

### October 8, 2013 Forecasting Meeting Update:

Eric Fox (Itron) presented historic trends and VT Long-Term Energy and Demand Forecast:

- Highlights:
  - Vermont loads are at same level today as in 2003.
  - 2013 had the hottest peak day in last 11 years.
  - Vermont forecast doesn't include growth assumptions for:
    - Net metering
    - Plug-in electric vehicles
    - Potential impact of time-of-use rates

# VSPC Forecasting Subcommittee

## VELCO System Energy 2003 to 2013

Year	Energy (GWh)	chg	Wthr Nrm Energy	chg
2003	<b>6,285</b>		6,209	
2004	6,390	1.7%	6,395	3.0%
2005	6,523	2.1%	6,426	0.5%
2006	6,473	-0.8%	6,544	1.8%
2007	6,536	1.0%	6,489	-0.8%
2008	6,419	-1.8%	6,424	-1.0%
2009	6,143	-4.3%	6,195	-3.6%
2010	6,209	1.1%	6,207	0.2%
2011	6,204	-0.1%	6,204	0.0%
2012	6,175	-0.5%	6,192	-0.2%
2013	<b>6,252</b>	1.3%	6,226	0.5%
chg				
2003 - 2007		1.0%		1.1%
2007 - 2013		-0.7%		-0.7%
2003 - 2013		0.0%		0.0%

2013 sales same as 2003

Peak in 2007 followed by decline due to recession

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### VELCO System Peak 2003 to 2013

Year	System Peak	chg	WN Peak	chg	WNLF_Peak	chg
2003	<b>1,000.7</b>		1,034.1		1,033.6	
2004	984.9	-1.6%	1,070.8	3.5%	1,064.7	3.0%
2005	1,073.6	9.0%	1,063.4	-0.7%	1,069.8	0.5%
2006	1,126.5	4.9%	1,108.0	4.2%	1,089.5	1.8%
2007	1,072.6	-4.8%	1,077.4	-2.8%	1,080.3	-0.8%
2008	1,048.4	-2.3%	1,068.2	-0.9%	1,069.4	-1.0%
2009	1,016.5	-3.0%	1,020.2	-4.5%	1,031.4	-3.6%
2010	1,068.7	5.1%	1,040.5	2.0%	1,033.4	0.2%
2011	1,062.2	-0.6%	1,057.2	1.6%	1,032.9	0.0%
2012	1,007.0	-5.2%	999.2	-5.5%	1,030.9	-0.2%
2013	<b>1,060.7</b>	5.3%	1,036.5	3.7%	1,036.6	0.5%
chg						
2003 - 2007		1.9%		1.1%		1.1%
2007 - 2013		-0.1%		-0.6%		-0.7%
2003 - 2013		0.7%		0.1%		0.0%

Similar pattern of flat demand over last 10 years

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### Vermont Peak-Day Temperatures

Year	Summer Peak Day Weather			
	WtTDD	Nrm WtTDD	Difference	AvgTemp
2003	10.39	10.87	-4.4%	81.0
2004	5.13	10.87	-52.8%	76.5
2005	11.87	10.87	9.2%	81.5
2006	12.08	10.87	11.1%	84.0
2007	10.40	10.87	-4.3%	84.5
2008	9.51	10.87	-12.5%	80.0
2009	10.47	10.87	-3.7%	81.5
2010	12.91	10.87	18.8%	84.0
2011	11.23	10.87	3.3%	83.5
2012	10.74	10.87	-1.2%	84.5
<b>2013</b>	<b>12.62</b>	<b>10.87</b>	<b>16.1%</b>	<b>85.5</b>

