

Why and How We Should Break OPEC Now

Robert Zubrin

Usually when a country is likened to Saudi Arabia, it is not a compliment—unless of course it concerns vast energy resources. Since the 1970s, American politicians and energy analysts have described the United States as "the Saudi Arabia of coal"—a phrase meant to suggest that, while America's oil reserves were inferior to those of the desert kingdom, we could take consolation in having the world's largest coal reserves.

Today, however, America is in the midst of an energy boom that seems to be changing the nation's energy outlook. Thanks in part to advances in hydraulic fracturing (commonly known as "fracking"), horizontal drilling, and other techniques, the U.S. energy industry is bringing to market vast supplies of oil and natural gas that were previously inaccessible. Consider the statistics for oil: In 2008, U.S. production slumped below 5 million barrels per day, the lowest it had been since the 1940s; by the end of 2013, it exceeded 8 million barrels per day, the highest in more than two decades. By 2016, production is projected to reach or exceed the historic high of 9.6 million barrels per day set in 1970. The rise in natural gas production has been even steeper. In 2007, the United States produced 1.3 trillion cubic feet of shale natural gas; in 2011, it produced 8 trillion cubic feet. That figure is projected to reach 31.9 trillion cubic feet by 2025 and to keep climbing in subsequent decades.

As President Obama put it in 2012, the United States is now "the Saudi Arabia of natural gas." Indeed, with the United States even projected to become the world's top oil producer by 2016 or earlier, perhaps such comparisons to Saudi Arabia are becoming outdated.

However, the effects of the boom on the U.S. energy economy will, for several reasons, be neither as great nor as lasting as might be expected from all the attention it is receiving in the press. First, the United States is by far the world's largest oil consumer. In 2012, the United States consumed over 18 million barrels of oil per day, compared to roughly 10 million by

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the world's second-leading consumer, China. (Under the more prosperous circumstances that existed before the 2008 economic crash, the United States consumed 21 million barrels per day.) The United States is expected to remain the biggest consumer until around 2030, when it will be eclipsed by China.

Second, the United States is also expected to remain the world's largest oil importer. At least since Richard Nixon's day, American presidents have called for American "energy independence"—making the country less dependent on foreign sources of energy. But the boom does not make that dream any more plausible, especially when it comes to oil. To be sure, the rise in domestic shale oil production means that the United States is expected to import significantly less oil in 2016 than it does today (see Figure 1). But imports are expected to creep back up in the following decades because shale oil production is projected to plateau in 2016 and decline after 2020. The U.S. Energy Information Administration estimates that net imports of oil and biofuels will climb back up to 32 percent of the nation's supply of liquid fuels by 2040. As long as the United States remains the world's top consumer and importer of oil, the increases in natural gas production, shale oil drilling, and fuel efficiency will only partially mitigate our reliance on foreign oil.

Third, and most importantly, the fact that U.S. oil production is increasing does not mean that prices will go down, even when the United States is the world's single biggest oil producer. That is because oil prices



Fig. 1. U.S. Liquid Fuels Supply

Source: U.S. Energy Information Administration.

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do not obey the free-market laws of supply and demand. Instead, they are manipulated, as they have been for decades, by the Organization of Petroleum Exporting Countries (OPEC). Founded in 1960, OPEC is a cartel in which the rulers of a dozen countries—Saudi Arabia, Iran, Iraq, and assorted other kleptocratic and tyrannical regimes—conspire to coordinate their rates of oil production. The cartel's share of world oil market is huge: about 40 percent of the world's total oil production is in OPEC countries, about 60 percent of the oil traded around the world is exported from OPEC countries, and by some estimates more than 80 percent of the world's commercially viable oil reserves belong to OPEC members. The power of OPEC to distort the oil market is unequaled, with grave consequences for the global economy.

This arrangement should not be permitted to continue. There are actions the United States can take to free the world's oil markets from OPEC's stranglehold. And the time to take them is now. The present moment—when the energy boom means that U.S. reliance on oil imports is waning, however temporarily—provides an unprecedented opportunity to break OPEC once and for all. We should kick them while we're up.

