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**Breaking oil's monopoly in the transportation sector**

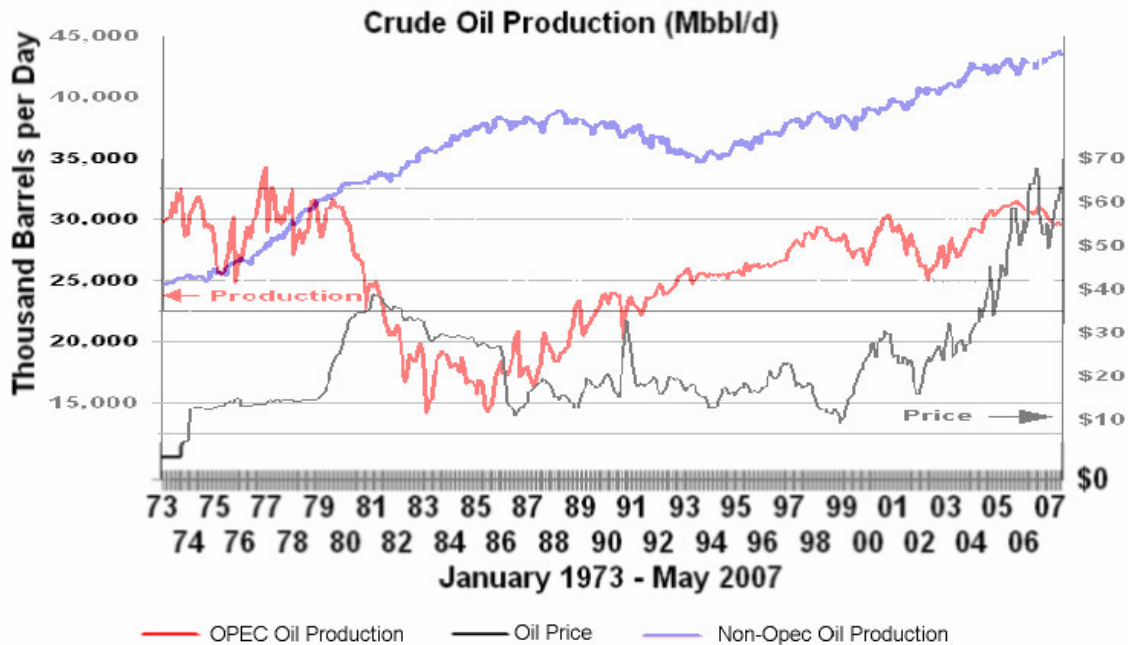
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Mr. Chairman, members of the committee, ten years ago, Osama bin Laden set a target price for oil at \$144 a barrel. At the time, crude oil prices stood at \$12 a barrel and his figure, aimed to compensate the Muslims for what he called "the biggest theft in the history of the world," sounded delusional. Four years ago, just prior to the U.S. elections, when oil prices stood at \$38, bin Laden explained his economic warfare strategy: "We bled Russia for ten years until it went bankrupt and forced to withdraw in defeat. We are continuing the same policy to make America bleed profusely to the point of bankruptcy."

Reputable energy analysis outfits held a completely opposite view on the future of oil. A 2005 report by Cambridge Energy Research Associates (CERA) held that by 2010 global oil supply would rise by as much as 16 million barrels per day (mbd). "We expect supply to outstrip demand growth in the next few years, which would take the pressure off prices around 2007-2008," wrote the report's authors. As we know, this never happened. World oil production has been flat since 2005 and \$144 might soon become a fond memory. Today, with oil prices above bin Laden's stated goal, his economic warfare strategy seems like a resounding success. At a time al-Qaeda is on the run, \$144 oil is a major morale booster and the best birthday present for its 20th anniversary next month. There is no need to elaborate on the implications of such a victory in terms of loss of U.S. prestige and our ability to prevail in the Long War of the 21-Century. Furthermore, at current price level, the U.S. will spend over \$600 billion on imported oil this year, more than our defense budget, and much of that money will flow into the coffers of those who wish us ill. It has long been clear that our oil dependence forces us to pay for both sides of the war on terrorism. In light of this year's figures, we are paying the other side more than we invest in our own defense.

