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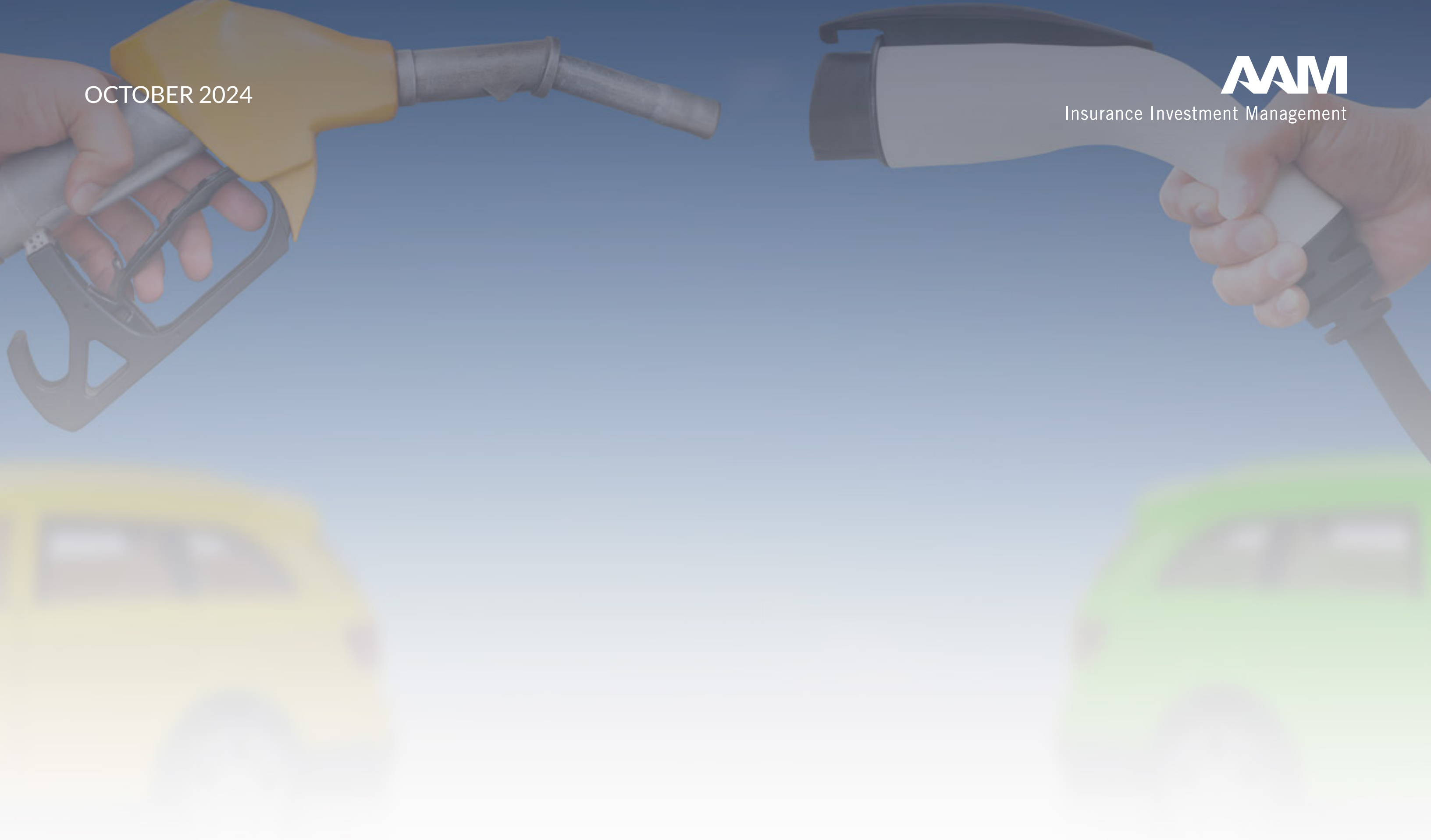


