

**Alliance to Save Energy
American Council for an Energy-Efficient Economy
Appliance Standards Awareness Project
Consumer Federation of America
Northwest Power and Conservation Council**

July 14, 2017

Mr. Daniel Simmons
Acting Assistant Secretary for Energy Efficiency and Renewable Energy
Chair, Department of Energy Regulatory Reform Task Force
U.S. Department of Energy
1000 Independence Ave
Washington, DC 20585

Via email to Regulatory.Review@hq.doe.gov

Dear Mr. Simmons:

Thank you for the opportunity to provide comments and suggestions in response to the U.S. Department of Energy's (DOE's) "Reducing Regulation and Controlling Regulatory Costs" request for information. The signatories to this letter include leading national energy efficiency and consumer advocacy organizations and a regional power planning agency. Each has extensive experience in working to advance cost-effective energy efficiency for the public benefit.

These comments focus on energy efficiency and DOE's appliance standards program. We first address the significant public benefits achieved by energy efficiency policies, including appliance standards, review DOE's statutory mission with respect to improving efficiency, and recommend a set of up-to-date goals for modern energy efficiency efforts. We then outline the necessary regulatory elements of today's DOE appliance standards program. We review the substantial record that demonstrates that DOE has a track record of *overestimating* the costs of new standards. We close with a set of recommendations for improving and streamlining DOE's administration of this critical national policy.

I. Energy efficiency, DOE's mission and goals

For over 40 years, energy efficiency has been a core element of federal energy policy, which has also provided a critical foundation for additional policies developed and implemented by state and local governments. Indeed, Congress made energy efficiency integral to the Department's purpose when it created the agency in 1977. DOE (and other agencies) have executed the directives passed by Congress on a bipartisan basis to improve the energy efficiency of new and existing homes and commercial buildings; appliances, equipment, lighting, and other devices; and vehicle fleets.

The result of the prioritization of energy efficiency in federal policy is a more energy-productive economy. Between 1980 and 2012, the U.S. more than doubled energy productivity. U.S. gross domestic product increased by 138% (up from \$6.5 trillion to \$15.4 trillion in real dollars). U.S. energy consumption only increased by 21% (increasing from 78.1 to 94.4 quadrillion British thermal units).¹ This tremendous economic growth occurred as we experienced significant economic and technological modernization across society.

U.S. regulatory efforts have been essential for this improvement in energy productivity. In particular, DOE's appliance standards program has delivered enormous benefits. Over the period 1987 to 2035, existing standards will save consumers \$2.4 trillion. This estimate takes into account DOE estimates of incremental costs. Consumer benefits outweigh costs by at least 5 to 1 (but likely higher for reasons outlined below). Average annual household savings on utility bills in 2015 was about \$500. Electricity savings from standards in 2015 equaled 13% of total electricity sales in that year, and end-use natural gas and fuel oil savings equaled 4% of total consumption.² In sum, appliance standards have saved consumers and businesses significant amounts of money while helping to meet America's critical need for low-cost, reliable energy.

Energy efficiency in DOE's mission

DOE was established by [Public Law 95-91](#) in 1977 with Congressionally-mandated goals and priorities. DOE's core purposes, defined by statute, include:

- “to achieve...effective management of energy functions of the Federal Government...and observe policies consistent with a coordinated energy policy, and ***to promote maximum possible energy conservation measures*** (emphasis added)...” (1st item on the law's list after establishment of the department);
- “to create and implement a comprehensive energy conservation strategy that will ***receive the highest priority*** (emphasis added) in the national energy program;” (3rd on the list);
- “to promote the interests of consumers...” (8th on the list), and;
- “to assure incorporation of national environmental protection goals...and to advance the goals of restoring, protecting, and enhancing environmental quality, and assuring public health and safety” (12th on the list).

As described above, appliance efficiency standards, required under the Energy Policy and Conservation Act of 1975 as updated by Congress numerous times since then, have made an enormous contribution toward addressing these elements of DOE's mission. Notably, appliance standards achieve cost-effective efficiency at very low cost to the taxpayer when compared to the enormous benefits achieved.

¹ U.S. Department of Commerce's Bureau of Economic Analysis and Energy Information Administration data.

² A. deLaski and J. Mauer, *Energy-Saving States of America: How Every State Benefits from National Appliance Standards*. ASAP and ACEEE. February 2017. pp. 8-9.

Goals for energy-efficiency policy

We encourage you to consider energy efficiency broadly and DOE's specific obligations and authorities to promulgate efficiency regulations as a means to achieve five important energy goals, consistent with DOE's mission and the appliance standards law.

