OPEC´s Outlook for 2050: Optimistic Bases and Future Scenarios for Oil

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Summary : In contrast to the International Energy Agency's forecast for the future of oil, OPEC predicts a 24 percent increase in energy demand by 2050, primarily driven by non-OECD countries, with India and China being the main contributors to this surge. According to OPEC, coal will be the only energy source to see a decline in demand over the next 25 years, while global daily oil demand is expected to reach 120 million barrels per day.

Overview

On September 24, 2024, the Organization of Petroleum Exporting Countries (OPEC) published its annual report, *World Oil Outlook - 2050*. The report expresses strong optimism about the future of oil, forecasting an increase in both demand and supply from oil-producing countries despite rising instability across various aspects.

The 290-page report outlines market demand and supply for all types of energy, based on three main bases and three distinct scenarios. However, each section places particular emphasis on the future of oil, especially in response to recent publications by the International Energy Agency concerning conventional energy and oil.

In contrast to the International Energy Agency's forecast for the future of oil, OPEC predicts a 24 percent increase in energy demand by 2050, primarily driven by non-OECD countries, with India and China being the main contributors to this surge. According to OPEC, coal will be the only energy source to see a decline in demand over the next 25 years, while global daily oil demand is expected to reach 120 million barrels per day.

In this analysis, we assess OPEC's optimism for the future of oil by comparing its scenarios and bases with data from the World Bank, the United Nations, and the International Monetary Fund, providing a critical perspective on the anticipated changes in the global energy landscape.

Bases of Increased Oil Demand - 2050

OPEC outlines three key basis driving the projected rise in oil demand: population growth, global economic expansion, and urbanization. By 2050, these factors are expected to not only sustain but significantly boost demand for oil and conventional energy sources. As a result, an additional $17.4 trillion in investment will be required for drilling new wells and expanding oil production capacity. According to United Nations data, the global population reached 8.2 billion in 2024 and is projected to rise to 9.7 billion by 2050. OPEC's report mirrors this projection, noting that most of this population growth will occur outside OECD countries.

Urbanization will play a significant role in driving the demand for energy and oil, with OPEC predicting that over 6.6 billion people will live in cities by 2050. According to the latest World Bank report, 56 percent of the global population, or 4.4 billion people, currently reside in urban areas. By 2050, this number is expected to double, surpassing OPEC's forecast, with seven out of ten people living in cities and contributing to 80 percent of global GDP growth. This urban population increase also translates to a growing workforce, projected to reach 6.6 billion, with 870 million new workers entering the labor market.

OPEC's optimism regarding the future of oil is also rooted in the anticipated expansion of the world economy, diverging from International Monetary Fund (IMF) projections. According to OPEC, the global economy is expected to grow by 2.9% annually until 2050, with a notable growth rate of 3.7% outside the OECD and 1.6% within it. This economic growth will result in the world economy doubling in size, increasing from $165 trillion in 2023 to $358 trillion by 2050.

In fact, the only significant difference between OPEC and other global institutions lies in the third base. For instance, the International Monetary Fund (IMF) projects that the world economy will grow by 2.4% annually until 2050, which is just 0.5% lower than OPEC's forecast.

Scenarios for Increased Future Oil Demand

Global energy demand is projected to increase by 24% over the next 25 years, primarily driven by developing nations, with India alone contributing 30% to this total energy demand. OPEC forecasts that global oil demand will rise from 102.2 million barrels per day to 120.1 million barrels per day by 2050. In the medium term, it is anticipated that daily oil demand will reach 112.3 million barrels by 2029.

The organization outlines two additional scenarios for the future of oil. The first scenario focuses on the role of technology in reducing carbon dioxide emissions and its impact on the energy market regarding demand and consumption. In this scenario, if carbon dioxide emissions are curtailed and the average rise in global temperatures is limited to 2 ℃, global oil demand would stabilize at over 100 million barrels per day until 2040, before declining to 96 million barrels per day. This represents a difference of 24 million barrels per day compared to OPEC's initial scenario.

The second scenario, referred to as equitable growth, posits that fostering an equitable economy and improving welfare for developing countries will drive increased demand for all forms of energy. In this scenario, global oil demand is projected to reach 115 million barrels per day by 2030, continuing to grow until it reaches 127 million barrels per day by 2050. This indicates that oil demand will be 2 million barrels per day higher in 2030 and 7.1 million barrels per day higher in 2050 compared to the first scenario.

Conclusion

Demand for all forms of energy, except coal, is expected to increase at varying rates through 2050. According to the Organization of Petroleum Exporting Countries (OPEC), as well as the International Energy Agency, renewable energy sources, particularly solar and wind, will see a significant rise—projected to increase by 445% from 2023 to 2050. When equated to oil, this increase translates to an escalation from 9.6 million barrels per day to 52.4 million. Additionally, natural gas is anticipated to experience the second-largest increase in energy demand, surpassing that of oil, which is projected to rise by 16.7 million barrels per day during this period.

Also, global demand for oil and gas is projected to comprise 53 percent of the world's total energy consumption by 2050, with oil alone accounting for approximately one-third, or 29 percent, of total energy. OPEC's forecast for increased oil demand sharply contrasts with projections from the International Energy Agency (IEA) and the U.S. Energy Information Administration (EIA). For instance, the IEA's Net Zero scenario anticipates that oil demand will reach 55 million barrels per day by 2050, representing less than half of OPEC's worst-case projection for oil's future. Furthermore, the IEA is set to release its annual report, titled *World Energy Outlook 2024*, on May 16, which is expected to not only diverge from OPEC's findings but potentially contradict them entirely.

When comparing this year's report to last year's, the forecast for oil demand has shown an upward trend. In the 2023 report, global oil demand was projected to reach 102 million barrels per day by 2030; however, the 2024 report revises this figure to 103.1 million barrels per day. Additionally, in the next two decades, for 2045, last year's report estimated global oil demand would rise to 106.1 million barrels per day, whereas this year's report raises that expectation to 108.5 million barrels per day. This consistent increase in future oil demand is attributed to the economic growth of developing countries, population growth, and urbanization.

The scenarios are grounded in projections for population growth, economic development, and urbanization, while also considering technological advancements and geopolitical shifts. It is evident that the long-term outlook for the energy sector remains unstable, presenting significant opportunities and challenges. Key among these is the need to maintain a balance between sustainable development, equitable growth, and providing energy to the 1 billion people worldwide who

still lack access to electricity. Additionally, factors such as climate change and the evolution of artificial infrastructure will influence all scenarios in the coming decades.

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