



*Colorado State University*

# **Powering Forward:**

**Presidential and Executive  
Agency Actions to Drive  
Clean Energy in America**

**EXECUTIVE SUMMARY**

Even in the face of Congressional inaction, President Obama can leverage executive branch power, unleash enterprise and investment, and move America toward a clean energy future that curbs climate change. Featuring 200 specific recommendations developed by more than 100 industry experts and top energy thinkers, *Powering Forward* provides the Administration with options to move the nation closer to a clean energy economy.

**Powering Forward:**  
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Agency Actions to Drive  
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# Foreword

In his 2013 State of the Union address, President Barack Obama told Congress that if it did not act to curb global climate change, he would.

And he did. Five months later, the President issued a comprehensive climate action plan that does not require congressional action. Many of the items already have been implemented or put in motion.

The President's plan adds to the long list of initiatives his administration has accomplished since 2009, ranging from historic vehicle efficiency standards to the regulation of greenhouse gas emissions from power plants.

Are there additional steps the President can take in the next three years to mitigate climate change and move America closer to a clean energy economy? The answer is yes. But they will require considerable work by the administration and support from the American people. They will also require steps by the President to unleash enterprise and investment across the country.

In March 2013 President Obama met with 14 energy thought leaders, representing a variety of stakeholder groups, to discuss how he could further pursue a clean energy agenda using his lawful authority. Following the meeting, the leaders asked the Center for the New Energy Economy (CNEE - the Center I founded in 2011 at Colorado State University) to undertake a deeper examination of the President's options in five discrete areas. In response, CNEE launched an eight-month initiative to gather ideas for additional presidential action on climate and clean energy. In dialogues, roundtables and peer reviews, CNEE engaged more than 100 participants, including chief executive officers, chief financial officers and other top executives from industry, academia, research institutions, NGOs and state and local governments. We asked them what new actions by the President and his executive agencies would help our nation be more effective in meeting our climate and our energy goals.

The five areas of focus are:

1. Doubling energy productivity
2. Financing renewable energy
3. Producing natural gas responsibly
4. Developing alternative fuels and vehicles, and
5. Enabling electric and gas utilities to adapt to the new realities of the 21<sup>st</sup> century

**100 CEOs, CFOs,  
academics, researchers,  
NGOs & government  
leaders pinpoint  
climate and energy  
security imperatives**

Two rules governed this process. First, we applied the Chatham House Rule, ensuring participants' anonymity to encourage open dialogue and free exchange of ideas. In accordance with that rule, we have not attributed ideas to specific individuals or organizations. Second, we encouraged but did not require consensus. Not all participants agreed with all of the recommendations in our final report, but everyone had a substantive voice in the process.

Four principal themes emerged during the CNEE exercise:

1. As CEO of the nation's largest energy customer—the Federal Government—and Commander-in-Chief of the armed forces, the President should use the full power of federal procurement to help create the large and stable markets that will attract more investment in clean energy goods and services. That will require changes in the procurement system.
2. Many of the most important legal responsibilities related to energy use and carbon emissions reside in states and localities. The Federal Government should help states and localities assert their leadership with increased research, technical assistance and carefully targeted financial assistance.
3. The Federal Government and its policies will have to be retooled to support a clean energy economy. For example, many industry leaders who are eager to participate in the energy transition say they are inhibited by government regulations that are not keeping up with today's rapid changes in energy technology and customer preferences.
4. The administration can make strategic changes in fiscal policy to help move private capital at every level of the economy off the sidelines and into clean energy.

This report offers President Obama and his administration more than 200 recommendations for America's transition to a clean energy economy – recommendations that CNEE believes can be implemented with the President's existing authority. Many of the recommendations can be implemented immediately; some will take several months; and others may not be completed until after President Obama leaves office.

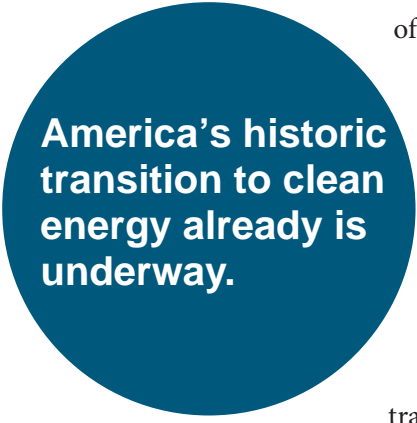
President Obama deserves credit for his resolve to take action on climate change. This report is intended to help him. There simply is no more important issue and no time to waste.



Bill Ritter, Jr.  
41st Governor of Colorado  
Founder and Director, Center for the New Energy Economy

# The Clean Energy Transition Has Begun But It Must Move Faster

The President has a wide variety of executive authorities to address climate change and shape energy policy without further action by Congress. The Constitution confers some; precedent establishes others; and most have been delegated to the Executive Branch by past Congresses.



