

Reforming the Energy Policy and Conservation Act: Balancing Costs and Benefits and Curating the Law's Energy Standards

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Reforming the Energy Policy and Conservation Act: Balancing Costs and Benefits and Curating the Law's Energy Standards

The Energy Policy and Conservation Act (EPCA; P.L. 94-163), as amended, authorizes a national standards program in which the U.S. Department of Energy (DOE) issues legally binding standards for the maximum rate or amount of energy used by appliances and industrial equipment. Divergent viewpoints on several issues surrounding how the program is administered and whether the costs and benefits are optimal have been expressed in DOE rulemakings, court cases, and congressional hearings and legislation.

EPCA establishes a number of criteria for DOE's stewardship of the program including that DOE periodically review standards, typically six years after the final rule of the previous amendment process. A March 4, 2019, hearing in the House Energy and Commerce Committee's Energy Subcommittee drew attention to 16 standards that were overdue for EPCA-mandated review, as did a 2021 report to Congress by DOE.

EPCA also requires that any new or amended standard issued by DOE be economically justified. A bill in the 119th Congress, H.R. 4626, as passed by the House, would amend the "economically justified" criterion to include a quantitatively defined, minimum amount of energy savings associated with a new or amended standard. DOE is also contemplating changes to the program at the administrative level. In May 2025, DOE announced that it would be "proposing the elimination or reduction of 47 regulations," including 24 regulatory actions to amend efficiency standards, in many cases citing the current standard as not being economically justified. In contrast, the rulemakings amending the standards in the first place had found they were economically justified.

Recent congressional action in response to certain efficiency standards includes three disapproval resolutions, per the Congressional Review Act (5 U.S.C. §§801-808), revoking DOE's revisions to standards that would have made them more stringent.

The program could continue as currently authorized in law, or—should Congress see a need to reform EPCA—potential options could include the following:

- amend the admonition prohibiting the Secretary of Energy from revising a standard that does not result in "significant conservation of energy," EPCA Section 325(o)(3)(B), to require instead a specified, quantitative amount of energy savings;
- amend EPCA Section 325(n) to allow petitioners to request a review of a standard for evaluation by the Secretary of Energy for possible revocation, as is currently allowed for considering making standards more stringent, and allow the Secretary to initiate such evaluations at the Secretary's discretion;
- remove the periodic review requirement of EPCA Section 325(m)(1), in which the Secretary evaluates an amended standard for possible revision six years after its publication;
- require the Secretary to conduct an ex post evaluation, using updated information, of recently changed standards using real-world data and to consider revising those standards; or
- maintain the periodic review requirement of EPCA Section 325(m), but give the Secretary the choice to evaluate the standard for possible revocation as an additional option.

Provisions in H.R. 4626 in the 119th Congress, H.R. 6192 in the 118th Congress, and H.R. 8402 in the 117th Congress included some of the above options.

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Introduction

The U.S. Department of Energy's (DOE's) *national standards program* of energy conservation standards for consumer appliances and certain industrial equipment issues legally binding regulations pursuant to the Energy Policy and Conservation Act (EPCA; P.L. 94-163), as amended (42 U.S.C. §§6291-6317). Many of these standards take the form of minimum energy efficiency or maximum energy consumption standards. Another type of EPCA standard, design standards, requires (or prohibits) a switch, dial, or other engineered contrivance as part of the appliance or equipment if doing so will likely improve energy efficiency or reduce energy consumption. Further discussion can be found in CRS Report R47038, *The Department of Energy's Appliance and Equipment Standards Program*, by Martin C. Offutt.

The notion of reforming EPCA has attracted an assortment of legislative proposals and DOE actions. The House passed three similar bills in successive Congresses (117th, 118th, and 119th),¹ all with substantive changes to EPCA procedures for developing new and amended standards. Because of the scope of these bills and the recurrence of specific proposed substantive changes, this report discusses these bills in some detail. Absent enactment or implementation of such proposals, the national standards program could remain in its current state and continue to execute within its current authorization.

Starting in 1975, Congress authorized programs to address the energy and water consumption of consumer products and commercial equipment used in buildings.² In 1978, Congress mandated a national standards program in the National Energy Conservation Policy Act (P.L. 95-619), amending EPCA, and tasked the Secretary of Energy (Secretary) with setting binding targets for the energy performance of certain consumer products.³ Congress expressed the following purpose:

to reduce the growth in demand for energy in the United States, and to conserve nonrenewable energy resources produced in this Nation and elsewhere, without inhibiting beneficial economic growth.⁴

Statutory Requirements of the National Standards Program⁵

The requirements of EPCA that are the focus on this report address the criteria for setting standards by DOE and the frequency of revision.

EPCA prohibits the Secretary⁶ from setting a standard that does not achieve “significant conservation of energy,” but EPCA does not say in physical units how much energy this might

¹ H.R. 4626 in the 119th Congress, H.R. 6192 in the 118th Congress, and H.R. 8402 in the 117th Congress.

² Several plumbing products are regulated for water consumption, but they are not discussed in this report.

³ The Energy Policy Act of 1992 (P.L. 102-486) expanded the program to include mandatory standards for certain industrial equipment. The Energy Policy and Conservation Act (EPCA) already included a program of analysis and information for “certain industrial equipment” established in Section 441 of P.L. 95-619. A longer list of the statutes amending EPCA can be found in Table 1 of CRS Report R47038, *The Department of Energy's Appliance and Equipment Standards Program*, by Martin C. Offutt.

⁴ Section 102(b) of the National Energy Conservation Policy Act (NECPA; P.L. 95-619). The purpose applied to the other provisions of NECPA as well.

⁵ This report generally focuses on consumer products, or “appliances,” but the provisions of EPCA discussed in the report apply as well to “certain industrial equipment” per the “crosswalk provision” found at 42 U.S.C. §6316(a). A few types of industrial equipment have their own provision at 42 U.S.C. §6316(e).

⁶ This report refers to the Secretary of Energy (Secretary) when discussing specific legal duties but refers to the U.S. Department of Energy (DOE) when discussing program administration more generally.

be.⁷ According to DOE, in setting new or revised energy conservation standards, the Secretary considers the quantified energy savings together with the cost (or savings) to consumers and firms, and cost (or savings) to the manufacturers, as part of the determination of whether “the benefits to the nation of the standards ... outweigh the burdens.”⁸ DOE and nongovernmental organizations have characterized the reduction in ownership costs to consumers and firms as a key impact of the national standards program.⁹

In addition to consideration of significant conservation of energy, EPCA requires consideration of practicality and economic impacts. The statute requires the Secretary, when setting new or amended standards, to choose the standard in such a way as to afford the maximum improvement in energy efficiency and be “technologically feasible” and “economically justified.”¹⁰

For the “technologically feasible” criterion, EPCA also requires, at the proposed rule stage, that the “Secretary [of Energy] shall determine the maximum improvement in energy efficiency or maximum reduction in energy use that is technologically feasible.”¹¹ For the “economically justified” criterion, EPCA Section 325(o)(2)(B)(i) elaborates seven statutory factors that the Secretary is to use in finding “whether the benefits of the standard exceed its burdens.”¹²

Figure 1 illustrates how two of the statutory factors—energy savings¹³ and economic impacts¹⁴—relate to one another in a plot of energy conserved versus changes to industry net present value (INPV) caused by the standard.¹⁵ The figure illustrates one of the essential trade-offs of the national standards program: Energy savings (and thus lower energy bills for consumers and firms) are accompanied by reduced cash flows for manufacturers.

Recent Debate on the National Standards Program

The notion of reforming EPCA has attracted an assortment of legislative proposals and DOE actions to address intractable and perennial issues. Legislative proposals and DOE actions have considered costs imposed on manufacturing and whether standards are needed if a relatively small savings in energy would result from regulating an appliance. Other proposed changes address stakeholder observations that revisions occur on a mandated schedule rather than when improvements in technology might warrant them. Another topic of reform focuses on DOE’s

⁷ 42 U.S.C. §6295(o)(3)(B).

⁸ This language occurs in numerous rulemakings. See, for example, DOE, “Energy Conservation Program: Energy Conservation Standards for Refrigerated Bottled or Canned Beverage Vending Machines,” 81 *Federal Register* 1033, January 8, 2016.

⁹ See DOE, Building Technologies Office, “History and Impacts,” <https://www.energy.gov/eere/buildings/history-and-impacts>; Appliance Standards Awareness Project, “Major Home Appliance Efficiency Gains to Deliver Huge National Energy and Water Savings and Help to Jump Start the Smart Grid,” press release, August 3, 2010, <https://appliance-standards.org/document/major-home-appliance-efficiency-gains-deliver-huge-national-energy-and-water-savings-and>.

¹⁰ 42 U.S.C. §6295(o)(2)(A), §6316(a). In some instances, the EPCA provision for setting the new standard includes different language, “significant energy savings,” as in the case of high-intensity discharge lamps, distribution transformers, and electric motors. 42 U.S.C. §6317(a)(1) and (b)(1).

¹¹ 42 U.S.C. §6295(p)(1).

¹² 42 U.S.C. §6295(o)(2)(B)(i).

