



Testimony of  
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Committee on Energy and Commerce  
Subcommittee on Energy and Power Hearing on  
“Strategic Petroleum Reserve Discussion Draft and Title IV Energy Efficiency”

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Mr. Chairman and members of the Subcommittee, thank you for the opportunity to share the views of the Natural Resources Defense Council on national policies and programs that serve to increase investments in energy efficient buildings and technologies as a means to save money, promote job growth and cut carbon pollution. My name is Elizabeth Noll and I am an energy efficiency advocate at NRDC.

**IN BRIEF:**

NRDC has long advocated for energy efficiency as a critical component in meeting our energy demands and climate goals, now and in the future. Some of these provisions will lead to energy savings for American taxpayers and the federal government’s leadership will translate to innovation in the private sector as well. However a number of these provisions will reverse the great progress we’ve made and harm, including:

- **Section 4124:** Residential non-weatherized gas furnaces and mobile home furnaces which seek to prohibit the Department of Energy from promulgating a final rule amending efficiency standards for non-weatherized gas furnaces and mobile home furnaces.

- **Section 4131:** Greater energy efficiency in building codes which seeks to increase transparency and cost-effectiveness in the development of model energy codes.
- **Section 4115:** Repeal of fossil fuel consumption reduction for federal buildings which would repeal the requirement that all new and modified federal buildings reduce fossil fuel generated energy by 2030.

American innovation is delivering new technology and opportunities to enhance the nation's security and create jobs while reducing pollution. The energy decisions we make today will shape our children and grandchildren's economic and environmental future.

- **We must strengthen the existing programs and policies that are saving consumers trillions of dollars and reducing pollution rather than seek to delay or undermine them.**
- **We must leverage energy efficiency to protect and empower consumers.**
- **We must increase investments in energy efficiency to cut pollution and end needless waste.**

We know efficiency is not fully achieved on its own; we know consumers want and support minimum efficiency standards; and we know manufacturers continue to innovate and rise to meet these standards while delivering the same or better performance and options. Government's role is to continue to set the minimum standards that will save customers trillions of dollars and do so in a manner that allows manufacturers the flexibility to innovate and make better products.

Congress should reject any proposal to delay, weaken, or repeal the clean energy programs that have proven effective and instead continue passing meaningful energy efficiency policies Americans want.

#### **FURTHER DISCUSSION:**

NRDC is a national, non-profit environmental organization with more than 1.4 million members and activists. Since 1970, our lawyers, scientists, and other environmental specialist have worked to protect

the world's natural resources, public health, and the environment. NRDC's top institutional priorities include curbing global warming and creating a clean energy future. NRDC has long advocated for energy efficiency as a critical component in meeting our energy demands and climate goals, now and in the future.

What would you say if I told you that here today we have easy to implement tools that are proven to save your constituents money on their energy bills? That is Energy Efficiency.

Forty years of sustained improvements in energy efficiency not just America's single largest energy resource, but a "supply" whose cumulative contribution to meeting growth in the nation's needs for energy services exceeding those of coal, oil, natural gas and nuclear energy combined.

And, federal programs are succeeding--like the Department of Energy's appliance standards program, first authorized by Congress in 1987 and improved through numerous bipartisan bills over the years, will save all Americans including your constituents \$1.8 trillion on their utility bills through 2030 while cutting carbon pollution in 2014—equivalent to the annual emissions from nearly 500 million automobiles.

Energy efficiency programs, including cost-effective programs like home weatherization, helps spur job growth at the same time that it save customers money and reduces pollution.

Take Illinois for example, two-thirds (68,900) of the state's 112,000 clean energy workers are employed in energy efficiency.

Cost effective investments in building efficiency, especially in our heating, ventilation, and air-conditioning systems (HVAC), are key to driving the energy efficiency economy in Illinois. Electrical upgrades to buildings, including lighting, building envelope, and energy efficient appliances and machinery make up nearly 30,000 jobs, and HVAC adds nearly 25,000 jobs to the total.

In 2013, Illinois cracked the American Council for an Energy-Efficient Economy's Top 10 most efficient states rankings for the first time, thanks in large part to the utility efficiency standards that went into effect in 2008.

