TO ESTABLISH A COMPLIANCE DEADLINE OF MAY 15, 2023, FOR STEP 2 EMISSIONS STANDARDS FOR NEW RESIDENTIAL WOOD HEATERS, NEW RESIDENTIAL HYDRONIC HEATERS, AND FORCED-AIR FURNACES

DECEMBER 6, 2018.—Ordered to be printed

Mr. BARRASSO, from the Committee on Environment and Public Works, submitted the following

R E P O R T

[to accompany S. 1857]

together with

MINORITY VIEWS

[Including cost estimate of the Congressional Budget Office]

The Committee on Environment and Public Works, to which was referred the bill (S. 1857) to establish a compliance deadline of May 15, 2023, for Step 2 emissions standards for new residential wood heaters, new residential hydronic heaters, and forced-air furnaces, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

GENERAL STATEMENT AND BACKGROUND

S. 1857 is a bipartisan bill that delays the compliance date for Step 2 of the EPA’s 2015 New Source Performance Standards (NSPS)\(^1\) for New Residential Wood Heaters (i.e., woodstoves and pellet stoves) and New Residential Hydronic Heaters and Forced-Air Furnaces for three years—from May 15, 2020 to May 15, 2023.

Step 1 of the NSPS is now in effect. Step 2 would impose even stricter limits. Prior to Step 1 going into effect, the federal emissions requirements for wood and pellet stoves had not been changed since 1988, and hydronic heaters and forced-air furnaces had never been subject to federal standards.


89–010
Step 1 of the NSPS is already leading to higher appliance prices and lower product availability. For example, one furnace retailer in West Virginia has faced diminishing demand as prices increase. In 2015, this retailer sold 42 appliances. In 2016, the retailer sold 11. In 2017, as of November 2017, only eight were sold. This trend will continue to worsen without relief. The retail cost of a new furnace doubled in price since Step 1 became effective, with the retail cost rising from $1,000 to $2,000.

The industry is working, and has been working, to comply with the next phase of the 2015 NSPS—the Step 2 regulations—before they go into effect. There is simply not enough time and lab capacity to complete the effort within the original timeline. Part of the problem is that there are currently only five test labs in North America authorized to certify all wood and pellet stoves, hydronic heaters, and wood furnaces. Only a fraction of Step 1-certified models have been certified for Step 2 as of July 2018: 91 of the 571 currently-certified Step 1 models of wood and pellet stoves, 11 of the 113 hydronic heaters, and one of 16 forced-air furnaces.

Existing inventories of these products can remain with retailers for years. The NSPS prohibits the sale of new appliances that are not compliant with Step 2 as of May 15, 2020. This looming cutoff point disincentivizes the continued production and offering for sale of new appliances subject to modernized emission standards. If such appliances are not sold by May 15, 2020, they become a sunk cost for the retailers who purchased them for retail sale.

This situation has negative economic and environmental consequences for the millions of Americans who rely on wood heating as a critical heating source. Approximately 11.5 million households rely on wood as a primary or secondary heating source. A significant share of purchasers of heaters are from lower income households and use these wood heating appliances to reduce their energy bills. Faced with fewer choices and higher prices, it is likely consumers will extend the lives of their older, more emissive appliances—many of which may be decades-old and not certified to be compliant with even Step 1. Without enactment of S. 1857, sales of new, modernized appliances will continue to diminish and higher-emitting appliances that are not certified to be compliant with the NSPS will stay in use.

The EPA itself would also benefit from a delay, as the agency has yet to codify the needed cord wood reference test method and make a best system of emission reduction (BSER) determination based on that test method. EPA is now years behind in that process, which the agency had planned to complete shortly after its proposal of the NSPS in 2014. Cord wood (i.e., firewood) is broadly recognized as

---

1. Legislative Hearing on S. 1857, S. 203, S. 839 and S. 1934 Before the S. Comm. on Env’t & Public Works Subcomm. on Clean Air & Nuclear Safety (Nov. 14, 2017) (statement of Paul Williams, Vice President of Business Intelligence, United States Stove Company) (hereinafter Williams Testimony).
5. 80 Fed. Reg. at 13678.
the best test fuel for ensuring that tested emission levels better reflect how heaters are used by Americans in their homes. Use of crib wood (i.e., two-by-fours) for tuning heaters “often results in poorer performance in homes.” Before Step 2 compliance is required, the cord wood test method and BSER determination should be finalized and available for use.