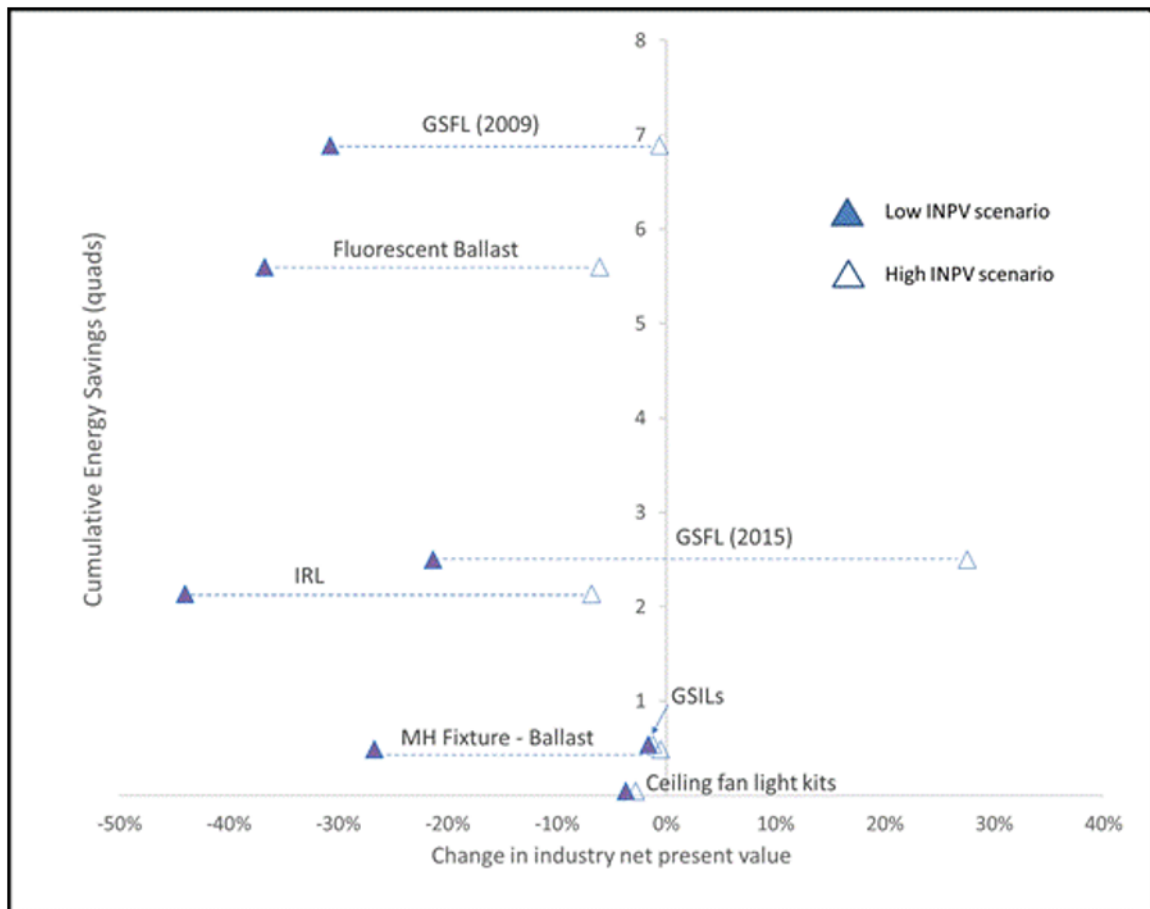
¹³ 42 U.S.C. §6295(o)(2)(B)(i)(III).

¹⁴ 42 U.S.C. §6295(o)(2)(B)(i)(I).

¹⁵ The industry net present value (INPV) is the sum of the discounted cash flows to the industry (manufacturer) from the base year through the end of the analysis period, typically the 30-year period beginning with the first year of compliance. A negative change in INPV represents reduced cash flows to industry, and a positive change represents increased cash flows to industry.

ability to curate more than 60 categories of regulated appliances and equipment while maintaining the revision cycle required by EPCA.

Figure 1. DOE-Estimated Impacts of Standards for Lighting Products (Selected)



Source: CRS analysis of *Federal Register* notices for appliance and equipment standards rulemakings and information in the U.S. Department of Energy's (DOE's) technical support documents and spreadsheet analyses.

Notes: Each pair of triangles represents DOE's high and low estimates of the change in industry net present value (INPV, a measure of cash flow) incurred by a given rulemaking and the energy savings expected to accrue by products and equipment purchased over the 30-year analysis period.¹⁶ DOE made the calculations for each product using the same analytical models and methods, but as the 30-year period differed by product, the calculations of savings and costs may rely on different inputs and assumptions and not be strictly comparable. GSFL = general service fluorescent lamp; GSIL = general service incandescent lamp (December 17, 2019, rulemaking); IRL = incandescent reflector lamp; MH = metal halide; quad = quadrillion British thermal units.

The wider debate surrounding the national standards program considers an assortment of issues as exemplified in DOE rulemakings, court cases, and congressional hearings and legislation. In the first Trump Administration, a 2020 DOE rulemaking governing its standards-setting procedures included a provision to “eliminate from further consideration” standards that might result in relatively small energy savings.¹⁷ The Biden Administration reversed the policy in 2022 without

¹⁶ DOE has used the 30-year analysis period consistently since 2008. The energy savings and other metrics accrue over the lifetime of any products or equipment purchased during the 30 years. See 84 *Federal Register* 36037 (July 26, 2019).

¹⁷ DOE, “Energy Conservation Program for Appliance Standards: Procedures for Use in New or Revised Energy (continued...)”

having applied it to any proposed product efficiency standard.¹⁸ The current Trump Administration again proposed a threshold on July 7, 2026.¹⁹

In another example, when DOE was making a statutorily required update to one of the efficiency standards, the standard's impact on steel supply became a focus of congressional hearings.²⁰ Some Members of Congress introduced bills to prevent DOE from finalizing the standard.²¹ Federal courts have been involved when DOE has been late with rulemakings to update standards EPCA requires; nongovernmental organizations and state attorneys general have brought suit.²² Three completed rulemakings on such updates were set aside in 2025 by separate acts of Congress.²³ Aspects of these debates continue to be expressed in legislation such as H.R. 4626, which passed the House on February 24, 2026.

Report Framework

As noted above, legislation and hearings in the past three Congresses have proposed changes to different aspects of the national standards program. This report presents policy options for changing how the energy efficiency standards authorized by EPCA are established, maintained, and revised, and also discusses the no-action alternative and impact of leaving the program unchanged by any legislative action. The report pays attention to the administrative activity of DOE in curating the more than 60 categories of standards in the program's inventory. The report also considers proposals to amend EPCA that would impact the costs and benefits that accrue from the program, especially the national energy savings that follows from more-efficient appliances and industrial equipment being placed in service. Other perspectives, not considered in this report, include the scope of which appliances and industrial equipment might be included in the program, the test procedures required by EPCA for compliance, and alterations to the number of DOE staff available with an aim toward completing late rulemakings faster.

As noted, Congress could also allow the current approach to prevail. This would result in no additional administrative costs to the program. In addition, the current approach would capture

Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment,” 85 *Federal Register* 8656, February 14, 2020. First promulgated in 1996, the so-called Process Rule is codified at 10 C.F.R. Part 430, Subpart C, Appendix A.

¹⁸ DOE, “Energy Conservation Program for Appliance Standards: Procedures, Interpretations, and Policies for Consideration in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment,” 86 *Federal Register* 70892, December 13, 2021.

¹⁹ DOE, “Energy Conservation Program: Procedures, Interpretations, and Policies for Consideration of New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Certain Commercial/Industrial Equipment,” 91 *Federal Register* 42034, July 7, 2026.

²⁰ At an April 20, 2023, Senate Committee on Energy and Natural Resources hearing, Sen. Cindy Hyde-Smith asked then-Secretary of Energy Jennifer Granholm about the impact of the proposed standard, specifically whether users might expect “long lead times, up to 2 to 4 years and more” owing to “more expensive and limited types of steel” needed to comply with the standard. U.S. Congress, Senate Committee on Energy and Natural Resources, *Full Committee Hearing to Examine the President's Budget Request for the U.S. Department of Energy for Fiscal Year 2024*, hearing, 118th Cong., 1st sess., April 20, 2023.

²¹ See, for example, H.R. 4167 in the 118th Congress.

²² For example, court cases include *State of New York v. Bodman*, No. 05-CV-7807 (S.D.N.Y. September 7, 2005); *Natural Resources Defense Council v. Perry*, No. 18-15380 (9th Cir. 2019); and *People of the State of California v. Perry*, No. 18-15475 (9th Cir. 2019). For an example of congressional interest, see U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Energy, *Wasted Energy: DOE's Inaction on Efficiency Standards & Its Impact on Consumers and the Climate*, 116th Cong., 1st sess., March 4, 2019.

²³ P.L. 119-6, P.L. 119-7, and P.L. 119-9.

more energy savings than the threshold approach, noted above, if such rulemakings were to be completed rather than remain in a backlog.

Recent Activity

Repeal of Regulations per Congressional Review Act

Using the Congressional Review Act (5 U.S.C. §§801-808), Congress and the President have enacted disapproval resolutions in the 119th Congress so that recent final rules for three standards have no force or effect.²⁴ See **Table 1**.

