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WASHINGTON, DC

Public Interest Comment<sup>1</sup> on

The Department of Energy's Proposed Rule

Energy Conservation Program: Energy Conservation Standards for Small, Large, and Very Large Air-Cooled Commercial Package Air Conditioning and Heating Equipment

Docket ID No. EERE-2013-BT-STD-0007

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The George Washington University Regulatory Studies Center

The George Washington University Regulatory Studies Center strives to improve regulatory policy through research, education, and outreach. As part of its mission, the Center conducts careful and independent analyses to assess rulemaking proposals from the perspective of the public interest. This comment on the Department of Energy's proposed rule setting energy efficiency standards for commercial air conditioning and heating equipment does not represent the views of any particular affected party or special interest, but is designed to evaluate the effect of DOE's proposal on overall consumer welfare.

## Introduction

The Department of Energy's proposed rule amends the existing energy efficiency standards for commercial unitary air conditioners (CUAC) and commercial unitary heat pumps (CUHP), which are used for space conditioning of commercial and industrial buildings.<sup>3</sup> According to DOE, "This equipment is designed to heat and cool commercial buildings and is typically

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<sup>1</sup> This comment reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center's policy on research integrity is available at <http://research.columbian.gwu.edu/regulatorystudies/research/integrity>.

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<sup>3</sup> [http://www1.eere.energy.gov/buildings/appliance\\_standards/product.aspx/productid/77](http://www1.eere.energy.gov/buildings/appliance_standards/product.aspx/productid/77)

located on the building's rooftop. This category of equipment has a rated capacity between 64,000 Btu/h and 760,000 Btu/h.”<sup>4</sup> This rule sets maximum allowable energy usage standards for 12 different product classes of CUAC and CUHP. DOE expects that the proposed standards will go into effect in 2019.

The standards will increase appliance prices for commercial customers such as grocery stores, restaurants, universities, and hospitals. For the differing equipment classes, DOE estimates the life-cycle cost savings (LCC) resulting from the standards will range from \$3,469 to \$16,477, with median payback periods (PBP) of up to 6.6 years. DOE expects the installed cost of regulated equipment to increase by between \$2,167 and \$5,043 per unit due to the standards.<sup>5</sup> As a result, DOE expects the standards to save 11.7 quads of energy over 30 years. In total, DOE expects the standards to result in \$5.262 billion in annualized benefits and \$507 million in annualized costs through the year 2048. According to DOE, these standards are intended to improve the Nation's energy security, strengthen the economy, and reduce the environmental impacts or costs of energy production.<sup>6</sup>

## Statutory Authority

When issuing energy efficiency standards for commercial appliances DOE is statutorily required by the Energy Policy and Conservation Act of 1975 (EPCA) to achieve the maximum improvement in energy efficiency that is both technologically feasible and economically justified, while also resulting in a “significant conservation of energy.” This statutory language gives the Department important guidelines when issuing energy efficiency standards.

Of primary importance is the requirement that these efficiency standards be economically justified. Naturally, regulations and bans will incur costs—but it is necessary to consider the magnitude of the accompanying benefits when judging whether a rule is economically justified. The language of the EPCA reads:

Any new or amended energy conservation standard prescribed by the Secretary under this section for any type (or class) of covered product shall be designed to achieve the maximum improvement in energy efficiency...which the Secretary determines is technologically feasible and economically justified.<sup>7</sup>

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<sup>4</sup> Technical Support Document for the Proposed Rule, *Energy Conservation Standards for Small, Large, and Very Large Air-Cooled Commercial Package Air Conditioning and Heating Equipment*. Chapter 3. Market and Technology Assessment. Page 3-1.

<sup>5</sup> DOE TSD, Chapter 8: Life-Cycle Cost. Table 8.2.11 Average Total Installed Cost for CUACs (2013\$)

<sup>6</sup> 79 FR 59002

<sup>7</sup> 42 USC Chapter 77 § 6295(o)(2)(A): Energy conservation standards.

