

# Stripping Oil of Its Strategic Status

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Until the end of the 19th century, salt was one of the world's most strategic commodities. As the only means of food preservation, it was fundamental to national economies. Salt deposits conferred national power and wars were even fought over their control. Countries that controlled salt aimed to keep production tight and prices high so as to extract maximal revenue for their treasuries. As Mark Kurlansky notes in *Salt: A World History*, some 2,300 years ago a Chinese government minister purportedly advising his ruler emphasized the power that the importance of the commodity yielded to his state by saying that "in some non-salt-producing areas people are ill from the lack of [salt] and in their desperation would be willing to pay still higher prices," and concluding that "salt has the singularly important power to maintain the basic economy of our state." Eventually, competing means of preserving food—canning, electricity and refrigeration—decisively ended salt's monopoly over food preservation and with it its strategic importance.

Petroleum today occupies the strategic ground that salt did many years ago: just replace salt in the above anecdote with oil and China with Saudi Arabia. The U.S. consumes a quarter of the world's oil yet has only three percent of the world's conventional oil reserves. As a result, it must import over 60 percent of its oil; and this figure is growing. Because the vast majority of the world's oil is controlled by regimes that are undemocratic and/or hostile

to the U.S., this dependency undermines U.S. national security.

There are also concerns about the negative impact on American interests of China's and India's growing demand for energy. The two countries' foreign policies are increasingly driven by the need to secure their energy supply, often at the expense of vital U.S. interests. Oil dependence also impacts the U.S. economy. Oil crises over the last half century—including the one in 2007-2008—have generally been followed by economic downturns. As oil prices approach \$100 a barrel, the International Energy Agency (IEA) has warned that, again, "oil prices are entering a dangerous zone for the global economy." Oil imports constitute a full half of the U.S. trade deficit. Last year over \$350 billion—money that domestically could have created jobs and investment opportunities—were transferred overseas to finance America's petroleum requirements.

**It's not about imports, it's about salt. It's not about electricity, it's about transportation.**

Oil's status as a strategic commodity does not stem from the magnitude of petroleum imports. The U.S. uses more salt now than ever before, yet nobody is particularly concerned about the magnitude of U.S. salt imports. In 2008, the United Kingdom produced most of the oil it needed, yet the global oil price spike affected all consumers, including those in the

UK, where it resulted in protests by frustrated truckers.

Just as salt's strategic importance derived from its monopoly over food preservation, oil's derives from its virtual monopoly over transportation fuel. Transportation, not electricity, is the source of oil's importance: since the 1970s, the U.S. has weaned its power sector off of oil. Today only one percent of U.S. electricity is generated from oil and only one percent of U.S. oil demand is due to electricity generation.

### **A strategic commodity dominated by a cartel**

In addition to oil being a strategic commodity, oil reserves are dominated by a cartel—the Organization of Petroleum Exporting Countries (OPEC)—which by its very nature is engaged in a deliberate effort to manipulate production to drive up world prices in order to maximize the revenue of its member regimes. Incredibly, despite the fact that OPEC controls 78 percent of world oil reserves and even though the global economy and non-OPEC production have roughly doubled since the 1980s, the cartel today produces about the same amount of oil today as it did then, about 26 million barrels a day (mbd) accounting for about a third of world petroleum supply. OPEC's flush-with-petrodollars members seem unconcerned by the pain inflicted on the global economy by oil's periodic meteoric price rises. OPEC has repeatedly claimed it holds significant spare production capacity. This claim is impossible to verify, thanks to OPEC's notorious lack of transparency. If true, it means OPEC could, when prices spike, inject a significant amount of oil into the market almost immediately, dropping prices significantly. But this is not what the cartel is after.

### **Reducing the strategic importance of oil: tactical approaches aren't sufficient**

Historically, since the Carter Doctrine the U.S. has focused from a foreign policy perspective on ensuring uninterrupted access to oil including by military force if necessary,

and from a domestic policy perspective, on policies that increase either the availability of petroleum or the efficiency of its use. These approaches are tactical rather than strategic. Reducing oil demand through fuel economy absent competitive markets—in transportation fuels, transportation modes, or both—while it serves to reduce the trade deficit as well as emissions, is insufficient to change the strategic status of oil or the influence of OPEC. When oil-consuming countries reduce net demand (or increase non-OPEC production), OPEC can respond by throttling down supply to drive prices back up. The 2008 oil price spike provided a good example of how OPEC responds to reduced demand. Oil soared to \$147 a barrel, and gasoline and diesel prices at the pump increased accordingly. Consumers, responding rationally to higher prices, drove less and the U.S. alone reduced its oil demand by as much as one mbd. In response to weakening demand, OPEC cut production by three mbd in an effort to send prices back up.