A substitute amendment offered by Senator Carper would have provided a one-year sell-through for only Step 1 models manufactured before May 15, 2020 and would have prevented EPA from making adjustments to the NSPS regulations in any way—even if slight changes are needed to make them workable. That amendment would also have authorized a new EPA-administered buyback program for wood heaters. The amendment would not have provided needed relief.

OBJECTIVES OF THE LEGISLATION

The three-year delay provided by S. 1857 provides relief for retailers to sell their existing inventory while they await availability of new models compliant with the revised NSPS. The deadline extension also is vital to ensuring that the manufacturing industry has time to develop, engineer, certify, manufacture, and deliver updated woodstoves and furnaces.

SECTION-BY-SECTION ANALYSIS

Section 1. Step 2 Compliance deadline for new residential wood heaters, new residential hydronic heaters, and forced-air furnaces

Sets a compliance deadline date with respect to the final rule entitled “Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces,” at May 15, 2023. States that the Administrator of the EPA shall finalize technical and conforming changes to documents as may be necessary.

LEGISLATIVE HISTORY

On September 26, 2017, Senator Capito introduced S. 1857, a bill to establish a compliance deadline of May 15, 2023, for Step 2 emissions standards for new residential wood heaters, new residential hydronic heaters, and forced-air furnaces, with Senators McCaskill, Manchin, and Shelby. Senators Klobuchar, Wicker, Inhofe, and Tester are also cosponsors. The bill was referred to the Senate Committee on Environment and Public Works.


---

7 Id.
9 The language of H.R. 453 was added to H.R. 1917, the Blocking Regulatory Interference from Closing Kilns Act of 2017, for floor consideration and passage.
A legislative hearing was held on November 14, 2017 in the Environment and Public Works Subcommittee on Clean Air and Nuclear Safety.

ROLLCALL VOTES

On September 18, 2018, the Committee on Environment and Public Works met to consider S. 1857. The bill was ordered favorably reported by a roll call vote of 11 ayes and 10 nays.

Amendments rejected

Carper #1—A substitute amendment to codify residential wood heater emission standards and to establish a federal grant program for wood heater emissions reductions failed by a roll call vote of 10 ayes and 11 nays (Senators Booker, Cardin, Carper, Duckworth, Gillibrand, Markey, Merkley, Sanders, Van Hollen, and Whitehouse voted aye. Senators Barrasso, Boozman, Capito, Ernst, Fischer, Inhofe, Moran, Rounds, Shelby, Sullivan, and Wicker voted nay).

Final Committee vote to report

S. 1857 was ordered favorably reported by a roll call vote of 11 ayes and 10 nays (Senators Barrasso, Boozman, Capito, Ernst, Fischer, Inhofe, Moran, Rounds, Shelby, Sullivan, and Wicker voted aye. Senators Booker, Cardin, Carper, Duckworth, Gillibrand, Markey, Merkley, Sanders, Van Hollen, and Whitehouse voted nay).

REGULATORY IMPACT STATEMENT

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the committee makes evaluation of the regulatory impact of the reported bill.

The bill does not create any additional regulatory burdens, nor will it cause any adverse impact on the personal privacy of individuals.

MANDATES ASSESSMENT

In compliance with the Unfunded Mandates Reform Act of 1995 (Public Law 104–4), the committee finds that S. 1857 would not impose Federal intergovernmental unfunded mandates on State, local, or tribal governments. The bill contains no new private-sector mandates as defined in UMRA.

