

**UNITED STATES OF AMERICA  
UNITED STATES DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**

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**In re. Energy Conservation Program for Consumer Products:  
Energy Conservation Standards for Residential  
Furnaces and Boilers**

**Docket No. EE-RM/STD-01-350  
RIN 1904-AA78**

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**Comments of the Belmont Housing Trust, Inc.  
Belmont, Massachusetts**

**January 15, 2007**

COMES NOW, the Belmont Housing Trust, Inc., by and through its undersigned representative, and for its comments responsive to the Notice of Proposed Rulemaking (October 6, 2006) in the above-captioned docket, states as follows:

**Interest of the Belmont Housing Trust, Inc.**

The Belmont Housing Trust, Inc. (hereafter, Housing Trust) is a quasi-public nonprofit corporation charged with promoting and developing affordable housing in the Town of Belmont (MA). The Housing Trust is a statutorily-created nonprofit corporation whose Board of Directors is statutorily-charged to:

exercise its powers and perform its duties for the purpose of investigating and implementing alternatives for the provision of and providing affordable housing for persons of low, moderate and middle income, and others whose needs may be identified from time to time in the town of Belmont.

In furtherance of these powers and duties, the Housing Trust has engaged in the production of newly constructed rental and homeownership housing in the Town of Belmont and supported the production of such housing by others. The Housing Trust has used public and private funding ranging from accessing federal Low-Income Housing Tax Credits; to using federal Home Investment Partnership (HOME) funds; to working with private nonprofits such as the Local Initiatives Support Corporation (LISC) and the Habitat for Humanity—Greater Boston affiliate to produce new affordable housing units in the Town of Belmont.

## **The Interest of Affordable Housing Developers in DOE's Furnace Efficiency Standards**

As both a developer of, and advocate for, the production of affordable housing, the Housing Trust has a distinct interest in the promulgation of reasonable energy efficiency standards for residential furnaces.<sup>1</sup> In furtherance of that interest, the Housing Trust endorses the promulgation of a two-part standard with different minimum efficiencies required for "northern" and "southern" states as those terms are defined in the Notice of Proposed Rulemaking (October 6, 2006). In particular, the Housing Trust endorses the 90% AFUE furnace efficiency standard for northern states.

The interest of the Housing Trust in energy efficiency standards for residential furnaces is grounded in the Home Energy Affordability Gap.<sup>2</sup> The Home Energy Affordability Gap presents an annual analysis of the dollar difference between actual home energy bills facing low-income households and affordable home energy bills. In 2005, the most recent year for which the Affordability Gap has been released,<sup>3</sup> the Affordability Gap facing Massachusetts residents reached nearly \$658 *million* dollars. According to that 2005 analysis, the Affordability Gap facing low-income Massachusetts households has increased by nearly \$222 million simply from 2002 to 2005. The 2002 Home Energy Affordability Gap in Massachusetts (released in April 2003) had been \$435,822,130.

The Affordability Gap is of concern to the Housing Trust as a developer of affordable housing. The calculation of the Affordability Gap is based on a determination of the dollar amount by which actual home energy bills exceed 6% of gross household income. Home energy bills as a percentage of household income are referred to as the "home energy burden," with a 6% burden determined to be "affordable."<sup>4</sup> In Massachusetts, the 2005 Affordability Gap reports, home energy burdens for households at various levels of the Federal Poverty Level<sup>5</sup> ranged up to more

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<sup>1</sup> Any further reference to "furnaces" in these comments is intended to be limited to residential natural gas fired furnaces unless the context otherwise clearly indicates.

<sup>2</sup> The Home Energy Affordability Gap, by state, can be found at [www.HomeEnergyAffordabilityGap.com](http://www.HomeEnergyAffordabilityGap.com).

<sup>3</sup> The annual Home Energy Affordability Gap is released each spring for the prior year. The 2005 Affordability Gap, in other words, was released in April 2006. The 2006 Affordability Gap will be released in April 2007.

