

Agenda Item 2.2

PSPC Meeting 272

February 18, 2010

# RSP10 Long-run Forecast of Energy and Seasonal Peaks for ISO-NE, States, and Load Zones

PSPC Meeting

February 18, 2010

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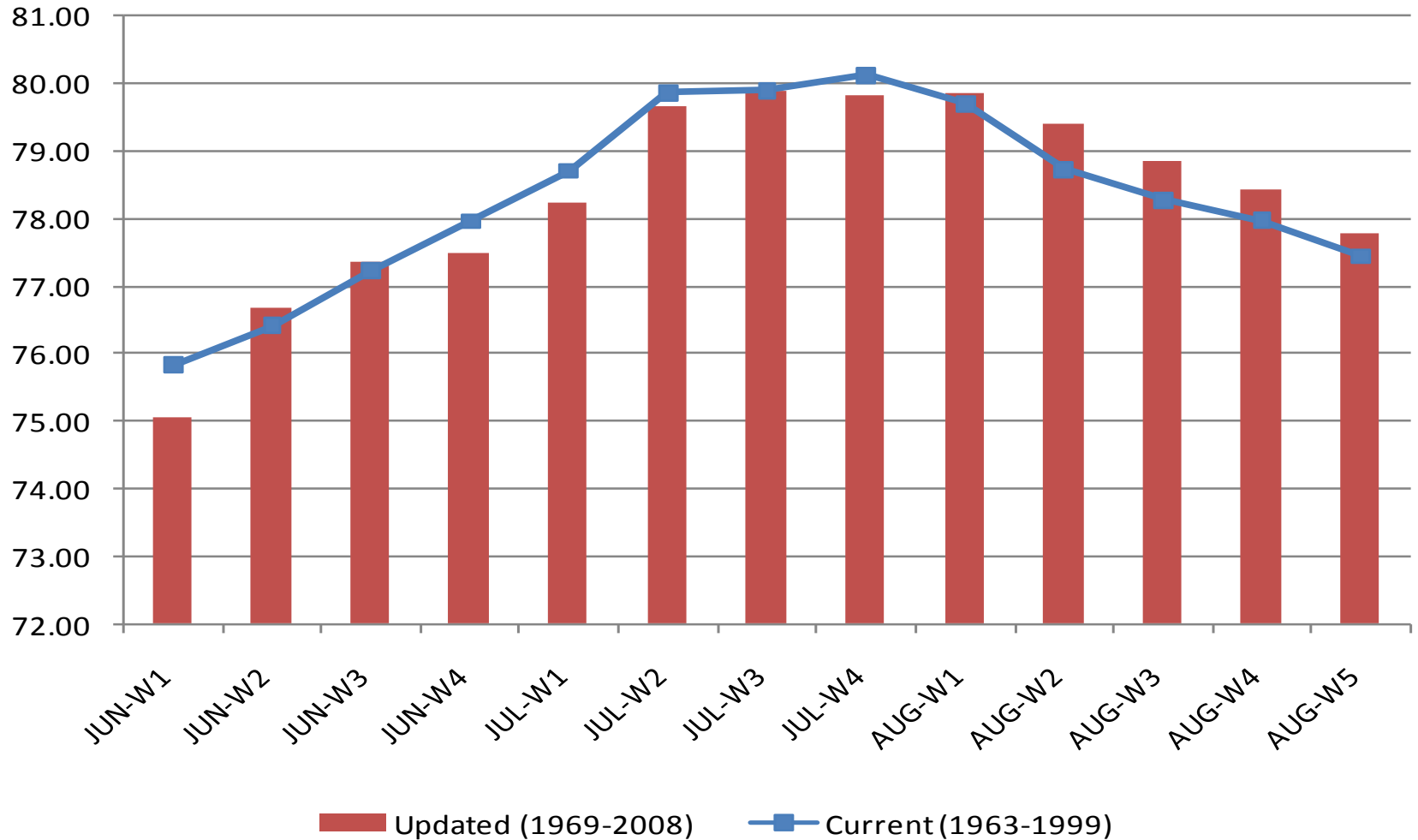
# Agenda

- Highlights
- Weather Updates & Economic Forecast
- ISO-NE Annual Energy Demand: RSP10 and RSP09
- ISO-NE Summer Peak Loads: RSP10 and RSP09
- ISO-NE Winter Peak Loads: RSP10 and RSP09
- ISO-NE Summer and Winter Peak Loads: RSP10
- ISO-NE RSP09 and RSP08 Load Forecast

