# Bill as Introduced

## HB 307 - AS INTRODUCED

## 2013 SESSION

13-0675 08/03

HOUSE BILL

307

AN ACT

relative to the removal of certain wood stoves upon the sale of a home and

notification of such removal to the department of environmental services.

SPONSORS:

Rep. P. Schmidt, Straf 19; Rep. Cali-Pitts, Rock 30; Rep. Chase, Ches 8

COMMITTEE:

Science, Technology and Energy

## **ANALYSIS**

This bill requires the removal of certain wood stoves upon the sale of a home and notification of such removal to the department of environmental services.

Explanation:

Matter added to current law appears in bold italics.

Matter removed from current law appears [in brackets and struckthrough.]

Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

## STATE OF NEW HAMPSHIRE

## In the Year of Our Lord Two Thousand Thirteen

AN ACT

4 ·

relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the department of environmental services.

Be it Enacted by the Senate and House of Representatives in General Court convened:

- 1 New Section; Notification Required; Wood Stove Removal. Amend RSA 477-h by inserting after section 4-h the following new section:
  - 477:4-i Notification Required; Wood Stove Removal.
- I. In this section, "wood stove" means a wood burning appliance designed for space heating purposes which does not operate as a central heating system or as a sole source of heat. Wood stove shall not include:
- (a) A wood stove built before 1940 that has an ornate construction and a current market value substantially higher than a common woodstove manufactured during the same period.
- (b) An indoor, wood-fired furnace that is thermostatically controlled, has a dedicated cold air inlet and dedicated hot air outlet, and is connected to heating ductwork for the entire residential structure.
- (c) A site-built or site-assembled, solid fueled heating device constructed of structural masonry mass used to store heat from intermittent fires burned rapidly in the structure's firebox and slow release the heat to the site. Such solid-fueled heating device must meet the design and construction specifications set forth in ASTM E 1602-03, "Guide for Construction of Solid Fuel Burning Masonry Heaters."
- II. All wood stoves which are not certified for sale as new after July 1, 1986 by the Government Protection Agency shall be removed and destroyed upon the sale of a home if the home is in an area that has been designated as densely populated by the commissioner of the department of environmental services in rules adopted under RSA 541-A and posted at the registry of deeds. The removal and destruction of a wood stove shall be the responsibility of the seller of the home unless the buyer and seller agree in writing that the responsibility shall be the buyer's responsibility. If the seller retains responsibility, the seller shall remove and destroy the wood stove prior to the closing date of the sale of the property. If the buyer accepts responsibility, the buyer shall remove and destroy the wood stove within 30 days after the closing date of the sale if the home.
- III. The party responsible for the removal and destruction of a wood stove under paragraph II shall provide to the commissioner of the department of environmental services on forms provided by the department of environmental services written confirmation of the removal and destruction of the wood stove. Failure to comply with this section shall not invalidate an instrument of conveyance executed in the sale.
  - 2 Effective Date. This act shall take effect 60 days after its passage.

## Speakers

## SIGN UP SHEET

To Register Opinion If Not Speaking

Bill # HB 307	Date 1-29-13
Committee STEE	

## \*\* Please Print All Information \*\*

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Name	Address	Phone	Representing	Pro	Con
Rep. Gene Chandles	R-Bartlett		House Republican		$\checkmark$
Rep John T.	O'Connoc	Rock,	DIST 6		L
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## Hearing Minutes

## HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

### **PUBLIC HEARING ON HB 307**

BILL TITLE:

relative to the removal of certain wood stoves upon the sale of a home and

notification of such removal to the department of environmental

services.

DATE:

1-29-13

LOB ROOM:

304

Time Public Hearing Called to Order:

1 pm

Time Adjourned:

2 pm

(please circle if present)

Committee Members: Reps. Borden Townsend, Cali-Pitts, Castor N. Levasseur, Backus, Grossman, Baber, J. Mann Shepardson, Raymond, Introne Vadne, Rappaport Bradley, Reilly, Murotake, R. LeVasseur, Khan and Devine.

Bill Sponsors: R

Reps. P. Schmidt, Cali-Pitts and Chase

### TESTIMONY

\* Use asterisk if written testimony and/or amendments are submitted.

**Rep. Peter Schmidt, prime sponsor** – Health concerns; LA Basin Effect. Bill regulates removal of wood stove upon sale of property, not by date certain.

Q: Rep. Marjorie Shepardson - How destroyed?

A: Scrapped.

Q: Rep. Aboul Khan – What health issues?

A: LA Basin Effect noticeable.

Q: Rep Nick Levasseur- How is exhaust better in new stoves?

A: Better technology, less particulate matter.

Q: Rep. Beatriz Pastor - DES opinion?

A: Referred question to DES.

Q: Rep. Nick Levasseur - What is stopping from replacing with low quality stove?

A: Most people will not do that out of self interest.

Q: What are the number of wood stoves that existed; are there effective ways of being more direct with removal?

A: Referred and this is a mixed response.