Table 1. Revisions to Standards Revoked per the Congressional Review Act

Affected Standard	10 C.F.R.	H.J. Res.	P.L.
Consumer Gas-Fired Instantaneous Water Heaters (89 <i>Federal Register</i> 105188)	§430.32(d)	20	119-6
Walk-In Coolers and Walk-In Freezers (89 <i>Federal Register</i> 104616)	§431.306	24	119-7
Commercial Refrigerators, Freezers, and Refrigerator-Freezers (90 <i>Federal Register</i> 7464)	§431.62	75	119-9

Sources: CRS analysis; Congress.gov.

Presidential Order on Regulatory Relief

On May 12, 2025, DOE announced that it would be “proposing the elimination or reduction of 47 regulations,” including 24 regulatory actions to amend EPCA-authorized water and energy efficiency standards.²⁵ The 24 regulatory actions—21 notices of proposed rulemaking, one request for information, and two final rules that have since taken effect and deregulated the respective categories²⁶—were published in the *Federal Register* in accordance with the requirements of the Administrative Procedure Act.²⁷ DOE’s press release cited Executive Order 14270, which directs federal agencies to amend their regulations to add conditional “sunset” provisions to certain regulatory requirements and standards and to treat those requirements and standards as no longer effective as of the sunset date to the extent permissible by law.²⁸ DOE makes a number of different claims as to why these proposed amendments would not violate the anti-backsliding rule of Section 325(o)(1) of EPCA, which prevents DOE from either decreasing the minimum required energy efficiency or increasing the maximum allowable energy use.²⁹

²⁴ For further discussion and analysis of the Congressional Review Act, see CRS In Focus IF10023, *The Congressional Review Act (CRA): A Brief Overview*, by Maeve P. Carey and Christopher M. Davis.

²⁵ DOE, “Energy Department Slashes 47 Burdensome and Costly Regulations, Delivering First Milestone in America’s Biggest Deregulatory Effort,” press release, May 12, 2025, <https://www.energy.gov/articles/energy-department-slashes-47-burdensome-and-costly-regulations-delivering-first-milestone>. See further discussion at CRS Legal Sidebar LSB11372, *Federal Energy Efficiency Standards Program: Background and Recent Developments*, by Adam Vann.

²⁶ DOE, “Energy Conservation Program: Final Withdrawal of Determination of Miscellaneous Gas Products as a Covered Consumer Product,” 90 *Federal Register* 19250, May 7, 2025; and DOE, “Repeal of the Definition of Showerhead,” 90 *Federal Register* 15647, April 15, 2025.

²⁷ 5 U.S.C. §§551 et seq.

²⁸ Executive Order 14270 of April 9, 2025, “Zero-Based Regulatory Budgeting to Unleash American Energy,” 90 *Federal Register* 15643, April 15, 2025.

²⁹ 42 U.S.C. §6295(o)(1).

These include arguments that (1) the anti-backsliding provision only requires DOE to maintain the efficiency requirements prescribed by the statute;³⁰ and (2) if a product is not designated as “covered” in statute, Section 325(o) is not applicable.

Setting the Bar: Is Energy Savings a One-Size-Fits-All Criterion?

The national energy savings of the DOE program include small and large contributions from the various categories of regulated appliances and industrial equipment. The contributions stem from rulemakings that estimated significant conservation of energy would accrue. No minimum amount of projected energy savings has been required by law when DOE has set new or revised standards. Some policy proposals and legislation have sought to make issuance of energy conservation standards contingent on whether the physical quantity of energy to be saved surpasses a minimum. Discussed below, these proposals and legislation have construed the minimum to be a fixed, “one size” amount for the category that would not adjust upward or downward according to anticipated costs and benefits or other factors. Other types of minimum efficiency standards, not discussed here, might apply to a physical unit that is characteristic of the appliance or apply to a defined geographic region.

Statutory Requirements Regarding Energy Savings

EPCA, as noted, prohibits the Secretary from setting standards that do not achieve significant conservation of energy but does not quantify in physical units how much energy this might be.³¹ When setting new or revised standards, DOE nonetheless estimates energy consumption in terms of physical units and relies on these when considering and comparing options that meet the statutory criteria of “technologically feasible” and “economically justified.”³² DOE’s estimates predict turnover of the appliance stock, purchasing behavior of consumers when replacing the appliances, usage patterns of the appliances once installed, and other factors. Household to household, these consumer choices aggregate into a *national energy savings*. The text box below discusses two of the terms used in EPCA that elaborate on energy savings.

EPCA and Significant Conservation of Energy in Standard Setting

The physical meaning of “energy” in standard-setting procedures is invoked in two places in EPCA, first in Section 325(o)(3)(B) as “significant conservation of energy.”³³ The second place it appears is at Section 325(o)(2)(B), where Congress elaborated a list of factors for determining whether a standard is economically justified. One of these factors is the “total projected amount of energy [savings]” due to the revised standard.³⁴ DOE acknowledges the similarity of the two energy-related criteria but emphasizes that both are EPCA requirements:

³⁰ In proposing to revert the external power supplies standard to the statutory standard, DOE offers the rationale that DOE’s amended standards were not economically justified as required by EPCA Section 325(o). DOE, “Energy Conservation Program: Energy Conservation Standards for External Power Supplies,” 90 *Federal Register* 20900, May 16, 2025.

³¹ 42 U.S.C. §6295(o)(3)(B).

³² 42 U.S.C. §6295(o)(2).

³³ 42 U.S.C. §6295(o)(3)(B).

³⁴ 42 U.S.C. §6295(o)(2)(B)(i)(III).

Although significant conservation of energy is a separate statutory requirement for adopting an energy conservation standard, EPCA requires DOE, in determining the economic justification of a standard, to consider the total projected energy savings that are expected to result directly from the standard.³⁵

Previous Attempts at Setting an Energy Savings Threshold

DOE has previously applied quantitative criteria on energy by which it could eliminate consideration of standards that did not meet those criteria. This section discusses some of these past examples.

A threshold applied to EPCA standard setting would be a benchmark against which DOE measures the anticipated benefit of an energy conservation standard. Notionally, if the amount of energy the analysis predicted to be saved by the potential new or revised standard were not quantitatively as large as the benchmark, then the Secretary would not proceed with the standard. The attempts at using a quantitative benchmark, discussed below, have been made by DOE and are not set explicitly in law.³⁶ None are currently in use.

Program Start-Up: Initial Consideration of Binding Standards

In its first rulemakings under EPCA, in the early 1980s, DOE applied a three-part test for “significant conservation of energy.” Significant conservation of energy was determined when one or more of the following would be saved from the standard:

- one-sixth (16.67%) of energy consumption over one year, relative to that of the market-incumbent appliance;
- 1% of national electricity use; or
- 10,000 barrels per day of oil (or its British thermal unit [Btu] equivalent in volume of natural gas).³⁷

DOE’s later rulemaking, initiated in 1988 and required under the National Energy Conservation Policy Act (P.L. 95-619),³⁸ considered whether to revise standards for three categories of products and did not use any explicit quantitative criteria such as the above three-part criteria.³⁹

³⁵ DOE, “Energy Conservation Program: Energy Conservation Standards for Distribution Transformers,” 89 *Federal Register* 29868, April 22, 2024.

³⁶ For purposes of creating a new category of classified product, EPCA does include quantitative criteria for the aggregate household U.S. energy consumption of the product and for the household energy use. 42 U.S.C. §6295(l). For a discussion, see DOE, “Energy Conservation Program for Consumer Products: Proposed Determination of Miscellaneous Residential Refrigeration Products as Covered Products,” 78 *Federal Register* 65224, October 31, 2013; and DOE, “Energy Conservation Program for Appliance Standards: Procedures for Use in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment,” 85 *Federal Register* 8674, February 14, 2020.

³⁷ 48 *Federal Register* 39385a, August 30, 1983. DOE used a model that calculated the energy consumption at the residence for oil- and natural-gas-consuming appliances and, for electricity, the energy consumed at the power plant.

³⁸ Section 325(b)(3)(A)(i), refrigerators, refrigerator-freezers and freezers; Section 325(f)(1)(B), small gas furnaces; and Section 325(i)(3), televisions.

³⁹ DOE, “Energy Conservation Program for Consumer Products; Proposed Rulemaking and Public Hearing Regarding Energy Conservation Standards for 3 Types of Consumer Products,” 53 *Federal Register* 48810, December 2, 1988.

The Secretary Chooses: The 2020 Process Rule and Proposed 2026 Process Rule

DOE had a threshold of 0.3 quadrillion Btus (“quads”) in place, starting in 2020 with a revision to the so-called Process Rule.⁴⁰ This threshold meant that, for any rulemaking under way for a new or revised standard, if DOE were to estimate energy savings to be smaller than 0.3 quads over 30 years, or not save at least 10% of the energy estimated to be used by the product, DOE would not proceed to issue the standard. The purpose was to “eliminate from further consideration those potential standards that are projected to result in substantially lower energy savings.”⁴¹ The policy took effect in 2020 during the first Trump Administration; however, DOE reversed the policy in 2021 in the Biden Administration without ever having applied it.⁴² Recently DOE proposed to again revise the Process Rule, proposing a two-part energy threshold test. The first part of the test would deem a 10% reduction in energy use over 30 years to be “significant energy savings.”⁴³ A proposed standard that failed this first part could still qualify under a secondary standard, which is a minimum of 2 quads over 30 years. DOE’s accounting method for the secondary test employs full fuel cycle accounting, making it not directly comparable to thresholds that also use quads as the unit of measure.⁴⁴

Potential Impact of an Energy Savings Threshold

To illustrate the impact of adopting an energy savings threshold, this section analyzes what the reduction in the number of updated standards would have been had the threshold of 0.3 quads over 30 years been applied in actuality. The analysis is counterfactual because DOE’s policy was not in effect during the time interval, but the analysis is illustrative of the policy’s potential effects. This analysis uses DOE’s estimates of energy savings for rulemakings from 2013 to 2017, roughly one presidential term of office.