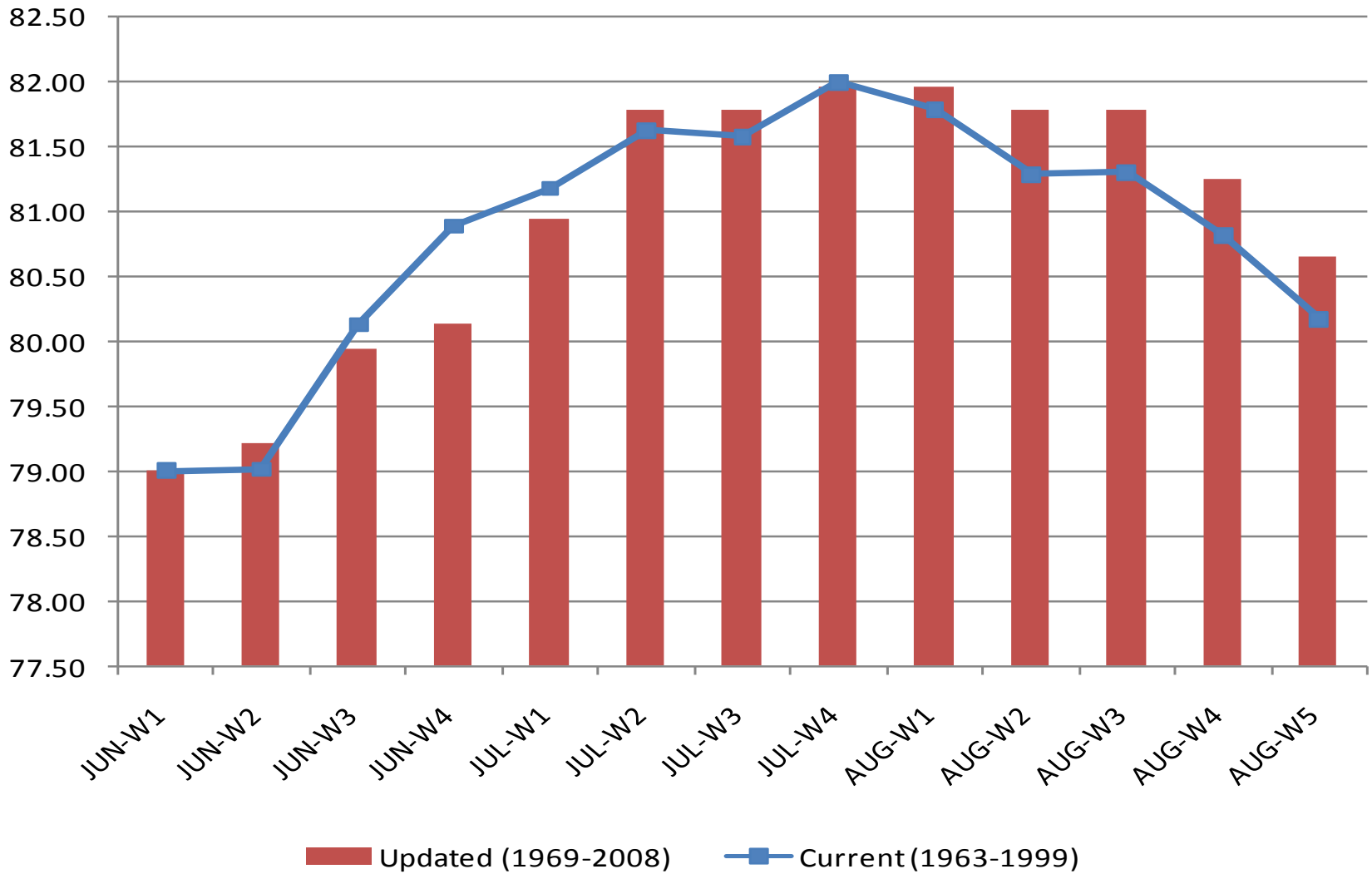
# Highlights

- The recession is more severe than forecasted last year
- Updated historical weather is used to forecast weekly peak load distributions, and seasonal peak loads
  - Updated historical years from 1963-1999 to 1969-2008
  - June and July not quite as hot, but August hotter
    - Summer Peak: 50/50 240 MW lower, 90/10 45 MW lower
  - January and December not quite as cold
- Updated economic and historical weather inputs have resulted in lower forecasts of energy and seasonal peak loads than in RSP09
- No changes in forecast methodology used for RSP10

