

Initial 2014 Energy-Efficiency Forecast 2017-2023 – Measure Data Analysis



Energy-Efficiency Working Group

ISO Staff



Measure Data Analysis – Disclaimer

This presentation and data representation is solely intended for informational purposes only to assist the ISO in its analysis of EE program data and is not intended to be used as a cost-effectiveness measure for EE programs. Cost effectiveness of EE program is squarely in the hands of the states and the ISO has no position regarding cost effectiveness.



Measure Data Analysis – Disclaimer (cont)

- Measure data is sourced from PA submissions over the past three EE Forecast data collection cycles.
- Data set is not complete, particularly in area of dollars spent per measure type
- All assumptions and conclusions from these representations are preliminary and for informational purpose only



Measure Data Background

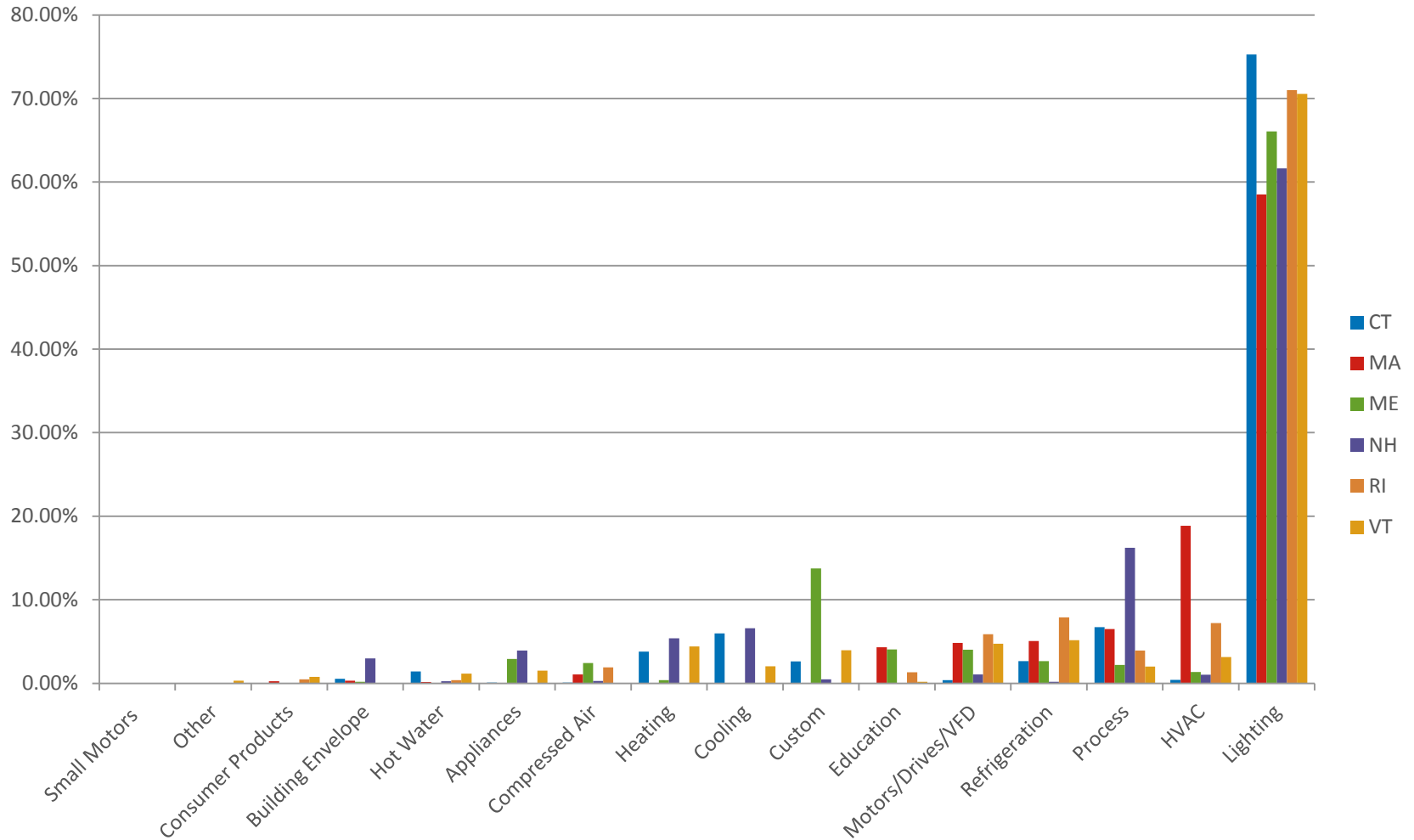
- 2012 Forecast - PA data collection process included a request to report the measures in each program for year 2008-2010, where available
- 2013 Forecast - PA data collection process included a request to report the relative percentage of energy savings for the 10 top measures in each program for program year 2011, where available
- 2014 Forecast - PA data collection process included a request to report the relative percentages of energy savings, demand savings and dollars spent for the 10 top measures in each program for year 2008-2012, where available
- This presentation is based on the 2014 Forecast data collection
- These data can be located under the 2014 Forecast/Materials page at: <http://www.iso-ne.com/eefwg>

