UNITED STATES CONGRESS
BICAMERAL TASK FORCE ON CLIMATE CHANGE

IMPLEMENTING THE PRESIDENT'S CLIMATE ACTION PLAN: U.S. DEPARTMENT OF ENERGY

ACTIONS THE DEPARTMENT OF ENERGY SHOULD TAKE TO ADDRESS CLIMATE CHANGE

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Executive Summary

In June, the President released his Climate Action Plan for using existing authorities to address climate change. The Department of Energy (DOE) will play a crucial role in implementing this plan. The plan called on DOE to establish new minimum energy efficiency standards for appliances and equipment, improve the efficiency of commercial and industrial buildings, provide loan guarantees to advanced fossil energy projects, and support a government-wide quadrennial energy review.

This report recommends 20 concrete steps DOE should take in carrying out the President's Climate Action Plan. These recommendations are based on suggestions submitted to the Bicameral Task Force on Climate Change by over 200 groups ranging from environmental organizations and efficiency advocates to electric utilities and Fortune 500 companies. They also reflect input from former DOE officials, leading academics, and experts from think tanks.

Strengthen Energy Efficiency Standards

New and updated energy efficiency standards are a key part of the President's plan, which includes a goal of reducing carbon pollution by at least 3 billion metric tons cumulatively by 2030 through improved efficiency standards. To achieve this goal, DOE will need to accelerate its work on high priority standards and the Office of Management and Budget (OMB) must review standards expeditiously in order to avoid unnecessary delays. We urge DOE to issue final efficiency standards for external power supplies within three months; walk-in coolers and freezers and residential furnace fans within five months; battery chargers within six months; commercial refrigeration equipment, metal halide lamp fixtures, and industrial electric motors within nine months; commercial ice makers within 18 months; and commercial pumps and fans within 30 months. DOE should also establish standards for manufactured housing. Taken together, these 11 new efficiency standards could save over 14 quadrillion Btu, or quads, through 2035, which is the equivalent of about 15% of all U.S. energy consumption in a single year.

Accelerate Development and Deployment of Low-Carbon Energy Technologies

DOE conducts and supports critical research and development activities for clean energy and energy efficiency technologies. The groundbreaking projects supported by the Advanced Research Projects Agency-Energy (ARPA-E), as well as the clean energy, energy storage, energy efficiency, and carbon capture and storage research and development efforts of other DOE offices, are making significant technological strides. Congress should increase funding for these valuable programs. If funding is not increased, we recommend that DOE continue its successful research and development programs. We also recommend that the Secretary explain to the American public the serious consequences for current and future generations of Congress' failure to invest in energy research and development.

DOE has the authority to issue $34 billion in new loan guarantees for innovative energy technologies that reduce carbon pollution. Consistent with the President's Climate Action Plan, DOE recently issued a draft solicitation to make up to $8 billion in loan guarantees available for advanced fossil energy projects that limit or sequester carbon pollution. We recommend that DOE support worthy energy efficiency and renewable energy projects to the full extent of its remaining authority.

Expand Use of Energy Savings Performance Contracts

In December 2011, the President challenged federal agencies to enter into $2 billion worth of performance-based contracts in two years to save energy at federal facilities. To build on the progress made during the last year and a half, we recommend that the Department of Energy work with the White House to establish a new goal of entering into $1 billion worth of energy savings performance contracts and utility energy service contracts per year beginning in January 2014. We also recommend that DOE establish a website to track the performance of federal facilities in increasing energy efficiency.

Encourage Reforms in State Building Codes and Utility Rate Structures

While DOE has authority to set efficiency standards for consumer and commercial products, the states retain the authority to set efficiency standards for residential and commercial buildings. The states also have primary responsibility for regulating retail utility rates. The President has proposed a Race to the Top for Energy Efficiency and Grid Modernization to competitively award grants to state, tribal, and local governments that implement forward-leaning policies. If DOE gets funding from Congress to implement the Race to the Top, we encourage DOE to focus the award criteria on key policies aimed at boosting energy efficiency through building code adoption and enforcement, innovative financing mechanisms, and utility rate structures that provide incentives for end-use energy efficiency and demand response. If DOE does not get funding for Race to the Top, DOE should encourage state reforms by focusing the competitive grants available through the State Energy Program on innovative proposals to achieve these goals.

