The Oil Price Cycle and Peak Oil Demand Scenarios

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Demand destruction: A decade of high oil prices, combined with policy intervention in the OECD and China slowed oil demand growth and enabled innovation and advanced clean energy solutions. Financial crises also associated with high oil prices and recession curtails demand.

At the same time, high oil prices stimulated drilling innovations, leading to a supply bubble. Shale technology is game changing, just as deepwater drilling in the North Sea and U.S. Gulf of Mexico was in the 1980s.

Current oil price collapse mirrors similar cyclical downturns seen in past decades. Cycle shifts tend to have similar characteristics.

Source: Medlock, K.B., Amy Jaffe, “The price of crude oil: deja vu all over again?” (2013), EIA
Three major linchpins to high price psychological “exuberance” have dissipated

2002–2015 up–end of the price cycle was mainly driven by three characteristics that no longer prevail:

- “Peak Oil” theory
- Steady, rapid Chinese “demand” based on industrial growth
- Rising upstream services costs
Historical Oil Prices

Monthly Nominal and Real Oil Prices from May 1983 to Present

- Long-term oil prices have reverted back to historical long-term mean of ~$23 per barrel
- As U.S. shale production continues to come on line, coupled with technological advances in oil and gas recovery, oil prices could potentially remain range-bound
- 1986–2001 average price is ~45% lower than the current, which implies potential low of ~$33/bbl in nominal terms

Historical Oil Price Statistics (West Texas Intermediate)
Current Nominal Price as of 5/31/2015: $60.30
Real (1982-1984) Price as of 5/31/2015: $25.49 (~11% Premium to Mean)

Mean: $22.95
High: $63.98 (6/30/2008)
Low: $6.87 (11/30/1998)
Median: $17.14

1986 – 2001 Avg.: $14.07

2001 – Present Avg.: $31.29

$19.74 (Post-Lehman 1/31/2009)
$20.16 (Recent Oil Correction 3/31/2015)

Source: Bloomberg, West Texas Intermediate (WTI) Cushing Crude Oil Spot Price: USCRWTIC Index, CPURNSA Index as of May 31, 2015
China High Policy Intervention Scenario:
Energy demand peaks and decouples from GDP under 6.6% growth scenario via efficiency gains, renewables targets and nuclear development
Global Oil Demand Upward Trending

Source: IEA Mobility Model 2014
New Trends Moderate Growth Outlook

Source: IEA Mobility Model 2014
Unburnable carbon

- 2795GT CO₂
- 565GT CO₂

2 °C of warming
Man-made CO₂ in atmosphere now
Global CO₂ in 1750
Aggregate loss (2.48% of market capitalization) (after controls)

$1,061,565

$27,050

Aggregate capitalization

Unburnable disclosure losses

Griffin, Lont, Jaffe, Dominguez-Faus, *Energy Economics*, Fall 2015