Data Collection Completeness

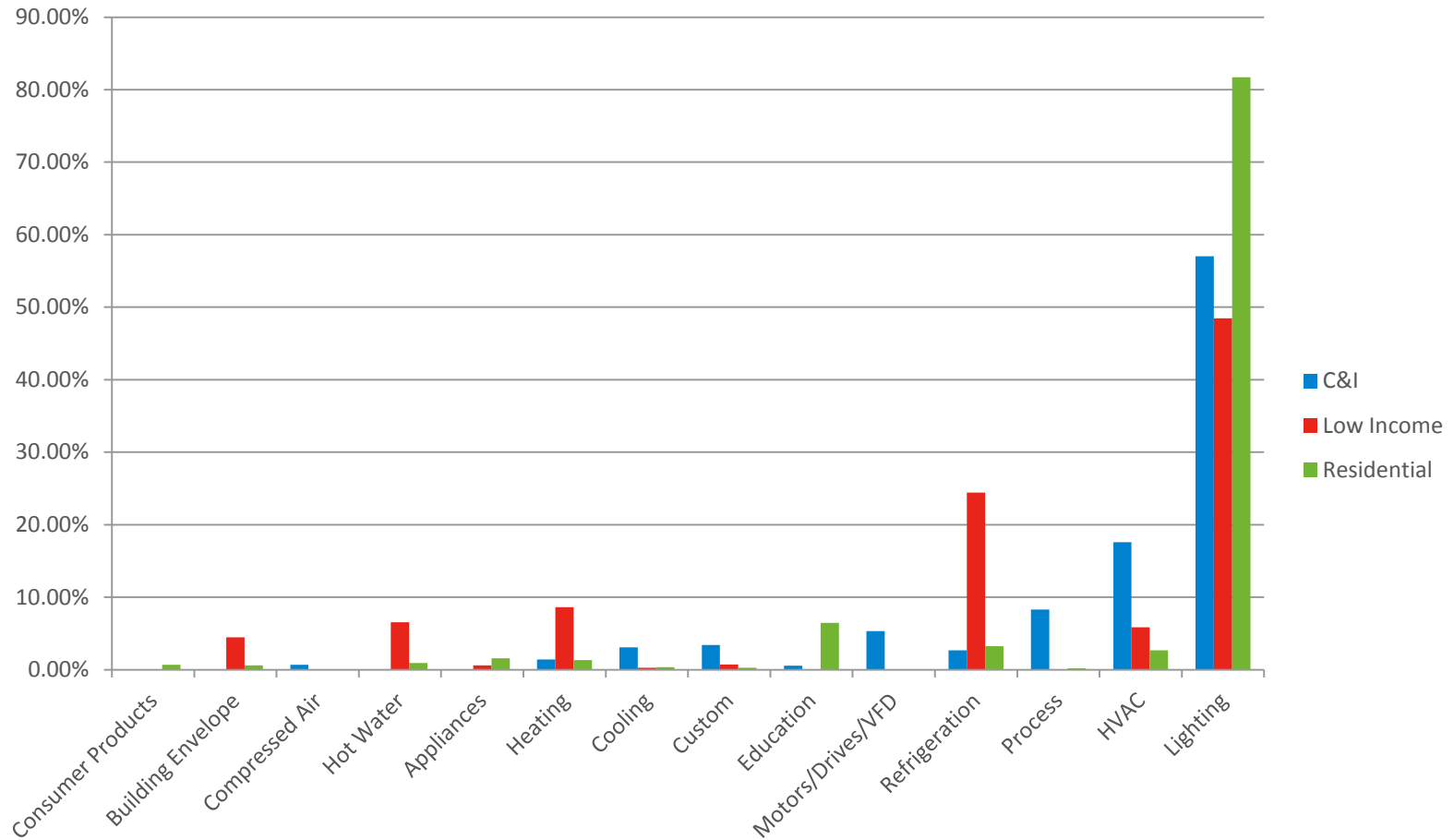
Measures as Percent of Total

		CT	ME	MA	NH	RI	VT	NE
Energy								
	2009	100	100	100	100	100	95	100
	2010	100	100	100	98	100	96	100
	2011	100	100	100	100	100	96	100
	2012	100	100	99	97	100	100	100
Demand								
	2009	100	100	100	91	98	5	90
	2010	100	100	100	91	100	6	91
	2011	100	100	100	91	100	9	93
	2012	100	100	90	86	100	100	94
Dollars								
	2009	100	16	49	84	0	4	53
	2010	100	22	54	81	0	5	61
	2011	100	100	55	86	0	6	61
	2012	99	100	56	84	0	100	64

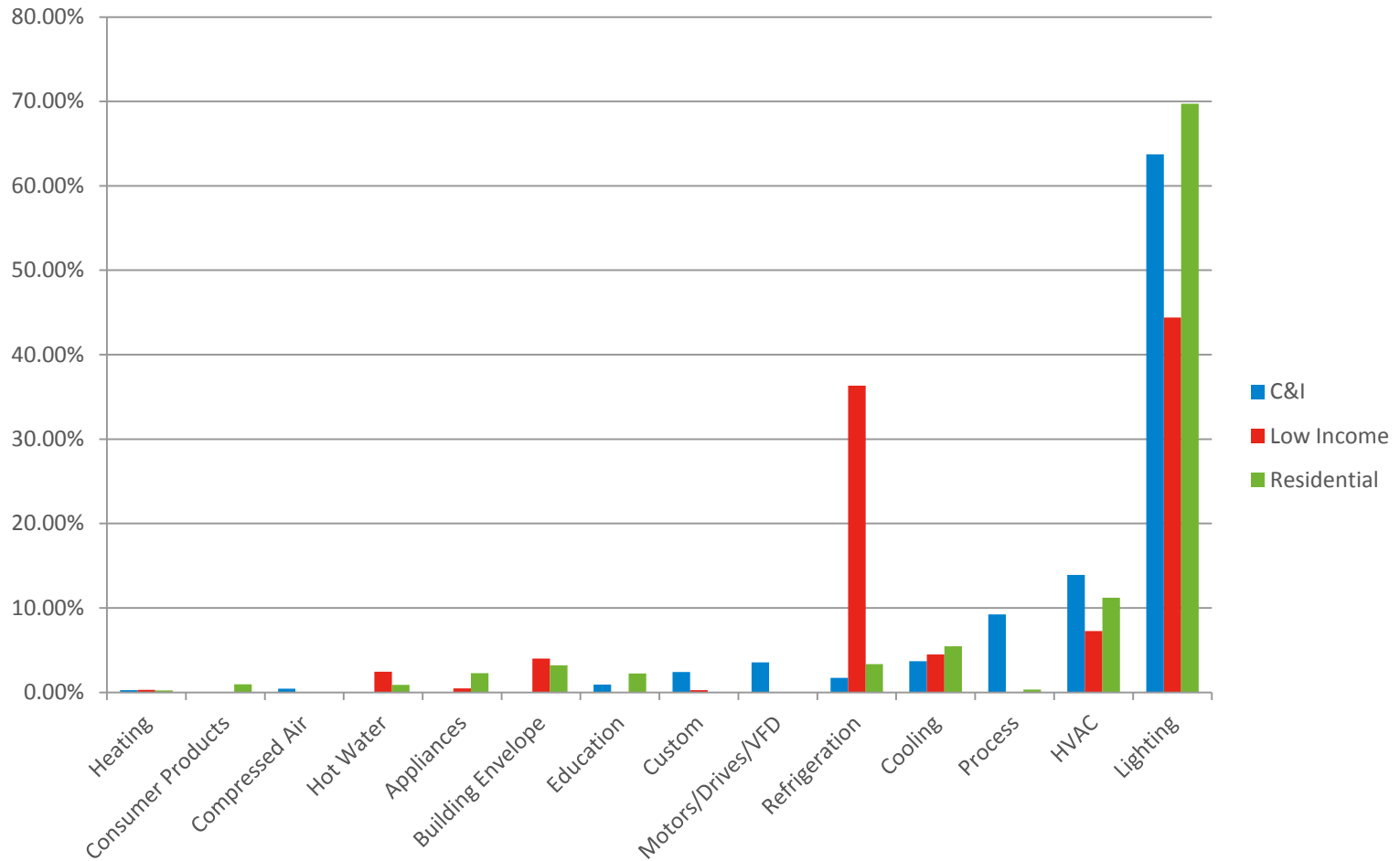
New England EE Measures as Percent of Total Energy (kWh) by State – All Years