Maximize the Contribution of Power Marketing Administrations

The 2005 Energy Policy Act and the 2009 American Recovery and Reinvestment Act gave three of the four power marketing administrations (Bonneville Power Administration, Western Area Power Administration, and Southwestern Power Administration) new authority and resources to build transmission lines to increase access to renewable power sources. We recommend that these authorities be fully utilized to support the construction of meritorious transmission lines that facilitate the transmission of solar and wind power to major population centers. In addition, we recommend that the power marketing administrations implement policy changes and rate designs that incentivize energy efficiency and demand response programs, the integration of intermittent renewable energy resources, and the preparation for electric-vehicle deployment.

Analyze Climate Change Impacts of LNG Exports

DOE is currently reviewing approximately 20 applications to export liquefied natural gas (LNG) to countries with which the United States does not have a free trade agreement. LNG exports have the potential to reduce global carbon emissions by reducing coal use in other countries, but methane leaks from the natural gas industry must be minimized to ensure that there is a net climate benefit from such exports. We recommend that DOE conduct a thorough analysis of the climate change impacts of proposed LNG exports, including the effects on both domestic and overseas emissions.

Introduction

The Bicameral Task Force on Climate Change is dedicated to focusing congressional and public attention on climate change and developing effective policy responses. The Bicameral Task Force's goals are to raise awareness of the dangers of climate change, provide a forum for the development of effective policies, and put in place new measures—both legislative and administrative—to reduce carbon pollution, spur new technologies, and enhance resiliency to climatic disruption.

The Growing Threat of Climate Change

According to the Draft National Climate Assessment, average U.S. temperatures have increased about 1.5ºF since 1895, with more than 80% of this increase occurring since 1980.[1] More heavy downpours, wildfires, and heat waves are occurring in parts of the United States.[2] Snow and ice cover has diminished in some regions of the United States.[3] Sea levels have risen about eight inches over the past century.[4] Carbon pollution has caused a nearly 30% increase in the acidity of the surface waters of the ocean.[5] The number of strong hurricanes and the overall strength of hurricanes have increased since the early 1980s in the North Atlantic.[6]

These developments are consistent with scientists' projections about the effects of rising global temperatures.[7] Scientists warn that in the future, carbon pollution could cause much more extreme effects. U.S. temperatures are predicted to increase between three and eleven degrees Fahrenheit by the end of the century.[8] This dramatic rise in global temperatures would severely disrupt the global climate, radically altering our way of life.[9] As President Obama stated in his 2013 Inaugural Address, the failure to address climate change "would betray our children and future generations."[10] We have a moral obligation to act.

The Federal Response

The Executive Branch has broad authority under existing law to reduce greenhouse gas emissions, spur research and development into clean energy technologies, and develop

[1] U.S. Global Change Research Program, *Draft National Climate Assessment* (2013) at 3, http://ncadac.globalchange.gov/download/NCAJan11-2013-publicreviewdraft-chap1-execsum.pdf.
[2] *Id.* at 3-5.
[3] *Id.* at 66.
[4] *Id.* at 4.
[5] *Id.*
[6] *Id.* at 26.
[7] *Id.* at 3–7
[8] *Id.* at 20.
[9] *Id.* at 10.
[10] The White House, *Inaugural Address by President Barack Obama* (Jan. 21, 2013), http://www.whitehouse.gov/the-press-office/2013/01/21/inaugural-address-president-barack-obama.

adaptation strategies. Under President Obama's leadership, important steps have already been taken to address climate change and more are underway.

In 2009, President Obama pledged that the United States would reduce its greenhouse gas pollution at least 17% by 2020 and 80% by 2050, from a 2005 baseline.[11] Over the past four years, the United States has made progress toward this goal. Investments in energy efficiency and renewable energy have doubled U.S. capacity to generate renewable electricity from wind and solar resources, reinvigorated domestic clean energy manufacturing, and helped return Americans to work.[12] The Administration's carbon pollution standards for automobiles will double fuel economy and produce major reductions in greenhouse gas pollution from passenger vehicles.[13] These steps are likely to bring the United States halfway toward the 2020 greenhouse gas reduction goal.

In his State of the Union address in February, the President told the nation, "if Congress won't act soon to protect future generations, I will direct my Cabinet to come up with executive actions we can take, now and in the future, to reduce pollution, prepare our communities for the consequences of climate change, and speed the transition to more sustainable sources of energy." When Congress failed to respond, the President announced his Climate Action Plan on June 25, 2013.[14] The plan consists of a wide range of executive actions involving at least 20 federal agencies.