2013 had hottest peak day in last 11 years

## *VSPC Forecasting Subcommittee*

### Forecast Drivers:

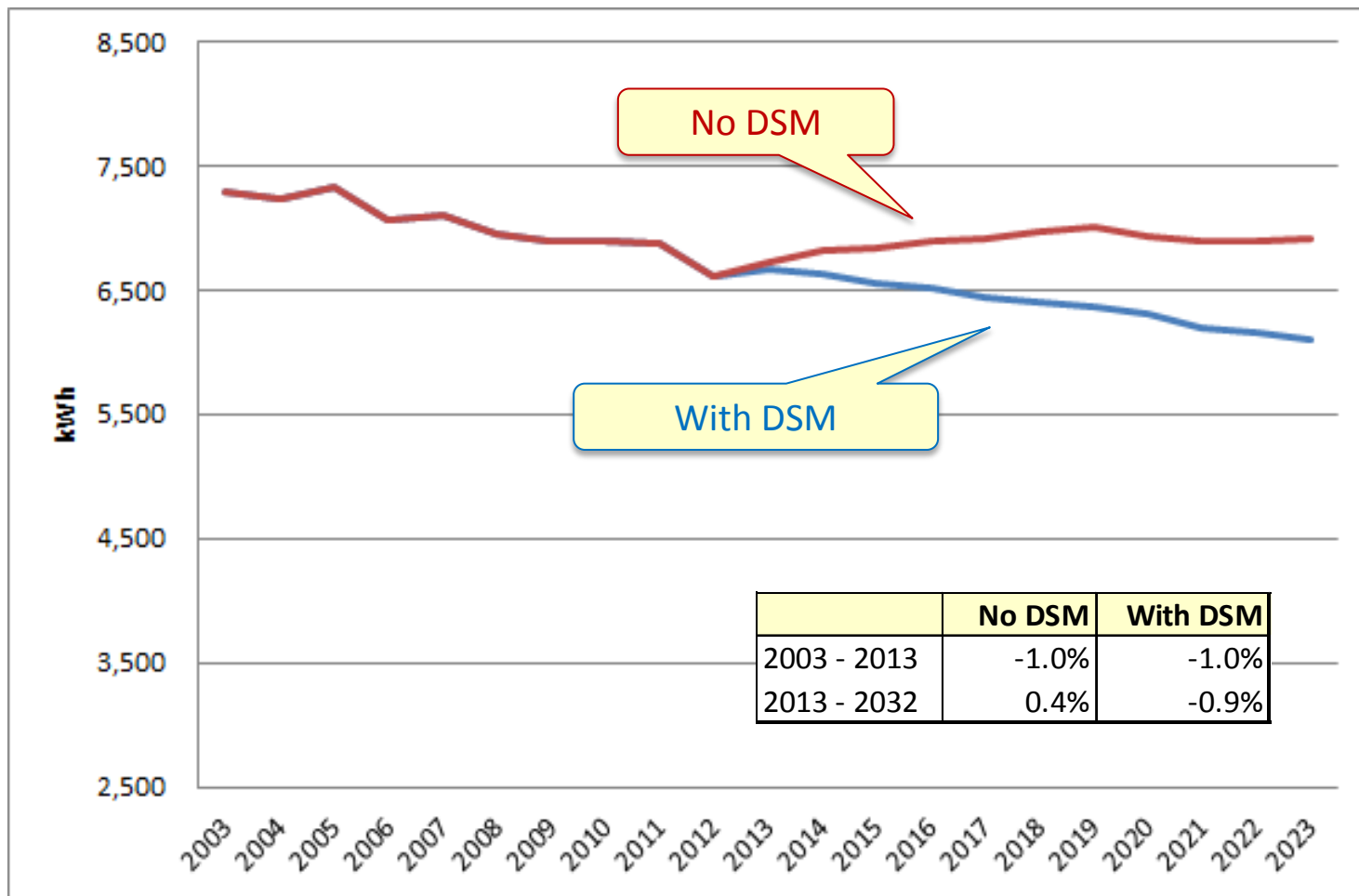
- Economic activity and population growth
- Weather conditions
- End-Use Intensity Projections
- New technologies like heat pumps
- Codes and Standards changes

### NOT INCLUDED IN THIS FORECAST:

- Net Metering load adjustment – only currently existing today but no incremental.
- Price impacts

