Additional Opportunities for Energy Efficiency in New Hampshire

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Section 4: Residential Sector Energy Efficiency Potential

This section of the report presents the estimates of electric and non-electric technical (best), technical (traditional), maximum achievable, maximum achievable cost effective, and potentially obtainable energy efficiency potential for the existing and new construction market segments of the residential sector in New Hampshire. More information regarding how these potentials were derived is also presented.

According to this analysis, there is still a large remaining potential for electric and non-electric energy efficiency savings in the residential sector. Table 42 and Table 43 below summarize the savings by potential type by the year 2018 for residential electric and non-electric measures respectively. The estimated total costs to achieve each level of savings by 2018 are also presented in these tables. In addition, Table 42 presents peak demand savings for each potential level of savings associated with the electric energy efficiency measures.

Table 42. Summary of Residential Electric Energy Efficiency Savings Potential

	Estimated Cumulative Annual Savings by 2018 (MWh)	Savings in 2018 as a Percent of Total 2018 Residential Sector Electric Energy Consumption	Estimated Summer MW*	Estimated Total Cost to Achieve (Cummulative)	Estimated Total Cost to Achieve (Annual)
Technical Potential (Best Only)	1,770,861	31.7%	66.7	$ 2,554,517,348	$ 255,451,735
Technical Potential (Good, Better, Best)	1,489,861	26.7%	56.1	$ 2,149,167,880	$ 214,916,788
Max Achievable Potential	1,217,145	21.8%	45.9	$ 1,214,926,125	$ 121,492,613
Max Achievable Cost Effective Potential	1,170,398	20.9%	44.1	$ 632,287,942	$ 63,228,794
Potentially Obtainable	698,069	12.5%	26.3	$ 383,050,068	$ 38,305,007

33% * Estimated Summer Load Factor

Table 43. Summary of Residential Non-Electric Energy Efficiency Savings Potential

	Estimated Cumulative Annual Savings by 2018 (MMBTU)	Savings in 2018 as a Percent of Total 2018 Residential Sector Other Fuels Energy Consumption	Estimated Total Cost to Achieve (Cummulative)	Estimated Total Cost to Achieve (Annual)
Technical Potential (Best Only)	16,918,392	50.4%	$ 3,220,297,934	$ 322,029,793
Technical Potential (Good/Better/Best)	12,099,639	35.7%	$ 2,277,404,262	$ 227,740,426
Max Achievable Potential	7,463,743	22.0%	$ 1,206,916,417	$ 120,691,642
Max Achievable Cost Effective Potential	6,313,954	18.6%	$ 456,169,489	$ 45,616,949
Potentially Obtainable	3,633,554	10.7%	$ 200,483,725	$ 20,048,372

On the electric side, the maximum achievable cost effective potential in the residential sector is over 1.1 million MWh, approximately 21 percent of the New Hampshire residential sector sales forecast in 2018. With regard to non-electric end uses, the maximum achievable cost effective potential in the residential sector is more than 6.3 million MMBTu, just under 19 percent of New Hampshire's residential sector fossil fuel (natural gas, oil and propane) sales forecast in 2018. The lists of measures that make up the savings for each of these levels are shown in Table 44 and Table 45 in Section 4.2.1 below.

and seek to identify their causal links to anticipated outputs (measures installed, in-program energy and capacity savings, # of customers served, market actors trained, etc.), short-, intermediate- and long-term outcomes (changes in awareness and behavior, market-wide/sustainable energy, economic and environmental benefits, etc.). In addition, logic models recognize the existence and potential impacts of external influences (price of energy, state of the local and regional economy, federal tax incentives, other non-program sponsored activities, etc.).

Figure 20. Residential Max. Achievable Cost Effective Electric Savings Potential by End Use

