A TRANSITION PLAN FOR SECURING AMERICA'S ENERGY FUTURE

Institute for 21st Century Energy | U.S. Chamber of Commerce

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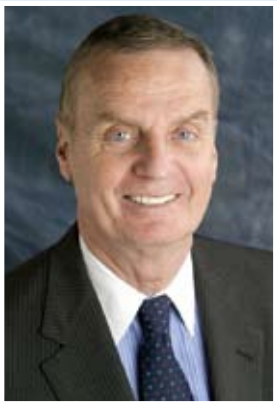

General James L. Jones, USMC (Ret.)
President and Chief Executive Officer
Institute for 21st Century Energy
U.S. Chamber of Commerce

"Mr. President-elect, we offer you and your transition team this comprehensive set of energy policy recommendations because our country urgently requires a balanced and enduring strategy to meet our growing needs. America stands at a defining moment where the decisions made today will influence the economic prosperity, global competitiveness, and national security of future generations. This is a monumental calling and we stand ready to assist you during this historic transition and in the years to come."

The mission of the U.S. Chamber of Commerce's Institute for 21st Century Energy is to unify policymakers, regulators, business leaders, and the American public behind a common sense energy strategy to help keep America secure, prosperous, and clean. Through policy development, education, and advocacy, the Institute is building support for meaningful action at the local, state, national, and international levels.

The U.S. Chamber is the world's largest business federation representing more than 3 million business organizations of every size, sector, and region.

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Memorandum

TO: President-elect Barack Obama

FROM: Institute for 21st Century Energy
U.S. Chamber of Commerce

cc: Members of the 111th U.S. Congress

RE: A Transition Plan for Securing America's Energy Future

BACKGROUND:

For over 40 years, the United States has had an inadequate, contradictory, and shortsighted approach with regard to our energy future. It is time for a strategic change of course. We can no longer ignore the consequences of not having a plan which is bold and comprehensive. Energy is a national security issue, and it is an international security issue of the highest order. Global demand will increase by more than 50 percent between now and 2030 – and perhaps by as much as 30 percent here in the United States. We must develop new, affordable, diverse, and clean sources of energy that will underpin our nation's economy and keep us strong both at home and abroad. Our energy future must address growing shortfalls in infrastructure capacity and emerging environmental issues.

We are at a defining moment for our nation's energy future and the United States must now undertake a comprehensive and strategic approach to include both long- and short-term actions to address our growing energy challenges. We are in a race against the clock and complacency is our greatest enemy. If we do not take this challenge seriously, America's economic prosperity, national security, and global standing will be at risk. The status quo is not only not an option, it is a recipe for failure.

The volatility of the gas and oil markets of 2008 is proof positive that a call to action is necessary and justified. With the recent sharp drop in oil prices, we should not be lulled into believing that this reflects a fundamental change in our energy fortunes. Consider that within a period of one year, the price of oil went from about $70 per barrel to nearly $150 per barrel before retreating once again to $70 per barrel. Indeed, the fact that such boom and bust cycles have been all too common in energy markets over the past four decades is indicative of the lack of a national energy policy that keeps pace with the rapidly changing dynamics of energy markets and systems. And looking ahead, even the most optimistic among us must conclude that we are not well positioned to anticipate nor prepared to meet tomorrow's energy needs.

Increasing reliance on foreign sources of energy; rising or volatile prices of oil, coal, natural gas, and electricity; restrictions on domestic energy production; tightening capacity margins; aging infrastructure; and energy technology research and development budgets that are well off their 1970s peak reflect long-term trends that have left this nation increasingly vulnerable to energy shocks.

Other emerging trends reflecting the new global energy landscape could accelerate the impact of our growing energy insecurity. Energy poverty haunts billions of people worldwide, and many developing countries have made providing modern energy services to their people a priority because they know the positive impact reliable energy has on economic growth and prosperity.

The need for new power production is a particular concern. From 2005 to 2030, global electricity demand could rise 90 percent, with a 165 percent rise in developing countries.

At the same time as new demand growth is emerging, more and more global energy resources are becoming inaccessible. Resource nationalism is on the rise, state-owned oil companies command a growing share of global reserves, project costs are climbing rapidly, and qualified engineers and skilled workers are becoming increasingly scarce. These trends promise to place tremendous pressure on energy markets.

While the urge to "do something" to deal with short term fluctuations in energy markets is understandable, it is ultimately unproductive, and often detrimental to energy security, when actions are taken without a long-term view. What is needed instead is a more strategic and comprehensive approach to address the broad underlying trends in energy markets—some long standing, some only recently emerging—that are and will remain significant challenges unless we muster the will to adopt a sound enduring energy policy. A sluggish economy teetering on, if not in, a recession and the recent crisis in the financial markets makes tackling these challenges all the more pressing, not less so, because at its most fundamental level, energy security is a critical underpinning of a healthy economy.

DISCUSSION:

The decisions that your Administration and Congress make on energy policy in the next few years will affect us for generations to come, and our future generations deserve the proper far-sighted decisions. The American people are smart. You can count on them to support hard decisions when they are presented with the facts and are told the truth. The stakes are enormous and our competitiveness and security compel common sense action now. To date, the public has not been informed as it should have been, not just with regard to the problems we face, but also with regard to the abundance of solutions which we have at our disposal to create a more balanced and abundant energy spectrum.

The Institute for 21st Century Energy (Institute), an affiliate of the U.S. Chamber of Commerce, has identified a path forward for an effective long-term energy policy for your consideration. In July of this year, the Institute issued an Open Letter, signed by a bipartisan group of 27 national leaders, identifying 13 pillars for "Securing America's Energy Future." These pillars bear repeating once again. They include the need to:

1. **Aggressively Promote Energy Efficiency**
2. **Reduce the Environmental Impact of Energy Consumption and Production**
3. **Invest in Climate Science to Guide Energy, Economic, and Environmental Policy**
4. **Significantly Increase Research, Development, Demonstration, and Deployment of Advanced Clean Energy Technologies**
5. **Immediately Expand Domestic Oil and Gas Exploration and Production**
6. **Commit to and Expand Nuclear Energy Use**
7. **Commit to the Use of Clean Coal**
8. **Increase Renewable Sources of Electricity**
9. **Transform Our Transportation Sector**
10. **Modernize and Protect U.S. Energy Infrastructure**
11. **Address Critical Shortages of Qualified Energy Professionals**
12. **Reduce Overly Burdensome Regulations and Opportunities for Frivolous Litigation**
13. **Demonstrate Global Leadership on Energy Security and Climate Change**

Following the submittal of the Open Letter to your campaign and to Congressional leadership, the Institute issued a *Blueprint for Securing America's Energy Future* in September 2008 that proposes more than 75 policy actions necessary for an effective long-term energy strategy. Today, we are submitting a detailed plan and suggested schedule for implementing these recommendations.