Had the threshold been applied, 14 of the 26 rulemakings from 2013 to 2017 would have been eliminated from further consideration. DOE would not have revised those standards in the counterfactual situation in which DOE’s 0.3-quad threshold had been in effect. This analysis further found that the standards eliminated from further consideration would together have accounted for 8% of the energy saved by all the rulemakings published in the four-year period.⁴⁵

⁴⁰ DOE, “Energy Conservation Program for Appliance Standards: Procedures for Use in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment,” 85 *Federal Register* 8626, February 14, 2020. One quad is roughly 1% of the annual energy consumption in the United States.

⁴¹ DOE, “Energy Conservation Program for Appliance Standards: Procedures for Use in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment,” 85 *Federal Register* 8656, February 14, 2020.

⁴² DOE, “Procedures, Interpretations, and Policies for Consideration in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment,” 86 *Federal Register* 70892, December 13, 2021.

⁴³ DOE, “Energy Conservation Program: Procedures, Interpretations, and Policies for Consideration of New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Certain Commercial/Industrial Equipment,” 91 *Federal Register* 42049, July 7, 2026.

⁴⁴ The calculation of full fuel cycle energy varies strongly by fuel. For electrical appliances in general, DOE estimated full fuel cycle energy use by multiplying the energy drawn at the wall plug of the electrical appliance by a factor of 2.7, thereby counting the energy needed to extract the primary fuel and generate electricity. The factor is much lower for gas appliances, 1.09 times the energy drawn at the burner tip. DOE notes that, when considering a specific appliance category in a rulemaking, DOE would perform a calculation tailored to the particular facts. 84 *Federal Register* 36038, July 26, 2019, note 2.

⁴⁵ The threshold and its impact on standards development depend to some extent on a detail of how energy (continued...)

Setting a threshold might decrease the number of new and revised standards published by rulemaking. New standards are comparatively rare, so most of the standards eliminated from further consideration by a threshold would be potentially revised standards.⁴⁶

Curating the Standards: DOE Program Activities

DOE expends resources to curate the national standards program, including managing (i.e., interpreting and enforcing) the current inventory of standards, publishing test procedures, carrying out mandated reviews to contemplate revisions to the standards, and reporting to Congress.⁴⁷ This section discusses some activities and statutory requirements relevant to EPCA reform.

Managing the Existing Standards: Administrative and Statutory Considerations

Following the setting of a new or revised standard, and its taking effect three years or five years later, the real-world impacts begin.⁴⁸ Consumers will purchase an appliance model and do so at the time of their own choosing. These purchases may well diverge from the estimates made by DOE during the rulemaking. The quantitative estimates of costs and benefits used to show a potential new or revised standard to be “economically justified” could thus be different than anticipated. The estimates made by DOE of the costs to manufacturers and benefits to consumers could, in deployment, prove to be inaccurate because of exogenous factors, such as supply of critical materials, cost of energy, or other inputs.⁴⁹ Factors contributing to this uncertainty include predicting (1) the new *choice set* of available appliances offered by manufacturers after noncompliant models are removed from the market; (2) consumer purchasing behavior; and (3) consumer usage patterns and energy consumption of the appliances.⁵⁰ Household to household, these consumer purchases or choices aggregate into a *national energy savings*.

consumption is calculated. The estimates depicted in **Figure 1** focus on energy used by the product or equipment *at the site*, except that for electric appliances where the estimate takes account of the energy consumed at the power plant to generate the electricity delivered to the appliance on site. So-called site energy differs from full fuel cycle energy in the degree to which it incorporates extraction, processing, conversion, and delivery. Site energy is generally smaller than full fuel cycle energy.

⁴⁶ An example of a recent new standard using INPV is the standard for gas cooking tops, a type of conventional cooking product. 89 *Federal Register* 11434, February 14, 2024.

⁴⁷ For a complete discussion of DOE activities see CRS Report R47038, *The Department of Energy’s Appliance and Equipment Standards Program*, by Martin C. Offutt.

⁴⁸ For the timing of the compliance date for consumer products and for industrial equipment, see 42 U.S.C. §6295(m)(4)(A)(i) and (ii), respectively.

⁴⁹ Likewise, the price to consumers or firms of the appliances and equipment could become higher as a result of tariffs, as in the case of distribution transformers. (See CRS Report R48933, *Electricity Distribution Transformers: Supply, Tariffs, and Policy Options*, by Martin C. Offutt). New technology incorporated could be found to be unreliable after large numbers of appliances undergo a complete durability cycle. To list one hypothetical, the lumen maintenance of general service lamps using light-emitting diodes may be shorter than expected.

⁵⁰ Energy consumption, though estimated as a single-point value by DOE, can vary across a range of values depending on user behavior. National Academies of Sciences, Engineering, and Medicine (NASEM), *Review of Methods Used by the U.S. Department of Energy in Setting Appliance and Equipment Standards* (National Academies Press, 2021).

Periodic Review of Existing Standards

Statutory Requirements

With the Energy Independence and Security Act of 2007 (EISA 2007; P.L. 110-140), Congress required DOE to conduct a periodic review of efficiency standards of covered products and covered equipment.⁵¹ EPCA Section 325(m)(1) directs DOE either to publish a determination that a standard does not need amending or issue a notice of proposed rulemaking for a newly revised standard within six years of the issuance of a previous final rule.⁵² For example, DOE initiated a periodic review of “computer room air conditioners” in 2019 with a request for information, seven years after the previous amendment was issued.⁵³ Later, in 2022, DOE issued a proposed rule and, in 2023, a final rule.⁵⁴ DOE has stated that it typically needs at least three years to complete a rulemaking to revise an energy conservation standard.⁵⁵

Anti-Backsliding Provision of EPCA

EPCA grants DOE broad authority to amend the standards but also prohibits changes to the standards that would either decrease the minimum required energy efficiency or increase the maximum allowable energy use of a covered product, a limitation known as the “anti-backsliding provision.”⁵⁶ The periodic reviews, recurring in principle six years since the last revision of the standard was completed, thus can only result in revised standards of increasing stringency.⁵⁷

Late Rulemakings

The statutory requirement for periodic reviews has, according to one assessment by DOE, placed DOE on a schedule with which it cannot keep up. The periodic reviews included one-off lookback reviews, numbering 25 by 2005 when EISA was passed.⁵⁸ EISA Section 305, as noted above, required DOE to conduct recurring periodic reviews of consumer products and

⁵¹ 42 U.S.C. §6295(m)(1), §6316(e)(1). For ASHRAE equipment, for which DOE sets standards following recommendations of an engineering society, this became the case with the enactment of the American Energy Manufacturing Technical Corrections Act (P.L. 112-210) in 2012. ASHRAE is the American Society of Heating, Refrigerating, and Air-Conditioning Engineers. For further discussion, see CRS Report R47038, *The Department of Energy’s Appliance and Equipment Standards Program*, by Martin C. Offutt.

⁵² 42 U.S.C. §6295(m)(1), §6313(a). See discussion at 87 *Federal Register* 11651, March 2, 2022.

⁵³ 77 *Federal Register* 28928, May 16, 2012; and 84 *Federal Register* 48006, September 11, 2019. Computer room air conditioners are one possible cooling strategy necessitated by the large quantities of heat generated by computer servers.

⁵⁴ 87 *Federal Register* 12802, March 7, 2022, and 88 *Federal Register* 36217, June 2, 2023.

⁵⁵ Testimony of Daniel Simmons, Assistant Secretary for Energy Efficiency and Renewable Energy, in U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Energy, *Wasted Energy: DOE’s Inaction on Efficiency Standards and Its Impact on Consumers and the Climate*, hearings, 116th Cong., 1st sess., March 7, 2019.

⁵⁶ 42 U.S.C. §6295(o)(1). For ASHRAE equipment, EPCA includes a similar anti-backsliding provision at 42 U.S.C. §6313(a)(6)(B)(iii)(I).

⁵⁷ 42 U.S.C. §6295(m), §6316(a), §6313(a)(6)(B)(iii)(I). The latter applies to ASHRAE equipment in the circumstance where the Secretary sets a more stringent standard than that published by ASHRAE.

⁵⁸ DOE, *Energy Conservation Standards Activities: Report to Congress*, January 31, 2006, p. 34. These reports were later combined with the semiannual implementation reports required under Sections 305 and 321 of the Energy Independence and Security Act of 2007 (EISA 2007; P.L. 110-140).

commercial and industrial equipment.⁵⁹ By 2014, DOE had to address the first cohort of standards that were due for EISA-required recurring periodic reviews.

