

February 12, 2019

Andrew Wheeler, Acting Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Attention: Docket ID No. EPA-HQ-OAR-2018-0195

Re: Supplemental Submission: Proposed Amendments to the Standards of Performance for New Residential Wood heaters, New Residential Hydronic Heaters and Forced-Air Furnaces

Dear Acting Administrator Wheeler:

The Northeast States for Coordinated Air Use Management (NESCAUM) offer the following supplemental comments on the U.S. Environmental Protection Agency (EPA) Notice of Proposed Rulemaking (NPRM), published on November 30, 2018, entitled *Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces* (83 FR 61574). The NPRM proposes several amendments that would delay full implementation of the 2015 New Source Performance Standards (NSPS) for these wood-burning device types. We previously submitted comments on the NPRM on January 14, 2019. These supplemental comments are being submitted during the additional 5-day comment extension period announced on February 7, 2019 (84 FR 2484).

NESCAUM is the regional association of state air pollution control agencies in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont.¹

Wood smoke is a significant source of particulate matter (PM) in many cities, towns and villages in our states. In the NESCAUM region, air pollution from residential wood combustion has a disproportionate impact due in large part to the Northeast's colder climate and the relative abundance of wood for fuel. Residential wood combustion can contribute from 20 percent to 75 percent of total PM emissions in many Northeast areas on an annual basis.

NESCAUM reiterates its opposition to any weakening or delay in implementing the emission standards promulgated under the 2015 NSPS. There is no technical basis to support changes to the Step 2 standards for wood heaters. The five-year period provided to manufacturers and retailers in the NSPS for selling Step 1 compliant units is more than sufficient. In 2015, 85 percent of the stove market met the Step 1 standards and were automatically deemed certified under the NSPS. States put the industry on notice more than a decade ago that they needed to address excessive emissions from hydronic heaters. Beginning as early as 2007, 14 states (VT, NH, ME, MA, RI, NY, MD, IN, UT, WA, NJ, AK, CO, PA) and DC adopted regulations that address emissions from hydronic heaters. Consequently, manufacturers have been able to focus their research and development resources on designing and manufacturing Step 2-compliant models.

¹ These comments reflect the majority view of NESCAUM members. Individual member states hold some views which differ from the NESCAUM states' majority consensus position.

Number of Step 2 Appliances

Discussions with industry contacts suggest that EPA has either certified or has requests for Step 2 certification for numerous stoves, hydronic heaters, and furnaces in addition to those posted on EPA's certification list.² In assessing the availability of Step 2 appliances, EPA must use the most current data that reflects the actual number of units that have tested to Step 2 emission levels, including models that may not have submitted their certification packages. 40 CFR 60.537(f) and 60.5479(f) require manufacturers to submit emission data to EPA within 60 days of completing testing. EPA must assure compliance with this requirement so that EPA has a complete dataset to analyze Step 2 appliance availability. For example, one manufacturer, Central Boiler, submitted a 30-day intent to test notice to EPA in February of 2017 (see Attachment 1) but based on recent FOIA requests, there is no emission data to determine if this unit completed the test at Step 2 levels or not. We therefore urge EPA to review all 30-day testing notices and confirm that they have been received and are available to the public. EPA must ensure a complete and accurate dataset of Step 2 certified appliances going forward.

Anticipated Emission Reductions from Step 2 Appliances

Some industry comments on the NPRM suggest that Step 2 appliances will not yield significant emission reductions in day-to-day use. Data from ongoing NESCAUM research contradicts this position. Testing under a variety of operating conditions has demonstrated that in general, in-use emissions from Step 2 compliant units will be significantly lower than those from Step 1 appliances.

NESCAUM conducted three replicate tests on six wood stove appliances with maple cordwood fuel using test methods that mimic typical homeowner use patterns. Comparing the "in-field" use patterns with Step 2-certified appliances showed that the overall emission performance of these stoves dramatically improved as certification values decreased. As indicated in Figure 1, the test results showed dramatic improvement for units certified at levels below the 2.0 grams per hour Step 2 emission standard. Average emission rates for the Step 2 stoves in the study were 1.31 to 3.23 grams per hour, while the average performance for the Step 1 stoves ranged from 5.23 to 16.03 grams per hour.