**Q: Rep. David Murotake** – Do fireplaces count and what percentages of pollutants are from fireplaces?

A: Deferred answer.

<u>Marie Mulroy, NH Public Health Assn.</u> – Supports the bill. Stoves are serious health problems. Air is so bad that testing of individual stoves is sometimes not ever possible. PH outside air pollution. Heart, lungs, skin, etc. New stoves have catalytic converters.

Q: Rep. Nick Levasseur - What percentage of stove would have to be replaced?

A: Estimate around 15%.

Q: Rep. Laurence Rappaport – Are you a doctor?

A: No.

**Q:** Rep. Murotake - Does the bill specify and is there data specifying where this is needed for health quality?

A: Will get that information.

\*Craig Wright, DES - Supports concept and goal. Performance difference and emissions with old vs. new wood stoves. Concerned with department resources; does not have the resources to accomplish provisions of the bill...No federal or general funds to carry out the provisions. Does not have authority to enter private residences; does not wish to have that authority.

Q: Rep. Nick Levasseur - Should this be a town issue?

A: Makes more sense to have state regulation on air pollution issues.

Q: Chairman David Butler - Can towns do it?

A: Possibly but unsure.

**Q: Rep. Rappaport** – Do you have funds?

A: No.

Q: Rep. Grossman - Do you advertise to public about new stoves benefit?

A: Does recommend and advise on best practices and benefits of new stove technology. DES operates air monitors. US census data show about 37,000 homes in NH heat with wood.

\*Nancy Johnson, American Lung Assn. of NH - Supports the bill; modeled after Oregon law. That program has a payback option. Several areas in the state have issues with woodstove pollution. Wood stove smoke is greatest pollutant in cooler months. There was a rebate program that was very

effective. The bill will have significant impact on afternoon and applies only to densely populated areas. Gave testimony from Joseph McDonald, (Stove Installation Service).

Q: Rep. Murotake - Does woodstove equal fireplace?

A: No.

Q: Rep. Robert Backus – If DES can't do it, why bother?

A: It would be a shame to not do something if DES can't help; referenced previous lack of regulation on outdoor wood burners.

Q: Rep. Grossman - Would these be any value in including stoves in property disclosure?

Q: Rep. Murotake - Do realtors support?

A: Not that she knows.

Q: Rep. Khan - Are fireplaces also harmful?

A: Probably but not 100% known.

Robert Johnson, NH Farm Bureau — Opposes the bill. Many questions about the bill; no stated purpose. Definition? Ornate? Why date? Need to be operational? Proof/verify? Density? Mechanism for reimbursement? Penalties? Timberland owners are also opposed.

<u>Bob Clegg, Building Official Assn.</u> – Opposed in general. DES doesn't have any money. Who will do inspections? Local do not have funds. Rules would not be effective; must be specific on definitions. If passed must be DES responsibility.

<u>Christiana Thornton, NH Bankers Assn.</u> – Opposed to the bill. Concerned over foreclosures, small financial institutions; determination, removal destruction.

Q: Do you think using disclosure would make more sense?

CAN IT

Robert E. Introne, For Acting Clerk

## HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

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Time Public Hearing Called to Order:

Time Adjourned:

(please circle if present)

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Bill Sponsors: Reps. P. Schmidt, Cali-Pitts and Chase

### TESTIMONY

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Rep Schmidt (Prime)

- Health Concerns L) LA Basin Effect

- Bill req remaral of wood stove upon sale of property (not by date Certain)

Q: Shepardson

L) How destroyed ?

R: Schmidt

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Q: Step Kahn

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Q: Lewasser (Fick)

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A: Most people well not do that out of self-interes

Q: Per\_ what are the # of ws that Exota

are there more exective ways of being mo

direct with removal

R: Desterred and this is anteed response

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Marie Medrous (NH Public health Especial)

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13 for 15 50 bad that testing of individual stoves 15 sometimes had ever poss

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Q: Plancher acound 1590

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R: will get that Info

Cears Wright (141DES)

- Supports Concept and goal

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A: Makes were sense to have state reg air pollution issues.

W. Barden: Can towns do it? A: Possibly not but unsure.

O: Rapp. Do you have funds?
A NO.

6: trossmen: Do you advertice letter public about New Stores benefit.
A. Does recemend and advise on test practices and trensits of new Store technology

- DES opperates pur monitors for constant monitorino

- US census data show about 37,000 homes in 1041 host with word.

Nancy Johnson (American Lung Association) (Supports) - Modelled after Oregon law Lythat program has a buy book often Seseral areas in the state have issues with woods-top DM - world-love sucke is greatest polletron in water wordlys - There was a rebaile program that was very effective - The bull will have significant impact on PM and applies only to densely pop areas. - Gave testamony from Joseph MacDorald (Stove installation Service) O: Muchake: Dog Wood Stove = Ireplace? A.100 O. Backus: If DES can't do it why bother? A: It would be a shawe to not do somothing if DES Carit help 4 referenced previous lack of reg on outdoor world burners Q: Grossman: Would these be any value in including stores in poperty disclosure O: Murotake: Do roalfors support? A: Not fast that she knows O: Calm: Are Five places also harmful? A: Roboldy but not 100% trucken Q: Kah:

# Sub-Committee Minutes

## HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

### SUBCOMMITTEE WORK SESSION ON HB 307

BILL TITLE: relative to the removal of certain wood stoves upon the sale of a home and

notification of such removal to the department of environmental services.