1. Improve the long-term **affordability** of homes and energy-consuming products.
As noted, standards lower utility bills for consumers and businesses each year by amounts well in excess of any increases in incremental first costs. Total annual bill savings for households and businesses reached \$80 billion in 2015 and will increase to \$146 billion in 2035 as recently completed standards take effect and more and more installed products meet current standard levels. The average household savings of about \$500 in 2015 amounts to about 16% of a typical household's total combined utility bills.³ These savings are particularly important for lower-income Americans who spend a disproportionate share of income on utilities. For consumers and businesses, savings accrue for as long as a given product is in use, and provide a "built-in" energy efficiency feature that controls costs even when energy prices rise.
2. Reduce strain and promote energy system **reliability**.
As more energy-consuming products are brought into service in homes, office buildings, and factories, energy efficiency helps limit and control overall demand and usage. While DOE has substantial efforts focused on the supply side of the equation, demand side policies also play a critical role in ensuring a resilient and reliable electric system. The energy sector relies on energy efficiency to mitigate what would otherwise be a constant rush to build costly new generation and transmission resources to meet surging energy needs. It also reduces planning uncertainty for long-lead-time projects such as power plants and transmission lines: demands for gas and electricity are easier to predict when the possibility of low-efficiency appliances is precluded. Energy efficiency is therefore a useful planning tool to "even out" demand and consumption, which gives state regulators more options and provides relief to utility customers from high energy bills. Even when prices are relatively low, efficiency allows continued reliance on lower-cost resources, which may be legacy resources, rather than allowing higher-cost options to drive wholesale prices up.
3. Increase **choice** in the marketplace.
DOE's activities, policies, and programs, including appliance standards, have contributed to more choices for consumers and businesses. The counter-intuitive finding that efficiency standards that remove the most inefficient choices from the market actually enhance customer choice is supported by casual observation of options on the market as well as rigorous, data-based quantitative research.

For example, partly due to lighting standards (both those in effect and those required to take effect in 2020) and partly due to public- and private-sector investments in research and development, lighting products offer some of the best case studies on energy efficiency. The U.S. led the light-emitting diode (LED) lighting revolution, and American

³ Ibid. p. 22.

consumers now have countless choices (and combinations of choices to fit their needs) of bulbs, fixtures, controls, and “smart” features, all while costs have decreased by 94% since 2008.⁴ Likewise, DOE’s clothes washer standards, negotiated over several rounds between industry and efficiency supporters, have spurred manufacturers to develop a wide array of very efficient products (including both top- and front-loading) that not only save energy, but according to Consumer Reports, clean clothes better.⁵ From light bulbs, to clothes washers, to refrigerators to commercial roof top air conditioners, buyers of products regulated by DOE have more and better choices than ever before.

Recent quantitatively-based research backs up this observation. In work published earlier this year based on an extensive data set, researchers at the London School of Economics (LSE) examined products subject to U.S. regulations and concluded:

We find no evidence to suggest that more stringent energy efficiency standards hurt consumers by increasing price or lowering quality. Rather, we find evidence that price declines and quality improvements accelerate with stricter standards, which unambiguously improves consumer welfare, excluding external pollution-related benefits.⁶

Research published by Resources for the Future (RFF) reached similar conclusions using a different methodology. They found that product performance often improved as new standards took effect. In addition, their research showed that, “product reliability has improved considerably since our case appliances were first covered under federal MEPS...”⁷ Earlier work by ASAP and ACEEE examined ten regulated products before and after standards took effect and found that product performance generally stayed the same or improved and new features became available.⁸ (Like the LSE work, the RFF and ASAP/ACEEE research also addressed price impacts, which we address below.)

4. Make the U.S. more **energy-secure**.

The U.S. is one of the world’s most dynamic and competitive energy markets, but has continued exposure to risks that could upset our supplies, weaken our economy, and disrupt our society. Past energy shocks have been devastating to the U.S. economy. President Trump has talked about U.S. “energy dominance.” Energy efficiency is an effective policy strategy to conserve resources and lower wasted supplies, decreasing dependence on foreign supplies and potentially allowing greater exports, thereby helping to ensure long term energy security and leadership for the U.S.

⁴ U.S. DOE. *The Future Arrive for Five Clean Energy Technologies – 2016 Update*. p. 8

⁵ Consumer Reports. *The Best Washers for \$800 or Less: These workhorses of the laundry room handle loads for less*. Last updated: July 12, 2017 12:30 PM

⁶ Brucal, A. and M. Roberts. *Do energy efficiency standards hurt consumers? Evidence from household appliance sales*. Grantham Research Institute/London School of Economics. March 2017. p. 2.

