

July 31, 2008

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Re: “Energy Efficiency Program for Consumer Products: Public Meeting and Availability of the Framework Document for Residential Central Air Conditioners and Heat Pumps,” 73 Fed. Reg. 32,243 (June 6, 2008).

Docket No. EERE-2008-BT-STD-0006; RIN 1904-AB47

Earthjustice submits the following comments on the Department of Energy’s (DOE’s) Rulemaking Framework for Residential Central Air Conditioners and Heat Pumps. These comments address two issues on which DOE sought comment: the impact of standards on product shipments and DOE’s evaluation of the emissions reduction benefits of efficiency standards.

Item 9-2: As part of its preliminary manufacturer impact analysis, DOE seeks input from manufacturers on the potential impact of new energy conservation standards on central air conditioner and heat pump shipments. DOE also seeks input from other stakeholders on the potential impact of standards on product shipments.

If DOE concludes that stronger standards for heat pumps would result in a market shift to furnaces instead of heat pumps for residential heating, the Department must take into account any positive impacts of that market shift on heat pump manufacturers. More specifically, if, as a result of the imposition of a new efficiency standard for heat pumps, consumers substitute furnaces for heat pumps, DOE must consider the benefits that such a market shift would provide to heat pump manufacturers who also produce furnaces. It would be arbitrary and unlawful for DOE to examine one side of the ledger while ignoring the other.

Manufacturers of heat pumps hold significant market share in the residential furnace industry. DOE has already recognized that 82% of central air conditioners and heat pumps are produced by manufacturers who also sell residential furnaces and boilers. 72 Fed. Reg. at 65,161. Moreover, DOE has also noted that “[e]very manufacturer that makes residential air conditioners and heat pumps makes electric furnaces.” DOE, *Technical Support Document: Energy Efficiency Program for Consumer Products: Energy Conservation Standards for*

Residential Furnaces and Boilers (2007) at 3-26. Thus, because they also produce furnaces, if a new efficiency standard for heat pumps would prompt consumers to purchase furnaces instead of heat pumps, the companies that manufacture heat pumps would likely receive greater revenue from the sale of furnaces.

The plain language of the energy Policy and Conservation Act (EPCA) unambiguously requires DOE to consider this impact on heat pump manufacturers. EPCA requires DOE to examine “the economic impact of the standard on the manufacturers . . . of the products subject to such standard.” 42 U.S.C. § 6295(o)(2)(B)(i)(I). As defined by the statute, “‘manufacturer’ means *any person who manufactures* a consumer product.” 42 U.S.C. § 6291(12) (emphasis added).¹ For purposes of this definition, the term “person” includes “(A) any individual, (B) any corporation, company, association, firm, partnership, society, trust, joint venture, or joint stock company, and (C) the government and any agency of the United States or any State or political subdivision thereof.” 42 U.S.C. § 6202(2). Thus, a “person who manufactures” includes the entire corporation that manufactures, not just a part thereof. Congress obviously knew how to define “person” as including subdivisions of a larger entity, as it expressly defined the term as including “any State *or political subdivision thereof*,” but plainly chose not to do so with respect to subdivisions of corporations. *Id.* (emphasis added).

Additionally, the requirement that a revised standard achieve “the maximum improvement in energy efficiency” that “is technologically feasible and economically justified,” 42 U.S.C. § 6295(o)(2)(A) (emphasis added), indicates Congress’s intent to examine all manufacturer impacts, including positive impacts, that foster achievement of that goal. An analytical approach that accounts for only the potentially negative impacts of federal efficiency regulations while completely ignoring offsetting benefits would undermine Congressional intent.

In sum, EPCA requires the Department to evaluate the impact of heat pump standards on the company or entity that manufactures, produces, assembles or imports heat pumps. Therefore, DOE cannot confine its analysis of the impact on manufacturers only to the heat pump producing divisions of large corporations. Even if a shift in demand to furnaces might require heat pump manufacturers to re-allocate some capital and labor, that would not obviate the requirement that DOE analyze the net impacts of these changes and provide supporting data.

Item 15-1: DOE invites comments on how to estimate such monetary values associated with CO₂ emissions reductions or on any widely accepted values which might be used in DOE’s analyses.