**DATE:** 2-5-13

Subcommittee Members: Reps. Borden, Introne, Townsend, Cali-Pitts, Rappaport, Khan,

Baber, Grossman, Murotake, Shepardson, Bradley, Vadney,

Raymond, Levasseur, Backus, Mann, Pastor and Devine

Comments and Recommendations: Is a real estate developer ???! ??? to disclose who has wood stoves. Rep. Vadney opposes the bill. Rep. Khan, live free or die; not a good idea. Rep. LeVasseur, opposes; not enforceable. Rep. Mann, can health care funds be approved for buy back option. Rep. Rappaport – opposed; using a sledge hammer; should not be done at the state level. NH not home rule state. Local ordinance ??? state law. Reps. Levasseur/Pastor – lets make it enabling legislation. Rep. Vadney – Home rule might not solve health problem; you never know what towns might enact. Straw vote: 11-6 ITL

## Amendments:

Sponsor: Rep. OLS Document #:

Sponsor: Rep. OLS Document #:

Sponsor: Rep. OLS Document #:

Motions: OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote:

Motions: OTP, OTP/A ITL Retained (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote:

Respectfully submitted,

Rep. Robert E. Introne Subcommittee Chairman/Clerk

## HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

## SUBCOMMITTEE WORK SESSION ON HB 307

relative to the removal of certain wood stoves upon the sale of a home and BILL TITLE:

Amendments:

Sponsor: Rep.

Appropriate Appropriations:

Sponsor: Rep.

Appropriate Appropriations:

Sponsor: Rep.

Appropriate Appropriations Appropriate Appropr

Sponsor: Rep.

OLS Document #:

Sponsor: Rep.

OLS Document #:

**Motions**:

OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote:

Motions:

OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote:

Respectfully submitted,

Rep. {Type NAME} Subcommittee Chairman/Clerk

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## Testimony



Michelle A. Edwards American Lung Association North East 122 State St. Augusta, ME 4330

Re: HB 307

To the Science, Technology and Energy Committee:

Michelle Edwards at the American Lung Association contacted me to provide some expert feedback concerning HB 307. After reading the bill, I can whole-heartedly agree that the introduction of this bill would benefit granite starters in a number of ways.

To give you bit of background I am the vice president of Armstrong Heating and Power Vac. Armstrong has been a New Hampshire business for over 40 years. We are a provider of air duct, dryer and chimney cleaning as well as experts on chimney and stove construction. Our industries served consist of residential, commercial and industrial. We also provide expert analysis on chimneys, heating systems and stoves for many insurance providers in the form of cause and origin reporting.

Given my expertise and experience in the field with wood products, I feel the long-term benefits of passing a HB 307 this would be far reaching. In the past twenty years, technology has improved substantially for wood burning stoves. EPA Certification has forced manufacturers to comply with a strict set of EPA guidelines as part of the Clean Air Act in 1988. Since then, the pollution produced by these stoves has been reduced by 50% to 60% while some newer models exceed 70%. Even some pellet stoves currently exceed 80%. These EPA certified stoves also reduce the amount or particulate matter produced in the air during burning. Since the soot produced has always been an indoor and outdoor air quality issue, these newer stoves reduce the amount of particulate matter produced during burning. In turn, these efficient stoves are a lot easier for the lungs and the community.

Just recently, a study has just shown that black carbon causes twice as much global warming than previously thought. That being said the benefits of these newer stoves are enormous. When a woodstove burns more efficiently it consumes less wood, in addition to consuming less wood the reduced particulate created will improve air quality. This is immediately beneficial to home occupants, neighbors and their communities. In addition, this reduction of black carbon created could be beneficial by reducing our global impact.

531 Front St, Manchester, NH 03102 Phone: 1-800-736-2706 Fax: 603-627-7070



Through my experiences, I know there are too many homes in New England that operate stoves that pre-date the EPA certification specifications. These stoves are traded online, sold with homes or passed down through family generations. Homeowners and operators are unaware how dangerous and inefficient these older stoves are. From cracks in their castings, to smoke entering the home through normal operation they can be potentially deadly. In addition, these stoves also produce excessive creosote because of their inefficient operation. This creosote buildup can eventually lead to a potentially deadly chimney fire.

I feel that the New Hampshire community would see a positive impact with the passing of this bill. By reducing use of these older stoves, we can see an improvement in our air quality and sustainability by the reduced consumption of wood. If anyone has any questions concerning this letter, please forward them to my office.

