Building on Abundance

Learning from the past, ensuring a bountiful future

By James Slutz
Fellow, U.S. Chamber of Commerce Foundation
President and Managing Director, Global Energy Strategies LLC
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Introduction

Over the past few years, new oil and natural gas discoveries have been made in places like Ohio, Pennsylvania, and North Dakota. In just a few years, North Dakota has become the second-largest oil-producing state in the United States, behind only Texas. Pennsylvania is becoming a leading natural gas-producing state. With new energy opportunities such as these, what does this mean for U.S. energy policy?

For nearly 40 years, U.S. energy policy has been formulated in an atmosphere of scarcity and fear. There has been a fear of rising energy costs, a fear of relying on imported oil, and a fear of running out of energy. An air of fear, shortage, and scarcity produces an atmosphere that limits policy options. We have created an energy policy with a lottery mentality that seeks the next big payoff or silver bullet.

That is not the history of our country. We are a country of abundance—natural abundance endowed by our creator and an abundance enabled through innovation, such as the current shale oil and gas revolution. Perhaps the greatest opportunity offered by recent shale oil and gas production is that we can envision our future from the prism of wealth, plenty, and abundance. Energy policy developed in an atmosphere of abundance is developed on optimism, growth, and a bountiful future.

Based on the hand-wringing over energy policy of the past 40 years, one would think that America is running out of energy. The facts are that the United States is the largest natural gas producer, the second-largest coal producer, the No. 3 oil producer, and the largest geothermal energy producer in the world.

In addition to the actual energy produced in America, we are leaders in energy technology. This technology capability has been instrumental in continuing to grow our energy supply, both the actual volume of energy and the improvements in efficiency, which enable us to gain more productive capacity from every Btu of energy.

It is worth remembering that the first oil well was drilled in America in 1859 by Edwin Drake in Pennsylvania. From that time, the United States has always been a significant petroleum producer, and American industry has been the world's oil and gas technology leader. Drake's venture was a high risk, privately funded project. One of the greatest examples of our nation's historic energy role is the supply of more than 85% of the oil for the Allied armies during World War II. America is again positioned to be the energy leader.
Charting Our Energy Future

For many decades, there have been calls to create and embrace a national energy policy. A key challenge in choosing a policy or set of policies is that we cannot predict the future or foresee how innovation will dramatically alter our projections of future energy use and supply.

One of our primary tools for evaluating energy policy options is computer-based forecasting of energy supply and demand, such as the Energy Information Administration’s (EIA’s) Annual Energy Outlook (AEO). One of the common statements about computer models such as this is that “all models are wrong, some are useful.” Models help evaluate possible scenarios and potential impacts of policy decisions, but it is also critically important to remember that models are tools, not reliable predictors.

In energy, there is always a close link between abundance and innovation. Current estimates of production are based on technically recoverable resources; therefore, as technology improves, a greater amount of resources can be produced. Technology doesn’t just alter production capability, but also how we use energy. To illustrate this, in May 1857, Scientific American stated:

We believe that no particular use is made of the fluid petroleum, from the ‘tar springs’ of California, except as a lotion for bruises and rheumatic affections. It has a pungent odor, and although it can be made to burn with a pretty good light, its smell is offensive.

Two years after this assessment, Drake successfully drilled the first well in Titusville, Pennsylvania. For the first 50 years or so of oil production, its primary use was for lighting. Henry Ford’s mass production of cars and Thomas Edison’s innovation with electric lighting—advancements that had nothing to do with oil production—changed the direction and use of oil for the next 100 years.

We don’t know what the next innovations will be that will change our history or dramatically alter energy use. Because of the complexity of energy markets and the opportunities offered through innovation, it is impossible to accurately predict our energy future.

If we can’t predict our future, what can we do? We can set clear fiscal and regulatory policies and recognize that American businesses are the best in the world at finding solutions and taking risks.

There have been many times when our society has been concerned whether we would be able to meet our energy needs. Each time when markets were allowed to work, innovation and new technology unlocked new energy supply. The latest such technological breakthrough has been with the oil and gas production from shale, which applied innovations in horizontal drilling with multistage hydraulic fracturing.