<sup>4</sup> The Affordability Gap analysis presents the documentation for the determination of this 6% affordability standard. The 6% standard has been adopted by states such as New Hampshire and New Jersey as the basis for their low-income utility rate affordability programs. Moreover, the recent evaluation of the New Jersey Universal Service Fund (USF), prepared for the New Jersey Board of Public Utilities by Apprise, Inc., found that as home energy burdens increase above 6% of income, home energy bill coverage ratios (the percent of the total bill which is paid) substantially decrease. Apprise, Inc. (April 2006). *Impact Evaluation and Concurrent Process Evaluation of the New Jersey Universal Service Fund: Final Report*, prepared for New Jersey Board of Public Utilities, Apprise, Inc.: Princeton (NJ).

<sup>5</sup> The generally accepted measure of "being poor" in the United States today indexes a household's income to the "Federal Poverty Level" published each year by the U.S. Department of Health and Human Services (HHS). The Poverty Level looks at income in relation to household size. This measure recognizes that a three-person household with an annual income of \$6,000 is, in fact, "poorer" than a two-person household with an annual income of \$6,000. The federal government establishes a uniform "Poverty Level" for the 48 contiguous states. Since 100 percent of Poverty Level is generally considered to be too low to be a reasonable demarcation of "being poor," other estimates range from 150 to 200 percent of Poverty or more. A household's "level of Poverty" refers to the ratio of that household's income to

than 60% of household income. Even for the highest income bracket studied in the Home Energy Affordability Gap (from 150% to 185% of Federal Poverty Level), the home energy burden in 2005 was more than 9%. Table 1 below presents the 2005 home energy burdens by Poverty Level for Massachusetts.<sup>6</sup>

Table 1: 2005 Home Energy Burdens by Federal Poverty Level: Massachusetts

Poverty Level	Home Energy Burden
Below 50%	60.7%
50 – 74%	24.5%
75 – 99%	17.5%
100 – 124%	13.7%
125 – 149%	11.2%
150% - 185%	9.2%

Home Energy Affordability Gap: Massachusetts State Fact Sheet (April 2006).

From the perspective of a developer of affordable housing, these home energy burdens are viewed in the context of overall shelter burdens. The generally-accepted definition of an affordable *total shelter* burden (which includes rent/mortgage payments, plus all utilities except telephones) places the upper limit on affordable shelter burdens at 30% of income. Whether using program funds such as federal HOME dollars, or Low-Income Housing Tax Credits (LIHTC), or some other generally-available funding source, households with total shelter burdens exceeding 30% of income are considered to be over-extended.

At even the highest level of Federal Poverty Level studied by the Home Energy Affordability Gap (150% to 185% of FPL), it is virtually impossible to absorb existing energy bills and to meet that 30% shelter affordability standard. Low-income households cannot pay between 10% and 25% of their income simply for home energy and have any reasonable expectation that they will be able to limit their total shelter costs to 30% of income.

the Federal Poverty Level. For example, the year 2005 Poverty Level for a two-person household was \$12,830. A two-person household with an income of \$6,415 would thus be living at 50% of Poverty. A two-person household with an income of \$19,245 is said to be living at 150% of Poverty.

<sup>6</sup> These 2005 Home Energy Gap and home energy burden calculations were *before* the fly-up in natural gas prices in the 2005/2006 winter heating season.

As a result, these high home energy burdens impede the production of affordable housing units. Every dollar by which a low-income household's home energy burden exceeds the 6% affordability standard is a dollar that is *not available* to pay for the housing component of the 30% total shelter affordability standard. What the 2005 Home Energy Affordability Gap documents, in other words, is that, because of unaffordable home energy bills, more than \$660 million that *should have been available to pay for housing costs* is being diverted to the payment of energy costs instead.<sup>7</sup>

Quite aside from the impact that increasing energy prices/bills/burdens have on low-income households in Massachusetts, in other words, is the impact that those increasing energy prices/bills have on the affordable housing programs supported by HOME and/or other public funding. The increase in prices not only makes "affordable housing" less affordable, but it makes it less possible to produce affordable housing units with which to begin. As a result of increasing energy prices, Massachusetts affordable housing developers, between 2002 and 2005, lost more than \$220 million in financial capacity to provide affordable housing units for low-income households in the Commonwealth as resources are diverted from housing costs to energy costs.

