

Destroying Oil's Monopoly and OPEC's Cartel

By R. James Woolsey*

"Where monopoly rests on man-made obstacles to entry into a market, there is every case for removing them." Hayek, "Liberty" 266

As the distinguished free-market economist, Friedrich Hayek stressed (and in similar words Adam Smith and Milton Friedman did as well), monopolies and cartels are the major enemies of free markets. Destroying them should be the first priority of those in government who want their societies to have the advantages of a market economy.

Yet we have lived for decades with our entire transportation system dominated by a cartel nested inside a monopoly. Together they undermine our ability to let the free market respond to increased demand for transportation fuel via market mechanisms. The market is not permitted to work adequately to increase the supply of fuel and to limit the price we must pay for oil. Thus oil's monopoly over transportation and the cartel's control of a huge share of oil production together increasingly threaten our economic viability, our national security, and the stability of many other nations in the world as well. We now have been given a key tool – affordable substitutes for oil, principally derived from hydrofractured ("fracked") natural gas – that can be utilized relatively promptly and without major infrastructure investment. By opening these fuel options to the public our cars can readily be enabled to give us the ability to destroy the monopoly and its nested cartel, and we should move promptly to let them do so.

Oil's Monopoly

Oil products dominate transportation, over 95 percent. Sailboats, fox hunts, pedicabs and trolleys move without burning petroleum-based diesel, gasoline, or aviation fuel, but not much else does. How this came to be is an involved and interesting story, especially regarding gasoline's near-monopoly over automobile fuel – Henry Ford fought hard for alcohol-based fuels (partly because of their inherently high octane) but was defeated by General Motors' commitment to gasoline and to the use of tetra-ethyl lead to increase the low gasoline octane, although it also spread cancer for half a century. We finally then "got the lead out" in the 1970s but the refineries replaced it with other carcinogens (benzene, toluene, xylene, the "aromatics") since that was financially attractive.

OPEC's Control

Within the world of oil supply two factors permit a cartel, the Organization of Petroleum Exporting Countries (OPEC), to dominate – and in many ways control – the world oil market. First of all the twelve members hold some 80 percent of the world's proven reserves of conventional oil (about 70 percent if Canadian tar sands are counted). About two-thirds of the OPEC reserves are held by OPEC's eight Middle-Eastern members (Saudi Arabia, Iran, Iraq, Kuwait, the UAE, Algeria, Qatar, and Libya). The two South American members are Venezuela and Ecuador and the two African members are Nigeria and Angola.

The second factor is OPEC's very low production costs – under five dollars a barrel in the Persian Gulf OPEC states, under ten elsewhere. This compares with several tens of dollars a barrel in the US, Russia, and a number of other states.

So its dominance of oil reserves and its low production costs put OPEC in a position to do what it does – limit supply in order to keep prices up and to milk consumers. Evidence? Start with the fact that OPEC pumped about 30 million barrels a day forty years ago into the world's economy and oil use then was only about half of what it is today. So OPEC has essentially ignored a

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doubling of the world economy and oil demand and continues to pump what it did in the early '70s. What else can you call a group of twelve countries that does this, that has 80 percent of the world's supply of a product and yet provides only about 36 percent of the world's consumption each year, other than a conspiracy in restraint of trade?

So what's the problem? We have to pay for lots of things in this life and various companies and industries have some sort of intellectual property or other advantage that lets them charge more. Why should we pay special attention to oil?

Let me count the ways.

Oil's Damage

We now borrow about a billion dollars a day to import oil. If we pump more in this country, from the Gulf of Mexico, Alaska, wherever, and thus move from importing slightly more than half our oil to importing slightly less, it helps our balance of payments a bit, but that's it. OPEC just raises the price so we still borrow about a billion a day. If we could use this \$350-\$400 billion annually to buy domestically-produced fuel (other than oil) it would be a huge economic stimulus to the country instead of being what it is now, a massive economic drain and increase in our indebtedness. Once vehicles allow fuel competition, production of non-petroleum fuels will increase substantially. Competition at the pump will drag down the price of oil, and a large share of these competing fuels will be produced domestically. Those factors together would add up to a savings in transportation costs of about \$2,000 per family annually. Thus producing our own non-oil transportation-based fuel would be like giving each American family a substantial tax cut – paid for by the oil producers: the Saudis, the Iranians, the Venezuelans, and others at whose predictable pleas of economic distress we should smile sympathetically.