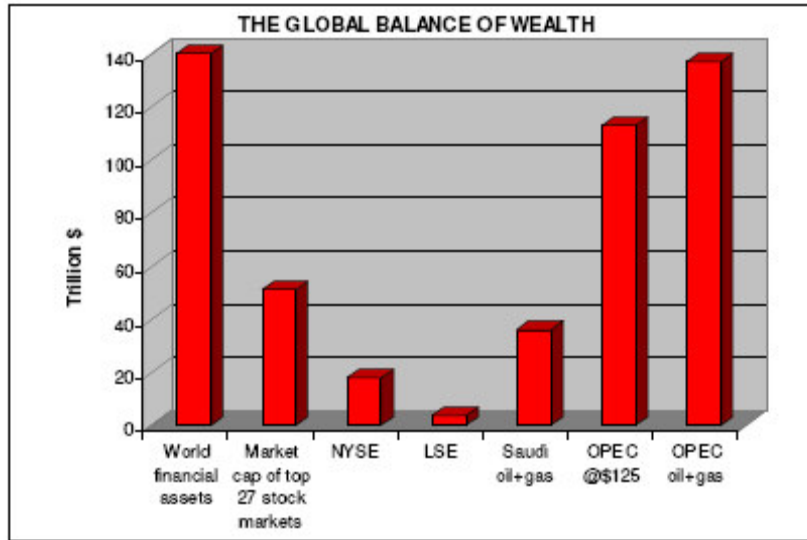
**A cartel married to a monopoly**

In order to chart the road to energy security, we must first understand why we are where we are. There are many reasons for the current oil crisis. Strong demand in developing Asia, speculation, geological decline and malevolent disruptions have all contributed their share. But by far, the main culprit is OPEC's reluctance to ramp up production. The cartel owns 78 percent of the world's proven reserves and produces about 40 percent of its oil production. In 1973, OPEC produced 30mbd, while non-OPEC produced 25mbd. Today, OPEC produces 32mbd while non-OPEC production is close to 45mbd. In other words, OPEC today produces almost as much oil as it did 35 years ago while the world global demand for oil has nearly doubled.



Source: WTRG Economics

Clearly it is not in OPEC's interest to provide relief to the struggling global economy. The cartel enjoys a vertical monopoly of the world vehicle fuel supply, and it is currently at the receiving end of the biggest transfer of wealth in human history. To understand the magnitude of the forces in play it is instructive to visualize the scale of OPEC's wealth in comparison to that of consuming countries: imagine that OPEC members are corporations and a barrel of oil is a share. At \$125 oil, OPEC's market capitalization based on its proven reserves stands today at roughly \$137 trillion. This is roughly equivalent to the value of the world's total financial assets--stocks, bonds, other equities, government and corporate debt and bank deposits--or roughly three times the market capitalization of all the companies traded in the world's top 27 stock markets. Such monumental wealth potential will translate into unprecedented buying power for the oil countries. For demonstration sake, at \$200 oil OPEC could potentially buy Bank of America in one month worth of production, Apple Computers in a week and General Motors in just 3 days. It would take less than two years of production for OPEC to own a 20 percent stake (which essentially ensures a voting block in most corporations) in every S&P 500 company.



Source: Institute for the Analysis of Global Security

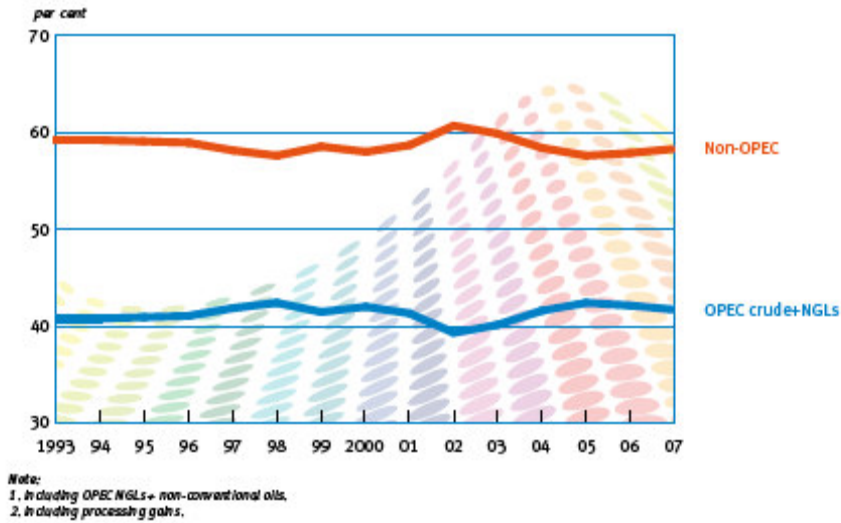
OPEC's reluctance to increase production is today the main factor contributing to global poverty. While we in the U.S., which enjoys a per capita income of over \$40,000 a year, are feeling the sharp pinch of high oil prices, we should all consider the impact of these prices on the world's poor. People throughout the world who live on \$2 a day are being now looted by OPEC price fixing. This has profound implications for global security, driving regional unrest, increasing poverty, and nipping in the bud progress towards democracy.