The Department of Energy will play a crucial role in implementing the Climate Action Plan. Under the plan, DOE has several responsibilities, including establishing new minimum energy efficiency standards for appliances and equipment, improving the efficiency of commercial and industrial buildings, providing loan guarantees to advanced fossil energy projects, and supporting a government-wide quadrennial energy review.

Purpose and Methodology

The purpose of this report is to recommend specific actions that the Department of Energy can take in carrying out the President's Climate Action Plan.

The report is based on the input of a wide range of organizations. In January, the Bicameral Task Force on Climate Change sent letters to corporations, unions, nongovernmental organizations, academia, trade associations, public health groups, and faith-based organizations to solicit their views on actions the federal government can take to address climate change. Over 200 organizations responded. The recommendations in this report reflect the best recommendations received by the Bicameral Task Force. They also reflect suggestions received by the Bicameral

[11] The White House, *Remarks by the President at the Morning Plenary Session of the United Nations Climate Change Conference* (Dec. 18, 2009), http://www.whitehouse.gov/the-press-office/remarks-president-morning-plenary-session-united-nations-climate-change-conference.

[12] Department of Energy, *Energy Economy*, http://energy.gov/public-services/energy-economy.

[13] National Highway Traffic Safety Administration, *CAFE—Fuel Economy*, http://www.nhtsa.gov/fuel-economy.

[14] The President's Climate Action Plan (June 2013), http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf

Task Force in discussions with leading experts on federal energy policy, including former DOE officials, academics, and experts at think tanks. The Bicameral Task Force thanks the many organizations and individuals who provided input into this report.

These recommendations are not intended to be an exhaustive list of all actions DOE should take to address climate change. For example, there are a host of ongoing efforts that should continue to play an important role in addressing climate change, including voluntary energy efficiency programs and smart grid initiatives.

Recommendations

I. Strengthen Energy Efficiency Standards

Congress has passed a series of laws, beginning with the National Energy Conservation Policy Act of 1978, which provide DOE with the authority to issue energy efficiency standards for a wide range of products.[15] DOE has the authority to set energy efficiency standards for consumer products and many types of commercial and industrial equipment.[16]

These statutes were passed by Congress and signed by Democratic and Republican Presidents.[17] Congress enacted the first standards for products and equipment in 1987 in the National Appliance Energy Conservation Act.[18] This law also provided DOE with the legal authority to review and update energy efficiency standards. Twenty years later, the Energy Independence and Security Act of 2007 (EISA) added manufactured housing to the list of products subject to DOE efficiency standards.[19]

[15] National Energy Conservation Policy Act, Pub. L. 95-619 (Nov. 9, 1978); National Appliance Energy Conservation Act, Pub. L. 100-12 (Mar. 17, 1987); National Appliance Energy Conservation Amendments of 1988, Pub. L. 100-357 (June 28, 1988); Energy Policy Act of 1992, Pub. L. 102-486 (Oct. 24, 1992); Energy Policy Act of 2005, Pub. L. 109-58 (Aug. 8, 2005); Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007).

[16] 42 U.S.C. § 6292 (listing the types of consumer products for which DOE may set energy efficiency standards and providing the Energy Secretary with authority to set standards for additional products under certain circumstances); § 6311 (listing the types of commercial and industrial equipment for which DOE may set energy efficiency standards); § 6312 (providing the Secretary with authority to set standards for additional types of equipment under certain circumstances).

[17] The six main energy efficiency statutes were signed by Presidents Jimmy Carter, Ronald Reagan, George H.W. Bush, and George W. Bush. *See* National Energy Conservation Policy Act, Pub. L. 95-619 (Nov. 9, 1978) (passed by a Democratic-controlled Congress and signed by President Jimmy Carter); National Appliance Energy Conservation Act, Pub. L. 100-12 (Mar. 17, 1987) (passed by a Democratic-controlled Congress and signed by President Ronald Reagan); National Appliance Energy Conservation Amendments of 1988, Pub. L. 100-357 (June 28, 1988) (passed by a Democratic-controlled Congress and signed by President Ronald Reagan); Energy Policy Act of 1992, Pub. L. 102-486 (Oct. 24, 1992) (passed by a Democratic-controlled Congress and signed by President George H.W. Bush); Energy Policy Act of 2005, Pub. L. 109-58 (Aug. 8, 2005) (passed by a Republican-controlled Congress and signed by President George W. Bush); Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007) (passed by a Democratic-controlled Congress and signed by President George W. Bush). The three main Executive Orders addressing sustainability in agency operations are Executive Order 13221 (2001), issued by President George W. Bush; Executive Order 13423 (2007), issued by President George W. Bush; and Executive Order 13514 (2009), issued by President Barack Obama.