Note on Horizontal Drilling and Hydraulic Fracturing:

The shale revolution is actually the culmination of the work by a committed visionary, George P. Mitchell. Geologists have known that the shale formations throughout the United States contained hydrocarbons. In fact, they are known to be the source rock (origin) of oil and natural gas that has accumulated in conventional oil and gas-bearing geologic zones. Mitchell’s vision was that he could figure out the technology necessary to commercially produce the natural gas, and he began drilling shale natural gas wells in the Barnett formation around Dallas, Texas in 1984. After many years and many attempts, Mitchell was successful in effectively applying hydraulic fracturing to the shale formations. The real breakthrough in shale gas production came with the application of both horizontal drilling and multistage hydraulic fracturing, which resulted in more wide-scale shale gas development beginning around 2005.

In horizontal drilling, a well is drilled vertically several thousand feet deep, and then the wellbore is turned and drilled horizontally through the oil and gas-bearing rock. Through horizontal drilling, a larger surface area is exposed in the oil and gas-producing formation.

Once the well is drilled, it is lined with pipe and then cemented into place in order to isolate the oil and gas-producing formation. The shale formation is typically fracture treated, which involves pumping a mixture of mostly water, sand, and additives into the formation under pressure. This treatment cracks open the rocks containing the oil and gas, and the sand particles help prop open the cracks. This enhances the flow of oil and gas through the rock and into the well through the perforated pipe.
To illustrate the magnitude of this impact, we only need to look at five years of energy projections from the Energy Information Administration. In 2007, EIA projected that by 2030, the United States would be importing more than 20% of its natural gas supplies.

In 2012, EIA is now projecting that by 2022, the United States will be a net natural gas exporter.

**EIA ANNUAL ENERGY OUTLOOK 2007**

Net U.S. imports of natural gas by source, 1990-2030 (trillion cubic feet)

[Charts showing EIA 2007 natural gas projected imports]

**EIA ANNUAL ENERGY OUTLOOK 2012**

Total U.S. natural gas production, consumption, and net imports, 1990-2035 (trillion cubic feet)

[Charts showing EIA 2012 projected exports]
At the time of EIA’s 2007 projection, natural gas prices averaged $6.26 per thousand cubic feet (MCF). Owing to the growth in shale supplies, natural gas prices are under $3.00 an MCF in 2012. Current natural gas production exceeds demand, and reserve estimates of nearly 100 years of supply open up the opportunity for exports.

The charts not only illustrate the magnitude of resource potential, but they also show the inability to accurately forecast energy trends because of technological change. It is difficult to find a precedent for this type of change in U.S. energy outlooks. Clearly, we are in an era of abundant natural gas resources combined with growing oil production.

We only now understand the potential of renewed natural gas production, but we have even less appreciation of our newfound growth in oil production. Perhaps the best example is the increase in oil production in North Dakota from the Bakken shale. In six years, North Dakota oil production has increased just more than 380% from 40 million barrels in 2006 to 153 million in 2011.

The International Energy Agency’s 2012 World Energy Outlook (WEO) projects that the United States will become the world’s largest oil producer by 2020. This newfound abundance will have implications throughout the energy supply chain, including production, service, pipelines, railroads, and refineries. The oil production, transportation, and processing will be important components of economic growth and job creation.
Government Policy Challenges in a Dynamic Industry

The lack of ability to accurately project our future energy supply and demand has not stopped the federal government from enacting policies that attempt to influence our energy future. Unfortunately, there are numerous examples of failures in energy policy. The United States also has examples of good policy that have greatly benefited American consumers and have been used in other countries for effective energy markets.

When the government has tried to impact our energy supply or demand by interfering in markets, the consequences have been energy shortage and higher prices. One of the clearest examples of this was the regulation of natural gas prices that resulted from the Natural Gas Act of 1938 and the 1954 Supreme Court decision in Phillips Petroleum Co. v. Wisconsin. The result was federal price controls on interstate sales of natural gas.