COST OF LEGISLATION

Section 403 of the Congressional Budget and Impoundment Control Act requires that a statement of the cost of the reported bill, prepared by the Congressional Budget Office, be included in the report. That statement follows:
Hon. JOHN BARRASO,
Chairman, Committee on Environment and Public Works,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 1857, a bill to establish a compliance deadline of May 15, 2023, for Step 2 emissions standards for new residential wood heaters, new residential hydronic heaters, and forced-air furnaces.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Jon Sperl.

Sincerely,

KEITH HALL,
Director.

Enclosure.

S. 1857—A bill to establish a compliance deadline of May 15, 2023, for Step 2 emissions standards for new residential wood heaters, new residential hydronic heaters, and forced-air furnaces

S. 1857 would delay the deadline for industry to comply with the Environmental Protection Agency’s (EPA’s) performance standards for new residential wood heaters, hydronic heaters, and forced-air furnaces from 2020 until 2023.

Using information from EPA about its current activities related to implementing the regulations, CBO estimates that enacting the legislation would not have a significant effect on the agency’s workload or spending. CBO expects that extending the deadline would result in more resources being spent on assistance with compliance than on enforcement.

Enacting S. 1857 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply.

CBO estimates that enacting S. 1857 would not increase net direct spending or on-budget deficits in any of the four consecutive 10-year periods beginning in 2029.

S. 1857 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act.

On December 21, 2017, CBO transmitted a cost estimate for H.R. 453, the Relief from New Source Performance Standards Act of 2017, as ordered reported by the House Committee on Energy and Commerce on December 6, 2017. The two pieces of legislation are similar, and CBO’s estimates of their budgetary effects are the same.

The CBO staff contact for this estimate is Jon Sperl. The estimate was reviewed by H. Samuel Papenfuss, Deputy Assistant Director for Budget Analysis.
MINORITY VIEWS OF SENATORS CARPER, CARDIN, WHITEHOUSE, GILLIBRAND, BOOKER, MARKEY, AND VAN HOLLEN

S. 1857 would delay achievable Clean Air Act emission standards for new residential wood heaters, new residential hydronic heaters, and forced-air furnaces for three years. Such a delay would result in an increase in deadly air pollution, which will negatively impact the health of millions of Americans, and punish manufacturers that have already made investments to manufacture wood heaters that meet the standards.

Based on data from the U.S. Census Bureau, an estimated 11.5 million homes use wood as a primary or secondary heat source. 58% of those homes are found in rural areas. Residential wood heaters (i.e., woodstoves, pellet stoves and wood furnaces) often have a long life-span, some lasting more than fifty years. Due to the long lifespan, industry estimates that 6 million residential wood heaters in operation today do not meet 1988 Environmental Protection Agency (EPA) Clean Air Act emission standards, much less the emissions standards implemented in 2015.1

Collectively, older residential wood heaters are a major source of air pollution in the United States, especially in rural areas. According to EPA, smoke from old, inefficient residential wood heaters can produce a deadly mix of particulate matter (PM), carbon monoxide, volatile organic compounds (which contributes to ozone), black carbon (which contributes to climate change) and air toxics (which includes benzene and formaldehyde).2 This pollution builds up inside and outside the home, triggering asthma attacks and causing lung damage, cancer and other significant health problems, including death. EPA estimates nationally residential wood heaters emit hundreds of thousands of tons of PM annually and account for 44% of all polycyclic organic matter emissions, nearly 25% of all area source air toxics cancer risks and 15% of non-cancer respiratory effects.3 Compared to other sources of air pollution, residential wood heaters emit five times more PM pollution than the U.S. petroleum refineries, cement manufacturers and pulp and paper plants combined.4 EPA has also found that old, inefficient residential wood heaters are causing some areas in the country—like Fairbanks, Alaska, Tacoma, Washington and Keene, New Hampshire—to be in, or close to, nonattainment for EPA’s national ambient air quality standards (NAAQS) for PM.5 Fortunately, new residential wood heaters made and sold in the U.S. are dramati-
cally cleaner and more energy efficient than older heaters. This means using the latest in residential wood heater technology results in less pollution, less fuel needed and lower costs for consumers.