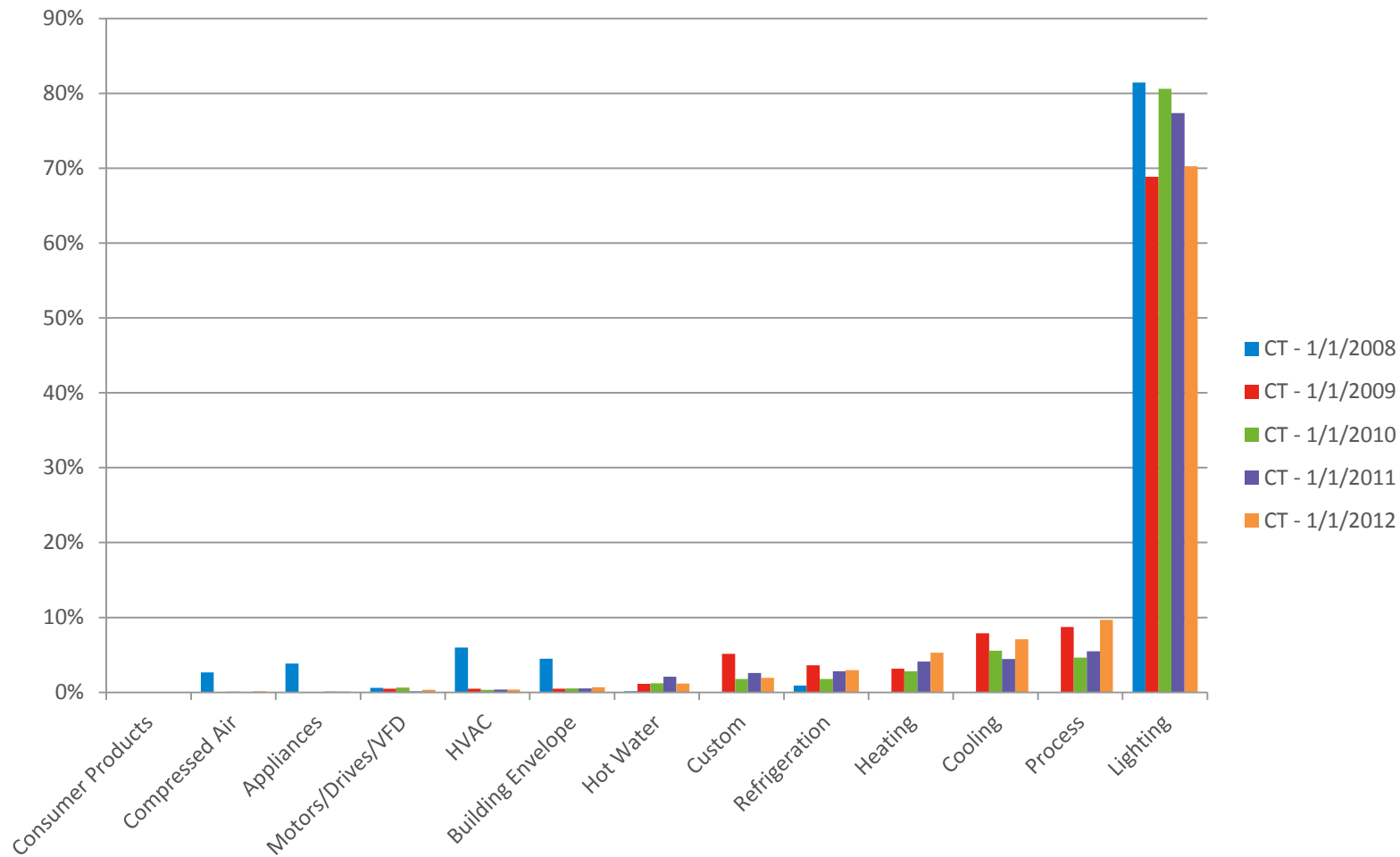
New England EE Measures as Percent of Total Energy (kWh) by Class – All Years



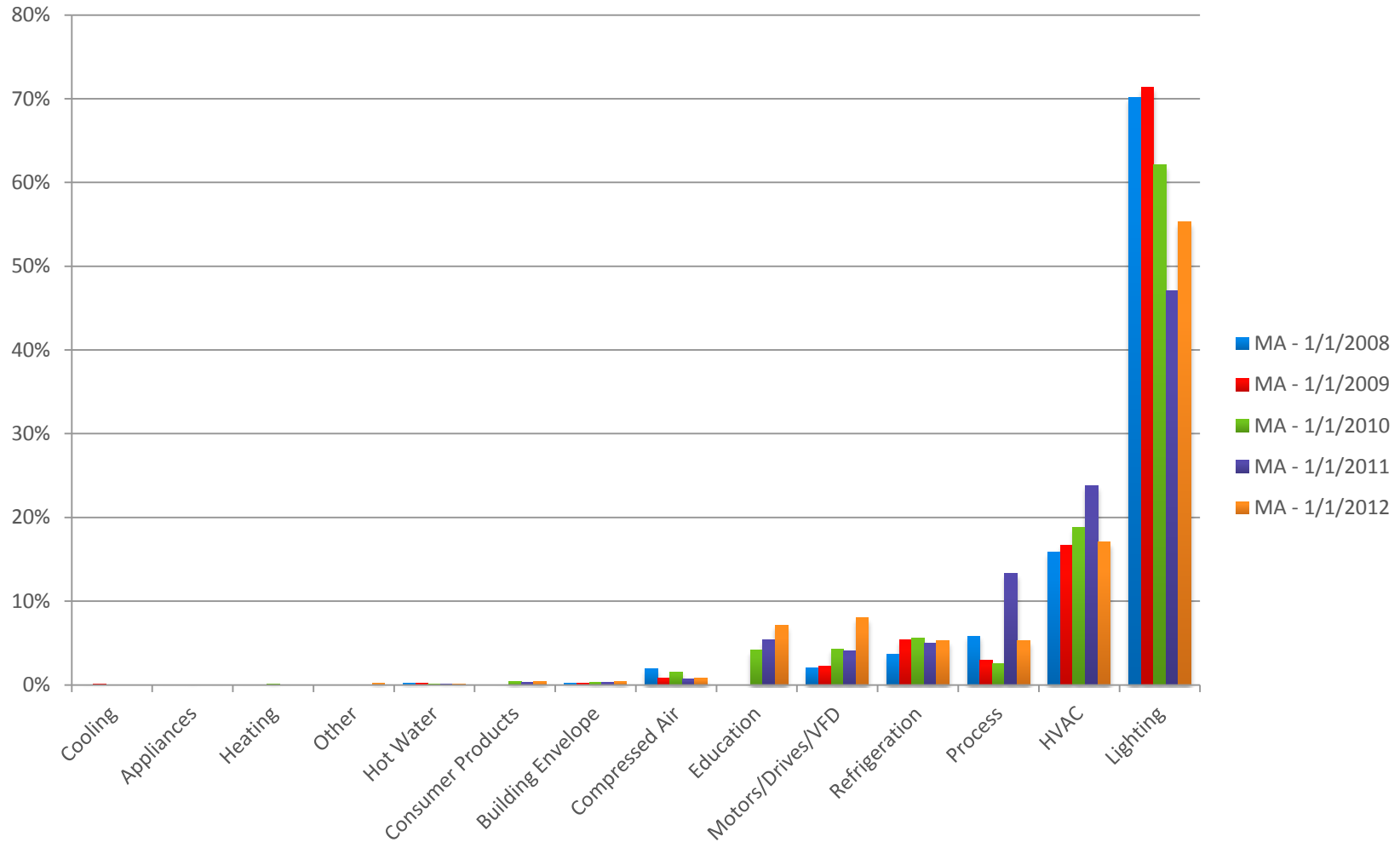
New England EE Measures as Percent of Total Demand (kW) by Class– All Years