The Harm OPEC Does

Before discussing the policies that could break OPEC, let us first examine how the cartel harms the United States, the global economy, and world peace.

From the end of World War II through 1973, while under the control of the big multinational oil companies, the countries that subsequently became OPEC increased their oil production by more than a factor of ten, from about 3 to 30 million barrels daily—keeping up, step by step, with the needs of the rapidly growing postwar global economy. Because of this, oil prices, adjusted for inflation, remained stable and even declined somewhat from 1947 through 1972, enabling one of the most spectacular sustained periods of economic growth in human history. Since the oil crisis of 1973, total world demand has grown even further, from about 57 million barrels per day to almost 90 million barrels per day in 2012.

Yet despite this dramatic increase in world demand for oil since 1973, OPEC has never produced much more than it did in 1973. In fact, OPEC currently limits its production rate to 1973 levels: At its May 2013 conference in Vienna, the cartel decided to "adhere to the existing production ceiling" of 30 million barrels per day, which is the same amount OPEC countries produced in 1973. Although the world's non-OPEC oil producers

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increased their output by more than 60 percent since 1973, that increase has been insufficient to offset OPEC's dominant position. As a result of OPEC's constraint on supply, inflation-adjusted oil prices have more than quadrupled since 1973, and global economic growth has slowed accordingly. By limiting the amount of oil OPEC countries produce, the cartel's leaders can control the total amount available to the world market, and thereby can essentially fix the price of oil wherever they wish.

The effects of oil prices on the broader economy are not complicated: when the price of oil goes up, everything that depends on oil becomes more expensive. This is not just a matter of the "pain at the pump" that consumers feel when they fill up their cars. Over 90 percent of the energy used in the U.S. transportation sector is derived from oil, which means that when prices rise, all of the goods and services that depend on cars, trucks, planes, trains, and ships—which is to say, nearly everything—will become more expensive.

With higher energy prices eating into profits, businesses have to raise prices or find ways to cut costs—which often means firing employees. This can be clearly seen in Figure 2, which compares oil prices (adjusted for inflation to 2012 dollars) to the U.S. unemployment rate from 1970 through 2012. Every oil price hike for the past four decades, including those in 1973, 1979, 1991, 2001, and 2008, was followed shortly afterwards by a sharp rise in American unemployment.

The economic damage goes far beyond the impact on the unemployed themselves. For example, in 2008, rising oil prices—exceeding \$140 per barrel by mid-year—contributed to millions of Americans losing their jobs, which in turn made many of them default on their home payments, fueling the destruction of the value of mortgage-backed securities held by U.S. banks. This, in turn, threatened a general collapse of the financial system, with a bailout bill for \$800 billion sent to the taxpayers as a result. But that is not all. The destruction of the spending power of the unemployed and the draining of funds from everyone else to meet the direct and indirect costs of high oil prices reduced consumer demand for nearly every type of product, wrecking retail sales and the industries that depend upon them. It is no surprise that, as University of California, San Diego economic historian James D. Hamilton has documented, ten of the eleven postwar U.S. recessions were preceded by sharp increases in oil prices.

The economic effects of rising oil prices are painful enough in wealthy, industrialized countries, but people living in poorer countries are even more vulnerable. The escalating costs of production, transportation, wages, and packaging all drive up the retail cost of food, contributing to greater

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Sources: Dow Jones & Company and the U.S. Bureau of Labor Statistics, both via FRED Economic Data.

poverty and instability. And governments paying higher energy costs have less funding available for life-saving investments in economic development, vital imports, public health, and poverty reduction.

To make matters worse, several of the OPEC member countries have a track record of using their oil profits to support activities inimical to American interests. Saudi individuals and "charities" have long funded jihadist groups. As recently as December 2009, the U.S. State Department noted (in one of the cables published by Wikileaks) that "donors in Saudi Arabia constitute the most significant source of funding to Sunni terrorist groups worldwide" and that the country "remains a critical financial support base" for Al Qaeda, the Taliban, Hamas, and other terrorist groups. The rulers of Iran, the cartel's second-largest oil producer, are the great patrons of the Hezbollah terrorist organization, and are using their oil profits to fund the development of nuclear weapons.