On February 3, 2015, EPA issued Clean Air Act New Source Performance Standards (NSPS) for New Residential Wood Heaters and New Residential Hydronic Heaters and Forced-Air Furnaces (hereafter called the “2015 Wood Heater NSPS”). Set to be phased-in over five years, the 2015 Wood Heater NSPS updated the PM emissions limits for woodstoves and set the first standards for several other types of wood heaters, such as pellet stoves, indoor and outdoor wood-fired hydronic heaters, wood-burning forced-air furnaces; and single burn-rate stoves. The 2015 Wood Heater NSPS only applies to wood heaters being manufactured and sold, not to wood heaters already in homes. Wood-burning fireplaces are also excluded from regulation.

The 2015 Wood Heater NSPS Step 1 emission reductions for most wood heater manufacturers went into effect on May 15, 2015. At the time of implementation, over 85% of the wood heaters on the market required to meet Step 1 met the emission standards. Retailers were able to continue to sell the few residential wood heaters that did not meet Step 1 for an additional eight months until December 31, 2015. The 2015 Wood Heater NSPS Step 2 emission reductions go into effect for manufacturers and retailers on May 15, 2020. EPA estimated in total, these emission standards will get an estimated 70% reduction in PM and VOC emissions and 62% in carbon monoxide. EPA estimated the health benefits from these pollution reductions to be up to $7.6 billion and costs to industry estimated to be $46 million.

During the public comment period for the 2015 Wood Heater NSPS, EPA received an estimated 1,300 public comments. Overwhelmingly, state and local governments commented on the need for federal residential wood heater emission standards, and many commented that the Step 2 standards should be implemented at a faster rate than the five year timeline. The following are a few examples of these comments. Environmental agency directors from Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin joined together in a letter to EPA stating, “an update to the NSPS for Residential Wood Burning Devices is long overdue.” Wisconsin’s Air Director would later comment that residential wood heaters represented “32% of Wisconsin’s total PM$_{2.5}$ emissions” and “[R]eductions in PM$_{2.5}$ emissions from wood burning devices would have a positive impact on Wisconsin’s ability to maintain a recently-achieved redesignation of the 2006 24-hour fine particle standard as well as continue improving air quality in the remainder of the state.”

---

6 80 FR 13671.
7 Final Rule RIA.
8 Final Rule RIA.
9 CRS Wood Heater Regulations Report.
commented that it, “strongly supports EPA’s proposed rule” and that “Oregon has at least two nonattainment areas and many other areas close to violating the PM$_{2.5}$ standard, primarily due to woodstove smoke.”

The Missoula City-County Health Department stated that, “[W]ood smoke from residential wood heating is the single largest contributor to the high PM$_{2.5}$ concentrations in western Montana and Missoula County and revising the current NSPS for wood stoves is critically needed for Missoula County to meet and maintain PM$_{2.5}$ ambient concentrations below the National Ambient Air Quality Standards . . . . [W]e question whether five years, as contemplated under the preferred option, is too long given that the proposed final standards, based on BSER, are already being met by top industry performers, and urge that the second, tighter phase of standards be accelerated where practicable.”

The Connecticut Department of Energy and Environmental Protection echoed Missoula City-County’s comments, stating that wood smoke greatly contributes to Connecticut’s air quality concerns and, “we question whether a compliance window of five years is necessary given that the proposed final standards are now met by top industry performers.”

