

Testimony of Milton R. Copulos

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Before

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Subcommittee on Energy and Mineral Resources

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Good Morning

My name is Milton R. Copulos and I am president of the National Defense Council Foundation.

Two weeks ago I appeared before this Subcommittee to address the grave danger oil imports pose to our economy and our nation's security. This issue has been a dominant topic in the news over the past two years, gaining renewed attention with each increase in the pump price of gasoline. Yet, I am here to say today, that we face an even greater danger from our dependence on imported nonfuel minerals.

Consider this, if you will.

We are deeply concerned about the fact that we currently depend on foreign sources of supply for 65.3% of our crude oil and refined petroleum product supplies. Yet, we rely on an even greater proportion of imports for 33 different minerals and 100% dependent on foreign supplies for 16 mineral commodities. Included among those we upon which we are entirely import-dependent are such critical commodities as columbium which is essential to the manufacture of jet engines and rocket subassemblies; manganese, which is essential to iron and steel production; yttrium, which is essential to the manufacture of microwave communications equipment, rubidium which is essential to the manufacture of vacuum tubes and photocells, and vanadium which is essential to the manufacture of superconductors.

We also rely on imports for 91% of our platinum and tantalum, 78% of our palladium and 70% of our tungsten.

The vulnerability this dependence creates cannot be overstated, and, like the vulnerability that has accompanied our dependence on imported oil, it is a problem that has persisted over time.

Indeed, the problem first came prominently to my attention nearly two decades ago when I had the great privilege of serving in the Reagan White House as a consultant to the National Critical Materials Council. I had been brought in to author the nation's first, and unfortunately last, National Critical Materials Report. That report included a quote from congressional testimony presented on March 31, 1987, by the Council's Chairman, Interior Secretary Donald P. Hodel in which he stated:

*"Perhaps one way to visualize the U.S. economy is as a pyramid in which the service and commercial sectors are at the apex, the "high-tech" sector is the next layer down, and those sectors are followed by the light industrial and heavy industrial sectors. And, I will submit, at the very bottom of the pyramid – its foundation if you will – are our energy and minerals extraction and processing industries and agriculture."*

What Secretary Hodel said nineteen years ago is just as valid today. Our energy and minerals extraction and processing industries are, indeed, an essential element of the foundation upon which all other economic activity rests. If these sectors are in any way threatened, then our entire economic well being is threatened as well.

Secretary Hodel made another point in his statement that also has relevance to our present condition. He said:

*"...our economic strength is vital to our ability to defend ourselves against foreign attack upon the United States and its allies. Our capability to defend this Nation is weakened if there is peril to the foundation of the economic pyramid, which is integral to our national strength."*

Despite the fundamental truth of the warning contained in Secretary Hodel's statement, it has been ignored over the ensuing years. Indeed, over the past fifty-odd years, we have witnessed a dramatic reversal of the our nation's long-

standing tradition of encouraging development of domestic energy and minerals resources, to the point that such development has become close to impossible in many cases. In so doing we ignored the lessons of recent history. But perhaps this was inevitable.

In a letter President Dwight D. Eisenhower sent to Senator Clifford P. Case in 1963, three years after leaving office the former Supreme Allied Commander described the difficulties mineral shortages posed in World War II, and how the lessons of those shortages remained unlearned in the period that immediately followed:

*“You will recall that when we became involved in World War II our lack of an adequate stockpile of strategic and critical materials gravely impeded our military operations. We were therefore forced into costly and disruptive expansion programs. The Nation was compelled to divert, at the most critical time, scarce equipment and machinery and manpower to obtain such necessary materials. However, the need for such a program was recognized and theoretical objective established on a predicted 5-year war.*

*But even after this experience we had not fully learned our lesson. After World War II stockpiling was confined too much to mere talk, it neglected implementation. After we became involved in Korea, we went through experiences almost identical with those of World War II – only then did realistic stockpiling begin.”*

What makes today's import dependence an even more serious threat than it was in the last century is the dramatic change that has taken place on the world economic stage. The exploding economies of China, India and parts of Eastern Europe have created unprecedented competition for scarce mineral supplies. As a consequence, although largely unnoticed by the public, these prices for these commodities have experienced price increases similar to those that have shaken the world oil market.

For example, in 2001, a pound of copper sold for \$0.76 cents. Today it costs \$3.19. In that year a pound of aluminum sold for \$0.68. Today it costs \$1.31. In 2001 an ounce of platinum cost \$533, today it costs \$1,315. Since 2001, Nickel has gone from \$5,945 per ton, to \$17,921 – an increase that matches that of crude oil.

But it is not just the increase in price that is a concern – there is also grave cause for concern over availability. This concern is even greater in relation to certain strategic and critical materials. This month, it was reported that shortages of U.S. stocks of specialty metals was jeopardizing our ability to keep helicopters flying in Iraq. The shortages included such things as titanium and specialty steel used in the aircraft's bearings.