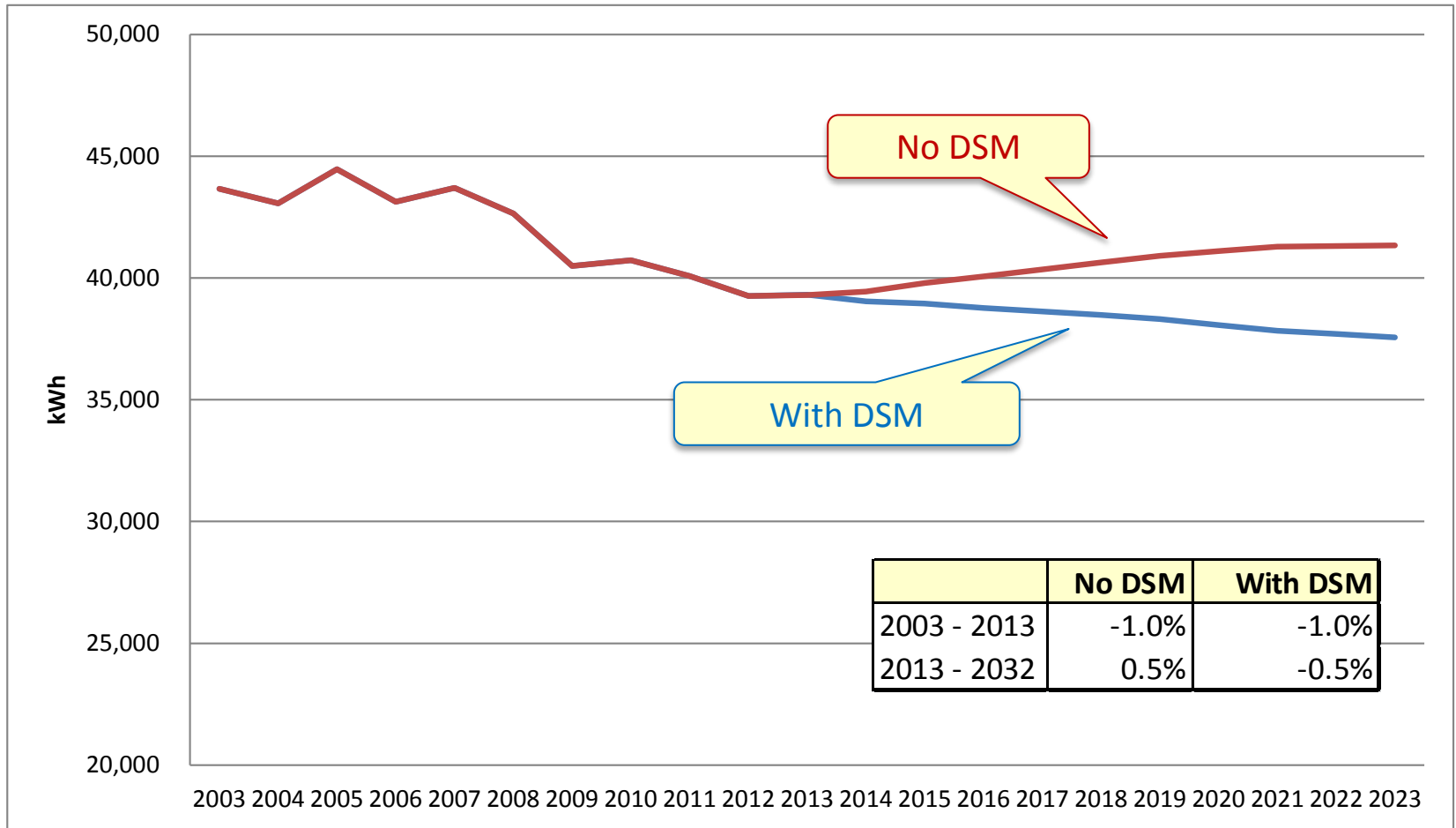
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## Residential Average Use (kWh)

