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The International Energy Agency Acknowledges the Need for More Oil and Gas Investment

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The Issue

The International Energy Agency (IEA), long viewed as a proponent of the energy transition, has taken a notably different tone in its recent report, *The Implications of Oil and Gas Field Decline Rates*.[1] The report indicates that upstream investment in oil and gas has fallen sharply in recent years and warns that sustaining production will require hundreds of billions of dollars in annual investment. It also highlights challenges to ensuring that there will be enough supply in the future.

This represents a significant departure from the IEA's landmark 2021 report, *Net Zero by 2050: A Roadmap for the Global Energy Sector*,[2] which called for an immediate end to new oil and gas projects. The IEA concluded that investments in new upstream oil and gas projects would not be necessary if global temperature rise could be limited to 1.5 degrees Celsius, according to its net zero energy scenario. The IEA warned of oil and gas investments becoming stranded assets.

Recent years have revealed a growing disconnect between what government policies predict *should* emerge and what is *actually* happening. In January, the National Center for Energy Analytics published a paper coauthored by Mark P. Mills and Neil Atkinson—*Energy Delusions: Peak Oil Forecasts: A Critique of Oil "Scenarios" in the IEA World Energy Outlook 2024*[3]—that analyzed this widening gap between energy scenarios.

In that paper, NCEA called for the return of the IEA's Current Policies Scenario (CPS)—which was discarded in 2021—as a necessary corrective to better align policy changes with current realities. It is believed that the IEA will reinstate a version of CPS in its forthcoming *World Energy Outlook 2025*. If so, it will likely confirm that oil demand will remain higher for longer, with important implications for future supply.

The Reality

Recent demand forecasts from major oil producers such as ExxonMobil[4] and BP[5] reinforce the view that oil demand will remain higher in the years to come. ExxonMobil projects that oil demand could peak in 2030 at 100 million barrels per day (b/d) and remain at this level through 2050. Though BP had previously expected oil demand to peak in 2025, it has since revised this forecast to 2030 and now anticipates demand to remain above 95 million b/d in 2040.

These shifting forecasts reflect a change in thinking about the pace of the energy transition. When the IEA published *Net Zero by 2050* in 2021, it represented the consensus (but not the unanimous view) of its member governments, all of whom had signed the Paris Agreement. In *World Energy Investment 2025*,[6] however, the IEA reflected the recent global focus on clean energy investments: It showed a 78% rise in spending, from $1.2 trillion in 2015 to $2.2 trillion in 2025, with clean energy's share of total energy investment rising from 45% in 2015 to 65% in 2025. In the same period, investment in upstream oil and gas fell by 35%, from $869 billion in 2015 to only $567 billion in 2025.

For advocates of energy diversity, the clean energy investment numbers are encouraging but do not indicate that an energy transition is currently underway. In 2024, oil, coal, and gas still accounted for nearly 81% of total global energy supply,[7] down only slightly from the 85% level observed in 1973.[8] The global energy system remains diversified—and it is concerning to emphasize data showing declining investment in upstream oil and gas when demand is at record levels and rising.

The IEA acknowledged this growing imbalance, stating in the executive summary for *The Implications of Oil and Gas Field Decline Rates* that the "debate over the future of oil and natural gas tends to focus on the outlook for demand, with much less consideration given to how the supply picture could develop."[9] This is a significant understatement.

Investment has fallen sharply in the past decade, and spare production capacity is currently declining as members of the Organization of the Petroleum Exporting Countries (OPEC) and the OPEC+ alliance have recently increased production, which thereby reduces the volume of spare production capacity held in reserve. For OPEC, it is not entirely clear how much spare capacity actually exists after the unwinding of voluntary production cuts; the consensus among experienced analysts is that 2–3 million b/d of spare capacity remains, with nearly all of it found in Saudi Arabia, Kuwait, and the United Arab Emirates.