Larry Diamond has shown that of the 22 countries in the world that earn 60 percent or more of their GDP from oil, every one of them is a dictatorship or autocratic kingdom (this is nearly half of the countries that Freedom House annually rates "not free"). Also, nine of the top eleven oil exporters in the world are dictatorships or autocratic kingdoms (Norway and Canada are the exceptions). These "not free" states are disproportionately responsible for famines, civil wars, hosting terrorists, and war – the work of Morton Halperin, Larry Diamond, John Norton Moore, Robert Turner and other scholars makes this quite clear. Why the correlation between oil states and "not free" states? The work of Paul Collier, who heads an institute at St. Antony's, Oxford, on African economies makes the "oil curse" point most effectively. If a dictatorship or autocracy comes into possession of a commodity with a large amount of economic rent, the rent enhances the power of the elite. (The same does not occur if a democracy like Canada or Norway discovers large oil reserves – they just get richer.) So chalk off another troubling influence to oil.

The 2006 terrorist attack on the largest oil production facility in the world, Abqaiq, in Saudi Arabia, had it been successful, could have sent oil prices skyrocketing since about two-thirds of Saudi crude, some six million barrels a day, could have been taken off the market for a substantial time. Various terrorist groups, and Iran, have talked of targeting oil infrastructure and bottlenecks (e.g., the Strait of Hormuz) as a way of attacking the West's economy.

Use of petroleum-based gasoline is far from free of negative health effects. Boyden Gray and Andrew Varcoe have detailed the hundreds of millions of dollars in added health care costs and the tens of thousands of premature deaths caused by the oil refiners' use of carcinogenic benzene, toluene, and xylene to enhance octane in gasoline. So whatever your views on climate change (and oil's carbon emissions are substantial) you need not get into that complex issue in order to have a serious environmental problem with driving on a fuel that emits that sweet smell of carcinogenic "aromatics" when you fill your gasoline tank. You need only dislike cancer.

Finally, oil fuels hatred in a very direct way. In his classic work on al Qaeda, *The Looming Tower*, Lawrence Wright points out that with just between one and two percent of the world's Muslims, Saudi Arabia funds and, essentially controls, around 90 percent of the world's Islamic institutions.

So what is being taught at these oil-funded institutions is not the open, tolerant religious beliefs of, say, the late Indonesian President, Abdurrahman Wahid and Indonesia's Lib for All movement (Wahid edited, just before he died, a book titled "The Myth of the Islamic State"). Rather what is being taught is oppression of women, hatred of Jews, Christians, and those of other religions, and other Wahhabi/Salafist views.

The Source of Oil's Power

What's going on here? Why does oil, and those who control it, have this power?

It's because oil, as explained in a book by Korin and Luft "Turning Oil Into Salt," is a strategic commodity in the same way salt was for millennia. We can't transport anything, essentially, without oil today – we can't get food, we can't get to work or school. Without oil civilization comes to a halt. Similarly, since salt was the only way to preserve meat until around the end of the 19th century (and the only way to preserve food period until Napoleon offered a prize that led to the invention of canning) life depended on salt to a similar degree that it depends on oil today – the word "salary" comes from salt, Roman soldiers were paid in salt, countries still fought wars over salt mines in the late 19th century, and so on.

But the last time you sat down to eat you probably didn't look at the salt shaker and wonder where the salt came from and whether the US is salt-independent. The reason is technology. With the coming of the electric grids, refrigeration, and freezing, salt was effectively destroyed as a strategic commodity. It wasn't destroyed period – it has lots of uses, on corn-on-the-cob, on sidewalks in winter, etc. But no one goes to war over it anymore.

So the question is not, "how can we destroy oil?" but rather, "how can we destroy oil's strategic importance?" How can we make oil as boring as salt?

Re Currently-Proposed Solutions: Neither a Liberal nor a Conservative Be

We have a major dilemma: the two most popular and widely-advocated solutions to our oil problem have absolutely no chance of working. One – produce electricity from renewables and take one-time steps (such as imposing more demanding mileage standards for vehicles) – is essentially the favorite liberal solution. The other, "drill, baby, drill (for oil, in or near the US)" is its conservative counterpart. For both the liberal and the conservative solutions the range of effectiveness is somewhere between small and negligible.

Are large utility-scale solar collectors and wind farms, nuclear power plants, and "clean coal" the answer to our oil dependence problems? Only if you can get away with relying exclusively on out-of-date forty-year-old data. In the early 70s, just before the oil crisis of 1973, something approaching a fifth of our electricity was produced by burning oil. So in those days if you were building a wind farm or a nuclear power plant you were indeed doing something to move the country off oil dependence. But today we produce less than one percent of our electricity by burning oil (it's a higher percentage in developing countries where diesel generators are often all that is available to generate electricity, very expensively). There are good reasons to want to generate electricity cleanly and affordably, but outside Hawaii in the US this has essentially nothing to do with oil dependence.

