

# Energy Myths and Realities

Because of who you are and what you do, no doubt you've been asked about oil prices and the current energy situation.

And no doubt, the conversations will continue.

Interestingly, recent Gallup polls show 57 percent of Americans want increased domestic drilling and only 20 percent believe 'big oil' is the major problem. That is quite a turnaround from years past.

But there are a lot of questions still to be answered – and erroneous conclusions abound.



Tinker

AAPG President **Scott Tinker** has been answering a lot of these questions in his position as director of Bureau of Economic Geology at the University of Texas at Austin, and has been giving talks and writing op-ed pieces on "Energy Myths and Realities."

The following is a "Top 10 List" of the myths and realities he has presented as talking points as the conversations come up. Some "myths" and the "realities" are offered below.

Myth	Reality
1. The United States can be energy independent in the next 25 years.	<ul style="list-style-type: none"> <li>• The world is "flattening;" commodity interdependence is becoming the norm.</li> <li>• Energy infrastructure transitions take time and are very expensive (\$ trillions).</li> <li>• The United States imports over 30 percent of its energy, mostly as oil, and the trend is increasing.</li> <li>• Independence requires realistic, scalable alternatives, which do not currently exist but can be developed over several decades.</li> </ul>
2. "Renewable energy" can reduce dependence on fossil fuels significantly in the next 25 years.	<ul style="list-style-type: none"> <li>• Energy is not renewable –some sources of motion (wind &amp; water), light (solar) and fuel (crops) seem "continuous" on human time scales.</li> <li>• Intermittent sources (solar, wind) are cleaner, less reliable, more expensive, and represent less than 1 percent of the energy mix.</li> <li>• Base load fuels (coal, natural gas, nuclear) are dirtier, more reliable, and cheaper.</li> <li>• Decarbonization of the energy mix has been happening for over 150 years, but increased demand for coal in China and elsewhere is beginning to change that.</li> <li>• The consumer bases his/her energy choice largely on price; alternatives need to be affordable</li> </ul>
3. The economy will adapt easily to a rapid, federally imposed energy transition.	<ul style="list-style-type: none"> <li>• Concerns about climate have placed the public sights squarely on combustion of fossil energy.</li> <li>• Economies are inextricably linked to energy; affordability and availability of energy are key to a healthy economy.</li> <li>• A healthy environment requires a healthy economy.</li> </ul>
4. Energy efficiency and savings alone will solve the problem.	<ul style="list-style-type: none"> <li>• Efficiency and energy savings are vital parts of the solution, but we cannot "save" our way out of a crisis.</li> <li>• Improved efficiency often increases demand for number of "units" (cars, refrigerators, microwaves, and computers).</li> <li>• Global industrialization, population growth, and modernization are increasing energy demand.</li> </ul>
5. There is abundant low-cost, conventional oil remaining to be discovered.	<ul style="list-style-type: none"> <li>• Much of the easy to produce (hard to find) conventional oil has been discovered and will plateau and then decline in production; i.e. conventional oil "peak" in the coming decades.</li> <li>• Much of the easy to find (hard to produce) unconventional oil will be developed in the next hundred years.</li> <li>• Biofuels require a tremendous amount of energy, water and soil.</li> <li>• Coal to liquids, gas to liquids, heavy oil and shale oil also require energy and water to produce.</li> </ul>
6. "Big Oil" controls the price of oil and gasoline and makes obscene profits.	<ul style="list-style-type: none"> <li>• Big Oil companies control less than 10 percent of global reserves. i.e., limited access to their primary product, and thus don't control price.</li> <li>• Supply and demand are the major drivers of oil price, but price is also related to the value of the dollar, speculation, weather, government policy, and supply disruptions, among other things.</li> <li>• Lack of access is pushing Big Oil towards "unconventional" oil and natural gas.</li> <li>• Unconventional oil and natural gas are more expensive to develop (today).</li> <li>• Oil industry profits are volatile; it is an expensive and risky business.</li> </ul>
7. Cutting oil imports will stabilize and lower gasoline prices.	<ul style="list-style-type: none"> <li>• Oil is a fungible commodity; global demand is increasing and the price of oil is likely to remain high, but volatile.</li> <li>• Cutting U.S. oil imports will reduce U.S. supplies and drive gasoline price up.</li> <li>• Increased (carefully considered) access to U.S. resources would help reduce oil import demand as we transition to other fuels; it takes up to a decade to bring new production online.</li> <li>• Nationalization is popular in certain countries, but a poor idea overall. Global trade and access are vital for a healthy global economy.</li> </ul>
8. Global production of oil and natural gas are peaking and we are running out of fossil energy.	<ul style="list-style-type: none"> <li>• Fossil fuel resources (oil, natural gas and coal) can provide over 200 years at current consumption rates. Issues: emissions and long-term resource life.</li> <li>• Uranium and nuclear energy potential are vast. Issues: waste disposal and accident impact.</li> <li>• Dams, hydrothermal, wind, biomass, tides, and other emerging forms provide long-term regional supplements. Issues: cost, technology, and environment.</li> <li>• Solar energy is vast and electricity storage and transmission technologies should be pursued aggressively Issues: technology and infrastructure.</li> </ul>
9. All coal is dirty.	<ul style="list-style-type: none"> <li>• Coal reserves are substantial.</li> <li>• Coal can be made reasonably clean with carbon sequestration</li> <li>• The power will cost more; a lot more initially.</li> <li>• There is a choice: store CO<sub>2</sub> in the atmosphere (today) or sequester it in subsurface brine reservoirs.</li> </ul>
10. The cost of energy is increasing.	<ul style="list-style-type: none"> <li>• The cost of electricity in the U.S. has been decreasing in real dollars; Clean power will cost more.</li> <li>• The cost of liquid fuels has decreased overall, until recently. Security of liquid supplies will cost more.</li> <li>• U.S. Energy use per GDP (energy intensity) continues to decline. Per capita use is relatively flat. □</li> </ul>