Like an investment portfolio, our energy policy portfolio must be diversified and balanced. Focusing our resources on developing one energy source over another, or failing to establish a bipartisan consensus with regard to the urgency of the moment, does not inspire confidence in our national ability to develop and follow a sound energy policy—we need all sources of energy. Your Administration can break from the practices of the last 40 years and resist efforts to approach energy policy in a piecemeal manner or too concentrated on any single source. To achieve energy security in the long run, our energy markets need to achieve a greater level of flexibility, that is, there must be vigorous competition among a variety of fuels and technologies within and among different sectors.

America's energy challenges did not emerge overnight, and will not be solved overnight, but we must begin immediately to affect solutions to ensure that America's supply of fuel and power is adequate, stable, diverse, and affordable, while protecting national security and continuing to improve the environment. It is a challenge that must be met through the efforts of the private sector, government at all levels, and American society at-large and it will require challenging an old, comfortable orthodoxy. It is incumbent on all policymakers to re-examine hardened positions, become better informed about where our fuel and power come from, and make judgments based on facts, the best science, and shared responsibilities.

It goes without saying that the federal government has a significant role to play in energy policy, but this role should be constructive and evenhanded. As tempting as it might seem to anoint the federal government with the sole responsibility of solving the energy dilemma, that urge must be resisted. It is essential that your Administration recognize that private industry and capital markets will ultimately transform the energy landscape. Whenever government tries to pick winners and losers, whether through burdensome regulations, central planning, or open-ended subsidies, it fails, and taxpayers and consumers pay the price.

Government's proper role is to foster an environment where industry and innovation can thrive. The government should provide regulatory certainty and support development of advanced energy technologies, reduce the barriers to their deployment, and provide appropriate incentives for their adoption.

It is government's role to ensure more, not fewer, options are on the table for American consumers and businesses. For too long the federal government has limited energy options for the American public by placing over 80 percent of our domestic oil and natural gas resources off-limits to investment and investing less in clean energy technologies today than we did immediately after the 1970s oil embargo. Such actions are a self-inflicted wound to our security and prosperity. Instead of looking to create ever more restrictions, your Administration and Congress should focus efforts on lifting permanently such restrictions and fashioning a new relationship with the private sector, across the entire energy spectrum, to mobilize the technologies and capital necessary to ensure a secure energy future.

Our energy sector also suffers from a lengthy, unpredictable, and needlessly complex regulatory maze that delays, if it does not halt completely, construction of urgently needed new energy infrastructure. Even if we had access to unlimited supplies of renewable biofuels for transportation or wind for electricity, without the ability to deliver these products to customers, we would not be any better off. Siting and permitting roadblocks and "build absolutely nothing anywhere near anything" sentiment have sidelined the construction and expansion of everything from transmission lines to power plants—and the economic activity and high-paying jobs that go with them. Both federal and state governments have a responsibility to streamline these processes so that projects can move ahead.

Your Administration and the next Congress have been presented with a ready opportunity to implement policies that get us off the energy roller coaster and onto solid ground. If done right, these new policies can be a potent driver for our nation's economic recovery, creating new American jobs and new industries. If we collectively -- business and government, family and community -- do not seize this opportunity or waste it through politics as usual, we will do our nation a grave disservice.

PLAN FOR ACTION:

First, an agenda of this magnitude cannot be undertaken without strong support and coordination from within White House. The existing bureaucratic structure governing energy policy implementation often results in serious delays, and in some cases, complete frustration of the original goal. Responsibility for and oversight of energy development and use spans at least 13 federal agencies and independent regulatory commissions and numerous committees in both the House and the Senate. There is essentially no one in the executive branch charged with arbitrating interagency disputes on energy issues solely from an energy policy perspective or ensuring the actions of the various agencies reflect a concerted and consistent commitment to energy security. The multiplicity of responsibility within such a large number of bureaucratic fiefdoms, coupled with the lack of an energy policy arbiter within the Executive Office of the President, creates the potential for federal goals and policies on energy to be thwarted. This issue must be addressed in a swift and serious manner to lead the country to a more secure energy future.

> ***Therefore, we recommend the creation of a new office within the Executive Office of the President, the head of which would be responsible for coordinating the implementation of all aspects of energy policy, both domestic and foreign. We recommend you consider announcing the formation of such an entity during your transition period.***
>
> ***Additionally, since energy policy affects and is affected by all economic and national security policy, the head of this new office, as well as the Secretary of Energy should sit on both the National Economic Council and National Security Council.***

Many of the recommendations the Institute has proposed can be dealt with administratively and through the policymaking process and many others through the budget and appropriations process. However, to achieve a truly comprehensive and strategic energy policy, we make the following additional recommendation to those already presented in the Blueprint:

Within one year, Congress should pass, and the President should sign into law, comprehensive energy legislation that incorporates the sound energy policy recommendations in each of the 13 pillars of the Institute's Blueprint for Securing America's Energy Future. This legislation should address promoting energy efficiency across all sectors; increasing and diversifying energy supplies, including oil and gas, coal, nuclear power, and renewable energy; continuing to reduce environmental impacts; and modernizing and protecting energy infrastructure.

Thinking comprehensively opens up possibilities and creates the impetus necessary to unify energy stakeholders and policymakers behind a common strategy. The American public expects action and so do America's businesses.

ECONOMIC REALITIES:

All public policy discussions that occur in the immediate future obviously must take into account the health of the U.S. economy. However, such consideration must internalize the full macroeconomic effect of any policy proposal, and not just the near term impact on the federal budget. Many of the following recommendations do necessitate significant expenditures of the taxpayers' money such as doubling federal energy research and development spending within five years. Similarly other recommendations will decrease the tax burden of businesses and individuals who pursue actions that increase the country's energy security, such as extending tax credits for the purchase of plug-in hybrid vehicles or renewable energy production. These investments by the federal government are wise and necessary down payments on America's energy future.