So OPEC's manipulation of oil prices is the equivalent of a severe regressive tax on the U.S. economy, and it threatens international peace and stability. How can it be stopped?

One policy suggestion, endorsed by some environmental activists, would seek to reduce the *demand* for oil by imposing carbon taxes, fuel taxes, or a cap-and-trade plan. Such schemes might have the environmentalists' desired effect of reducing carbon emissions, and perhaps

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OPEC would find itself temporarily facing reduced demand for its oil. But by adjusting its production levels, the cartel could continue to profit. Meanwhile, such taxes would bring about higher unemployment and harm the broader U.S. economy by increasing energy prices above the already artificially high level set by OPEC. The resulting increased level of poverty here and abroad would only make real environmental and health problems much more difficult to deal with.

What if, instead, we took the opposite tack and tried to increase the *supply* of oil? If non-OPEC countries increased their oil production by drilling more, could they unseat OPEC from its dominant position in the oil market? What if we lift the few limits on bringing non-OPEC oil to market, like the longstanding U.S. ban on exporting crude oil (that is, oil that has not yet been processed into fuel)? It is certainly true that, if it were possible for non-OPEC countries to sell more oil, OPEC's power to determine prices would be diminished—but not significantly. For the foreseeable future, OPEC's share of the world oil production will remain large enough that it will be able to continue to manipulate markets with impunity.

We need a different strategy. If we wish to defeat OPEC, we need to flood the world's energy markets with fuel that can be seen as a real alternative to the oil whose price OPEC controls. This will create a degree of diversity and competition in the global fuel market that does not exist today, thereby pushing oil prices down. In other words, we need a very large source of non-oil liquid fuel.

The Methanol Solution

Fortunately, such a fuel is available. It is methanol, sometimes called "wood alcohol." Whereas cellulosic ethanol is sometimes trumpeted as the fuel of the future, methanol is not some futuristic dream touted by researchers seeking funding. Rather, it is an established chemical commodity, with a global annual production capacity of almost 33 billion gallons. It has recently been selling for around \$1.50 per gallon. Taking into account methanol's qualities as a fuel—it contains about half the energy of gasoline per gallon but has a higher octane rating—its price of \$1.50 is the equivalent of gasoline selling for around \$2.50. To put it another way, at current prices, a dollar of pure methanol used as fuel can get a car 30 percent farther down the road than a dollar of gasoline. Clearly, at current prices, methanol is very competitive with gasoline.

Furthermore, the resources available to support expanded methanol production are vast. In contrast to gasoline, which can only be made

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economically from oil, methanol can readily be made from any carboncontaining material—including oil, natural gas, coal, garbage, or any kind of biomass. That means that America's huge advantage in coal reserves, its vastly expanding natural gas production, and its enormous agricultural resources could be harnessed not just to supplement but to *fully replace* the nation's current foreign oil needs and support the growing demands of an expanding economy for decades. It also means that access to the resources necessary for the production of methanol cannot be restricted by the actions of the OPEC cartel.

Methanol also has environmental advantages over gasoline. It burns cleaner, causing much less particulate pollution. It is also safer, being much less likely to cause a fire in the event of a crash, and its fumes contain none of gasoline's mixture of carcinogens, which harm public health. While, unlike ethanol, methanol is toxic even in small doses and not drinkable, it is not as toxic as gasoline. In fact, the main active ingredient in most windshield wiper fluids is methanol, but because it is readily biodegradable, it has been handled by drivers and released onto roads worldwide in vast quantities for decades without any health or environmental impacts.

If we could convert our auto fleet to run on methanol, the hundreds of billions of dollars that we are now paying OPEC every year for oil could go instead to American businesses and workers to produce our fuel right here at home. The methanol industry would require millions of new jobs, with millions more resulting indirectly from the construction, retail, and service industries that would be supported by the methanol workers' paychecks. This would serve forcefully to address our critical national deficit, as well as state budgetary problems, as millions of people would go from the unemployment rolls to the tax rolls.