Congress has taken note of the backlog. In March 2019, the House Energy and Commerce Committee, Subcommittee on Energy, held a hearing after DOE had missed the deadlines for completion of 16 of the periodic reviews, according to one estimate.⁶⁰ The 2021 report to Congress on late rulemakings, the most recent submitted by DOE, indicates 33 rulemakings were late relative to a statutory deadline.⁶¹ Of these, 25 had missed the periodic review deadline under EPCA. The 33 rulemakings amount to roughly half the inventory of standards in DOE's national standards program.

Initial Backlog of Late Rulemakings

Three statutes—the National Appliance Energy Conservation Act of 1987 (P.L. 100-12), the National Appliance Energy Conservation Amendments of 1988 (P.L. 100-357), and the Energy Policy Act of 1992 (EPA92; P.L. 102-486)—require DOE to review specific standards by rulemaking, one time, from three to eight years later. DOE has stated that after EPA92, the backlog of late rulemakings began to accumulate.⁶²

Congress required DOE to make an initial report on late rulemakings per Section 141 of the Energy Policy Act of 2005 (EPA05; P.L. 109-58). In the first such report, DOE noted that, by 1997, it had missed 17 statutory deadlines for issuance of standards, a number that had increased to 25 by 2005.⁶³ Congress further required DOE to issue semiannual reports until the backlog was retired. DOE published the first report in January 2006 and established a schedule by which it planned to retire the backlog.⁶⁴

Lawsuits by the State of California and the Natural Resources Defense Council focused on final rulemakings on energy conservation standards that DOE had completed but did not publish.⁶⁵ Four of the rulemakings accomplishing such reviews had been signed and dated in 2016 but not issued in the *Federal Register* or elsewhere.⁶⁶ A federal court ordered DOE to issue those four final rules,⁶⁷ which DOE then promulgated in January 2020.⁶⁸ In a consent decree in a separate

⁵⁹ The American Energy Manufacturing Technical Corrections Act (P.L. 112-210) clarified the timeline for periodic reviews for certain commercial and industrial equipment standards.

⁶⁰ U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Energy, Memorandum on Hearing, *Wasted Energy: DOE's Inaction on Efficiency Standards and Its Impact on Consumers and the Climate*, hearings, 116th Cong., 1st sess., March 4, 2019; and Appliance Standards Awareness Project, "Missed Deadlines for Appliance Standards," January 2019, https://appliance-standards.org/sites/default/files/Missed_deadlines_as_of_Jan_2019.pdf.

⁶¹ DOE, *Energy Conservation Standards Activities: Report to Congress*, August 2021.

⁶² DOE, *Energy Conservation Standards Activities: Submitted Pursuant to Section 141 of the Energy Policy Act of 2005 and to the Conference Report (109-275) to the FY2006 Energy and Water Development Appropriations Act*, January 2006, p. 33.

⁶³ DOE, *Energy Conservation Standards Activities: Report to Congress*, January 31, 2006, p. 34. These reports were later combined with the semiannual implementation reports required under Sections 305 and 321 of EISA 2007.

⁶⁴ DOE, *Energy Conservation Standards Activities: Report to Congress*, January 31, 2006; EISA 2007 (P.L. 110-140).

⁶⁵ Natural Resources Defense Council v. Perry, No. 18-15380 (9th Cir. 2019); and People of the State of California v. Perry, No. 18-15475 (9th Cir. 2019).

⁶⁶ These four rulemakings included the following products and equipment: portable air conditioners, uninterruptible power supplies, air compressors, and commercial packaged boilers. Their status is explained at DOE, "Energy Conservation Program: Energy Conservation Standards," 85 *Federal Register* 1378, January 10, 2020.

⁶⁷ Pursuant to an order from the U.S. District Court for the Northern District of California in Natural Resources Defense Council v. Perry, No. 17-cv-03404-VC (N.D. Cal. 2017), as affirmed by the U.S. Court of Appeals for the Ninth Circuit in Natural Resources Defense Council v. Perry, No. 18-15380 (9th Cir. 2019).

⁶⁸ DOE, "Energy Conservation Program: Energy Conservation Standards," 85 *Federal Register* 1378, January 10, 2020.

process, DOE agreed to release a further 20 final rules at intervals spread over 2023 and 2024.⁶⁹ Nonetheless, the backlog of rulemakings persists.

Legislation in Recent Congresses

Proposed Changes to the Appliance and Equipment Standards Program

A bill in the 119th Congress, H.R. 4626, the Home Appliance Protection and Affordability Act, as passed by the House, would amend EPCA and, in particular, the criteria to be considered by the Secretary when setting new or revised standards. The House Committee on Energy and Commerce, in H.Rept. 119-470, which accompanied H.R. 4626, “found that DOE has acted beyond the scope of its statutory authority by setting efficiency standards, especially under the Biden-Harris Administration, that do not satisfy these three statutory criteria”—meaning not only the criterion of significant conservation of energy but also the criteria of “economically justified” and “technologically feasible.”⁷⁰

H.R. 4626 passed the House on February 24, 2026. Received in the Senate, the bill was referred to the Senate Committee on Energy and Natural Resources. The various provisions of the bill include, but are not limited to, amendments to allow revocation of standards, require a two-year ex post analysis of new or amended standards, and eliminate the review of standards at every six years contemplating amendment. H.R. 4626 would place a numerical, quantitative requirement on the energy to be saved by a new or amended energy conservation standard.⁷¹ For the costs to the consumer of a new or amended standard, the bill would place requirements on the savings in fuel costs in the first three years, requiring these to exceed the incremental costs associated with the appliance itself. The bill specified the incremental costs to include the costs of installation, maintenance, disposal, and replacement, relative to current such appliances.⁷²

In the 118th Congress, the Hands Off Our Home Appliances Act, H.R. 6192, as passed the House, included provisions similar to those in H.R. 4626 in the 119th Congress. The House Committee on Energy and Commerce, in H.Rept. 118-432, which accompanied H.R. 6192, found that “multiple recently proposed and finalized rules do not save a significant amount of energy and are not cost-effective.” The bill would likewise have amended EPCA to allow revocation of standards, require a two-year ex post analysis of new or amended standards, and eliminate the review of standards at every six years contemplating amendment. The bill would place a numerical, quantitative requirement on the energy to be saved, identical to that in H.R. 4626 in the 119th Congress.⁷³ For the net costs to consumer, H.R. 6192 placed requirements identical to those in H.R. 4626 in the

⁶⁹ Consent Decree, *Natural Resources Defense Council v. Granholm*, No. 20-cv-9127-JMF (S.D.N.Y. September 20, 2022).

⁷⁰ 42 U.S.C. §6295(o)(2), §6316(a).

⁷¹ The bill would amend EPCA Section 325(o) to require the Secretary to consider the energy savings when determining whether a standard is economically justified, specifically to require a standard save either 0.3 quads of energy over 30 years or reduce by 10% the energy use of the appliance.

⁷² The bill would amend EPCA Section 325(o) to require the savings to consumers in energy costs in the first three years to be greater than the incremental costs.

⁷³ The bill would amend EPCA Section 325(o) to require the Secretary to consider the energy savings when determining whether a standard is economically justified, specifically to require a standard save either 0.3 quads of energy over 30 years or reduce by 10% the energy use of the appliance.

119th Congress on how the savings in fuel costs during the first three years must exceed the incremental appliance costs.⁷⁴

In the 117th Congress, the DOE Appliance and Equipment Standards Reform and Consumer Protection Act, H.R. 8402, as introduced, included provisions similar to those in H.R. 4626 in the 119th Congress. Specifically, H.R. 8402 would also have amended EPCA to allow revocation of standards, require a two-year ex post analysis of new or amended standards, and eliminate the review of standards at every six years contemplating amendment. The bill would have placed a numerical, quantitative requirement on the energy to be saved, identical to that in H.R. 4626 in the 119th Congress. For the costs to the consumer, H.R. 8402 (117th Congress) would have placed requirements different from those in either H.R. 4626 in the 119th Congress or H.R. 6192 in the 118th Congress on how the incremental costs of an appliance related to anticipated savings in energy costs, requiring the Secretary to consider only the incremental purchase and installation costs.

Proposed Changes to Administrative Procedure and Rulemakings

The SMART Act of 2022 (S. 2801), in the 117th Congress, and the SMART Act of 2024 (S. 4264), in the 118th Congress, had the goal “to improve the effectiveness of major rules in accomplishing their regulatory objectives by promoting retrospective review, and for other purposes.” Both bills would have required agencies, when publishing a proposed or final major rule, to include a “potential framework for assessing the implemented rule” within an agency-specified time frame, generally “not more than 10 years after the effective date of the major rule” (i.e., a rule anticipated to have \$100 million annual economic impact or greater).⁷⁵ The assessment would have been required to compare the rule’s anticipated and actual benefits and costs. Specifically, the SMART Act of 2022 and the SMART Act of 2024 would have required the agency’s assessment to identify opportunities to modify the rule to better accomplish the regulatory objective and to consider whether changes to the rule would increase the benefits or reduce the burden to society. Neither act would have required an agency to revise the standard after such a finding is made.

Bills on regulatory reform are perennial, and this list is not exhaustive but rather takes up discussion of those bills that have provisions complementary to the EPCA reform bills. There are bills more broadly concerned with regulations of all types. For example, in the 117th Congress, the PROVE IT Act of 2022, H.R. 1920, included a transparency provision requiring the agency to publish cost-benefit analyses within 180 days of a major rule’s effective date. Such bills of general interest to regulatory reform are generally not discussed in this report.