Sincerely,

Joseph MacDonald

## AMERICAN LUNG ASSOCIATION.

1800 Elm Street Manchester, NH 03101 Tel: (603) 369-3977 Fax: (603) 369-3978

1-800-LUNG USA lungne.org

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Second Vice Chair Peter Loeser, MD (Concord)

Barbara Callahan, PhD (Grantham)

Craig Donais (Manchester)

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Susan Martore-Baker (Manchester)

Richard G. Rumba (Peterborough)

Linda L. Sirak (Manchester)

Paula K. Smith (Raymond)

Testimony of
The American Lung Association in New Hampshire
in support of HB 307

AN ACT relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the Department of Environmental Services

January 29, 2013

Good afternoon Chair Borden, Vice Chair Townsend and members of the Science, Technology and Energy Committee. My name is Nancy Johnson and I am here today representing the American Lung Association in New Hampshire. We are strongly supportive of HB 307.

One of the key goals of the American Lung Association is to assure that the air we breathe doesn't cause or worsen lung disease. The proposal before you would significantly reduce air pollution both inside homes and outdoors.

Wood smoke is the most common air pollutant during the heating season. The pollution produced when wood is burned has health effects that are very similar to secondhand tobacco smoke. The particle pollution from the smoke can raise the risk of heart attacks and stroke, stunt lung function and development, damage lung tissue and airways, increase hospital visits for respiratory and cardiovascular problems and trigger asthma attacks.

As more research has been conducted we are learning that particle pollution is unhealthy at levels that were once considered safe. For these reasons the ALA supports a wide variety of efforts to reduce particle pollution to the lowest levels possible. We recognize that wood smoke is a byproduct from the essential need to heat a home at a reasonable cost. But not all wood burning devices pollute at the same rate.



## # AMERICAN LUNG ASSOCIATION. IN NEW HAMPSHIRE

Page 2 of 2

One of the most effective methods to reduce air pollution from wood burning is to replace older, non-EPA certified wood stoves (stoves made before 1990) with newer wood or pellet stoves. The newer stoves offer at least 4 benefits:

- far less outdoor air pollution is produced
- indoor air quality improves dramatically
- considerably less fuel is used

The ALA was recently involved in managing a project in southern New Hampshire that provided vouchers for residents of Hillsborough, Merrimack and Rockingham counties to trade in their non-EPA certified stoves for new ones. A total of \$187,000 in vouchers were redeemed through local wood stove retailers. (This program was funded as a result of an enforcement action by the EPA). Through this project we learned that over 50% of the stoves replaced were 40 years and older. There are a lot of old, high polluting wood stoves in our state.

HB 307 represents a creative way to increase the rate of changeover from older stoves to newer, more efficient and cleaner burning units. It represents a method for significantly improving air quality over time in our state at minimal cost.

There are some who will likely oppose this measure because they claim it will have a negative impact of the sale of homes. We ask you if you seriously think that a \$100,000 home sale will hinge on whether or not a 40 year old wood stove is included. You can ask one of the wood stove retailers here today what that old stove is worth. Not much would be our guess.

In closing, we suggest that you consider amending this bill to make it apply only to densely populated areas. The intention here is not to stop someone on a 50 acre dairy farm from using their stove to heat their home. The focus should be on those older stoves that are polluting neighborhoods in cities and towns across our state.

Thank you for your consideration of this proposal and we urge your support.



## The State of New Hampshire

## DEPARTMENT OF ENVIRONMENTAL SERVICES



## Thomas S. Burack, Commissioner

January 29, 2013

The Honorable David Borden, Chairman House Science, Technology and Energy Committee Legislative Office Building, Room 304 Concord, NH 03301

Re: HB 307 relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the department of environmental services

Dear Chairman Borden and Members of the Committee:

The Department of Environmental Services (DES) is pleased to offer testimony regarding HB 307, which would establish requirements for removing and destroying certain woods stoves that are not certified by the United States Environmental Protection Agency as meeting New Source Performance Standards that were promulgated in 1986.

DES agrees that it is sound environmental policy to retire non-EPA certified stoves as such devices emit almost two and half times the amount of fine particulate matter as an EPA certified stove. In fact, DES developed and promoted a wood stove change-out program in the Keene area. The very limited funds available for this program were obtained through the settlement of a multi-state enforcement case against American Electric Power. In addition, DES and the EPA believe that it is important to promote Supplemental Environmental Projects to support additional wood stove change-out programs, as appropriate, and as funds become available. However, DES has a number of concerns regarding the bill as currently drafted, most notably from the perspective of the lack of staff and funding that are available to develop and implement a new program that would satisfy the requirements of the bill.

Specifically, Paragraph II requires DES to adopt rules defining "densely populated areas" and Paragraph III requires DES to develop and provide forms to the party responsible for removing and destroying the wood stove. In addition, Paragraph III also requires the party responsible for the removal and destruction of the wood stove to file the completed form with DES.