[18] Department of Energy, History of Federal Appliance Standards, *available at* http://www1.eere.energy.gov/buildings/appliance_standards/history.html.

[19] 42 U.S.C. § 6834 (new federal buildings), 42 U.S.C. § 17071 (manufactured housing).

These standards have significantly improved the energy efficiency of the economy.[20] A recent report by the American Council for an Energy-Efficient Economy (ACEEE) found that DOE efficiency standards issued between 1988 and 2006 will provide cumulative net savings of $1.1 trillion through 2035, while reducing annual carbon pollution in 2035 equal to the emissions of 118 coal-fired power plants.[21] ACEEE estimates that between 2010 and 2025, the energy efficiency standards will save the typical household $10,000. In 2010, overall U.S. electricity use was 7% lower than it would have been without the existing standards.

New and updated energy efficiency standards are a key part of the President's Climate Action Plan, which includes a goal of reducing carbon pollution by at least 3 billion metric tons cumulatively by 2030 through efficiency standards. To achieve this goal, DOE will need to accelerate its work on high priority standards and the Office of Management and Budget (OMB) must review standards expeditiously in order to avoid unnecessary delays.

On March 27, 2012, DOE proposed an efficiency standard for external power supplies, which are the small black boxes attached to the cord of some electronic devices that modify voltage, and battery chargers, which are used to charge one or more batteries. Under EISA, the final rule was supposed to be issued by July 1, 2011.[22] We recommend that DOE issue the final rule for external power supplies within the next three months. According to ACEEE, external power supply standards could result in one quadrillion Btu, or quad, of energy savings through 2035 and $575 million in energy bill savings in 2025 alone.[23] A quad is equivalent to about 1% of all U.S. energy consumption in a single year, or 170 million barrels of oil.

The proposed standard for battery chargers is too weak. It would preempt the stronger California standards. We recommend that DOE strengthen the final rule for battery chargers so that it is at least as stringent as those already established in California. Since a draft rule has already been proposed, the final rule should be issued within six months. ACEEE estimated that battery charger standards could save 1.3 quads through 2035 and over $720 million in 2025 alone.[24]

Five proposed energy efficiency rules are pending at OMB: efficiency standards for walk-in coolers and freezers; residential furnace fans; metal halide lamp fixtures; commercial refrigeration equipment; and industrial electric motors. Executive Order 12866 instructs OMB to review regulations within 90 days, with two possible routes to extend that timeline – one is a one-time 30-day extension requested by Office of Information and Regulatory Affairs and the second is an extension of undefined length at the request of the Secretary of Energy.[25] Three of

[20] Department of Energy, Office of Science & Technical Information, *Realized and Projected Impacts of U.S. Energy Efficiency Standards for Residential and Commercial Appliances* (2008), available at http://www.osti.gov/bridge/servlets/purl/938510-IKYBEw/938510.pdf.

[21] American Council for an Energy-Efficient Economy, *The Efficiency Boom: Cashing in on the Savings from Appliance Standards* (Mar. 2012).

[22] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), §§ 301, 309.

[23] American Council for an Energy-Efficient Economy, *The Efficiency Boom: Cashing in on the Savings from Appliance Standards* (Mar. 2012).

[24] *Id.*

[25] Executive Order 12866, § 6(b)(2)(A)–(C); Executive Order 13563, § 1(b) (stating that Executive Order 13563 "is supplemental to and reaffirms the principles, structures, and definitions governing contemporary regulatory review" established in Executive Order 12866).

these proposed energy efficiency standards have remained pending at OMB for more than 500 days – more than five times the review length outlined in the executive order.

We recommend that DOE issue final standards for walk-in coolers and freezers and residential furnace fans within five months and the remaining three rules within nine months. Each of these standards are cost-effective and will produce significant energy savings and carbon pollution reductions.

EISA required DOE to issue a final rule to establish standards for commercial walk-in coolers and freezers by January 1, 2012.[26] The proposed rule was received by OMB on September 23, 2011. Standards for walk-in coolers and freezers could save a total of 2.4 quads through 2035.[27] The standards could generate $1.5 billion in annual energy bill savings in 2025.

