

Oil 2019 Executive Summary

Analysis and forecast to 2024



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INTERNATIONAL ENERGY AGENCY

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EXECUTIVE SUMMARY

Global oil markets are going through a period of extraordinary change. The United States is increasingly leading the expansion in global oil supplies. Meanwhile, the production of heavier crude grades is hamstrung by sanctions and production restraint in key producing countries. All this contributes to a transformation of global oil supplies, with critical implications for energy security and market balances throughout our forecast period to 2024.

Although the United States had the largest increase in global demand in 2018, growth continues to move away from developed economies and transportation fuels, confirming a shift towards Asia and petrochemicals. These changes will have profound consequences for trade and refining. That sector will also have to adapt to new marine fuel specifications mandated by the International Maritime Organisation, which take effect in 2020, and an impending overhang in refining capacity that will require significant adjustments from refiners globally.

The United States leads global supply growth

The United States continues to dominate supply growth in the medium term. Following the unprecedented expansion seen in 2018, when total liquids production increased by a record 2.2 million barrels per day (mb/d), the United States will account for 70% of the increase in global production capacity until 2024, adding a total of 4 mb/d.

Important contributions will also come from other non-OPEC countries, including Brazil, Canada, a resurgent Norway, and newcomer Guyana, which together add another 2.6 mb/d in the next five years. In total, non-OPEC production is set to increase by 6.1 mb/d through to 2024.

Among OPEC countries, only Iraq and the United Arab Emirates have significant plans to increase capacity. These gains have to offset steep losses from Iran and Venezuela, which are subject to sanctions and political or economic turmoil. As a result, OPEC's effective production capacity falls by 0.4 mb/d by 2024.

The United States is also turning into a major player in the global oil trade

As a result of its strong oil production growth, the United States will become a net oil exporter in 2021, as its crude and products exports exceed its imports. Towards the end of forecast, US gross exports will reach 9 mb/d, overtaking Russia and catching up on Saudi Arabia. The transformation of the United States into a major exporter is another consequence of its shale revolution.

Greater US exports to global markets strengthen oil security around the world. Buyers of crude oil, particularly in Asia, where demand is growing fastest, have a wider choice of suppliers. This gives them more operational and trading flexibility, reducing their reliance on traditional, long term supply contracts.

Global trade is not simply a story for the United States. The second-largest increase in crude exports comes from Brazil, which ships an extra 0.8 mb/d of oil by 2024. Following Brazil, Norway is enjoying a renaissance and will overtake Kazakhstan and Kuwait in the next five years a remarkable achievement.

While upstream investment increases again in 2019, more is needed

Our forecast for supply growth depends on investment. The International Energy Agency (IEA) has argued for many years that with the demand for oil increasing for the foreseeable future, continued investment is necessary to ensure adequate spare production capacity. Our analysis last year looked at the rates of decline in oil fields and found that to keep production steady, the equivalent of the output from the North Sea needed to be offset each year.

This remains true today. It is therefore reassuring that 2019 upstream investment is set to rise for the third straight year, according to preliminary plans announced by key oil and gas companies. For the first time since the 2015 downturn, investment in conventional assets could increase faster than for the shale industry. While US production growth has exceeded expectations, we cannot be complacent about investment levels towards the end of our forecast period and beyond.

Oil demand growth eases in the next five years, but still no peak in sight

Fundamentally, oil demand depends on the strength of the global economy. Recently, the International Monetary Fund (IMF) downgraded its short-term outlook, reflecting weaker economic sentiment in many countries. Ongoing trade disputes between major powers and a disorderly Brexit could lead to a reduction in the rate of growth of international trade and oil demand. But while the economic mood is not encouraging, we expect oil demand to grow in our forecast, although at a more measured pace.

A key factor underpinning demand growth is that leading developing economies will continue to expand. China and India will account for 44% of the 7.1 mb/d growth in global demand expected to 2024. Despite its recent slowdown, China's GDP has more than doubled in real terms in the past decade and is still growing at a healthy clip. Income levels have grown sharply and the structure of oil demand is moving away from heavy industrial sectors towards consumer needs. As for India, while its GDP per capita is still only a fifth of China's, it is growing more strongly: By 2024, India's oil demand growth will match China.