It would be necessary to use dedicated program staff funded by other means to conduct the research, analysis, and public outreach required to develop and implement the rules and the other requirements set forth in HB 307. Without a general fund appropriation or other funding mechanism to implement this bill, DES does not have the resources available to develop and implement such a program.

Thank you for the opportunity to provide testimony. Should you have any questions, or need additional information, please feel free to contact Craig A. Wright, Acting Director, Air Resources Division (271-1088, <a href="mailto:craig.wright@des.nh.gov">craig.wright@des.nh.gov</a>) or Pamela G. Monroe, Compliance bureau Administrator, Air Resources Division (271-0882, <a href="mailto:pamela.monroe@des.nh.gov">pamela.monroe@des.nh.gov</a>).

Sincerely,

Thomas S. Burack Commissioner

cc: HB 307 Sponsors

## AMERICAN LUNG ASSOCIATION. IN NEW HAMPSHIRE

1800 Elm Street Manchester, NH 03101 Tel: (603) 369-3977 Fax: (603) 369-3978

1-800-LUNG USA lungne.org

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Linda L. Sirak (Manchester)

Paula K. Smith (Raymond)

New Hampshire Woodstove Retailers Supporting HB 307

AN ACT relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the Department of Environmental Services

Abundant Life Stoves & Spas

Chichester

Alternative Energy Hearth & Patio Shoppe, LLC

Hampton Falls

Armstrong Hearth & Home

Manchester

**Heart Line Stove Shop** 

Jaffrey

Nordic Stove Shoppe

Dover

North Hill Hearth & Casual Living

North Hampton

SAF Fire n' Stone

Tilton

Son's Chimney Services

Milford

Stove Keepers Brookline

Community Health Charities



"Improving Health, Preventing Disease, Reducing Costs for All"

Testimony Marie Mulroy January 29, 2013

Science, Technology and Energy Committee

HB 307 Removal of Certain Wood stoves on sale of a home

My name is Marie Mulroy and I am President-Elect of New Hampshire Public Health Association and serve on the Leadership Board for the American Lung Association of New Hampshire. I want to thank the Committee Chair, David Borden, for permitting me to speak. I am here today in support of HB307, AN ACT relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the department of environmental services.

Because wood stoves can remain in use for 30 – 50 years, many of the new technologies that make them healthier and more economical to operate are not being taken advantage of . While we do not have an exact number of wood stoves in New Hampshire that are still not EPA certified, we do know pollution from older stoves, or from incorrectly used stoves, is a serious health concern, and lacking any other means of replacing them, requiring them to change out when a home is sold is a systematic way of reducing the harmful emissions from these stoves, particularly in high density areas or areas such as Keene which are in valleys.

Non EPA certified wood-burning appliances and fireplaces may emit large quantities of air pollutants. Research shows that breathing wood smoke is not healthy. If you can smell the wood smoke then generally the air is unsafe. Wood smoke contains hundreds of chemical compounds, including nitrogen oxides, carbon monoxide, organic gases, and fine particles (also known as particulate matter or PM). Even limited exposure to smoke can be harmful to human health, particularly to the health of children, the elderly, and those with chronic conditions. Fine particles about 30 times smaller than a human hair can aggravate heart or respiratory problems, such as asthma, in people of all ages.

Breathing these small particles can cause asthma attacks and severe bronchitis, aggravate heart and lung disease and may increase the likelihood of respiratory illnesses..

### EPA reports that:

Particle exposure can lead to a variety of health effects. For example, numerous studies link
particle levels to increased hospital admissions and emergency room visits—and even to
death from heart or lung diseases. Both long- and short-term particle exposures have been
linked to health problems. For a more complete discussion of wood smoke health effects
research

4 Park Street, Suite 403 Concord, NH 03301 www.nhpha.org 603-228-2983



"Improving Health, Preventing Disease, Reducing Costs for All"

- Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis—and even premature death.
- Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections.

In addition, exchanging an old or unregulated woodstove for an EPA-certified model or dismantling an old stove can reduce emissions by more than 3 lbs/million BTU when the new stove is used properly. This 60% cleaner burn is due largely to updated technology like catalytic converters and insulation.

It is for these reasons that New Hampshire Public Health Association urges this Committee to pass HB307. If you have questons or need any additional information, you can reach NHPHA at <a href="mailto:info@nhpha.org">info@nhpha.org</a>.

## ENVIRONMENTAL Fact Sheet



29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • www.des.nh.gov

ARD-36 2012

## Wood Stoves and Air Pollution Clean Burning Wood Stoves Minimize Health Risks

Many New England households use wood as a primary heating fuel, while other households use wood stoves and fireplaces as supplementary heating sources. For many people, the sight and smell of wood smoke curling out of a chimney brings back fond memories of hearth and home. Wood is a renewable resource, unlike fossil fuels such as oil, coal and gas, which are non-renewable. In fact, if firewood is harvested in a sustainable way, woodlots can provide an abundant source of fuel for years to come.