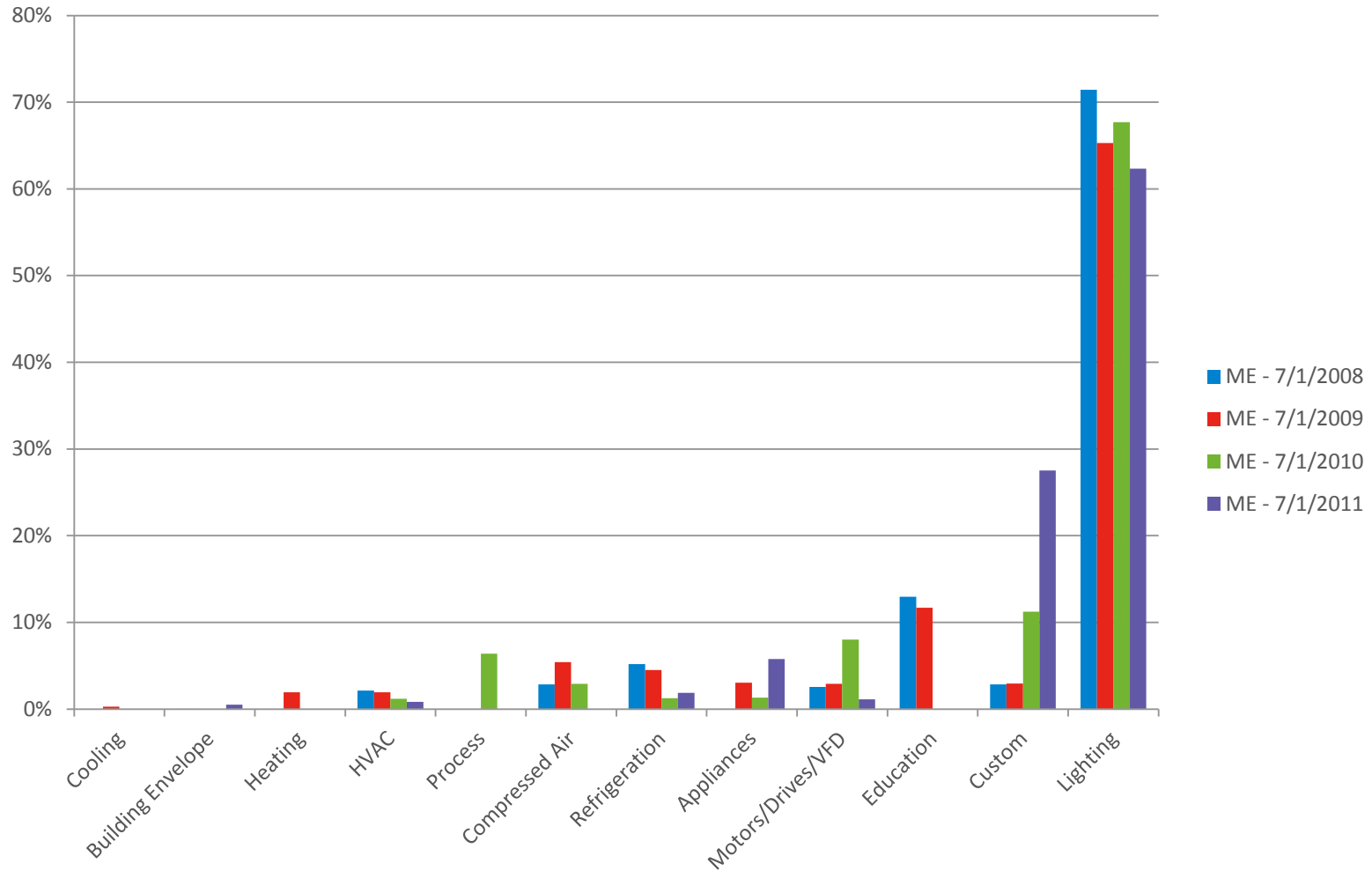
Connecticut EE Measures as Percent of Total Energy (kWh) by Program Year



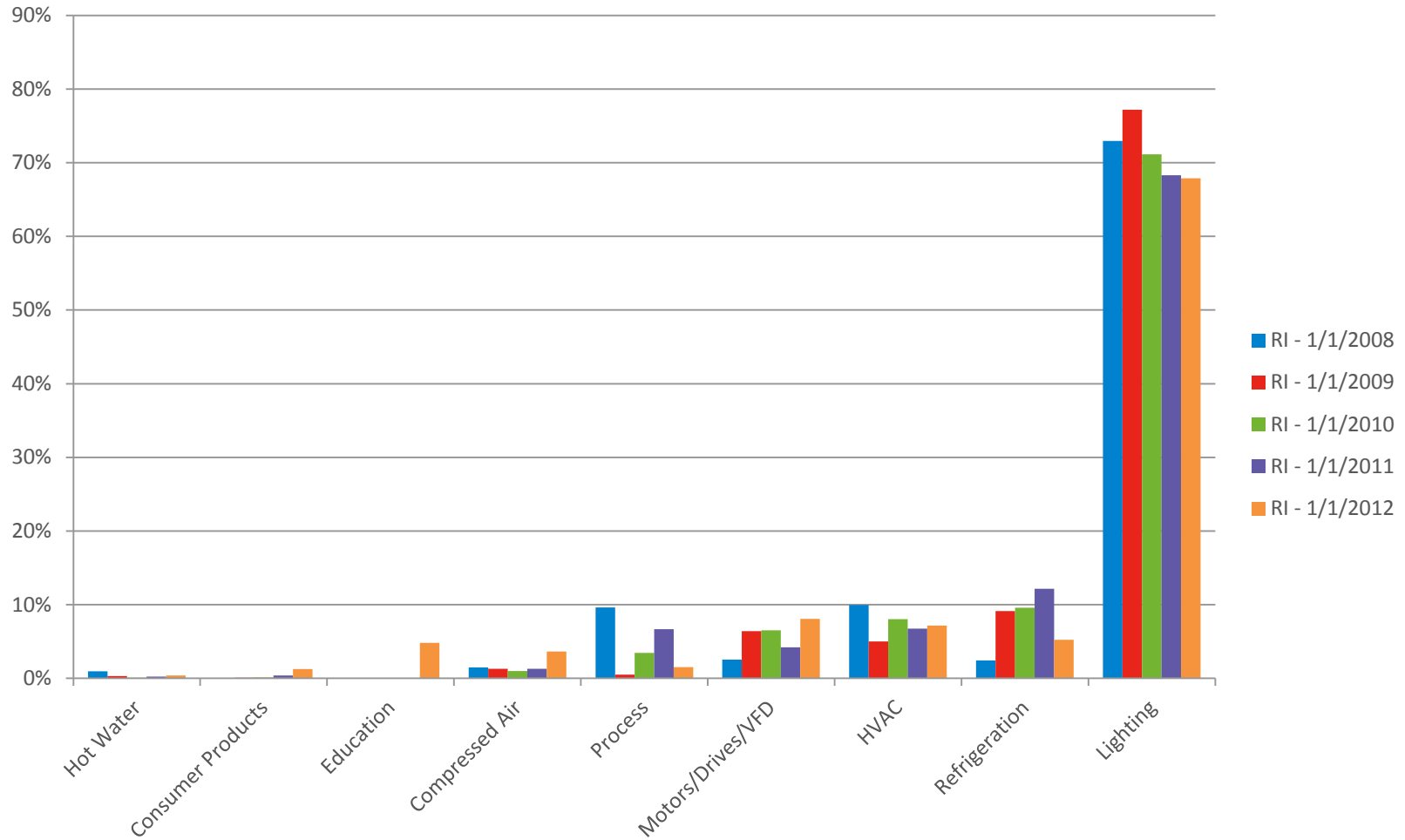
Massachusetts EE Measures as Percent of Total Energy (kWh) by Program Year