The loss of affordable housing "purchasing power" attributable to rising energy prices can be seen in Massachusetts through a review of the Fair Market Rents (FMRs) applicable in different communities throughout the state. FMRs present a regulatory dollar cap (imposed by HUD) on the total shelter costs that can be charged to residents under a variety of federal affordable housing programs.<sup>8</sup> HUD updates FMRs on an annual basis. A recent analysis compared those annual modifications in FMRs for various Massachusetts communities to utility bills as affected by changes in energy prices for the same years. The analysis used FMRs for two-bedroom units as the standard for shelter costs. The analysis examined FMRs and energy costs for the Massachusetts communities of Boston, Worcester, Pittsfield, and Fall River.

Increasing home energy bills are generating a substantive downward pressure on the contract rents that are implicit within the FMRs for Massachusetts communities. Table 3 below presents data on the extent to which home energy is taking an increasing proportion of the FMRs published by HUD for the four Massachusetts communities identified above. In all four instances, the proportion of the FMR that would be devoted to home energy given changes in fuel prices has significantly increased in the four years 2003 through 2006.

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<sup>7</sup> An additional portion of the difference between actual home energy burdens and the 30% shelter affordability standard will be devoted to water and wastewater bills. Since these bills are not implicated by the proposed furnace efficiency standard, they are set aside for purposes of these comments.

<sup>8</sup> *See generally*, 24 C.F.R. §888.111(b) (2006) ("Fair market rent means the rent, including the cost of utilities (except telephone), as established by HUD, pursuant to this subpart, for units of varying sizes (by number of bedrooms), that must be paid in the market area to rent privately owned, existing, decent, safe and sanitary rental housing of modest (non-luxury) nature with suitable amenities.") *See also*, 24 C.F.R. §888.113.

Table 3 documents that energy bills in Massachusetts are increasing faster than FMRs are increasing. While home energy comprised 15.2% of the Boston FMR in 2003, it comprised 21.9% of the FMR in 2006. While home energy made-up 15.4% of the Worcester FMR in 2003, it made-up 24.7% of the FMR in 2006.

The impact of this disparity in the growth rate of home energy bills and FMRs is that fewer dollars of an FMR are available to pay for rent. From 2003 to 2006, the dollars available for rent actually *decreased* in both Boston (down \$28, from \$665 in 2003 to \$637 in 2006) and Worcester (down \$115, from \$719 in 2003 to \$602 in 2006). Even the increases in dollars available for rent, however, were insignificant. The Pittsfield FMR provided \$24 more for rent in 2006 as compared to 2003, while the Fall River FMR provided only \$36 more for rent in 2006 compared to 2003.

Table 3. Changes in Fair Market Rents vs. Changes in Energy Bills  
Four Selected Massachusetts Communities (2003 – 2006)

	Home Energy Bill as Pct of FMR					FMR Remaining After Home Energy			
	2003	2004	2005	2006		2003	2004	2005	2006
Boston	15.2%	15.5%	18.2%	21.9%		\$665	\$674	\$633	\$637
Fall River	21.7%	22.6%	22.9%	27.7%		\$449	\$450	\$496	\$485
Pittsfield	15.0%	15.4%	17.0%	20.5%		\$718	\$727	\$743	\$742
Worcester	15.4%	15.8%	18.7%	24.7%		\$719	\$726	\$674	\$602

Table 4 shows the percentage change for each year relative to 2003 for both the FMR as a whole and the FMR that is available for rent.<sup>9</sup> As home energy prices have increased faster than the FMRs, the change in the FMR is often misleading about what resources are available for rent. While FMRs in Boston increased by 4% from 2003 to 2006, for example, the resources available for housing *decreased* by 4.3% after taking into account the disproportionate increase in home energy bills. While the Worcester FMR decreased by 6.0% from 2003 to 2006, the resources available for housing decreased by 16.4% after taking home energy into account.