⁷ M. Taylor, C.A. Spurlock, H.C. Yang. *Confronting Regulatory Cost and Quality Expectations: An Exploration of Technical Change in Minimum Efficiency Performance Standards*. Resources for the Future. October 2011. p. 70.

⁸ Mauer et al. *Better Appliances: An Analysis of Performance, Features and Price as Efficiency Has Improved*. ASAP and ACEEE, May 2013.

5. **Increase domestic employment.**

Energy efficiency creates jobs in two ways: first through directly employing people who provide energy efficiency services and make and install energy efficient devices, and second by shifting spending and investment to more job intensive sectors of the U.S. economy. A DOE report published earlier this year estimated direct employment in energy efficiency at 2.2 million. In the same report, DOE estimates overall employment in the relevant manufacturing subsectors at 635,000, of which 239,000 make products defined as “energy-efficient.”⁹ In other words, hundreds of thousands of Americans are employed in manufacturing devices that meet current DOE standards, and nearly 4 out of 10 of them are making products significantly exceeding minimum standards.

We are aware that some manufacturers have claimed from time to time that efficiency standards cause them to move jobs to lower labor cost markets, but we are not aware of substantial evidence to support this claim: if it is cost advantageous to make an energy-efficient product outside the U.S., it likely will be cost advantageous to make an inefficient product outside the U.S.. Pressure on manufacturers to reduce labor costs by moving production or with automation exist with or without efficiency standards. Where American jobs have been lost, it often has been because factories did not keep up with new technologies and became uncompetitive. To the contrary, the substantial levels of employment in making regulated products in the U.S. suggests that regulation may bolster domestic employment. Efficiency standards drive innovation and reliance on new technologies which can help keep U.S. plants competitive.

Extensive economic data supports the finding that saving energy indirectly results in job creation.¹⁰ The energy sector is capital intensive relative to the rest of the economy. When consumers and businesses save money on their utility bills, those savings get spent or invested elsewhere, creating economic activity and jobs.¹¹ Using ACEEE’s in-house macroeconomic model, ACEEE and ASAP published a report in 2011 showing that savings from standards resulted in 340,000 more jobs in the U.S. economy in 2010 than would have been the case absent any standards.¹² This estimate does not account for more recently adopted standards or for the possibility that the costs to comply with standards have been lower than predicted. Job creation will grow as the economic savings from standards grow.¹³

⁹ U.S. DOE. *U.S. Energy and Employment Report*. January 2017.

¹⁰ See, for example, H. Garrett-Peltier "Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model" *Economic Modelling*. Volume 61, February 2017, Pages 439-447

¹¹ ACEEE’s fact sheet provides an excellent brief discussion of how cost-effective energy efficiency improvements create jobs see <http://aceee.org/files/pdf/fact-sheet/ee-job-creation.pdf>

¹² Gold, R. and S. Nadel. *Appliance and Equipment Standards Jobs: A Moneymaker and Job Creator in all 50 States*. ACEEE. May 2011.

¹³ Energy-sector emissions reductions are another co-benefit of cost-effectively saving energy. DOE has never used emissions reductions to cost-justify an efficiency standard: in effect, the emission savings are a substantial side benefit, achieved while meeting the goals described herein.

II. Key Features of DOE's Appliance Standards Program

As described above, appliance standards have proven to be one of the best ways to boost U.S. energy efficiency. The program includes four key features that are essential for this success: standards; test methods; labeling, and; certification, compliance and enforcement (CCE). The Federal Trade Commission (FTC) has responsibility for labeling of consumer products, but all other elements of U.S. appliance standards are DOE's responsibility.

Standards provide for a minimum level of energy or water efficiency or maximum level of usage. **Test methods** provide for a uniform and reliable approach to measurement and **CCE** ensures that product purchasers receive products that actually achieve the efficiency requirements, and prevent unscrupulous manufacturers or importers from gaining an edge by selling inefficient, non-complying products.

Most of the products subject to the national standards program originally were covered by state regulation. Over the course of the past thirty years, manufacturers have consistently expressed support for national standards over state regulation. As a result, federal laws enacted by Congress in 1987, 1988, 1992, 2005 and 2007 each added new products to the national standards program. Congress enacted each law on a bipartisan basis with broad support from manufacturers, state government representatives and consumer and energy efficiency advocacy organizations. Underlying the laws is a fundamental deal: Congress preempted the states, removing their authority to regulate products within scope of the federal program, but, in exchange, took over the responsibility for keeping standards and their underlying test methods up-to-date and ensuring compliance.