Without abundant supplies of clean, reliable, and affordable energy and the requisite delivery and distribution infrastructure, our economy will be artificially restrained and will not realize its fullest potential. Energy prices permeate decisions of all businesses in every sector. If energy prices are erratic or artificially high because of near-sighted policy decisions, America's businesses will produce less output, which in turn results in fewer jobs being created, lower wages, higher costs for goods and services, and a smaller tax base to fund federal programs. At the extreme, businesses will relocate overseas to countries with less burdensome regulation.

It is our firm belief that implementation of these recommendations will foster the growth necessary to put the American economy back on track and ensure the competitiveness that supports our global leadership and the prosperity of all Americans. As with any period of economic slowdown, policymakers will be required to weigh tough spending decisions that reflect the country's priorities. Investment in our economic and energy security must be at the top of that list of priorities, and as such, these recommendations should not be treated as interchangeable.

We would be remiss if we did not note that many of these recommendations will directly increase the amount of revenue the government collects. Implementation of policies that enable the production of resources owned by the American taxpayer like natural gas on the Outer Continental Shelf or oil shale on federal lands will result in the direct increase of royalty and bonus payments to the federal government for access to those resources. Additionally, implementing fiscal policies that encourage investment in energy infrastructure will result in economy-wide growth that increases the overall American tax base and in turn, the revenue collected by the government from the taxpayers.

As our 44th President you will assume your office at a time in which our nation finds itself at an historic crossroads. Some openly wonder whether the United States reached its zenith as a nation of great influence at the close of the 20th century. Others wonder whether the United States still has the will and capacity to change itself quickly enough to meet the new and more diverse challenges of the 21st century. This election has demonstrated to the world that the United States is far from complacent and has the determination necessary to confront the next century's greatest challenges. We look forward to assisting you in securing a better energy future for our nation and demonstrating global leadership on this most urgent 21st century challenge.

An Energy Transition Plan for the Administration and Congress

Energy is among the top challenges to our nation's future prosperity, national security, and quality of life in the 21st century. The transition of administrations and a new Congress presents an opportunity for a new and concerted effort to put our nation on a secure energy footing.

To aid in the government transition, the Institute began preparing early. This summer we transmitted to the presidential campaigns and Congressional leadership 13 policy pillars as a platform on which future energy policy could be built. This fall the Institute put more than 75 concrete energy policy recommendations behind each pillar in our *Blueprint for Securing America's Energy Future* that forms an all-encompassing, long-term strategy for the Transition Team to consider and adopt.

The subsequent pages form a roadmap for urgent and comprehensive action detailing *what* our political leadership should implement, with *whom and where* in the federal government responsibility would lie, and *how* the president-elect can prioritize actions on a timeline noting the recommended start and end points for policy action. The rationale for each recommendation was previously outlined in our Blueprint.

The tables organize 88 recommendations behind the relevant policy objective. The recommendations are then further organized by the entity responsible for the action: either by a legislative branch of the U.S. Congress or by the executive branch (a federal agency or the White House) or by both the legislative and executive branch and in some cases the U.S. states or the private sector. We have indicated only the principal agencies charged with the implementation of the recommended action and fully recognize that other agencies have equities and will be involved in interagency deliberations. We propose a concrete and appropriately sequenced timeframe for the execution of each recommendation. For those actions that require appropriations, we propose that Congress adopt them and complete the Fiscal Year 2009 budget process within 100 days. As noted in the Memo to the President-elect, we also recommend that Congress pass and the President sign into law comprehensive energy legislation within one year.

This nation's businesses and industries, as well as the millions of Americans they employ, have placed great trust in the elected leaders of this country. With their trust and hope come the great responsibilities of governing. The Institute stands ready to assist and support President-elect Obama and the 111th Congress in implementing these recommendations.

Aggressively Promote Energy Efficiency

The next best source of new energy is the energy we can save every day. Immediate benefits can be realized by increasing building efficiency and appliance standards, two areas with high energy savings potential. We must explore new business models that reward energy savings, especially for utilities and ultimately the customers. We must expand the suite of voluntary programs, mandates, and fiscal incentives for greater benefits of energy efficiency.

Administration

Recommendation	Agency	TIMELINE
The U.S. Department of Energy (DOE) should move expeditiously to promulgate the appliance standards as required by both the Energy Policy Act of 2005 (EPAct2005) and the Energy Independence and Security Act of 2007 (EISA2007).	DOE	Within 100 days / Within 6 months / Within 1 year / Within 1–2 years / Within 2–4 years / Beyond 4 years

U.S. Congress

Recommendations	TIMELINE
Congress should extend for multiple years the tax incentives implemented in EPAct2005 for energy efficiency measures in residential and commercial buildings, including those for builders of all new energy-efficient homes, as well as credits to homeowners for installation of energy efficient windows, heat pumps, air conditioners, furnaces, boilers, and furnace fans.	Within 100 days / Within 6 months / Within 1 year / Within 1–2 years / Within 2–4 years / Beyond 4 years
Allowing more rapid depreciation of capital equipment through the federal tax code would provide incentives for new investment that would accelerate reductions in energy intensity and carbon intensity. This can be accomplished by revising the tax code to: 1) Reduce the recovery period for investment in electricity transmission lines and smart grid devices from 20 years to 10 years. 2) Reduce by half the cost-recovery period for the installation of best available energy efficiency devices by commercial facilities and small businesses. 3) Provide for immediate expensing for investments that meet the standard for breakthrough low carbon technologies.	
Congress should increase annual funding for DOE's Buildings Program from the current level of about $110 million to $250 million and its Industrial Technologies Program from the current level of about $65 million to $175 million. (These funds are included as part of the recommended five-year increase of federal research and development funding.)	Achieved through annual Congressional appropriations process over a five year ramp-up.
Congress should direct DOE to set energy-saving targets for national model building codes and encourage states to adopt such codes adapted for regional variances.	
Congress should require that federal energy efficiency grants to states be conditioned on the adoption of building codes that emphasize energy efficiency, consistent with model building codes certified by DOE.	
Congress should expand the tax deduction created in EPAct2005 for commercial buildings that reduce energy consumption by one-half to a value of at least $2.25 per square foot.	

U.S. States

Recommendation	TIMELINE
States should establish appropriate regulatory mechanisms to treat utility investments in energy efficiency comparable to other investments.	Within 100 days / Within 6 months / Within 1 year / Within 1–2 years / Within 2–4 years / Beyond 4 years

Reduce the Environmental Impact of Energy Consumption and Production

We must address the impact of our growing energy consumption on the environment and climate, while recognizing that any approach must be both economically viable and environmentally effective. We must not set targets for which technology does not yet exist or which threatens major economic displacement. We must give industry a predictable investment climate and incentives for innovation in clean energy. Costs and benefits must be transparent to consumers. We must commit to a course that promotes global participation while considering the priorities of the developing world.