Selected Options for Consideration by Congress

Currently DOE amends standards following requirements of EPCA Section 325. Were Congress to take no action to revise EPCA, the statute would continue to require DOE to conduct periodic reviews and make determinations on whether to revise standards. Within EPCA, DOE determines on a case-by-case basis whether standards should be revised.⁷⁶ If DOE chooses to revise—not a requirement—then the program benefits generally increase as the new more stringent standard

⁷⁴ Incremental appliance costs were to include the costs of installation, maintenance, disposal, and replacement.

⁷⁵ See, for example, DOE, “Energy Conservation Program: Energy Conservation Standards for Residential Clothes Washers,” 88 *Federal Register* 13520, March 3, 2023, at 13617. See also [Reginfo.gov](https://www.reginfo.gov/public/do/eoHistReviewSearch) and the list of “economically significant rules” at <https://www.reginfo.gov/public/do/eoHistReviewSearch>.

⁷⁶ 42 U.S.C. §6295(m)(1), §6313(a). See discussion at 87 *Federal Register* 11651, March 2, 2022.

leads to lower energy consumption. The more stringent standard would remove from the market appliances that had lower efficiency or higher energy consumption than allowed. The stock of appliances would shift to more efficient models as consumers and firms gradually removed the old stock from service and replaced it with newer models. These newer models would comply with the new, more stringent standard. This sequence of assess, revise, and replace is driven by the six-year review requirement of EPCA Section 325(m).⁷⁷

According to one study, the foreseeable amendments to standards, under the current framework of EPCA, would result in annual savings of \$160 per household and annual savings to businesses of \$15 billion cumulatively on a national basis.⁷⁸ The study assumed amendments would occur according to the six-year review trigger of EPCA Section 325(m). The study did not quantify changes to INPV, a measure of impact on manufacturers, or calculate the transition costs of product engineering or changes to manufacturing lines. The benefits would accrue in the period, 2030 to 2050. The study assumed standards would be revised for 49 product categories, the majority of categories in the national standards program.⁷⁹ DOE, as noted, has discretion to choose on a case-by-case basis not to revise a standard if doing so would not satisfy certain statutory criteria, despite the six-year trigger having occurred.⁸⁰

If Congress were to find merit in revising EPCA, Congress could consider options on the statutory construction of “significant conservation of energy” and the timing of periodic reviews and of possible revisions to the standards. The discussion below considers the effects of such actions consistent with a cost-benefit framework in which impacts are monetized and sorted into gains and losses.⁸¹ The discussion also describes the anticipated impacts on DOE’s administration of the national standards program.

Applying a Numerical, Quantitative Threshold for Energy Savings

Congress could consider revising EPCA so that any future new or amended energy efficiency standards would be associated with a minimum level of energy savings. Such a threshold would be a constraint placed on the discretion afforded the Secretary when choosing whether or not to set a standard. Adding a quantitative threshold to the law likely would be more specific than the subjective test of EPCA Section 325(o)(3)(B), which prevents the Secretary from setting a new or revised standard that does not result in “significant conservation of energy.”⁸²

One possible action would be to define significant conservation of energy numerically, in physical units. Were DOE’s estimate of the savings of a new energy conservation standard to fall below the threshold or benchmark, the Secretary would not proceed to a completed amendment.

⁷⁷ For ASHRAE equipment, timing of revisions to the DOE standards generally follows the publication of updates to ASHRAE/IES Standard 90.1. 42 U.S.C. §6313(a)(6). IES is the Illuminating Engineering Society.

⁷⁸ Appliance Standard Awareness Project, *More Savings Ahead: How Updating National Efficiency Standards Would Reduce Costs in Every State*, June 2026, <https://appliance-standards.org/more-savings-ahead-state-analysis>.

⁷⁹ To calculate the impact of the amended standards, the study made assumptions about the numerical, quantitative level of energy efficiency DOE might choose to finalize. Specifically, the study assumed that DOE would revise the standards to the maximum technologically (“max tech”) feasible level. In actuality, when setting revised standards, DOE would consider other statutory factors as well before choosing max tech. For example, the standard would have to be economically justified.

⁸⁰ EPCA §325(o), 42 U.S.C. §6295(o).

⁸¹ Cost-benefit analysis is a tool used for assessing the efficacy of a policy. See, for example, NASEM, *Energy Research at DOE: Was It Worth It?* (National Academies Press, 2021), p. 7; and CRS In Focus IF12058, *Cost-Benefit Analysis in Federal Agency Rulemaking*, by Maeve P. Carey.

⁸² 42 U.S.C. §6295(o)(3)(B).

The practical effect on program execution of an energy savings threshold would be that the Secretary might proceed with fewer rulemakings to revise standards. When following the six-year trigger under such a threshold, DOE might find that at least some of its proposed standards did not meet the test and would not proceed to a final rulemaking and amendment of the current standard. The number of standards released would be dependent on the threshold and its stringency. As discussed earlier,⁸³ CRS analyzed how the previous 0.3-quad over 30 years threshold would have affected the 26 rulemakings that were concluded from 2013 to 2017 and found that 14 would not have satisfied the energy savings threshold.

The House-passed H.R. 4626 (119th Congress) would establish such a threshold. Section 2 of H.R. 4626 would amend Section 325(o)(3) of EPCA to prohibit the Secretary from finding that a new or revised standard is economically justified if the standard did not save at least 0.3 quads of energy over 30 years or save at least 10% of the energy used by the product. Bills in the 118th Congress (the Hands Off Our Home Appliances Act, H.R. 6192) and in the 117th Congress (the DOE Appliance and Equipment Standards Reform and Consumer Protection Act, H.R. 8402) included similar provisions.

Cost-Benefit Gains

Avoids Costs to Manufacturers

By choosing not to issue a revised standard, as would likely occur in some instances because of an energy threshold, DOE would avoid imposing costs on manufacturers. Costs accrue to the manufacturer when required to engineer new products and physically change its production line. The rulemaking documents also measure the long-term impact on industry using INPV, which represents the change in the discounted net cash flow accrued by the manufacturers over a 30-year period. In almost all cases, DOE has estimated that its rulemakings impose such additional costs on industry.⁸⁴

Frees Up DOE Program Resources

In the presence of an energy savings threshold, DOE would likely amend fewer standards as part of the six-year periodic reviews. Fewer amended standards would free up DOE program resources, barring other changes to program funding and execution that might affect those resources. DOE might have more latitude to identify cost-effective opportunities in support of the statutory purpose of EPCA.⁸⁵ For example, DOE studied the possibility of setting minimum energy efficiency standards for overhead transmission conductors following a direction from Congress.⁸⁶ Reallocation of resources might allow DOE to catch up on the rulemaking backlog

⁸³ See the earlier section “Potential Impact of an Energy Savings Threshold.”

⁸⁴ See Figure 6 of CRS Report R47038, *The Department of Energy’s Appliance and Equipment Standards Program*, by Martin C. Offutt.

⁸⁵ These include, for example, reducing growth in energy demand and conserving nonrenewable energy resources. Section 102(b) of NECPA (P.L. 95-619).

⁸⁶ DOE, *Benefits of Establishing Energy Conservation Standard for Overhead Electricity Conductors: Report to Congress*, July 2024. The report followed a direction made in H.Rept. 117-394, p. 130, which was incorporated by reference into the explanatory statement. Mr. Leahy, “Explanatory Statement Submitted by Mr. Leahy, Chair of the Senate Committee on Appropriations, Regarding H.R. 2617, Consolidated Appropriations Act, 2023,” *Congressional Record*, daily edition, December 20, 2022, p. S8286.

that began after enactment of the Energy Policy Act of 1992 (P.L. 102-486) and continues to accrue with the six-year periodic reviews of EPCA Section 325(m).⁸⁷

Cost-Benefit Losses

Forgoes Future Cost Savings to Consumers

Currently, DOE's energy conservation standards are under frequent revision, always in a more stringent direction per the anti-backsliding provision of EPCA.⁸⁸ Such revised standards, issued only if economically justified, are supported by estimates that consumers will save money over the life cycle of an appliance.⁸⁹ Applying the threshold test might cull rules that would have had favorable cost-benefit characteristics, saving a small quantity of energy in absolute terms but at small cost to manufacturers while reducing net costs to consumers.

Missed Energy Savings

Standards that did not pass the energy threshold test still would have saved energy relative to the current standard. For example, DOE's amended standard on ceiling fan light kits, shown in **Figure 1**, was estimated to save 0.049 quads while changing INPV (i.e., cash flow to manufacturers) between -3.7% and -2.8%, which the Secretary judged overall to be economically justified.⁹⁰

Allowing Revocation of Standards

Congress could revise EPCA to afford the Secretary the discretion to evaluate standards for possible revocation. The process could be initiated at a time of the Secretary's discretion, separate from the six-year periodic review, or, upon receipt by the Secretary of a petition. The Secretary could then choose to revoke the current standard and revert to the previous, economically justified standard.⁹¹ EPCA permits periodic review of standards for the purpose of revising standards in a more stringent direction.⁹²

⁸⁷ DOE, *Energy Conservation Standards Activities: Submitted Pursuant to Section 141 of the Energy Policy Act of 2005 and to the Conference Report (109-275) to the FY2006 Energy and Water Development Appropriations Act*, January 2006, p. 33. See discussion above in the section "Late Rulemakings."

