

**AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS**  
*An International Geological Organization*



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August 6, 2008

The Honorable Byron Dorgan  
Chairman  
Energy & Water Development  
Appropriations Subcommittee  
United States Senate  
Washington, D.C. 20510

The Honorable Pete Domenici  
Ranking Member  
Energy & Water Development  
Appropriations Subcommittee  
United States Senate  
Washington, D.C. 20510

Dear Chairman Dorgan and Ranking Member Domenici:

Thank you for your leadership on energy issues and long-standing support of federal energy research and development. The challenge of crafting national energy policy that builds a bridge to our energy future is made difficult by election politics and tight budgets. Yet, it is vitally important. As you and your Senate colleagues address this issue, I would like to offer several ideas for your consideration.

I am writing on behalf of the American Association of Petroleum Geologists (AAPG), the world's largest scientific and professional geological association. The purpose of AAPG is to advance the science of geology, foster scientific research, and promote technology. AAPG has nearly 35,000 members around the world, with roughly two-thirds living and working in the United States. These are the professional geoscientists in industry, government, and academia who practice, regulate, and teach the science and process of finding and producing oil and natural gas.

Our members have a big job. Fossil fuels supply 87% of the world's total energy needs, down only 4% in the past quarter century. Transportation represents about 40% of demand and is dominated by liquid fuels derived from oil. Heating is another 25% of demand and dominated by oil and natural gas. Electricity represents the remaining 35% with a broadening portfolio of fuel sources. Coal, nuclear and natural gas currently dominate electricity production, but alternatives like wind are growing rapidly. However, because electricity demand is also growing, alternatives remain a small fraction of total production.

**Today's energy debate is often framed as a choice between fossil fuels or alternative (non-fossil) fuels, or between fossil fuels and the environment, but these are red herrings.** Sustaining a healthy U.S. and global economy, and thus investing substantially in our environment, requires a stable and continuous supply of fossil fuels while simultaneously developing and expanding alternative and new fuels. This is the bridge to our energy future. We need both, and the process will take 25 to 40 years.

**Research and development are the key.** Yet, while the federal government (rightfully) provides significant R&D funding for coal, nuclear and alternative energies, it provides little for oil and natural gas technologies. In fact, in FY08 federal oil and natural gas R&D represented a miniscule proportion of the total energy R&D expenditures, yet oil and natural gas account for 65% of our nation's energy portfolio. **As we bridge to an alternative energy future, we cannot erode the fossil energy foundation.**

Frequently, criticisms of these programs are couched in terms of "corporate welfare" or a notion that the private sector should support all oil and natural gas research on its own. But these charges reveal a fundamental misunderstanding of several important trends:

1. **The transition to non-fossil fuel alternative energies will take much longer than a few decades.** Alternatives are currently more expensive, less reliable and simply cannot meet the scale of energy demand. To try to force the U.S. on a different course than the rest of the world, at a cost of literally trillions of dollars, will disadvantage the U.S. at a minimum and worse could severely hurt the U.S. economy.
2. **The U.S. oil and gas industry is in decline.** Many of the top public companies that built the U.S. energy advantage no longer exist. Such names as Mobil, Amoco, Texaco, Phillips, Unocal, Arco, Kerr McGee and many others no longer exist as the result of mergers and acquisitions. This decline has not stopped. All combined public companies control less than 10% of the world's oil and natural gas reserves; the remainder is controlled by national oil companies, many of them OPEC nations.
3. Increasingly, **domestic oil and natural gas production is shifting to non-traditional resources**, such as the Barnett Shale in Texas or the Bakken formation in the Williston basin. These resources are **different** from the conventional resources of the past and hold great promise, but realizing that potential requires significant R&D and technology development. Each resource has unique challenges and if the US is to leverage their global potential it must invest accordingly and substantially.
4. **Domestic oil and natural gas resources are increasingly developed by independent producers**, ranging from individuals to large companies. They do not have the capacity or resources to conduct independent research. They have, however, been willing and able to quickly adopt new technologies when appropriate technology transfer occurs.

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5. Federal R&D has historically provided support for the nation's universities and colleges, which have proven to be a rich source of technological innovation. **But as federal support for oil and natural gas technologies has waned, so has the ability to conduct this type of research and train the next generation of U.S. scientists and engineers.** This trend is particularly worrisome, because developing nations are investing significantly in fossil energy research and development.

These and other trends demonstrate the need for a **robust federal oil and natural gas program, on the scale of coal, nuclear and alternatives, on the order of \$500 million per year.** Given the important role that oil and natural gas currently play in our energy portfolio, we must rebuild and expand the nation's federal R&D and training capacity for oil and natural gas through a partnership of government, academia, and industry.

As a nation we seem to be looking for quick fixes and technological silver bullets to solve the nation's energy challenge. The public, spurred by some of our nation's thought leaders, want to believe in myths (see attached energy myths that I speak about and published in the August AAPG Explorer). But they are just myths.

Fossil fuels have enabled dramatic human and technological advancements over the past century. And as we contemplate tomorrow's energy sources, **fossil fuels remain a foundation upon which to build a bridge to our energy future.** It's a good place to start.

I would welcome the opportunity to further discuss these ideas with you.

Warm regards,

A handwritten signature in black ink, appearing to read "Scott W. Tinker". The signature is fluid and cursive, with a large, stylized initial "S" and "T".

Scott W. Tinker  
President