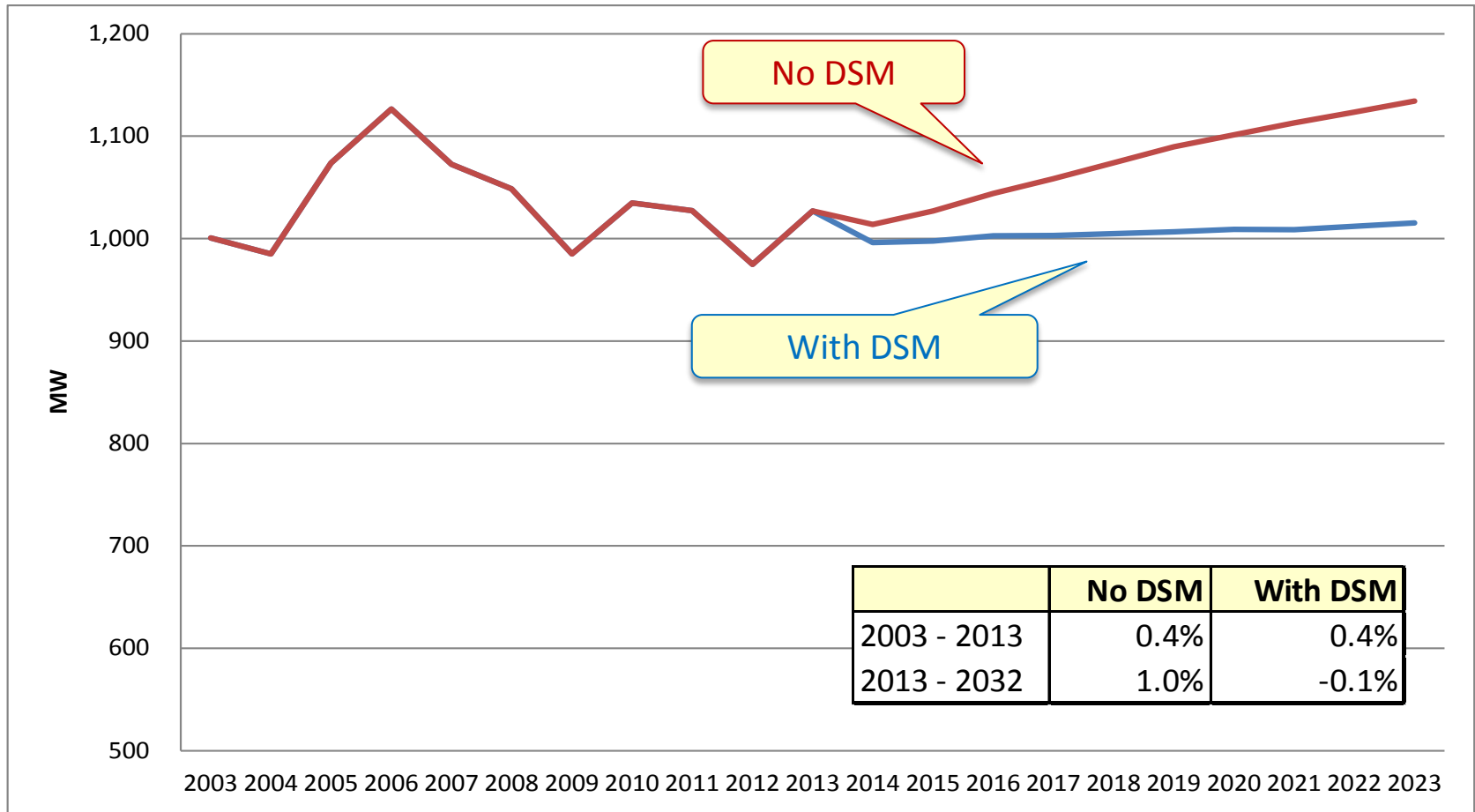


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## Commercial Average Use (kWh)