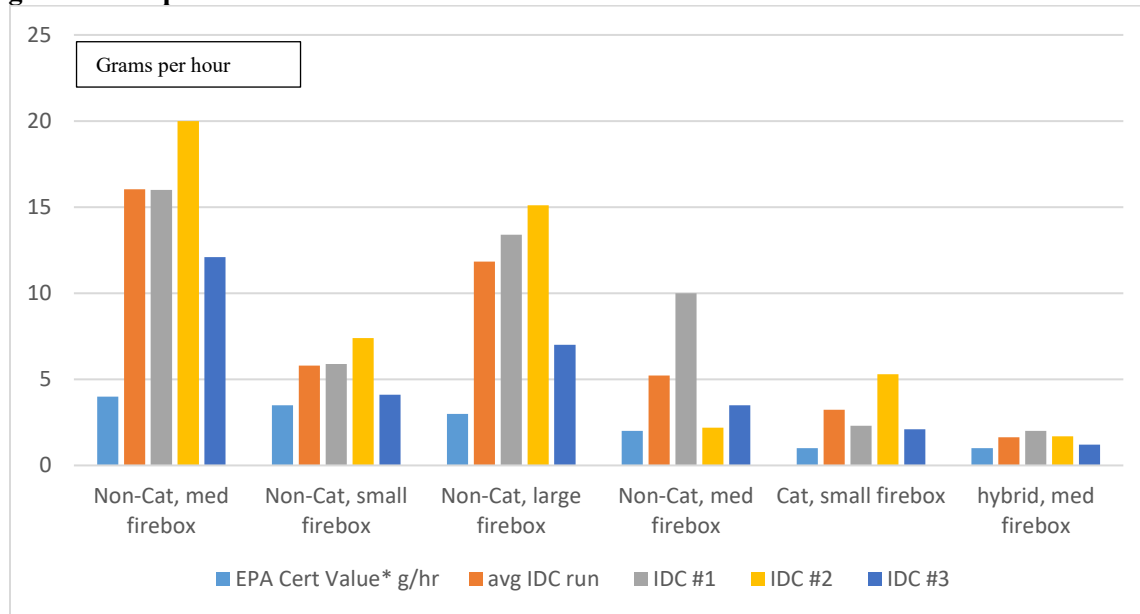
The six models evaluated in the study represent the broad variety of stoves available in the market, including: small, medium and large firebox size, and catalytic and non-catalytic technologies. The results indicate that the actual, in-field emission reductions of moving from Step 1 to Step 2 appliances will be larger than EPA's estimates.

Cost Variability - Incremental Cost for Step 2 Units

Some in industry have also suggested that there are large cost increases with Step 2 appliances that will limit consumer acceptance. However, information presented below from state change-out programs and other sources shows that redesigning wood heating devices to comply with Step 2 emission standards has not generally resulted in increased retail prices. In fact, as highlighted in Table 1, data from Vermont's woodstove change-out program show that, on average, cordwood stoves with emission levels below the Step 2, 2.0 grams per hour standard (\$2,415) are priced somewhat less than those with certified emissions above 2.0 grams per hour (\$2,636).

² EPA's current certification list for furnaces and hydronic heaters has not been updated since June of 2018 and the stove list has not been updated since October 2018.

Figure 1. Comparison of EPA Certification Values with “In-use” Protocol Values for Six Stoves.



**Certification values were rounded to the nearest 0.5 gram.*

Table 1. Analysis of Costs from 262 Stoves in Vermont’s Change-out Program

Appliance type	Performance level grams per hour	Avg verified appliance cost	Avg install cost	Avg other cost	Avg total install cost	Appliance cost as % of total cost	# of stoves
all stoves	2.0 or greater	\$2,533	\$367	\$552	\$3,533	72%	79
all stoves	less than 2.0	\$2,573	\$380	\$471	\$3,426	75%	183
cordwood stoves	2.0 or greater	\$2,636	\$367	\$551	\$3,533	75%	79
cordwood stoves	less than 2.0	\$2,415	\$380	\$471	\$3,331	73%	154
pellet stoves	2.0 or greater	NA	NA	NA	none		0
pellet stoves	less than 2.0	\$3,411	\$350	\$716	\$4,778	71%	29
pellet boilers	less than 0.10 lb/MMBtu	\$12,184	NA	NA	\$23,614	52%	134

In the Vermont program, approximately 10 percent of the incentivized stoves were pellet models (29 of the 262 stoves). The Residential Heat New York program (Table 2) supported the installation of 1,530 pellets stoves at a per stove price averaging \$3,320 and \$4,450, slightly lower than Vermont’s averages. The Vermont data, detailed in Attachment 2, suggest that pellet stoves cost more to install than cordwood stoves. These data, however, are skewed by higher non-installation costs associated with a few models.