But can vehicles currently running on gasoline easily be switched over to methanol? Yes, and very quickly. The large majority of cars sold in the United States today (and for at least the past five years), including most General Motors and Ford vehicles, have been equipped with computers and chromated fuel lines that make them potentially capable of using methanol for fuel. If provided with the right software, and with methanol-impervious seals (costing less than fifty cents per vehicle) for their fuel system, every new car sold in the United States could be a fully "flexible fuel vehicle"—able to run equally well on methanol, ethanol, or gasoline.

To dramatize the advantages of methanol and the ease with which cars can be converted to use it for fuel, I extended an open wager (published in National Review Online in August 2011), offering to bet up to ten people \$10,000 each that I could take my 2007 Chevy Cobalt, which is not a

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flex-fuel car, and make it run on 100 percent methanol to get at least 24 miles per gallon on the highway. Since methanol averages less than half the price of gasoline, this would demonstrate superior transportation economy from a fuel that is producible from plentiful American resources.

I did the test even though no one took the bet—and it's too bad no one did, because it would have been easy money for me. Getting the car to run on 100 percent methanol required only a few alterations. First, I had to replace the original fuel-pump seal with one made out of a different synthetic rubber that is compatible with methanol. The new seal cost 41 cents retail. Second, I adjusted the ignition timing in order to take proper advantage of methanol's very high octane rating. Those were the only hardware changes necessary to adapt the car to use methanol; the only other modification was to recalibrate the car's computer software to accommodate methanol.

In road testing after my modifications, the car achieved 24.6 highway miles per gallon of methanol. This compared well to the 36 miles per gallon it was able to achieve on the same stretch of highway using gasoline. Given the prices of methanol and gasoline at the time, I was able to drive 18.5 miles on every dollar spent on methanol compared to only 13.3 miles on every dollar spent on gasoline. In other words, I drove 40 percent farther per dollar on methanol than on gasoline. (To make the comparison fair, these figures are based on the price of gasoline not including taxes.)

Although there is considerable scientific evidence that methanol burns more cleanly than gasoline, the Cobalt's emissions were even better than I anticipated. When running on methanol, the car easily beat both the Colorado automobile emissions standards and the national averages calculated by the Environmental Protection Agency for every pollutant for which Colorado tests motor vehicles. Especially noteworthy were the car's carbon monoxide emissions, which were below the detection limit—that is, they were measured to be *zero*—when the vehicle ran on a 60/40 blend of methanol and gasoline. Toxic pollutants that Colorado does not test for would also be expected to be cut, since methanol burns cooler than gasoline, is highly oxygenated, contains no gasoline-like aromatics (which are carcinogens), and generates close to no particulates. In addition, because of the high mileage and methanol's low carbon content, carbon dioxide emissions per mile were also cut by 35 percent.

Conflicting Interests

As demonstrated by the lack of takers of my public wager, the fact that my Cobalt could easily be modified to use methanol should come as no

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surprise. While not marketed as a flex-fuel car, the Cobalt was built with the same computer and the same engine as the Chevy HHR, which *is* a flex-fuel car. In fact, most, if not all, General Motors cars sold in the United States in the last several years have computers capable of flex-fuel operation, provided they are programmed correctly. The same is true with Ford, and presumably with other carmakers as well. (The same is also true of the European and Japanese manufacturers who sell cars in Brazil, since flex-fuel capability is mandatory by law there.)

So if most, or even all, gasoline-powered cars sold in the United States are actually capable of flex-fuel performance with just some simple modifications, why are so few—perhaps just five percent of all new cars—being marketed as flex-fuel capable? Why should a carmaker choose not to activate a potentially useful feature that it already has built into its cars? Furthermore, given the fact that the auto industry has a fundamental interest in low fuel prices—consumers have only so much they can spend on transportation, and it either goes toward cars or gas (a tradeoff that helped send two of the Big Three U.S. automakers into bankruptcy in 2008)—why would it cripple a capability that otherwise could serve to erode prices at the pump?