# Vermont Peak Demand (MW)



By 2023, DSM programs reduce peak demand by 119 MW (10%)

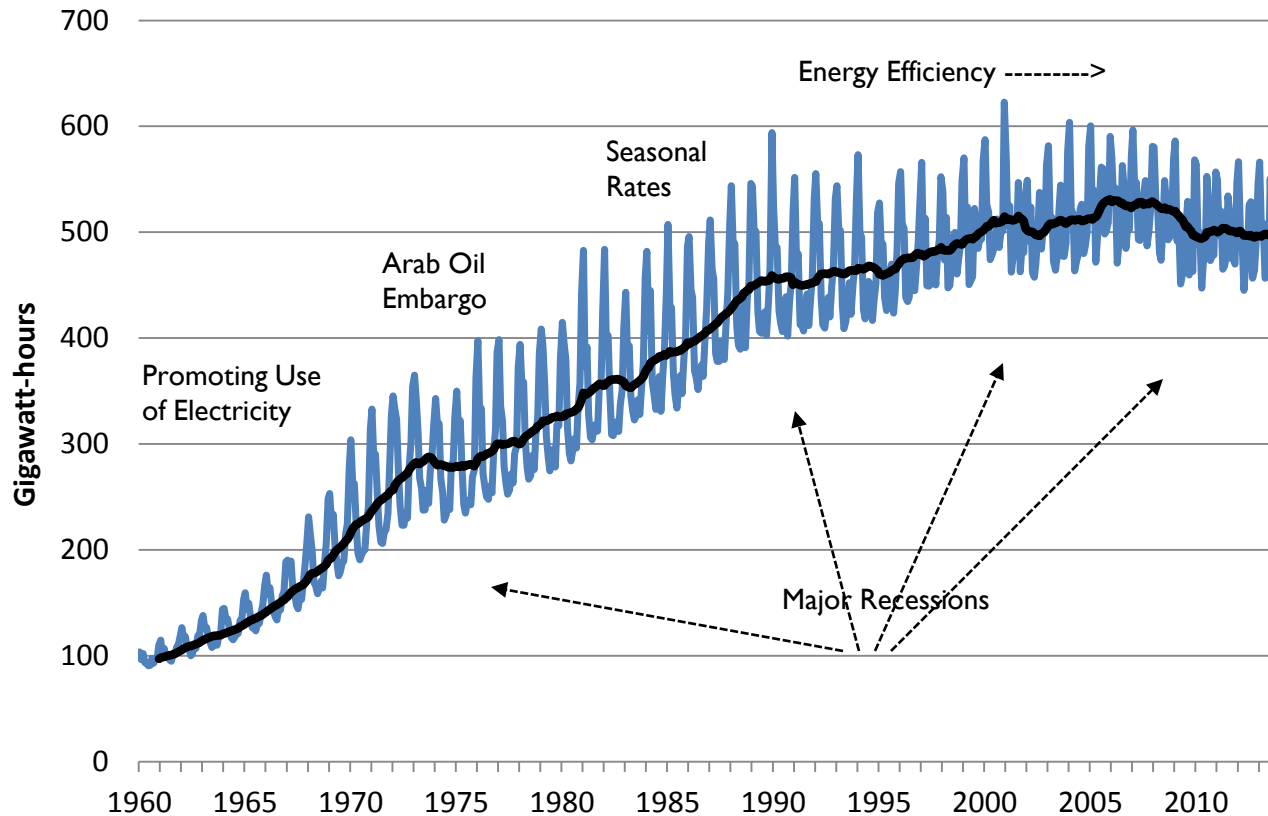


### November 19, 2013 Forecasting Meeting Update:

Mike Leach (BED) presented historical trends going back to 1970 (even 1940 in some cases) for the following data:

- Energy use
  - Peak demand
  - Electric sales
  - System energy requirements
  - Employment growth
  - Electric rates
  - Natural Gas prices
  - Weather trends
- 
- The forecasting subcommittee discussed a central repository for historic data on VSPC website (for VSPC use or available to all?).

