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### The Energy Dilemma

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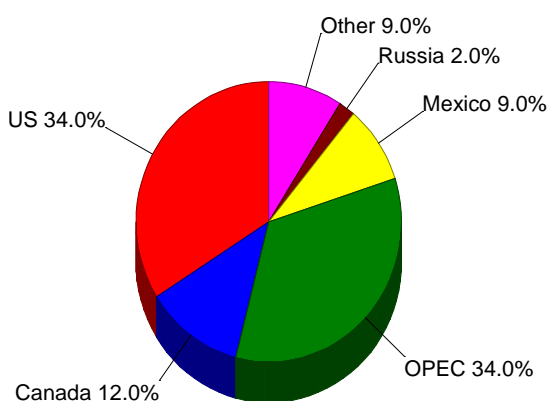
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Recent articles by Victor Davis Hansen and George Will (see News tab) and scholarly research by Mike Conley (see Commentary tab) paint a grim picture for global and domestic energy supply and demand. Here are some of the facts?

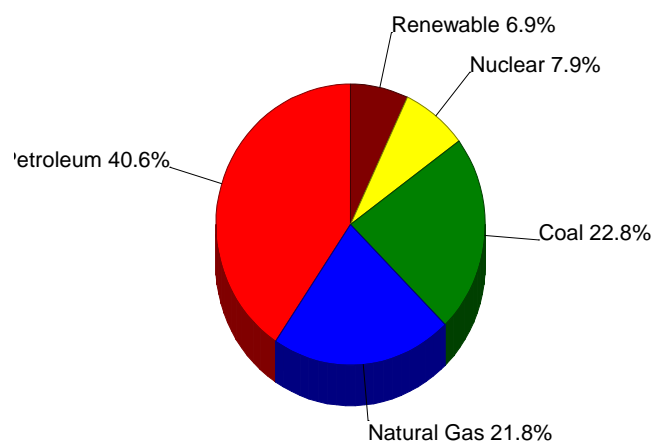
- Energy demand will expand 30% to 50% in the next 20 years and there are few near term operative alternatives to fossil fuels.
- The consensus for geologic opinion from all sources is that global peak oil will occur between 2010-2014. Peak oil is a theory that suggests we will soon reach a point of maximum oil production, after which new sources will be marginally difficult to find and extract in a cost efficient manner. There are some experts who dispute this concept, but in doing so fail to differentiate between conventional sweet crude and unconventional oil such as tar sands and coal liquefaction, and that oil production has, in fact, decline.
- The United States imports 65% of its oil, half of which comes from OPEC countries.
- Geopolitical realities exacerbate the problem in that OPEC countries control 80% of the world's oil reserves, the supply from which will remain tight given the expectation of higher prices in the future.
- China and India are competing for a greater share of the global oil supply.
- Nuclear power accounts for approximately 20 percent of U.S. electricity consumption but only 8% of overall energy supply (compared to France which derives nearly 80% of its electricity from nuclear power). If nuclear energy, for example, were to supply only 10% of the necessary world carbon-free energy by 2050, 50 large nuclear plants would be required to be built each year. Currently five are under construction.
- The United States derives approximately 23% of its energy from coal which generates 50% of the electricity used in this country, and now burns over billion tons of coal every year. In spite of being self-sufficient with several hundred years of supply, the U.S. has recently curtailed coal energy production due to concerns about global warming.
- Natural gas supplies approximately 22% of U.S. energy needs, primarily for consumer appliances such as furnaces, stoves, water heaters and clothes dryers.
- Presently wind and solar power combined represent less than 1% of American energy consumption and only 7% of all renewable sources combined (wind, solar, geothermal, biomass and hydroelectric).

- Solar power, available in abundance, accounts for less than .1% of electricity generation in the U.S. It is estimated, however, that with the eight year extension of the 30% solar tax credit that 28,000 megawatts of solar power will be installed by the end of 2016.
- In 2008, the U.S surpassed Germany as the world’s leading wind power producer. At the end of the second quarter 009, wind power reached 9,440 MW of installed capacity, representing.25% of the nation’s electricity. New installations, however, place the U.S. on a trajectory to generate 20% of the nation’s electricity by 2030.
- In 2005 the U.S. surpassed Brazil as the world’s largest ethanol producer and now produces 4.85 billion gallons annually. The U.S. and Brazil account for 70% of all ethanol production in the world.

US Crude Oil Production & Imports



U.S. Energy Consumption by Source



Source: Energy Information Administration

Several conclusions are evident from the above statistics.

1. The U.S. production of oil has decreased 50% since 1970 (from 10 million bpd to 5 million bpd), increasing our dependence on foreign oil and posing substantial risk to our economic and national security.
2. The U.S. demand for petroleum (41% of our energy consumption) will, absent any other externalities, result in higher energy prices, which will inevitably threaten severe economic disruption. A targeted oil reduction plan is therefore mandatory in conjunction with the development of equivalent energy from all other sources.
3. These energy related factors, in conjunction with the disruptive potential of: continued high unemployment; a protracted recession; terrorist resurgence in Afghanistan; a monumental and increasing national debt; and increased federal taxes could very well result in Conley’s, “Perfect Storm” and Hansen’s, “We Ain’t Seen Nothing Yet” scenarios.
4. The political will and foresight to effectuate the necessary policies to promote stable global expansion and improved standards of living is currently not evident, thus militating in favor of an investment policy that over-weights energy related sectors as a hedge against inflation and worldwide uncertainty.