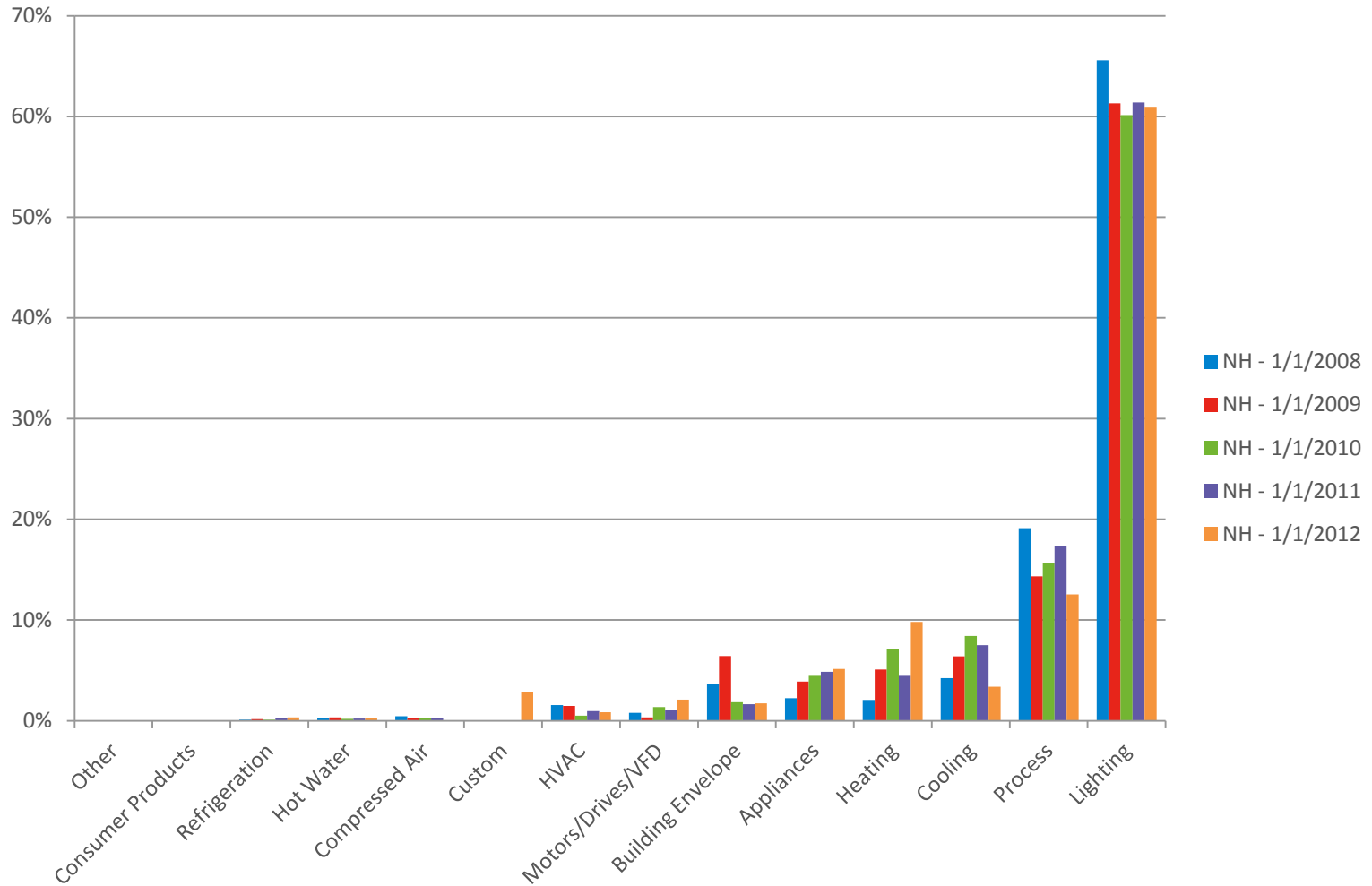
Maine EE Measures as Percent of Total Energy (kWh) by Program Year



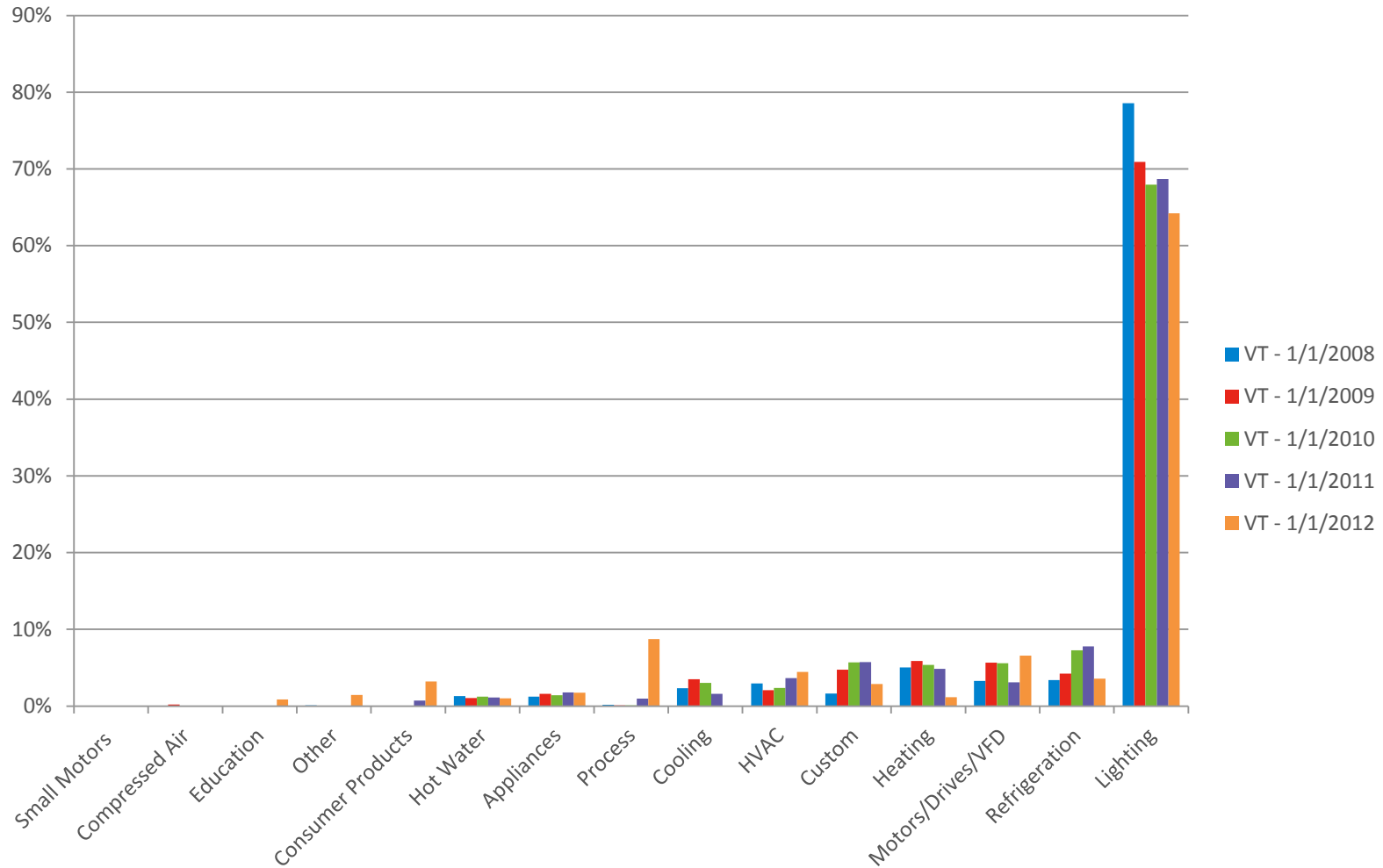
Rhode Island EE Measures as Percent of Total Energy (kWh) by Program Year