EISA requires a standard for residential furnace fans to be issued by December 31, 2013.[28] DOE sent its proposed efficiency standard to OMB on June 27, 2013. There are currently no federal efficiency standards for residential furnace fans. Standards for residential furnace fans would be among the most beneficial new or updated standards. This standard could yield 2.9 quads of energy savings and $14 billion in net economic savings through 2035.[29]

EISA required DOE to issue a final rule to update efficiency standards for metal halide lamp fixtures by January 1, 2012.[30] The proposed rule was received by OMB on February 17, 2012. Metal halide lamp fixture standards could save a total of 2.3 quads through 2035 while reducing electricity bills by $224 million in 2025.[31]

The Energy Policy Act of 2005 required DOE to update efficiency standards for commercial refrigeration equipment by January 1, 2013.[32] The proposed rule was received by OMB on February 17, 2012. Updated commercial refrigeration standards could produce total energy savings of one quad through 2035 while reducing utility bills by $640 million in 2025.[33]

DOE sent a proposed efficiency standard for industrial electric motors to OMB on July 17, 2013. The proposed standard reflects a consensus agreement reached by stakeholders, including the National Electrical Manufacturers Association and energy efficiency and environmental groups, last August. Updated industrial electric motor standards could save 1.9 quads of energy through 2035, resulting in $6 billion in net savings during that period.[34]

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[26] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), § 312.
[27] American Council for an Energy-Efficient Economy, *The Efficiency Boom: Cashing in on the Savings from Appliance Standards* (Mar. 2012).
[28] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), § 304.
[29] American Council for an Energy-Efficient Economy, *The Efficiency Boom: Cashing in on the Savings from Appliance Standards* (Mar. 2012).
[30] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), § 324.
[31] American Council for an Energy-Efficient Economy, *The Efficiency Boom: Cashing in on the Savings from Appliance Standards* (Mar. 2012).
[32] Energy Policy Act of 2005, Pub. L. 109-58 (Aug. 8, 2005), § 136.
[33] American Council for an Energy-Efficient Economy, *The Efficiency Boom: Cashing in on the Savings from Appliance Standards* (Mar. 2012).
[34] American Council for an Energy-Efficient Economy, *The Efficiency Boom: Cashing in on the Savings from Appliance Standards* (Mar. 2012).

There are three new energy efficiency standards that we recommend should be a high priority for DOE: commercial ice makers, commercial pumps, and commercial fans. We recommend that standards for commercial ice makers be issued within the next 18 months and standards for commercial pumps and fans be issued within 30 months. Standards for commercial automatic ice makers could produce half a quad of energy savings through 2035 and $356 million in utility bill savings in 2025.[35] Standards for commercial pumps and fans could conservatively yield 2.4 quads of energy savings through 2035 and over $800 million in utility bill savings in 2025.[36]

DOE should resolve the outstanding issues with its draft manufactured housing efficiency standards and issue final standards within a year. These standards are overdue as EISA required DOE to issue final efficiency standards for manufactured housing by the end of 2011.[37] Like the appliance and equipment standards, the manufactured housing standards are expected to generate significant energy savings while lowering the utility bills of many lower-income families.

Cumulatively, these 11 new efficiency standards would result in over 14 quads of energy savings through 2035, which is the equivalent of about 15% of all U.S. energy consumption in a single year. They would also yield approximately $7 billion in energy bill savings in 2025 alone.

II. Accelerate Development and Deployment of Low-Carbon Energy Technologies

DOE conducts and supports critical research and development activities for clean energy and energy efficiency technologies. The groundbreaking projects supported by ARPA-E have attracted millions of dollars in private investment and made great strides in advancing a range of technologies, including rechargeable batteries, compressed air energy storage, and solar-generated liquid transportation fuels. Research and development supported by other DOE offices into clean energy, energy storage, energy efficiency, and carbon capture and storage have helped to reduce dramatically the cost of renewable energy technologies and plug-in electric vehicle batteries. The President has requested $1.1 billion in additional funding for these efforts in 2014. The Republican-controlled House of Representatives, however, recently passed an appropriations bill that would slash ARPA-E's funding by 80% and reduce energy efficiency and renewable energy funding by nearly $1 billion.

Congress should approve the funding increase sought by the President. If funding is not increased, DOE should continue its successful research and development efforts with the resources available to the Department. We also recommend that the Secretary explain to the American public the serious consequences to current and future generations of congressional failure to invest in energy research and development.