Even if we move toward plug-in hybrids and electric vehicles this will affect our need for new electricity generation only minimally for some time. Studies by the DOE's Pacific Northwest National Laboratory, the Natural Resources Defense Council, and the Electric Power Research Institute all indicate that something over half the cars on the road would have to be electric or plug-in hybrids before we start needing new power plants. One reason is that time-of-day electric rates can encourage electric vehicle drivers to charge at night when the grid is much under-used.

The other part of the more-or-less liberal agenda to deal with the oil problem is at least relevant to the problem: more stringent fuel mileage standards. The problem is that it is a one-time step for which OPEC can adjust by lowering its production and thus driving prices back up. Essentially

nothing that requires us to stay on oil products for transportation can defeat OPEC, even if we contrive to use less of them.

What about drill, baby, drill? Like more demanding fuel standards it's not a bad idea – it just won't get the job done. It will improve our balance of payments some, and will increase domestic employment a bit. Maybe we'll only need to borrow \$800-\$900 million a day instead of a billion. We'll add some jobs. But we can't beat OPEC's 80 percent of the world's oil reserves, and oil lifting costs of a few dollars a barrel with our two percent or so of the world's reserves and lifting costs of tens of dollars a barrel while we leave in place oil's monopoly over transportation. At least we can't as long as there's a world oil market from which we don't completely secede. The argument that we need energy "independence", but defining it as "autarky" rather than its real meaning of "lack of control by others" is part of this dream world.

Many of the arguments offered in the debate about the Keystone pipeline are even dreamier. Canada is a good neighbor and, assuming the environmental issues are carefully dealt with we can help them improve their balance of payments and add some American refinery jobs along the Gulf Coast by approving Keystone, so why not go ahead? Is it a big deal that we might then buy more Canadian oil and less from, say, Saudi Arabia if the pipeline goes through? Not really. If we buy less from Saudi Arabia and more from Canada, someone else in the world market will just buy more from Saudi Arabia and less from Canada. Except for some matching of crude (regarding sulfur content, for example) with refineries, to a first approximation there is one world-wide oil market. And since you have to move stuff, you can't secede from the oil market and get away from OPEC's control except to the degree that you can produce, and drive on, something other than oil products.

**Enter Gasman
Extraordinaire
George Mitchell**

George Mitchell may well go down in history as one of the most innovative, committed, and stubborn heroes of game-changing innovation this country has ever seen. Risking his own fortune he mated horizontal drilling and hydrofracturing (fracking), breaking up the shale in which huge volumes of gas reside, in the face of an almost universal gas industry derision. His creativity and resolve is beginning to change the face of the world energy picture.

It should be noted that fracking is not without environmental risk, but most experienced observers are coming to the view that any new problems that need to be faced, such as the large volumes of waste water, can be worked out. What is probably needed is a small group of respected and technologically sophisticated individuals from both the gas industry and environmental groups to get together and work out an approach that makes sense; this should be done on a state-by-state basis because geological formations vary so substantially. Something similar happened between environmental groups and timber companies in California some years ago. They called themselves the "Quincy Library Group" since their representatives met in the Quincy, California, public library so they wouldn't shout at each other. It seemed to work.

Cheap and widely distributed natural gas can help provide three of the four ways that it may be plausible in the near term for us to drive on fuel that is cheaper than oil-derived products and do so without slow and costly major modifications to our energy infrastructure. The reason these three solutions are just now coming into view is indeed fracking, and because of it natural gas is selling in the US at prices in the low single digits of dollars per million btu's. This means that in the past – when oil and gas would sell at essentially an equal price for equal amounts of energy – gas at \$2.50/mbtu would mean oil would sell for about \$15/barrel. But today with gas at \$2.50 and oil selling at around \$100/bbl, energy from oil is 6-7 times more expensive than that from gas.

So T. Boone Pickens has a point. For buses, delivery trucks, and maybe interstate trucking it could be relatively simple to have compressed natural gas (CNG) pumps at bus barns and truck stops. With natural gas prices so low compared to diesel the several thousand dollar conversion cost for a commercial vehicle would probably be paid off rather quickly. Family cars are a different

matter. With current regulatory provisions the several thousand dollar cost of converting the family car to run on CNG is a major deterrent. But regulatory changes could lighten this load.

