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## **Technology Trumps Oil Politics**

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The recent retreat in crude prices has surprised many experts who were predicting steeply higher levels for Brent and WTI. Choking off Iranian supplies and – the ever-present elephant in the room – a possible shut-down of the Strait of Hormuz (where 20% of global crude traffic occurs) spurred upward pressures.

Recently, however, an ensemble of unrelated factors – the Greek bailout, fracking in North Dakota, and the resurgence in Iraq and Libya’s exports – have combined to produce sufficient momentum to lower prices. Is this a temporary relief only poised to falter with the first stress test? The answer is negative. It derives as much from the fundamentals of supply and demand as from the psycho-speculative forces that generate price premiums (ranging from \$20 to \$30 per barrel). Case in point, the Greek bailout offsets the anxiety premium lifted by war games in the Persian Gulf by suppressing demand projections.

The invisible hand steadying the global energy markets is the growing influence of modern technologies. Hence, a case can be made for a pseudo-stable crude price window (\$80 to \$120 for WTI over the next several years) barring black swan events and the subsequent spike-response at the pumps. For instance, the stoppage of crude exports through the Hormuz Strait would be highly disruptive. The anxiety premium would push beyond \$30. Obviously there are work-arounds which would preclude a sustained blockage. Yet an unintended consequence of a price spike is to incentivize US consumers to move toward non-crude alternatives, namely hybrid and electric vehicles. Thus US transportation’s slow transition to a more natural gas-centric post gets a boost from supply disruptions and, in turn, serves as a price stabilizing factor as demand shifts from oil to natural gas.

Neither the Arab Spring nor the collapse of the Soviet Union was forecasted by experts. They simply happened. Who is to say when Iran or Venezuela will disembark from their handicapped status in petroleum production? The upside potential for global supplies would not be insignificant.

Iran’s current capabilities are decades behind the oil industry. They can substantially increase their production capacity on the strength of their huge reserves (137 billion bbls). This will be contingent on several factors, including political will, capital investment, US sanctions, and their speed of ingestion of modern technologies. While speculative, a daily production capacity of 5 to 7 million bbls (double their current level) appears achievable. By comparison it took Iraq seven years to increase its daily production by 50% (3 million today compared to 2 million pre-war). Libya’s resurgence in crude exports to pre-Qaddafi levels cannot be correlated with political stability or democratic reforms. Nations somehow manage to marshal the means to regain their lifeline even under traumatic events as witnessed in Libya and Iraq.

Some may argue that burgeoning middle classes in China and India will cause a sea change in the demand for oil. Not so. Consumption efficiencies will likely offset demand pressures. The steady

decline in the industrialized world's per capita energy use is a precursor for the future. One game changer is electric cars which in essence allow nuclear plants or unconventional gas to fuel future cars (via power grids).

The growing influence of modern technologies is self-evident everywhere. Net daily US imports of petroleum have dropped by 50% to 8 million over the last five years. It's likely to shrink further in the coming decade on the strength of an upsurge in domestic oil and gas supplies. The emerging idea of US LNG exports is a consequence of the technology footprint.

To paraphrase Henry David Thoreau, "the messenger with the fastest horse does not always carry the most important messages." The Obama administration's hurried message of disengagement from fossil fuels was important but wrong. It contrasts sharply with the "all-of-the-above" energy strategy being publicized now. The rationale for the change is well supported on multiple fronts – the nation's realistic energy needs, high-valued employment growth, balance of payments, and geopolitics.

The US is inevitably on its way to becoming energy independent – a state that can be arbitrarily defined as a 90%-plus self-sufficiency – riding its advantage in unconventional oil and gas resources. The question is how fast? The debate surrounding fracking is timely and well-justified as long as the focus remains on environmental stewardship and economic prudence. Equating shale oil and gas resources with fracking – today's technical solution – is disingenuous at best. The US has abundant oil and even more massive gas resources. In this author's view, fracking does not have a monopoly over future exploitation techniques any more than rotary phones did over long-distance calls. However, fracking and next-generation technologies provide an orderly transition to the post-petroleum era. Its timeline has yet to be determined by the global community.

JFK's "Man on the Moon" vision shaped the nation's space initiatives. Today it is the opposite. Economic imperatives and advanced technologies are leading presidential visions on energy. In the age of Facebook and Al-Jazeera, politics matter less than in the past. Superior solutions are vastly transportable across the globe albeit unevenly through barriers that are proving all too porous. Iraq or Russia now has an equal opportunity to access new technologies restrained solely by their internal efficiencies of adoption. Advantage: Free market-friendly countries and consumers in general.

In the new world order, the US can lead but not necessarily control the planet's energy outlook. Ironically, fracking and horizontal wells (as proxies for new technologies) have given the US an unmistakable geopolitical advantage while moderating the market swings. Both presidential candidates have a chance to accelerate US energy independence. Ambiguity, policy vacillation, and an overreach to uneconomic options (ethanol, wind) act as suppressants. Technology and market forces trump politics, hence politicians may choose to listen or become less relevant. The march is on with or without.

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