And finally, the National Association of Clean Air Agencies (NACAA), which represents air pollution control agencies in 40 states, the District of Columbia, 116 metropolitan areas and four territories, commented several times that, “[N]ACAA welcomes this proposal . . . . [R]esidential wood combustion is extremely difficult to regulate at the state level because the devices are installed and operated in private homes and consumers are able to purchase wood heaters and stoves outside their own state (which could enable a consumer to purchase a device that does not meet the standards of his state of residence). We cannot overstate the importance of federal standards for these sources. In the absence of strong new federal standards, states and localities will have no choice but to pursue or build upon their own regulatory programs in order to attain and maintain NAAQS and/or meet other clean air goals . . . . [N]ACAA favors EPA’s preferred option of a two-step approach and, further, urges that EPA accelerate implementation of the second, tighter phase of standards where practicable.”

Since the 2015 Wood Heater NSPS was implemented, states and local communities still suffer from air pollution from residential wood heaters and are depending on the reductions from Step 2 to help meet or maintain attainment for PM$_{2.5}$ NAAQS. Many states

---


have included the expected pollution reductions from the 2015 Wood Heater NSPS in their State Implementation Plans and some states—like Colorado and Vermont—have taken the extra step of adopting the 2015 Wood Heater NSPS into state law. At the same time, there are over 200 different models of wood heaters that are already meeting Step 2 emission requirements and an estimated twenty states, including Alaska, Vermont and Iowa that have some type of residential wood heater change-out program to help address the legacy pollution concerns from older, inefficient wood heaters.17 States have told Minority staff that these change out programs have been highly successful, however, state funds cannot keep up with demand.

S. 1857 proposes a delay in the compliance date of Step 2 of the 2015 Wood Heater NSPS from May 15, 2020 to May 15, 2023. Because wood heaters have a long lifespan, a three year delay in Step 2 will result in an increase in air pollution that will be compounded over decades. The Northeast States for Coordinated Air Use Management (NESCAUM)—501(c)(3) nonprofit association of air quality agencies in the Northeast—estimates that if S. 1857 became law it would result in an additional 2,500 tons of PM emitted annually or 50,000 tons over twenty years. This additional PM pollution will result in up to 280 additional premature deaths per year and a loss of up to $2.3 billion annually in foregone monetized public health benefits from increased premature deaths, asthma attacks, lost work days, and other effects.18

This additional air pollution has stakeholders concerned that enacting S. 1857 would make it much more difficult for many states to achieve clean air health standards and would have an effect on public health for decades to come, especially those living in rural America. State agency organizations—like the Western Governors Association, NESCAUM and NACAA—have publically stated they are opposed to delaying the 2015 Wood Heater NSPS. NACAA summed up their opposition to S. 1857 with the following statement, “[U]nshort, the three-year extension to the Step 2 emission standards sought by S. 1857 is unnecessary and would adversely impact public health and the environment and undermine clean air efforts in certain states and local areas as well as harm the bottom line for most manufactures that have already taken steps to comply.”19 Twenty other environmental and health groups have also expressed their opposition to S. 1857, with health groups stating that “[T]he (wood heater air pollution) problem would not end in three years, unfortunately: due to the long lives of these devices, they would continue to spew toxic pollution into the air in their homes and neighborhoods for decades.”20

---

18 See Northeast States for Coordinated Air Use Management (NESCAUM) letter to EPW staff, “NESCAUM Analysis on 3 year NSPS Residential Wood Heating Extension,” (December 18, 2017).
19 NACAA EPW Letter.
20 See letter opposed to S. 1857 from Allergy & Asthma Network, Alliance of Nurses for Healthy Environments, American Lung Association, American Public Health Association, American Thoracic Society, Asthma and Allergy Foundation of America, Center for Climate Change and Health, Environment and Human Health, Inc., Health Care Without Harm, Trust for Amer-
We share the concerns of states, public health and environmental groups and oppose S. 1857. We believe as written, S. 1857 ignores the plight of states and communities suffering from residential wood heater pollution and will have long-term negative effects on public health for our constituents and future generations. Instead of a blanket three year delay, during Committee markup of S. 1857, Senator Carper offered what we believe to be a common sense compromise proposal that would address some of the industry's concerns, while still maintaining critical emissions standards to protect public health.