For both pellet and cordwood stoves, average installation costs range from \$350 to \$380, while the site-specific “additional costs” vary widely from no cost to \$2,283.

For central heating programs, New York’s average appliance cost was lower than Vermont’s with an average cordwood boiler cost of \$10,600 and \$11,700 for pellet boilers. Prices for Central Boiler Step 1 units, without installation, ranged from \$7,825 to \$17,165. Similarly, prices for uncertified residential units from an online retailer (http://www.shoproyall.com/Outdoor-Pressurized-Boiler_c_21.html) ranged from \$6,897 to \$15,249. Another online retailer (<https://www.discountstoves.net/category-s/290.htm>) listed both Step 1 and uncertified units for residential installations at \$6,500 to \$17,850. Details on these costs are found in Attachment 3.

Based on the analysis and data obtained by NESCAUM, the price differential between Step 1 and Step 2 units is virtually non-existent and any difference that does exist can be recouped by fuel savings associated with the relative efficiency improvements of Step 2 models.

Data on total project costs from the Vermont and New York programs highlight the role of installation costs (Table 2). For stoves, the cost of the appliance ranges from 71-75 percent of total costs. However, for central heating appliances, on average, the appliance cost was 39-52 percent of the total project costs. The additional costs to install an appliance will be incurred regardless of the model, but it does indicate that the suggested changes in Step 1 versus Step 2 costs are negligible when compared to the total project cost, especially in central heating applications.

Table 2. Residential Heat New York Appliance Cost Data

Technology	Avg. Verified Appliance Cost	Installed Cost	Appliance Cost as % of Total Cost	Total # of Projects
Step 2 Pellet Stove	\$3,320	\$4,450	75%	1,530
Cordwood Boiler	\$10,600	\$26,900	39%	36
Pellet Boiler	\$11,700	\$30,200	39%	51

The Vermont data provided costs for individual units based on verified receipts. These data show that prices for the same appliance types, whether Step 1 or Step 2, span a greater range than the price differential between Step 1 and 2 versions of the same models:

- HHT 4300 ACC \$1,591 – \$2,487
- Travis Cape Cod \$3,867 – \$5,342
- Vermont Casting Defiant \$2,760 – \$3,159
- Vermont Casting Dutch West \$2,212 – \$3,084
- HHT P43 \$2,771 – \$3,149

Incentive programs for central heating appliances in the Northeast provide purchase rebates for units with performance levels typically below 0.10 lb/MMBtu heat output. In the Vermont program, prices for residential-sized central heating appliances varied widely (138 units <200,000 Btu/hr), ranging from \$4,221 to \$24,412 with an average of \$12,184. Costs from the New York program are similar with average pellet boiler costs of \$11,700.

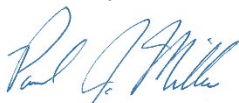
In assessing the economic impact of transitioning from Step 1 to Step 2 standards, EPA should take into account the generous incentives states are providing to cleaner appliances. As shown in Table 3, incentives for central heating appliances can reach as high as \$21,000, while the stove incentives range from \$500 to \$1,500, further reducing the cost to purchase and install high efficiency, low emissions wood heating appliances. Details on these programs can be found in Attachment 4.

Table 3. Northeast State Clean Unit Purchase Incentives

State	Stove Rebate/Incentive	Boiler Rebate/Incentive
Maine	\$500	Up to \$3,000 ³
Massachusetts	\$1,000-\$1,500	Up to \$12,000 ⁴
New Hampshire	None	Up to \$10,000 ⁵
New York	\$1,500	Up to \$21,000 ⁶
Vermont	\$800-\$1,000	Up to \$7,000 ⁷

NESCAUM repeats its request that EPA abandon this proposal, which would have far-reaching adverse public health consequences for decades to come. The NPRM fails to articulate a valid environmental, economic or legal basis to move forward with the proposed rule changes. For the reasons presented here and those detailed in our previous comment letter, NESCAUM urges EPA to maintain the current Step 2 timelines and standards.