Administration and U.S. Congress

Recommendations	Agency	TIMELINE
Climate policies must not provide a revenue windfall to the government.	President	This must be a fundamental principle of U.S. climate change policy.
To the extent that climate change policies reduce air pollution as a co-benefit, air pollution rules should be reevaluated and revised when it makes sense to do so.	EPA	This must be a fundamental principle of U.S. climate change policy.
The administration and Congress must approach climate change as part of, not apart from, a comprehensive energy plan and they must take into account the extent of existing mandates, provide regulatory certainty, and permit considerable flexibility in how goals are achieved.	President	This must be a fundamental principle of U.S. climate change policy.
Climate change policies must initially focus on promoting win-win ways to achieve energy security and emissions reductions while protecting economic growth. Efforts should focus on accelerating energy efficiency gains; promoting the development, demonstration, and commercial use of low- or zero emitting technologies; reducing or eliminating barriers to developing and using domestic climate-friendly fuel sources; and providing legal and regulatory certainty for implementing technologies to reduce emissions.	President	This must be a fundamental principle of U.S. climate change policy.
To ensure our competitiveness, any new national climate change policy should be conditional on an international agreement that requires full international participation.	President	This must be a fundamental principle of U.S. climate change policy.
Congress should act expeditiously to legislate a mechanism to address the issues and concerns for which the Clean Air Interstate Rule was originally intended. Absent congressional action, the administration should appeal the D.C. Circuit Court's decision.	DOJ	

U.S. Congress

Recommendations	TIMELINE
Congress should enact a new Section 48C tax credit tailored specifically to retrofits of existing coal-fired generation units - including those of less than 400 MW - that would reduce both criteria pollutants, such as NOx, SO_2 and mercury, and carbon dioxide emissions. This will provide an inducement to test more widely on a commercial scale both carbon capture equipment and long-term carbon storage protocols. With nearly 1,500 existing coal-fired units in operation around the country, this is one of the best near-term steps the country could take to reduce CO_2 emissions, maintain an affordable electricity supply, and advance the knowledge base on carbon capture and storage.	
Congress should remove the cloud of regulatory uncertainty by clarifying that greenhouse gas emissions shall not be regulated under the Clean Air Act or the Endangered Species Act, and Congress should block legal "fishing expeditions" and lawsuits against particular entities for the effects of climate change. Federal standards should preempt state standards.	

Invest in Climate Science to Guide Energy, Economic, and Environmental Policy

A deeper understanding of the issues and developing science associated with the environment and climate change will influence national and global energy, economic, and environmental policy choices. Balancing these priorities requires greater consideration of the complex processes driving climate change and increased attention to adaptation measures. We must increase our investment in climate science, which will enable us to adjust policies as scientific understanding advances. At the federal level, we need better coordination and collaboration across agencies for policy coherence and balance.

Administration

Recommendations	Agency	TIMELINE
A federal multiagency Climate Change Adaptation Program, similar in organization and function to the Climate Change Science Program and the Climate Change Technology Program, should be established to examine adaptation and geo-engineering issues and to coordinate R&D across government.	President	Within 6 months
Federal research and development agencies should develop a more comprehensive and concise policy on data disclosure, identifying what must be made publicly available. To maintain the public's trust and support and to ensure transparency, researchers who receive federal support should be required to disclose their data, models, and other relevant material, subject to protections for confidential business information, so that results can be assessed and reproduced.	OMB	Within 6 months – Within 1 year
The Administration should employ greater coordination to ensure that federal agencies properly collect, maintain, and share observational data.	DOC	Ongoing lead-agency responsibility.

Administration and U.S. Congress

Recommendation	Agency	TIMELINE
The federal government should make filling the gaps in climate science a research priority. Progress in climate science is apparent, but significant knowledge gaps remain, such as the predictive capability of climate models and the impact of land use on climate change.	DOC, DOE, NASA, NSF	Achieved by the Interagency Climate Change Program as part of its annual R&D planning and budgeting process.

U.S. Congress

Recommendation	TIMELINE
Congress should provide adequate funding to support an integrated surface, ocean, and space-based observation network, including the Global Earth Observation System of Systems. (This is included in the general recommendation to double R&D spending.)	Achieved through annual Congressional appropriations process.

Significantly Increase Research, Development, Demonstration, and Deployment of Advanced Clean Energy Technologies

Technology is the cornerstone of a new energy policy. The United States is currently spending 50% less on energy R&D than during the 1970s oil embargo. We spend less than four billion dollars a year on clean energy R&D, as compared to between 400 and 700 billion dollars on imported oil in 2008. New industry and government relationships are needed, and liability issues must be addressed. The demonstration and application of promising clean technologies must be carried out on an ambitious and cost-effective scale; small, tentative steps are not sufficient.

Administration

Recommendation	Agency	TIMELINE
DOE should provide opportunities for businesses and venture capital firms to work within the national laboratories to identify and create business plans to commercialize new advanced energy technologies being developed by the laboratories.	DOE	Within 100 days > Within 6 months > Within 1 year > Within 1–2 years > Within 2–4 years > Beyond 4 years: +

Administration and U.S. Congress

Recommendations	Agency	TIMELINE
The federal government should support a broad R&D portfolio on both the supply and demand sides, including energy efficiency, new energy sources, and advanced fuel and power delivery options. Above all, these efforts must be supported by a robust scientific enterprise within DOE and other public and private research institutions. (This is a guiding principle for the general recommendation to double federal R&D spending.)	DOE	Achieved as part of annual R&D planning and budgeting process.
DOE should establish, and Congress should fund, a new ARPA-E program or its equivalent to assess, prioritize, select, and support high-risk, exploratory research on innovative concepts and enabling technologies that have great potential for breakthroughs.	DOE	Within 1 year: +
DOE should establish and Congress should fund an Electric Energy Storage Initiative to coordinate and fund research into energy storage technologies with the goal of developing cost-effective technology capable of storing 50 to 100 MW of power. Energy storage will become critical as the nation moves toward exponentially greater use of intermittent technologies. (This is included in the general recommendation to double federal R&D spending.)	DOE	Within 1 year > Within 1–2 years