The second natural-gas-enabled shift away from oil in the transportation sector would be to electricity. As coal-fired power plants age and require extremely expensive scrubbers to deal with pollutants, utilities look for other solutions. Nuclear power looked for a time as if it might see a renaissance, but the Fukushima Daiichi disaster and nuclear proliferation concerns have probably put that movement on ice for some time. Until recently natural gas was thought to be principally for peaking – e.g., to provide the electricity to run air-conditioning on hot summer days – not for the electricity grid's base load. But if fracking means that relatively low gas prices hold, one could see a substantial movement toward using gas for base load and a stable and relatively low price for electricity as renewables mature and as electricity storage (batteries and other technologies) is perfected, leading to a steady increase in the use of solar and perhaps wind as well over the long run. Electric vehicles could come into increasing use if electricity proves to be affordable and steadily priced. That would let you drive at an operating cost of about two cents a mile – nearly an order of magnitude less than with costly gasoline today. Not bad. And with plug-in hybrids you would still have liquid fuel in the tank for trips longer than your battery's range. As long as natural gas prices stay in the low single-digits and help keep electricity affordable this is an interesting option.

Third, an MIT report of just over a year ago concludes that the best way to use natural gas in transportation is to convert it to methanol. Methanol, wood alcohol (CH_3OH) has been made from wood for hundreds of years and has many uses (for example, it is a major share of windshield wiper fluid). In recent years it has been made from natural gas in many countries and from coal in a few (e.g., China). Although it has only about half the energy per unit of volume as gasoline it compares favorably in most other ways and is today at least 25 percent cheaper than gasoline on a cost-per-mile basis. Yet another possibility is opened up by our being able to obtain low-cost natural gas from fracking. Before too long we may see gasoline itself made from natural gas, potentially a very promising development since it could be considerably cleaner than petroleum-based gasoline and not need the carcinogens such as benzene now used for octane enhancement.

Even Ethanol May Have a Role

A fourth way to drive today at least as cheaply, and at current fuel prices probably more cheaply, than on gasoline is ethanol, or grain alcohol ($\text{C}_2\text{H}_5\text{OH}$). Ethanol has a highly controversial recent history due to the contended food-fuel conflict challenging the use of (especially corn) the tariff used to protect it and the subsidy which it used to receive – albeit indirectly because this "blenders' credit" in reality went to the oil refining companies.

But some of the fire taken by ethanol from national oil companies and junk food producers is not deserved. In the first place only about one percent of American corn is grown for corn on the cob or corn chowder. The bulk is grown for a mixture of animal feed and ethanol. If an acre of corn is removed from being grown entirely for animal feed and is instead partly used to produce ethanol, the animals still get the protein and oils, about a third of the corn; it passes through the ethanol plant and is converted to Distillers Dried Grain (DDG), a perfectly fine animal feed. What is not converted to animal feed is just the corn starch, which may be used to produce ethanol. But if the acre is used completely for animal feed, the corn starch is jammed down the cattle's throats, accompanied by massive amounts of antibiotics (because corn starch makes the cattle sick). This has the dual effect of degrading the effectiveness of antibiotics for you and me and adding fat to the animals' meat. This is all done in Consolidated Animal Feeding Operations ("CAFOs," or factory farms – cattle hell). If the corn starch is not used to fatten meat and create cholesterol it is used to produce fructose. This makes junk food more profitable (since fructose is much cheaper than other sugars). One wonders whether the junk food manufacturers have heard that only a third of American children are obese and see an opportunity, with fructose, for double digit growth.

In sum, if you choose not to drive on ethanol you are indeed helping ensure more food production, but it is almost all one particular kind of food you are enabling. That would be fat.

Most people would admit that in Brazil, with its double growing season and its sugar-cane-based ethanol produces a worthwhile competitor to gasoline. Indeed Brazilian drivers get to choose as they pull in to fill up which to buy. The fuels can be mixed in drivers' tanks, and the competition between gasoline and ethanol is a daily aspect of Brazilian life, with the drivers, not government bureaucrats, oil companies, or ethanol companies making the choice.

It would not be that hard to do the same in the US, but we would want to expand the choice to include methanol. Ninety percent of new cars sold in Brazil are now "flex-fuel," i.e., able to use gasoline, ethanol, or any mixture of the two. This includes all cars shipped to Brazil from Detroit. Robert Zubrin wrote in December in National Review Online that now the hardware to make a vehicle flex-fuel and able to use gasoline, ethanol, or methanol is already in place in Fords and Chevrolets produced in the last five years and that it is only necessary to reprogram the cars' computers to a small degree to make them flex-fuel and able to use gasoline or ethanol. Zubrin found one small part costing less than a dollar that should be replaced on some vehicles in order for them to be able to use methanol as well. But it is clear that there is nothing of importance that prohibits us from throwing the fuel market open to real competition, at the pump.

We need to learn from the Brazilians and also enable consumers to choose at the pump fuels derived from the cheap and plentiful natural gas now being produced thanks to George Mitchell's ingenuity and stubbornness. It's time to stop talking and to put in place an open fuel standard that ensures that our cars will no longer block competition. We badly need them instead to enable it.