A consequence of these price controls was reduced investment and lower supply in consumer states, since intrastate gas was not regulated. In 1976 and 1977, manufacturing plants and schools were forced to close because of insufficient natural gas supply. The Natural Gas Policy Act of 1978 (NGPA) gave the Federal Energy Regulatory Commission (FERC) authority over both interstate and intrastate natural gas transportation. In addition, NGPA provided FERC with the ability to deregulate the natural gas market. In 1985, FERC issued Order 436, which provided a voluntary mechanism for pipelines to separate sales and transportation of natural gas. This separation became mandatory by FERC Order 636 in 1986. The Natural Gas Wellhead Decontrol Act of 1989 fully removed all remaining natural gas price controls on production. Once the market set the price, higher prices encouraged new technology and new exploration, resulting in increasing gas production. This led to lower prices and a stable supply of natural gas.
The recent shale gas developments highlight the power of the market to solve energy supply needs. Higher natural gas prices in the early 2000s were the driver of the technology and exploration leading to greater shale gas production that now offers significant energy, economic, and environmental benefits to the United States. The chart below illustrates that higher prices have led to higher gas production, which has ultimately reduced gas prices. The lower prices have made natural gas an attractive fuel for power generation instead of coal, which has about twice as much carbon emissions as well as a higher level of other pollutants.

**Natural Gas Price and Production 1991 to 2011**

The lesson is that the market has ensured the best value both in price and in reliable supply for natural gas consumers. The deregulation of natural gas markets may be one of the most valuable energy policy decisions for the U.S. economy. It was this market-based system that provided the foundation for the innovation-driven shale gas development in the United States—and perhaps now the world.

Since shale oil and gas resources are widely distributed around the world, exploration to unlock shale resource potential is occurring in Europe, Asia, South America, Africa, and Australia. Many places in the world pay four to five times more for natural gas than consumers in North America. This competitive energy advantage benefits American manufacturing, and a more profitable manufacturing industry means more jobs.
While responses to natural gas shortages in the 1970s resulted in a positive outcome, our response to perceived oil shortages was far less effective. Tax policy plays a key role in energy supply investment. The 1980 Crude Oil Windfall Profit Tax Act created unintended consequences that adversely impacted domestic oil production. It taxed oil produced in the United States, but not imported oil, and was put in place following the 1973 oil embargo. The premise was that American oil producers were receiving unexpectedly high profits because of the increase in global oil prices resulting from the embargo. The unintended consequence was that the tax resulted in a 3% to 6% reduction in domestic oil production and directly increased the proportion of imported oil to the United States. In addition, far less tax revenue was collected than projected because the price of oil declined. The windfall profits tax reduced the nation’s energy security and impacted the bottom line of American companies, not to mention individual investors. It should be of no surprise that tax policy has consequences for investment decisions.

Managing uncertainty, especially from regulation, is one of the most difficult business challenges. Energy companies specifically struggle with obtaining permits for energy infrastructure projects, such as with the Keystone XL pipeline. TransCanada Corp., the firm behind the project, originally approached the U.S. government in 2008 with the intent to apply for a permit to build a pipeline from Alberta, Canada, to the American Gulf Coast. In addition to all the federal, state, and local permitting requirements, the pipeline required a U.S. State Department permit because it would cross the U.S.-Canada border. This requirement triggered an extensive Environmental Impact Statement (EIS) process under the National Environmental Policy Act (NEPA). After years of study and multiple opportunities for review and comment, the decision was delayed for more study. This pipeline would increase the supply of oil from Canada, a secure source and the largest foreign supplier of energy to the United States. For every dollar spent on oil from the Canadian oil sands, 90 cents is returned to America in trade through the purchase of goods and services.

It is difficult to make large capital investment decisions when there is a lack of certainty about the timeline and process for obtaining a government permit decision. Pipeline projects are not unique; offshore wind development and large-scale solar projects have also faced growing uncertainty.

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The length of time for a permit decision does not correlate with an improvement in the quality of the decision. The amount of time to obtain a permit is a reasonable measure of the clarity and transparency of the permitting process, assuming that both state and the federal governments have sufficient resources.

State agencies often have a much shorter approval time and have been regulating oil and gas development for more than 100 years. They have also demonstrated effective environmental protection. There is a clear difference between the state and federal levels for the time it takes to obtain a permit to drill an on-shore oil and gas well.