# Vermont Monthly Energy Use

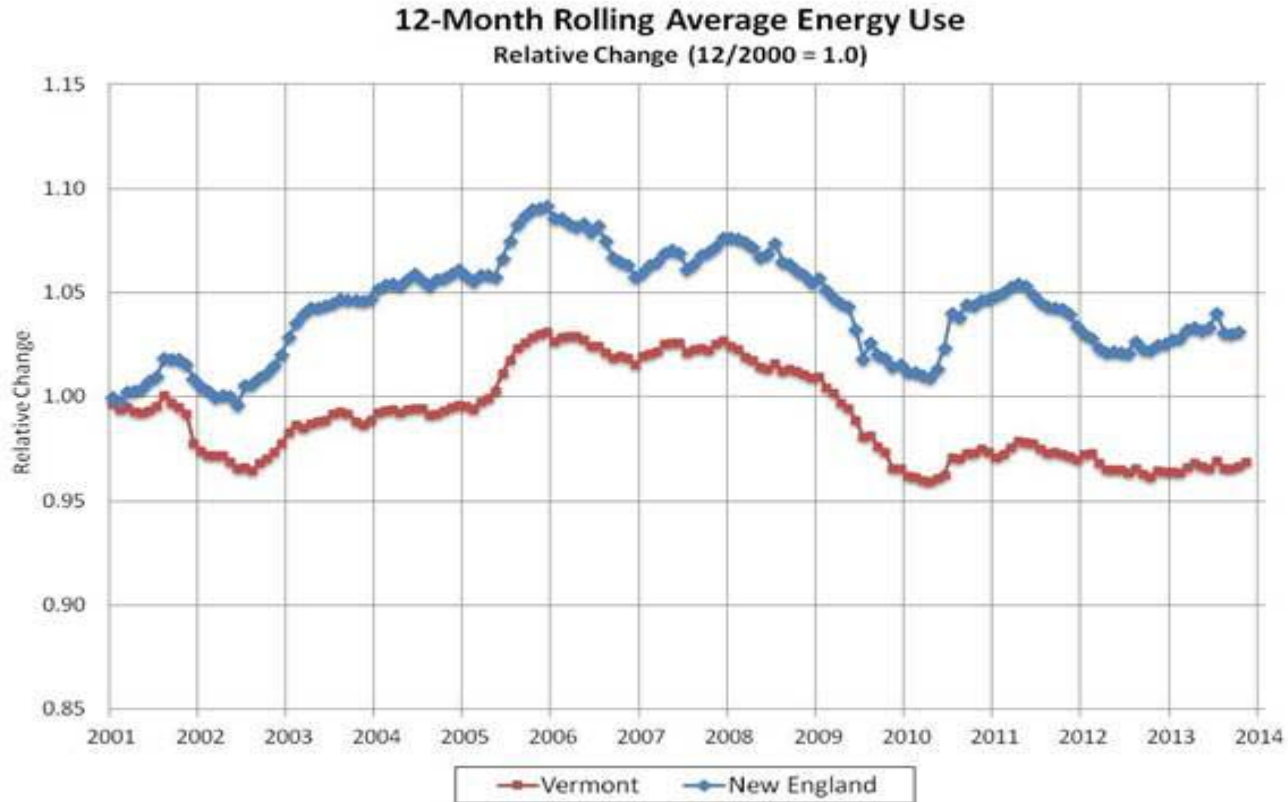


Monthly energy use same level (even slightly lower) in 2013 than 2003

Source: Vermont Electric Power Company (VELCO), Monthly Peak Reports.

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# Average Energy Use – 12month rolling average



The dip in 2009 reflects usage going back to the 2008 (12-month rolling average). The low point for the NE region occurred between Dec 2008 and Nov 2009.

Source: Vermont Electric Power Company (VELCO), Monthly Peak Reports.