

**TESTIMONY OF MILTON R. COPULOS**  
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**BEFORE**  
**THE SENATE FOREIGN RELATIONS COMMITTEE**  
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My name is Milton R. Copulos, and I am president of the National Defense Council Foundation.

I would like to thank Chairman Lugar for giving me the opportunity to speak with the Committee today and I would also like to commend him for his leadership addressing our nation's perilous energy dependence.

**A HEADLONG RUSH INTO DISASTER**

America is rushing headlong into disaster. What is worse, however, is that it is a disaster of our own design.

More than three decades have passed since the 1973 Arab Oil Embargo first alerted the nation to its growing oil import vulnerability. Yet, despite this warning, we are now importing more than twice as much oil in absolute terms than we did in 1973, and the proportion of our oil supplies accounted for by imports is nearly double what it was then. What makes this dependence even more dangerous than it was three decades ago is the fact that the global market has become a far more competitive place with the emerging economies of China, India and Eastern Europe creating burgeoning demand for increasingly scarce resources.

Indeed, over the past decade the Chinese economy has grown at a frenetic pace, officially estimated at 9.2 percent in 2009. India's growth rate for that year was 7.1 percent. In Eastern Europe, Belarus grew at 7.8 percent, the Czech Republic at 4.6 percent and the Ukraine at 4.4 percent. This compares with 3.5 percent for the United States, 2.1 percent for Japan and 1.7 percent for the European Union.

As a result of this explosive growth, oil consumption in the developing countries is expected to increase at a rate of 3 percent annually over the next two decades. But even this figure may severely understate the problem. Indeed, China alone has accounted for 40 percent of the total increase in world oil consumption over the past several years. Moreover China plans to add 120 million vehicles to its automobile fleet over the next decade, ultimately requiring 11.7 million barrels per day of new crude oil supplies. India, too, is expected to continue to require increasingly large amounts of oil with a projected increase of 28 percent over just the next five years.

Even conservative estimates suggest that nearly 30 million barrels per day of new oil supplies will be required by the year 2025 just to service the developing world's requirements. When Europe and the Americas are included the requirement is closer to 40 million barrels per day. It is doubtful that new supplies sufficient to meet this skyrocketing demand will be found from conventional sources.

### **UNCERTAIN SUPPLIERS**

Nor is it just the potential physical shortfall of resources that is a source of concern. An even greater concern lies in the instability of U.S. sources of oil imports.

The top six sources of U.S. oil imports, Canada, Mexico, Saudi Arabia, Venezuela, Nigeria and Iraq account for 65.1 percent of all foreign crude reaching our shores and 38.9 percent of total domestic consumption. Of these, four, Saudi Arabia, Venezuela, Nigeria and Iraq provide 38.2 percent of oil imports and 22.6 percent of total consumption. For a variety of reasons, none of the four I just mentioned can be considered a reliable source of supply.

Venezuela's President Hugo Chavez is a vocal opponent of the United States who has twice threatened to cut off oil shipments to the U.S.

Nigeria's production has been repeatedly disrupted by civil unrest, and some 135,000 barrels of oil per day are lost to theft.

Last month, a terrorist attack on the massive Saudi oil processing facility at Abqaiq was barely thwarted, but not before two of the terrorist's explosive-laden cars were detonated. Moreover, this was not the only instance of an attempt to disrupt the flow of Saudi oil. In the summer of 2002, Saudi Interior Ministry forces blocked an al-Qaeda plot to attack and cripple the loading dock at Ras Tanura which handles 10 percent of the world's oil supplies.

Attacks on oil facilities in Iraq are a frequent occurrence.

Nor are the attacks on U.S. oil supplies a coincidence. In December of 2004, al-Qaeda issued a fatwa that said in part:

*"We call on the mujahideen in the Arabian Peninsula to unify their ranks and target the oil supplies that do not serve the Islamic nation but the enemies of this nation."*

The fatwa went onto declare:

*"Be active and prevent them from getting hold of our oil and concentrate on it particularly in Iraq and the Gulf."*

Clearly, given the instability that characterizes four of our top six sources of oil, the question is not whether we will experience a supply disruption, but rather when. The disruption could occur as a consequence of a terrorist act, or could result from a politically motivated embargo. In the end, it doesn't really matter why a disruption occurs, because the consequences would be identical, and severe.

### **THE CONSEQUENCES OF DISRUPTION**

The supply disruptions of the 1970s cost the U.S. economy between \$2.3 Trillion and \$2.5 Trillion. Today, such an event could carry a price tag as high as \$8 Trillion – a figure equal to 62.5 percent of our annual GDP or nearly \$27,000 for every man, woman and child living in America.

But there is more cause for concern over such an event than just the economic toll. A supply disruption of significant magnitude, such as would occur should Saudi supplies be interdicted, would also dramatically undermine the nation's ability to defend itself.