U.S. Congress

Recommendations	TIMELINE
Congress should, at a minimum, double the funding for federal energy technology R&D programs in real terms within five years.	Within 100 days > Within 6 months > Within 1 year > Within 1–2 years > Within 2–4 years > Beyond 4 years: +
Congress should establish a long-term R&D tax credit so that companies can plan their R&D activities with greater certainty.	Within 1 year > Within 1–2 years
Congress should create a Clean Energy Bank of the United States (CEBUS), a quasi-governmental entity, with sufficient initial capitalization to invest in and accelerate the market penetration of advanced clean energy technologies. The bank should have the authority to issue loans, loan guarantees, lines of credit, insurance, and other financial products to help support demonstration projects. CEBUS should become self-financing through fees and interest. (This is included in the general recommendation to double federal R&D spending.)	Within 100 days > Within 1 year

Immediately Expand Domestic Oil and Gas Exploration and Production

Expanding domestic production will reduce our dependence on foreign oil and natural gas and significantly reduce the billions of dollars we send abroad each year. As our reliance on oil and natural gas will necessarily continue for the foreseeable future, we can no longer rule out the value of our own significant proven oil and gas reserves nor the value of a future significant discovery anywhere in or off the shores of the United States. Doing so will create new investment and new jobs here at home. New federal and state partnerships are needed, and new revenue-sharing models must be developed to build local support for environmentally sound energy exploration and production.

Administration

Recommendation	Agency	TIMELINE
The U.S. Department of the Interior should expeditiously make areas on the Outer Continental Shelf previously under moratoria available for leasing.	DOE	Within 100 days / Within 6 months / Within 1 year / Within 1–2 years / Within 2–4 years / Beyond 4 years

Administration and U.S. Congress

Recommendations	Agency	TIMELINE
The President and Congress should actively support construction of the Alaska natural gas pipeline.	DOE	Within 100 days / Within 6 months / Within 1 year / Within 1–2 years / Within 2–4 years / Beyond 4 years
The President and Congress should expand the leasing program for increased access to and production of fuels from oil shale, oil sands, unconventional natural gas, and other frontier hydrocarbons fuels in nonpark federal lands.	DOI	
The President and Congress should increase domestic energy supply by permanently ending the remaining moratoria on exploration and production of oil and natural gas in the Outer Continental Shelf (OCS) and on federal lands onshore.	President	

U.S. Congress

Recommendations	TIMELINE
Congress should provide a 37.5% share of royalty revenues from all production from new leases on the OCS to the state(s) off the coast of which development occurs.	Within 100 days / Within 6 months / Within 1 year / Within 1–2 years / Within 2–4 years / Beyond 4 years
Congress should repeal Section 526 of EISA2007, which prevents the federal government (including the military) from utilizing nontraditional transportation fuel sources, such as coal-to-liquids or oil shale, for its vehicles and aircrafts.	

Commit to and Expand Nuclear Energy Use

Nuclear power is currently an emissions-free source of 20% of America's electricity supply, despite our not having licensed the construction of a nuclear power facility in nearly 30 years. Expansion of new nuclear power assets is essential to meet our projected growing demand while mitigating our emissions of CO_2. As required by law, the federal government must provide authorized fiscal incentives for new nuclear power plants. We must solve our long-term nuclear waste challenges and aggressively expand efforts to recycle used nuclear fuel.

Administration

Recommendations	Agency	TIMELINE
DOE should increase the amount of federally stockpiled uranium available for use in domestic nuclear facilities.	DOE	Within 100 days · Within 6 months · Within 1 year · Within 1–2 years · Within 2–4 years · Beyond 4 years
DOE should create a strategic reserve of low-enriched uranium from its existing inventory to guard against supply disruptions.	DOE	

Administration and U.S. Congress

Recommendations	Agency	TIMELINE
The Administration and Congress should expeditiously establish a program to begin the recycling of the nation's used nuclear fuel and establish a new corporation to coordinate the federal government's legal responsibility to safely and reliably dispose of the waste while not subsuming DOE's R&D mission. This entity should be provided long-term contracting authority and access to monies from the Nuclear Waste Fund.	DOE	Within 100 days · Within 6 months · Within 1 year · Within 1–2 years · Within 2–4 years · Beyond 4 years
The President and Congress should authorize the Secretary of Energy to enter into agreements with willing communities to foster the development of privately owned central facilities for the temporary storage of used nuclear fuel where DOE could purchase storage services for commercial used fuel removed from nuclear power plants.	President	
The President and Congress must commit to a permanent solution to our nation's nuclear waste. As directed by current law, the President and Congress must act expeditiously to ensure that the Nuclear Regulatory Commission's Yucca Mountain licensing process proceeds and, if it is licensed, provide full funding for construction and operation of the repository as well as take legislative action to permanently withdraw the necessary land from public use, eliminate the current statutory 70,000 metric ton cap on disposal capacity at Yucca Mountain, and establish a radiation health standard for a time period that can reasonably be demonstrated through scientific evidence.	President	
If the President or Congress will not fully commit to this path, they owe it to the American public and the utilities that have paid fees and interest in excess of $27 billion into the Nuclear Waste Fund, to pursue a parallel path of centralized interim storage, industrial deployment of advanced recycling technology, and continued governmental research and development to more quickly place the U.S. government in compliance with U.S. law.	President	

U.S. Congress

Recommendations	TIMELINE
Congress should increase the loan guarantee authority of DOE's Loan Guarantee Program commensurate with the capital cost of new nuclear power facilities. Additionally, Congress should transition the function of the DOE Loan Guarantee program to a more permanent, stable financing platform, like the Clean Energy Bank of the U.S.	Within 100 days · Within 6 months · Within 1 year · Within 1–2 years · Within 2–4 years · Beyond 4 years
Congress should amend the Nuclear Standby Support Program to allow for recovery of increased project costs as a result of delays, rising equipment costs, escalation clauses, and costs of litigation, and it should provide for the recovery of 100% of covered costs and debt obligations.	
Congress should ensure that the Nuclear Regulatory Commission has the necessary resources to review and approve combined construction and operating licenses for new nuclear power plants in a timely manner.	
Congress should change budgeting rules to take the Nuclear Waste Fund "off budget" and codify use of this fund for interim used fuel storage through purchasing storage services from private central storage facilities as well as used fuel recycling.	

Commit to the Use of Clean Coal

Currently, coal provides approximately 50% of our electricity supply, making it the largest source of domestic, reliable, and affordable energy. Coal will necessarily be a critical and expanding source for our future electricity and fuels needs. To use coal cleanly and to address CO_2 emissions, we need to greatly increase our research, development, and demonstration of clean coal and carbon capture and sequestration technologies. We also must establish a fair and predictable regulatory environment.