<sup>9</sup> Again, one must remember that part of the FMR remaining after paying home energy must be devoted to other utility costs, other than telephone.

Table 4. Increase/(Decrease) in FMR Available for Rent vs.  
Increase/(Decrease) in Total FMR Since 2003  
Four Selected Massachusetts Communities (2003 – 2006)

	Percent Change 2003 to 2004		Percent Change 2003 to 2005		Percent Change 2003 to 2006	
	FMR	FMR Available for Rent	FMR	FMR Available for Rent	FMR	FMR Available for Rent
Boston	1.7%	1.3%	(1.3%)	(4.8%)	4.0%	(4.3%)
Fall River	1.4%	0.2%	12.4%	10.6%	17.1%	8.1%
Pittsfield	1.7%	1.2%	5.9%	3.5%	10.4%	3.2%
Worcester	1.4%	0.9%	(2.5%)	(6.4%)	(6.0%)	(16.4%)

It is unquestioned that Massachusetts has a profound shortage of funds in relation to existing affordable housing needs. According to the most recent Consolidated Plan filed by Massachusetts with HUD (2005),<sup>10</sup> the Commonwealth is able to serve only a small percentage of the probable total number of households in need. The increasing energy prices faced by residential consumers today, however, represent a direct threat to the ability of the Trust (and other affordable housing developers) to follow-through on this need. Consider how one developer described the impacts of energy price increases in California:

Because publicly funded low-income housing operates with legal affordability restrictions, the combination of past and anticipated utility rate hikes is dramatically limiting borrowing capacity. \* \* \* [W]ith increasing utility rates, either tenants can pay less rent or property owners have to pay higher energy costs.<sup>11</sup> Either way, net operating income declines. As a consequence, developments can afford to support less debt financing, creating a gap in the development budget. \* \* \* [O]n a statewide level [in California], this situation is increasing the amount of scarce public funding required per project, thereby reducing the total number of affordable units that can be built.<sup>12</sup>

<sup>10</sup> A “Consolidated Plan” is a planning document that participating jurisdictions must periodically submit to the U.S. Department of Housing and Urban Development (HUD) as a precondition to receiving federal housing funds.

<sup>11</sup> This explanatory footnote added by author of DOE comments: A household’s total shelter payment is limited by the 30% of income rule. If a household’s monthly income is equal to \$1,500 (annual household income of \$18,000), for example, the household has \$450 available for total shelter costs ( $\$1,500 \times 0.30 = \$450$ ). To the extent that total shelter costs (rent/mortgage plus all utilities except telephone) exceed this \$450 level, benefits must be paid to reduce the total shelter burden to \$450. In the simplest case, assume that total shelter costs are \$600, \$150 in utility costs and \$450 in rent. The developer could *either* pay a \$150 utility allowance and receive \$450 a month in rental income *or* pay \$0 as a utility allowance and receive \$300 a month in rental income. In the first case, the developer experiences higher expenses. In the second case, the developer experiences lower income. In both cases, the energy costs limit the developer’s borrowing capacity.

<sup>12</sup> Mike Herald and Doug Shoemaker, “How the Energy Crisis Affects Affordable Housing: An Overview of the Problem,” Property Compliance Report (July 2001).

This statement by Herald and Shoemaker is a truism, which is equally applicable to Massachusetts. “[W]ith increasing utility rates, either tenants can pay less rent or property owners have to pay higher energy costs. Either way, net operating income declines.” Accordingly, the total number of affordable units that can be built decreases.

