



EYE ON ENERGY

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THE FUTURE OF OIL IS THERE A PLACE FOR OIL IN A CLEAN-ENERGY WORLD?

Energy is the economy. Without energy, nothing in today's world would happen. Feeding, clothing and housing the world's population would become onerous – not quite like living in caves, more like living in feudal times. People's lifespans would shrink, and the quality of daily life would become harsh.

This isn't the future people want, especially those attempting to climb out of poverty. Such a future would take away their ladders, condemning them to their current energy-challenged world.

If it seems people are swimming against the tide in the COVID-19 world, it's because they are. Economies are shut down. Businesses are closed. People are quarantined in their homes. All of this to flatten the curve of virus infections.

A CARBON-FREE FUTURE?

One outcome has been cleaner air as carbon emissions from economic activity drop. Pictures of clear skies over cities notorious for air pollution have sparked demands for climate change policies to be key in government recovery plans.

The aspirational target of a zero-carbon

emissions economy by some future date divisible by five or ten is a "feel good" strategy. The reality of achieving such a goal is doubtful. The most ardent supporters are even acknowledging its challenge.

Zero-carbon emissions plans require massive investment in clean energy fuels that are intermittent, necessitating backup energy sources to operate. Backup energy merely boosts costs. Besides, what fuels would they use? Moreover, most clean energy plans assume new and unproven technologies will arrive just in time to erase the last vestiges of fossil fuel. None of these plans ever addresses their cost.

What role will conventional energy, especially oil, play in a clean energy world? If the zero-carbon emissions targets are met, oil's future will be severely limited. Since all transportation cannot be electrified, oil will still be needed. In addition, it will be virtually impossible to eliminate all fossil fuel use unless all oil-burning homes, businesses and vehicles are replaced.

THROUGH A LENS—NEAR AND FAR

As we contemplate a world economy recovering from the pandemic while at the same time undertaking an energy transition, we know oil's outlook is uncertain. How much it changes depends on how far out we look.

Our challenge in assessing the oil market's future requires we use a microscope for the near-term and a telescope for the long-term. Why employ such devices? Only with their help can we fully assess the disparate impacts of economic, social and industry drivers on oil use.

Oil demand a month from now depends on the pace of economic activity, currently throttled by government response to the pandemic. Oil demand a decade from now depends on cultural and commercial changes only now being contemplated. Assessing these scenarios requires assumptions – not all of which will prove correct.

A month from now, will economic activity be stronger, weaker or about the same? A few weeks ago, the answer was a no-brainer. Stronger. However, the surge in COVID-19 cases in numerous U.S. states plus upticks in Latin and South America, as well as Africa, calls that assumption into question. Although the worst of global oil demand destruction occurred in April and May, since then economic measures have turned up, meaning rising oil demand. However, in those U.S. states where virus cases have surged, daily traffic measures have flattened or declined. If those trends continue, the oil recovery will be impaired.

In the interim, what about oil supply?

These changes suggest lower-than-historic returns from traditional oil and gas investments, which will bring them closer to the returns from renewable fuel investments. Historically, this wide spread has inhibited oil companies from committing substantial capital to renewables, but the narrower spread may change investment thinking.

In the U.S., \$40 a barrel oil has producers restarting wells they shut down at the worst of the market turmoil this spring. More supply could threaten the oil price recovery. Reversal of shut-in production is one fear, but so is OPEC+.

Saudi Arabia and Russia, who clashed in March over extending the existing OPEC+ production cut, commenced a market-share war. They slashed prices in an attempt to woo customers from the other. A month later, after oil prices crashed into negative territory, U.S. President Donald Trump engineered a peace, involving an increased OPEC+ output cut, restoring order to the market.

Recovering demand and higher oil prices, despite global oil inventories being 250 million barrels above normal, have prompted OPEC+ to ease output restrictions, adding two million barrels per day to supply effective August 1. The additional supply won't be quite that much since OPEC members who lagged in meeting their initial quotas must constrain production longer. However, with more supply from OPEC+ and the U.S., even increased demand will do little to lift oil prices substantially higher in the next month.

A YEAR FROM NOW

A year from now, the oil market's health will depend on the interaction of multiple forces: the pace of the economic recovery; changes in how people conduct business and live their daily lives; how additional oil supplies will be reintroduced into the market; the impact of government climate change policies on demand; and environmental, social and governance (ESG) pressures on producer operations.

The laundry list of forces impacting the oil market is intimidating. We can, however, begin prioritizing the list to assess those items with the greatest impact.

As economies open wider, the greatest oil demand unknown will be how businesses operate and what lifestyle changes people embrace. How they impact consumer and business spending will be key. Will workers return to their offices if presented with the option to work from home? Will that decision

be driven by how schools reopen? If school children are forced to continue learning primarily online, rather than in class rooms, will parents be forced to work from home or maybe even quit their jobs? How many people will fly for business or vacations? Those decisions will impact commuting, travel and office use, all of which will impact oil use.

Despite OPEC+ boosting output, it retains substantial unused productive capacity that can be used to either moderate future oil prices or help drive them higher. The decision of if and when to add supply to the market will be made by OPEC+ countries desiring more revenue. At what price OPEC+ is willing to add supply will dictate the drilling and production decisions of exploration and production companies in the U.S. and worldwide. Will adequate supply be available, or will there be too much?

One view is that the underinvestment in oil exploration during the past five years due to low oil prices will produce a supply shortfall in 2021 that may drive prices towards \$100 a barrel. If that occurs, how will consumers respond – by cutting back on oil's use or merely forking over more money at the pump? Will fixed-price renewable fuels, despite being more expensive, become the siren song attracting consumers away from oil?

A DECADE FROM NOW

A decade from now, well within the planning horizon of oil companies, ESG considerations, shareholder pressure for better capital management and climate change policies will have a greater impact on oil supply and demand dynamics than during near-term periods.

Expectations for a peaking in oil demand within the next decade are growing. Contrary to earlier fears over peak oil supply, peak demand comes from the powerful dynamics underlying the broader energy transition – the drive for cleaner energy at the expense of fossil fuels. While ESG and better capital allocation pressures from shareholders will drive much of the change, government enactment of clean energy policies will be the more powerful force. ESG and shareholder pressures

will erode supply while government policies will stifle demand. Together, they're a potent force for change.

A major challenge in forecasting the oil market of 2030 and beyond is understanding the structural changes underway in the global economy. Aging populations and falling birth rates will alter global demographics. Potentially, they reduce the number of people on the planet, but a decade is a very short time for populations to be altered materially.

Aging, however, can be a more potent factor impacting future energy demand. Aging impacts both energy consumption, as elderly people use less energy, and economic growth by reducing labor productivity. Both factors are at work now. As oil producers assess peak demand and at what level, they will reassess their capital spending plans, something already underway at some of the largest oil firms. Companies have written down the value of oil and gas reserves while announcing reduced long-term oil price expectations used in planning their capital spending.

These changes suggest lower-than-historic returns from traditional oil and gas investments, which will bring them closer to the returns from renewable fuel investments. Historically, this wide spread has inhibited oil companies from committing substantial capital to renewables, but the narrower spread may change investment thinking.

BOTTOM LINE

The oil industry has been and remains a complex business. Complexity provides both challenges and opportunities. Challenges involve navigating the shoals of a pandemic, an oil oversupply and an ongoing energy transition. Opportunities may come from a dramatically restructured, albeit smaller industry.

The surviving companies will leverage their global scope, financial strength and technological prowess to address the energy/climate challenge. Never underestimate the capabilities of the oil industry. Change has always been a constant, and it will remain so in the future.

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