In the Framework Document, DOE announced that it “will consider the use of monetary values to represent the potential value of [CO₂] emission reductions.” Framework Doc. at 62. This statement incorrectly implies that DOE could rationally decline to monetize the value of reductions in CO₂ emissions and incorporate them into its analysis of the economic justification for standards. On the contrary, DOE must assign a monetary value to the reductions in CO₂

¹ EPCA defines “manufacture” broadly to include “manufacture, produce, assemble or import.” 42 U.S.C. § 6291(10).

emissions that efficiency standards will provide. Failure to do so would be arbitrary, capricious, and contrary to law.

Congress required DOE's analysis of the economic justifiability of potential standard levels to address the economic benefits that accrue to the nation as a whole. In addition to the statutory factors that relate exclusively to the manufacturers and consumers of furnaces, EPCA mandates that DOE consider "the need for national energy . . . conservation." 42 U.S.C. § 6295(o)(2)(B)(i)(VI). Thus, in determining whether a standard is "economically justified," DOE is not free to ignore economic benefits that are shared by the nation as a whole.

Moreover, while projecting cumulative reductions in physical quantities of emissions is an important facet of the Department's compliance with the National Environmental Policy Act, DOE must go further to satisfy EPCA's requirement to assess the economic benefits associated with the need for national energy conservation. DOE must convert those emissions reductions into their accompanying economic value for the purposes of its economic justification analysis. DOE cannot rationally weigh the economic benefit of reduced emissions unless it actually calculates the economic dimension of those emissions reductions. We note that OMB guidance provides that agencies are to monetize costs and benefits whenever possible (OBM Circular A-4 at 27 (2003)).

DOE must incorporate these economic benefits into its analysis of the nationwide net present value of potential standard levels. The Department currently analyzes the costs and benefits of standard levels from the perspective of individual consumers of the regulated product and then aggregates these consumer impacts into a national net present value. However, this analysis is not a truly *national* analysis. It ignores that saving significant amounts of energy impacts consumers broadly, not just users of the regulated product. The only rational way to weigh the benefits and burdens of efficiency standards as the statute requires is to incorporate into an analysis of those economic effects that reflect the need for national energy conservation.

Failure to assign an economic value to CO₂ emissions is tantamount to valuing those emissions at zero, an approach that the United States Court of Appeals for the Ninth Circuit recently determined is arbitrary and capricious. Center for Biological Diversity v. NHTSA, 508 F.3d 508, 535 (9th Cir. 2007). As in the rulemaking at issue in Center for Biological Diversity, DOE's selection of appliance efficiency standards already involves the monetization of several uncertain economic outcomes, such as increases in maintenance and installation costs and the future cost of energy sources. Exclusion of CO₂ emissions reduction benefits from the Department's net present value analysis on the basis of alleged uncertainty as to their precise measure would therefore be arbitrary and capricious. See id. at 534 (NHTSA's failure to monetize CO₂ benefits is arbitrary and capricious in light of the agency's monetization of other uncertain benefits).

By the time DOE calculates the projected CO₂ emissions reductions from central air conditioner and heat pump standards, it is almost certain that Congress will have enacted a nationally applicable, mandatory regime to limit CO₂ emissions. The high probability of such legislation, and the fact that the predictions of future energy prices that DOE uses in its analysis do not assume a fee for CO₂ emissions from power plants means that, if DOE fails to incorporate

a value for CO₂, its electricity price assumptions will be arbitrarily low.² This reduces estimates of the operating cost savings of more efficient products, which weakens the economic justification for stronger standards.

However, even if such legislation stalls in Congress, because many states are participating in regional cap and trade schemes to reduce CO₂ emissions, there will be functioning markets for CO₂ emissions in the U.S. that DOE must consider in evaluating the impact of the CO₂ reductions at issue in this rulemaking. For example, the Regional Greenhouse Gas Initiative (RGGI), which includes the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont, will hold its first auction of CO₂ emissions allowances on September 25, 2008.³ Similarly, the Western Climate Initiative (WCI), which includes the states of California, Washington, Oregon, Montana, Arizona, New Mexico, and Utah, has recently released a draft of its design guidelines for the WCI's own cap and trade program, and final guidance is slated for release in September, 2008.⁴ These markets will provide a baseline value that DOE must consider as the value of CO₂ emissions reductions in states that have agreed to binding emissions reductions.