**America's historic transition to clean energy already is underway.**

How actively a president uses these authorities, however, may depend on the breadth of support from the American people. The challenge for the President and his team is to rally the American people around the objective of creating a clean energy economy, to encourage their support and concrete action, and to unleash the economy's enormous reservoir of uncommitted private capital for investments in clean energy.

The reality is that America's transition to a clean energy economy is not just a job for the future; it's already underway. But, if we are to avoid the worst consequences of global warming and if we hope to capture the emerging global market for clean energy technologies, we must accelerate the pace of this transition. Indeed we must redouble our efforts for the sake of future generations.

## Doubling the Nation's Energy Productivity

During his 2013 State of the Union address, the President announced a new goal: To double the energy productivity of the U.S. economy by 2030. That is both a challenge and an opportunity. According to the American Council for an Energy Efficient Economy, the national economy wastes 87% of the energy it consumes – a level of inefficiency that undermines our competitiveness, produces more greenhouse gas emissions, and costs every American family and business money.

The Alliance to Save Energy estimates that doubling our energy efficiency would save consumers \$327 billion annually, including more than \$1,000 each year for the average household. Businesses would save \$169 billion annually, about as much as the entire corporate sector paid in federal income taxes in 2011.

President Obama already has taken several steps to improve the Federal Government's productivity and cut its energy bills. Shortly after taking office, the administration cleared up a longstanding bottleneck in appliance efficiency standards. In October 2009, the President issued Executive Order 13514 directing agencies to reduce the energy and carbon intensity of federal buildings. And in December 2011, he directed agencies to execute \$2 billion in energy saving performance contracts (ESPCs), arrangements in which private companies make energy efficiency improvements to federal buildings with guaranteed results. There is no cost to taxpayers. The companies are repaid by sharing the government's savings on energy

bills. In addition, the Administration cleared up a longstanding bottleneck in appliance efficiency standards shortly after taking office.

However, there is greater potential for using ESPCs. Roadblocks remain in the contracting process. And the backlog in appliance efficiency standards has reappeared.

## RECOMMENDATIONS TO THE PRESIDENT

- **Amend the December 2011 ESPC directive to require that agencies execute \$1 billion in energy saving contracts in each of the next 5 years.**
- **Direct agencies to use ESPCs more widely to fund efficiency projects in public housing, demand-response programs, data center consolidations, combined heat and power systems, waste-to-energy projects and other energy-saving projects.**
- **Order the Office of Management and Budget (OMB) to complete its review of new appliance efficiency standards within 90 days, as its own rules require.**
- **Direct the U.S. Department of Energy (DOE) and the Federal Housing Finance Authority to analyze government mortgage data to find out whether residential energy efficiency investments reduce mortgage defaults. If they do, direct federal agencies that administer mortgage programs to reflect this benefit in their loan terms. Encourage private lenders to do the same.**
- **Allow electric utilities to earn credit for energy efficiency investments beyond the fence lines of their power plants as they comply with EPA's regulation of greenhouse gas emissions from generation plants.**
- **Work with the building industry to develop a model national code for net-zero energy buildings.**

**We can cut the government's energy bills with guaranteed results at no cost to taxpayers.**

# Financing Renewable Energy

Renewable energy is an essential element of a clean energy economy, and renewables are ready now. The amount of electricity from solar and wind power in the United States has doubled over the past four years. Today, wind energy supplies enough electricity for 15 million homes. By mid-century, renewable energy technologies commercially available today could provide more than 80% of America's electricity, according to the Department of Energy's National Renewable Energy Laboratory.

The administration's goal is to make solar power cost competitive with traditional power generation by 2020. The President has nearly tripled his goal for renewable energy use in federal facilities, setting the target at 20% by 2020. He has proposed that the nation obtain 80% of its electricity from clean energy resources by 2035. And the Department of Defense is working to obtain 25% of its energy from renewable resources by 2025.

Renewable resources (including hydropower) provide 12% of America's electricity today. The Energy Information Administration projects that if we continue business as usual, the contribution of renewable energy will grow to only 16% by 2040. That is not enough.

