexico continued falling (-6.2%) due to the decline in associated gas from legacy oil and gas fields;

Among non-OECD countries:

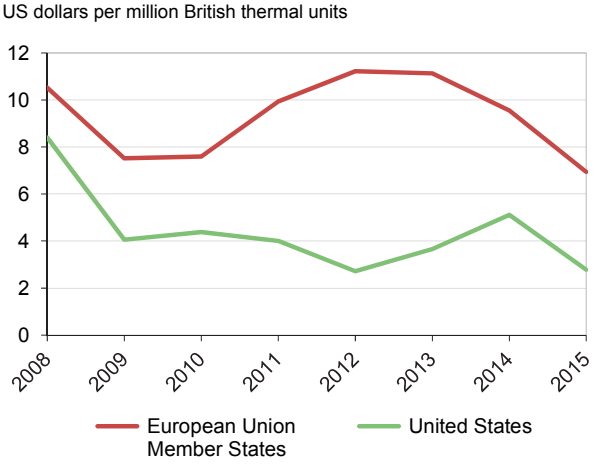
- Iran's production increased by 5.3% keeping the country as the world's third leading natural gas producer;
- Turkmenistan increased its production (now up by more than 20% since 2012), exceeding 83 Bcm;
- African production declined by 2.3%. This decrease was mostly driven by Egypt (whose production dropped by 8.9%) mainly due to the slowing down of the development processes of fields. On the other hand, Nigeria registered a growth of 3%;
- Chinese production kept growing, increasing by 7.7% in 2014 and 2.9% in 2015, and it is now well above 130 Bcm;
- Thailand's production declined by 5.4%, (down to about 35 Bcm);
- Pakistan increased its production by 5.5%, up to about 40 Bcm.

With the increases in the production of the United States, Iran and Qatar, the top five natural gas-producing countries together represented 53.4% of the world's production. OECD member countries, accounted for 36.3% of global natural gas production, while GECF members for 36.9%.

Prices

In 2015, natural gas import prices by pipeline fell by an average of 27.2% for European Union members, while in the United States they fell by 45.6%, after a significant growth in 2014. The closing of the gap between these two prices continued in 2015, but decelerated in comparison to 2014. The price for the American market remained below that of the European one, at 2.78 US dollars/MBtu vs. 6.95 US dollars/MBtu.

Figure 4. Natural gas import prices by pipeline



LNG import prices showed a similar pattern, with a general decrease which was observed in all regions, and notably in Japan and Korea (-35.2%). Additionally, after converging in 2014, LNG prices in Europe in 2015 were lower than in the American market for the first time since 2008.

Figure 5. LNG import prices

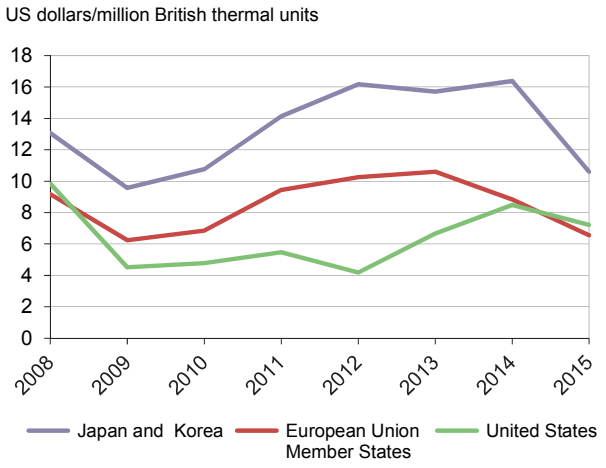
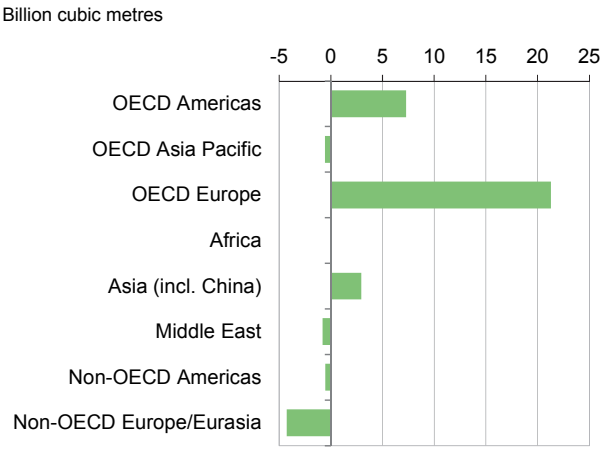