The Energy Policy Act of 2005 established DOE's Title 17 loan guarantee program to support the deployment of innovative energy technologies that avoid, reduce, or sequester carbon

[35] *Id.*
[36] *Id.*
[37] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), § 413.

pollution.[38] The 2009 American Recovery and Reinvestment Act temporarily expanded the program to support the rapid deployment of renewable energy, electric transmission, and cutting-edge biofuels projects.[39] DOE currently has authority to issue $34 billion in new loan guarantees under the original program. Of this amount, $20.5 billion is available for nuclear energy projects; $8 billion for fossil energy projects; and $2.3 billion for energy efficiency and renewable energy loan guarantees. DOE has $4 billion in loan guarantee authority that it can use for projects of any type.[40]

Included with the $2.3 billion loan guarantee authority for energy efficiency and renewable energy loan guarantees is authority for additional subsidized loan guarantees. Under the 2005 loan guarantee program, recipients of loan guarantees are required to compensate the federal government for the risk of default. In April 2011, however, Congress appropriated $170 million to help pay the credit subsidy costs associated with these loan guarantees for energy efficiency and renewable energy projects. These funds are still available for use by DOE and would support approximately $850 million in subsidized loan guarantees.[41]

DOE has already begun to use this loan guarantee authority. Consistent with the President's Climate Action Plan, DOE recently issued a draft solicitation to make up to $8 billion in loan guarantees available for advanced fossil energy projects that avoid, reduce, or sequester carbon pollution. DOE is also reviewing eight energy efficiency and renewable energy applications requesting a total of $2 billion in loan guarantees.[42] These applications include two biomass projects, one solar generation project, two wind generation projects, and three solar manufacturing projects.

Congress should act to support additional loan guarantees, but there is little prospect that Congress will do so in the near term. We recommend that DOE support innovative energy efficiency and renewable energy projects to the full extent of DOE's remaining authority. Providing loan guarantees for worthy projects of these types would be a concrete step towards reaching the President's goal of once again doubling renewable electricity generation from wind, solar, and geothermal resources by 2020.

III. Expand Use of Energy Savings Performance Contracts

As the owner of nearly three billion square feet of building space, the federal government has a responsibility to lead by example in reducing energy use and cutting carbon pollution. EISA requires agencies to identify and implement cost-effective energy and water savings measures for most federal facilities.[43] DOE's Federal Energy Management Program tracks the implementation of the savings measures and is responsible for making that information available on the internet.

[38] Energy Policy Act of 2005, Pub. L. 109-58 (Aug. 8, 2005), § 1703.
[39] American Recovery and Reinvestment Act, Pub. L. 111-5 (Feb. 17, 2009), § 406.
[40] Government Accountability Office, *Department of Energy: Status of Loan Programs* (Mar. 15, 2013).
[41] *Id.*
[42] *Id.*
[43] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), § 432.

Upgrading the energy performance of federal buildings has been a priority for the Administration. In December 2011, the President challenged federal agencies to enter into $2 billion worth of performance-based contracts in two years to save energy at federal facilities.[44] Performance-based contracts include energy savings performance contracts (ESPCs), through which private contractors implement energy and water savings improvements at federal facilities at little or no upfront cost to the government and are paid from the resulting cost savings. EISA made permanent the authority of agencies to enter into ESPCs.[45] DOE's Federal Energy Management Program assists agencies with implementing the President's initiative and tracks their progress.

As the Climate Action Plan notes, "Federal agencies have committed to a pipeline of nearly $2.3 billion [in performance-based contracts] from over 300 reported projects" in response to the President's challenge.[46] However, the comprehensive energy and water audits completed for most federal facilities show that there are as many as 75,000 potential energy and water efficiency measures that could be implemented. These measures could support up to $9.5 billion in performance-based contracts. Some of these measures will be implemented through the contracts already in the pipeline, but billions of dollars in potential work remains to be done.

To build on the progress made during the last year and a half, we recommend that DOE work with the White House to establish a new goal of entering into $1 billion worth of performance-based contracts per year beginning in January 2014, when the President's current goal concludes.

We also recommend that DOE establish a website to track the performance of federal facilities in identifying and implementing energy efficiency measures. The creation of this website was required by EISA, but its establishment has been delayed by the volume of requests for exemptions.[47] The absence of the website undermines accountability and we urge that the website be created immediately. If exemptions are needed for national security, they should be limited to essential national security facilities.