# New England 50/50 WTHI



# New England 90/10 WTHI

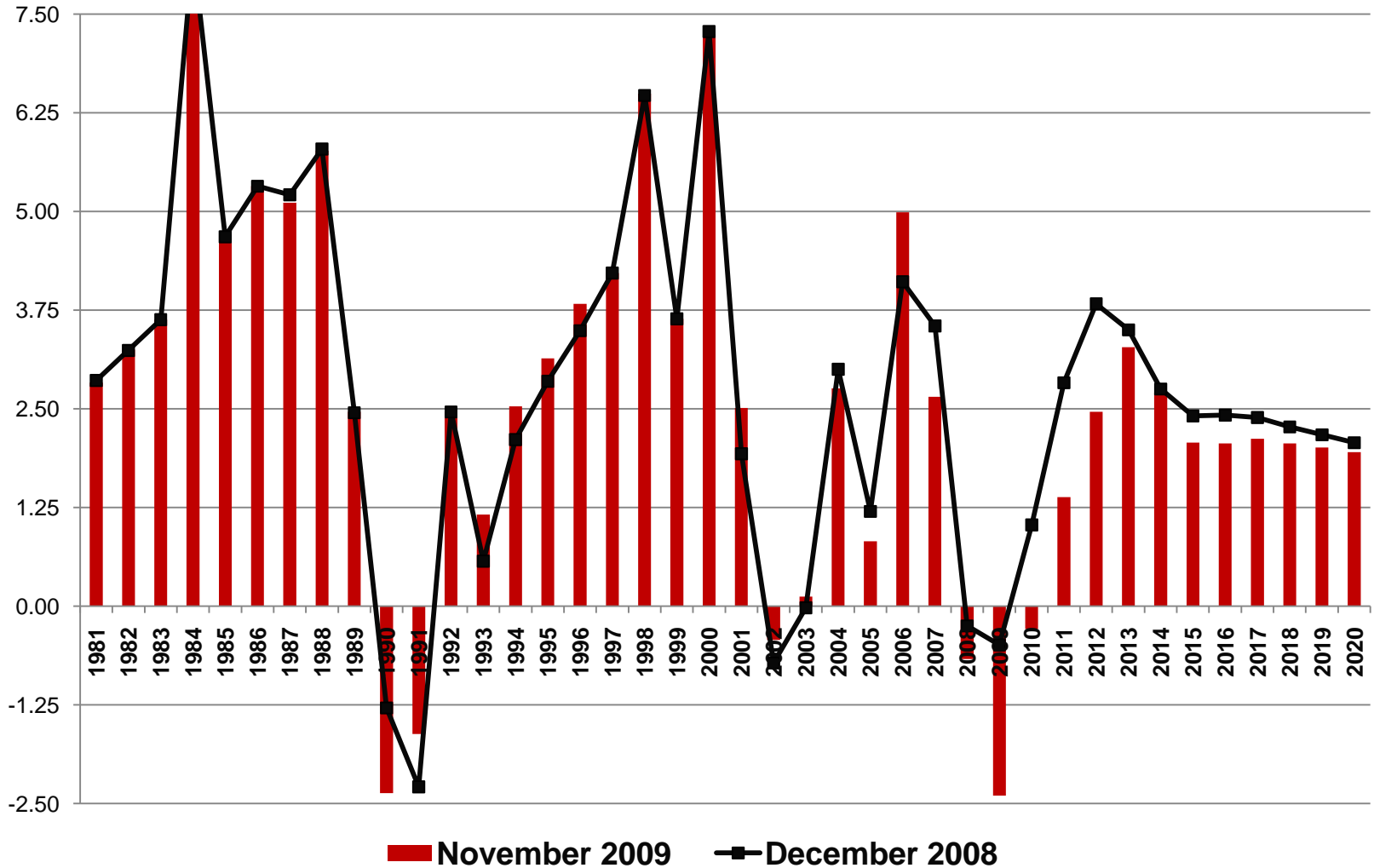


# Economy.com Nov 2009 Economic Forecast

- Recession more severe than forecasted in December 2008
- Recovery started 3<sup>rd</sup> quarter 2009
- Real Income decline ends in early 2010
- Employment decline ends late 2010, but doesn't recover to 2008 level until late 2012