New Hampshire EE Measures as Percent of Total Energy (kWh) by Program Year

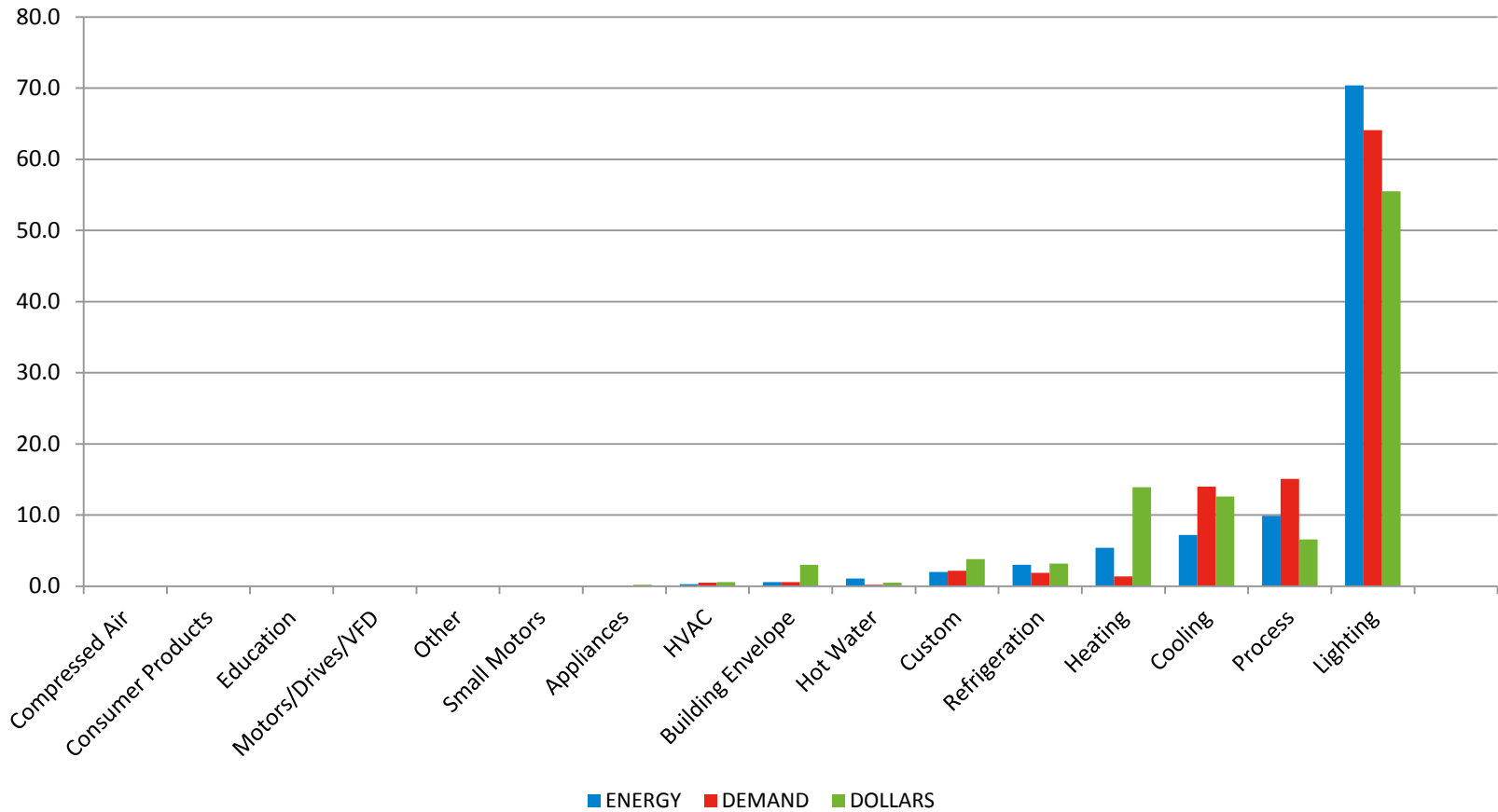


Vermont EE Measures as Percent of Total Energy (kWh) by Program Year



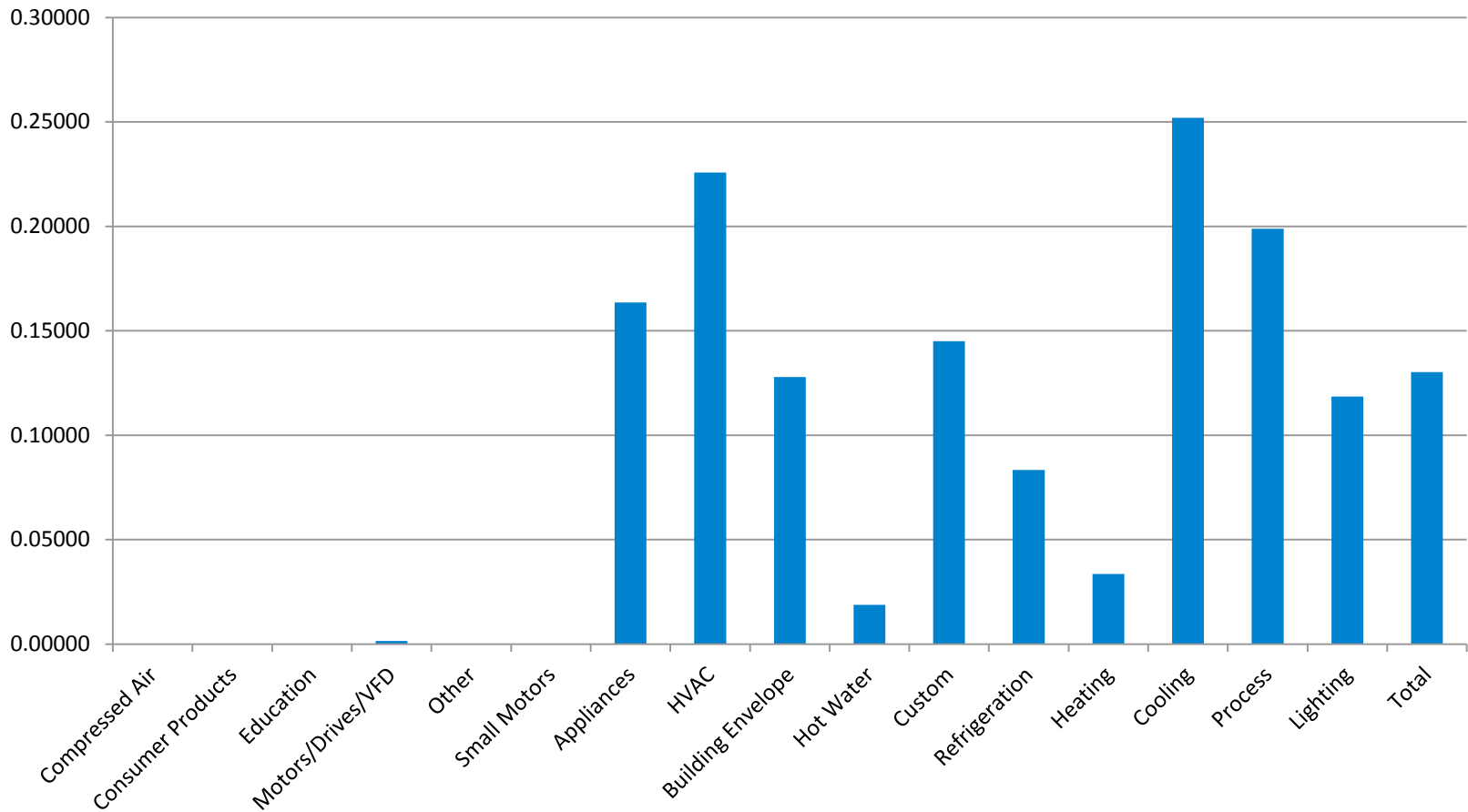