As is evident, the furnace efficiency standard is not simply an “energy efficiency” proposal. By helping to cost-effectively reduce energy consumption (and thus energy bills), the standard is also a positive and appropriate response to the barriers that unaffordable home energy pose to producers of affordable housing units.

The benefit that the 90% AFUE furnace efficiency standard would deliver to the Massachusetts affordable housing community (and to the low-income constituency that it serves) is considerable. While there is not a reliable data base that tracks unduplicated units of affordable housing produced each year in the Commonwealth,<sup>13</sup> the *State HFA Fact Book* published annually<sup>14</sup> by the National Council of State Housing Agencies (NCSHA) provides some insights. According to that NCSHA publication, from its inception in FY 1992 through FY 2003, the federal Home Investment Partnership program funded more than \$462 million of affordable housing in the Commonwealth. In 2003 alone, HOME provided nearly \$19 million in affordable housing funds in Massachusetts.<sup>15</sup>

Of the committed HOME funds in Massachusetts, there was considerable support for the lowest income households. This distribution is important because, as shown in Table 1, the extent to which energy has an adverse impact on the ability to produce housing falls most heavily within the lowest income population (because home energy burdens are highest and the diversion of funds from housing costs to energy costs is accordingly greatest).

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Table 2: Percent of HOME Assisted United Targeted by Income

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	Up to 30% AMI	31 – 50% AMI	51 – 60% AMI	61 – 80% AMI
Massachusetts	20%	20%	40%	20%

NOTE: AMI is the acronym for Area Median Income.

SOURCE: 2003 State HFA Fact Book, at Table 9 (HOME Program).

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<sup>13</sup> Duplicated units would arise because many affordable housing units use more than one funding source to subsidize their production. The 40-unit Waverley Woods rental development in Belmont, for example, will use both HOME funding and LIHTC funding. The 4-unit “B Street” homeownership development in Belmont used HOME funds, property donated by the Town of Belmont, and below-market financing from the state.

<sup>14</sup> The most recently available of this “annual” publication is the 2003 *State HFA Fact Book*.

<sup>15</sup> 25% of HOME-supported housing units received no other source of subsidy in 2003.

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Similarly, in 2003, Massachusetts allocated Low-Income Housing Tax Credits to 26 developments, producing 1,715 units of housing. From its inception in 1987 through 2003, Housing Tax Credits have been used to produce 24,471 HC-qualified units.<sup>16</sup>

As is clear, the promulgation of increased furnace efficiency standards will have a substantial and positive effect through affordable housing development in the Commonwealth. New construction and substantial rehabilitation, by their very nature, will involve the installation of new furnaces. To the extent that energy *inefficient* furnaces are installed, they represent lost opportunities for decreasing energy consumption, improving energy affordability, and mitigating the adverse impacts that increasing energy prices have on the ability to produce affordable housing units. New furnaces, once installed in new and/or rehabbed affordable housing units, will not be replaced before the end of their useful lives. The 90% AFUE furnace efficiency standard would benefit not simply thousands of low-income households, but tens of thousands of low-income households in Massachusetts alone.

### **The Viability of a Dual-Efficiency Furnace Standard**

The Belmont Housing Trust endorses adoption of a two-tier furnace efficiency standard under which the Department of Energy adopts the 90% AFUE efficiency for the “northern” states and a separate lower efficiency standard for the “southern” states (both as defined by DOE). Such a two-tiered standard is permissible under the Energy Policy and Conservation Act (EPCA). To the extent that DOE has indicated that it “believes the Act does not authorize adoption of regional standards,”<sup>17</sup> the Housing Trust disagrees.