Time Required for Processing a Permit to Drill—Federal vs. States

On federal lands, the permit must be obtained from the Bureau of Land Management (BLM). The average time for obtaining a permit from the BLM is more than 300 days. For private or state lands, the permit is issued by a state regulatory agency. While the time for obtaining a state permit varies by state, the average time is typically less than 30 days.
When managing a challenging set of logistics involving millions of dollars of equipment that must be mobilized to a new well location, having clarity in the permitting process contributes to an effective investment climate. Again, this does not mean reducing the environmental requirements; it just means that the process is clear and the timeline is transparent. In many cases, the state regulatory programs can be better focused on environmental protection because the requirements are tailored to the local geology, topography, community, and other conditions. The local decision is potentially more protective of the environment and usually issued in much less time.

Canada’s federal permitting policy is based on having a single portal for obtaining one all-inclusive permit for each major energy project. Permits obtained at the provincial level are also deemed equivalent to federal permits, meaning that they can act as time-saving substitutes. Moreover, just three governmental agencies are responsible for environmental review rather than 40, as was the case before reforms were instituted. By also limiting the permit review process to a maximum of 45 days, uncertainty is taken off the table. In short, one energy project in Canada requires one permit obtained at one regulatory level. This is in marked contrast to the permitting process just across the border in the United States.

Again, while permit processing time matters, a transparent process with clear requirements is the most important aspect of effective regulation.

Regulations that set performance standards, rather than prescriptive requirements, result in a higher level of environmental protection at a lower cost. One of the best examples of this is the 1990 Clean Air Act Amendments, which allowed utilities flexibility in reducing sulfur dioxide emissions. Individual utilities had the choice of installing control devices, shifting to lower sulfur fuels, using conservation programs, or reducing run time of high sulfur units. This enabled the utilities to choose a strategy that minimized the cost to consumers.

Performance-based regulations also encourage innovation that can reduce the cost and potentially improve the environmental performance of energy development activities. This is especially true in areas where information and technology are evolving quickly, such as with shale oil and gas development. A performance-based regulatory system incentivizes industry to develop and adopt best practices. Examples include environmental management options that reduce the size of drilling sites and the recycling water for hydraulic fracturing. The best practices then form the basis for raising the regulatory bar in the future, hereby improving the sustainability of future operations.

Closely linked with regulatory issues is how the government communicates with the public regarding environmental concerns or emerging issues. The government must not take sides and must be an honest broker of information. The public wants to trust government and believe that government officials are working in the public interest.
Ineffective communication by government can shift the focus from real areas of concern to areas of lower risk that are perceived to be a problem based on the agency’s attention. The focus on hydraulic fracturing fluids reporting would likely fall in this category. As the understanding of the impact of shale gas development has progressed, well construction, surface water management, air emissions, and community impacts have all emerged as critical for environmental protection based on the report of the Secretary of Energy Advisory Board’s Shale Gas Production Subcommittee report. This is not to say that hydraulic fracturing fluid reporting is not important but to realize that prematurely targeting a practice for regulation can miss more critical risks. Regulators must maintain the confidence of both industry and the public if they are to be successful in their responsibilities.

Regarding communication, industry must embrace its role in providing accurate and transparent information to the public. In the case of fracture fluid information reporting, the energy industry’s reluctance or sluggishness in responding to concerns heightened this issue in the public’s eye. Once industry worked with state regulators to establish a system for reporting frac fluid constituents, the issue has largely been addressed. The problem was that industry’s reluctance was seen as trying to hide its operations, which undermines public trust. Maintaining the public trust is both industry’s and government’s responsibility.

A discussion about energy policy almost always includes a discussion of the government’s role in research and advancing technology. Government research funding is always a hotly debated budget topic. Recipients of government research dollars actively work to influence the allocation of research funds. Tension always exists between long-term and near-term research goals. As government budgets are under growing scrutiny, effectively targeting government research funds will be increasingly important. The argument for focusing on long-term research is that industry cannot or does not fund research that is too far into the future to predict an economic return. The case for funding demonstration projects or commercial projects with new technology is that a market failure is preventing the innovations from launching. Regarding long-term research, there appears to be general agreement that this is an appropriate role for the federal government and also is important as a mechanism for building our nation’s scientific and technical capability at universities and national laboratories. There are differences of opinion on what role tax dollars should play for near-term research or government assistance with technology commercialization.

