

A BASIC MATERIALS POLICY FOR THE U.S.  
*BADLY NEEDED, LONG OVERDUE*

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### Introduction

With another national election looming, it is worth noting that the U.S. has no national raw materials policy, even in the face of record net import dependence for basic materials and rapid and profound change in competition for raw materials globally. Similarly, the U.S. still has no comprehensive energy policy, despite every indication that the strategic, economic, environmental, and social well-being of current and future generations literally hinges on sound energy policy and proactive implementation going forward. The lack of such policies represents a growing risk for this nation, and these topics deserve high priority attention in the next administration.

### Materials Policy – Long Envisioned, Never Adopted

In 1970 Congress passed the Mining and Minerals Policy Act, a measure that sought to foster and encourage private enterprise in domestic minerals development. With a focus on national strategic concerns and promotion of economically viable businesses, the measure was intended to enhance work by the U.S. Geological Survey (USGS) that had long been involved in gathering and maintaining minerals statistics.

In a related development in the same year Congress created, with President Nixon's blessing, the National Commission on Materials Policy (NCOMP), made up of representatives of the private sector and government. NCOMP was charged with developing a national raw materials policy and with developing recommendations as to how such a policy could be made operational (see sidebar).

The final report of NCOMP (1973) is prophetic, both in observations about the need for a national materials policy and in its recommendations. Included in the introductory remarks is the following statement:

*"Now with established economic strength and foreign exchange reserves, they [the other industrialized nations] are searching actively for stable supplies of minerals and fuels. Some U.S. enterprises that have long pursued the same materials have reacted with alarm to this competition. This business competition may evolve into a mutually destructive race for resources when combined with rapidly growing demand for materials."*

The National Commission on Materials Policy was charged with considering:

- national and international raw materials requirements, priorities, and objectives, both current and future.
- the relationship of materials policy to national and international population size and the enhancement of environmental quality.
- means to enhance coordination and cooperation among Federal departments and agencies in materials usage so that such usage might best serve the national materials policy.
- the feasibility and desirability of establishing computer inventories of national and international materials requirements, supplies, and alternatives.
- which Federal agency or agencies shall be assigned continued responsibility for implementation of the national materials policy.

*91<sup>st</sup> Congress, Public Law 91-512, H.R. 11833,  
October 26, 1970.*

The document also raised questions about rising U.S. import dependence for basic materials, and the ability of the U.S. to sustain such payments.

Today, of course, it is not only the other industrialized nations that are actively seeking resources to support rising consumption, but also China, India, South Korea, and a host of other countries that are experiencing rapid economic growth. An important difference between 1973 and today is that the current world population is 70 percent greater than in 1973 (6.6 billion today as compared to 3.9 billion in 1973), with the nations presently experiencing the greatest increases in consumption and raw material demand growth accounting for a very large proportion of the population. Another difference is that U.S. raw material import dependence has risen significantly since 1973.

Among the many recommendations of NCOMP were the following:

- Seek to diversify energy supplies and seek substitutes.
- Foster the expansion of domestic production of fuel and non-fuel minerals.
- Engage heads of regulatory agencies in implementation of a national materials policy.
- Create a standing mechanism for communicating national materials policies and proposals to regulatory agencies and create avenues for ongoing feedback.
- Require regulatory agencies to report annually regarding progress toward meeting goals of the national materials policy.
- Pursue international dialogue and agreements regarding materials procurement.
- Develop a national computerized mineral directory under the control of the Department of the Interior until a comprehensive Department of Natural Resources is established.

Established as a non-permanent body, the Commission disbanded upon delivery of its final report to President Nixon and the Congress. Unfortunately, almost none of the NCOMP recommendations were put into force<sup>1</sup>, perhaps in part because of the distraction of well-known problems at the end of the Nixon presidency, but possibly also because of the passage of the Endangered Species Act (ESA) in the same year<sup>1</sup>. The ESA increased the difficulty of developing raw materials domestically.

Frustrated with the lack of action relative to a national materials policy, Congress in 1976 passed the Federal Land Policy and Management Act. That measure reiterated that the 1970 Mining and Minerals Policy Act should be implemented and directed that public lands be managed in a manner that recognized the nation's need for domestic sources of minerals and other resources. Again, however, there is little evidence of recommendations, other than establishment of a minerals database, having been translated to action.

