

# Biomass Thermal Utilization (BTU) Act of 2013 (S. 1007, H.R. 2715)

Co-sponsors: Senators King (I-ME), Collins, (R-ME), Shaheen (D-NH), Franken (D-MN), Merkley (D-OR), and Sanders (I-VT), and Representatives Michaud (D-ME2), Welch (D-VT), Gibson (NY-19), Kuster (NH-2), Nolan (MN-8), and Owens (NY-21)

## What is thermal biomass?

A thermal biomass system is a stove, furnace or boiler that runs on biomass fuels such as wood pellets and chips, solid wood or agricultural residues. The system produces thermal energy for heating residential, commercial and industrial buildings, as well as process heat for industrial applications.

Wood pellets, chips and solid wood are the most common fuels for biomass heating systems, although agricultural wastes will see growth in the future.

Wood pellets are generally made from wood waste, condensed under heat and pressure, with no additives. They have high energy density, low moisture content, and are as easy to transport and use as traditional fossil fuels. Wood chips offer a

slightly less refined form of biomass fuel, but also allow for easy transport and storage.

Advanced combustion technologies allow the use of biomass fuels with very high efficiencies and low emissions. Leading technologies have been developed in Europe, but are now entering the U.S. market. Domestic U.S. manufacturers are also developing advanced technologies.



*A biomass thermal system can provide hot air, water, and process heat*

## What are the economic and environmental benefits of renewable thermal biomass?

These technologies utilize fuels and feedstocks that support forest- and agricultural-based economic development in rural regions. Many rural regions are dependent on imported fossil heating fuels such as oil and propane, and do not have access to natural gas. Locally produced biomass fuels can displace dependence on these expensive imported fuels, thereby keeping fuel dollars local and greatly reducing heating costs.

Wood pellet and chip manufacturing, as well as dedicated production of agricultural feedstocks for thermal applications can help revitalize economies in

regions that have been impacted by decline in forest industry or agriculture. Biomass thermal creates and helps retain JOBS.

Biomass fuels are low carbon and result in net reduction of greenhouse gas emissions when displacing high carbon intensity fuels such as heating oil. In addition, the use of wood fuels reduces sulfur emissions that contribute to acid rain.

The use of biomass fuels produced in America helps strengthen American energy independence and security.

## Why is the BTU Act important?

The BTU Act adds high efficiency biomass thermal technologies to the list of renewable energy technologies that current benefit from investment tax credits under section 25D (residential) and Section 48 (commercial/industrial) of the tax code. This investment credit currently applies to solar thermal and geothermal technologies, but not to biomass thermal. The BTU Act corrects this oversight. The BTU Act only qualifies the most efficient and advanced technologies for the credit.

Investment credits are needed for advanced biomass thermal technologies because of their comparatively

high up front capital cost. This "capital hurdle" must be overcome to build the market and gain economies of scale that will bring system costs down. Similar policy has been very effective in reducing the cost of solar (PV and thermal) and geothermal technologies.



*Biomass fuels can be conveniently delivered in bulk*

## Who supports the BTU Act?

Alliance for Green Heat  
American Boiler Manufacturers Association  
American Forest Foundation  
Aroostook Partnership for Progress  
Biomass Energy Resource Center  
Biomass Thermal Energy Council  
Central Oregon Intergovernmental Council  
Development Council  
Forest Guild  
Hardwood Federation  
Heating the Midwest with Renewable Biomass  
International District Energy Association  
Maine Pellet Fuels Association  
Mt. Adams Resource Stewards

National Association of Forest Service Retirees  
National Association of State Foresters  
National Network of Forest Practitioners  
New York Biomass Energy Alliance  
North Country Resource Conservation and  
Development Council  
Northeast Biomass Thermal Working Group  
Northern Forest Center  
Oregon Department of State Forestry  
Pellet Fuels Institute  
Pennsylvania Biomass Energy Association  
Society of American Foresters  
Sustainable Northwest  
Vermont Energy Investment Corporation  
Watershed Research & Training Center

## **Biomass Thermal Utilization (BTU) Act of 2013**

**Senator Angus King**

### **Summary**

The BTU Act of 2013 seeks to recognize and promote the many economic and environmental benefits that biomass thermal energy provides by opening the door to two sections of the Internal Revenue Code that already incentivize renewable energy. Currently, a host of renewable energy technologies qualify for investment tax credits for capital costs incurred in residential and commercial installations. Simply, this legislation seeks to achieve parity between thermal biomass and other renewable systems.

**Section 1:** The title underscores that heat from biomass is an underutilized energy source in this country. Converting biomass—in the form of agricultural crop waste, wood chips, pellets or sawmill residuals—into thermal energy is one of the most efficient uses of this resource. Biomass heating systems now entering the marketplace operate at efficiency levels of 80 percent or higher.

**Section 2, Residential Tax Credit:** This provision adds biomass fuel property to the list of existing technologies that qualify for the residential renewable energy investment tax credit in Section 25d of the Internal Revenue Code. To qualify, the biomass fuel property must operate at a thermal efficiency rate of at least 75 percent and be used to either heat space within the dwelling or heat water.

Included in this section is a broad definition of “biomass fuel.” The term applies both to agricultural and woody biomass, wood processing residues and wastes and grasses. Essentially, any plant derived fuel that is available on a recurring and renewable basis is eligible, including densified biomass fuel.

This provision would apply to expenses incurred in years following 2013. The existing 25d tax credit expires at the end of 2016.