Figure 6. Variation in natural gas imports by pipeline



Imports

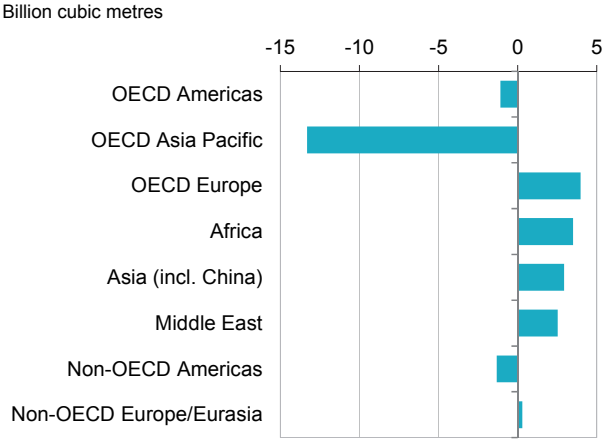
Imports by pipeline to OECD Europe rose in 2015 by 21 Bcm, consolidating the region's position as the world's biggest importer. This increase was mostly due to growths in imports in the Netherlands (+27.1%, mainly due to a falling production) and Germany (+14.6%, mainly due to an increase in demand). OECD Americas increased their imports by 7 Bcm, largely due to the decline in Mexican production and the resulting need to import from the United States (+48.7%).

While in Africa, Middle East and Non-OECD Americas imports by pipeline didn't change much, in Non-OECD Europe/Eurasia there was a drop of 4.2 Bcm, especially due to the Ukraine's severe economic recession, plummeting by more than 15%. Asia (incl. China) grew close to 3 Bcm, largely because of the 9.7% growth in China, notably doubling their imports from Myanmar, 4 Bcm.

Within the OECD, LNG imports decreased by 4.4% despite a 7.9% increase in OECD Europe, due to a decrease in OECD Asia Pacific (-7.7%), and specifically significant reductions in Japan (-7.7 Bcm) and Korea (-5.6 Bcm). This decrease in imports was mainly due to returning nuclear power capacity (Japan) and continued deployment of power generation sources other than gas , and this decline was not affected by the aforementioned lower prices. In OECD Americas, the decrease in LNG imports was of about 1 Bcm, which represents a drop of 7.7%.

LNG imports by Non-OECD countries continued growing. Imports tby Middle East kept increasing, at a rate close to 30%. In Africa, Egypt started importing LNG, while Asian imports grew by 4%. Non-OECD Americas registered a decrease in imports of about 1.9 Bcm.

Figure 7. Variation in LNG imports



Demand

In 2015, global demand for natural gas showed an increase year-on-year of 1.4%, to a level very close to 3 600 Billion cubic metres and recovering from the small decrease observed in 2014 (-0.1%).

In 2015, OECD natural gas demand was 1.0% higher when compared to the previous year. This growth was mainly attributable to OECD Europe, where, after

Figure 8. World natural gas demand by region

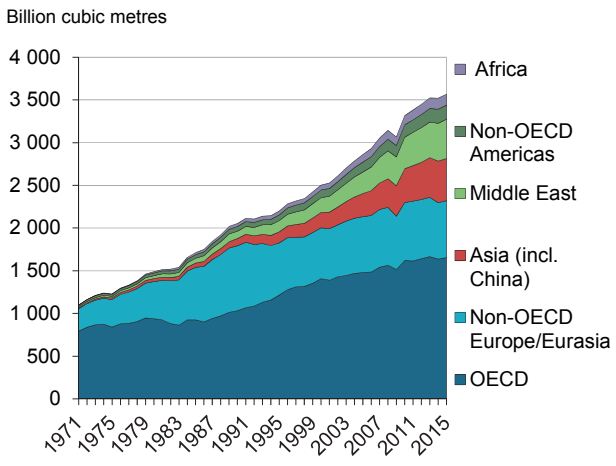
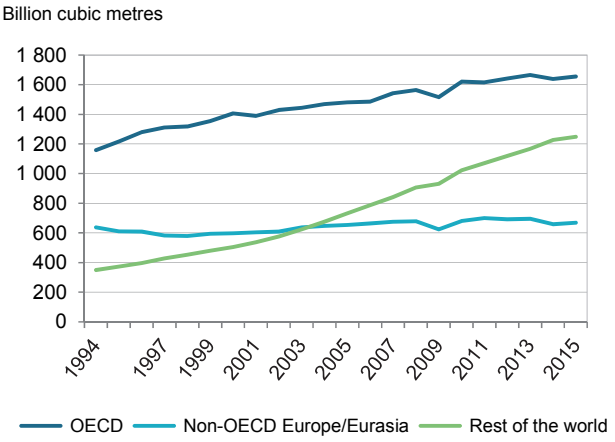