Senator Carper's amendment to S. 1857 would have accomplished three things. First, it would have reduced regulatory burden for residential wood retailers and manufacturers. It would have done so by allowing retailers one full year to sell Step 1 products after the May 15, 2020 deadline and allowing manufacturers to waive the thirty-day notice comment period for testing as long as testing data could be securely stored for EPA to analyze in the future. Second, the amendment would have codified the emission standards in the 2015 Wood Heater NSPS. Third, the amendment would have established a $75 million annual voluntary residential wood heater change out program for five years within EPA called the Wood Heater Emissions Reduction Act (WHERA) to incentivize the removal and replacement of old, inefficient residential wood heaters.

WHERA mimics the successful Diesel Emissions Reduction Act (DERA) and residential wood heater programs already implemented in twenty states. WHERA allows for states, territories, regional and local air quality agencies and Indian tribes to compete for EPA dollars to run programs that work for their communities with the goals of scraping or recycling old, dirty wood heaters; and replacing old wood heaters with new, efficient, clean burning and properly installed heaters that at least meet EPA's Step 2 wood heater emission standards. The language also requires EPA to ensure rural communities are fairly represented in funding allocations and that Indian tribes receive at least 4% of funding.

We believe the WHERA program will have the most benefits for public health and wood heater consumers. According to EPA, replacing one dirty inefficient wood heater is equivalent to taking five dirty diesel engines off the road and the monetized public health benefits from replacing the nation's old, inefficient residential wood heaters would be up to $126 billion per year. In addition to cleaner air, homeowners that replace inefficient wood heaters with more efficient heaters also save money in reduced annual heating costs. Industry and EPA estimate that the newest residential wood heaters use about a third of wood compared to older heaters, saving consumers 20 to 40 percent in heating costs. The Hearth, Patio &
Barbecue Association—an association representing North American manufacturers, retailers, distributors, representatives of residential wood heaters—issued a study reviewing a similar residential wood change out program in Montana and found that, “[T]hose who upgraded to an EPA-certified model found wood use cut by a third, effectively saving them time and money, while significantly lowering particulate emissions both inside and outside their homes.” The study went on to conclude that, “a changeout (program for wood stoves) is one of the most cost-effective methods of reducing fine particulates, and an upgrade to EPA-certified wood stoves offers homeowners ancillary safety and efficiency benefits.”

We couldn’t agree more.

We also believe WHERA supports retailers and manufacturers with the transition to cleaner, more efficient residential wood heaters better than the underlying bill. WHERA incentivizes homeowners to buy the best available residential wood heater products—when they might not otherwise do so—giving financial incentives for retailers and manufacturers to sell and make the best products. Overall, the residential wood heater industry has been supportive of such change out programs at the state and local level.

An early version of the proposed WHERA program was shared with the Majority and the Hearth, Patio & Barbecue Association in July 2018, and was refined with input from stakeholders and EPA. The final WHERA language in the Carper Amendment reflected edits and comments from two states that currently run a residential wood heater change out program, from two major state agency organizations that collectively represent 40 states, 160 metropolitan areas, 4 territories and D.C., from nine tribal, environmental and health organizations (two of which help communities establish change out programs), and from technical assistance provided by career EPA staff. We believe WHERA is now well vetted and should be part of any solution that the full Senate considers.

We were greatly disappointed that our Republican colleagues voted down the Carper Amendment and passed S. 1857 without modification. Even though we continue to oppose S. 1857 as written, we stand ready to work with our colleagues to advance legislation that will support states and local governments grappling with residential wood heater pollution, protect public health, and aid the residential wood heater industry.

THOMAS R. CARPER.
BENJAMIN L. CARDIN.
SHELDON WHITEHOUSE.
KIRSTEN GILLIBRAND.
CORY A. BOOKER.
EDWARD J. MARKEY.
CHRIS VAN HOLLEN.

---

Section 12 of rule XXVI of the Standing Rules of the Senate requires the committee to publish changes in existing law made by the bill as reported. Passage of this bill will make no changes to existing law.