

TWO STRATEGIC *ENERGY* PIVOTS



By **Mark Mills**, Senior Fellow¹

Thanks to the dramatic increase in domestic oil and natural gas production, the U.S. should pivot away from a goal of “energy independence” and instead flex its market power to reset the geopolitical status quo in energy. And, for the long-term future, finding alternatives to today’s necessary dependence on hydrocarbons requires abandoning failed research approaches. To advance these goals, Congress and the new Trump administration should:

1. **Radically Expand Energy Exports**
2. **Restructure Federal Energy R&D**

1.

Radically Expand Energy Exports

The majority of the world’s hydrocarbon trade is dominated by nation-state companies, often directed by authoritarian regimes that wield energy riches as weapons of influence and intimidation. OPEC and Russia, for example, account for 70% of world oil traded today. The U.S. now has the opportunity to begin reversing this global status quo.

To do so, the U.S. does not need to be a net exporter. World oil prices collapsed in 2014 because America oversupplied

markets. The mere prospect of U.S. liquefied natural gas (LNG) exports hammered global natural gas prices.

It’s true that Congress voided, in 2015, the nearly half-century ban on U.S. crude oil exports and that the U.S. Department of Energy (DOE) has been approving some LNG export projects. But these steps are not sufficient. The new administration needs to establish a clear export-centric energy strategy.

Two new high-profile actions would signal that the game has changed. First, the new administration should create an Office for Energy Exports, whose goal would be to assist rather than impede exporters. As part of the law establishing this office, Congress should eliminate the requirement that U.S. firms need permission from the DOE to sell LNG overseas, as well as remove State Department authority over international pipelines. Second, the U.S. should launch a multinational trade

¹For further discussion, see Mark P. Mills, “Expanding America’s Petroleum Power: Geopolitics in the Third Oil Era,” Manhattan Institute, Feb. 11, 2016; and Mark P. Mills, “Basic Research and the Innovation Frontier: Decentralizing Federal Support and Stimulating Market Solutions,” Manhattan Institute, Feb. 17, 2015.

mission to promote American firms as new suppliers for energy-importing nations and facilitate long-term trade frameworks.

A variety of related policy actions are needed. These include restructuring or repealing renewable fuel mandates that hobble petroleum refiners and impede their rising export capabilities; approving the Keystone XL and Dakota Access pipelines; opening up and expediting access to federal lands; and canceling the last-minute

regulations that the lame-duck administration is rushing through, including the misguided ban on shale-field methane emissions. And, in order to identify and prioritize longer-term policies, a public-private Energy Infrastructure Commission focused on private and public actions needed for critical energy infrastructures—from pipelines and refineries, to rail lines and ports—should be created.

Petroleum is the world's largest traded commodity and is more critical to

global commerce than at any time in history. Demand for it will rise for the foreseeable future, too. No single U.S. foreign policy action could match the strategic power of pledging—and following through—to aggressively boost America's role in global energy markets. Facilitating access to foreign markets for U.S. hydrocarbon producers would also provide America a sustained economic stimulus, potentially generating, directly and indirectly, millions of new jobs and creating vast new wealth.

2.

Restructure Federal Energy R&D

The U.S. government has a vital role in funding scientific research and development—a “public good” that often involves the pursuit of knowledge for its own sake. Yet less than one-third of overall federal nondefense R&D spending is on basic science. Worse, federal R&D, especially in energy technology, is increasingly misdirected to politically favored causes and companies, as well as to yesterday's technologies.

In energy domains, the only significant disruption to the status quo in the past 40 years—despite hundreds of billions of dollars spent on alternatives to hydrocarbons—has been the unplanned, unsubsidized emergence of U.S. shale technology. In the past decade, shale oil and gas supplied America with 2,000% more energy than did solar and wind.

Congress and the administration should refocus near-term federal energy R&D

onto basic shale geosciences. Less than 10% of the DOE's energy budget is associated with hydrocarbons, which supply over 80% of U.S. and global energy and will do so for decades, according to the U.S. Energy Information Administration. And while America's shale industry spends billions of dollars to develop technologies, very little of this is in basic sciences. Better science can lead to better technologies with the capability to increase U.S. oil and gas production at ever-lower costs.

Then, to secure America's long-run energy advantage in the pursuit of non-hydrocarbon alternatives comparable in scale and cost to shale hydrocarbons, Congress and the administration should refocus the overall federal R&D budget more heavily onto the *basic* sciences. Bill Gates has called for a tripling of the DOE's basic science spending to find “an energy miracle.” This can be done by reducing

spending and subsidies on applied research that is intended to incrementally advance existing technologies—a mission more properly, and already significantly, undertaken by the private sector.

Where will we find energy miracles? We will find them from the undirected (i.e., not centrally planned) pursuit of, among others: radically new classes of computationally designed materials; genetic engineering (such as inventing bacteria that excrete diesel fuel); and foundational advances in understanding nature's processes and, collaterally, our ability to control them with the emergence of powerful cyber-physical systems.

Meanwhile, tax policies should be restructured to encourage businesses to direct more capital into basic research. Industries spend far more on R&D than the federal government but only 5% on basic science.