

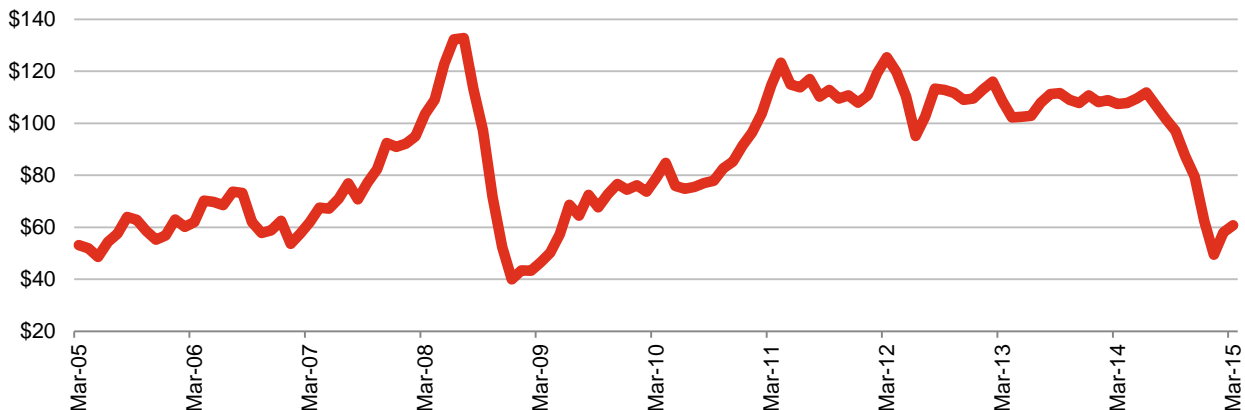
The oil conundrum

How should the industry feel about cheap oil?

Brent oil prices have plummeted over 45% since June 2014, driven by weakened demand and the Organization of the Petroleum Exporting Countries (OPEC) unwillingness to curb production. While consumers may rejoice, what does it mean for the industry in the near and long-term?

Europe Brent Spot Price FOB*

Mar 2005 – Mar 2015 (\$ per barrel)



Source: US Energy Information Administration (www.eia.gov),

*FOB = Free on Board

Supply Up, Demand Down

At the risk of oversimplifying what has caused this accelerated downturn, the lowest common denominators remain supply and demand. While different types of oil production have continued to ramp up around the world, demand has waned. China, the world's second largest consumer of oil and largest automotive market, is expecting their slowest growth rate in over 10 years, with the government lowering their 2015 gross domestic product (GDP) forecast to 7%. This is seen as a continuation of the slow growth seen in 2014, when GDP expanded only 7.4% and represented the first time since 1998 that the economy failed to reach the government's projections.

Meanwhile, on the supply side, OPEC has taken a firm stance that they have no intention of cutting oil production, stating that non-OPEC countries should

share the burden in any future attempts to stabilize values. While this will likely result in a continued decline in oil prices, those who produce a majority of the world's oil can afford it. While it's difficult to calculate an exact breakeven price due to variances in basin, sweet spot vs. periphery, presence of existing infrastructure, timing of land leases and other considerations, some general trends are clear. Countries like Saudi Arabia and the U.A.E., for example, have a breakeven price far lower than even some of their OPEC counterparts, and are intent on keeping oil flowing. So while this may create a near-term GDP boost for the U.S. as it relates to consumer spending, it could come at the expense of energy independence. Emerging production methods of shale oil in North America offer promise, but the business case is currently predicated on an

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expectation of oil prices above their breakeven price, which is considerably higher than those found in the Middle East. The U.S. isn't alone, other global markets remain at risk should prices continue to fall.