# Economy.com 2008 & 2009 Forecasts

## New England Real Personal Income : Annual Percent Changes

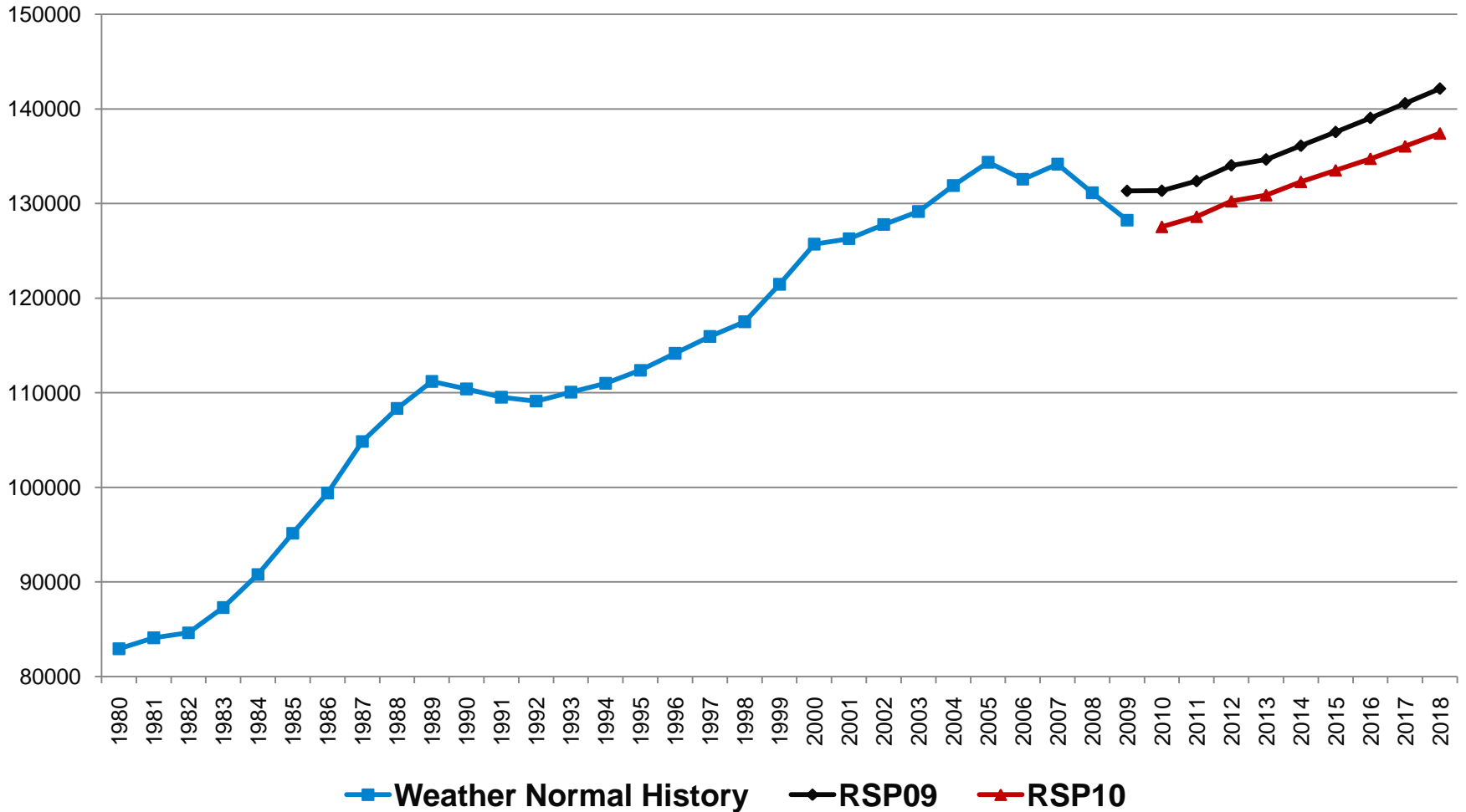


■ November 2009    —■ December 2008

# ISO-NE Annual Energy Demand (GWh)

## Weather Normal History 1980-2009

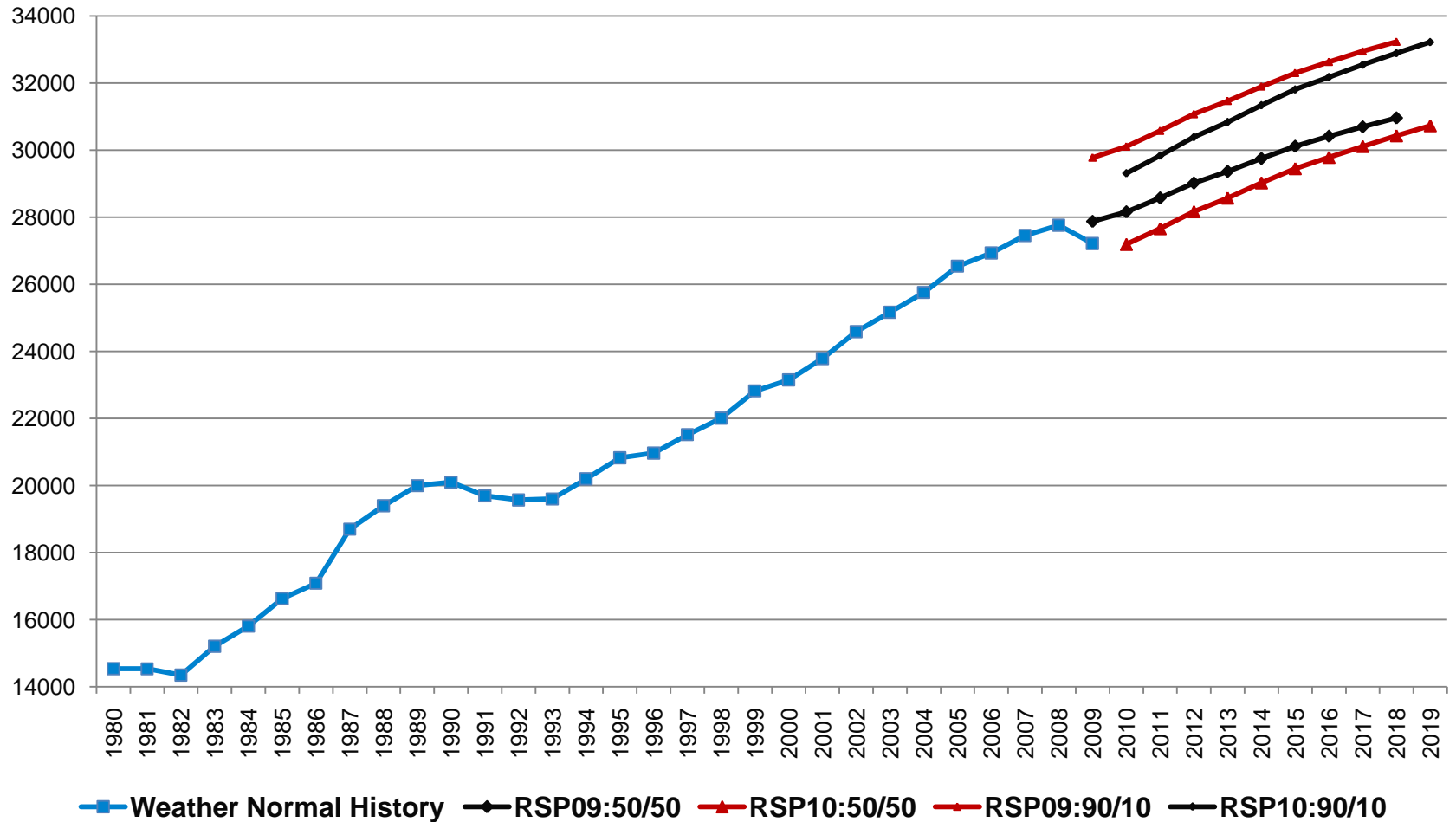
### Forecasts RSP09 2009-2018 RSP10 2010-2019