Unfortunately, smoke from wood burning stoves and fireplaces can be a significant source of air pollution, negatively impacting public health and the environment. People can reduce the amount of smoke from their wood stoves by choosing low-emission certified stoves, operating them properly, and using good quality firewood. This will improve combustion efficiency, reduce emissions, help protect public health and the environment, and save fuel costs.

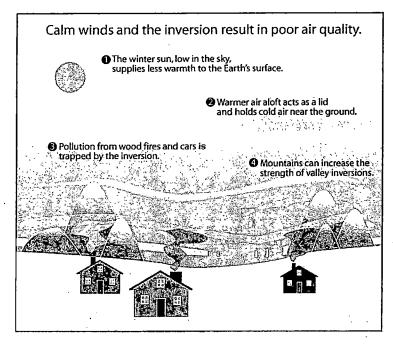
## The Problem: Smoke from Wood Stoves is a Public Health Risk



The smoke produced from woodstoves and fireplaces contains over 100 different chemical compounds, many of which are harmful and potentially carcinogenic. Wood smoke pollutants include fine particulates, nitrogen oxides, sulfur oxides, carbon monoxide, volatile organic compounds, dioxins, and furans. Breathing air containing wood smoke can cause a number of serious respiratory and cardiovascular health problems. Those at greatest health risk from wood smoke include infants, children, pregnant women, the elderly, and those suffering from allergies, asthma, bronchitis, emphysema, pneumonia, or

any other heart or lung disease.

Fine particulate matter, the very small particles that make up smoke and soot, may be the most dangerous component of wood smoke pollution. The most harmful particles are those ten microns or less in diameter (a human hair is approximately 70 microns in diameter). These particles can easily be inhaled deep into the lungs, collecting in the tiny air sacs (called alveoli) where oxygen enters the blood, causing breathing difficulties and sometimes permanent lung damage. Inhalation of fine particulate matter can increase cardiovascular problems, irritate lungs



and eyes, trigger headaches and allergic reactions, and worsen respiratory diseases such as asthma, emphysema, and bronchitis, which could result in premature deaths.

Pollution from wood stoves is a particular concern in the winter when cold, stagnant air and temperature inversions limit air movement.

Communities located in valleys are more strongly affected. As wood burning increases on cold, clear, calm nights, smoke is unable to rise and disperse. Pollutants are trapped and concentrated near the ground, and the small size of the particles allows them to seep into houses through closed doors and windows.

In addition to its potential health impacts, wood smoke contributes to the unpleasant brown haze we often experience on winter mornings. Regional haze reduces visibility and obscures our enjoyment of scenic vistas.

The air quality on cold, calm nights in low-lying valleys of New Hampshire is periodically very poor. This poor air quality is a serious concern for scientists and state officials; computer models have connected 80 percent of the particulate matter in the air in some areas of the state to wood stoves. Although the source has been identified as wood stoves, in order to meet federal and state regulations for ambient air quality, the local industries will likely have very stringent emission standards imposed on them. These emissions standards will be costly to meet and could drive local industries out of business. Therefore, to keep local businesses operating, it is important to realize the consequences of wood stove emissions and do something about it.

## The Solution: Increasing Wood Stove Efficiency to Reduce Smoke

Smoke from wood stoves is generated primarily by incomplete combustion, which can be caused by a number of different factors related to the wood stove's efficiency. Improving a wood stove's efficiency will improve the combustion process, and thus reduce the amount of smoke and harmful air pollutants released into the air. A wood stove's efficiency is affected by both the design features of the stove and how it is operated and maintained. Here are some ways to improve wood stove efficiency, resulting in less smoke and money savings on wood fuel costs.

## Select a clean-burning stove and make sure it is the proper size

When buying a new wood stove, make sure you are purchasing a certified clean burning, efficient model with design features that promote complete combustion. Wood stove design technologies that are desirable include advanced combustion stoves, catalytic stoves, and wood pellet stoves. Advanced combustion stoves are designed to create the conditions necessary to

The use of properly sized wood pieces is equally important. Wood should be split to a maximum thickness of four to six inches, depending on stove size. This size increases the surface area exposed to flame, resulting in higher burn efficiency.

**NEVER** burn household wastes such as plastics, color newsprint, diapers, magazines, packaging materials, coated or laminated papers, or painted or treated wood in residential stoves or fireplaces. When burned, these products produce smoke, odors, and release toxic fumes, and the remaining ash may be hazardous. Only dry, untreated wood is acceptable to burn.

## Use proper burning techniques

Efficient wood burning requires proper starting, an adequate supply of oxygen, and temperatures high enough to ensure that gases coming off the fire are burned. Start a small fire at first, with dry kindling or small pieces of clean paper and the damper open. Once the flames from the kindling just begin to subside, add several small pieces of wood, being careful not to smother the fire. The key to maintaining a good fire is careful control of the air supply. The fire should be small enough for air to get to it, but large enough to be hot and able to burn for hours without opening the wood stove door. Unwanted emissions can be released in the house whenever the wood stove door is opened.