<http://www.law.cornell.edu/uscode/text/42/6295>

The statute continues to explain that, in determining whether a standard is economically justified, the Secretary shall determine whether the benefits of the standard exceed its burdens after considering the comments submitted on the proposed rule. In making this determination, the Secretary shall consider: 1) the economic impact of the standard on both the manufacturers and the consumers; and 2) the savings in operating costs throughout the estimated average life of the covered product in the type (or class) compared to any cost increase resulting from the rule, in addition to other considerations such as projected energy savings resulting from the rule.<sup>8</sup>

EPCA, as codified, also contains what is known as an “anti-backsliding” provision, which prevents the Secretary from prescribing any amended standard that either increases the maximum allowable energy use or decreases the minimum required energy efficiency of covered equipment.<sup>9</sup>

Because DOE is not able to decrease its efficiency standards after-the-fact, even if retrospective reviews indicated that costs greatly outweighed benefits, the Department should be very careful before restricting the space conditioning equipment available to commercial end users.

## **Compliance with Regulatory Analysis Requirements**

Executive Order 12866 requires executive branch agencies to measure both the costs and the benefits of proposed rules:

Each agency shall assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs.<sup>10</sup>

The Department is required both statutorily and under Executive Order 12866 to issue rules that are justified economically, which would mean under EO 12866 that the benefits of the rule justify the costs. To allow for an examination of whether the costs of this rule are justified by the purported benefits, DOE provides a technical support document (TSD) outlining the anticipated costs and benefits of the proposed rule.

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<sup>8</sup> 42 USC Chapter 77 § 6295(o)(2)(B)(i)(I) – (VII): Energy conservation standards.

<http://www.law.cornell.edu/uscode/text/42/6295>

<sup>9</sup> 79 FR 58954

<sup>10</sup> Exec. Order No. 12866, *Regulatory Planning and Review*. 3 C.F.R. (1993).

## Executive Orders 12866 and 13563

Section 1(a) of Executive Order 12866, which was reinforced by President Obama's Executive Order 13563, instructs regulatory agencies to identify the compelling public need that a new regulation seeks to address:

Federal agencies should promulgate only such regulations as are required by law, are necessary to interpret the law, or are made necessary by compelling public need, such as material failures of private markets to protect or improve the health and safety of the public, the environment, or the well-being of the American people. In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating.<sup>11</sup>

The language of EO 12866 clearly indicates that an agency should not promulgate a regulation that is not made necessary by a failure of the private market unless it is statutorily required. DOE is required by statute to consider amending its energy efficiency standards for CUAC and CUHP; however, it is important to note that the standards being promulgated do not primarily address a material failure of the private market.

Pursuant to EOs 12866 and 13563, DOE lists the factors that necessitate the energy efficiency standards in its proposed rule:

The problems that today's standards address are as follows:

- (1) There is a lack of customer information in the commercial space conditioning market, and the high costs of gathering and analyzing relevant information leads some customers to miss opportunities to make cost-effective investments in energy efficiency.
- (2) In some cases the benefits of more efficient equipment are not realized due to misaligned incentives between purchasers and users. An example of such a case is when the equipment purchase decision is made by a building contractor or building owner who does not pay the energy costs.
- (3) There are external benefits resulting from improved energy efficiency of CUAC and CUHP that are not captured by the users of such equipment. These benefits include externalities related to public health, environmental protection and national security that are not reflected in energy prices, such as reduced

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<sup>11</sup> Exec. Order No. 12866, Regulatory Planning and Review, §1(a).

emissions of air pollutants and greenhouse gases that impact human health and global warming.<sup>12</sup>

As DOE explains in its proposed rule, two types of market failure could potentially be addressed by setting energy efficiency standards for commercial refrigeration equipment. First, consumers are currently purchasing CUAC and CUHP with higher long-term energy costs, which may indicate that they do not have sufficient information about the energy cost savings that higher-efficiency products make possible. This asymmetric information, if it exists, could be remedied by improved labeling or other types of consumer education campaigns.<sup>13</sup> Second, CUAC and CUHP energy use results in some greenhouse gas emissions. Because the social cost of greenhouse gas emissions may not be fully represented in the price of energy, these emissions are externalities which regulatory policies could address.