The courts have consistently held that federal regulatory agencies have the authority to promulgate regional standards in lieu of a single uniform national standard, where such regional standards are necessary to achieve the objectives of the authorizing statute. Consider, for example, *California Dredging Company v. Sanders*, 657 F.Supp. 38 (D.C. Dist. 1986). In *California Dredging*, an action was brought challenging the validity of a Small Business Administration (SBA) regulation defining what constitutes being a “small” business in the dredging industry, eligible for federal governmental procurement consideration. The SBA had promulgated a single national standard when it adopted regulations defining any dredging firm with annual revenues of less than \$13.5 million to be “small.” The SBA was charged with determining what constitutes a “small business” and with “making a detailed definition” of small businesses, based on the dollar volume of the business and other criteria.

Like residential furnace efficiency, substantial regional differences existed in the dredging industry. The SBA noted that “dredging is inherently limited to regional operations because the cost of transporting a dredge from region to region limits the ability to bid outside of a particular region.” The SBA found that “regional as opposed to national markets have developed. . .” 657

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<sup>16</sup> Tax credit housing is significant in that only 54% of HOME-supported units are also supported by the LIHTC.

<sup>17</sup> DOE cites, without explanation, 42 U.S.C. §6291(6)(A) as authority for its conclusion that the statute does not authorize adoption of regional standards.



F.Supp. at 40. Nonetheless, despite these explicitly noted regional differences, SBA “simply noted without explanation that it ‘has never considered varying the size standard on a regional basis as a viable alternative to a nationwide size standard.’” 657 F.Supp. at 41. The court reversed.

The Act does not specify that dominance is to be measured on a national scale and SBA may not limit its inquiry to promulgation of uniform national standards merely for convenience or because this approach may appear appropriate in the vast majority of cases. When most of the firms in an industry are regarded as being confined to a regional market by geographical and financial considerations, the small-business size standard cannot be one that gives a dominant firm in a regional market the preferred status of a small business.

657 F.Supp. at 41. The court continued:

In sum, SBA has failed to engage in rational rulemaking designed to ensure that the mandate of the Small Business Act is carried out in the dredging industry. Given the purposes of the Act previously reviewed, SBA cannot avoid its responsibility by . . . refusing without explanation to consider the realities of competition in the regional markets it has found most truly reflect the competitive environment Congress has charged it to enhance by aiding small business.

Id. The same rationale can be applied to the instant proceeding. The EPCA does not specify that energy efficiency standards are to be prescribed on a uniform national basis. Moreover, DOE cannot avoid its responsibilities by refusing without explanation to consider the realities of the regional differences in the efficiency potential which most truly reflects the efficiency gains that Congress has charged it with enhancing by adopting energy efficiency standards. The Court held that the SBA’s “desire to establish a single standard of nationwide applicability” was “not supported under the Act by the administrative record.” 657 F.Supp. at 40, n.7. Similarly, if regional standards are necessary “to ensure that the mandate of the [EPCA] is carried out,” DOE should promulgate such regional standards.

The D.C. Circuit Court decision in *Sierra Club v. Costle*, 657 F.2d 298 (D.C. Cir. 1981) regarding the promulgation of new source performance standards (NSPS) for coal-fired generating stations is equally supportive of the conclusion that DOE errs in holding that it lacks the authority to promulgate anything other than a uniform national standard. In *Costle*, review was sought of a rule promulgated by the Environmental Protection Agency (EPA) setting forth NSPS governing emission controls by coal-fired power plants. The regulation was developed pursuant to the Clean Air Act, which authorized EPA to set performance standards for significant sources of air pollution which could be reasonably anticipated to endanger public health or welfare. 42 U.S.C. §7411(a) & (b). In its review of the NSPS, the Court noted that “the importance of the challenged standard arises not simply from the magnitude of the environmental and health interests involved, but also from the critical implications the new pollution controls have for the economy at the local and national levels.” 657 F.2d at 313. The

same can be said, of course, of the pending efficiency standards for residential natural gas furnaces.