Sincerely,



Paul J. Miller
Executive Director

cc: NESCAUM directors
William Wehrum, EPA OAR
Peter Tsirigotis, Mike Koerber, EPA OAQPS
Cynthia Greene, Bob Judge, EPA R1
Rick Ruvo, EPA R2

³ Efficiency Maine, Biomass Boilers and Furnaces. Available at <https://www.efficiencymaine.com/renewable-energy/about-biomass-boilers-and-furnaces/> (accessed on February 11, 2019).

⁴ Massachusetts Clean Energy Center, Modern Wood Heating. Available at <https://www.masscec.com/modern-wood-heating-1> (accessed on February 11, 2019).

⁵ New Hampshire Public Utilities Commission, Residential Bulk-Fed Wood-Pellet Central Boilers and Furnace Rebate Program. Available at <http://www.puc.nh.gov/Sustainable%20energy/renewableenergyrebates-Wp.html> (accessed on February 11, 2019).

⁶ New York State Energy Development and Research Authority, Renewable Heat New York. Available at <https://www.nyserda.ny.gov/All-Programs/Programs/Renewable-Heat-NY> (accessed on February 11, 2019).

⁷ Vermont Department of Forest, Parks, and Recreation, Current Incentives and Rebates. Available at <https://fpr.vermont.gov/incentives> (accessed on February 11, 2019).

Attachment 1



OMB Control No. 2060-0161
Approval expires 03/31/2019

OMB Control No. 2060-0693
Approval expires 03/31/2019

30-DAY NOTIFICATION

2015 CLEAN AIR ACT (CAA) STANDARDS OF PERFORMANCE FOR NEW RESIDENTIAL WOOD HEATERS, NEW RESIDENTIAL HYDRONIC HEATERS AND FORCED-AIR FURNACES 40 CFR PART 60 SUBPARTS AAA AND QQQQ

The public reporting and recordkeeping burden for this collection of information is estimated to average 2 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Regulatory Support Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Disclaimer: The statutory provisions and the EPA regulations described in this document contain legally binding requirements. This document is not a substitute for those provisions or regulations, nor is it a regulation itself. In the event of a discrepancy, please refer to 40 CFR PART 60 Subparts AAA AND QQQQ, sections 60.537 and 60.5479. If you have additional questions, please contact Rafael Sanchez at 202-564-7028 or via email at sanchez.rafael@epa.gov.

Instructions: The manufacturer of an affected wood/pellet heater/central heater model line must notify the Administrator of the date that certification testing is scheduled to begin by email to WoodHeaterReports@epa.gov. This notice must be received by the EPA at least 30 days before the start of testing.

GENERAL INFORMATION

Manufacturer's Name: **Central Boiler Inc.**

Heater Type (Circle One):	<input type="checkbox"/> Adjustable Burn Rate Wood Heater	<input type="checkbox"/> Pellet Stove	<input type="checkbox"/> Single Burn Rate Heater	<input checked="" type="checkbox"/> Hydronic Heater	<input type="checkbox"/> Forced Air Furnace	<input type="checkbox"/> Other:
Hydronic Heater Type (Check one):	<input type="checkbox"/> Full Storage	<input type="checkbox"/> Partial Storage	<input type="checkbox"/> Indoor	<input checked="" type="checkbox"/> Outdoor	<input type="checkbox"/> Other:	
Forced-Air Furnace Type (Check one):	<input type="checkbox"/> Small (less than 65,000 BTU/hr heat output)		<input type="checkbox"/> Large (greater than 65,000 BTU/hr heat output)			
Fuel Tested (Check one):	<input type="checkbox"/> Crib	<input type="checkbox"/> Pellet	<input checked="" type="checkbox"/> Cordwood	<input type="checkbox"/> Wood Chips	<input type="checkbox"/> Other:	

Model Name(s) (as will appear on test report): **Classic Edge**

Model Number(s) (as will appear on test report): **960**

Equipped with a catalytic combustor? ☐ Yes ☒ No

Mailing Address: **20502 160th St.
Greenbush, MN 56726**

Street Address: **Same as Mailing Address**



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City: Greenbush	State: MN	ZIP Code: 56726
Phone: 218-782-2575	Fax: 218-782-2580	Web Site: www.centralboiler.com
Address of Manufacturer: 20502 160th St.		