Another important point made by the IEA is that the period between issuing an exploration license and beginning the first commercial production has lengthened to 20 years. (There was, however, a notable exception in Guyana, in which the Liza oil and gas field progressed from the commencement of exploration to first production in just five years.) To ensure timely oil output, many countries will need to shorten this process.

Further, field decline rates are accelerating. The IEA's analysis distinguishes between *observed* field decline rates and *natural* decline rates. Observed decline rates average nearly 6% globally. Natural decline rates—defined by the IEA as what might happen if all upstream investment ceased—indicate that global oil production would fall by an average of 8% per year, a rate that has increased in recent years. This equates to an annual loss of approximately 5.5 million b/d, which is roughly the combined current output of Brazil and Norway. The IEA data show that the production loss would have been about 3.9 million b/d in 2010. Although a complete halt in investment is an extreme and unlikely scenario, it would not take a large decline from current upstream investment levels for production to potentially fall significantly—particularly as observed field decline rates continue to accelerate.

The Middle East, which holds nearly 50% of global proved oil reserves,[10] has the lowest observed decline rate of only 1.8% per year, compared with an average rate of 9.7% in Europe's offshore oil fields. The U.S. shale patch shows a natural decline rate of 35% in the first year—the biggest among major producing countries. Since the shale phenomenon began 20 years ago, it has been widely understood that frequent, ongoing drilling is necessary to maintain production. Technological advances have greatly improved the ability to extract resources at lower costs, but U.S. shale production is under pressure. Current pricing for West Texas Intermediate crude oil has decreased to $60–$65 a barrel, which means that drilling activity has declined. There is now the prospect of a peak in U.S. shale output later this year or early in 2026.

A recent survey of oil patch operators, published by the Federal Reserve Bank of Dallas,[11] contained a stark warning about what the current prices, rising costs, and erratic government policies around tariffs might mean, according to an anonymous respondent: "We have begun the twilight of shale. . . . The U.S. isn't running out of oil, but she sure is

running out of $60-per-barrel oil." But sentiment can change, of course. According to the IEA, production can begin as early as three months after a shale oil development license is approved. Therefore, it may be too early to dismiss the sector's future prospects.

Globally, however, new fields are unlikely to be developed without justification from higher prices. In 2025, oil prices have fallen as the Middle East geopolitical premium has dissolved. However, the resumption of sanctions against Iran under the Joint Comprehensive Plan of Action[12] agreement on nuclear developments and the tougher stance taken by the Trump administration against Venezuela and Russia may lead to higher prices in the future—especially if the current narrative around weak oil demand growth proves to be incorrect.

Whether this will prompt international oil companies to raise upstream investment remains to be seen. Over the past decade, pressure from investors and analysts—including for environmental, social, and governance (ESG) reasons—has made these companies reluctant to invest in new oil production. As a result, national oil companies have taken a leading role in shaping the global supply outlook.

Perspectives

For oil production to be maintained at current levels through 2050, the IEA estimates that an additional 45 million b/d will be needed from new conventional oil fields. Some of this will come from technological improvements, projects that are already in development or in the early phases of production, and continued investment in unconventional resources such as shale oil—yet a significant shortfall remains. The IEA acknowledged this: "Still, this leaves a large gap that would need to be filled by new conventional oil and gas projects."[13]

Unfortunately, the wisdom of this statement was immediately marred by the suggestion that "the amounts needed could be reduced if oil and gas demand were to come down."[14] Though technically true, this sentiment is overly optimistic and unlikely due to demand trends.

The IEA noted that while 230 billion barrels of oil have already been discovered—mainly in the Middle East, Eurasia, and Africa—these resources "have yet to be approved for development."[15] Even if they are authorized, these resources might contribute only 28 million b/d by 2050, and a gap remains. To meet projected demand, the IEA indicated the global need to discover about 10 billion barrels of oil each year and to develop sufficient capacity to produce an additional 18 million b/d by 2050.