## RECOMMENDATIONS TO THE PRESIDENT

- **Develop methods for accurately counting the full costs of various energy choices, including pollution and health care costs that have been “externalized” in the past. Use these methods to establish priorities for federal support of energy resources and direct it to the “best of the above” rather than “all of the above”.**
- **Clarify that federal agencies can enter into power purchase agreements for periods of up to 25 years.**
- **Expand the use of ESPCs to finance micro-grids, distributed generation projects and other proven but underutilized energy technologies that result in operational and maintenance savings.**
- **Design standards for greenhouse gas emissions from power plants under Section 111(d) of the Clean Air Act to promote the use of renewable technologies.**

- **Request that the IRS issue a revenue ruling that Real Estate Investment Trusts can invest in renewable energy. In addition, encourage the IRS to determine whether it has the authority to qualify renewable technologies for Master Limited Partnerships in the tax code.**
- **Request that the Comptroller of the Currency make clear that community banks will be credited under the Community Reinvestment Act for financing renewable energy and energy efficiency projects in low- and moderate-income neighborhoods.**
- **Direct the DOE to study federal, state and private data to determine the extent to which renewable energy investments raise the market value of homes and businesses. If the study verifies that benefit, direct federal mortgage agencies to factor it into the terms of their loans.**
- **Champion parity for renewable energy with fossil energy as part of tax reform. The objective is not to make the code more complex, but more fair. Direct the appropriate agencies to review other elements of federal fiscal policy to identify and reform policies that encourage greenhouse gas emissions.**
- **Work with states to reallocate \$2 billion in unused Qualified Energy Conservation Bonds for investments in renewable energy projects.**
- **Work with trusted messengers in rural America to promote full use of the Department of Agriculture's new loan guarantee program for renewable energy projects by rural electric utilities and their customers.**
- **Convene state Treasurers and launch a state/federal partnership to align state and federal loan programs with the goal of maximizing private capital investment in renewable energy.**

# Robust and Responsible Natural Gas Production

President Obama supports responsible natural gas production. Executives from the natural gas industry told CNEE they value reasonable government regulation. On one hand, regulation can weed out bad actors, provide certainty for business planning, and improve the industry's "social license to operate". On the other hand, ineffective, unnecessary or excessive regulations impede production and increase costs.

The regulation of natural gas production is largely a state responsibility, but the Federal Government can help in several ways.

## RECOMMENDATIONS TO THE PRESIDENT

- **Direct the Bureau of Land Management to require that gas producers use and demonstrate the best available technologies and practices on federal lands, including full disclosure of hydraulic fracturing agents, zero tolerance for methane leaks, sound water management and minimal land disturbance.**
- **Direct the Council on Environmental Policy and the Office of Science and Technology Policy to work with states and the natural gas industry to improve the states' ability to inspect and enforce environmental rules.**
- **Work with states to develop a nationwide methane reduction strategy in the natural gas value chain, from wellhead to power plants, buildings and natural gas vehicles. Direct ARPA-E to research and develop more effective ways to monitor and prevent methane leaks.**
- **Create a presidential "George P. Mitchell Award" for gas producers who achieve excellence in environmental performance; innovate to minimize the environmental and social footprints of production; and build collaboration among producers, regulators and public interest organizations.**

**Natural gas companies must use the best available production methods on federal lands.**

# 21<sup>st</sup> Century Utilities

Most Americans don't fully appreciate the importance of their electric utilities until their lights go out. Yet the nation's utility sector does an admirable job of providing reliable electricity vital to the economy and to our quality of life.

**Technology advancements are 10 years ahead of utilities and utilities are ahead of regulation. America needs a new utility revenue model and regulatory compact that can keep pace.**

Today, electric utilities face enormous challenges adjusting to emerging trends—trends that raise questions about how renewable resources should be valued and incorporated into consumer rates; how distributed generation should be incorporated into the traditional electric grid; and how utilities should handle power dispatching when their energy mix includes resources that have no fuel costs. Utilities recognize their challenge, but they are without a working model or example. The Federal Government should pilot new revenue models for utilities to adapt to disruptive technology and environmental challenges.

Utility regulation is primarily a state responsibility, but the Federal Government can help policy makers and public utility regulators answer these questions and reshape their business models for the 21<sup>st</sup> century.

## RECOMMENDATIONS TO THE PRESIDENT

- **Direct DOE's four Power Marketing Administrations and the Tennessee Valley Authority to develop and demonstrate the policies and practices necessary for electric utilities to incorporate renewable energy and distributed generation into their rates, infrastructure and management practices.**
- **Direct DOE's National Laboratories to provide research and expert testimony at public utility commission hearings to help identify and resolve issues related to the integration of renewable energy in rate structures, new utility revenue models, and true integrated resource planning.**
- **Ensure that Quadrennial Energy Reviews connect the dots between the systems integration work at the National Renewable Energy Laboratory and the Federal Energy Regulatory Commission's work on the transmission system.**

- **Direct DOE and the Department of Homeland Security (DHS) to work with industry to identify resilient pathways for transmission infrastructure.**
- **Direct DOE and DHS to develop model policies that help state utility commissions adapt to regional climate impacts.**

## Alternative Fuels and Vehicles

A principal mission of national transportation policy should be to develop and deploy sustainable non-petroleum fuels, the infrastructure that moves them to market, and the vehicles that use them. This mission is not made less important by the prospect that the United States may soon produce enough oil to eliminate petroleum imports. The world oil market will still control prices. Whether oil comes from the Persian Gulf or the Intermountain West, the need to control carbon emissions will impact oil's overall use.