However, neither of the potential market failures cited by DOE is solved by its proposed energy efficiency standards. DOE estimates global externality benefits of the proposed standard at \$1.774 billion, compared to costs to US citizens of \$507 million. However, as described below, DOE expects only 10% of the annualized externality benefits of carbon reductions to accrue to Americans. Thus, the annualized costs to American citizens outweigh the social benefits of the standard by almost 3 to 1.

Additionally, DOE does not explain why sophisticated, profit-motivated purchasers of CUAC and CUHP would suffer from either informational deficits or cognitive biases that would cause them to purchase products with high lifetime costs without demanding higher-price, higher-efficiency products. Even if DOE could show that it has superior information on how these commercial entities could save money, its proposal does not address information asymmetry by improving the availability of information: instead, the proposal bans certain products from the marketplace.

While building contractors and ultimate commercial end users may some have different incentives, the additional costs of high-efficiency space conditioning equipment could easily be passed on to commercial end users if higher-efficiency equipment were viewed by them as a benefit. The fact that commercial end users generally will not pay higher prices for more efficient building space should indicate instead that DOE's modeling assumptions do not accurately reflect real world conditions and tradeoffs faced by commercial entities. In this case, mandating use of more expensive equipment provides end users with a cost rather than a benefit.

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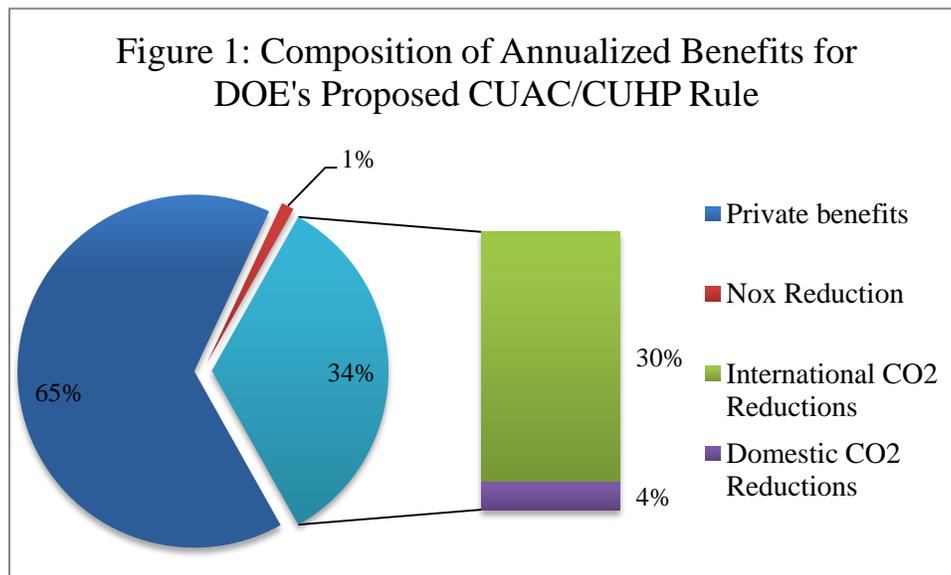
<sup>12</sup> 79 FR 59010

<sup>13</sup> Exec. Order No. 13563, Improving Regulation and Regulatory Review, §4. "Where relevant, feasible, and consistent with regulatory objectives, and to the extent permitted by law, each agency shall identify and consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public. These approaches include warnings, appropriate default rules, and disclosure requirements as well as provision of information to the public in a form that is clear and intelligible."

Given all of this information, DOE’s proposal is highly unlikely to resolve the problems that the agency identifies. It is fair to ask DOE what problem this rule is actually intended to address, and what purpose these standards serve, as they do not address the problems identified by the agency.

## Regulatory Benefits Uncertain

The benefits expected to result from these standards fall into two categories: consumer savings from reduced appliance operating costs, and the global monetized value of reduced carbon emissions. As can be seen in Figure 1, these two benefit categories comprise 95% of the total benefits of the proposed rule.



Source: Department of Energy’s Technical Support Document for the Proposed Rule, *Table 1.2.2: Annualized Benefits and Costs of Proposed Energy Conservation Standards for Small, Large, and Very Large Commercial Package Air Conditioning and Heating Equipment*.