City: Greenbush	State: MN	ZIP Code: 56726
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EPA APPROVED TEST LABORATORY

Name and Title of Authorized Representative: **Sebastian Button**

Company: **OMNI- Test 13327 NE Airport Way**

Phone: 503-643-3788	E-mail: sbutton@omni-test.com	Fax: 503-643-3799
City: Portland	State: OR	ZIP Code: 97230

EPA APPROVED THIRD-PARTY CERTIFIER

Name and Title of Authorized Representative: **same as EPA APPROVED TEST LABORATORY INFORMATION**

Company:



OMB Control No. 2060-0161
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Phone:

E-mail:

Fax:

City:

State:

ZIP Code:

COMPLIANCE TEST INFORMATION

Test Method(s): 40 CFR 60 Subpart QQQQ requirements for outdoor wood boilers (2020 compliance)
ASTM 2618 "Standard Test Method for Measurement of Particulate Emissions and Heating Efficiency of Solid Fuel-Fired Hydronic Heating Appliances"

ASTM E2515-11 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel"

CSA B415.1-10 "Performance testing of solid-fuel-burning heating appliances"

Date(s) of Proposed Test: FEBRUARY 20TH – FEBRUARY 25TH 2017

Testing Location: PORTLAND, OR



United States
Environmental Protection
Agency

OMB Control No. 2060-0161
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Mark J. Reese Engineer

Print Name and Title of Authorized Official

Mark J. Reese
Signature

Date 1-9-17

Telephone Number: 218-782-2575

Email Address: markr@centralboiler.com

Remarks:


Attachment 2 is included in a separate excel file

Attachment 3

Attachment 3 – Step 1 Boiler Costs

<https://www.discountstoves.net/category-s/290.htm> -

Accessed February 5, 2019

**Obadiah's**
WOODSTOVES

1-800-968-8604
serving you online since 1999

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You are here: Home > Residential Biomass Furnaces & Boilers > Crown Royal Biomass
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- Residential Biomass Furnaces & Boilers
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- Crown Royal Biomass
- Glenwood Biomass
- Napoleon Biomass
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- Gas Boilers
- Gas Fireplaces
- Gas Inserts
- Gas Stoves
- Outdoor Gas Fireplaces

Wood Burning


Crown Royal RS7200ID Indoor Biomass Boiler
Our Price: \$6,449.00




Crown Royal RS7300ID Indoor Biomass Boiler
Our Price: \$6,999.00




Crown Royal RS7200 Outdoor Biomass Boiler
Our Price: \$7,749.00




Crown Royal RS7300 Outdoor Biomass Boiler
Our Price: \$8,299.00




Crown Royal RS7400ID Indoor Biomass Boiler
Our Price: \$8,299.00




Crown Royal RS7200E EPA Outdoor Wood Gasification Boiler
Our Price: \$8,820.00



Crown Royal RS7400 Outdoor Biomass Boiler
Our Price: \$9,499.00



Crown Royal RS7500 Outdoor Biomass Boiler
Our Price: \$17,850.00



Accessed February 5, 2019

A revolutionary new patent-pending design. The perfect combination of value and performance.

Central Boiler's newest EPA-certified model line, the Classic Edge is the perfect combination of value and performance with the same quality, construction and performance as other Central Boiler models. The Classic Edge is easy to operate and maintain. Models to match many installation scenarios are available.

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Central Boiler Classic Edge 350 Titanium HD

List Price: \$7,825.00

Our price: **\$7,825.00**

Prices include incoming dealer freight. "Our Price" is net of current rebate and is not available with Central Financing.

All new Titanium HD series Central Boiler Classic Edge 350 includes a titanium-enhanced stainless steel firebox that provides superior protection against corrosion, allows for longer burn times and extends the life of the furnace. This unit is approved for Residential or Non-Residential use. [▶ more info](#)



Central Boiler Classic Edge 550 Titanium HD

List Price: \$9,550.00

Our price: **\$9,150.00**

Savings: \$400.00

Prices include incoming dealer freight. "Our Price" is net of current rebate and is not available with Central Financing.