And the public supports these programs. For example, Illinoisans strongly support increased reliance on energy efficiency to meet the state's future energy needs. According to a poll by the bipartisan team of Fairbank, Maslin, Maullin, Metz & Associates (FM3 - D) and Public Opinion Strategies, 70 percent of likely Illinois voters strongly support increased use of energy efficiency, compared with only 16 and 19 percent of voters who support increased use of nuclear and coal, respectively.

### **Energy Efficiency Discussion Draft**

Let me take a moment to thank the committee for their leadership in helping to pass the Energy Efficiency Improvement Act of 2015 just last week. It reflects the bipartisan nature of energy efficiency policy and paves the way for continued focus and investment in this area. Tremendous energy efficiency opportunities remain untapped and we urge Congress to ensure that we take full advantage of these potential energy efficiency improvements. Every home, building, and appliance we make more efficient cuts customers' energy bills, reduces carbon pollution and moves the nation closer to a more stable and prosperous future.

Some of the provisions under consideration will help lead to energy savings for American taxpayers including those in your districts and the federal government's leadership will translate to innovation in the private sector as well.

American innovation is delivering new technology and opportunities to enhance the nation's security and create jobs while reducing pollution. The energy decisions we make today will shape our children and grandchildren's economic and environmental future.

However a number of these provisions will actually set up obstacles to energy efficiency and harm the constituents in your districts.

**Section 4124:** This bill would block the Department of Energy from acting to raise the minimum efficiency standards for non-weatherized gas furnaces and mobile home furnaces and which could deliver cumulative savings up to \$19 billion over 30 years beginning in 2021.

In March of 2015, the Department of Energy (DOE) proposed updated standards for home furnaces. The proposed standards would provide tremendous benefits for consumers and the environment. The proposed standards would save consumers more than \$600 on average over the life of their furnace. The proposed rule represents the biggest natural gas saving efficiency standard ever established and would deliver cumulative emissions reductions of 137 million metric tons of carbon dioxide.

Further delay would only serve to harm the people in your districts, the environment and public health.

We are actively working with stakeholders and DOE to ensure the rule maximizes the opportunity for savings to customers and the environment.

Updating the furnace standard is particularly important to low income customers. Cost-effective minimum efficiency standards provide energy savings for all customers. But these savings are even more important to low income customers because heating bills represent such a large portion of those customers' income.

In addition, minimum efficiency standards are especially important for the many low-income households who rent their homes. In almost all cases, renters pay their electricity bills but it is the property owner who chooses the furnace. And the property owner generally choose the least expensive furnace model even that model will result in much higher energy bills over its lifetime. Allowing the Department to do its job and update furnace efficiency standards will make sure that all furnaces meet minimum efficiency levels that will reduce the burden on the many moderate and low-income families who struggle to pay their heating bills. At the same time that we raise minimum furnace standards, we are also working to make new energy efficient furnaces even more accessible to low-income consumers by bolstering state and utility programs that serve low-income populations which provide long-lasting assistance and can reduce the need for bill-payment assistance programs.

Submitted with this testimony is a fact sheet that provides more details on the DOE's proposed revision to the minimum efficiency standard for non-weatherized gas furnaces.

**We must strengthen the existing programs and policies that are saving consumers trillions of dollars and reducing pollution rather than seek to delay or undermine them.**

**Section 4131:** Greater energy efficiency in building codes which seeks to increase transparency and cost-effectiveness in the development of model energy codes.

While Section 4131 rightly recognizes the great energy savings potential achievable through building codes, it unfortunately takes more steps backwards than it does forward.

Building codes are the most-effective tool to ensure that efficiency is implemented when it is cheapest and easiest: when a building is first constructed. For instance, it is much cheaper and easier to add insulation before there is drywall up on the walls than it is to cut holes in the wall later.

Recent versions of the national model building codes – IECC and ASHRAE, which are adopted by many states -- have made large improvements in energy efficiency. For example, the 2012 IECC will require new homes to use approximately 30 percent less energy than the 2006 version, saving homeowners an average of \$4700 to \$33,000 in net savings over the life of the home depending on the climate zone.[1]

The Department of Energy played a significant role in advancing efficiency measures during the 2012 IECC development process that led to these large energy savings. Unfortunately, Section 4131 attempts to limit DOE's engagement in future code development cycles by limiting both their own participation and their ability to provide funding to groups that advocate for cost-effective energy efficiency improvements in codes.