But the concern over mineral shortages should not be limited to exotic or specialty materials. One of the most important defense commodities is copper. In fact, during World War II, copper shortages led to the minting of zinc-coated steel pennies so that the copper otherwise used for coinage could be diverted to war production. Today, copper is even more important to defense production than it was in the 1940s.

For example, in addition to its use as a jacket for small arms ammunition and as a component of the brass used for cartridge and artillery casings, copper also is used for the core of shaped anti-armor charges. Moreover, with the advent of the electronic battlefield, the need for copper wire for a whole range of electronic equipment has grown exponentially.

What is perhaps most disturbing about our growing mineral dependence is that, like our dependence on imported oil, it is largely unnecessary. In all too many instances, our dependence is at least in part, the consequence of restrictions on access to federal lands where domestic sources of the minerals so important to our economy and national security can be found.

Platinum, cobalt and chromium provide useful examples.

We currently import 91% of our platinum requirements, with the balance primarily obtained through recycling. We import 69% of our chromium requirements, with the balance obtained through recycling. Yet, the Absaroka-Beartooth Wilderness in Montana contains reserves of both chromium and platinum-palladium ores. As a consequence we cannot access these critical resources. In the case of cobalt, we rely on imports for 78% of our needs with the balance coming from so-called secondary production such as recycling scrap and some releases from strategic stockpiles. As with chromium and the platinum group metals, we have domestic deposits near the Blackbird mine in Idaho, but they extend into the River of No Return Wilderness, and therefore cannot be accessed.

In other words, as in the case of domestic energy production, we suffer more from a lack of will than of resources.

This is not to say, however, that we can be self-sufficient in terms of mineral resources. There are some minerals that do

not naturally occur within our borders and others that are not available in quantities sufficient to meet domestic needs. This is why it is necessary to maintain strategic stockpiles. Here again, however, we are falling short of the mark. Unfortunately, our strategic stockpiles have too often been viewed as sources of quick cash for federal coffers. As a consequence, there is continual pressure to sell them off, or to fail to maintain them at adequate levels. Failing to maintain adequate strategic stockpiles, however, may seem to offer some short term economic gains, but in the long run will only lead to enormous economic penalties.

In the process of writing the National Strategic Minerals Report, as well as designing the Advanced Materials Program Plan for the National Critical Materials Council, we examined the costs of not stockpiling essential minerals and materials. We determined that it cost eight times as much to obtain them after the fact than it did to stockpile them in advance. In short, failure to make adequate preparations was a classic case of being penny wise and pound foolish.

Moreover, our mineral dependence also threatens efforts to become energy independent.

Take the hybrid electric vehicle as an example.

A conventional automobile contains around 50 pounds of copper. A Toyota Prius contains 100 pounds, and larger hybrids can contain 150 or even 200 pounds. If we are to expand the fleet of these fuel-efficient automobiles and trucks, we are going to need a lot more copper.

What about fuel cells?

At present fuel cells require platinum group metal catalysts – about 3 and a half ounces for each unit. If we are to greatly expand the use of fuel cells, we are going to need a lot of these minerals. But we will not be the only nation seeking them. China has indicated it plans to add 120 million new vehicles to its fleet, all of which will use western-style pollution control technology – that is catalytic converters.

Biofuels and Ethanol are also mineral dependent.

The fueling system modifications needed to make vehicles capable of using high concentrations of ethanol such as E-85 require brass and chrome fittings due to the corrosive nature of the fuel. Moreover, if we are to significantly expand our production of alternative fuels, we will need conventional minerals and materials such as steel, concrete and aluminum to build their manufacturing facilities.

Given our perilous dependence on nonfuel minerals, the logical question is what must we do? Where is our greatest deficiency?

The answer is simple: our greatest deficiency is leadership. It is time for someone to sound an urgent alarm about our mineral dependency and the threat it poses to our nation. I believe that this committee can provide that leadership.

The members of this committee have been at the forefront of attempts to expand access to our domestic mineral resources and to bring some sanity to the regulation that has so hindered the ability of mineral producers to operate within our borders. It is more urgent than ever for that message to be communicated to the public and to your colleagues in the halls of Congress.

Two weeks ago I told this committee that our nation faces a Hobson's choice between economic collapse and global resource war if nothing is done about our dependence on foreign oil supplies. The same statement could as easily be made about our dependence on imported supplies of minerals. The same nations that are competing with us for energy are competing for minerals as well, and the consequences of that competition are just as potentially explosive.

Therefore, I urge the committee to voice its concern in the strongest possible way, and to make every effort to educate their colleagues about the dangers inherent in our current dependence.