Even if not all areas of the country are subject to CO₂ reduction regimes, there is a well-established literature on the value of CO₂ emissions that DOE must consult in selecting a rational value for CO₂ for use in its analysis. There are several published sources that give values for the avoided damage costs realized through CO₂ emissions reductions. For example, a recent study commissioned by the United Kingdom's Department for Environment, Food, and Rural Affairs recommended valuing carbon emissions at roughly \$95 per tonne (just over \$25 per tonne of CO₂).⁵ Similarly, there are many published sources that give estimates of future compliance costs under mandatory CO₂ reduction regimes. For example, DOE's own analysis of the impacts of S.2191, the Lieberman-Warner Climate Security Act of 2007, revealed that implementation of this legislation – the most likely starting point for a future U.S. greenhouse gas cap and trade regime – would lead to a CO₂ allowance price of \$30 per tonne in 2020, rising to \$61 per tonne in 2030.⁶ Another source for DOE to consult in selecting a value for CO₂ is the U.S. EPA's rulemaking on greenhouse gas emissions from motor vehicles. In its recent Advance Notice of Proposed rulemaking, EPA devotes significant attention to the monetary value of reductions in CO₂ emissions. See 73 Fed. Reg. at 44,414-17. Finally, comments in the rulemaking at issue in Center for Biological Diversity also provide extensive documentation on market values for CO₂ emissions. We incorporate those comments (referenced at 508 F.3d at 531-35) by reference.

² See Framework Doc. at 48 (“DOE will use the most recent available edition of [the Energy Information Administration's (EIA's)] *Annual Energy Outlook* (AEO) as the default source of projections for future electricity prices.”); EIA, AEO 2008 at 16 (“The potential impacts of pending or proposed legislation, regulations, and standards . . . are not reflected in the projections.”).

³ See RGGI website: <http://www.rggi.org/index.htm>.

⁴ See WCI website: <http://www.westernclimateinitiative.org>.

⁵ See AEA Technology Environment, *THE SOCIAL COST OF CARBON* at vii (2005) (recommending a value of £55 per ton of carbon).

⁶ Energy Information Administration, DOE, *ENERGY MARKET AND ECONOMIC IMPACTS OF S. 2191, THE LIEBERMAN-WARNER CLIMATE SECURITY ACT OF 2007*, at 12 Table 3 (2008).

Item 15-2: Because court actions have vacated the CAMR, DOE seeks stakeholder input on how it should address Hg emissions in this rulemaking. In addition, DOE seeks comment on how it might value NO_x emissions for the 22 States not covered by the CAIR.

Mercury

DOE correctly notes that because the D.C. Circuit has vacated the Clean Air Mercury Rule, there is no longer any cap on mercury emissions. Framework Doc. at 63. Therefore, once it calculates the projected reductions in mercury emissions, DOE must assign an economic value to account for the avoided environmental and human health damage costs associated with those emissions.⁷ Failure to monetize and analyze these benefits would be arbitrary and capricious for the same reasons discussed above with respect to CO₂.

Nitrogen Oxides (NO_x)

DOE correctly acknowledges that the efficiency standards it selects will have an impact on emissions of nitrogen oxides (NO_x) from power plants. Framework Doc. at 63. However, the Department's discussion of the Clean Air Interstate Rule's (CAIR's) impact on its analysis is now inapposite. In North Carolina v. EPA, No. 05-1244 (D.C. Cir. July 11, 2008), the D.C. Circuit vacated CAIR in its entirety. In the absence of CAIR, the NO_x SIP Call trading program, see 63 Fed. Reg. 57,356, will apply in some states. Thus, DOE must evaluate the impact of the standards on NO_x emissions through a two-pronged approach, calculating both the effect on allowance prices under the NO_x SIP Call, where applicable, and the monetary value of avoided harm from NO_x emissions.⁸ Failure to analyze these benefits would be arbitrary and capricious.

Item 15-4: Are there any other environmental factors DOE should consider in this rulemaking?

Sulfur Dioxide (SO₂)

Although DOE maintains that central air conditioner and heat pump standards will not result in a physical reduction in emissions of SO₂, this assertion does not obviate DOE's obligation to consider the economic benefits associated with the impact of these efficiency standards on power plant SO₂ emissions. DOE claims that central air conditioner and heat pump efficiency standards would not affect the overall level of SO₂ emissions in the United States due to the caps on power plant emissions of SO₂. Framework Doc. at 63. More specifically, because the Clean Air Act Amendments of 1990 established a "cap and trade" system for power plant

⁷ For example, a recent study reported that the monetized cost of global anthropogenic mercury emissions amount to \$0.7–\$13.9 billion, of which \$51 million–\$2.0 billion can be attributed to emissions from U.S. power plants. Trasande, L., et al., "Applying Cost Analyses to Drive Policy that Protects Children" 1076 ANN. N.Y. ACAD. SCI. 911 (2006).