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<sup>[1]</sup> <https://www.energycodes.gov/sites/default/files/documents/NationalResidentialCostEffectiveness.pdf>

The purpose of the building codes program at DOE is to advance energy efficiency in building codes: at the development, state adoption, and implementation stages. Section 4131 would severely limit their ability to achieve these goals by disallowing DOE from “advocating, promoting, or discouraging” specific measures or codes. DOE has an expert voice that is incredibly valuable in the code development and adoption process. DOE has the capability to evaluate energy savings, cost-effectiveness, technical feasibility, and impact on industry in an unbiased way that other stakeholders do not (or do not have the same resources as DOE to do). DOE contributes greatly to both the code development and adoption process by conducting and sharing these types of analyses and should not be hindered from doing so. It is difficult to share this information in a way that does not come across as advocacy, promotion, or discouragement and limiting DOE in this way would be counterproductive to the goal of achieving energy savings through building codes.

Building codes are particularly important because they protect homeowners by lowering the overall cost of home ownership. Unlike upgrades such as granite counter tops, efficiency is hard to see at the time of purchase and so a builder looking to cut costs may skimp on this important measure to reduce their first costs. This is short sighted and ultimately will result in greater cost to the home owner who sees the combined cost of their mortgage and utility bills each month. Skimping on efficiency may lead to a smaller mortgage payment, but a higher utility bill, increasing overall monthly costs and reducing affordability.

Unfortunately Section 4131 takes a short-sighted view of affordability, by requiring DOE to analyze simple payback of measures over three, five and seven year periods and not allowing them to propose any measure that has a longer payback than ten years. Given that a home will be around for many decades, limiting DOE to such short payback periods does not make sense. Furthermore, simple payback



is not the right metric to use as the home owner will be financing most if not all of the additional first cost through a mortgage, which means they will see net savings much more quickly than a simple payback analysis would indicate.

While we appreciate that Section 4131 recognizes the important energy savings achievable through building energy codes, it unfortunately would hinder the advancement of building energy codes more than it would help them.

**We must leverage energy efficiency to protect and empower consumers.**

**Section 4115:** Repeal of fossil fuel consumption reduction for federal buildings which would repeal the requirement that all new and modified federal buildings reduce fossil fuel generated energy by 2030.

This bill recognizes the enormous opportunity for the federal government to save money and reduce the environmental impacts associated with energy use in federal facilities. The federal government spends about \$6 billion each year on energy in owned and leased buildings.

Section 4115, in contrast with other provisions related to federal facilities in this bill, appears counterproductive to the mid- and long- term effort to greatly improve energy efficiency and reduce environmental impacts. In particular, it would repeal 42 U.S.C. 6834(a)(3)(D)(i)), which establishes a requirement to gradually phase out the use of fossil fuels in federal facilities. The largest contribution to that phase-out would be improvements in energy efficiency, and the federal government would be demonstrating leadership in how rapidly and economically that could be achieved.

We recognize that some stakeholders had previously identified concerns with elements of 42 U.S.C. 6834(a)(3)(D)(i)), particularly as interpreted in a draft rulemaking by the U.S. Department of Energy. However, the U.S. Department of Energy has recently revised the proposed regulations, and the revisions appear to be both workable and a positive step for an economic and sustainable energy future.

**We must increase investments in energy efficiency to cut pollution and end needless waste.**

In closing, energy efficiency is important. We know efficiency is not achieved on its own; we know consumers want and support minimum efficiency standards; and we know manufacturers continue to innovate and rise to meet these standards while delivering the same or better performance and options.

For example beginning in 1947 electricity use from each refrigerator rose year over year until the first standard was set in the 1978. There was simply no incentive for efficiency as the market encouraged design changes that saved money up front even if they ended up costing customers much more over the life of the product. Since then refrigerator electricity use has fallen precipitously all while providing the same or higher level of comfort and product performance. A new refrigerator meeting the latest standard uses about a quarter of the energy of its 1973 counterpart, offers 20 percent more storage, and costs half as much. This improvement would not have happened had the government not set minimum standards.