The Department expects its proposal to save 11.7 quads of energy over 30 years, from the year 2019 through 2048. By this measure, the proposed standards will result in benefits both in consumer savings on energy bills (or “private benefits”) and in reduced CO<sub>2</sub> emissions. Because the Department relies almost completely on these two benefits to justify its proposal, consumer savings and international benefits should be closely examined both for validity and for the appropriateness of their use in this analysis.

### International Benefits

While the annualized benefits of reducing these emissions tally \$1.774 billion, the vast majority (between 77 – 93%) of these benefits are experienced by the rest of the world, and not by American consumers who must adhere to the standards. By comparison, only 4% of the rule’s total benefits—and about 10% of the benefits of CO<sub>2</sub> reduction—are benefits to the United States

for reductions in CO<sub>2</sub> emissions (see Figure 1). Using a global perspective to calculate the benefits of reducing carbon emissions represents a dramatic shift in domestic policy, and there are many attendant problems to be considered with this methodology.<sup>14</sup>

In calculating the benefits anticipated to result from this rule, DOE monetizes the reduction in carbon emissions using the social cost of carbon (SCC), which places a value on the benefit of reduced carbon dioxide emissions. DOE estimates that its proposed standards will reduce carbon dioxide emissions by 1,085 million cumulative metric tons over 30 years, a net present value of between \$6.1 billion and \$95.9 billion.

These benefits are monetized using the global value of reducing domestic emissions. While the costs of the standards will be borne by the American consumers and businesses that are directly affected by the rule, the reduction in carbon emissions resulting from this rule is monetized based on its global, rather than domestic, value. That is, the Department weighs not only domestic but international benefits from this rule against entirely domestic costs, which swings the analysis in favor of stricter efficiency standards. As DOE explains in its TSD:

Because of the distinctive nature of the climate change problem, we center our current attention on a global measure of SCC. This approach is the same as that taken for the interim values, but it otherwise represents a departure from past practices, which tended to put greater emphasis on a domestic measure of SCC (limited to impacts of climate change experienced within U.S. borders). As a matter of law, consideration of both global and domestic values is generally permissible; the relevant statutory provisions are usually ambiguous and allow selection of either measure.<sup>15</sup>

This appears to violate the directive in OMB Circular A-4, reinforced in the Regulatory Impact Analysis Primer, which states: “The analysis should focus on benefits and costs that accrue to citizens and residents of the United States. Where the agency chooses to evaluate a regulation that is likely to have effects beyond the borders of the United States, these effects should be reported separately.”<sup>16</sup>

While the Department was able to calculate domestic benefits from the reduction of carbon emissions expected to result from this rule, it buried its findings in chapter 14 of the TSD. Tables

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<sup>14</sup> Ted Gayer & W. Kip Viscusi. “[Determining the Proper Scope of Climate Change Benefits](#).” *Working Paper, the George Washington University Regulatory Studies Center*. June 3, 2014.

<sup>15</sup> Technical Support Document for the Proposed Rule, *Energy Conservation Standards for Small, Large, and Very Large Air-Cooled Commercial Package Air Conditioning and Heating Equipment*. Appendix 14-A: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866. Page 14A-11.

<sup>16</sup> United States. Office of Management and Budget. [Circular A-4, “Regulatory Impact Analysis: A Primer”](#) (August 15, 2011) [Washington, D.C.]

14.4.1 and 14.4.2 below show the global and domestic benefit estimates, respectively (with emissions values associated with the Department’s proposed TSL 3 highlighted):

**Table 14.4.1 Estimates of Global Present Value of CO<sub>2</sub> Emissions Reduction for Small, Large, and Very Large Air-Cooled CUAC and CUHP Trial Standard Levels**

TSL	SCC Case*			
	5% discount rate, average*	3% discount rate, average*	2.5% discount rate, average*	3% discount rate, 95 <sup>th</sup> percentile*
	<u>Million 2013\$</u>			
Total Emissions				
1	1,564	7,808	12,587	24,219
2	4,350	21,940	35,427	68,057
3	6,127	30,902	49,899	95,856
4	8,794	44,467	71,831	137,933