The NSPS standard challenged in *Costle* involved a sliding scale standard for sulfur dioxide.<sup>18</sup> In *Costle*, the Sierra Club (a national environmental advocacy organization) contested EPA's authority "to vary from a uniform national percentage reduction standard ("uniform standard" or "full control"). . ." amongst other things.<sup>19</sup> 657 F.2d at 316. The NSPS was promulgated pursuant to Section 111 of the Act, which provided for a "standard of performance" and defined that standard (in Section 111(a)) as that which would "reflect the degree of emission limitations and the percentage reduction achievable through application of the best technological system of continuous emission reduction which. . .the Administrator determines has been adequately demonstrated." 42 U.S.C. §7411(a)(1). Note that any number of words in this statute could be construed to imply a single standard. The use of the determinative "the" (e.g., "the degree of emission limitations"; "the percentage reduction"), along with a reference to "the best technological system", might all be construed to imply a single standard. Moreover, the definition of "technological system of continuous emission reduction" was defined to mean "a technological process for production or operation by any source which is inherently low-polluting or nonpolluting." 42 U.S.C. §7411(a)(7). (emphasis added). This technical construction of the statute, however, did not limit the agency's authority to promulgate a sliding scale standard.

As the D.C. Circuit Court noted, "Sierra Club's challenge to variable control raises the fundamental issue of whether EPA violated section 111 of the Clean Air Act by establishing a sliding scale for the reduction of sulfur dioxide. . ." The Court said "we find that section 111 of the Act authorizes such a variable standard." 657 F.2d at 318.

The rationale of the D.C. Circuit Court is informative for our purposes here.

Other provisions of section 111 also belie the notion that EPA lacks discretion to vary the percentage reduction requirement according to the sulfur content of coal. For example, section 111(a) explicitly instructs EPA to balance multiple concerns when promulgating a NSPS:

"(A) standard of performance shall reflect the degree of emission limitation and the percentage reduction achievable through application of the best

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<sup>18</sup> "We have already noted that the final NSPS adopted by EPA include an optional variable percentage reduction standard. Under this optional standard a utility plant can permissibly reduce its sulfur dioxide emissions by less than 90 percent of potential uncontrolled emissions if the amount of sulfur dioxide emitted following the use of pollution control technology is less than 0.60 lbs./MBtu. In no instance, however, can a plant reduce emissions by less than 70 percent of potential uncontrolled emissions. As a result of this option, the NSPS requirements for percentage reduction of sulfur dioxide removal vary on a sliding scale ranging from a minimum of 70 percent to a maximum of 90 percent." 657 F.2d at 316 (notes omitted).

<sup>19</sup> In addition to its substantive challenge, the Sierra Club brought a variety of procedural challenges to the regulation that are not relevant here.

technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”

Having given EPA this mandate, Congress surely could not have meant to bind the agency to issuance of a uniform standard even though the agency's balancing of cost, energy, and nonair quality health and environmental factors indicated that the percentage standard should vary according to the sulfur content of coal.

Furthermore, reading section 111 to permit a variable standard based on the sulfur content of coal comports with common sense which suggests that the amount of sulfur in coal is the most relevant factor in designing standards to reduce emissions of sulfur in the gaseous wastes of coal combustion. Quite obviously, the “best technological system,” considering cost, energy, and nonair health and environmental factors may well vary depending on the sulfur content of the coal that is burned.

657 F.2d at 319. Similarly, in the case at hand here, Congress has given DOE not merely the authority, but the obligation, to consider an entire array of factors in promulgating energy efficiency standards. Not only energy savings, but environmental considerations, cost considerations, economic impacts, and employment impacts are all to be taken into account by the DOE. In light of the D.C. Circuit Court’s holding with respect to the EPA’s NSPS for coal-fired generating stations, it is difficult to imagine that the Court would come to any conclusion other than, to mirror the *Costle* language:

Having given DOE this mandate, Congress surely could not have meant to bind the agency to issuance of a uniform standard even though the agency’s balancing of cost, energy, and non-energy-efficiency and environmental factors indicated that the efficiency standard should vary according to the regional heating load to be affected by the standard.