Administration and Private Sector

Recommendation	Agency	TIMELINE
The federal government and the private sector should capitalize on opportunities to partner with other governments and overseas businesses to advance CCS technology.	DOE	Achieved through DOE's annual R&D planning and budgeting process.

Administration and U.S. Congress

Recommendations	Agency	TIMELINE
The President and Congress should accelerate clean coal technology development by increasing funding at DOE to $500 million per year to support R&D for advanced Integrated Gasification Combined Cycle, carbon sequestration, advanced turbines, innovations for existing plants, fuels cells, and related technologies. (This is included in the general recommendation to double federal R&D spending.)	DOE	Within 100 days → Beyond 4 years +
The President and Congress should fund a clean coal power demonstration program on the order of $500 million per year to take advantage of R&D breakthroughs and more aggressively and rapidly undertake first-of-a-kind commercial-scale demonstration of advanced IGCC and other coal-fueled systems with carbon capture and storage (CCS). (This is included in the general recommendation to double federal R&D spending.)	DOE	Within 100 days → Beyond 4 years +
The President and Congress, working with the private sector, should establish a fund managed by fossil-based utilities to support research and demonstration of CCS technologies at private, academic, and government entities. Funding would be raised through a small fee on fossil based utilities that could be passed on to consumers and treated as "off-budget" and not subject to appropriations. The fund's budget should not exceed $1 billion per year over 10 years. (This is included in the general recommendation to double federal R&D spending.)	Treasury	Within 100 days → Beyond 4 years +
The federal government should ensure a stable regulatory environment for carbon sequestration and ensure that regulations are ready when the technology is. These legislative and rulemaking processes should work in parallel with technology development and take advantage of knowledge developed during large-scale sequestration demonstrations.	DOE, EPA	Within 1 year → Beyond 4 years +

U.S. Congress

Recommendation	TIMELINE
Congress should expand and structure the EPAct2005 clean coal investment tax credit program to reduce the effective cost of the first five or six advanced coal-fueled plants of each design and coal type so that they are market competitive with state-of-the-art supercritical coal-fired plants. Doubling the EPAct2005 tax credit would stimulate the construction of 12 more initial IGCC plants (four more plants for each major design type). Carbon capture "readiness" could be used as scoring criteria to encourage sequestration-amenable plants.	Within 6 months → Within 1 year

Increase Renewable Sources of Electricity

Any effort to meet growing demand and address environmental concerns with continued economic growth requires zero and near-zero emissions power generation to be developed and deployed. This is true not only in our country, but around the world. We require a predictable and durable fiscal regime to stimulate new investments in solar, wind, energy from- waste, and other renewable technologies. We must also invest in developing the required technologies needed to expand and transport new sources of commercially viable renewable energy.

Administration

Recommendation	Agency	TIMELINE
As directed by EPAct2005, the Minerals Management Service should issue regulations for the development of renewable energy projects on the OCS and should continue to process permits for these projects in the interim.	DOI	Within 100 days / Within 6 months

U.S. Congress

Recommendations	TIMELINE
Congress should amend the renewable energy tax credits to include other effective technologies, and to fully capture facilities that require long lead times for construction by modifying the placed in service date provision for geothermal, energy-from-waste, and all other baseload energy sources and provide a credit for facilities that are not yet placed in service by the expiration date, if a financial commitment has already been made.	Within 100 days / Within 6 months / Within 1 year
Congress should increase annual funding for wind, solar, geothermal, and ocean programs at DOE from the current level of about $250 million to $450 million. (This is part of the previous recommendation to double federal R&D spending within five years.)	Achieved through annual Congressional appropriations process over a five year ramp-up.
Congress should extend for eight years the renewable energy tax credits and establish a phaseout period of four years.	Within 100 days / Within 6 months / Within 1 year
Congress should extend the existing Clean Renewable Energy Bond program to enable public power systems and electric cooperatives to seek alternative financing mechanisms for clean energy projects that are not eligible for production tax credits.	Addressed in the Emergency Economic Stabilization Act of 2008.

Transform our Transportation Sector

Transportation in the United States is currently 96% reliant on petroleum. New technologies, ready for application, must be affordable and become commonplace. Efforts to develop and promote alternative transportation options, including second generation biofuels, plug-in hybrids, and all-electric and hydrogen-powered vehicles, should be based on life cycle cost analysis and incorporate consideration of each technology's required infrastructure into policy planning. At the same time, we must focus on an improved surface and mass transportation infrastructure to generate efficiency and reduce emissions.

Administration

Recommendations	Agency	TIMELINE
DOE and the Department of Defense should continue to work in partnership to develop and deploy technologies to ensure a domestic supply of alternative fuels for military use.	DOE, DOD	Accelerate ongoing efforts.
The President should direct the Secretary of Transportation, in consultation with the secretaries of Agriculture (USDA) and Energy, and the administrator of the EPA, to commence a comprehensive review of the impacts of biofuels production on U.S. competitiveness, the environment, and global food supplies. The departments should enter into an agreement with the National Academies to produce an analysis of scientific findings relating to current and future biofuels production and the domestic effects of a dramatic increase in such production activity.	DOT, USDA, DOE, EPA	
The departments of Energy and State, the Office of the U.S. Trade Representative (USTR), and the private sector should work together internationally to develop harmonized standards for biofuels to increase international market opportunities.	DOE, State, USTR	

Administration and U.S. Congress

Recommendation	Agency	TIMELINE
The President and Congress should accelerate and increase funding from the current level of roughly $400 million to $600 million for transportation technologies and bio-based fuel technology R&D programs at DOE to support the transition to unconventional vehicles and alternative fuels, including hybrid electric systems, materials technology, advanced combustion engines, technology integration, and fuels technology. (This is included in the general recommendation to double federal R&D spending.)	DOE	Achieved through annual R&D planning, budgeting, and appropriations process.