### **Beware of perpetuation of the petroleum standard**

The unique strategic importance of oil to the modern economy—beyond that of any other commodity today—stems from the fact that the global economy's very enabler, the transportation sector, is utterly dependent on it, with 220 million cars and trucks in the United States alone (today, contrary to popular belief, only 2 percent of U.S. electricity is generated from oil, and conversely only about 2 percent of U.S. oil demand is due to electricity generation.) With 97 percent of U.S. transportation energy based on petroleum, oil is the lifeblood of America's economy. America is poor in oil relative to its need. It consumes one of every four gallons in the world but has barely 3 percent of the world's proven reserves of conventional oil. The United States now imports over 60 percent of its oil, more than twice the ratio of imports before the 1973–74 Arab oil embargo.

Neither efforts to expand petroleum supply nor those to crimp petroleum demand through increased CAFE standards will be enough to reduce America's strategic vulnerability anytime soon. On the contrary, as the graph from OPEC's own statistics shows, when we drill more, they drill less. Such policies at best buy us a few more years of complacency, while ensuring a much worse dependence down the road when America's conventional oil reserves are even more depleted.

Figure 3: OPEC<sup>1</sup> and non-OPEC<sup>2</sup> market share, 1993–2007



Source: OPEC

Rather than focusing on solutions that perpetuate the petroleum standard, we should invest in transformational policies that aim to diminish the strategic importance of oil by breaking its monopoly in transportation.

**Real energy security can be achieved only through fuel choice and competition. That competition cannot take place as long as we continue to put 16 million new cars that run only on petroleum on our roads every year, each with an average street life of 16.8 years -- thereby locking ourselves into decades more of petroleum dependence.**

Barring a significant change, a senator elected in 2008 will witness the introduction of 102 million gasoline only cars during his or her 6-year term. I cannot think about something more detrimental to America’s security than Congress letting this happen.

**Number of gasoline only cars introduced during the term of an official elected in 2008**

<b>Congressman</b>	<b>32 million</b>
<b>President</b>	<b>68 million</b>
<b>Senator</b>	<b>102 million</b>

**When in a hole, stop digging**

The first thing we must do is to ensure that the cars rolling onto America’s roads are platforms on which fuels can compete. For a cost of less than \$100 extra as compared to a gasoline-only vehicle, automakers can make virtually any car a flex fuel vehicle, capable of running on any combination of gasoline and a variety of alcohols such as ethanol and methanol, made from a variety of feedstocks, from agricultural material, to waste, to coal. (Alcohol does not just mean ethanol, and ethanol does not just mean corn.) Flex fuel vehicles let consumers and the market choose the winning fuels and feedstocks based on

economics. In Brazil, where ethanol is widely used, the share of flex fuel vehicles in new car sales rose from 4 percent to 90 percent in under five years. These cars are manufactured by the same automakers that sell to the U.S. market and entail no size, power, or safety compromise by consumers. The proliferation of flex fuel vehicles in Brazil has driven fuel competition at the pump to the point where the Brazilian oil industry has had to keep gasoline prices sufficiently low to compete with ethanol in order not to lose more market share, so low that it actually just received a government subsidy to do so. Indeed, in Brazil, ethanol will become this year an alternative fuel.

Expanding U.S. fuel choice to include biofuels imported from developing countries has significant geopolitical benefits at a time when U.S. global standing is eroding. Sugar, from which ethanol can be cheaply and efficiently produced, is now grown in one hundred countries, many of which are poor and on the receiving end of U.S. development aid. Encouraging these countries to increase their output and become fuel suppliers, opening our fuel market to them by removing the protectionist 54 cent a gallon ethanol tariff, could have far-reaching implications for their economic development. By creating economic interdependence with biomass-producing countries in Africa, Asia, and the Western Hemisphere, the United States can strengthen its position in the developing world and provide significant help in reducing poverty.