One answer, and perhaps the most salient one, is that the automobile companies are not capable of pursuing their own independent interests. Rather, significant parts of these car companies are owned by entities that are much more heavily invested in oil. In some cases, it is safe to surmise that these investors are one of the obstacles preventing automakers from encouraging free energy competition.

For example, the automobile company with the highest revenues in the world is Volkswagen. Today, 17 percent of Volkswagen is owned by the Qatar Investment Authority, the sovereign wealth fund of OPEC member Qatar, which gets its money from Qatar's state-owned oil industry. It is the third-largest shareholder in VW (after having sold 10 percent to Porsche in 2013). The vice chairman of the Qatar Investment Authority even has a seat on Volkswagen's supervisory board.

We see similar situations with other European automakers. For example, the Kuwait sovereign wealth fund owns 6.9 percent of Daimler (which produces Mercedes-Benz cars). Aston Martin—famous for its James Bond cars—was purchased in 2007 by a group with majority funding from two Kuwaiti investment firms (although much of their share of the carmaker has since been sold off). In recent years, the government of Abu Dhabi (part of the United Arab Emirates, an OPEC member) has owned stakes in Daimler and Ferrari.

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What about the two biggest American auto manufacturers, General Motors and Ford? The dominant shareholders in these companies—not counting the U.S. and Canadian governments, whose bailout of GM temporarily made the U.S. Treasury the company's largest stockholder—are major Wall Street funds whose holdings in the energy sector, including major oil companies, typically far exceed their shares in the auto industry. Again, one suspects that their interest in protecting these oil investments might conflict with flex-fuel capabilities.

For instance, the largest institutional stockholder in GM, Capital Research Global Investors, owns \$2.9 billion of GM stock, but has \$19.1 billion invested in energy, including \$3.0 billion in Schlumberger, the world's largest provider of oilfields services. (All these figures are current as of September 2013.) GM's second-largest stockholder is Harris Associates, which has \$2.3 billion invested in GM and \$3.7 billion invested in energy, including \$1.6 billion in National Oilwell Varco, an equipment maker for oil and gas drilling, and \$0.8 billion in Devon Energy, one of the biggest U.S. oil and natural gas producers. Third is JP Morgan Chase, with \$1.7 billion in GM and \$29.2 billion in energy, \$4.9 billion of which is in Exxon Mobil, \$3.0 billion in Chevron, \$2.0 billion in Schlumberger, and \$1.7 billion in ConocoPhillips. The fourth-largest GM stockholder, the Vanguard Group, owns only \$1.6 billion in GM, but \$93.5 billion in energy, including \$22.2 billion in Exxon Mobil and \$12.1 billion in Chevron. And the fifth largest, Berkshire Hathaway, owns \$1.6 billion of GM stock, and \$7.5 billion in energy, of which \$4 billion is in Exxon Mobil. Another major investor in GM is Saudi Prince Al-Waleed bin Talal, who snapped up \$500 million in shares when the revived company returned to the stock market in 2010.

Ford does have one major investor—its largest shareholder, Evercore Trust—whose Ford holdings (\$3.7 billion) exceed its energy investments, which are minimal and not at all in oil. But otherwise Ford's situation is similar to that of GM. After Evercore, the next four top owners of Ford include again the Vanguard Group (\$3.0 billion in Ford, \$93 billion in energy), State Street Corporation (\$2.5 billion in Ford, \$77.9 billion in energy, of which \$18.2 billion is in Exxon Mobil and \$12.5 billion in Chevron); Wellington Management (\$1.7 billion in Ford, \$36.2 billion in energy, of which \$5.4 billion is in Exxon Mobil, \$4.7 billion in Chevron, and \$2.3 billion in BP); and Barclays Global Investors (\$1.6 billion in Ford, \$47.5 billion in energy, of which \$6.1 billion is in Chevron, \$3.1 billion in Schlumberger, and \$2.3 billion in ConocoPhillips).