All new Titanium HD series Central Boiler Classic Edge 550 includes a titanium-enhanced stainless steel firebox that provides superior protection against corrosion, allows for longer burn times and extends the life of the furnace. This unit is approved for Residential or Non-Residential use.

Note: Titanium Series furnaces require the use of MolyBoost, p/n 1670, and 1650XL Inhibitor Plus, p/n 1650. [▶ more info](#)



Central Boiler Classic Edge 750 Titanium HD

List Price: \$11,800.00

Our price: **\$11,400.00**

Savings: \$400.00

Prices include incoming dealer freight. "Our Price" is net of current rebate and is not available with Central Financing.

All new Titanium HD series Central Boiler Classic Edge 750 includes a titanium-enhanced stainless steel firebox that provides superior protection against corrosion, allows for longer burn times and extends the life of the furnace. This unit is approved for Residential or Non-Residential use.

Titanium Series furnaces require the use of MolyBoost, p/n 1670, and 1650XL Inhibitor Plus, p/n 1650. [▶ more info](#)

Accessed February 5, 2019

Sort By: Price: Low to High ▼ [GO](#)

10 per page ▼ Page 1 of 1



Central Boiler E-Classic 3250 Titanium

List Price: \$17,165.00

Our price: **\$17,165.00**

Prices include incoming dealer freight. "Our Price" is net of current rebate and is not available with Central Financing.

The Titanium Series model is the latest cutting edge version of the E-Classic line. It offers the same features and benefits of non-stainless steel models with the added benefit of a stainless steel firebox assembly.

Provides superior firebox corrosion resistance

Allows for longer burn times

Extends life of furnace

Adding the proper water treatment BEFORE adding water to the system is critical for stainless furnaces. Be sure to review the Owner's Manual and Warranty/Registration for requirements. Contact us for more information.

Approved for Residential or Non-Residential use

[▶ more info](#)

Attachment 4

Maine Automated Wood Heat Energy Incentives

Program established in 2014

How to qualify for incentives - systems accepted & guidelines to meet

- Must be a Pellet Stove or Wood Stove
- > or equal to 75% efficient
- Installed in Maine
- **Available incentive: \$500**
- Must be a Pellet/Cordwood Boilers or Furnace
- > or equal to 70% efficient
- Installed by a Registered Vendor
- Installed in a 1-4 unit residential building
- Feature 2 week unattended operation or have backup
- **Available incentive: 1/3 project cost up to \$3,000**

Number of installations since wood heat energy program began in 2014

- 799 Pellet Boilers
- 224 Wood Stoves
- 660 Pellet Stoves

For more information please visit:

<https://www.energymaine.com/renewable-energy/about-biomass-boilers-and-furnaces/>

New Hampshire Wood Heat Energy Incentives

New Hampshire Renewable Energy Fund

How to Qualify for Rebates - systems accepted & guidelines to meet

Residential Bulk Pellet Central Heating Rebate Program

- Must be a central heating wood pellet boiler/furnace installation in your home
- Bulk-fuel feeding capabilities
- Maximum rebate available:
40% of system & installation costs up to \$10,000

Commercial Bulk Pellet Central Heating Rebate Program

- Must be a non-residential, qualified bulk-fed wood pellet heating system of 2.5 mmbtu or less
- Open to businesses, nonprofits, educational institutions, towns & governments, and multi-family homes of 4 or more units
- Rebates Available:
 - 30% up to \$5,000 for thermal storage components
 - Up to \$5,000 toward meters for REC eligibility

The NH Renewable Energy Fund Competitive Grant Program

The Competitive Grant Program offers opportunities for funding to projects not eligible for other REF rebate programs including:

- Dried Chip biomass heating systems
- Wet (green) chip biomass heating systems
- Requests for Proposals are typically issued in September-October with grant requests ranging between \$150,000 - \$500,000 subject to available funding.