**Section 3, Industrial Investment Tax Credit:** This provision adds open-loop biomass heating property to the list of existing technologies that qualify for the commercial renewable energy investment tax credit in Section 48 of the Internal Revenue Code. Qualifying biomass heating property must operate at thermal output efficiencies of at least 65 percent (higher heating value) and be used to generate heat, hot water, steam or industrial process heat.

The credit specified in this section is two tiered. For those technologies that operate at thermal output efficiencies between 65 percent and 80 percent, the investment tax credit is limited to 15 percent of installed capital cost. Technologies operating at thermal output efficiencies greater than 80 percent would be eligible for the full 30 percent investment tax credit under Section 48.

The existing section 48 investment tax credit expires at the end of 2016.

113TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

To amend the Internal Revenue Code of 1986 to include biomass heating appliances for tax credits available for energy-efficient building property and energy property.

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IN THE SENATE OF THE UNITED STATES

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Mr. KING introduced the following bill; which was read twice and referred to the Committee on \_\_\_\_\_

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**A BILL**

To amend the Internal Revenue Code of 1986 to include biomass heating appliances for tax credits available for energy-efficient building property and energy property.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Biomass Thermal Uti-  
5 lization Act of 2013” or the “BTU Act of 2013”.

1 **SEC. 2. RESIDENTIAL ENERGY-EFFICIENT PROPERTY**  
2 **CREDIT FOR BIOMASS FUEL PROPERTY EX-**  
3 **PENDITURES.**

4 (a) ALLOWANCE OF CREDIT.—Subsection (a) of sec-  
5 tion 25D of the Internal Revenue Code of 1986 is amend-  
6 ed—

7 (1) by striking “and” at the end of paragraph  
8 (4),

9 (2) by striking the period at the end of para-  
10 graph (5) and inserting “, and”, and

11 (3) by adding at the end the following new  
12 paragraph:

13 “(6) 30 percent of the qualified biomass fuel  
14 property expenditures made by the taxpayer during  
15 such year.”.

16 (b) QUALIFIED BIOMASS FUEL PROPERTY EXPENDI-  
17 TURES.—Subsection (d) of section 25D of the Internal  
18 Revenue Code of 1986 is amended by adding at the end  
19 the following new paragraph:

20 “(6) QUALIFIED BIOMASS FUEL PROPERTY EX-  
21 PENDITURE.—

22 “(A) IN GENERAL.—The term ‘qualified  
23 biomass fuel property expenditure’ means an  
24 expenditure for property—

25 “(i) which uses the burning of bio-  
26 mass fuel to heat a dwelling unit located in

1 the United States and used as a residence  
2 by the taxpayer, or to heat water for use  
3 in such a dwelling unit, and

4 “(ii) which has a thermal efficiency  
5 rating of at least 75 percent (measured by  
6 the higher heating value of the fuel).

7 “(B) BIOMASS FUEL.—For purposes of  
8 this section, the term ‘biomass fuel’ means any  
9 plant-derived fuel available on a renewable or  
10 recurring basis, including agricultural crops and  
11 trees, wood and wood waste and residues,  
12 plants (including aquatic plants), grasses, resi-  
13 dues, and fibers. Such term includes densified  
14 biomass fuels such as wood pellets.”.

15 (c) EFFECTIVE DATE.—The amendments made by  
16 this section shall apply to expenditures paid or incurred  
17 in taxable years beginning after December 31, 2013.

18 **SEC. 3. INVESTMENT TAX CREDIT FOR BIOMASS HEATING**

19 **PROPERTY.**

20 (a) IN GENERAL.—Subparagraph (A) of section  
21 48(a)(3) is amended by striking “or” at the end of clause  
22 (vi), by inserting “or” at the end of clause (vii), and by  
23 inserting after clause (vii) the following new clause:

24 “(viii) open-loop biomass (within the  
25 meaning of section 45(c)(3)) heating prop-

1           erty, including boilers or furnaces which  
2           operate at thermal output efficiencies of  
3           not less than 65 percent (measured by the  
4           higher heating value of the fuel) and which  
5           provide thermal energy in the form of heat,  
6           hot water, or steam for space heating, air  
7           conditioning, domestic hot water, or indus-  
8           trial process heat, but only with respect to  
9           periods ending before January 1, 2017.”.

10       (b) 30 PERCENT AND 15 PERCENT CREDITS.—

11           (1) IN GENERAL.—Subparagraph (A) of section  
12       48(a)(2) is amended—

13           (A) by redesignating clause (ii) as clause  
14       (iii),

15           (B) by inserting after clause (i) the fol-  
16       lowing new clause:

17           “(ii) except as provided in clause  
18       (i)(V), 15 percent in the case of energy  
19       property described in paragraph  
20       (3)(A)(viii), and”, and

21           (C) by inserting “or (ii)” after “clause (i)”  
22       in clause (iii), as so redesignated.

23           (2) INCREASED CREDIT FOR GREATER EFFI-  
24       CIENCY.—Clause (i) of section 48(a)(2)(A) is  
25       amended by striking “and” at the end of subclause

1 (III) and by inserting after subclause (IV) the fol-  
2 lowing new subclause:

3 “(V) energy property described in  
4 paragraph (3)(A)(viii) which operates  
5 at a thermal output efficiency of not  
6 less than 80 percent (measured by the  
7 higher heating value of the fuel),”.

8 (c) EFFECTIVE DATE.—The amendments made by  
9 this section shall apply to periods after the date of the  
10 enactment of this Act, in taxable years ending after such  
11 date, under rules similar to the rules of section 48(m) of  
12 the Internal Revenue Code of 1986 (as in effect on the  
13 day before the date of the enactment of the Revenue Rec-  
14 onciliation Act of 1990).