As sentiment gradually shifts toward recognizing the need for oil to play a larger role in the global energy balance, the IEA's report emphasizes that a rapid increase in investment is needed to compensate for the decline in recent years. Unfortunately, many oil and gas companies lost sight of the energy reality and, partly due to ESG pressures, pivoted away from their core business into sectors that they knew little about. The IEA's report underscores that oil and gas is far from being a sunset industry; rather, the sector has a significant future ahead. The IEA has made it clear that the world needs more oil. ■

Notes

1 Christophe McGlade et al., *The Implications of Oil and Gas Field Decline Rates* (International Energy Agency, 2025), https://www.iea.org/reports/the-implications-of-oil-and-gas-field-decline-rates.

2 Stéphanie Bouckaert et al., *Net Zero by 2050: A Roadmap for the Global Energy Sector* (International Energy Agency, 2021), https://www.iea.org/reports/net-zero-by-2050.

3 Mark P. Mills and Neil Atkinson, *Energy Delusions: Peak Oil Forecasts: A Critique of Oil "Scenarios" in the IEA World Energy Outlook 2024* (National Center for Energy Analytics, 2025), https://energyanalytics.org/energy-delusions-peak-oil-forecasts.

4 "ExxonMobil Global Outlook: Our View to 2050," ExxonMobil, last modified August 28, 2025, https://corporate.exxonmobil.com/sustainability-and-reports/global-outlook.

5 BP Energy Economics, *bp Energy Outlook: 2025 Edition* (BP p.l.c., 2025), https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2025.pdf.

6 International Energy Agency, *World Energy Investment 2025* (International Energy Agency, 2025), https://www.iea.org/reports/world-energy-investment-2025.

7 Energy Institute, Kearney, and KPMG, "PE Cons by fuel (old meth)," table in 2025 Statistical Review of World Energy Data (Energy Institute, 2025), https://www.energyinst.org/statistical-review/resources-and-data-downloads.

8 Energy Institute, Kearney, and KPMG, *2025 Statistical Review of World Energy* (Energy Institute, 2025); Mills and Atkinson, *Energy Delusions*.

9 McGlade et al., *Implications of Oil and Gas*, 1.

10 Energy Institute, Kearney, and KPMG, *2025 Statistical Review*.

11 "Dallas Fed Energy Survey, Third Quarter," Federal Reserve Bank of Dallas, released September 24, 2025, https://www.dallasfed.org/research/surveys/des/2025/2503#tab-report.

12 The parties are the P5+1 (China, France, Russia, the United Kingdom, and the U.S.—the five permanent members of the United Nations Security Council—plus Germany), as well as the European Union and Iran.

13 McGlade et al., *Implications of Oil and Gas*, 3.

14 Ibid.

15 Ibid.

ABOUT THE AUTHOR

Neil Atkinson has over 40 years of experience in the energy industry. His most recent position was head of the Oil Industry & Markets Division at the International Energy Agency (2016–21). Atkinson's experience began in 1979, when he joined Petróleos de Venezuela, S.A. (U.K.). His last position there was business advisor, Western Hemisphere energy markets. In 1998, Atkinson moved to the McGraw Hill Companies, where he served as director, Europe, Africa & Middle East for Platts Analysis & Consulting. After a short period at DRI-WEFA, he went to the Oxford Institute for Energy Studies, reporting to Robert Mabro as head of administration. Atkinson held subsequent roles as head of research at the Energy Intelligence Group, head of market studies at KBC Energy Economics, director of Datamonitor Energy, and head of analysis at Lloyd's List Intelligence. During 1992–2002, Atkinson was Honorary Secretary of the British Institute of Energy Economics. He is a Liveryman in the Worshipful Company of Fuellers in London. Atkinson is widely published, and he has testified on energy issues before the House of Commons Foreign Affairs Committee and has briefed NATO on energy security issues. He has extensive broadcasting and public speaking experience.

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