Without standards, cost-effective energy efficiency opportunities would be lost, leading to unnecessarily high energy bills, increased energy consumption, and more harmful pollution. Even though any incremental cost of more efficient appliances is paid back and then some through energy bill savings over the life of the product, various barriers often prevent these savings from being achieved. A classic

example is what economists call split incentives. For instance, a landlord buying a furnace might look only at the initial price, rather than the cost over the life of the product, potentially sticking his tenants with higher energy bills. Or a homeowner may not have time to research a new water heater's long-term cost when his old one breaks; instead he may simply choose whichever one is on the repairman's truck. By setting minimum energy-savings levels for these and other products, standards help capture at least minimum cost-effective energy efficiency opportunities that might otherwise be missed.

Government's role is to continue to set the minimum standards that will save customers trillions of dollars and do so in a manner that allows manufacturers the flexibility to innovate and make better products.

Congress should reject any proposal to delay, weaken, or repeal the clean energy programs that have proven effective and instead continue passing meaningful energy efficiency policies Americans want.

**Additional Background:**

This bill recognizes the enormous opportunity for the federal government to save money and reduce the environmental impacts associated with energy use in federal facilities. The federal government spends about \$6 billion each year on energy in owned and leased buildings. The General Services Administration, the Department of Defense, the Department of Energy and other agencies have been on a steady path of improvement, and conduct an ongoing series of technical and economic analyses, and implementation of measures. These efforts indicate that far more savings are available through cost-effective efficiency technologies, given adequate investment and implementation. This bill also recognizes the important role played by Energy Savings Performance Contracts and utilities in

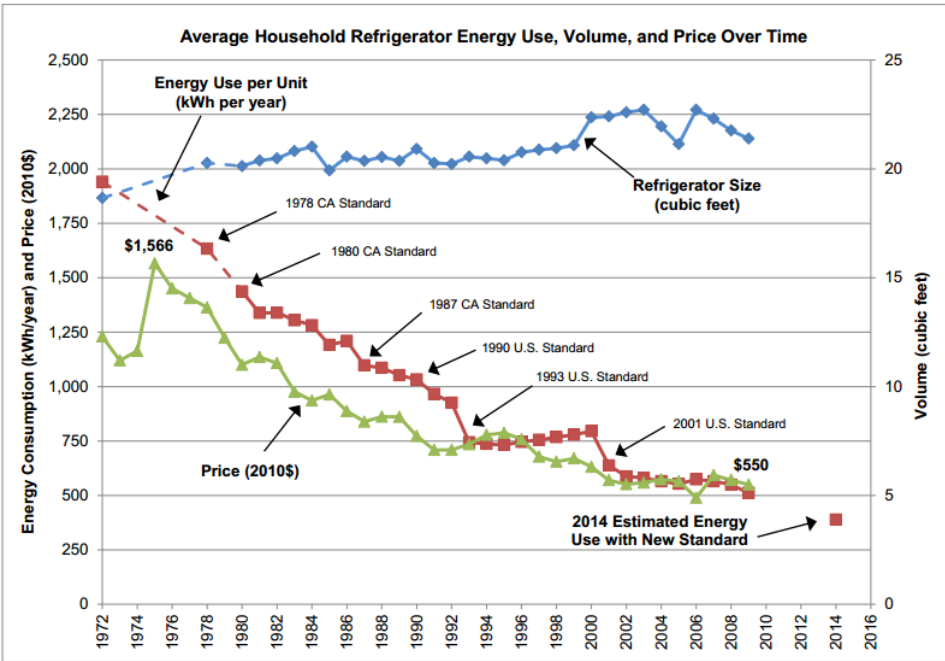
harnessing energy efficiency opportunities, and enhances the ability of federal agencies to tap their financing and implementation capability. We have not had the opportunity to closely study the details of Sections 4111 through 4114, but will do so and provide our views to the Committee.