**Table 14.4.2 Estimates of Domestic Present Value of CO<sub>2</sub> Emissions Reduction for Small, Large, and Very Large Air-Cooled CUAC and CUHP Trial Standard Levels**

TSL	SCC Case*			
	5% discount rate, average*	3% discount rate, average*	2.5% discount rate, average*	3% discount rate, 95 <sup>th</sup> percentile*
	<u>Million 2013\$</u>			
Total Emissions				
1	109.4 to 359.6	546.5 to 1795.8	881.1 to 2895.0	1695.3 to 5570.4
2	304.5 to 1000.6	1535.8 to 5046.3	2479.9 to 8148.3	4764.0 to 15653.2
3	428.9 to 1409.2	2163.1 to 7107.5	3492.9 to 11476.7	6709.9 to 22046.8
4	615.6 to 2022.7	3112.7 to 10227.4	5028.2 to 16521.2	9655.3 to 31724.6

In each case, the domestic benefits expected to result are about 7 – 23% of the worldwide values DOE emphasizes in its proposal. This is because, relying on an integrated assessment model (the FUND model), DOE would expect the direct benefit to the U.S. to be between 7 – 10% of the global benefit of CO<sub>2</sub> reductions. The 23% value is derived assuming that benefits to the U.S. are proportional to the domestic share of global GDP, resulting in an overall 7 – 23% range.<sup>17</sup>

Instead of focusing on domestic benefits and separately reporting any international effects, the Department focused on much-larger global benefits in the text of the proposed rule and separately reported the (much smaller) domestic effects in a final chapter of the technical support

<sup>17</sup> United States Government. Interagency Working Group on Social Cost of Carbon. *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866*. <http://www.epa.gov/OMS/climate/regulations/scc-tsd.pdf>

document. Using domestic estimates for the final analysis, as instructed in the OMB Circular A-4, the annualized benefits of emission reductions resulting from this rule shrink from \$1.774 billion to between \$124.18 million and \$408.02 million, a reduction of between 77 and 93%.

### **Private Benefits and Commercial Purchaser Irrationality**

Many regulations are crafted to solve a market failure such as an externality, monopoly power, or asymmetric information. The benefits generated by these regulations are social benefits (e.g. cleaner air, more competitive markets, consumer sovereignty) that justify collective action through government regulation. What makes many energy efficiency regulations unusual is that they rely on a different type of benefit, often called a “private benefit,” to justify government action.

In this rule, the “private benefit” is the value of consumer savings resulting from reduced energy costs, and the primary benefit of the rule is reduced energy bills for purchasers of CUAC and CUHP, such as grocery stores, restaurants, universities, and hospitals. Rather than being a benefit to society at large, this alleged benefit accrues to the purchasers of the commercial equipment.

However, the claim that removing products from the marketplace provides a benefit to commercial customers doesn’t withstand scrutiny.<sup>18</sup> As AAON Inc. noted in comments to DOE, “models with higher efficiency and cost are sold in much lower quantities than models with lower efficiency and cost. AAON added that models with higher efficiency and cost may not be economically justified and are only sold to consumers that want the highest efficiency regardless of economic justification.”<sup>19</sup>

This comports with DOE’s consumer choice model, which forecasts market shares of lower and higher-efficiency CUAC and CUHP in 2019. Based on customer sensitivity to both total installation cost and ongoing operating costs, DOE expects that high-efficiency units will have less than 4 percent of market share for small, large, and very large CUAC and CUHP. Demand is very low for products with the same integrated energy efficiency ratios (IEER) as the standards in DOE’s proposal, as can be seen in Table IV.11 below, from the proposed rule.

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<sup>18</sup> Ted Gayer & W. Kip Viscusi. “Overriding Consumer Preferences with Energy Regulations,” *Journal of Regulatory Economics*, Vol. 43, No. 3 (June 2013), pp. 248-264.