# ISO-NE Summer Peak Loads (MW)

## Weather Normal History 1980-2009

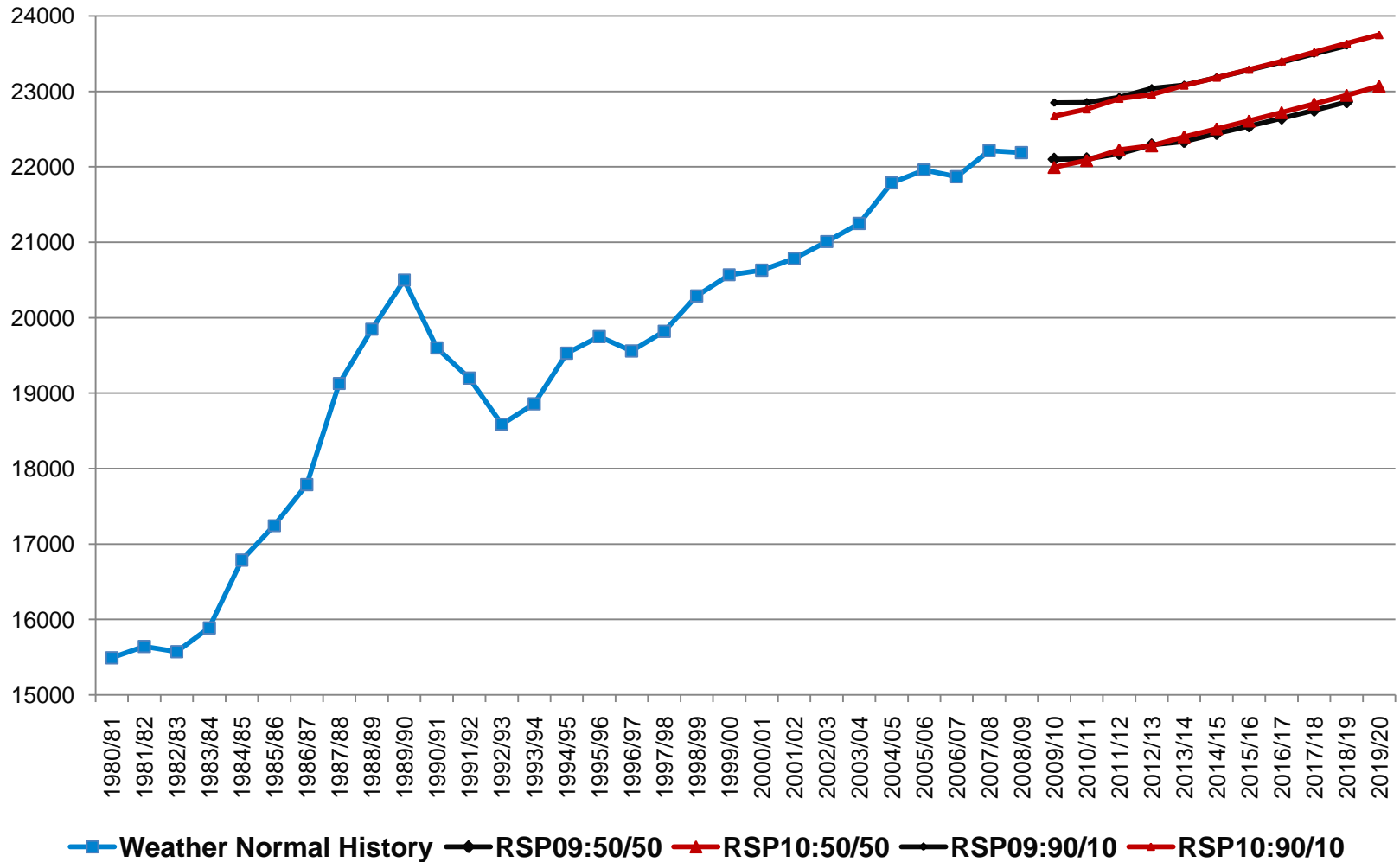
### Forecasts RSP09 2009-2018 RSP10 2010-2019