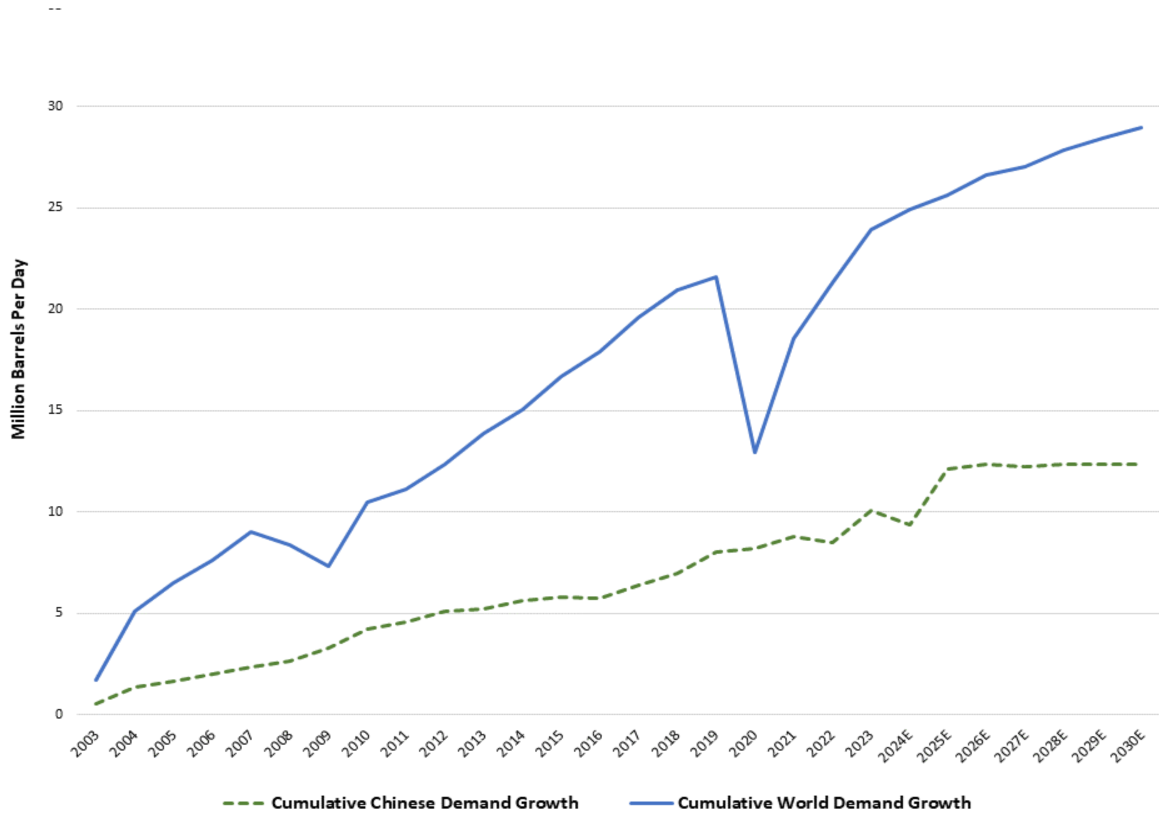
The End of an Era

Patrick McGeever | Senior Fixed Income Credit Analyst & Principal

One of our favorite energy blogs, RBN Energy, posted some startling information last week that caught our attention. It was that Electric vehicle (battery electric and plug-in hybrid) sales in China made up more than 50% of the total vehicle sales in August. This is up from just 7% in 2020[1]! As a result, gasoline consumption in China is now expected to plateau at 4 million barrels per day over the next year and then gradually decline throughout the rest of the decade according to JP Morgan. Meanwhile, total oil demand in China is expected to plateau at 17 million barrels per day in 2026 and remain at that level through the end of the decade. This is a secular moment in the oil market as increased Chinese demand accounted for approximately 50% of total crude oil consumption growth since 2004 (Figure 1). If China is not the positive catalyst for oil demand as it has been for the past two decades, should we be concerned that oil prices will decline?

