

Peak Oil and Its Implications

What follows is a matter of controversy. It is useful to be aware of the discussion, however.

Oil is actively traded on markets around the world, thus its price is a function of supply and demand. Typically, high prices suppress demand. They also increase supply by bringing into production marginal resources that are uneconomic at lower prices. This is less true for oil, where demand tends to be “sticky,”ⁱ and the geology of oilfields limits production increases.

Demand for oil increased 0.7% last year, but production increased only 0.4%.ⁱⁱ Fueled by the developing economies of China and India, demand is forecast to continue to grow. Without large new oil discoveries, however, production will not be able to keep up. In fact, production in 33 of the world’s 48 largest oil-producing nations is decliningⁱⁱⁱ. Oilfields in the Middle East are now reaching the age at which most oilfields begin to decline. It is possible that large new discoveries will provide additional supplies, but such discoveries are less frequent than they were previously, possibly because most of the large fields have already been discovered.^{iv}

Some oil experts feel that we are entering (or may have already entered) an era of increasing demand and decreasing supplies.^v Market based systems like ours are effective when conditions are stable. However, in a crisis, markets often become chaotic. We experienced an oil crisis in the 1970s, when political conflict involving Israel caused OPEC to reduce supplies. In 2006 dollars, prices skyrocketed from under \$10 in 1970 to over \$90 in 1980. People hoarded, and there were runs on gas stations, just as there are sometimes runs on a bank. In such a scenario, at some point prices rise to a point that forces Americans to alter their life style, and causes an economic downturn. At that point, the demand for oil decreases, and prices moderate somewhat, eventually finding a new equilibrium. American oil consumption, and consequently oil prices, declined following the spike in 1980.ⁱⁱ

If the facts reviewed above are correct, avoiding such a spike in prices may not be under our control. What may be under our control, however, is “how.” If we wait for prices to skyrocket in response to scarcity, we will pay those high prices to oil sheiks in the Middle East. We will be transferring massive amounts of wealth from us to them. On the other hand, if we enact a gasoline tax or carbon tax, it will reduce demand. Reduced demand will put downward pressure on the price oil sheiks can demand. Although the price to consumers will be just as high, some of the money will be going to us, not the sheiks. We will be able to use the money for purposes that seem good to us. We could reduce income taxes, fund alternative energy development, etc.

I should stress that the scenario outlined above is a matter of controversy and high emotion. The Saudis insist they have huge untapped stores of oil. Since OPEC production levels are pegged to total reserves, however, they face incentives to overstate their reserves; some feel that all Middle Eastern countries do so.^{iv} OPEC production has been essential flat recently.ⁱⁱ

If the above analysis is correct, higher oil prices and the economic hardship that go with them are not avoidable, they are inevitable. If that is the case, then some argue that it makes sense for some of the money to be put to uses that further our national interest via a carbon tax, rather than being sent overseas to oil sheiks.



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ⁱ “Sticky” is a term from economics. Price is supposed to be a function of supply and demand, and thus, those three fundamental factors are supposed to respond to changes in each other. But sometimes something prevents one of the factors from changing unless the change in the others is severe. When this occurs, the factor is said to be sticky.

ⁱⁱ *BP Statistical Review of World Energy*. Available on the internet at

<http://www.bp.com/productlanding.do?categoryId=6848&contentId=7033471>.

ⁱⁱⁱ WorldWatch Institute (2005). *State of the World 2005: Redefining global security*. New York: Norton.

^{iv} Nersessian, Roy. (2007). *Energy for the 21st Century*. Armonk, NY: M.E. Sharpe.

^v Seager, Ashley. (2007-10-22). Steep decline in oil production brings risk of war and unrest, says new study. *The Guardian*.