IV. Encourage Reforms in State Building Codes and Utility Rate Structures

While DOE has the authority to issue efficiency standards for consumer and many commercial products, some of the most promising areas for efficiency gains are regulated at the state or local level. These include establishing new building standards and reforming utility rate structures to provide incentives for investments in efficiency.

The President has proposed a Race to the Top for Energy Efficiency and Grid Modernization to competitively award grants to state, tribal, and local governments that implement forward-leaning policies. DOE has broad authority under the DOE Organization Act to establish and implement such a program.[48] But Congress needs to appropriate funds. The President's fiscal

[44] Presidential Memorandum: Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings (Dec. 2, 2011).
[45] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), § 514.
[46] The President's Climate Action Plan (June 2013).
[47] Energy Independence and Security Act of 2007, Pub. L. 110-140 (Dec. 19, 2007), § 432.
[48] *See, e.g.*, 42 U.S.C. 7133 and 42 U.S.C. 7151.

year 2014 budget request includes $200 million for the program, which Congress should include in the appropriations for DOE for Fiscal Year 2014.

If DOE obtains funding for this program, an important design question will be the scope of the scoring criteria. We encourage DOE to focus the award criteria on key policies aimed at boosting energy efficiency improvements. Grants should be used to spur advances in state, tribal, and local policies, particularly in the areas of building code adoption and enforcement, innovative financing mechanisms, and utility rate structures that provide incentives for end-use energy efficiency and demand response.

Progress in these crucial policy areas has the potential to provide tremendous energy savings. Buildings consume about 40% of all energy used in the United States. According to ACEEE, "Building energy codes are universally recognized as the easiest and most cost-effective way to help consumers save energy and money, making housing more affordable and reducing air pollution."[49] Supporting state adoption and enforcement of updated national model building codes therefore should be a priority for the program. The competition also could facilitate the spread of innovative state and local ideas for financing efficiency measures for residential and commercial buildings, such as repayment on utility bills or property tax bills.

Likewise, there is enormous potential in utility reform. Historically, utilities have had a basic incentive problem when it comes to promoting energy efficiency among their customers. If utilities make more money when their customers use more energy, they do not have an incentive to help customers reduce their energy use through increased efficiency. More than twenty states – from California to Vermont and Michigan to North Carolina – have addressed this problem with a policy called "decoupling" for electricity, natural gas, or both. Decoupling eliminates the disincentive for utilities to help consumers reduce their energy use by decoupling earnings from the volume of energy sold. It can be combined with performance incentives to encourage utilities to promote energy efficiency. A Race to the Top program should promote adoption of utility rate structures like decoupling that remove financial disincentives for utilities to invest in energy efficiency improvements.

While Congress should act to appropriate funds for Race to the Top, there is no guarantee that Congress will do so. We recommend that DOE develop alternative strategies for encouraging the states to strengthen their building codes and reform utility rate structures. We recommend that these include focusing the competitive grants available through the State Energy Program in future years on innovative proposals to achieve these goals.

V. Maximize the Contribution of Power Marketing Administrations

There are four federal power marketing administrations (PMAs): Bonneville Power Administration (BPA), Western Area Power Administration (WAPA), Southeastern Power Administration (SEPA), and Southwestern Power Administration (SWPA). Congress

[49] House Energy and Commerce Committee, Subcommittee on Energy and Power, *Hearings on American Energy Security and Innovation: As Assessment of Private-Sector Successes and Opportunities in Energy-Efficient Technologies*, Testimony of R. Neal Elliot, Associate Director for Research, American Council for an Energy-Efficient Economy (Feb. 26, 2013).

established the PMAs to market and deliver wholesale electric power generated primarily from federal dams owned by the Bureau of Reclamation and the U.S. Army Corps of Engineers. The PMAs deliver power to approximately 1,200 public power systems and rural electric cooperatives in 33 states. Their rates are set at levels to recover the costs of the federal investment in the hydropower and transmission facilities. The PMAs operate over 38,000 megawatts of generation capacity and 33,700 miles of electric transmission lines.

One step the power marketing administrations can take is building transmission lines within their territories to increase access to renewable power sources. The American Recovery and Reinvestment Act assigned WAPA a new mission of constructing transmission lines within its service area to connect renewable energy generation to the electric grid. The Act provided WAPA and BPA with $3.25 billion each in borrowing authority to build additional transmission lines to serve wind and other renewable energy resources.[50] In addition, the Energy Policy Act of 2005 granted WAPA and SWPA the authority to facilitate the construction and upgrade of transmission facilities in their service territories.[51] WAPA is currently using its borrowing authority to assist in the financing of the Transwest Express Project from Wyoming to Nevada and the Electric District No. 5 Palo Verde Hub project in Arizona. We recommend that the PMAs fully utilize these authorities to support the construction of meritorious transmission lines that facilitate the expansion of renewable electricity generation.