Connecticut Detail – Comparison of Energy, Demand and Cost by Measure Type

2012 CT Measures as Percent of Total



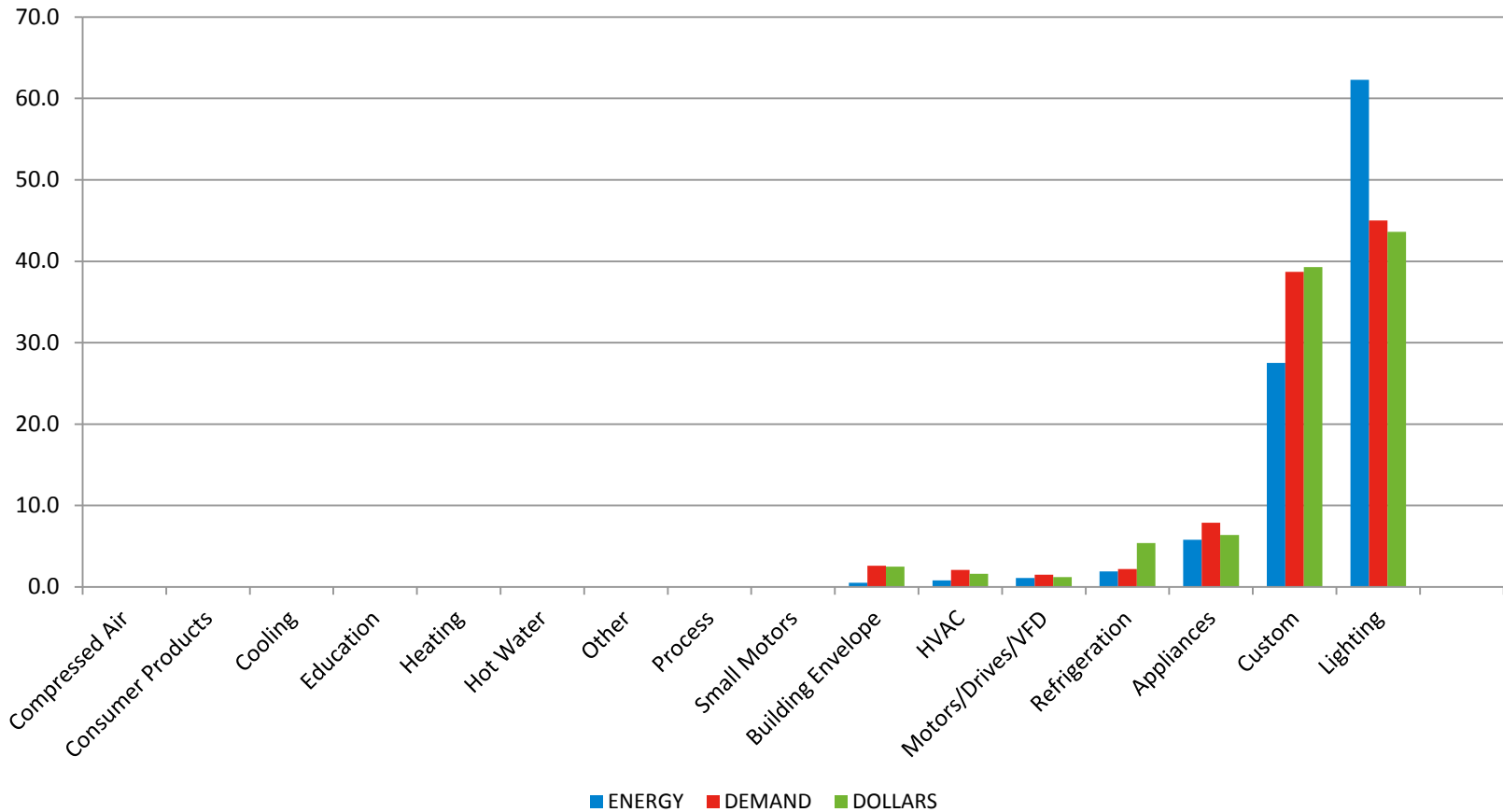
Connecticut Detail – Peak to Energy Ratio by Measure Type