Now, it is true that some of these investors also have shares in alternative energy companies, and even in methanol companies. But these

 $^{28 \}sim \mathrm{The} \ \mathrm{New} \ \mathrm{Atlantis}$

tiny holdings are dwarfed by their oil holdings. For example, Wellington Management invests in Methanex, the world's leading methanol supplier. But Wellington's \$0.4 billion investment in Methanex is just one-fortieth the size of its investment in oil companies. JP Morgan Chase has \$0.1 billion invested in Methanex, less than one-hundredth the size of investment in oil. Naturally, for these investors, protecting their financial interests means prioritizing oil over methanol.

In short, the owners of the biggest U.S. car companies have interests overwhelmingly aligned not with the automakers or their customers but with the oil cartel. At minimum, this represents a very serious conflict of interest. Barring a change in circumstances, it is unlikely the car companies will take actions that would imperil OPEC's control of the market.

Creating a Methanol Market

Given the ease with which cars can be modified to use methanol, and the money that drivers would save if they used methanol instead of gasoline, why haven't entrepreneurs begun to launch businesses that would undertake such modifications? Why aren't there methanol pumps at gas stations dotting the land? In part, this is the result of a chicken-and-egg problem: in the absence of filling stations that offer methanol there will be little demand to have cars modified to use it, and without methanol-ready cars on the roads it makes no sense for filling stations to try to sell methanol. Although this problem is real, it is solvable; we shall return to it momentarily.

Unfortunately, however, there is yet another obstacle stymieing the methanol solution: the Environmental Protection Agency. The EPA interprets the Clean Air Act as making it "unlawful for any manufacturer of any fuel or fuel additive to first introduce into commerce, or to increase the concentration in use of, any fuel or fuel additive" with an oxygen content above 2.7 percent by weight. Since methanol is 50 percent oxygen by weight, the EPA's interpretation means that pure methanol cannot be sold in significant quantities as a fuel for motor vehicles. Even if methanol were to be mixed with gasoline as an additive, the mixture would be limited to just 5.4 percent methanol (or less if there is already ethanol mixed in as well). Selling fuel with higher concentrations of methanol would require a special waiver from the EPA, just as did the widely used gasoline-ethanol mixtures now on the market (E10 and E15).

It should be noted that, from an environmental perspective, prohibiting the use of methanol as a fuel is absurd. The results of the experiment with my car, which showed a sharp reduction in air pollution using

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methanol in place of gasoline, are not novel. In fact, the original sponsors of the development of first methanol and then flex-fuel vehicles in the 1980s were California's state environmental agencies, which understood the value of methanol as a means of reducing smog.

The EPA also interprets the Clean Air Act as restricting the modification of vehicles to optimize their performance for any fuels besides those for which the vehicles were originally designed. Any business or individual wishing to sell modification kits or offer modification services, or even someone wishing to modify his own car, must obtain advance certification from the government.

The agency has not always interpreted the Clean Air Act so restrictively. In 1974, it sought a more moderate path, implementing a policy intended to prevent an "unwarranted burden on commerce": it explicitly allowed car dealers to modify vehicles, even using aftermarket parts, so long as the dealers had "a reasonable basis" for knowing that the modifications wouldn't worsen emissions. This policy stayed in place for more than two decades. Then, in 1997, the agency announced that modifications to a vehicle would be deemed acceptable only if the modified vehicle were tested for emissions using all fuels it would operate on and found not to exceed its baseline gasoline emission levels. This was a sensible update to the policy in light of realistic pollution concerns.

But the EPA allowed this policy to expire in 2002. Ever since then, the only way for a vehicle modification to be deemed lawful is if it receives certification ahead of time from the EPA or from California's air-quality board (with which the EPA often collaborates). In 2009, the EPA specified the massive fines that it may level against any individual or business that modifies a vehicle without advance certification, even if there is clear and compelling proof that no emissions increase had resulted, or even been risked, by such changes. In fact, even the use of unapproved engine parts *identical* to the certified brands would be considered an emissions violation and would subject the offender to a fine, even though it would obviously entail no increase in emissions. These fines are set at thousands of dollars for individuals and hundreds of thousands, or even millions, for manufacturers. For example, if a mechanic running his own small business converting cars to flex-fuel in his garage modified just a dozen cars, he would face a crippling fine of over \$105,000.