1 China Association of Automobile Manufacturers, JP Morgan

Figure 1: Cumulative Crude Oil Demand Growth since 2002

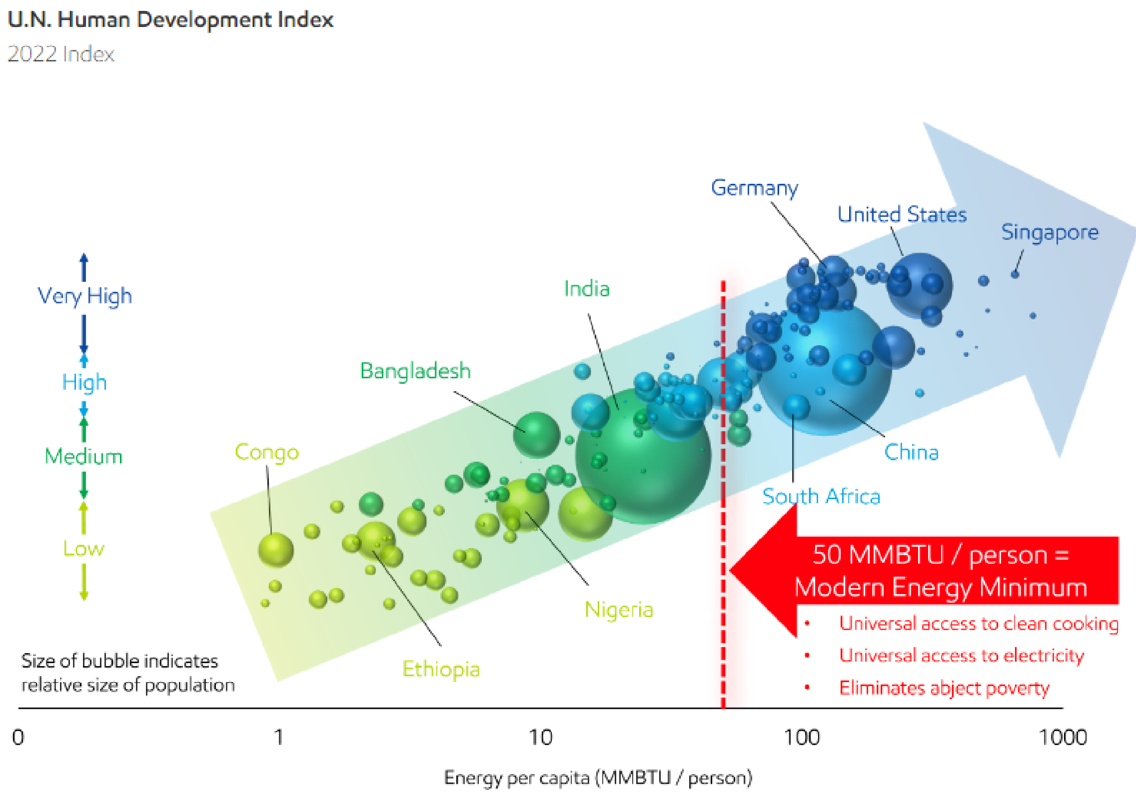


Source: AAM, International Energy Agency, Customs General Administration, Bloomberg, JPM

While oil prices will always fluctuate with different economic conditions and geopolitical concerns, we believe the long-term fundamentals remain sound and supportive of prices above $65 per barrel. Our view is based on three items: demographics, depleting resources and the marginal cost of supply.

The demographic part of the equation is pretty straightforward – worldwide population is growing, particularly in countries that are likely to increase their energy per capita in the coming years. According to the United Nations, the worldwide population is currently about 8 billion people and is expected to grow by nearly 1 billion people within the next 10 years. Moreover, the majority of that population growth is expected to come from non-OECD (Organization for Economic Co-operation and Development) countries, where energy per capita is low relative to OECD countries such as the U.S. and Germany. We expect those countries to seek economic prosperity and better living standards, which means more oil consumption (Figure 2). India in particular, with its large and growing population is expected to see oil consumption growth of more than 3 million barrels per day by 2035.