2012 CT Peak to Energy Ratio



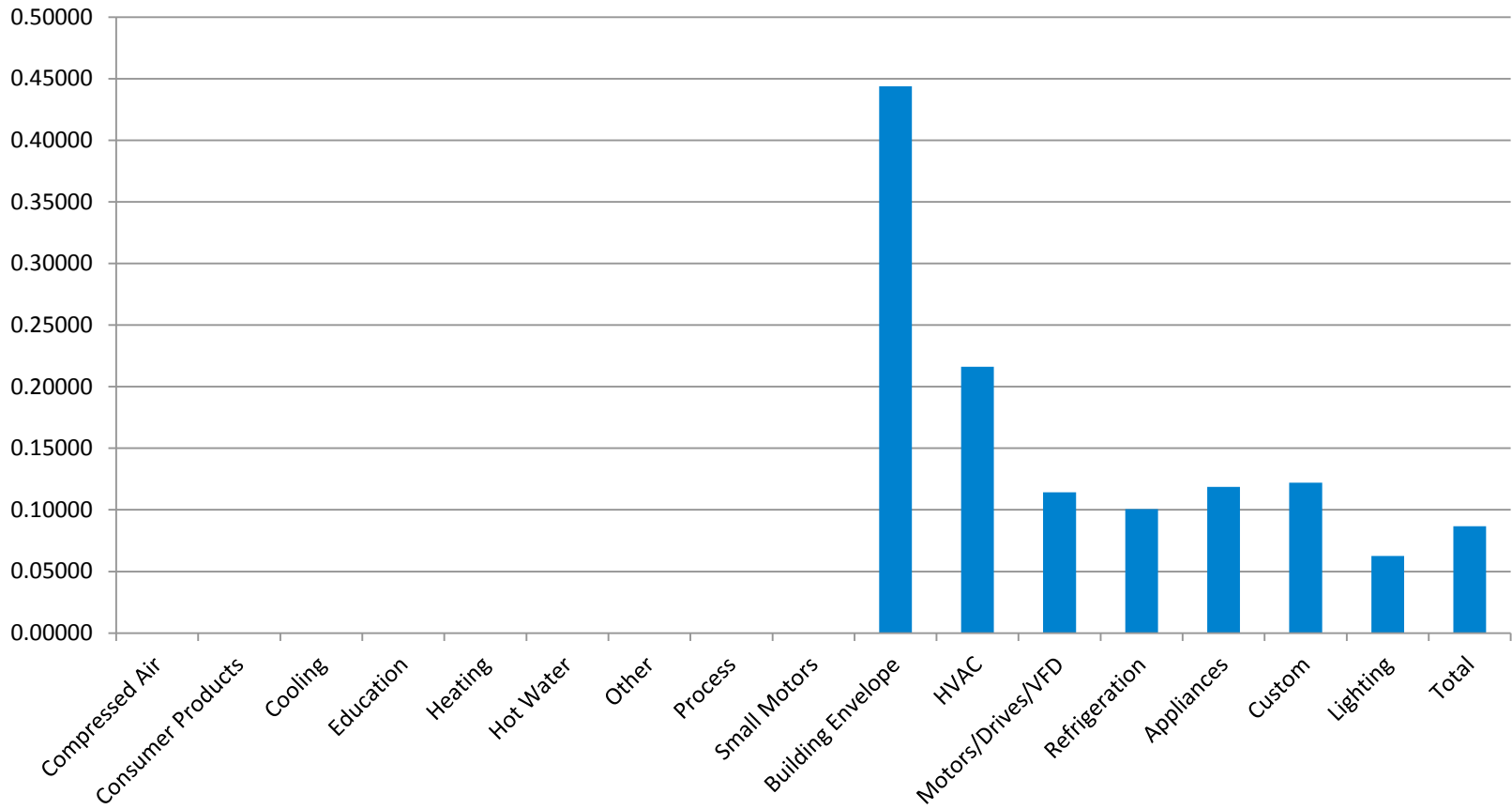
Maine Detail – Comparison of Energy, Demand and Cost by Measure Type

2012 ME Measures as Percent of Total



Maine Detail – Peak to Energy Ratio by Measure Type

2012 ME Peak to Energy Ratios by Measure



Measure Level Cost, Savings, Peak to Energy Ratio Connecticut – 2012[†]

Connecticut - 2012 Program Year

Measures	Dollars	Annualized MWh	MW	\$/MWh	\$/MW	MW/GWH
Appliances	227,566	190.1	0.031	1197.4	7340831.9	0.1631
Building Envelope	3,459,876	1766.8	0.226	1958.3	15330214.7	0.1277
Cooling	14,095,957	22302.4	5.622	632.0	2507490.3	0.2521
Custom	4,216,962	6093.8	0.883	692.0	4774045.8	0.1450
Education*	3,422,584	0.0	0.000	n/a	n/a	n/a
Heating	17,008,222	16665.0	0.560	1020.6	30390819.1	0.0336
Hot Water	621,710	3465.6	0.065	179.4	9563296.4	0.0188
HVAC	668,197	947.8	0.214	705.0	3121977.6	0.2258
Lighting	59,761,456	217055.5	25.733	275.3	2322322.2	0.1186
Motors/Drives/VFD	25,088	112.4	0.000	223.2	156799937.5	0.0014
Process	7,117,442	30454.8	6.056	233.7	1175362.3	0.1988
Refrigeration	3,663,719	9373.8	0.781	390.8	4691362.1	0.0833
Loans*	7,537,391	0.0	0.000	n/a	n/a	n/a
Grand Total	121,826,170	308,427.97	40.17	394.99	3,032,737.82	0.1302

[†] Only states with complete data set from all PAs

* Programs with no energy and demand savings

Measure Level Cost, Savings, Peak to Energy Ratio Maine – 2012[†]

Maine - 2012 Program Year

Measures	Dollars	Annualized MWh	MW	\$/MWh	\$/MW	MW/GWH
Appliances	1424854	8278.7	0.981	172.1	1451725.3	0.1186
Building Envelope	586096	736.8	0.327	795.5	1793439.2	0.4436
Custom	8695041	39511.6	4.819	220.1	1804422.2	0.1220
HVAC	367365	1218.1	0.263	301.6	1395392.0	0.2161
Lighting	9081439	89474.2	5.605	101.5	1620247.5	0.0626
Motors/Drives/VFD	280672	1609.1	0.184	174.4	1525969.2	0.1143
Refrigeration	1226048	2703.1	0.272	453.6	4514333.9	0.1005
Grand Total	21661514	143531.5	12.451	150.9	1739770.3	0.0867

[†]Only states with complete data set from all PAs

Measure Level Cost, Savings, Peak to Energy Ratio Vermont – 2012[†]

Vermont - 2012 Program Year

Measures	Dollars	Annualized MWh	MW	\$/MWh	\$/MW	MW/GWH
Appliances	1254451	2039.9	0.237	615.0	5284570.8	0.1164
Compressed Air	15078	34.5	0.001	437.3	12062424.0	0.0363
Consumer Products	478261	3758.5	0.438	127.2	1091944.5	0.1165
Custom	0	3401.4	0.578	0.0	0.0	0.1699
Education	950838	1032.0	0.078	921.4	12190230.3	0.0756
Heating	1177393	1373.7	0.163	857.1	7221943.0	0.1187
Hot Water	472008	1201.8	0.107	392.8	4417067.0	0.0889
HVAC	1882338	5254.2	0.642	358.3	2932401.6	0.1222
Lighting	21998625	75575.4	11.516	291.1	1910252.8	0.1524
Motors/Drives/VFD	672326	7751.0	0.852	86.7	789115.2	0.1099
Other	986951	1726.0	0.056	571.8	17624125.0	0.0324
Process	1567336	10284.0	1.065	152.4	1471677.1	0.1036
Refrigeration	3673373	4223.6	0.433	869.7	8474537.0	0.1026
Grand Total	35128978	117656.0	16.167	298.6	2,172,881.7	0.1374

[†]Only states with complete data set from all PAs

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