U.S. Congress

Recommendations	TIMELINE
Congress should extend for multiple years the income and excise tax credits for biodiesel and renewable diesel used as fuel as provided for in EPAct 2005.	
Congress should disqualify from the tax credit foreign-produced fuel that is used or sold for use outside the United States for the income and excise tax credits for alcohol, biodiesel, renewable diesel, and alternative fuel production.	
Congress should extend the tax credits for the purchase of plug-in hybrid and compressed natural gas vehicles for 10 years with the level remaining the same over the first five years and declining each year thereafter, phasing out entirely after 10 years.	
Congress should make the blenders' tax credit for biofuels variable by linking it to the price of gasoline or diesel fuel, as appropriate, so that as the price for these conventional fuels rises, the value of the tax credit falls proportionately. There should be a reasonable and rational floor price set.	
Congress should include second generation biofuels, like cellulosic ethanol, in the blenders' tax credit; however, because these technologies are not as mature or economically competitive as other eligible fuels, the allowable credit for these fuels should be increased, with a definite phase out after 10 years.	

Modernize and Protect U.S. Energy Infrastructure

Our energy infrastructure is increasingly inadequate for our growing demand and economy. Blackouts, brownouts, service interruptions, and rationing could become commonplace without new and upgraded capacity. Critical energy infrastructure must also be adequately protected from both terrorist threats and natural disasters.

Administration

Recommendations	Agency	TIMELINE
The Secretary of Energy should place high priority on the implementation of the smart power grid requirements of the Energy Independence and Security Act of 2007. This may include specific recommendations for state and federal policies and other actions necessary to facilitate the transition to a smart power grid.	DOE	Within 6 months – Within 1–2 years
The President should evaluate if the inclusion of refined products in the Strategic Petroleum Reserve (SPR) is necessary.	DOE	Within 1 year – Within 1–2 years
The Department of Energy, in cooperation with the Department of Transportation, should undertake a robust systems analysis of energy and associated infrastructure requirements from 2009 to 2030. The results should be applied to the Department of Energy's Energy Information Administration (EIA) forecasts as appropriate.	DOE, DOT, DOI, FERC	Within 100 days – Within 1–2 years
The President should require a federal task force led by the departments of Energy and State, in coordination with the departments of Homeland Security (DHS), Commerce, and Defense, to work with foreign governments and international organizations to strengthen domestic and international critical infrastructure protection efforts.	DOE, State, DHS, DOC, DOD	Within 100 days – Beyond 4 years (+)
The President should coordinate an interagency planning process to review water availability issues, including their relationship to energy production and security. The availability of water directly impacts the availability of energy, thus making water supply a critical component of energy resource development and utilization. Developing and maintaining adequate infrastructure to ensure a dependable quantity and quality of water is critical to meeting energy demands between now and 2030.	DOE, DOI, EPA	Within 6 months – Within 1–2 years

U.S. Congress

Recommendations	TIMELINE
Congress should simplify siting for electric transmission facilities and other energy facilities employed in interstate commerce, including offshore facilities, by giving the Federal Energy Regulatory Commission the same authority as it has to site natural gas pipelines under Section 7 of the Natural Gas Act, while also ensuring state governments are not empowered to veto the construction and operation of facilities engaged in interstate commerce.	Within 6 months – Within 1 year
Congress should modify DOE's existing authority (granted under Section 216(h) of the Federal Power Act) that designates DOE as the "lead agency" to coordinate the multiple federal agencies' permits required for an interstate transmission facility to ensure that in no case shall the process extend beyond two years. Two years is more than adequate to thoroughly consider and plan to mitigate environmental impacts.	Within 6 months – Within 1 year
Congress should fully fund the expansion of the SPR from its current capacity of 727 million barrels to 1 billion barrels, as required by EPAct2005. To correspond with rising domestic demand, EPAct2005 authorizes the expansion of the nation's SPR as an insurance policy to provide the American people with protection against a significant oil disruption at home or abroad.	Within 6 months – Within 1 year

Address Critical Shortages of Qualified Energy Professionals

Our energy industry employs millions of people today, yet nearly half of this workforce is expected to retire in the next 10 years. Presently, American universities are graduating fewer and fewer students in science, engineering, and mathematics. We need additional education and training programs, incentives, and visa policies that enable the American energy sector to attract and retain a new generation of human capital in an increasingly technological and globally competitive industry. We must entice young people to enter technical fields to build, maintain, and manage our nation's energy systems.

Administration and U.S. Congress

Recommendations	Agency	TIMELINE
The administration and Congress should reform visa and immigration policies to enable the United States to attract and retain science, technology, engineering, and mathematics students from around the world to study for advanced degrees and remain in the United States to work.	DHS, DOL, Education	Within 100 days – Within 6 months – Within 1 year
The administration should request funding for and Congress should fully fund the America COMPETES Act to meet its objectives, including the following: 1) Strengthening America's K–12 education system by recruiting and training highly qualified teachers and emphasizing science and mathematics in curricula. 2) Recognizing the importance of long-term basic research in science and engineering—particularly with regard to energy-related technologies and processes—and providing adequate financial and institutional support for researchers. 3) Revising and reforming policies to ensure that America remains the most attractive setting for the world's top talent to study and undertake research activities. 4) Cultivating America's role as the premier place in the world to innovate by investing in manufacturing and marketing, modernizing the patent system, realigning tax policy to encourage innovation, and ensuring widespread and affordable broadband Internet access.	Education, DOE	Within 100 days – Within 6 months – Within 1 year

Administration, U.S. Congress, and U.S. States

Recommendation	TIMELINE
Government at all levels should cooperate to provide incentives and motivate U.S. students and adults to enter science, technology, engineering, and mathematics careers.	Within 100 days – Within 6 months – Within 1 year – Within 1–2 years – Within 2–4 years – Beyond 4 years +

U.S. States

Recommendation	TIMELINE
With state and local assistance, schools should offer competitive and performance-based salaries to recruit and retain highly qualified individuals into math and science teaching, even without a teaching certification, especially at the middle and high school levels, and provide flexibility so that qualified professionals can teach these subjects part time.	Within 100 days – Within 6 months – Within 1 year – Within 1–2 years – Within 2–4 years – Beyond 4 years +

Reduce Overly Burdensome Regulations and Opportunities for Frivolous Litigation

Energy infrastructure systems, including both generation and transmission, require massive amounts of new investment in the face of rising difficulty in locating, permitting, and building new infrastructure. Industry estimates that it will take 10 years to license and construct a new nuclear plant in the United States. Construction of numerous electricity transmission lines, natural gas terminals, and wind projects has been abandoned as a result of frustration and the inability to get siting approval. This may require us to address new federal eminent domain issues. Current regulatory uncertainty and liability issues discourage the development of clean energy alternatives and technologies. Failure to reverse this course will imperil our global economic competitiveness.