# ISO-NE Winter Peak Loads (MW)

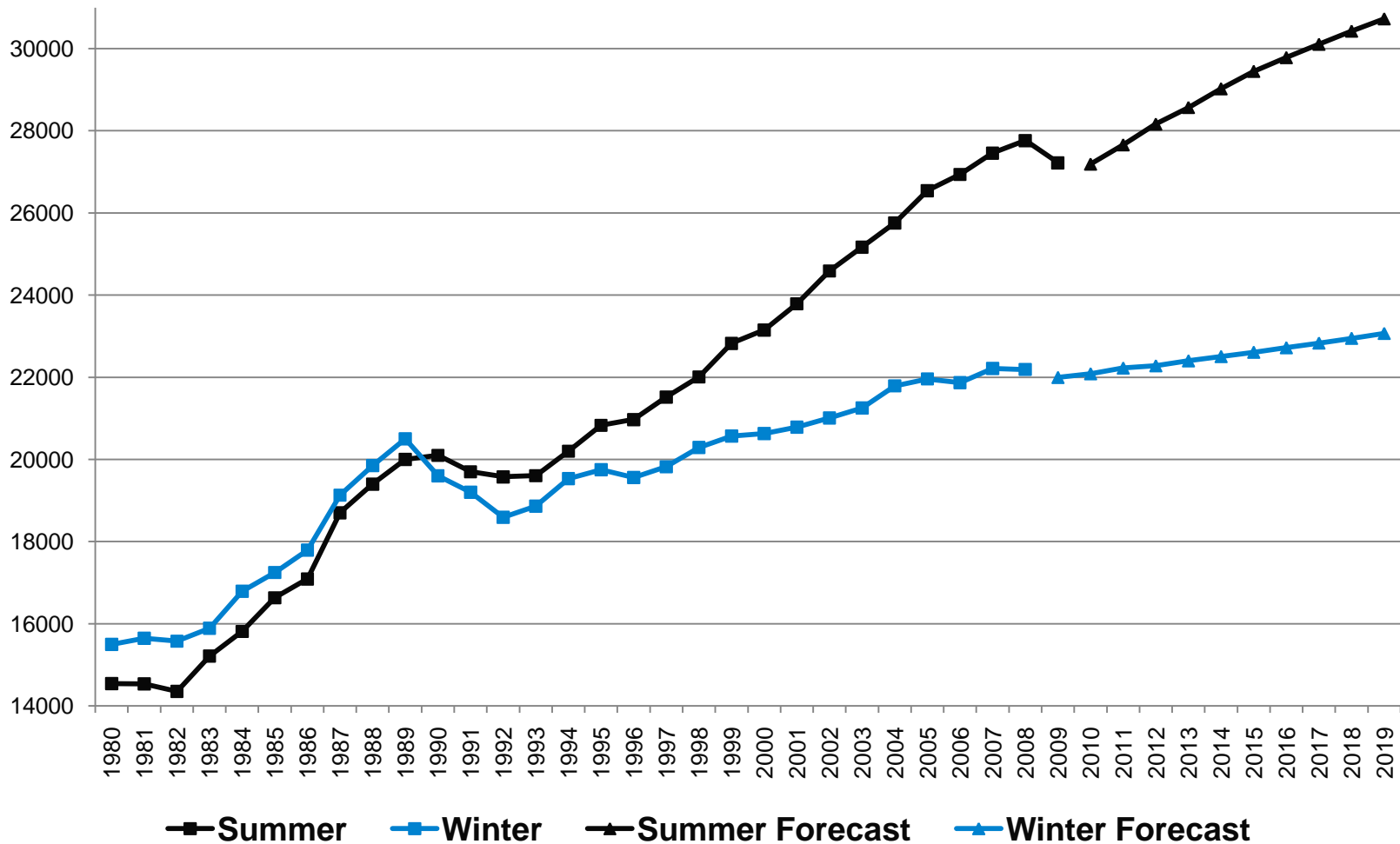
## Weather Normal History 1980-2009

### Forecasts RSP09 2010-2018 RSP10 2010-2019



# ISO-NE Seasonal Peak Loads (MW)

## Weather Normal 1980-2009 & RSP10 50/50 Forecast 2010-2019



	50/50 SUMMER PEAK (MW)						90/10 SUMMER PEAK (MW)				
	2010	2011	2012	2013	2014		2010	2011	2012	2013	2014
<b>ISO-NE</b>											
RSP10	27190	27660	28165	28570	29025		29310	29835	30390	30840	31340
RSP09	28160	28575	29020	29365	29750		30110	30580	31075	31470	31900
MW Difference	-970	-915	-855	-795	-725		-800	-745	-685	-630	-560
% Difference	-3.6	-3.3	-3	-2.8	-2.5		-2.7	-2.5	-2.3	-2	-1.8
<b>CONNECTICUT</b>											
RSP10	7240	7350	7470	7560	7670		7865	7985	8105	8220	8330
RSP09	7560	7650	7735	7805	7880		8095	8195	8295	8370	8455
MW Difference	-320	-300	-265	-245	-210		-230	-210	-190	-150	-125
% Difference	-4.4	-4.1	-3.5	-3.2	-2.7		-2.9	-2.6	-2.3	-1.8	-1.5
<b>MAINE</b>											
RSP10	2030	2060	2105	2145	2185		2165	2195	2260	2290	2345
RSP09	2095	2130	2165	2190	2225		2245	2285	2325	2360	2400
MW Difference	-65	-70	-60	-45	-40		-80	-90	-65	-70	-55
% Difference	-3.2	-3.4	-2.9	-2.1	-1.8		-3.7	-4.1	-2.9	-3.1	-2.3
<b>NEW HAMPSHIRE</b>											
RSP10	2410	2460	2515	2560	2615		2590	2645	2710	2760	2815
RSP09	2490	2540	2590	2630	2675		2670	2725	2785	2835	2885
MW Difference	-80	-80	-75	-70	-60		-80	-80	-75	-75	-70
% Difference	-3.3	-3.3	-3	-2.7	-2.3		-3.1	-3	-2.8	-2.7	-2.5
<b>RHODE ISLAND</b>											
RSP10	1825	1850	1880	1900	1930		2035	2065	2115	2125	2170
RSP09	1870	1900	1935	1960	1990		2050	2085	2125	2155	2190