For long-term research, there is not an immediate commercial application, so the government is not picking winners or losers or supporting a specific company. While there may be a perceived public benefit for a specific new technology, the fact that the market will not allocate capital for near-term research or commercialization is an indication that the technology may not be ready for large
scale use, may be too costly, or other market uncertainty exists that will limit success. The federal government has attempted to influence the commercialization of new technology through both direct grants and with loan guarantees.

The use of loan guarantees is largely seen as an example of ineffective government involvement in the market and a waste of taxpayer dollars. Recently, the American Recovery and Reinvestment Act of 2009 resulted in a number of failed government-backed loans in solar energy.

Unfortunately, this was not the first government effort attempting to influence the market through loan guarantees. Under the Energy Security Act of 1980, the U.S. government provided loan guarantees for a coal gasification plant in North Dakota. The Great Plains Coal Gasification project defaulted on $1.5 billion in federal guaranteed loans in 1985. The facility was later sold by the U.S. Department of Energy for $85 million.

It is far better for the private sector to make the decision regarding the risk and return on new technology commercialization. This not only protects taxpayers from losses on government-backed projects but also ensures that the projects with the best possibility for success are the ones that receive investment funds. The successful projects will also deliver the best value for consumers. If public goals require new technology, then setting performance requirements (e.g., energy efficiency and emission reductions) will achieve the best outcome.
Note on Loan Guarantees:

One reason that loan guarantees are challenging for government to succeed is the structure of the transaction. These projects are high risk by definition since they involve new technology or new industries. The private sector prices this risk through the requirement of higher returns and possibly direct ownership of the project (equity). A government loan guarantee reduces the cost of debt for the project; so in essence, the cost of the loan is reduced by a certain amount. That reduction has a specific value, but it is normally a small amount of the overall cost of the loan. The government then takes responsibility (guarantees) for the entire loan if it fails. If there really is a public good in pursuing a specific technology, it may be far more cost effective for the government to provide a direct grant equal to the loan subsidy amount, rather than assume the full cost of a loan failure—especially in light of the government’s overall track record of unsuccessful loan guarantees. This also has the advantage of forcing a cost-benefit discussion during the budget process.

One of the best examples of cost-effective government research has been the U.S. Human Genome project, which catalogued the genes in human DNA; created a public catalogue of the data; improved tools for data analysis; and transferred the related technologies to the private sector. The Human Genome project was managed and funded by the U.S. Department of Energy and the National Institutes of Health. Many of the Department of Energy’s 19 national laboratories played important roles in this project along with industry and the academic community. This research project was completed in 13 years and catalyzed the U.S. biotechnology industry. This industry now consists of more than 1,400 companies (more than 300 public) with a market capitalization of more than $400 billion. While near-term research may benefit a specific company or technology, appropriate long-term research such as the Human Genome project, can create entire industries. The most valuable role for government research is in significant, long-term research.
Climate Change or Energy Supply Disruptions

Whether your goals are reducing emissions or ensuring energy system reliability, consistent tax policy, transparent regulations, and a confidence in markets can serve as a foundation for achieving the most economic and successful outcomes. This is true regardless of the source of the energy being consumed. Policies based on this approach are less likely to create outcomes with unintended consequences.

What about policies to mitigate climate change? A market approach can be applied to address climate change, provided that a clear performance goal is established. In fact, a principled approach would be much more effective than the piecemeal, favored solution approach that has been cobbled together in past energy policy efforts.

For example, a carbon tax is a transparent approach to reducing emissions. A carbon tax would allow the market to work to assign the best solution at the lowest cost to consumers, perhaps with existing technology or new technology. Once performance targets were set, the private sector would be able to calculate financial returns that would result in investment in the most promising solutions. The challenge has always been to achieve consensus on the specific outcome. The inability to reach agreement on an emissions reduction target has resulted in subsidies for various politically acceptable solutions, such as renewable energy. If addressing climate change is the objective, then emissions reduction should be the goal, not the type of energy that is produced.