These regulations are not just stifling the methanol market; they are also holding back markets in other resources. Consider natural gas. Thanks to the current energy boom, the nation's reserves of natural gas are ballooning more rapidly than demand can keep up with, resulting in a

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steep drop in price. While transportation might seem to be a likely sector for natural gas to grow into, especially in light of some recent successes in using it to fuel bus and truck fleets, the widespread use of natural gas as a transportation fuel would require conversions that are prohibitively expensive. But natural gas *could* break into the transportation sector if methanol were competing with gasoline, since natural gas, as you will recall, can be used to *make* methanol.

So how can the United States eliminate the current regulatory hurdles, solve the chicken-and-egg problem of cars and pumps, cut through the apparent oil bias of the major car manufacturers, and finally break OPEC? The solution lies in a relatively simple policy proposal: auto manufacturers should be required by law to have a true flex-fuel capability—the capability to use any combination of gasoline, methanol, or ethanol—activated in the new cars they sell. It would not be very expensive or onerous for the car companies to comply with such a mandate; reputable estimates put the cost at under \$70 per vehicle. My experiment suggests that the actual cost may be zero.

Bipartisan legislation mandating a flex-fuel capability has been formally proposed in Congress. First introduced in 2008 and updated in subsequent years, the current version of the Open Fuel Standard Act would require that at least 30 percent of each carmaker's fleet of new vehicles be flex-fuel by model year 2016, and at least 50 percent by 2017 and thereafter.

If such a mandate were enacted, a market for methanol would be created that would very quickly call into being expanded production and distribution facilities, both in the United States and elsewhere, as the American flex-fuel standard would lead foreign auto manufacturers also to offer more flex-fuel cars. This would force gasoline into competition with methanol at the pump worldwide, putting in place a global competitive constraint on the price of oil. Furthermore, this would allow many other nations with resources suitable for producing methanol (and in some cases ethanol) to enter the world market, increasing the downpour of additional supply drowning OPEC. Owners of older cars incapable of using methanol would benefit as well, since their gasoline would be cheaper.

While the bill before Congress does not explicitly address the EPA's regulatory stance, it creates the circumstances that would likely lead companies to apply for the necessary exemptions to sell pure methanol and methanol mixtures as fuel, and for parts makers to apply for certification for modification kits—allowing even the owners of older cars to enjoy the benefits of fuel choice.

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The Demise of OPEC

True competition from methanol would reduce the dominance of oil in the transportation sector and cause its price to drop. How would the cartel respond?

OPEC could cut production in an attempt to defend the existing oil price. This would be a suicidal decision, as the cartel would be progressively surrendering market share, losing revenue while keeping in place a very strong driver toward rapidly increasing methanol production. Were its members to maintain this strategy, they would be wiped out.

Or OPEC could keep production at its current level. In this case, methanol production would grow, and prices for both methanol and oil would drop significantly and then stabilize. It is reasonable to estimate that, in this scenario, oil and gasoline would be selling at about half of their current prices.

Or OPEC could expand oil production, driving prices down preemptively. Given that the end result of competition with methanol would be to drive down the price of oil anyway, OPEC's members could accept that fact and move preemptively to preserve their share of the market by expanding production. This would be their best long-term move, but not their best short-term move. It would also represent a complete break with OPEC policy for the past forty years, so it might take some time before they finally see that this is what they must do. There will then be further delays before deals can be struck and a move to increase production can begin.

Or OPEC could fall apart. Long known for fractious behind-the-scenes disagreements, the cartel might be unable to settle on a strategy to cope with the novelty of real competition. Even short of formally disintegrating, OPEC's members might adopt different strategies, bringing to an end the unity that gave the cartel its power to manipulate prices.

Either way, the rise of competition would mean the end of OPEC's outsized geopolitical influence. It would slash transportation costs, igniting a global economic boom. It would leave the world less vulnerable to disruptions in the price of oil. And it would greatly reduce the money propping up undemocratic regimes that support and promote terrorism. It would be, in short, a victory for peace, prosperity, and freedom.

 $^{32 \}sim \mathrm{The} \ \mathrm{New} \ \mathrm{Atlantis}$