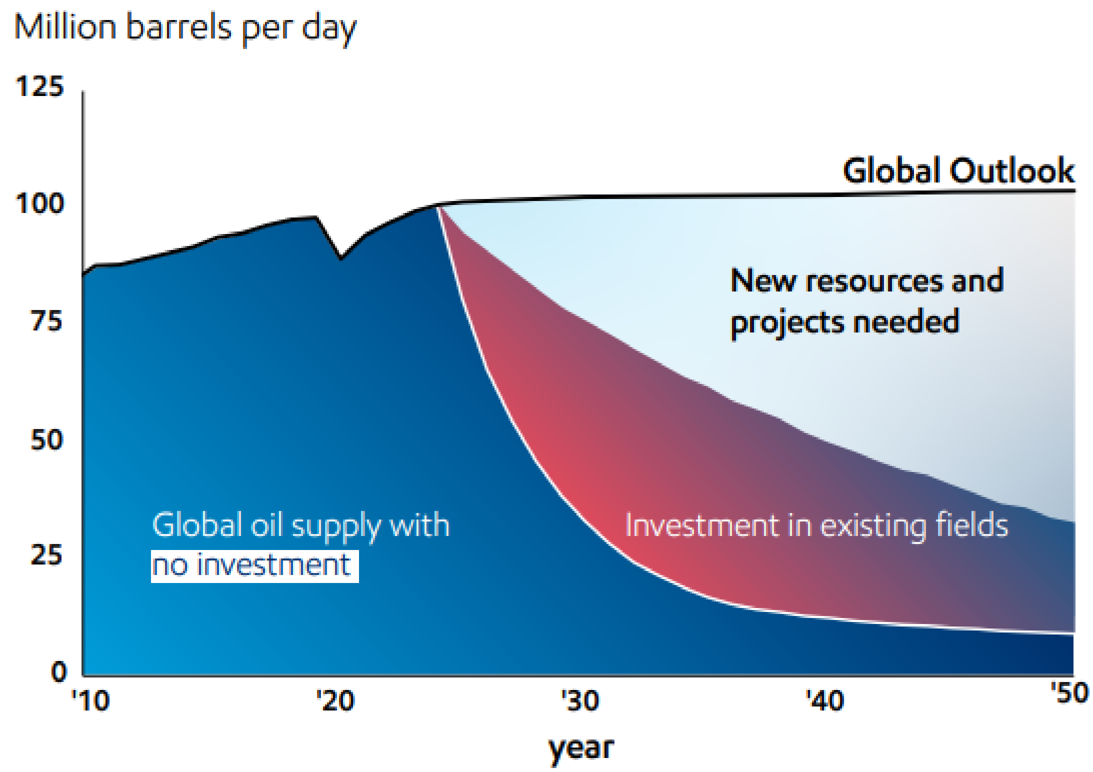
Figure 2



Source: U.N. Human Development Reports, Energy Information Agency, ExxonMobil

The depleting characteristics of crude oil fields is also supportive of oil prices. As oil fields age, they produce less oil, which is known as a decline curve. The International Energy Agency and others have long believed the decline curve was about 8% per year – meaning that a field producing 100,000 barrels per day at time zero, would produce 92,000 barrels per day one year later if no resources were devoted to that field. However, as more oil is coming from unconventional shale sources, companies like ExxonMobil are stating that its decline rate is closer to 15%. In a world supplying about 100 million barrels of oil per day, this means that with no new investment, global oil supplies would fall by 15 million barrels per day in the first year alone (Figure 3). Moreover, OPEC suggests that investment requirement to offset that decline curve and a modest amount of growth by 2050 will require $17.4 trillion (or about $700 billion per year). Industry is currently spending about 40% below that level. Ultimately, this should be supportive of oil prices.