As gasoline slows, petrochemicals and jet fuel are stalwarts of demand growth

Around the world, more consumer demand means more plastic, which in turn means more petrochemicals. Despite efforts to curb plastics use and encourage recycling, demand for plastics and petrochemicals is growing strongly. Led by the United States and China, we have identified more than 50 major projects due to come onstream through 2024. These are expected to add 2.2 mb/d in oil consumption over the forecast period, accounting for 30% of global growth.

This supports expansions in the early part of our forecast at a rate close to today's level. While the lack of complete visibility on new projects causes our estimate to fall towards the end of the forecast period, it is highly possible that more projects will be announced and that demand could be higher than currently anticipated.

The other major growth sector is aviation. In recent years, the air travel industry has witnessed a spectacular expansion thanks to rising passenger numbers. Demand will continue to grow strongly, supported by rising incomes in developing countries, more airports being built and growing airline fleets. Asia accounts for 75% of this increase over our forecast period. In absolute terms, while China sees the largest jump in demand, India posts the fastest rate of growth, at an impressive 8.2% a year.

At the same time, efficiency improvements and fast-expanding markets reaching maturity will temper the increase in the global jet fuel market, according to our forecast.

As for gasoline, ongoing efficiency improvements will cause the global rate of growth to slow to less than 1% per year. In developing countries, however, the rate is twice as high, as rising income levels lead to more vehicles on the road.

The IMO regulations: Shippers and refiners prepare to comply

The 2020 IMO marine regulation change is one of the most dramatic ever seen to product specifications, although the shipping and refining industries have had several years notice. We believe that industry players are in a strong position to adjust in the medium term, with the largest incremental volumes coming from the United States, the Middle East, and China. Still, the market will initially be tight and there will be some non-compliance. Orders for scrubbers to be fitted on ships have increased, and our analysis of refiners' plans suggests that, as demand for high sulphur fuel oil plummets, there will be enough availability of marine gasoil and, in time, a new ultra-low sulphur fuel oil to plug the gap.

Prices for gasoil could rise at first as demand from the marine sector increases, but sluggish growth from inland sources of demand will limit the pressure. Meanwhile, unwanted high sulphur fuel oil could find a home in the power sector, with the Middle East a likely market.

Refiners face twin challenges: A capacity boom, and changes in crude and product quality

The refining industry is facing a wave of new capacity additions in the period to 2024, with a net growth of about 9 mb/d. China will overtake the United States to become the global leader in installed capacity. Given that these new additions far exceed the increase in demand for refined products, plant closures might be necessary to rebalance the market, though questions remain as to where and when that will happen.

While the global average crude oil barrel produced remains predominantly a medium gravity sour grade, the availability of heavier crude from several countries is in doubt due to production cutbacks and geopolitical challenges. At the same time, the average global product barrel is getting lighter as fuel oil demand falls and petrochemicals grow in importance. As a result, the United States will be in prime position as a supplier of light types of crude oil that are in growing demand. Shale oil will also help meet the new IMO requirements and provide the quantities of naphtha required for the petrochemicals industry.

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Typeset in France by IEA - March 2019

Cover design: IEA; Photo credits: ©Shutterstock



Oil 2019, the International Energy Agency's annual outlook for global oil markets, examines the key issues in demand, supply, refining and trade to 2024. This year, the report covers the following themes:

- A changed supply picture led by the rise of the United States in world markets thanks to rapidly-growing shale oil production, as it becomes a net exporter of crude oil and products.
- Supply growth in the non-OPEC world, including Brazil, Canada, Norway and Guyana; and a falling capacity for the OPEC producers.
- Demand growth underpinned by China and India and by the growing importance of petrochemicals as the industry invests to meet rising consumer demand.
- And a detailed analysis of how the refining industry is grappling with the International Maritime Organisation's new marine fuel rules, growing excess capacity, and the changing patterns of global oil trade.