<sup>19</sup> 79 FR 58971

TABLE IV.11—BASE CASE EFFICIENCY MARKET SHARES IN 2019 FOR SMALL, LARGE, AND VERY LARGE AIR-COOLED COMMERCIAL PACKAGE AIR CONDITIONING AND HEATING EQUIPMENT

Small commercial packaged AC (Air-Cooled)— ≥65,000 Btu/h and <135,000 Btu/h cooling capacity		Large commercial packaged AC (Air-Cooled)— ≥135,000 Btu/h and <240,000 Btu/h cooling capacity		Very large commercial packaged AC (Air-Cooled)— ≥240,000 Btu/h and <760,000 Btu/h cooling capacity	
IEER	Market share (%)	IEER	Market share (%)	IEER	Market share (%)
11.4	61	11.2	78	10.1	63
12.9	39	12.2	20	11.6	24
14.0	0	13.2	2	12.5	7
14.8	1	14.2	0	13.5	4
19.9	0	18.4	0	15.5	1

The fact that these sophisticated, cost-conscious companies are not already demanding higher-efficiency equipment from manufacturers calls into question the validity of DOE’s analysis that prohibiting the purchase of lower-cost, lower-efficiency products will provide a benefit to commercial customers.

Executive Order 12866 requires regulatory agencies to assess possible alternatives to regulatory action, and to include this assessment of alternatives in its Regulatory Impact Assessment:

In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating... Each agency shall identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public.<sup>20</sup>

DOE lists six policy alternatives in its TSD, including tax credits for consumers and manufacturers, rebates, voluntary targets, bulk government purchases, and the alternative of not regulating, and analyzes each alternative in turn. The analysis of voluntary standards in particular is interesting, given that the primary benefit of this rule (65%) is these private savings to sophisticated commercial purchasers, which one could assume might incentivize voluntary action.

However, while DOE’s analysis predicts large financial benefits from higher efficiency standards, users of CUAC and CUHP are not already demanding the production of high-efficiency equipment. Although this assumption deviates from traditional understanding of economic theory, DOE’s only hypothesized explanations are lack of information (which seems unlikely in the case of sophisticated commercial entities) or misaligned incentives between a building owner or contractor that installs the equipment and the ultimate user. DOE doesn’t

<sup>20</sup> Exec. Order No. 12866, Regulatory Planning and Review, §1(a).

substantiate this possibility or indicate in its rule why profit-motivated commercial entities would not be able to contract with each other to share these large savings without DOE's intervention.

In past efficiency standards for commercial equipment, DOE has relied on theories from behavioral economics to explain why commercial customer preferences might be incorrect (e.g. customers have biases that cause them to make suboptimal purchases). DOE relies on commercial biases to explain the state of the world instead of evaluating whether its modeling assumptions accurately reflect real world conditions and tradeoffs. Importantly, behavioral economics is typically used to justify regulation of consumer decisions, but DOE's rule doesn't distinguish the large, repeat purchases of profit-motivated commercial entities from individual household decisions.

Particularly in this case, where the "consumers" in question are cost-conscious purchasers of commercial equipment, DOE needs to consider alternative explanations for the difference between its estimates of costs and savings and the revealed calculations of purchasers. Rather than assuming the equipment purchasers are wrong, DOE should consider the alternative hypothesis that its analysis does not reflect real world conditions and tradeoffs.

For example, DOE discounts future energy savings at a discount rate of 3% for its primary benefit estimates, whereas the cost of equity for private firms is much higher.<sup>21</sup> This difference between the discount rate DOE uses and the rates firms actually face appears to be a more likely explanation for the difference in how DOE and commercial purchasers of space conditioning equipment value future energy savings than that purchasers lack information or the proper incentives.

DOE's analysis also depends on assumptions about future energy prices, which may differ from industry's expectations and necessarily affects the benefits derived from future energy savings. Additionally, DOE does not seem to consider that commercial customers may value attributes other than energy efficiency when making purchases of space conditioning equipment. It is troubling that, despite the fact that cost-conscious commercial consumers are not demanding access to higher-efficiency appliances, DOE can paradoxically conclude that reducing consumers' options will make them better off.<sup>22</sup>

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<sup>21</sup> For more on agency misuse of discount rates in energy and environment policy, see: Mannix, Brian F. *Whose Telescope Is Defective? Discount Rate Arbitrage In Energy and Climate Policy*.