For more information please visit:

<https://www.puc.nh.gov/Sustainable%20Energy/RenewableEnergyRebates-WP.html>

Modern Wood Heat in Vermont Incentives & Rebates

#VTHeatsLocal

VT Wood Heat Incentives & Rebates Eligibility

From	Offer	Eligibility	Website
Efficiency Vermont	<ul style="list-style-type: none">\$3,000 rebate for automated wood pellet boilers or furnaces <p>OR</p> <ul style="list-style-type: none">Custom incentive at \$1.25/sqft for commercial buildings over 5000 square feet, up to \$50,000	Residential, commercial, institutional, municipal	www.encyvermont.com
Clean Energy Development Fund	<ul style="list-style-type: none">\$3,000 rebate for automated wood pellet boilers or furnacesWood Stove Changeout Program: \$1,000 towards purchase of pellet stove or \$800 towards wood stove when you turn in a non-EPA certified wood stoveUp to \$20,000 for a wood pellet or chip fired evaporator	Residential, commercial, institutional, municipal Residential Maple Producers	http://www.erc-vt.org http://www.erc-vt.org/wood-stove-change-out http://www.erc-vt.org

Starting July 1, 2018 wood heat boilers qualify for a retail sales and use tax exemption. The exemption is on qualifying equipment and directly associated equipment must meet the following requirements:

(A) Installed as a primary central heating system

(B) Rated as high-efficiency, meaning a higher heating value or gross calorific value of 85 percent or more

(C) containing at least one week fuel-storage, automated startup and shutdown, and fuel feed

(D) meeting other efficiency and air emissions standards established by the Department of Environmental Conservation

For more information please contact:

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Massachusetts Modern Wood Heat Rebates

Massachusetts Clean Energy Center

How to Qualify for Rebates - systems accepted & guidelines to meet

Program	Eligibility	Rebate
Modern Wood Heating	Residential single-family homes and apartment/condominium units. Project sites must receive electrical service from National Grid, Eversource, Unitil, or participating municipal lighting plant communities.	<ul style="list-style-type: none">Up to \$10,000, depending on system cost towards a MassCEC approved modern wood heating system. To help cover thermal storage costs, MassCEC also offers a storage rebate adder up to \$2,000.
Low Income Rebate Adders	Households with incomes below 120 percent of state median income. Projects must also meet guidelines listed above.	<ul style="list-style-type: none">Residents qualifying for the Income-Based Rebate Adder can qualify for a total award of up to \$16,500.
Commonwealth woodstove change-out.	Replace non-EPA-certified wood stoves with cleaner, more efficient EPA-certified wood or pellet stoves. Existing pellet stoves not eligible.	<ul style="list-style-type: none">Standard rebates range from \$1,000 to \$1,500 per change-out, and low-income rebates range from \$2,500 to \$3,000, based on stove specifications.

More info about the rebate process:

Installers submit the rebate application on behalf of their customer. MassCEC must approve the rebate application, at which point the installation process can begin. The rebate will be sent out once documentation has been submitted verifying the project is complete.

Resources to learn more:

<https://www.masscec.com/modern-wood-heating-1>

<https://www.masscec.com/commonwealth-woodstove-change-out>

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Renewable Heat New York

New York State Research and Energy Development Authority

NYS Wood Heat Incentives & Eligibility

Program	System Type	Incentive	Additional Incentive
Small Biomass Boiler	• Advanced cordwood boiler w/storage	• 25% installed cost, \$7,000 maximum	<div><i>The following incentives apply to all small & large boilers</i></div> <div>Thermal Storage Adder - \$5/gal for each gal above the minimum thermal storage requirement</div> <div>Recycling - \$5,000/unit for old indoor / outdoor wood boiler, or \$2,500/unit for old wood furnace</div>
	• Small pellet boiler w/storage	• 45% installed cost, \$16,000 maximum. ≤35 kW • 45% installed cost, \$36,000 maximum. ≤88 kW	
Large Biomass Boiler	• Large pellet boiler w/storage	• 65% installed cost, \$325,000 maximum. >88 kW	
	• Tandem pellet boiler with storage	• 75% installed cost \$450,000 maximum. >88 kW	
Residential Pellet Stove	• Pellet stove	• \$1,500 (\$2,000 for income qualified residents)	• Recycling - \$500, income qualified residents only

Renewable Heat NY provides incentives toward the installed costs of high-efficiency, low-emission wood heating systems for homeowners and businesses not currently using natural gas.

For more information please visit:

<https://www.nyserda.ny.gov/All-Programs/Programs/Renewable-Heat-NY>