Additionally, what about short-term supply disruptions caused by geopolitical events? Market-based policies may be even more important in responding to short-term supply disruptions. These disruptions hold the greatest risk for knee-jerk policy actions, which also tend to have the most adverse, unintended consequences. For example, it was as a result of the 1973 oil embargo and higher oil prices that precipitated the windfall profits tax on oil. In most short-term disruptions, the market works quickly to reallocate supply. This was the case for oil field repair equipment after Hurricane Katrina in 2005, when projects that brought the most supply back online were prioritized by contractors as a way to manage their customer relationships. The private and public goals were aligned to ensure that the energy supply was recovered as fast as possible.

Government plays an important role in monitoring the market during potential or actual supply disruptions, but it is important that government not act too quickly and cause inefficiencies, which could delay recovery.
The Energy Policy Answer—
Principles, Not Programs

Viewing the United States and the world through the lens of abundance, we need to formulate an energy policy that allows businesses and entrepreneurs to discover the technologies that will add value and transform our society—thereby raising standards of living around the world. To accomplish these goals, we need a national energy policy that maximizes the value of our resources today, enables innovation and industries and economies to prosper.

The energy policy to lead the United States to abundance must be based on a new and stable foundation. This foundation can best be achieved by establishing a set of principles that can be applied universally, regardless of the type or source of energy. Today’s energy strategies do not afford those opportunities. By refocusing our national energy strategy from a more dynamic and abundance platform, it will maximize the value of our current energy sources and allow the market to develop energy technology that adds future value and expansion to society. Here are five core issues to be considered for crafting a proactive energy policy:

(1) **Trust the Market, Maximize Value for Americans**

The complexity of the global energy market and the inability to predict technological advances or transformations require a reliance on markets to make investment decisions. The government must avoid its tendency to offer preferential treatment of any energy source or the desire to choose winners. Over the past 40 years, there have been numerous examples of failed government decisions to support uneconomic energy projects from coal gasification to solar power. When market forces have been allowed to work, high prices and perceived shortages have been turned into surpluses and abundance.

Relying on markets as a key energy policy principle will result in the highest value for the country and individuals. Benefits for Americans are realized by maximizing the effective production of the nation’s resources, avoiding imprudent expenditures of taxpayer dollars, and providing consumers with the lowest energy cost.
(2) Straightforward and Consistent Tax Policy; No Preferential or Punitive Treatment

Energy investment decisions are complex and have very long time frames. New energy developments and energy facilities typically have lead times of 5 to 10 years and a life expectancy of 20 years or more. A decision today impacts corporate finances for up to 30 years. To ensure that investments are made in all aspects of the energy value chain—from research to exploration/testing to operation—the nation's tax and fiscal policy must be clear and consistent. A key inhibitor to investment throughout the energy industry is tax policy that is difficult to interpret, preferential, or uncertain. Tax policy that is designed to encourage one form of energy over another creates unintended consequences and results in inefficiencies. Tax policy must be long term, consistent, and globally competitive to attract investment. This applies to energy project investment just as it does to non-energy ventures.

(3) Clear and Transparent Regulatory Policy and Processes

It is essential that we steward our environment and protect public health and safety. Regulations are a key part of accomplishing these goals. It is in the interest of government, industry, and citizens that regulation be accomplished efficiently, without duplication or unnecessary burdens. Unnecessary requirements not only increase costs for consumers, but they also allocate resources away from greater concerns. Further, they discourage, slow, or limit investment, thus increasing the costs of future energy. Two important practices to ensure that regulations are effective and efficient are implementing regulations at a state or regional level as well as the use of performance-based practices, rather than prescriptive requirements.

(4) Communicate in Factual and Informative Terms With the Public

Too many times, interest groups have their objectives represented by government and the regulators that it employs. The government’s role is to be objective, honest, and fact based. This also requires listening to the public and understanding the real issues underlying its concerns. It also requires open channels by which to share information and communicate with one another on a regular basis. Facts also need to outweigh rhetoric in order to understand the reality and potential of what can be achieved through energy development and distribution, as well as the risks that these operations pose. Only then can effective and informed decisions be made.