The President has already triggered a transformation in America's transportation sector. In his first term, his administration nearly doubled fuel economy standards, requiring that new cars and SUVs must average at least 54.5 MPG by 2025. By September 2013, the average fuel economy of new cars and trucks had already climbed to 24.9 MPG, up from 20.1 MPG in 2007, according to a study by the University of Michigan. The administration projects that the new efficiency standards will save families more than \$1.7 trillion in fuel costs and result in significant reductions in carbon emissions. The new regulations have also pushed American auto manufacturers from the brink of bankruptcy to resurgence in innovation and global leadership. Other administration initiatives have included:

- A Clean Energy Grand Challenge – EV Everywhere program designed to make electric vehicles as affordable and convenient as gasoline powered vehicles for the average American family by 2022.
- Requirements that all federal government fleet purchases must be alternative fuel vehicles by 2015 and that federal agencies must cut their petroleum consumption by 30%.
- The first-ever efficiency and greenhouse gas emission standards for heavy-duty vehicles starting in 2014.
- The now-accomplished goal to break ground on four commercial-scale cellulosic or advanced bio-refineries to bring advanced biofuel production to commercial scale.

## RECOMMENDATIONS TO THE PRESIDENT

- **Direct DOE, the Department of Agriculture and the Department of Transportation to develop a roadmap that clearly identifies the policies, milestones, performance measures and sequencing necessary to achieve the President’s vehicle and fuel goals.**
- **Ensure that better vehicles and fuels do not result in less support for non-vehicular improvements in mobility, including transit-oriented urban design, public transportation, intermodal transportation systems and safe facilities for walking and biking.**
- **In assessing the benefits and costs of different alternative fuels, include the life-cycle costs of the infrastructure necessary to get them to the retail market.**
- **When considering federal support, determine where it will be most effective in the alternative fuel and vehicle value chains. For example, some stakeholders told CNEE that if a choice becomes necessary, natural gas resources would be better used in power plants where they displace coal and provide clean power for electric vehicles, rather than used in natural gas vehicles.**
- **Give preference to third-party transportation providers – for example, freight and delivery services – that use alternative fuels and alternative fuel vehicles.**
- **Create a “Golden Carrot” for advanced biomass fuels – a significant cash prize for the breakthrough that most contributes to the successful commercialization of cellulosic biofuels.**



**We need  
a national  
roadmap for  
alternative fuels  
and vehicles.**

# Conclusion

Among the more than 200 specific recommendations submitted to President Obama as a result of the CNEE leadership dialogue, there are several underlying messages.

First, to ensure the nation's economic stability, environmental health, national security, and opportunity for generations to come, the transition to a clean energy economy must be accomplished more rapidly than any previous energy shift.

Second, the nation's energy policies and investments must be determined not by political pressures, but by objective full life-cycle analyses of each option's benefits and costs. Objective analysis will help resolve the inconsistencies between the President's climate goals and an energy policy that makes no distinction between carbon-rich and clean energy resources.

Finally, President Obama can build an enduring legacy by activating the American people's commitment to sustainable energy and by using the power of the Federal Government in partnership with states, utilities and industry, to open new opportunities for private investment in the clean energy economy.



**The Center for the New Energy Economy** is a privately funded initiative to support the growth of a clean energy economy across the United States. It is led by former Colorado Governor Bill Ritter and is assisted by some of the nation’s most important thought leaders in clean energy research, development and commercialization. Its mission is to incorporate best practices from around the nation and world to accelerate the development of a new energy economy.

The Center defines “clean energy” as technologies and resources whose life-cycle impacts are beneficial to national security, economic vitality, energy supply sustainability, environmental health, public health, the reduction of greenhouse gas emissions, the conservation and restoration of ecosystem services, social equity, high-quality jobs, and wise use of water and other critical natural resources.

The Center for the New Energy Economy provides policy makers, governors, planners and other decision makers with a roadmap that will accelerate the nationwide development of the new energy economy. That economy will create and keep jobs in the United States; encourage development and use of clean and affordable domestic energy; protect our environment and climate; and keep America on the leading edge of global competition. The Center helps to guide the country along the road to a more secure, stable, sustainable, and affordable energy future.

**For the complete list of CNEE’s recommendations to the President, go to [www.poweringforwardplan.org](http://www.poweringforwardplan.org).**



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