So, in 1980 Congress tried again to bring about a national materials policy with passage of the National Materials and Minerals Policy, Research, and Development Act. Accompanying language noted:

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<sup>1</sup> One recommendation that was adopted was the development of a national computerized database for minerals. This database is well developed today and is maintained by the U.S. Geological Survey (<http://minerals.usgs.gov/minerals/index.html>)

*“The United States does not have a coherent national materials and minerals policy, nor a coordinated program to assure the availability of materials critical for economic well-being, national defense, or industrial production . . .”*

In response, the Reagan Administration worked with the Congress in 1984 to establish a National Critical Materials Council (United States Congress 1984), a three-member body appointed by the President to advise on critical materials issues. At least one of the members was to have a background in and understanding of environmental issues. In 1994, that body was merged into a newly created National Science and Technology Council by President Clinton. Given all of this attention, it is remarkable how little came of these efforts. The situation is well summarized by an October 2007 report by the Associated Press (Schmid 2007) that begins with the words: “Neither the government nor industry has accurate information on the availability of minerals and other materials that may become critical for uses ranging from everyday household items to national defense.”

Now, despite global raw materials pressures that are orders of magnitude greater than in 1970 (Table 1), and the passage of 34 years since the NCOMP report, and 27 years following the third attempt by Congress to put into place a national materials policy, no such policy exists. *Furthermore, there is no entity of government that has the responsibility to discuss, develop, or implement rational policies relative to industrial raw materials.*

### Energy Policy

In 2000, the U.S. Geological Survey concluded, after the most comprehensive study of global petroleum supplies ever undertaken, that production would likely peak worldwide before 2040, and perhaps as early as 2027.

*Energy Information  
Administration, 2000.*


As discussed in a previous Dovetail report,<sup>2</sup> in 2000 the U.S. Geological Survey (a unit of the Department of the Interior) was contracted by the U.S. Department of Energy to do a comprehensive assessment of global petroleum reserves. It is the most comprehensive examination of petroleum resources that has ever been done, before or since. That assessment led to the conclusion that production will likely peak before 2040 and that availability will decline sharply thereafter. In the most optimistic scenario, given no more than a 5 percent chance of becoming reality, the petroleum peak would occur before 2050. Equally likely is peak production by 2027. Scenarios of supply once peak production is reached, done as part of that same study, suggest relative chaos in world energy and financial


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
<sup>2</sup> Bowyer, J., Wenban-Smith, M., Fernholz, K., and Howe, J. 2007. Global Warming: Why Reducing Fossil Fuel Use is Essential Regardless of the Outcome of the Climate Change Debate. Dovetail Partners, Inc. March 28. (<http://www.dovetailinc.org/reports/pdf/DovetailGlobalWarm0307ul.pdf>)

Table 1  
Net Imports, as a Percentage of Domestic Consumption, of Key Raw Materials, 1973 and 2007

Mineral	Percentage Imported (Net)	
	1973	2007
Strontium	100	100
Mica (sheet)	100	100
Graphite (natural)	100	100
Rubidium	100	100
Manganese	95	100
Fluorspar	87	100
Asbestos	85	100
Arsenic	79	100
Tin	77	79
Bismuth	75	96
Bauxite and alumina	74	100
Columbium	67	100
Antimony	65	88
Potash	61	70
Zinc	52	63
Silver	44	65
Barium	43	83
Peat	34	56
Vanadium	32	100
Petroleum	29	60
Cadmium	25	29
Softwood lumber (const. lbr.)	20	38
Copper	18	40
Rare earth metals	14	100
Aluminum metal	8	44
Salt	7	16
Cement	5	24
Magnesium (non-metallic)	8	53
Natural gas	9	16
Rhenium	4	87
Dimension stone	2	89
Perlite	<1	23
Magnesium metal	Net exporter	74
Nitrogen	Net exporter	38
Feldspar	Net exporter	2
Talc	Net exporter	1
Pumice	12	12
Platinum group metals	100	95
Chromium	100	75
Cobalt	98	81
Tantalum	97	87
Nickel	74	60
Gold	61	Net exporter
Mercury	58	Net exporter
Gypsum	39	27
Iron	28	21
Lead	26	2