Figure 9. World natural gas demand by selected regions



an exceptionally mild winter in 2014, consumption rose by 3.4%, notably in Italy (+5.6 Bcm), France (+2.3 Bcm), and Germany (+2.2 Bcm). An increase was also registered in OECD Americas, with a 3.1% growth in the United States (+ 23.3 Bcm). One factor in greater gas demand was higher gas-fired generation.

In Non-OECD countries, natural gas demand increased on average by 1.6%, and was higher than OECD by 260 Bcm, which almost corresponds to the combined demand of France, Germany, Italy and the United Kingdom.

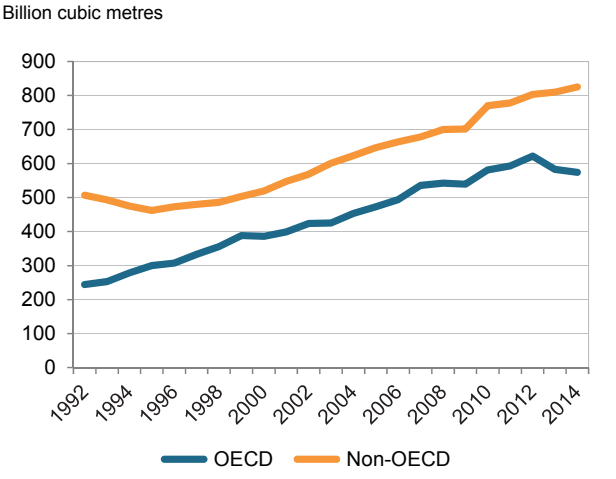
By comparing the demand in OECD Member countries, countries of Non-OECD Europe/Eurasia and the rest of the world, it is possible to distinguish three markedly different patterns. Over the last 20 years, the latter group presented a steady growth in natural gas consumption, while the OECD showed a moderate growth and demand in Non-OECD Europe/Eurasia demand has been approximately flat. In 2015 though, the growth in the rest of the world slowed down from an average of 5% in the 2010-2014 period to 1.8%, and was only 0.7 percentage points higher than the combined growth of OECD and Non-OECD Europe/Eurasia +1.1%.

At a country level, significant increases in natural gas demand were registered for Iran (+5.9%, now above 180 Bcm) and Turkmenistan (+30.9%, now at about 33 Bcm). Other substantial increases were observed in Bangladesh (+8.4%, +2.0 Bcm), Saudi Arabia (+5.4%, +4.6 Bcm), Pakistan (+5.4%, +2.1 Bcm) and United Arab Emirates (+4.3%, +2.8 Bcm). China's demand slowed to 3.1% from the two digits growth during the prior five years, reflecting the considerable slowdown in primary energy consumption that is taking place in the country.

A substantial decrease in the demand of natural gas was observed for Ukraine (-13.8%, -5.7 Bcm). Other significant decreases in natural gas demand were registered for Myanmar (-65.8%, -2 Bcm), Malaysia (-7.5%, -3.4 Bcm), Algeria (-5.4%, -2.0 Bcm) and Qatar (-5.2%, -2.5 Bcm).

Detailed demand data by sector, available to 2014, show how Non-OECD demand increased, mainly in the largest natural gas-consuming sector, power generation (+1.9%, equivalent to 15 Bcm). Specific large growths were registered in Iran (+13.5 Bcm), Brazil (+3.2 Bcm) and UAE (+2.5 Bcm).

Figure 10. Natural gas use for power generation



In the OECD, instead, natural gas demand in 2014 for power generation decreased (-1.6%). Slow electricity growth, a continued and robust deployment of renewables and very cheap coal are all constraining the penetration of gas in the electricity mix, in spite of historically low gas prices. OECD Europe natural gas use for power generation counted with 8.7 Bcm less when compared with 2013. In this specific region, weather, surging deployment of renewables and fuel price movements in favour of coal were the main negative drivers for gas consumption.

2014 final consumption, in OECD and Non-OECD show substantially different behaviours concerning the residential sector (-5.4% and +3.6%, respectively).

Figure 11. Variation in natural gas final consumption in selected sectors, ranked by magnitude, 2013-2014