Section 4115, in contrast with other provisions related to federal facilities in this bill, appears counterproductive to the mid- and long- term effort to greatly improve energy efficiency and reduce environmental impacts. In particular, it would repeal 42 U.S.C. 6834(a)(3)(D)(i)), which establishes a requirement to gradually phase out the use of fossil fuels in federal facilities. The largest contribution to that phase-out would be improvements in energy efficiency, and the federal government would be demonstrating leadership in how rapidly and economically that could be achieved. Accordingly, Section 4115 does not belong in an energy efficiency bill. At a minimum, any repeal would need to be balanced with specific and detailed provisions that would reliably deliver the type of energy efficiency savings that are achievable in federal facilities. We recognize that some stakeholders had previously identified concerns with elements of 42 U.S.C. 6834(a)(3)(D)(i)), particularly as interpreted in a draft rulemaking by the U.S. Department of Energy. However, the U.S. Department of Energy has recently revised the proposed regulations, and the revisions appear to be both workable and a positive step for an economic and sustainable energy future.

Sec. 4123 of this bill seeks to establish a voluntary verification program for air conditioning, furnace, boiler, heat pump, and water heater products that would be recognized by the Department of Energy. The intent of this bill seems reasonable; however we would have concerns with moving forward with the section as currently drafted. The section does not adequately distinguish between certification, verification and enforcement, the last of which is the authority granted by Congress to the Department

of Energy to enforce the law. This is important to ensure the law is being upheld and we would have concern about any provision that undermines this ability.

Section 4151 of this bill directs the Dept. of Energy to assemble available resources, technical assistance, and support for the purpose of improving energy performance of school buildings, to disseminate the information, and to support projects in schools with partnerships and collaboration. Improving the energy performance of schools must be a high priority because it is an exceptional investment – the up-front cost of projects not only saves localities money through lower utility expenses, many efficiency repairs and improvements can help kids/students by better indoor air quality, fewer very hot and very cold days, and better lighting. This bill does not require additional federal spending on projects in schools – even though that would be a smart investment – but rather it directs DOE to assemble existing assistance and assure it is available to schools. There is good reason to believe there are existing programs that could be helpful to schools considering efficiency projects, such as the USDA loan fund that supports rural electric co-ops funding efficiency projects with “on-bill” financing. And, collaboration with lenders, contractors, manufacturers, and school districts could deliver very real value.



### Benefits of Energy Efficiency Standards:

National appliance and equipment efficiency standards are similar to car fuel efficiency standards. They assure a minimum level of energy and water efficiency for households and commercial appliances, creating energy savings for companies and homeowners. Standards provide many benefits for consumers, the national economy, manufacturers and the environments, including:

- Consumers and businesses save money through decreased utility bills;
- Jobs are created when those savings are spent on local goods and services;
- Emissions are cut, improving public health and air quality;
- Manufacturers avoid an expensive state-by-state patchwork of regulations; and
- Innovation results when the manufacturers compete to make products that comply with new standards.

Standards often mean more choices for consumers. For example, because of new lighting standards, manufacturers offered new halogen incandescent bulbs that are 25-30% more efficient than traditional lightbulbs. New, innovative LED products are now gaining market share by leaps and bounds. In other product categories like refrigerators and clothes washers, consumers have more design options and product choices today than ever before.

The federal appliance efficiency program provides certainty and clarity on the standard-setting process and avoids a patchwork of state regulations. This allows manufacturers to implement improvements and innovations at their production facilities in coordination with updated standards well in advance of their effective date. As a result, manufacturers make better products and the energy savings often come at lower cost than estimated. A recent study of nine appliance rulemakings found that while DOE anticipated small increases in the prices of covered products, manufacturer selling prices actually decreased by \$12 on average.<sup>1</sup>

Submitted with this testimony is a fact sheet that further explains the decades of benefits from minimum efficiency standards for appliances and equipment.

Energy efficiency is one of the fastest growing sectors of the U.S. economy. Energy efficiency creates jobs that require a broad range of homegrown expertise, including electricians, heating/air conditioning installers, carpenters, construction equipment operators, roofers, insulation workers, industrial truck drivers, construction managers, and building inspectors. Many of these jobs cannot be exported and represent an important and dynamic driver of new economic opportunities.