At this point, the fallacy that increased use of biofuels in general, and corn ethanol in particular, is driving world hunger must be addressed. The primary drivers of price increases for food commodities spanning the spectrum from fish to rice (neither of which are used to make fuel) and beyond are the massive increases in oil prices -- raising the cost of distribution, labor, packaging and so forth; commodity speculation driven by a weak dollar and increased calorie demand from hundreds of millions of people in China and India who have risen out of poverty and bare subsistence. Further, despite corn ethanol production, the U.S. corn food and feed product has increased 34 percent over the last five years, and U.S. food exports overall have increased 23 percent on the year. America is clearly doing its share to feed the world.

Furthermore, the International Energy Agency has reiterated that biofuels are key to keeping the lid on an overheated transportation fuel market. According to Merrill Lynch, without the increase in biofuels production, oil prices would have been 15 percent higher, which at current oil prices translates into a savings of over \$80 billion a year to the U.S. economy. The much derided biofuels program which has facilitated this \$80 billion saving, costs the taxpayer \$4 billion a year. By any reasonable standard it is a far better deal to send money to America's farmers than to various petro-dictators.

### **Methanol**

True flex fuel cars should also accommodate another important fuel called methanol. China has embraced this alcohol fuel. Several provinces in China already blend their gasoline with methanol and scores of methanol plants are currently under construction there. The Chinese auto industry has already begun to produce flex-fuel models that can run on methanol. Methanol packs less energy per gallon and is more corrosive than ethanol. But it is cheaper and far easier to produce in bulk. While ethanol can be made only from

agricultural products such as corn and sugar cane, methanol can be made from agricultural waste, natural gas, coal, industrial garbage and even recycled carbon dioxide captured from power stations' smokestacks -- an elegant way to reduce greenhouse gas emissions.

### **Electricity**

Since we hardly generate any electricity from oil, using electricity as a transportation fuel enables the full spectrum of electricity sources to compete with petroleum. Plug in hybrid electric vehicles (PHEVs) can reach oil economy levels of 100 miles per gallon of gasoline without compromising the size, safety, or power of a vehicle. If a PHEV is also a flexible-fuel vehicle powered by 85 percent alcohol and 15 percent gasoline, oil economy could reach over *500 miles per gallon* of gasoline. Ideally, plug-in hybrids would be charged at night in home or apartment garages, when electric utilities have significant reserve capacity. The Department of Energy estimates that over 70 percent of the U.S. vehicle market could shift to plug-in hybrids without needing to install additional baseload electricity-generating capacity. In addition, the U.S. is the world's biggest potential market for electric cars which can be sold as second or third family car. Thirty one percent of America's households own two cars and additional 35% own three or more vehicles. There are over 75 million households in the US that own more than one vehicle and that can potentially replace one or more gasoline only cars with cars powered with made-in-America electricity.

A nationwide deployment of flex-fuel cars, flex fuel plug-in hybrids, and alternative fuels could take place within two decades. But such a transformation will not occur by itself. Every year that passes without Congressional action to ensure that new cars sold in America are flex fuel vehicles is another year in which 16 million gasoline-only cars start their 17-year life on U.S. roads, further binding us to foreign oil. On the grounds of national security and in the interest of stemming the hemorrhaging of our economy, Congress should take swift action to require that new vehicles sold in the United States are flexible fuel vehicles through an Open Fuel Standard. Such an Open Fuel Standard would level the playing field and promote free competition among diverse energy suppliers. A few years ago Congress passed an open standard for television mandating that as of February 2009 every television sold in the U.S. must be digital enabled. Further, Congress allocated coupons in the amount of \$80 per household to allow Americans to convert their analog TV to digital transmission. One would hope we consider our transportation sector at least as strategic as television watching.

I realize that many are opposed to any government interference in the market. Indeed, in a perfect world, government would not need to intervene in the energy market, but in a time of war, the United States is taking an unacceptable risk by leaving the problem to be solved by the invisible hand. This is especially true since the energy market is anything but free. It is manipulated by a cartel, heavily rigged in favor of the status quo, and, as the case of the ethanol tariff shows, riddled with protectionism.

Choosing not to embrace an Open Fuel Standard, is choosing to preserve oil's monopoly in the transportation sector, and with it OPEC's growing stranglehold over the global economy and in essence guaranteeing continuous economic and strategic decline.