Congress charged DOE with those responsibilities. The laws generally established schedules for reviewing standards on a product-by-product basis until 2007, when Congress generalized the DOE review obligations. Amendments enacted in 2007 require DOE to review each standard at least once every six years to determine if an update is warranted. Subject to statutory criteria, DOE can decide that no update is needed at that time or propose a new standard. If DOE proposes a new standard, a final revision is due after two more years. Thus, if the agency decides a revision is needed, the law allows for eight years between revised standards. For test methods, the law requires DOE to review standards every seven years to ensure that they are up-to-date. Therefore, the core of DOE's regulatory responsibility consists of carrying out the reviews of existing standards and test methods and ensuring compliance with current standards and test methods.

III. DOE has overestimated regulatory costs

A growing body of rigorous economic analysis demonstrates that DOE has historically overestimated the cost to comply with new regulations and that, contrary to expectations, "a number of studies provide empirical evidence showing the correlation between imposing energy efficiency standards and, surprisingly, *declining prices* of durable good."¹⁴ Retrospective analysis of five DOE rulemakings found that, "rulemaking analyses significantly overestimated

¹⁴ Brucal and Roberts. p. 3

observed product prices.”¹⁵ The LSE research cited above similarly found that prices declined after standards took effect, a finding in direct conflict with DOE predictions.¹⁶ A separate analysis by ACEEE and ASAP using different historical data sources showed that the actual median product price increase across DOE rulemakings that took effect between 2001 and 2010 was only 5% of what DOE predicted. In four out of nine cases, prices actually *declined*.¹⁷ (Because the earlier cited net benefits estimate of \$2.4 trillion accounts for DOE’s estimated price impacts, the finding that DOE has consistently overestimated prices impacts strongly suggests that actual net benefits are significantly higher.)

As discussed above, these price declines happened together with quality improvements. How can improvements in efficiency and quality occur at the same time as price declines? The LSE researchers investigated this question and concluded: “we find evidence supporting policy-induced innovation, wherein firms lower prices of older models as they are forced to introduce new models meeting new, stricter efficiency standards.”¹⁸ In other words, as standards take effect, the price of older, but still compliant products comes down and manufacturers introduce new, high end models with new features to capture profits from consumers willing to pay premium prices for the latest thing. In addition, manufacturer innovation, sparked by the need to redesign for a new standard, finds new ways of producing the regulated product that not only improves efficiency, but also other aspects of the product and the process for making it.

One of the executive orders DOE seeks to implement concerns regulatory budgets. Under the new policy, it appears that costs are to be considered on their own, independent of the benefits generated. Therefore, DOE overestimation of costs could be far more consequential, causing the administration to slow down or not pursue efficiency standards, even though the actual costs to achieve the benefits are very, very low or even zero.

IV. Recommendations

We believe DOE generally has done a good job of carrying out appliance standards-related statutory obligations and responsibilities in a way that minimizes regulatory burden. To evaluate costs and benefits of regulatory options, DOE typically interviews manufacturers, develops independent in-depth information and analysis, makes information and analysis as well as underlying data and models available for public review, and provides multiple opportunities for public comment. While we believe DOE has generally done a good job, there are some areas that need attention or merit consideration for improvement.

1. DOE should maintain a robust and transparent process for reviewing appliance standards.

At times in the past, DOE has fallen behind statutory deadlines for reviews. DOE has now missed some deadlines for both standards and test methods, and a few more deadlines are approaching in the months ahead. DOE should seek adequate budget and

¹⁵ Taylor, Spurlock and Yang. p. ii.

¹⁶ Brucal and Robert. p. 24

¹⁷ Nadel, S. and A. deLaski. *Appliance Standards: Comparing Predicted and Observed Prices*. ACEEE and ASAP. July 2013.

¹⁸ Brucal and Roberts. p. 28.

staffing to carry out its legal obligations to catch up on overdue deadlines and meet future obligations. Updates to these standards, when warranted, have the potential to help achieve the goals described above. DOE should update its published schedule of regulatory actions so that stakeholders know what to expect when and can prepare to provide useful input to the agency.

2. DOE should endeavor to publish final test methods in advance of proposed updates to standards.

Manufacturers and other stakeholders may have difficulty evaluating the impacts of a proposed new standard without knowing the test method. On the other hand, DOE often discovers needed updates or clarifications to test methods in the course of its analysis and investigation for potential new standards, as it evaluates new efficiency measures and sometimes finds that they are not modeled adequately in the existing test. In our view, where no delay of final action would result, DOE should balance these concerns by endeavoring to publish any revision to test methods in advance of proposed new standards so that stakeholders have time to familiarize themselves with any changes and conduct their own testing. This will enable stakeholders to better evaluate the impact of a potential revised standard. (DOE can address this recommendation without new legislation, but we have worked with manufacturers on a pending amendment that would address this issue.)