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<sup>1</sup> Steven Nadel and Andrew deLaski, "Appliance Standards: Comparing Predicted and Observed Prices." ACEEE, July 30, 2013.  
[http://www.appliancestandards.org/sites/default/files/Appliance\\_Standards\\_Comparing\\_Predicted\\_Expected\\_Prices.pdf](http://www.appliancestandards.org/sites/default/files/Appliance_Standards_Comparing_Predicted_Expected_Prices.pdf).

According to the American Council for an Energy Efficient Economy, federal appliance standards have generated about 340,000 jobs as of 2010.

There are an additional 47,000 smart grid-related jobs that were supported by the American Recovery and Reinvestment Act, according to the U.S. Department of Energy.

Making improvements that increase building efficiency is an even bigger job creator. Between 2009 and 2020, the consulting firm McKinsey found that energy efficiency building retrofits could create between 600,000 and 900,000 American jobs. This job growth would be spurred in two ways – from labor-intensive retrofits in the residential and commercial sectors, and from implementation and enforcement of energy efficiency codes and standards.

## Michigan

Michigan has also seen significant job growth in energy efficiency. A study from the Michigan Department of Energy, Labor, and Economic Growth (MCEF) found that over 50,000 Michiganders are employed by renewable or energy efficiency related jobs in Michigan. Studies by the Hill Group, a prominent national consulting firm, found that doubling Michigan's renewable energy output and energy efficiency resources could result in over 200,000 additional job years and over \$28 billion in in-state investment.

Michiganders are enthusiastic about the state increasing its use of energy efficiency and clean energy sources. Over nine in ten (92%) favor increased energy efficiency as a way to meet Michigan's future needs.



## Virginia

In a September 2014 survey of small businesses in Virginia by Environmental Entrepreneurs (E2), 65 percent said they think it is important for the state to continue to support energy efficiency programs.

Support among individuals is even higher. Nearly all Virginia voters, 95 percent, according to a poll by the bipartisan team of Fairbank, Maslin, Maullin, Metz & Associates (FM3 - D) and Public Opinion Strategies, favor increased energy efficiency 95 as a way to meet Virginia's future energy needs.

## Pennsylvania

More than 57,000 Pennsylvanians work at 4,200 clean energy businesses, according to a November 2014 study commissioned by the nonpartisan business group Environmental Entrepreneurs (E2). About 37,500 people, or 68 percent, work in commercial and residential energy efficiency. While this is an impressive number, the state could almost certainly support significantly more jobs if it undertook policies and programs that improved its energy efficiency rankings. Pennsylvania is ranked only twentieth among the states by ACEEE. No. 1 ranked Massachusetts has more than 65,100 energy efficiency jobs.

Pennsylvanians are more enthusiastic about the state increasing its use of energy efficiency and clean energy sources than they are about coal and nuclear. 97% favor increased energy efficiency as a way to meet Pennsylvania's future needs, according to a poll by the bipartisan team of Fairbank, Maslin, Maullin, Metz & Associates (FM3 - D) and Public Opinion Strategies.

## Ohio

More than 56,000 Ohioans, or 63.5% of the total state clean energy workforce, are employed by firms focused on energy efficiency, according to a forthcoming study commissioned by E2. The bulk of these jobs are in residential and commercial efficiency-related activities, “smart grid” work, and energy storage.

92 percent of Ohio voters support expanding utility programs to help consumers improve the energy efficiency of their homes and reduce their electricity bills. 94 percent favor increased energy efficiency as a way to meet Ohio’s future needs, according to a poll by the bipartisan team of Fairbank, Maslin, Maullin, Metz & Associates (FM3 - D) and Public Opinion Strategies.

#### Missouri

More than 40,000 Missourians work at 4,400 clean energy companies in Missouri, according to an April 2015 E2-commissioned study. The vast majority of these jobs – 83 percent or nearly 32,600 – are in the energy efficiency sector.

#### Florida

About 100,000 Floridians, or nearly 75% of all residents employed by clean energy businesses, work in energy efficiency, according to an October 2014 E2-commissioned study.

In North Carolina, nearly half of the state’s 23,000 clean energy workers are employed at energy efficiency firms, according to the North Carolina Sustainable Energy Association’s 2014 census of clean energy employment. Clean energy employment increased 15 percent between 2012 and 2014, largely thanks to state policies promoting renewable energy and energy efficiency development.