(paraphrasing provided by author). Moreover, it is difficult to imagine that the court would come to any conclusion other than, again to mirror the *Costle* language:

Furthermore, reading EPCA to permit a variable standard based on the heating load to be served by the furnace comports with common sense which suggests that the amount of heating load to be served is the most relevant factor in designing standards to reduce the energy consumption of natural gas residential furnaces. Quite obviously, the most appropriate standard, considering cost, energy savings potential, and nonair health and environmental factors may well vary depending on the heating load to be served by the furnace.

(paraphrasing provided by author).

In approving the variable standard, the *Costle* Court specifically considered the Clean Air Act language underlying EPA's action. The Court began by noting the language of the statute, quoting the relevant part of Section 111 as saying:

[A] standard of performance shall reflect the degree of emission limitation and the percentage reduction achievable through application of the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.<sup>20</sup>

In parsing this language and approving the variable standard, the Court set forth language that can only be construed as being favorable to a regional furnace efficiency standard under the circumstances identified by DOE in this proceeding. While lengthy, the language is important to consider:

[W]e believe it is clear that this language is far different from the words Congress would have chosen to mandate that EPA set standards at the maximum degree of pollution control technologically achievable. Parsed, section 111 most reasonably seems to require that EPA identify the emission levels that are "achievable" with "adequately demonstrated technology." After EPA makes this determination, it must exercise its discretion to choose an achievable emission level which represents the best balance of economic, environmental, and energy considerations. It follows that to exercise this discretion EPA must examine the effects of technology on the grand scale in order to decide which level of control is best. For example, an efficient water intensive technology capable of 95 percent removal efficiency might be "best" in the East where water is plentiful, but environmentally disastrous in the water-scarce West where a different technology, capable of only 80 percent reduction efficiency might be "best." We cannot believe that Congress meant for EPA to ignore such future aggregate impacts of alternative standards. The standard is, after all, a national standard with long-term effects.

It seems likely that if Congress meant to require a monolithic standard and to curtail EPA's discretion to weigh various policy considerations it would have explicitly said so in section 111, as it did in other parts of the statute.

657 F.2d at 368. A similar analysis is appropriate for DOE's obligations under EPCA. The obligations are:

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<sup>20</sup> From DOE's perspective for purposes of the instant case, it is important to note that the Court gave no consideration to the fact that the statute referred to "a standard" (in the singular).

- To determine what efficiency level is technologically achievable;
- After making that decision, to determine the extent to which that technologically achievable efficiency is economic; and
- After making that determination, to choose an efficiency level that best balances economic, environmental and energy considerations.

The same type of balancing might be expected in the energy efficiency decisionmaking as the Court identified would be expected in the prescription of NSPS for coal-fired generating stations. Just as the Court noted that what NSPS might be “best” in the East where water is plentiful might differ from what might be “best” in the water-scarce West, what minimum furnace efficiency standard might be best in the cold-weather North (given a balancing of the various factors Congress articulated in the EPCA) might differ from what minimum standard might be best in the warm-weather South.

Accordingly, the observation that the D.C. Circuit Court made about EPA’s authority is equally applicable to DOE’s authority. It seems likely that if Congress meant to require a monolithic standard and to curtail DOE’s discretion to weigh various policy considerations, it would have explicitly said so.

### **Summary and Recommendation**

Based on the data and analysis presented above, the Belmont Housing Trust, Inc. recommends adoption of a 90% AFUE efficiency standard for residential natural gas fired furnaces in the Northern states as defined by DOE. The Trust recommends, further, adoption of a two-tiered furnace efficiency standard, with a separate standard established for the Southern states as defined by DOE. The Trust disputes DOE’s assertion that a two-tiered efficiency standard is outside the scope of the statute.

Respectfully submitted,



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**ON BEHALF OF:**  
BELMONT HOUSING TRUST, INC.