⁸ As one example of a possible value for the social benefit of reductions in NO_x emissions, the National Highway Traffic Safety Administration (NHTSA) has recently proposed a value of \$3,900 per ton. NHTSA, U.S. Dep't of Transportation, PRELIMINARY REGULATORY IMPACT ANALYSIS: CORPORATE AVERAGE FUEL ECONOMY FOR MY 2011-2015 PASSENGER CARS AND LIGHT TRUCKS, at VIII-35 (2008).

SO₂ emissions, DOE claims that “the effect of energy conservation standards on physical emissions will be near zero because emissions will always be at, or near, the ceiling.” Id.

There are a number of problems with this assertion. First, it relies on the premise that the SO₂ cap is the controlling constraint on SO₂ emissions. In fact, if reductions in demand for electricity are sufficiently large, they would reduce nationwide power plant SO₂ emissions below the level of the cap, and DOE has not explained why this would not occur here. Moreover, even if the SO₂ cap remains the controlling constraint, the efficiency standards at issue would affect the overall level of SO₂ emissions in the United States for two reasons. First, there are power plants that are not subject to the cap – i.e. existing units with a generation capacity less than or equal to 25 megawatts. See 42 U.S.C. § 7651a(8). Second, the Clean Air Act’s SO₂ emissions cap applies on an annual basis, but these efficiency standards would affect SO₂ emissions on a daily basis. The standards at issue would therefore mitigate adverse impacts associated with short-term exposure to SO₂ emissions. See 40 C.F.R. § 50.4(b) (24-hour air quality standard for SO₂).

However, even if DOE’s assertion that emissions trading programs negate the effect of efficiency standards on physical emissions is correct (a point which we do not concede), the Department must still evaluate the economic benefits of the standards’ effects on allowance prices. DOE recognizes that its efficiency standards can decrease the demand for SO₂ emissions allowance credits, which reduces compliance costs for power plants. Id. However, DOE simply asserts, without citing any analysis, that it “does not plan to monetize” this benefit because the impact of any one efficiency standard on the allowance price is “likely small and highly uncertain.” Id. This statement is particularly surprising in light of DOE’s admission that one module of its National Energy Modeling System software is specifically designed to calculate the impact of changes in energy consumption on SO₂ allowance prices. Id.

Given that DOE clearly has the analytical means at its disposal, the Department’s reluctance to accurately assess the economic benefits of stronger efficiency standards is simply inexcusable. Exclusion of these benefits from DOE’s analysis is arbitrary, and serves only to artificially depress the economic value of stronger efficiency standards.

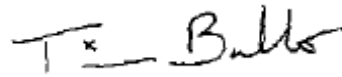
Particulate Matter (PM)

DOE should also calculate and monetize the value of the reductions in emissions of PM that will result from standards for central air conditioners and heat pumps. In the past, DOE has refused to calculate PM emissions reductions in efficiency standards rulemakings because PM pollution consists of both primary and secondary emissions. See 71 Fed. Reg. at 44,384. However, DOE’s mere assertion that PM formation is “complex” does not excuse the Department from considering the impact of reductions in PM in standards rulemakings. The Department has not explained why this alleged complexity prohibits calculating the impact of efficiency standards on PM emissions. Moreover, even if it were physically impossible for DOE to ascertain the impact of efficiency standards on secondary PM emissions, that would not justify the Department completely ignoring primary PM emissions in its analysis. Thus, DOE would still have to calculate the impact on primary PM emissions.

In previously refusing to calculate PM emissions reductions, DOE has also asserted that PM emissions are not “driven significantly by . . . electric utility power plants.” DOE, *Environmental Assessment for Proposed Energy Conservation Standards for Residential Dishwashers, Dehumidifiers, and Cooking Products, and Commercial Clothes Washers* at EA-1. This is not an accurate statement. According to 2003 emissions estimates from EPA, power plants emit 22.1% of all anthropogenic PM₁₀ and 22.7% of all anthropogenic PM_{2.5}.⁹ Thus, power plant emissions are a significant source of PM pollution, and it would be arbitrary and capricious for DOE to ignore the impact of efficiency standards on PM emissions on this basis.

Thank you for the opportunity to participate.

Sincerely,



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⁹ Office of Transportation and Air Quality, EPA, NATIONAL EMISSIONS TRENDS – UPDATED 7/18/2005 (complete tables of national emissions estimates), *available at* <http://www.epa.gov/airtrends/2005/econ-emissions.html>.