### **Needed: two types of competitive markets**

To fully de-fang this cartel, consumers must have viable choices that enable them to respond quickly to changes in oil prices, rendering the cartel's machinations ineffective. Drivers can't rapidly change the fuel economy of their vehicles but, with vehicles that enable fuel competition, they could quickly change what fuel their vehicles use; and with a competitive market among transportation modes, they could quickly change how frequently they use those vehicles.

A competitive market among transportation fuels would place a *de facto* ceiling on the price of oil once market penetration of vehicles that enable fuel competition is sufficiently high: If oil surpasses the threshold price at which competing fuels are economic (on a cost-per-mile comparison,) then consumers whose vehicles enable choice will prefer to purchase these competitors. Consumers faced with high petroleum fuel prices could immediately choose to fuel with substitutes.

A competitive market among transportation modes, achieved by approaches such as fully embodying pricing and removing obstacles to market entry, would increase economic resilience by reducing the ability of an oil price spike to wreak economic havoc. This is readily apparent in the case of tele-working or tele-shopping: the larger the portion of economic activity that can be accomplished on an internet highway rather than a physical one, the less impact an oil price spike would have on our economy.

Economic resilience is also increased by competition among physical transportation modes (car, bus, transit, bicycle, train, plane or even walking). Should the price of oil rise above a threshold at which the cost of driving a car becomes unaffordable, a competitive market would allow people to rapidly switch to modes of transport that offer lower costs of travel per mile per passenger and still engage in day-to-day activities.

### **Fuel competition**

For a cost of roughly \$100 extra as compared to a gasoline-only vehicle, automakers can make virtually any car a flex-fuel vehicle (FFV,) capable of running on any combination of gasoline and a variety of alcohols such as ethanol and methanol, made from a variety of feed stocks. While ethanol is made from agricultural products like sugar cane and corn, methanol can be made from natural gas, coal, any form of biomass, and in the future, perhaps recycled carbon dioxide. Should the economics of natural gas in the U.S. remain favorable due to progress in shale gas extraction, delivering that natural gas to the vehicle would be most economic from an infrastructure and vehicle perspective if it is converted to methanol and vehicles are flex-fueled.

Flex-fuel vehicles provide a platform on which liquid fuels can compete, thus placing a variety of commodities in competition at the pump and letting the market determine the winning fuels and feed stocks based on eco-

nomics: comparative per-mile cost. The proliferation of flex-fuel vehicles in Brazil has driven fuel competition at the pump to the point where in 2008, when oil prices were at record highs, more ethanol was used in Brazil than gasoline. Drivers in Brazil were able to defend themselves from high oil prices by choosing a different fuel: they compared the relative per-mile-costs of ethanol and gasoline, found that ethanol was less expensive, and adjusted their fuel purchase choice accordingly.

An Open Fuel Standard ensuring new cars are gasoline-ethanol-methanol flex-fuel vehicles would serve as a low-premium insurance policy against excessive oil price rises. It is a critical, yet low-cost, pathway to breaking oil's virtual monopoly over transportation fuel and thus reducing its strategic importance. In the absence of an Open Fuel Standard, most of the 10-15 million new vehicles that roll onto America's roads every year, each with a street life of over 16 years, will be shut to anything but petroleum fuels.

Electric cars and plug-in hybrid electric vehicles (PHEVs) place electricity—which in most oil importing countries is for the most part not generated from oil—in competition with liquid fuel. The strategic importance of vehicle electrification derives from the much lower cost per mile of fueling with electricity as compared to the cost of fueling with gasoline or diesel, even when oil prices are relatively low. To undercut electricity, OPEC would need to drop oil prices to under \$10 a barrel. The upfront cost of electrified vehicles is higher, but this cost should drop as the technology evolves and production scales increase. Tax credits for plug-in hybrid and electric vehicles keyed to battery size, already enacted into law, are the most effective policy tool for helping this technology move past the early adopter hump and into the mass market. Vehicle electrification, though it will take much longer to proliferate, should be viewed as complementary to liquid fuel choice. Combining the technologies into flex-fuel plug-in hybrid electric vehicles enables electricity and alcohols from a variety of energy sources

to compete against petroleum-based fuel every time the consumer makes a fuel purchase.