Oil has long been a vital military commodity, but today has taken on even more critical importance. Several examples illustrate this point:

- A contemporary U.S. Army Heavy Division uses more than twice as much oil on a daily basis as an entire World War II field army.
- The roughly 582,000 troops dispatched to the Persian Gulf used more than twice as much oil on a daily basis as the entire 2-million man Allied Expeditionary Force that liberated Europe in World War II.
- In Operation Iraqi Freedom, the oil requirement for our armed forces was 20 percent higher than in the first Gulf War, Operation Desert Storm, and now amount to one barrel of refined petroleum products per day for each deployed service member.

Moreover, the military's oil requirements will be even higher in the future.

Therefore, a shortage of global oil supplies not only holds the potential to devastate our economy, but could hamstring our armed forces as well.

### **THE HIDDEN COST OF IMPORTED OIL**

While it is broadly acknowledged that our undue dependence on imported oil would pose a threat to the nation's economic and military security in the event of a supply disruption, less well understood is the enormous economic toll that dependence takes on a daily basis.

The principal reason why we are not fully aware of the true economic cost of our import dependence is that it largely takes the form of what economists call "externalities," that

is, costs or benefits caused by production or consumption of a specific item, but not reflected in its pricing. It is important to understand that even though external costs or benefits may not be reflected in the price of an item, they nonetheless are real.

In October of 2003, my organization, The National Defense Council Foundation, issued “America’s Achilles Heel: The Hidden Costs of Imported Oil,” a comprehensive analysis of the external costs of imported oil. The study entailed the review of literally hundreds of thousands of pages of documents, including the entire order of battle of America’s armed forces and more than a year of effort. Its conclusions into divided the externalities into three basic categories: Direct and Indirect economic costs, Oil Supply Disruption Impacts and Military Expenditures.

Taken together, these costs totaled \$304.9 billion annually, the equivalent of adding \$3.68 to the price of a gallon of gasoline imported from the Persian Gulf.

As high as these costs were, however, they were based on a crude oil refiner acquisition cost of \$26.92. Today, crude oil prices are hovering around \$60 per barrel and could easily increase significantly. Indeed, whereas in 2003 we spent around \$99 billion to purchase foreign crude oil and refined petroleum products, in 2005 we spent more than \$251 billion, and this year we will spend at least \$320 billion.

But skyrocketing crude oil prices were not the only factor affecting oil-related externalities. Defense expenditures also changed.

In 2003, our armed forces allocated \$49.1 billion annually to maintaining the capability to assure the flow of oil from the Persian Gulf.

I should note that expenditures for this purpose are not new. Indeed, last year marked the 60<sup>th</sup> anniversary of the historic meeting between Saudi monarch King Abdul Aziz and U.S. President Franklin Roosevelt where he first committed our nation to assuring the flow of Persian Gulf oil – a promise that has been reaffirmed by every succeeding President, without regard to party.

In 1983 the implicit promise to protect Persian Gulf oil supplies became an explicit element of U.S. military doctrine with the creation of the United States Central Command, CENTCOM. CENTCOM’s official history makes this clear stating in part:

*“Today’s command evolved as a practical solution to the problem of projecting U.S. military power to the Gulf region from halfway around the world.”*

I am stressing the long-standing nature of our commitment to the Gulf to underscore the fact that our estimates of military expenditures there are not intended as a criticism. Quite the opposite, in fact. Without oil our economy could not function, and therefore protecting our sources of oil is a legitimate defense mission, and the current military operation in Iraq is part of that mission.

To date, supplemental appropriations for the Iraq War come to more than \$251 billion, or an average of \$83.7 billion per year. As a result, when other costs are included, the total military expenditures related to oil now total \$132.7 billion annually.

So, where does that leave us?

In 2003, as noted, we estimated that the “hidden cost” of imported oil totaled \$304.9 billion. When we revisited the external costs, taking into account the higher prices for crude oil and increased defense expenditures we found that the “hidden cost” had skyrocketed to \$779.5 billion in 2005. That would be equivalent to adding \$4.10 to the price of a gallon of gasoline if amortized over the total volume of imports. For Persian Gulf imports, because of the enormous military costs associated with the region, the “hidden cost” was equal to adding \$7.41 cents to the price of a gallon of gasoline. When the nominal cost is combined with this figure it yields a “true” cost of \$9.53 per gallon, but that is just the start.

Because the price of crude oil is expected to remain the \$60 range this year, expenditures for imports are expected to be at least \$320 billion this year. That amounts to an increase of \$70 billion in spending for foreign oil in just one year. That increase would raise the total import premium or “hidden cost” to \$825.1 billion, or almost twice the President’s \$419.3 billion defense budget request for fiscal year 2006. If all costs are amortized over the total volume of imports, that would be equivalent to adding \$5.04 to the price of a gallon of gasoline. For Persian Gulf imports, the premium would be \$8.35. This would bring the “real” price of a gallon of gasoline refined from Persian Gulf oil to \$10.86. At these prices the “real” cost of filling up a family sedan is \$217.20, and filling up a large SUV \$325.80.

But, can anything be done about this enormous drain on our economy?

The answer to that question is yes.