MW Difference	-45	-50	-55	-60	-60		-15	-20	-10	-30	-20
% Difference	-2.5	-2.7	-2.9	-3.2	-3.1		-0.7	-1	-0.5	-1.4	-0.9
<b>VERMONT</b>											
RSP10	1060	1075	1095	1105	1125		1100	1120	1130	1150	1160
RSP09	1085	1100	1115	1125	1135		1130	1145	1165	1175	1190
MW Difference	-25	-25	-20	-20	-10		-30	-25	-35	-25	-30
% Difference	-2.4	-2.3	-1.8	-1.8	-0.9		-2.7	-2.2	-3.1	-2.2	-2.6

	50/50 SUMMER PEAK (MW)						90/10 SUMMER PEAK (MW)				
	2010	2011	2012	2013	2014		2010	2011	2012	2013	2014
<b>MASSACHUSETTS</b>							<b>TS</b>				
RSP10	12620	12860	13100	13295	13505		13555	13820	14070	14295	14520
RSP09	13065	13265	13480	13650	13840		13920	14145	14380	14575	14780
MW Difference	-445	-405	-380	-355	-335		-365	-325	-310	-280	-260
% Difference	-3.5	-3.1	-2.9	-2.7	-2.5		-2.7	-2.4	-2.2	-2	-1.8
<b>SEMA</b>											
RSP10	3548	3611	3674	3726	3779		3810	3881	3946	4005	4064
RSP09	3670	3720	3780	3820	3870		3910	3970	4030	4080	4135
MW Difference	-122	-109	-106	-94	-91		-100	-89	-84	-75	-71
% Difference	-3.5	-3	-2.9	-2.5	-2.4		-2.6	-2.3	-2.1	-1.9	-1.7
<b>WCMA</b>											
RSP10	3588	3675	3763	3840	3920		3853	3950	4042	4128	4215
RSP09	3735	3810	3895	3965	4045		3980	4065	4155	4235	4315
MW Difference	-147	-135	-132	-125	-125		-127	-115	-113	-107	-100
% Difference	-4.1	-3.7	-3.5	-3.3	-3.2		-3.3	-2.9	-2.8	-2.6	-2.4
<b>NEMABOS</b>											
RSP10	5487	5576	5663	5732	5804		5893	5992	6082	6162	6241
RSP09	5660	5730	5805	5865	5930		6030	6110	6195	6260	6330
MW Difference	-173	-154	-142	-133	-126		-137	-118	-113	-98	-89
% Difference	-3.1	-2.8	-2.5	-2.3	-2.2		-2.3	-2	-1.9	-1.6	-1.4