⁸⁸ Revising the standard is not a given: EPCA permits the Secretary to determine that no revised standard is necessary if certain criteria would not have been satisfied. 42 U.S.C. §6295(o)(1), §6313(a)(6)(B)(iii)(I).

⁸⁹ EPCA includes seven statutory factors for consideration of economic justification, including, for example, "the savings in operating costs throughout the estimated average life of the covered product in the type (or class) compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the covered products which are likely to result from the imposition of the standard." 42 U.S.C. §6295(o)(2)(B)(i)(II). DOE evaluates this factor in its life-cycle cost analysis. See, for example, discussion at 85 *Federal Register* 1531, January 10, 2020.

⁹⁰ DOE, "Energy Conservation Program: Energy Conservation Standards for Ceiling Fan Light Kits," 81 *Federal Register* 580 at 625-626, January 6, 2016.

⁹¹ In addition to authorizing the Secretary to revert back to the standard issued by the previous final rule, Congress could give the Secretary the option to revert to the most recent statutory standard or to send a message to Congress requesting Congress to revoke, by law, all standards for the covered product or equipment, effectively deregulating it. The three options, if invoked, could reduce the program benefits if manufacturers were to resume offering appliances that had lower energy efficiency. In such cases, the first option would have the smallest impact in reducing program benefits, followed in order by the second and by the third (i.e., revoking the standards entirely). Any of the three options could also result in no change to program benefits if consumers and firms continue to purchase the same mix of appliances as before.

⁹² 42 U.S.C. §6295(n).

The House-passed H.R. 4626 (119th Congress) would allow revocation by the Secretary after acting upon a petition and applying a four-part test to the current standard.⁹³ Bills in the 118th Congress (H.R. 6192, the Hands Off Our Home Appliances Act) and in the 117th Congress (H.R. 8402, the DOE Appliance and Equipment Standards Reform and Consumer Protection Act) included similar provisions.

Cost-Benefit Gains

Better Cost-Benefit Characteristics

The analysis for revocation might find the estimates that had supported the current standard were no longer accurate either due to changes in inputs or in the pattern of purchases by consumers and firms. The Secretary could then choose to revoke the current standard and revert to the previous, economically justified standard.⁹⁴

Cost-Benefit Losses

Possible Missed Energy Savings

As noted above, energy consumption could increase if less efficient products were to reappear on the market, having been otherwise excluded by the now-revoked standard. Alternatively, there may be no impact on energy savings if consumers and firms continue to purchase the same mix of appliances as before.

Removing the Periodic Review Requirement

An option for Congress would be to modify EPCA Section 325(m)(1) to remove the requirement for periodic review. Currently, the Secretary must review an amended standard not later than six years after publication of the previous final rule. When a standard is revised, the incremental change would increase the energy savings. DOE standards continue to be in effect when not revised (i.e., the no-action alternative).

The House-passed H.R. 4626 (119th Congress) would remove the periodic review requirement of EPCA Section 325(m), replacing it with language allowing the Secretary to determine whether and when a standard needs to be amended. Bills in the 118th Congress (H.R. 6192, the Hands Off Our Home Appliances Act) and in the 117th Congress (H.R. 8402, the DOE Appliance and Equipment Standards Reform and Consumer Protection Act) included similar provisions.

Cost-Benefit Gains

Frees Up DOE Program Resources

Decreasing the number of statutory determinations and rulemakings that DOE must conduct periodically—per the current EPCA Section 325(m)(1)(A) and (B)—could free up DOE program resources. Provided these resources were not otherwise reduced or reallocated, DOE might then have more capacity for managing other aspects of the program. For example, DOE might have

⁹³ The full four criteria outlined in Section 2(b) of H.R. 4626 are that such standards “(A) result in additional costs to consumers; (B) do not result in significant conservation of energy or water; (C) are not technologically feasible; and (D) result in such covered product not being commercially available in the United States to all consumers.”

⁹⁴ See footnote 91.

more latitude to address other statutory goals, such as to reduce growth in energy demand or conserve nonrenewable energy resources.⁹⁵ For example, DOE studied the possibility of setting minimum energy efficiency standards for overhead transmission conductors per direction of Congress.⁹⁶ DOE could apply freed-up resources to such studies.

DOE might also address the rulemaking backlog that began after enactment of the Energy Policy Act of 1992 (P.L. 102-486) and continues to accrue with the six-year periodic reviews of EPCA Section 325(m).⁹⁷ DOE review has not met statutory deadlines and court-ordered timetables. Further benefits of retiring the backlog would be to allow more resources to be devoted to conducting future rulemakings in a more timely fashion, especially those unrelated to periodic review. DOE could rank the estimated energy savings of amended standards and choose to conduct rulemakings that would result in the most energy savings.⁹⁸ DOE could also study possible new categories of regulated products and equipment for inclusion in future regulations.⁹⁹

Avoids Costs to Manufacturers

By choosing not to issue a revised standard, DOE would avoid imposing costs on manufacturers. Costs accrue when a manufacturer has to engineer new products and physically change its production line. The rulemaking documents measure the long-term impact on industry using INPV, which represents the change in the discounted net cash flow accrued by the manufacturers over a 30-year period. In almost all cases, DOE has estimated that its rulemakings impose such additional costs on industry.¹⁰⁰

Cost-Benefit Losses

Forgoes Energy Savings

Standards under the current statute become increasingly stringent with time. Forgoing future revisions would avoid this incremental stringency and fail to capture improvements in cost and performance, including lowered energy consumption.

Mandating Ex Post Regulatory Review

Another option Congress could consider would be to require DOE to redo the analysis supporting an amendment to a standard some years after. The review of regulations a few years after their publication, known as *ex post review*, is advocated by certain groups.¹⁰¹ Reviews of the DOE

⁹⁵ Section 102(b) of NECPA (P.L. 95-619).

⁹⁶ DOE, *Benefits of Establishing Energy Conservation Standard for Overhead Electricity Conductors: Report to Congress*, July 2024.

⁹⁷ DOE, *Energy Conservation Standards Activities: Submitted Pursuant to Section 141 of the Energy Policy Act of 2005 and to the Conference Report (109-275) to the FY2006 Energy and Water Development Appropriations Act*, January 2006, p. 33.

⁹⁸ DOE conducted such an exercise in 2002. DOE, *Appliance Standards Program: The FY2003 Priority-Setting Summary Report and Actions Proposed*, August 22, 2002, https://www.energy.gov/sites/default/files/2013/12/f5/fy03_priority_setting_rpt.pdf.

⁹⁹ The topic of late rulemakings is discussed earlier in the report.

¹⁰⁰ See Figure 6 of CRS Report R47038, *The Department of Energy's Appliance and Equipment Standards Program*, by Martin C. Offutt.

¹⁰¹ See, for example, NASEM, *Review of Methods*; and Benjamin S. Kay et al., "How to Design Rules for Ex-Post Evaluation," Board of Governors of the Federal Reserve, FEDS Notes, June 26, 2025, <https://www.federalreserve.gov/econres/notes/feds-notes/how-to-design-rules-for-ex-post-evaluation-20250626.html>.

program have noted the difficulty of predicting future technology and trends when conducting ex ante reviews, which differ from ex post reviews in their timing.¹⁰² DOE ex ante reviews look 30 years into the future using energy-economic models with assumptions on consumer behavior regarding stock turnover and with uncertain input variables, such as future energy prices. Variation in these assumptions could alter the evaluation of whether the standard is economically justified. For example, DOE has performed ex post analyses of standards that have led to revised estimates of national energy savings. In one case, DOE's 2021 notice on industrial pumps revised DOE's earlier estimate of the energy to be saved by the most-efficient rule option: The new estimate was 0.25 quads over 30 years, a decrease from its 2016 analysis, which had found 0.38 quads over 30 years.¹⁰³ An ex post review might similarly lead to revised estimates. Congress could specify the timing of how long DOE should wait after it issues an amended rule before conducting such a review.

Under the current EPCA, the Secretary could choose to revise the standards to a new level that would satisfy the statutory criteria—technologically feasible, economically justified—while observing the EPCA requirements of not setting an amended standard that did not achieve significant conservation of energy.¹⁰⁴ Were the above options on revocation to be implemented, the Secretary would have the discretion to start an assessment to possibly revoke the standard. The discussion of impacts below assumes the Secretary chooses to revise the standard. The impacts of revocation are discussed above in “Allowing Revocation of Standards.”

Legislation

Legislation in the 117th, 118th, and 119th Congresses has included provisions that would institute ex post review: in the 117th Congress, the DOE Appliance and Equipment Standards Reform and Consumer Protection Act (H.R. 8402); in the 118th Congress, the Hands Off Our Home Appliances Act (H.R. 6192); and in the 119th Congress, H.R. 4626. All would include a two-year lookback provision.

Two bills—the SMART Act of 2022 (S. 2801, 117th Congress) and the SMART Act of 2024 (S. 4264, 118th Congress)—would have required an ex post assessment of the anticipated benefits and costs of a standard generally within 10 years of the effective date, assuming it was a major rule with anticipated annual economic impact of \$100 million.¹⁰⁵

Some legislation would require the agencies (or DOE in the case of H.R. 4626) to make changes triggered by the outcome of the ex post review. For example, in a new Section 325(o)(3)(G), “Regulatory Review,” that would be added by H.R. 4626 to EPCA, the Secretary would be required to review recently promulgated standards not later than two years after these are issued, in part to evaluate “whether the regulatory impact analysis for such rule remains accurate.” The proposed Section 325(o)(3)(G) would require the Secretary to revoke such standard if it is found

¹⁰² NASEM, *Review of Methods*.