A fire that is burning brightly without visible smoke is a sign of good combustion. Excessive smoke from a chimney in the middle of a burn means the smoke is not being burned in the firebox, but is going up the chimney. Never allow the fire to smolder. Smoldering fires are the worst polluters because they burn at a temperature too low for efficient combustion. The result is more smoke – unburned wood going up the chimney, wasted. This means more air pollution and creosote deposits that could lead to a chimney fire.

In addition to checking the fire and smoke conditions, keep the wood stove properly maintained and check it frequently for leaks. Leaks in a stove reduce its efficiency, cause indoor air pollution and can result in a fire. Be sure to periodically check and clean the stack pipe and chimney. See your local fire officials for more information on maintenance of wood stoves, stacks and chimneys.

## Reduce the amount of firewood burned by making your house more energy-efficient

Before installing a wood stove, consider insulating and weather stripping your home to conserve heat. Also, make sure that all doors and windows are properly caulked. There might be tax incentives to help with these costs and these improvements will save money on fuel and raise the resale value of your home.

### For more information

For more information on wood stoves and air quality, contact the N.H. Department of Environmental Services' Air Resources Division at (603) 271-1370. For information on wood stoves for residential heating, contact the N.H. Office of Energy and Planning at (603) 271-2155 or visit EPA's website at <a href="https://www.epa.gov/burnwise">www.epa.gov/burnwise</a> or UNH Cooperative Extension's website at <a href="https://www.extension.unh.edu/Energy/WoodHeat.html">www.extension.unh.edu/Energy/WoodHeat.html</a>.

burn the combustion gases as they go up the chimney. Catalytic stoves contain a catalytic combustor that ignites smoke gases and particles at a lower temperature, resulting in a more complete burn of harmful substances. Wood pellet stoves burn small pellets of compressed wood by-products instead of cordwood. The pellets are fed into the stove through a hopper at a controlled rate, producing a clean optimum burn with low emissions.

The U.S. Environmental Protection Agency (EPA) set standards for wood stoves in 1990. Stoves cannot be sold to consumers in the U.S. unless they meet certain emission standards for particulate matter and carry the EPA Emission Certification label. Certified stoves reduce smoke emissions by as much as 90 percent, compared with conventional stoves, and are much more efficient. EPA-certified stoves often include design features that promote secondary combustion aimed at burning off dangerous chemicals and toxic substances before they leave the firebox.

Be sure the wood stove you are using is EPA-certified, and if your wood stove is old, consider replacing it with a cleaner, more efficient model. A tax credit may be available for the purchase of a new efficient stove to defray the cost and encourage this investment. To find out if a tax credit is available visit the Database of State Incentives for Renewables and Efficiency website at <a href="https://www.dsireusa.org">www.dsireusa.org</a> or contact the N.H. Office of Energy and Planning at (603) 271-2155 or DES at (603) 271-1370. Properly used, a new stove will pay for itself over time by saving fuel and have a lifetime of 30-40 years.

EPA offers advice to consumers for purchasing woodstoves, ranging from considerations relating to installation, operation and maintenance, to determining the best size stove for your heating needs. A wood stove should be the proper size for the area being heated.

## Make sure your wood stove is properly installed

All wood stoves should be properly installed to ensure tightness, safety, proper draft and efficiency. This is important both for efficiency and for maintaining good indoor air quality. Improper installation could result in more air pollution, chimney fires, or house fires. Follow the manufacturer's instructions and recommendations for flue size, clearances and connections, and consider having your wood stove installed by a certified installer. Before installation, be sure to check with your local authorities regarding building codes and permits, and notify your insurance company.

## Choose the proper fuel

The best wood to use in wood burning stoves is air-dried hardwood (oak, beech, maple, elm, ash - **not** pine), seasoned for six to eight months prior to burning and stored under cover for protection from the weather. Wet or freshly cut ("green") wood is not energy efficient because the heat produced is used to evaporate water, rather than heat the home. The water content of a tree or freshly-cut firewood can be as high as 50 percent, compared with 15-20 percent in dry, well-seasoned wood. Burning dry wood produces a more even burn and helps prevent the formation of creosote, a highly-flammable crusty deposit that sticks to the inside walls of your chimney.

# Voting Sheets

## HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

### **EXECUTIVE SESSION on HB 307**

BILL TITLE:

relative to the removal of certain wood stoves upon the sale of a home

and notification of such removal to the department of environmental

services.

DATE:

2-5-13

LOB ROOM:

304 ·

## Amendments:

Sponsor: Rep.

OLS Document #:

Sponsor: Rep.

OLS Document #:

Sponsor: Rep.

OLS Document #:

Motions:

OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote:

(Please attach record of roll call vote.)

**Motions:** 

OTP, OTP/A/ITL Retained (Please circle one.)

Moved by Rep. R. LeVasseur

Seconded by Rep. Vadney

Vote: 13-6 (Please attach record of roll call vote.)

CONSENT CALENDAR VOTE: Consent of Regular (Circle One)

(Vote to place on Consent Calendar must be unanimous.)

