

MassCEC Biomass changeout program

SIP Steering Committee Meeting

4/24/2013

Changeout program categories

- Wood/coal stoves
- Outdoor Hydronic Heaters
- Small Scale pellet wood boilers
- Institutional boilers .5- 10 MMBtu/hr

Woodstove changeout program

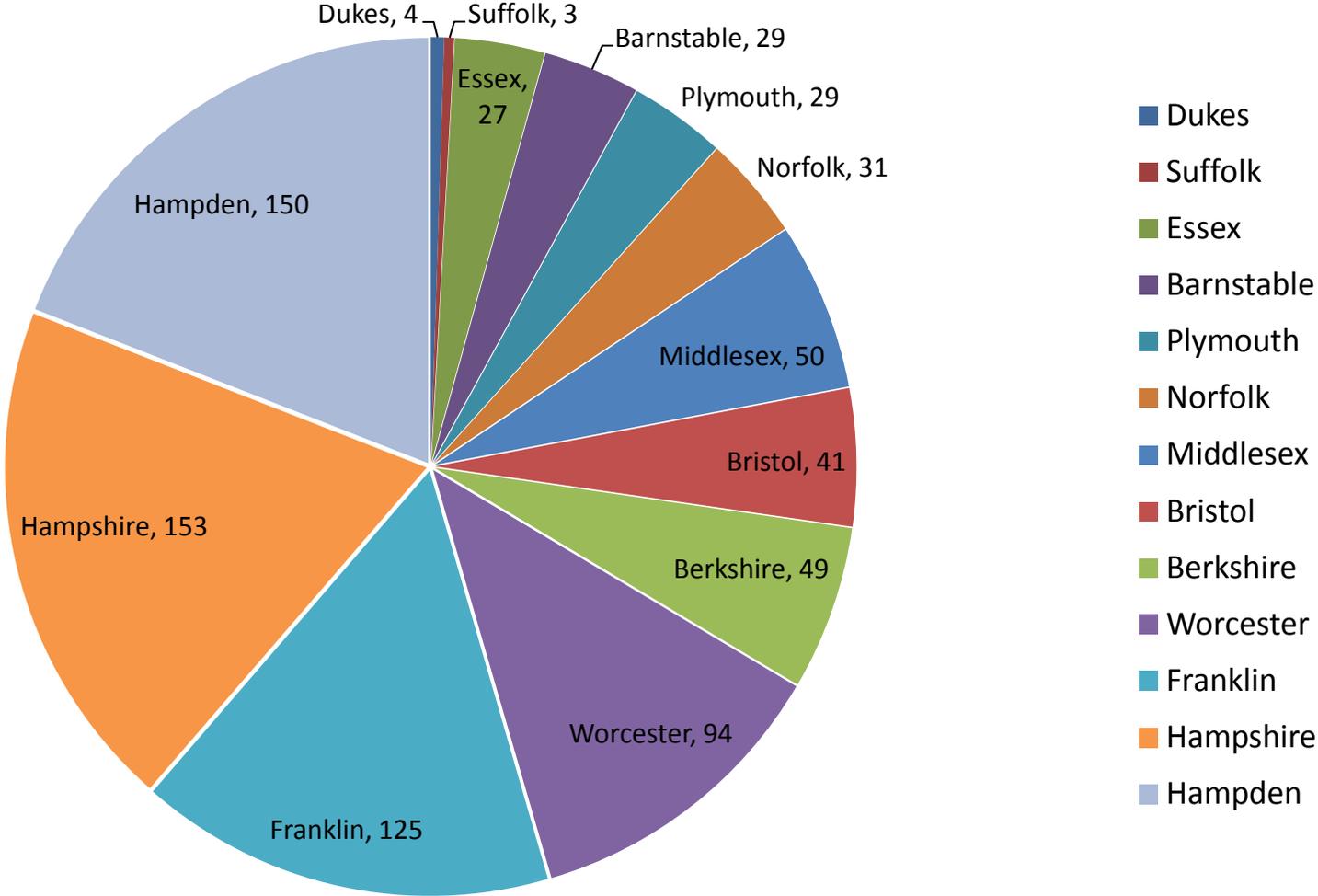
Round II Vouchers Awarded or Under Review by County			
County	Funding Allocated	% of Total Funding	# Total Vouchers
Dukes	\$ 5,000	1%	4
Suffolk	\$ 4,000	0%	3
Essex	\$ 30,000	3%	27
Barnstable	\$ 33,000	3%	29
Plymouth	\$ 37,000	4%	29
Norfolk	\$ 33,000	3%	31
Middlesex	\$ 56,000	6%	50
Bristol	\$ 48,000	5%	41
Berkshire	\$ 69,000	7%	49
Worcester	\$ 107,000	11%	94
Franklin	\$ 164,000	17%	125
Hampshire	\$ 180,000	19%	153
Hampden	\$ 177,000	19%	150
	\$ 943,000		785*

*963 Applications accepted in Round II of Woodstove Change-Out.

963 – (vouchers withdrawn) – (applications denied) = 785

Woodstove changeout program

Round II Vouchers Awarded or Under Review by County



Wood stove criteria

- Catalytic Converter design – 2.5 g/hr PM or
- Non-Catalytic Converter design – 4.5 g/hr PM and
- Minimum 70% efficiency
- These standards are a little more than 50% of the existing NSPS for wood stoves.
- Funding available is on average \$1,333 /unit replacement.

Outdoor Hydronic Heater changeout Criteria

- Must meet all applicable local and state requirements including MassDEP 310 CMR 7.26(50) –(54) the Outdoor Hydronic Heater regulation.
- Must meet EPA phase 2 “White tag” qualified testing requirements.
- Must meet .32 lb/MMBtu output based PM standard
- Continue next page

OHH criteria

- Must be listed at <http://www.gov/dep/air/community/certohh.htm> or is a heating unit that provides equal or greater air quality improvement as would a MassDEP certified OHH.
- Is sized appropriately for the application
- Shall be operated so as not to cause a condition of air pollution or nuisance.
- \$150,000 allocated for this program, averages to approximately \$ 11,000 per unit changeout.



Residential and Small Business Wood Pellet boiler changeout criteria

- Must meet a thermal efficiency of 80% or greater
- Must meet a particulate matter standard of no more than .15 lb/MMBtu heat output.
- Rated 400,000 Btu/hr or smaller, and at a minimum meets the base heat load for the building.
- Must have a multi-pass heat exchanger
- European test method EN-303-5 can be used to determine emissions criteria acceptability.

Wood Pellet boiler criteria

- Must modulate to lower output and/or turn itself off when the heating load decreases or is satisfied.
- Must be fed from a bulk fuel storage bin and access to the bulk storage bin is located 100 feet or less from the street or driveway
- The residential project site has received an energy audit within the past six years.
- Base grant is \$ 7,000 for the installation of new, commercially available wood pellet fired central boilers and furnaces.

Institutional boilers criteria

- State of the art emission standards based on the review of European design, and primarily State of VT testing results.
- Standards developed for pellet, wood chips, and cord wood.
- PM controls such as a multicyclone are included in the emission standard determination for PM.
- European gasification and secondary combustion design a leading factor in the emission determinations.
- Both front half filterable and back half condensibles are measured.

Contacts

- Ben Dodge – MassCEC
- Robert Rizzo - MassDOER
- Marc Cohen – MassDEP

- Pertinent web site link at MassCEC:
- <http://www.masscec.com/index.cfm/page/Programs/pid/11159>