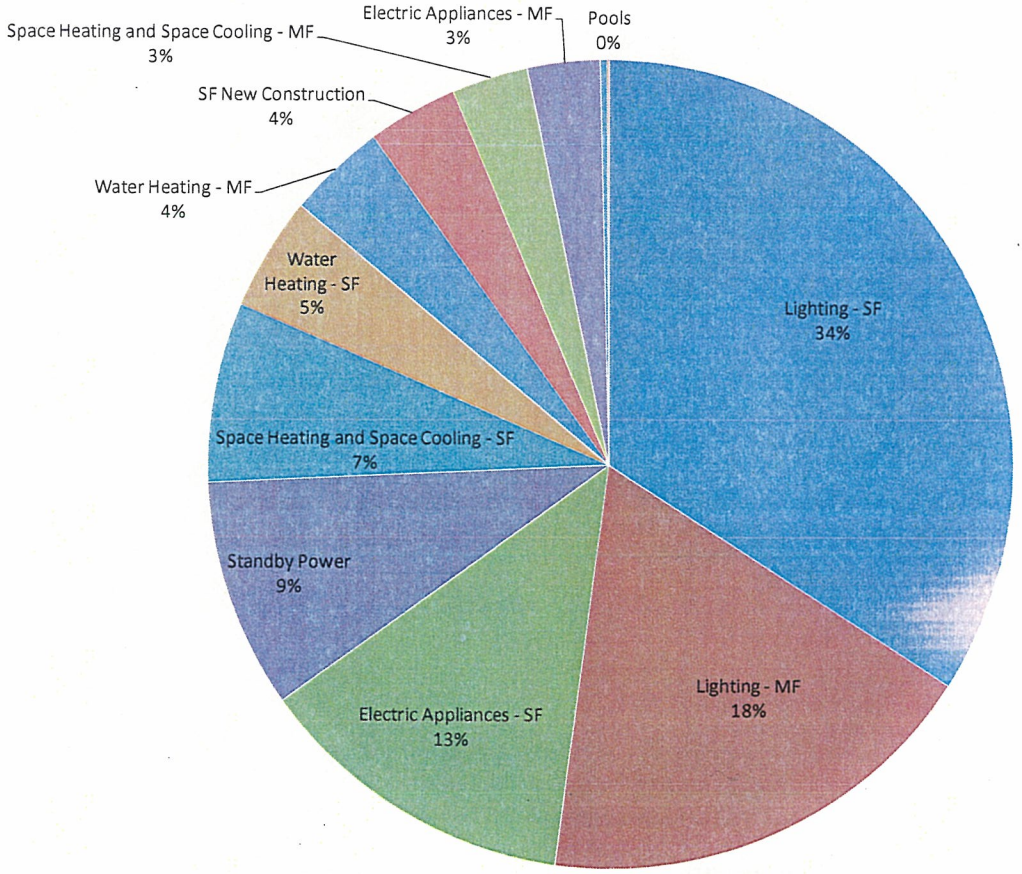

Figure 21 displays a graphical comparison of the varying non-electric end-uses within the residential sector. As shown, single-family home oil heating measures represent the largest area of savings potential at 25%, followed by single-family water heating at 18%, and then single-family weatherization packages at 12%. The remainder is comprised mostly of multi-family water heating, gas-heating measures for single and multi-family, and home propane heating measures.

Figure 21. Residential Max Achievable Cost Effective Non- Electric Savings Potential by End Use

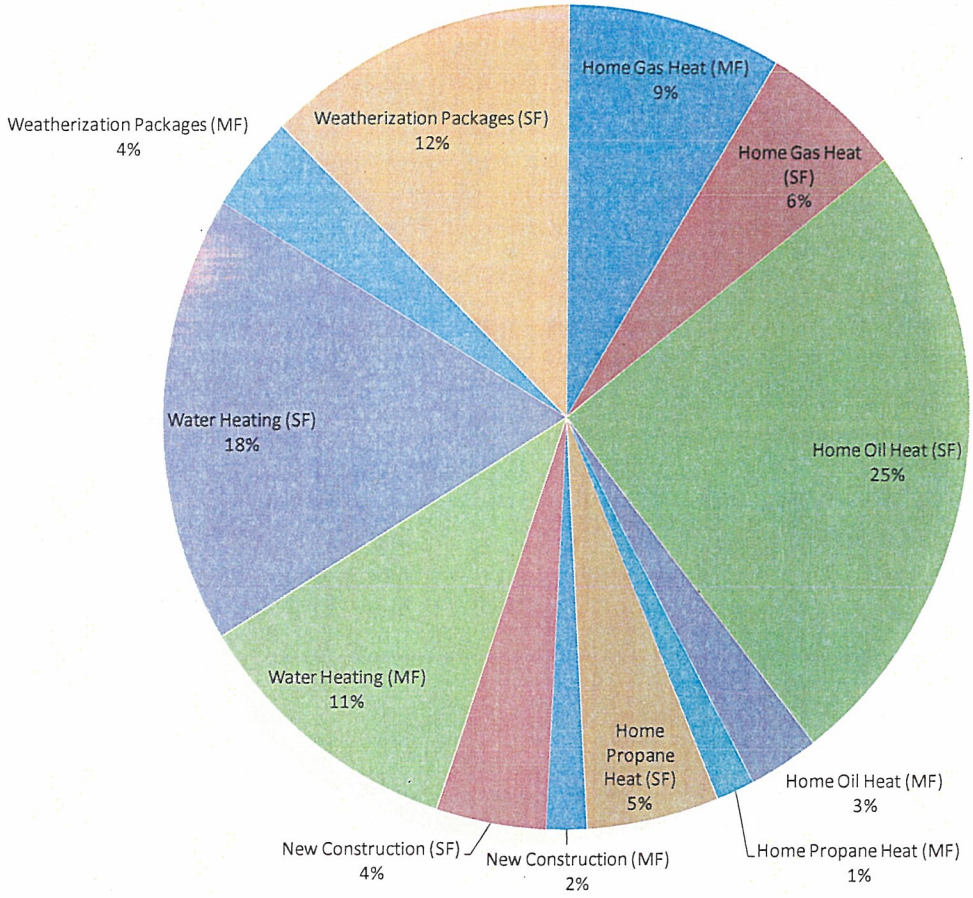

Figure 22 and Figure 23, displayed below, show a graphical comparison of the varying maximum achievable cost effective electric and non-electric savings by end use within the residential sector. While Figure 20 and Figure 21 show relative percent comparisons only, Figure 22 and Figure 23 show both relative and absolute (kWh and MMBTu) comparisons of the savings coming from each end use.