	50/50 WINTER PEAK (MW)					90/10 WINTER PEAK (MW)				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
<b>ISO-NE</b>										
RSP10	21995	22085	22225	22280	22400	22675	22765	22905	22960	23080
RSP09	22100	22105	22175	22290	22340	22850	22855	22925	23040	23085
MW Difference	-105	-20	50	-10	60	-175	-90	-20	-80	-5
% Difference	-0.5	-0.1	0.2	0	0.3	-0.8	-0.4	-0.1	-0.3	0
<b>CONNECTICUT</b>										
RSP10	5700	5710	5725	5730	5745	5875	5880	5900	5900	5915
RSP09	5715	5710	5715	5725	5725	5925	5925	5930	5940	5935
MW Difference	-15	0	10	5	20	-50	-45	-30	-40	-20
% Difference	-0.3	0	0.2	0.1	0.3	-0.9	-0.8	-0.5	-0.7	-0.3
<b>MAINE</b>										
RSP10	1910	1915	1920	1925	1930	1965	1975	1980	1985	1990
RSP09	1915	1915	1915	1920	1920	1970	1970	1970	1975	1975
MW Difference	-5	0	5	5	10	-5	5	10	10	15
% Difference	-0.3	0	0.3	0.3	0.5	-0.3	0.3	0.5	0.5	0.8
<b>NEW HAMPSHIRE</b>										
RSP10	1980	1990	2015	2025	2045	2060	2070	2095	2105	2125
RSP09	2020	2020	2035	2055	2065	2105	2110	2120	2145	2150
MW Difference	-40	-30	-20	-30	-20	-45	-40	-25	-40	-25
% Difference	-2	-1.5	-1	-1.5	-1	-2.2	-1.9	-1.2	-1.9	-1.2
<b>RHODE ISLAND</b>										
RSP10	1365	1365	1375	1375	1385	1410	1410	1420	1420	1430
RSP09	1395	1395	1395	1405	1405	1435	1435	1440	1445	1450
MW Difference	-30	-30	-20	-30	-20	-25	-25	-20	-25	-20
% Difference	-2.2	-2.2	-1.5	-2.2	-1.4	-1.8	-1.8	-1.4	-1.8	-1.4
<b>VERMONT</b>										
RSP10	1040	1040	1050	1050	1055	1050	1055	1065	1065	1070
RSP09	1035	1035	1035	1040	1040	1050	1050	1050	1055	1055
MW Difference	5	5	15	10	15	0	5	15	10	15
% Difference	0.5	0.5	1.4	1	1.4	0	0.5	1.4	0.9	1.4

	50/50 WINTER PEAK (MW)						90/10 WINTER PEAK (MW)				
	2010	2011	2012	2013	2014		2010	2011	2012	2013	2014
<b>MASSACHUSETTS</b>							<b>TS</b>				
RSP10	10005	10065	10140	10175	10240		10315	10375	10450	10485	10550
RSP09	10030	10035	10080	10150	10185		10365	10370	10415	10480	10515
MW Difference	-25	30	60	25	55		-50	5	35	5	35
% Difference	-0.2	0.3	0.6	0.2	0.5		-0.5	0	0.3	0	0.3
<b>SEMA</b>											
RSP10	2751	2772	2796	2809	2830		2837	2857	2881	2895	2916
RSP09	2760	2765	2780	2800	2815		2850	2855	2870	2895	2910
MW Difference	-9	7	16	9	15		-13	2	11	0	6
% Difference	-0.3	0.2	0.6	0.3	0.5		-0.4	0.1	0.4	0	0.2
<b>WCMA</b>											
RSP10	3007	3028	3054	3068	3091		3100	3122	3147	3162	3185
RSP09	3020	3025	3040	3065	3080		3120	3125	3145	3165	3180
MW Difference	-13	3	14	3	11		-20	-3	2	-3	5
% Difference	-0.4	0.1	0.5	0.1	0.4		-0.6	-0.1	0.1	-0.1	0.1
<b>NEMABOS</b>											
RSP10	4245	4265	4290	4298	4318		4377	4396	4420	4429	4449
RSP09	4250	4245	4260	4280	4290		4390	4385	4400	4420	4430
MW Difference	-5	20	30	18	28		-13	11	20	9	19
% Difference	-0.1	0.5	0.7	0.4	0.7		-0.3	0.3	0.5	0.2	0.4