3. DOE should conduct a retrospective analysis of recently implemented appliance standards to gain further data on real-world price impacts.

As discussed above, there is considerable evidence that DOE has consistently overestimated the price impacts of standards, thereby underestimating net benefits. DOE should evaluate the real-world price impacts of recently implemented standards over a multi-year period to assess the accuracy of more recent estimates. Results from this analysis can be used to help DOE improve its techniques for estimating product price impacts of standards.

4. DOE should publish certification templates well in advance of deadlines for data submittals.

DOE has significantly streamlined and improved its certification requirements in recent years. DOE should make available templates and forms for new or revised certification requirements at least a few months in advance of legal deadlines so that manufacturers have time to understand their obligations, ask questions of the agency and conduct any needed testing.

5. DOE should maintain a robust enforcement program.

DOE's enforcement program has been effective in recent years at uncovering non-compliance. Although a range of companies have been found non-compliant, a disproportionate share have been overseas manufacturers. DOE's enforcement program is essential both for ensuring U.S. consumers get the level of efficiency claimed, but also for protecting domestic manufacturers who play by the rules.

6. DOE should coordinate certification requirements with the California Energy Commission to the extent possible.

In addition to DOE, State of California regulations also require manufacturer certification of efficiency performance. DOE should coordinate with California's regulatory authorities to minimize burden on manufacturers. For example, consistent certification requirements and forms could reduce certification costs.

7. DOE should renew and re-invigorate the negotiated rulemaking process

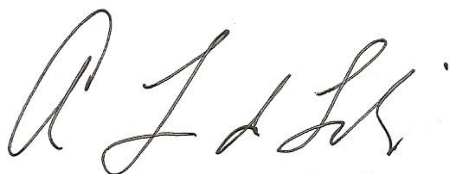
DOE has made very successful use of the formal negotiated rulemaking process, affirming three negotiated rules in May of this year. A fourth was published in the Federal Register this month. This process, overseen by a Federal Advisory Committee, has very effectively identified and proposed regulatory outcomes specifically designed to reduce regulatory burden. The extensive interactions between DOE, the regulated industry, efficiency and consumer advocates and other interested parties has consistently uncovered solutions that might not have been found or might not have been legally available in the normal rulemaking process. For example, this process enabled a delayed compliance date for new central air conditioner standards to better ensure coordination with EPA refrigerant rules, thereby enabling manufacturers to make the product changes required for both rules at the same time. The negotiated rulemaking process is time-consuming and expensive, and only works when parties are willing to work collaboratively and compromise to find solutions which meet DOE's statutory criteria. In addition, some rulemakings are relatively straightforward. Therefore, negotiated rulemakings should be reserved for complex rules that offer the greatest potential public benefits.

8. Move appliance labeling from FTC to DOE.

DOE and FTC have worked to reduce duplicative reporting requirements, thereby reducing regulatory costs. DOE should ensure that this work continues and that certification for all products is well-coordinated. In the long term, Congress may want to transfer responsibility for the appliance labeling (i.e., EnergyGuide) from FTC to DOE which has greater expertise and staff resources for addressing appliance efficiency.

Thank you for considering these comments. We look forward to continuing working with you to improve DOE regulatory efforts.

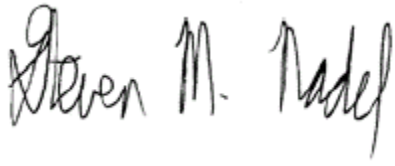
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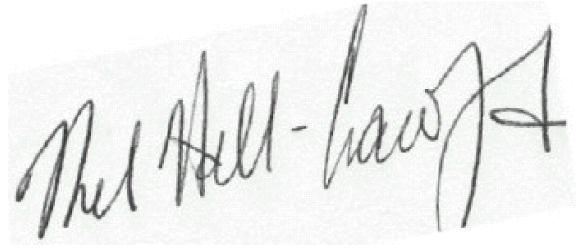
Andrew deLaski
Executive Director
Appliance Standards Awareness Project



Kateri Callahan
President
Alliance to Save Energy



Steven Nadel
Executive Director
American Council for an Energy-
Efficient Economy



Mel Hall-Crawford
Director of Energy Programs
Consumer Federation of America



Tom Eckman
Senior Adviser
Northwest Power and Conservation Council

c: Dan Cohen; John Cymbalsky