Statement of Intent:

Refer to Committee Report

Respectfully submitted,

Rep. Robert E. Introne, Clerk

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OLS Document #:

Sponsor: Rep.

OLS Document #:

Sponsor: Rep.

OLS Document #:

Motions:

OTP, OTP/A, TLL, Retained (Please circle one.) LAVA OS EVQ, RILLIA RED VADNEY

Moved by Rep.

Seconded by Rep.

Vote:

(Please attach record of roll call vote.)

Motions:

OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote:

(Please attach record of roll call vote.)

CONSENT CALENDAR VOTE: Consent of Regular (Circle One)

(Vote to place on Consent Calendar must be unanimous.)

Statement of Intent:

Refer to Committee Report

Respectfully submitted,

Rep. Robert E. Introne, Clerk



## STATE OF NEW HAMPSHIRE OFFICE OF THE HOUSE CLERK

1/10/2013 11:27:09 AM Roll Call Committee Registers Report

## 2013 SESSION

SCIENCE, TECHNOLOGY AND ENERGY	^		
Bill #: HB 307 Title: Nemoral	1 Of 6	artain wood Di	torles
PH Date: 1 / 29 / 13	<i>D.</i>	Exec Session Date:	2,5,13
Motion:	<del></del> :	Amendment #:	
MEMBER		<u>YEAS</u>	<u>NAYS</u>
Borden, David A, Chairman		X	
Townsend, Charles L, V Chairman		· .	X
Cali-Pitts, Jacqueline A			X
Levasseur, Nickolas J		X	
Pastor, Beatriz			X
Baber, William S	,	×	N 1
Backus, Robert A			X
Grossman, Kenneth		×	
Mann, John E			X
Raymond, Ian P		X	
Shepardson, Marjorie J			X
Introne, Robert E, Clerk		X	
Devine, James E			
Rappaport, Laurence M	,	X	
Bradley, Lester W		X	
Reilly, Harold T		×	
Khan, Aboul B		×	
LeVasseur, Richard D		X,	
Murotake, David K		× ×	
Vadney, Herbert R		X	
TOTAL VOTE:		4.	

13

# Committee Report

## REGULAR CALENDAR

**February 13, 2013** 

## HOUSE OF REPRESENTATIVES

## REPORT OF COMMITTEE

The Committee on SCIENCE, TECHNOLOGY AND ENERGY to which was referred HB307,

AN ACT relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the department of environmental services. Having considered the same, report the same with the following Resolution: RESOLVED, That it is INEXPEDIENT TO LEGISLATE.

Rep. Richard D LeVasseur

FOR THE COMMITTEE

Original: House Clerk

Cc: Committee Bill File

## **COMMITTEE REPORT**

Committee:	SCIENCE, TECHNOLOGY AND ENERGY
Bill Number:	HB307
Title:	relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the department of environmental services.
Date:	February 6, 2013
Consent Calendar:	NO
Recommendation:	INEXPEDIENT TO LEGISLATE

## STATEMENT OF INTENT

The purpose of the bill was relative to the removal and destruction of certain woodstoves not certified for sale as new after July 1, 1986 by the government protection agency. The reason given was to reduce excessive particulate discharge from certain inefficient wood burning stoves. The committee had questions about enforcement, and financial reimbursement of the owner's property, hence the ITL motion.

Vote 13-6.

Rep. Richard D LeVasseur FOR THE COMMITTEE

Original: House Clerk

Cc: Committee Bill File

## REGULAR CALENDAR

## SCIENCE, TECHNOLOGY AND ENERGY

HB307, relative to the removal of certain wood stoves upon the sale of a home and notification of such removal to the department of environmental services. INEXPEDIENT TO LEGISLATE. Rep. Richard D LeVasseur for SCIENCE, TECHNOLOGY AND ENERGY. The purpose of the bill was relative to the removal and destruction of certain woodstoves not certified for sale as new after July 1, 1986 by the government protection agency. The reason given was to reduce excessive particulate discharge from certain inefficient wood burning stoves. The committee had questions about enforcement, and financial reimbursement of the owner's property, hence the ITL motion. Vote 13-6.

Original: House Clerk

Cc: Committee Bill File

THE PURPOSE, OF THE BILL, WAS RELATIVE TO THE
REMOVAL OF CERTAIN WOOD STOVES NOT CERTIFIED
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GOVERNMENT PROTECTION AGENCY.
THE REASON GIVEN WAS TO REDUCE EXCESSIVE
PARTICULATE DISCHARGE FROM CERTAIN INCFFICIENT
nood BURNING STOVES,
THE commiTTEE VOTED 13 TOG TO ITLINIS BI
Some REASONS FOR THIS RECOMMENDATION
WERE INFORCEMENT QUESTIONS THE
AND FINANCIAL CONSIDERATIONS FOR STATES
BELLE GENERAL REIMBURSMENT OF THE OWNERS
PROPERTY.
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