 Pct net imports same as in 1973

 Increase in pct net imports since 1973

 Decrease in pct net imports since 1973

Source: USGS Minerals Commodity Summaries-2007; USGS Minerals Yearbook-1974; Mining and Minerals Policy 1973 (a report to the Sec. of the Interior and Congress), and the USDA-Forest Service, 2007.

markets, as well as large downside risks for any nation that is unprepared for a post-petroleum-peak-world. While several other research groups had previously predicted peak petroleum production in the relatively near term (some as soon as 2010), the USGS findings marked the first time that an entity of the U.S. government had publicly announced a similar conclusion. Attention was focused on the petroleum issue again in early 2007, with the release of a report by the National Petroleum Council, an oil and natural gas advisory committee to the Secretary of Energy (National Petroleum Council 2007). That report spoke about urgency surrounding today's energy issues, accumulating risks to the supply of reliable, affordable energy, and significant challenges to meeting projected total energy demand.

Then, on November 19, 2007 the Wall Street Journal carried a front-page news article "Oil Officials See Limit Looming on Production" (Gold and Davis, 2007). The article begins with the words "A growing number of oil-industry chieftans are endorsing an idea long deemed fringe: The world is approaching a practical limit to the number of barrels of crude oil that can be pumped every day." The article goes on to say that evidence is mounting that production of crude oil may reach a plateau globally before alternatives are sufficiently developed and "could set the stage of a period marked by energy shortages, high prices and bare-knuckled competition for fuel." There was general agreement that supply problems would occur by 2030, with several indicating difficulty in meeting projected demand by 2012. A number of executives interviewed in conjunction with the story indicated that they didn't subscribe to the idea that production will be limited by physical supplies of petroleum (the peak oil theory), but rather by a host of other intractable problems.

November 19, 2007

The Wall Street Journal reports interviews with petroleum executives who believe that an oil supply limit may loom in the near to mid-term (2012-2030).

Whether looming production limits will result from physical supply limits or other problems would appear to make little difference at this point. An increasingly important question looms large: Is the United States ready for a world in which petroleum supplies are insufficient to meet demand?

## Changing Course

Achieving rapid change may require that everyone set aside self-interests and instead get behind measures that are likely to cause a clear change in direction. For instance, a significant increase in gasoline taxes, the merits of which were adroitly articulated by Thomas Friedman in November 2007, may be needed. At the same time it will likely be necessary to expand transportation options for Americans (by, for example, revitalizing passenger rail – a goal that might require conversion of what once were rail corridors, but that are now trails, back to rail corridors), and diversification of energy supply (with solutions perhaps leading toward increased production of nuclear power). *Can we, as a nation, find a way to compromise on such issues to achieve a greater good?*

That the path will not be easy to navigate is evidenced by a November 8 news item (Ball 2007) that explains feuding between the auto and energy industries over who is responsible for reducing transportation fuel use, and between Dow Chemical and automakers over Dow's support for higher fuel-mileage standards. That article also noted maneuvering by current soybean-based biodiesel manufacturers to block development and government support for renewable biodiesel made from animal fat. This is not the kind of action needed if severe economic problems are to be avoided.

### **The Bottom Line**

Rapidly rising industrial raw material consumption globally, and increasing U.S. import dependence on a vast array of critical resources warrant close attention and strategic thinking on the part of government and industry leaders alike. Recommended actions to address the challenge include:

- prioritization of this issue in national policy discussions
- enhancement of funding for USGS, and resurrection of NCOMP with a charge to develop a national materials policy that gives consideration to striking a reasonable balance between environmental protection and accepting responsibility for our own consumption
- development of mechanisms for ongoing implementation.

The most urgent material requiring attention is petroleum. Development of a comprehensive national energy strategy that serves to markedly reduce reliance on imported fossil fuels must clearly be a top priority of the next administration. The strategic, financial, environmental, and social implications of continuing on our present course are so great that further delay in addressing energy issues is completely indefensible.

It is time not only for political leaders, but individual citizens as well, to engage in introspection and careful thought as to lowering of personal biases and positions, avoidance of knee-jerk reactions to proposals for change, and consideration of how you or your organization might play a part in reaching solutions rather than contributing to inaction.



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