### **SOLVING THE PROBLEM**

The simple truth is that we do not suffer from a lack of energy resources. Rather, what we suffer from is a lack of the political will and public consensus to use them.

As Pogo said, “We have met the enemy and they is us.”

What then can we do?

The first step is to recognize that we face a two-fold problem. The first part entails assuring adequate fuel supplies for the 220 million privately owned vehicles on the road today. These vehicles have an average lifespan of 16.8 years and the average age of our vehicle fleet is 8.5 years. Therefore we will require conventional fuels or their analogs for at least a decade, even if every new vehicle produced from this day forth runs on some alternative.

The second part of the problem is how to affect a transition to alternatives to conventional petroleum. This transition will take much longer than a decade – perhaps a generation or more – but the longer we delay beginning to make the change, the longer it will take to accomplish.

In the near term, say the next five to ten years, we essentially have two options. First, to make the greatest possible use of our readily accessible conventional domestic resources, particularly the oil and natural gas that lay off our shores. We should also consider using some of our 1,430 trillion cubic feet of domestic gas reserves as a feedstock for motor fuels produced through the Fischer-Tropsch process. Indeed, we currently have 104 trillion cubic feet of so-called “stranded” natural gas in Alaska and a pipeline with some 1.1 million barrels per day of excess capacity. Stranded gas could be converted into clean burning motor fuel and transported in the existing pipeline to the lower 48 states.

We can also expand our use of renewable fuels such as alcohol and biodiesel. A concerted program to make full use of them could significantly add to our motor fuel stocks within the stated time frame.

We should also encourage the acquisition of advanced vehicle technologies such as flex fuel vehicles, hybrids and plug-in hybrids and vehicles that use propane or natural gas. At the same time, we should encourage the installation of biodiesel and E85 pumps in our nation’s filling stations so that the infrastructure for alternative fuels can keep pace with the growth of the alternative fuel vehicle fleet.

Another point is to make sure that we do not forget to address non-transportation petroleum consumption. The fact that two-thirds of our petroleum is consumed in the transportation sector means that one-third is not. The opportunities to reduce oil consumption from non-transportation are greater than you might expect.

Take residential energy use for example. Roughly 12 percent of distillate use goes to home heating, most of it imported from the Middle East. Yet, there are alternatives readily available that could totally eliminate this use, and at the same time save consumers money. For instance, a developer in Moline Illinois is currently building homes that are between 85 percent and 90 percent energy efficient, and meet their heating and cooling requirements with geothermal energy. More important, these homes are being sold for 20 percent less than conventional housing sold in the same area. So consumers are not only saving energy, they are saving enormous amounts of money.

There is another commercial process that converts waste wood into a zero-sulfur industrial boiler fuel. Our Clean Forests program that removes dead wood and debris from national forests to prevent fires is generating an enormous amount of such waste wood, and that is just the tip of the ice berg. Oak Ridge National Laboratory estimates that a total of 1.366 billion tons of biomass is available for energy production each year. Utilizing this process, it could be turned into 5.6 million barrels of oil per day, or close to 27 percent of our total domestic requirements.

These, of course, are just two examples. Many more exist. The important consideration is that we have a wealth of options that could help in the near to intermediate term if we would only make use of them. To do this, however, we must have leadership.

In this regard, I should note that Chairman Lugar and his colleagues Senators Chaffee, Coleman, Nelson and Obama deserve particular praise for their sponsorship of S.2025, the Vehicle and Fuel Choices for American Security Act, which is based on the Energy Security Blueprint of the Set America Free Coalition, of which I was a founding member. It is focused on reducing our dependence on foreign oil, not by compromising the American way of life, but by encouraging fuel choice, utilization of the vast array of America's domestic energy resources and accelerated deployment of advanced vehicle technologies. It is clear that this sort of bipartisan effort is exactly the kind of action that is required if we are to make any progress on this critical issue.

In the longer term, there are other domestic energy resources that can be brought into play. We have between 500 billion and 1.1 Trillion barrels of oil contained in our huge oil shale resources. We have 496.1 billion tons of demonstrated coal reserves – 27 percent of the world total. We also have 320,222 trillion cubic feet of natural gas in the form of methane hydrates. This is equivalent to 51.1 trillion barrels of oil. Indeed one on-shore deposit in Alaska alone contains 519 trillion cubic feet of natural gas. That is equal to 82.9 billion barrels of oil.

We also have 4.85 billion pounds of uranium reserves. Harnessing this vital resource to provide electricity for our cities, towns and farms is only common sense. Moreover, it could serve to reduce the need to use natural gas for electricity generation, preserving it for higher uses.

There is one final point I want to make sure is not forgotten. Some portion of every dollar we spend on imported oil finds its way into the hands of individuals who wish to do us harm. The simple truth is that international terrorism stands on two financial pillars: oil and the drug trade. To the extent that we reduce the revenues generated by either of these activities, we hinder the ability of terrorists to operate.

To conclude, while our nation is in dire peril due to its excessive dependence on imported oil, the situation is far from hopeless. We have the resources necessary to provide our nation's energy needs if we can only find the political will to do so.