Under the DOE Organization Act and the organic acts of the PMAs, the Secretary of Energy has authority to supervise and direct the PMAs.[52] In March 2012, then-Secretary Chu sent a memorandum directing the heads of the PMAs to update their planning and operations in order to take a leadership role in transforming the electric sector.[53] There are several steps that the Secretary should direct the PMAs to take. We recommend that the PMAs develop rate designs that incentivize energy efficiency and demand response programs, the integration of intermittent renewable energy resources, and the preparation for electric-vehicle deployment. Specific steps the PMAs could take also include increased coordination with neighboring system operators, electricity scheduling on an intra-hour basis, and infrastructure upgrades to take advantage of modern communications and control technologies.

VI. Analyze Climate Change Impacts of LNG Exports

As a result of a large supply of domestic natural gas and low domestic natural gas prices, several companies have filed applications with DOE to export liquefied natural gas (LNG). Under the Natural Gas Act, DOE is required to grant an application to export natural gas to a country without a free trade agreement with the United States unless it finds that the proposed export will not be consistent with the public interest.[54] DOE is authorized to grant an application "with such modification and upon such terms and conditions as the [Secretary] may find necessary or appropriate."[55] For export to countries with a free trade agreement, the Natural Gas Act requires

[50] American Recovery and Reinvestment Act, Pub. L. 111-5 (Feb. 17, 2009), §§ 401, 402.
[51] Energy Policy Act of 2005, Pub. L. 109-58 (Aug. 8, 2005), § 1222.
[52] *See, e.g.*, 42 U.S.C. § 7152, 16 U.S.C. § 832a.
[53] Memorandum from Secretary of Energy Steven Chu to Power Marketing Administrators (Mar. 16, 2012).
[54] 15 U.S.C. § 717b.
[55] *Id.*

DOE to deem such applications consistent with the public interest and grant them without modification or delay. DOE is currently reviewing approximately 20 applications to export LNG to countries with which the United States does not have free trade agreements.

LNG exports have the potential to reduce global carbon emissions by reducing coal use in other countries, but there are significant uncertainties about whether this potential will be realized. The Energy Information Administration (EIA) projects that U.S. gas producers would satisfy up to 70% of the increased demand from exports by increasing domestic production, primarily from shale formations.[56] Currently, 3% of the U.S. greenhouse gas inventory is the result of fugitive methane emissions from the natural gas sector.[57] Increased domestic production and transmission of natural gas will increase the release of methane, a potent greenhouse gas, unless methane venting and leaks are minimized throughout the sector. EIA also found that LNG exports would increase domestic carbon emissions by raising the domestic price of natural gas, which would result in some shifting from natural gas to coal-fired electricity generation. In addition, the liquefaction process itself is energy intensive so LNG export facilities would have significant carbon emissions.

LNG export terminals are multi-billion-dollar energy infrastructure investments. DOE should understand the climate impacts of LNG exports before these facilities are constructed in order to ensure that there is a net climate benefit from such exports. We recommend that DOE conduct a thorough analysis of the climate change impacts of proposed LNG exports, including the effects on both domestic and overseas emissions.

[56] U.S. Energy Information Administration, *Effect of Increased Natural Gas Exports on Domestic Energy Markets* (Jan. 2012).

[57] House Energy and Commerce Committee, Subcommittee on Energy and Power, *Hearings on U.S. Energy Abundance: Exports and the Changing Global Energy Landscape*, Testimony of James Bradbury, Senior Associate, World Resources Institute (May 7, 2013).

Conclusion

Congress has provided DOE with broad legal authority that can be used to address climate change. DOE will play a crucial role in executing the President's Climate Action Plan. The Bicameral Task Force on Climate Change encourages the Secretary of Energy to consider the 20 recommendations presented in this report as he implements the President's plan. Strengthening energy efficiency standards and programs, accelerating the development and deployment of low-carbon energy technologies, modernizing the electric grid, and fully evaluating the climate change impacts of major energy infrastructure projects would reduce carbon pollution while saving consumers money and creating jobs.