<http://www.aei.org/files/2010/11/08/Mannix-Brian-Whose%20Telescope%20Is%20Defective.pdf>

<sup>22</sup> Dudley, Susan E. "Perpetuating Puffery: An Analysis of the Composition of OMB's Reported Benefits of Regulation." *Business Economics* 47.3 (2012): 165-76.

## Retrospective Review

As a part of its ongoing Retrospective Review Comment Project, the Regulatory Studies Center examines significant proposed regulations to assess whether agencies propose retrospective review as a part of their regulations, and submits comments to provide suggestions on how best to incorporate plans for retrospective review into their proposals. To facilitate meaningful retrospective review after the promulgation of a final rule, multiple government guidelines instruct agencies to incorporate retrospective review plans into their proposals during the rulemaking process.<sup>23</sup> Planning for retrospective review from the outset of rulemaking facilitates transparency, public accountability, and measurement of the success of regulation.

DOE's proposed rule does not mention retrospective review, much less include a plan to retrospectively evaluate its rule. In addition, many outcomes would be difficult to measure

Although DOE does not explicitly say that it will use any metric or set of metrics to evaluate its rule, the agency does reference some anticipated outcomes of its proposal that could potentially be measured after its implementation. Therefore, the ability to measure these intended outcomes can help the agency and the public evaluate the rule's success or failure.

However, two of the three problems identified by the agency—lack of access to information and information asymmetry—are not addressed at all by the rule, and DOE provides no metrics by which to measure them. This indicates that either the problems that DOE identified to address through these standards are flawed, or that DOE's rule is fundamentally flawed in that it does not address these problems.

Only one of the problems identified by the agency is addressed by any of the metrics stated in DOE's proposed rule: internalizing the externality of greenhouse gas emissions. However, as previously noted, DOE's own analysis makes clear that addressing that problem is only a small portion of this rule's projected benefits.

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<sup>23</sup> Office of Management and Budget. Office of Information and Regulatory Affairs. *MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES: Retrospective Analysis of Existing Significant Regulations*. By Cass Sunstein. April 25, 2011.

Office of Management and Budget. Office of Information and Regulatory Affairs. *MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES: Final Plans for Retrospective Analysis of Existing Rules*. By Cass Sunstein. June 14, 2011.

Office of Management and Budget, Office of Information and Regulatory Affairs. *Draft 2014 Report to Congress on the Benefits and Costs of Federal Regulations*.

## Conclusion

As DOE explains in its proposed rule, two types of market failure could potentially be addressed by setting energy efficiency standards for CUAC and CUHP: externalities related to greenhouse gas emissions and asymmetric information (and related misaligned incentives) regarding high-efficiency commercial appliances. However, neither of the potential market failures cited by DOE is solved by its proposed energy efficiency standards, leaving the proposal economically unjustifiable.

DOE estimates global externality benefits of the proposed standard at \$1.774 billion, compared to costs to US citizens of \$507 million. However, DOE expects only 10% of these annualized externality benefits of carbon reductions to accrue to Americans. Thus, the annualized costs to American citizens outweigh the social benefits of the standard by almost 3 to 1, calling into question whether this proposal is economically justified, as required by law.

Additionally, DOE does not explain why sophisticated, profit-motivated purchasers of CUAC and CUHP would suffer from either informational deficits or cognitive biases that would cause them to purchase products with high lifetime costs without demanding higher-price, higher-efficiency products. This asymmetric information, if it exists, could be remedied by improved labeling or other types of consumer education campaigns rather than banning products from the marketplace. DOE's approach, in addition to ignoring any potential underlying information asymmetry issues, is contrary to President Obama's instruction to agencies in Executive Order 13563:

Where relevant, feasible, and consistent with regulatory objectives, and to the extent permitted by law, each agency *shall identify and consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public*. These approaches include warnings, appropriate default rules, and disclosure requirements as well as provision of information to the public in a form that is clear and intelligible.<sup>24</sup>

DOE's proposal does not maintain flexibility and freedom of choice for purchasers of CUAC and CUHP equipment, and the resulting benefits do not justify the costs as required both by statute and by Executive Order.

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<sup>24</sup> Exec. Order No. 13563, Improving Regulation and Regulatory Review, §4.