Such competition will not only drive down the price of oil, it will also alter the geopolitical balance of power in favor of oil importers and developing countries with resources to become alternative-fuels producers.

### **Mobility choice**

Opening the market to competition among transportation modes requires:

- Removing regulatory obstacles that thwart market entry by entrepreneurial public transportation providers
- Moving to more transparent and accurate pricing so transportation users can make economically-grounded comparisons among modes
- Increasing accountability as to how taxpayer dollars on transportation are spent and tying such spending to performance metrics and increasing local, rather than federal, control over allocation

### ***Removing regulatory obstacles***

- Taxpayer-supported subway, train, and bus stations should not be allowed to thwart private operators from picking up or dropping off passengers. Transit information and ticket-selling systems that are taxpayer supported should be open to all transit systems in a given area, whether operated by the public sector or by private businesses.
- State regulations that prevent insurance companies from offering consumers the option of pay-as-you-drive insurance should be lifted. In the absence of such an insurance option, low-mileage drivers are forced to subsidize risk for high-mileage drivers, distorting price signals for driving.
- Barriers to telecommuting in state and local tax codes should be eliminated, and tax incentives can be provided for tele-

commuting infrastructure setup and maintenance costs, similar to the tax-free benefits currently provided for other workplace transportation costs (parking and transit use).

### ***Accurate pricing***

- To better reflect the hidden costs of oil, primarily those associated with its national security impact, a revenue neutral oil security fee could be levied either per barrel or at the pump, matched with an equivalent reduction in income tax. This fee would send a more accurate signal to consumers about the real cost of their gallon of gasoline or diesel. Reflecting the hidden costs of oil at the pump will enable consumers (assuming modal choices exist and vehicles are platforms on which fuels can compete) to make more economically-informed transportation choices. Payment for highway, bridge and tunnel infrastructure should be to the extent possible shifted to user fees comprised of tolls, incorporating congestion pricing where appropriate.
  - Instead of blanket subsidies to transit agencies, transportation vouchers could be provided for low-income households. Subsidies should be laser focused on helping the people that actually need help. Vouchers would help transit agencies recover more revenue from the fare box by giving them the chance to charge the bulk of their users market-driven fares. Similar to school vouchers or food stamps, they could be redeemed with either existing transit agencies or entrepreneurs running private-sector buses, shuttles, vanpools and jitney buses, facilitating choice for low-income consumers and a more competitive market. This would also spur public transit agencies to focus resources as effectively as possible. Federal legislation could provide incentives for states and communities to enable more compe-
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tion by changing regulations that thwart private-sector entrants and establishing transit voucher programs.

***Accountability and local control***

Spending of taxpayer moneys on transit and other high-occupant transportation options—running the gamut from rail transit, to bus rapid transit, to shuttle buses, vanpools, and carpools—should be tied to the goal of achieving modal choice in a cost effective manner for the greatest number of people. Thus taxpayer monies allocated to buses or rail should not support routes that very few people use, but rather should be focused on capital improvements that would improve service on, and recapitalize to maintain a state of good repair to existing high-load routes and add new routes that are expected to be consistently high-load. That means more frequent service during peak usage hours and reduced travel times on routes

that are expected to run consistently quite full. Taxpayer monies spent on transit infrastructure should only be spent where population density is sufficient to offer at least a chance that a transit option could be economic.

As economic growth resumes and the global appetite for oil grows, we can expect prices to hit record highs again, to the detriment of the global economy. A fleet-wide deployment of vehicles that enables fuel choice could take place relatively quickly. It will take more time to open the market to competition among transportation modes, but this approach would greatly increase economic resilience.

But such transformations will not occur by themselves. Indeed, economic theory clearly shows that market forces alone are incapable of breaking cartels and monopolies. It is the role of government. Only through committed leadership and government can the U.S. diminish the power of anti-market forces and eliminate coercion by non-democratic energy exporters.

**The world economy grows, OPEC production doesn't**

	<b>1980</b>	<b>2010</b>
World population	4.5 billion	6.8 billion
Number of automobiles	400 million (U.S.: 148 million)	900 million (U.S.: 240 million)
World GDP	\$11 trillion	\$60 trillion
Global oil demand	60 mbd	84 mbd
OPEC production	26 mbd	26.8 mbd