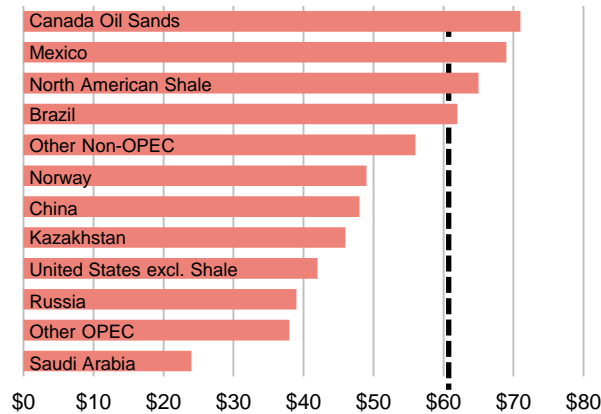
Impact on the Automotive Industry

The impact of falling oil prices has and will continue to vary widely by market, thanks to consumer preferences and variations in fuel taxation. The most immediate shift has been seen in the U.S., where fuel taxes are the lowest amongst OECD¹ countries at \$.47/gallon². This translates to a much faster impact at the pump compared to a country like Germany, who's fuel taxes account for \$4.10/gallon³ of gasoline. When oil (and gas) prices began falling off a cliff in the 4th quarter of 2014, U.S. consumers took notice. While full-size pickup & SUV sales were up 7% YoY (Year-over-Year) in 2014, they jumped 10% in the last three months of the year. Conversely, while hybrid and electric sales declined 4% YoY, that loss accelerated in the 4th quarter and suffered declines of 6%. So while other markets have seen more moderate results, lower fuel prices have had a noticeable impact on U.S. light vehicle sales.

¹ = Organization for Economic Co-operation and Development, ^{2,3} = U.S. Dept. of Energy, Alternative Fuels Data Center

Estimated Oil Breakeven Price

Average Cost (\$ per barrel)



Source: IEA

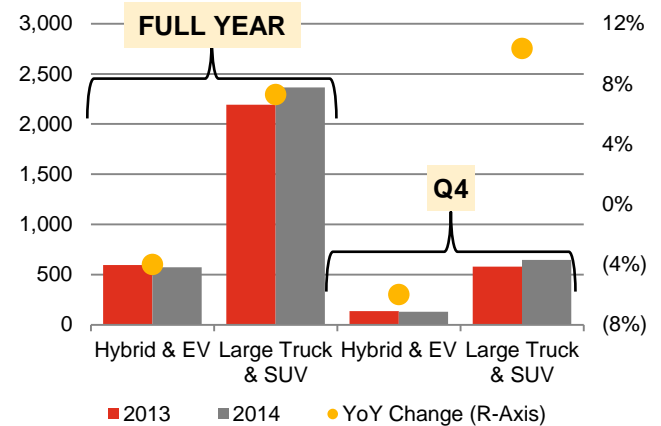
Outlook

So should industry participants prepare to shift back to larger and less fuel efficient vehicles due to lower oil prices? Not so fast. Despite a near-term dip, long-term regulations remain firmly in place around the world. While consumers may enjoy having to spend less at the pump, increased efficiency remains a primary desire, and to the industry's credit they have remained focused on investing in fuel saving and alternative propulsion solutions. While the possibility exists that some long-term emission targets could be revisited should fuel prices and consumer demand remain heavily weighted against these improvements, it's still seen as unlikely due to the negative perception it would bring upon the respective governing agencies. While the near and long-term outlook of oil prices can be debated, Autofacts anticipates that the development of alternative propulsion technology will continue to push forward, regardless of near-term preferences.

To learn more or to have a deeper discussion on this issue, please visit www.pwc.com/auto or www.autofacts.com

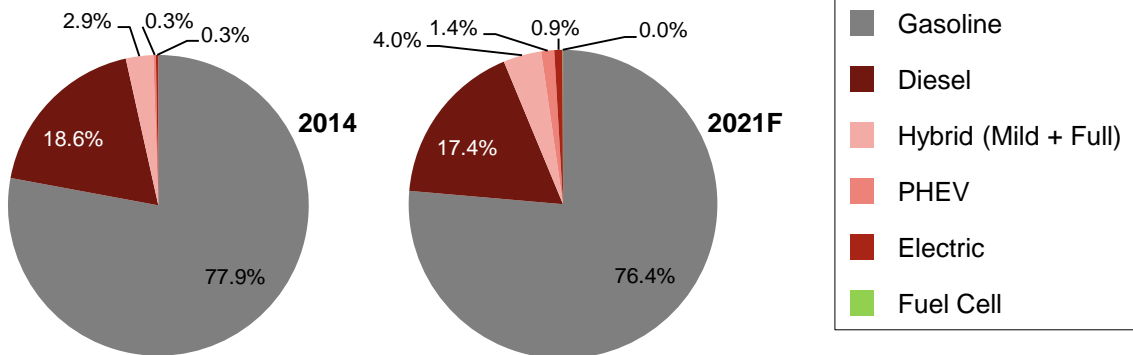
US: Select Light Vehicle Sales

2013 vs. 2014 (thousands)



Global: Vehicle Propulsion

2014 vs. 2021F (percentage share)



Source: Seadrill, Morgan Stanley Equity Research, International Energy Agency, Company Reports, Autofacts 2015 Q1 Forecast Release