Figure 3

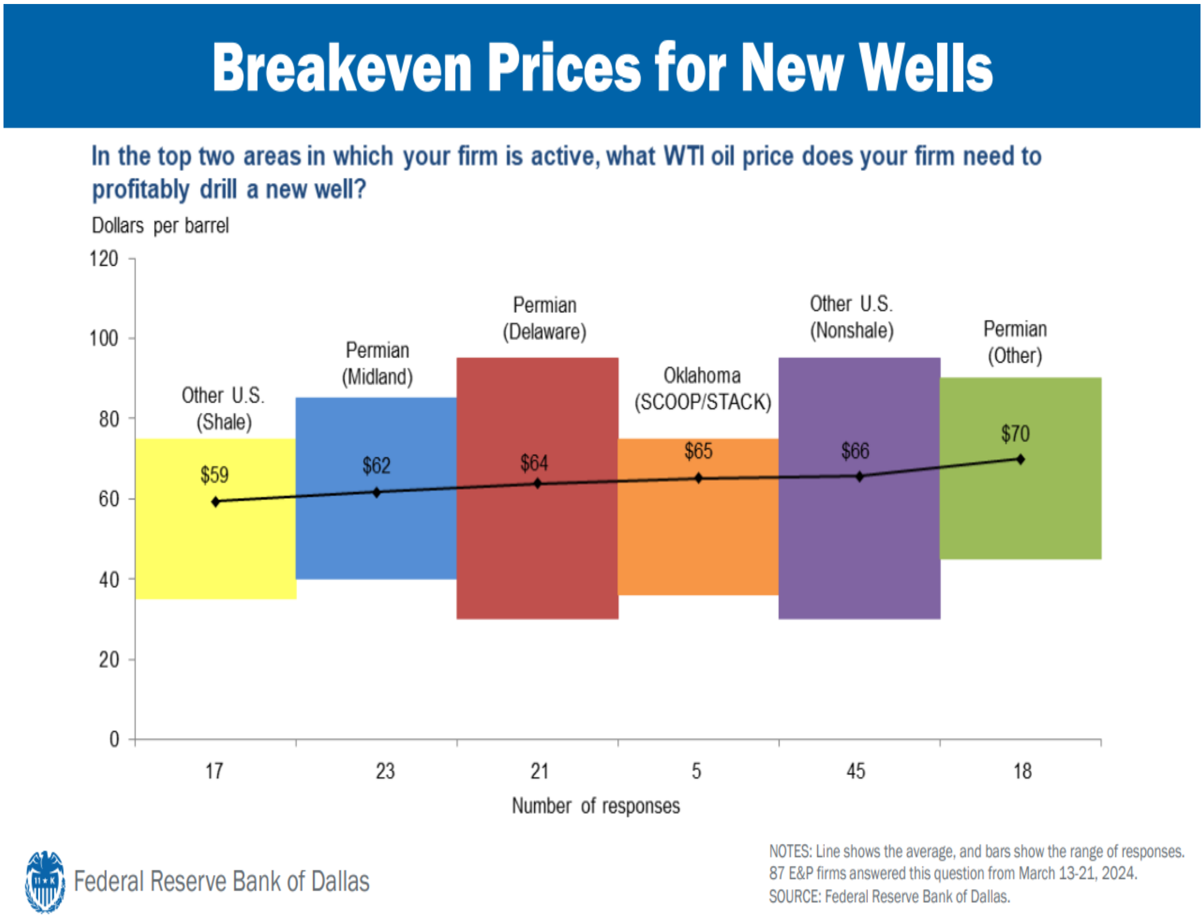


Source: ExxonMobil (2024 ExxonMobil Global Outlook Executive Summary)

Finally, we believe that the first region to reduce its production in the face of weaker oil prices will be the highest cost shale producers in the U.S. The rationale is that these shale wells are short cycle – that is shale wells have shorter lead times between drilling and production relative to more conventional drilling in the Middle East or South America. Based on a survey of 87 firms conducted by the Federal Reserve Bank of Dallas, the breakeven price for new wells in the U.S. is between $59 per barrel and $70 per barrel (Figure 4). Below these prices, the oil companies are not earning a return on its new wells and would reduce drilling new wells within a quarter. Shortly thereafter, we would expect to see reduced supply from Oklahoma and North Dakota, regions that collectively produce about 2 million barrels per day.

The rapid adoption of electric vehicles is ending the two-decade expansion of gasoline consumption in China. However, we still believe fundamentals are supportive of $65 oil. The population continues to grow and is likely to consume more per capita over the next decade, which is positive for demand. Supply growth in the intermediate term will be challenging due to higher decline curves than historically experienced. Finally, the cost of the marginal supplier is in the mid-$60's, which should sustain prices.

Figure 4



Source: Federal Reserve Bank of Dallas. Energy slide show - Dallas Fed (Slide 33)

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