¹⁰³ DOE, “Energy Conservation Program: Energy Conservation Standards for Certain Commercial and Industrial Equipment; Early Assessment Review; Commercial and Industrial Pumps; Request for Information,” 86 *Federal Register* 43433, August 9, 2021. DOE notes this was due to changed information about the energy efficiency of the currently available models on the market and their respective energy efficiencies.

¹⁰⁴ EPCA §325(m), (o), and (p); 42 U.S.C. §6295(m), (o), and (p).

¹⁰⁵ For an example of a DOE standard anticipated to have such an economic impact in at least one year, see DOE, “Energy Conservation Program: Energy Conservation Standards for Residential Clothes Washers,” 88 *Federal Register* 13520, March 3, 2023, at 13617. See also Reginfo.gov and the list of “economically significant rules” at <https://www.reginfo.gov/public/do/eoHistReviewSearch>.

to be not technologically feasible or economically justified. The other bills—H.R. 8402 in the 118th Congress and H.R. 6192 in the 119th Congress—had similar provisions.

Cost-Benefit Gains

Were the Secretary to determine a standard were in need of revision, following an ex post assessment, then certain benefits might be anticipated. Although the baseline case of allowing the standards to continue as written will continue to deliver benefits and costs, an amended, more stringent standard might do so incrementally more.

Cost Savings to Consumers and Increased National Energy Savings

If the ex post review leads DOE to revise the standard, consumers would benefit from reduced energy bills that in most cases lead to lower net costs of ownership of the appliance.¹⁰⁶ The amended standard, because of the anti-backsliding provision of EPCA Section 325(o), would lead to energy savings and thus lower expenditures on fuel costs. Depending on the costs of fuel (e.g., natural gas, heating oil, or electricity), an individual consumer's and firm's savings on fuel costs might be greater than the incremental purchase cost and any maintenance costs, over the life of the appliance, resulting in an overall net savings.

Energy Savings

Standards under the current statute become increasingly stringent with successive revisions. An amended standard would lead to energy savings for the consumer. As with other DOE estimates of benefits, the national energy savings would be measured over the 30-year period beginning with the compliance date of the amended standard, usually either three or five years after publication. If the ex post review leads DOE to revise the standard, the national energy savings would increase as more efficient appliances penetrate the market and are placed in service.

Cost-Benefit Losses

Costs Incurred by Manufacturers

Were the Secretary to choose to revise a standard, following an ex post assessment, then certain changes to costs might be anticipated. The new standard could result in a further incremental decrease in cash flows, one of the measures of economic impact used by DOE.¹⁰⁷ In addition, costs accrue when a manufacturer has to engineer new products and physically change its production line.

Modifying Periodic Review Requirement to Allow Revocation

Another option is that Congress could maintain the periodic review requirement of EPCA Section 325(m)(1) but give the Secretary the option of revoking the standard during the six-year periodic review.

¹⁰⁶ See, for example, DOE's final rule on dishwashers, which showed that 19% of consumers would see increased cost of ownership for standard-sized dishwashers. 77 *Federal Register* 31956 (May 30, 2012).

¹⁰⁷ The rulemaking documents measure the long-term impact on industry using INPV, which represents the change in the discounted net cash flow accrued by the manufacturers over a 30-year period. DOE usually expresses the changes in INPV as a percentage.

Congress could specify the criteria to determine revocation to include existing statutory criteria, such as not being economically justified, or further define the “economically justified” criterion, such as by adding a minimum energy savings criterion. Other criteria not already in statute could be considered as well. For example, DOE recently proposed its own two-part energy threshold test.¹⁰⁸

Cost-Benefit Gains

Reverts to Standard with Better Cost-Benefit Characteristics

The Secretary may find that the current standard is not economically justified. The analysis for revocation might find the estimates that had supported the current standard were no longer accurate either due to changes in inputs or in the pattern of purchases by consumers and firms. The Secretary would be able to choose to revoke the current standard and revert to the previous, economically justified standard.¹⁰⁹

Cost-Benefit Losses

Possible Missed Energy Savings

Following revocation, energy consumption could increase if less efficient products were to reappear on the market, having been until now excluded by the now-revoked standard. Alternatively, there may be no impact on energy savings if consumers and firms continue to purchase the same mix of appliances as before.

Forgoes Future Cost Savings to Consumers

Currently, DOE’s energy conservation standards are under frequent revision, which, given the anti-backsliding provision, means standards can become more stringent frequently.¹¹⁰ Such revised standards, issued only if economically justified, are supported by estimates that consumers will save money over the life cycle of an appliance.¹¹¹

Summary of Selected Options for Congress

Table 2 summarizes the practical effects of the selected options on DOE’s administration of the inventory of more than 60 categories of energy conservation standards. The table describes the effects on DOE’s responsibilities in carrying out EPCA. These include changes to periodic reviews and additions of any new standards. **Table 3** recapitulates in abbreviated fashion the options described in more detail in the previous section.

¹⁰⁸ The first part of the test would deem a 10% reduction in energy use over 30 years to be “significant energy savings.” A proposed standard that failed this first part could still qualify under a secondary standard, which is a minimum of 2 quads energy savings over 30 years. DOE, “Energy Conservation Program: Procedures, Interpretations, and Policies for Consideration of New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Certain Commercial/Industrial Equipment,” 91 *Federal Register* 42049, July 7, 2026.

¹⁰⁹ See footnote 91.

¹¹⁰ Revising the standard is not a given: EPCA permits the Secretary to determine that no revised standard is necessary if certain criteria would not have been satisfied. 42 U.S.C. §6295(o)(1) and 42 U.S.C. §6313(a)(6)(B)(iii)(I).

¹¹¹ See footnote 89.

Table 2. Potential Effects of Selected EPCA Reform Options

Option	Remove Standards from Current Inventory	Avoid Some Future Additions to Inventory	Conduct Fewer Rulemakings in Future
Applying a numerical, quantitative threshold for energy savings	—	X ^a	X
Allowing revocation of standards ^b	X	—	—
Removing the periodic review requirement ^b	—	—	X
Mandating ex post regulatory review	—	—	X ^c
Modifying periodic review requirement to allow revocation	X	—	—

Source: CRS analysis.

Note: EPCA = Energy Policy and Conservation Act (P.L. 94-163), as amended (42 U.S.C. §§6291-6317).

- a. A smaller inventory of standards (center column) could lead indirectly to fewer rulemakings in the future (right-most column) due to fewer six-year periodic reviews of EPCA Section 325(m), 42 U.S.C. §6295(m).
- b. Similar provisions appear in H.R. 4626 (119th Congress) and appeared in H.R. 6192 (118th Congress) and H.R. 8402 (117th Congress).
- c. Assuming the ex post review replaced or supplanted the recurring, periodic reviews, fewer rulemakings might be anticipated.

Table 3. Summary of Selected Potential EPCA Reform Options

Potential Option	Description of Potential Option
Applying a numerical, quantitative threshold for energy savings ^a	Specify an amount of energy a potential amended standard must save in order to be finalized as an amendment to the standard.
Allowing revocation of standards	On receipt of petition, Secretary has discretion to choose to evaluate the standard against statutory criteria and potentially revoke. In a variant of this option, Secretary could decide, at own timing, to conduct the evaluation and, depending on findings, revoke the standard.
Removing the periodic review requirement	Abolish the six-year trigger that requires DOE to consider changing a standard and possibly amend if the findings justify.
Mandating ex post regulatory review	Require Secretary to repeat the analysis of recent rulemakings using real-world data and other updated inputs. The timing of evaluation could be specified by Congress. Possibly revise standard to be more stringent based on findings, as currently allowed under EPCA.
Modifying periodic review requirement to allow revocation	Keep the six-year trigger but enlarge its scope so Secretary can revoke as well as revise.

Source: CRS analysis.

Notes: EPCA = Energy Policy and Conservation Act (P.L. 94-163), as amended (42 U.S.C. §§6291-6317); Secretary = Secretary of Energy.

- a. Section 2(c) of H.R. 4626 in the 119th Congress would amend a different requirement of EPCA (that the standard be “economically justified,” Section 325(o)(B)(i)) but would have a similar effect, as would have H.R. 8402 in the 117th Congress and H.R. 6192 in the 118th Congress.

Conclusion

DOE’s national standards program regulates the minimum energy efficiency or maximum energy consumption of common appliances and certain industrial equipment. In authorizing DOE to develop and implement the program, Congress required DOE to study the regulatory impact and only issue or amend standards meeting certain criteria. Congress could choose to refine these criteria—in particular, criteria on economic impact and energy savings—to, in part, address the frequency with which DOE amends the standards. Congress could, at its discretion, change these criteria through legislation and likely change the costs to manufacturers that make the appliances or industrial equipment, and alter the cost savings and energy savings to consumers and firms. Congress could also decide to amend the current requirement for DOE to periodically review and amend standards and could consider allowing DOE to revoke standards according to specified criteria. These changes imply trade-offs Congress may wish to consider.

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