Often, regulatory agencies need to navigate a fine line. To maintain credibility with both industry and the public, the government must objectively evaluate information on new practices without taking a position. Only then is the public good being served and advanced.
(5) **Invest in Long-term Research, Not Short-term Applied Research**

The U.S. government has a fundamental role in long-term research, whereas companies need to focus on applied research with near-term commercial opportunities. The government, in partnership with industry, universities, and research institutions, also has a unique role in advancing the science and engineering that provide the foundation for future breakthroughs. Research planning should be done with a long-term perspective and the government should commit to the term of the research. Cases where the government has changed course or has been unable to meet multiyear research funding commitments have proven to be ineffective in accomplishing research goals or in serving as a reliable partner with universities and institutions. Research should never be an avenue for short-term political objectives. For effective energy policy, research goals should be looking 10 or more years into the future and should have the resource and programmatic stability to fulfill those goals.
Conclusion

The five principles are intended to outline a national energy strategy and not to advocate the development of a specific energy source. If the country follows these principles, we can maximize the value of our resource endowment that Americans possess. Removing the focus on which energy sources are better or preferred will benefit businesses and consumers alike. Developing America’s energy policy based on fundamental principles will enable the country and its citizens to reestablish key priorities for the future. America has a rich resource endowment and an unmatched capacity for innovation. We should carry that abundance, opportunity, and optimism into our energy policy.

By doing so, we can produce more oil, gas, coal, and other energy sources to power more opportunities and innovations. We will also create a consistent, stable, and predictable investment environment that will likely result in alternative energy technologies that we have not yet imagined. The shale natural gas revolution is already recreating industries in the immediate areas of gas production, with new chemical processing plants and expanded steel mills being developed in long distressed areas such as Ohio and Pennsylvania. Companies are researching processes which, when successful, will unleash new ways to use natural gas as a building block for chemicals that are the foundation of our modern society. These opportunities and more are directly related to having cost effective and plentiful natural gas supplies. Many of the most important long term consequences of a competitive advantage for North America in energy are not yet fully understood. Yet this competitive advantage could very well lead to the re-industrialization of America.

We are just beginning to see and appreciate the energy abundance before us. We have experienced job growth and local economic benefits directly related to the extraction of new shale oil and gas supplies. Energy intensive businesses are seeing the direct benefit of lower energy prices on their bottom line. In the near term, the nation will produce more energy and decrease consumer energy costs, thus leading to a stronger and wider economy as well as greater employment. This means more competitive U.S. industries, improved energy security, and more jobs and economic growth to power another American century.
Additional Resources


www.rff.org/centers/energy_economics_and_policy/pages/shale-matrices.aspx

“U.S. Oil Production Up, But On Whose Lands?” Institute for Energy Research.

www.instituteforenergyresearch.org/2012/09/24/u-s-oil-production-up-but-on-whose-lands-2/

Alfred E. Mann Foundation for Biomedical Engineering

www.mannfbe.org/biomedtech/biotechnology.htm


www.crs.gov

The History of Regulation

www.naturalgas.org/regulation/history.asp


About the Author

James Slutz
Fellow, U.S. Chamber of Commerce Foundation
President and Managing Director,
Global Energy Strategies LLC

James Slutz is the President and Managing Director of Global Energy Strategies LLC, focusing on energy project development (oil, gas and geothermal) and technology commercialization, primarily with oil and gas environmental applications.

Slutz serves on the Advisory Boards of Hart Energy Publishing, the Canada Institute of the Woodrow Wilson International Centre for Scholars, and the University of Southern California’s Center for Geothermal Studies. Slutz is also a Distinguished Associate of FACTS Global Energy.

Prior to founding Global Energy Strategies, Slutz served as Assistant Secretary of Energy in the United States. In that position, he was the executive responsible for leading the Office of Fossil Energy which includes the coal, oil, and natural gas business lines in the Department of Energy. He also oversaw the nation’s Strategic Petroleum Reserve and served as the primary policy advisor to the Secretary on fossil energy issues. Slutz previously served as the Deputy Assistant Secretary for Oil and Natural Gas.

Prior to joining DOE, Slutz served as the Indiana Oil and Gas Director, regulating the State’s upstream oil and gas industry.

He holds an MBA degree from The Ohio State University, Fisher College of Business, and a B.S. degree from The Ohio State University, School of Natural Resources.
For more information, go to forum.uschamber.com/library/2012/12/energypolicy.