Administration

Recommendation	Agency	TIMELINE
The President should establish an office for transportation fuel production facility permitting with responsibility to streamline the permitting process for refineries.	DOE	Within 100 days · Within 6 months · Within 1 year · Within 1–2 years · Within 2–4 years · Beyond 4 years

U.S. Congress

Recommendations	TIMELINE
Congress should provide for federal siting authority for energy infrastructure projects similar to that provided for natural gas pipelines in Section 7 of the Natural Gas Act to prevent lengthy delays in decisions at the state level.	Within 100 days · Within 6 months · Within 1 year · Within 1–2 years · Within 2–4 years · Beyond 4 years
Congress must reform the Clean Air Act's New Source Review program to allow routine maintenance on existing facilities to ensure efficiency, reliability, and safety without triggering costly environmental upgrades that do not significantly increase environmental protections, but could lead to increases in the cost of gasoline and more plants being off-line for longer periods of time.	

Demonstrate Global Leadership on Energy Security and Climate Change

We live in a global energy market that requires broad-based, global solutions. This is an opportunity for America to demonstrate our leadership in innovation and solve what is not solely an American challenge, but a global one. Open markets, expanded trade, and the elimination of tariff and nontariff barriers are necessary for a more resilient energy market and the worldwide availability of much-needed clean technologies, especially to aid developing nations.

To achieve immediate environmental benefits, we must find ways to share U.S. best practices and existing regulatory approaches to reduce air pollution wherever possible. A sound global framework must include all major emitting economies and be compatible with the economic aspirations of the world's less developed nations, while looking after the well-being of the American people.

Administration

Recommendations	Agency	TIMELINE
The President must prioritize the safety and reliability of high traffic energy shipping routes, such as the Strait of Hormuz. Maintaining open and reliable lanes of commerce protects the U.S. and the global economy from potentially devastating supply disruption and resulting price volatility.	President	This should be a U.S. international policy priority.
The U.S. government should engage the North Atlantic Treaty Organization (NATO) on energy security challenges and encourage member countries to support the expansion of its mandate to address energy security.	President	+
The United States should continue leadership efforts to expand the use of nuclear energy for peaceful purposes worldwide in a safe and secure manner through advanced technologies to foster economic growth, improve the environment, and reduce the risk of nuclear proliferation.	DOE, State	+
The U.S. government should elevate energy as a critical part of the U.S. trade agenda and lead a global effort to eliminate tariff and nontariff barriers to clean energy goods and services and utilize the World Trade Organization and bilateral free trade agreements to ensure a level playing field for energy projects, access, and trade.	USTR	+
The United States should promote a global approach to energy security and climate change that does the following: 1) Allows each nation to develop its own path to meet strong environmental and economic development goals. 2) Considers growing energy needs, circumstances, and resource endowments. 3) Sets achievable and realistic goals. 4) Ensures global participation, including major developing countries. 5) Ensures that mitigation actions by all parties are measurable, reportable, and verifiable. 6) Promotes the development and commercialization of, and trade in, clean energy technologies and services. 7) Protects intellectual property.	President	This must be a fundamental principle of U.S. climate change policy.
The United States should strengthen support for the International Energy Agency and support efforts to expand its membership to key consuming countries, particularly China and India.	DOE, State	
The United States and other industrialized countries should support efforts to establish an International Clean Energy Fund, housed at the World Bank, to reduce capital costs for clean energy projects in the developing world. The United States should examine all of its tools through the Export-Import Bank, U.S. Trade and Development Agency, the Overseas Private Investment Corporation, and it should work closely with the multilateral development banks to ensure that attractive instruments are made available for this purpose.	Treasury	
Nations should improve transparency, reliability, and availability of oil and gas market data as well as their analysis of long- and short-term supply and demand trends to help make the world energy market less volatile.	DOE	Accelerate ongoing efforts.

Administration and U.S. Senate

Recommendations	Agency	TIMELINE
The U.S. Senate should consent to and the department of State should ratify the United Nations Convention on the Law of the Sea. The treaty provides certainty in access to resources in the Arctic and Antarctic and ultimately could enable American businesses to explore the vast natural resources contained in the sea beds in those areas.	State	

Acronyms

ARPA-E..... Advanced Research Projects Agency for Energy
CAIR ..... Clean Air Interstate Rule
CCS..... carbon capture and storage
CCSP ..... U.S. Climate Change Science Program
CCTP..... U.S. Climate Change Technology Program
CEBUS ..... Clean Energy Bank of the United States
CO_2 ..... carbon dioxide
CREB..... Clean Renewable Energy Bond
CTL ..... coal-to-liquids
DOC..... Department of Commerce
DOD..... Department of Defense
DOI..... Department of Interior
DOD..... Department of Transportation
EIA..... Energy Information Administration
EISA2007 ..... Energy Independence and Security Act of 2007
EPA..... Environmental Protection Agency
EPAct2005 ..... Energy Policy Act of 2005
FERC ..... Federal Energy Regulatory Commission
GEOSS ..... Global Earth Observation System of Systems
GHG..... greenhouse gas
IEA..... International Energy Agency
IGCC ..... Integrated Gasification-Combined Cycle
IPCC..... Intergovernmental Panel on Climate Change
LNG..... liquefied natural gas
MMS..... Minerals Management Service
NAS ..... National Academy of Sciences
NASA ..... National Aeronautics and Space Administration
NSF..... National Science Foundation
NEPA..... National Environmental Policy Act
NGV ..... natural gas–powered vehicle
NIMBY..... not in my backyard
NOx..... nitrogen oxide
NRC..... Nuclear Regulatory Commission
OCS ..... Outer Continental Shelf
OECD ..... Organization of Economic Cooperation and Development
R&D ..... research and development
SO_2..... sulfur dioxide
SPR ..... Strategic Petroleum Reserve
STEM ..... science, technology, engineering, and mathematics
UNFCCC..... United Nations Framework Convention on Climate Change
USTR..... Office of the United States Trade Representative

Institute for 21st Century Energy Leadership and Staff

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Jonathan Jackson, *Special Assistant to the President and CEO*

Elizabeth McDonough, *Project Coordinator*

Kevin Robertson, *Program Coordinator*

Rob Schafer, *Administrative Assistant to President and CEO*

Aaron Griffith, *Administrative Assistant*

Institute for 21st Century Energy
U.S. Chamber of Commerce
1615 H Street, NW
Washington, DC 20062
Phone: (202) 463-5558 | Fax: (202) 887-3457
energyinstitute@uschamber.com
www.energyxxi.org

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