

Vermont Power Supply The Very Big Picture

Windham Regional Commission

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The Regulatory Assistance Project

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Introduction

Regulatory Assistance Project

RAP is a non-profit organization, formed in 1992, that provides workshops and education assistance to state government officials on electric utility regulation. RAP is funded by the Energy Foundation, the US EPA and the US DOE.

Richard Sedano was Commissioner of the Vermont Department of Public Service, 1991-2001, and presently serves on the Montpelier Planning Commission



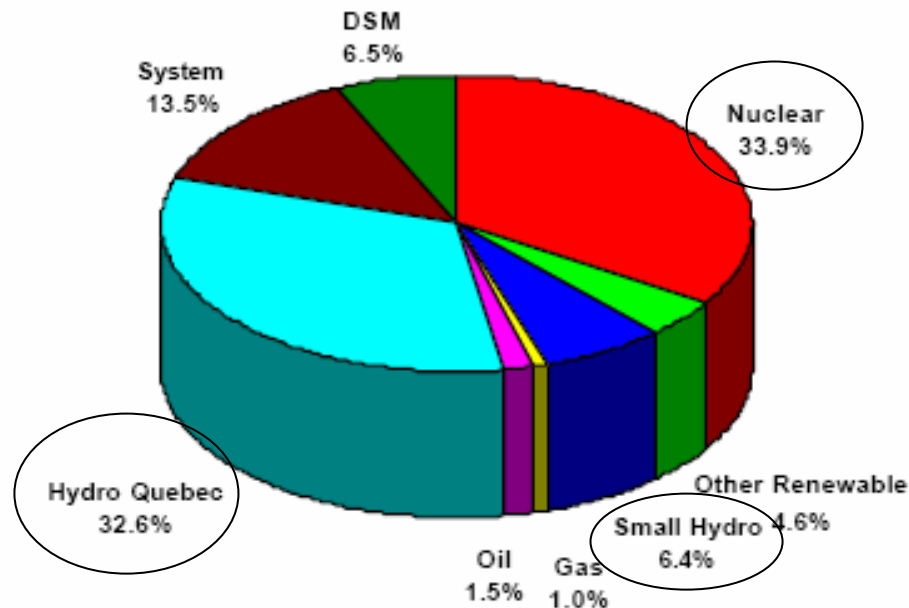
Electric Industry Policy Goals

- Adequate
- Secure
- Efficient (Fair)
- Affordable
- Encourage
Economic Vitality
- Reliable
- Safe
- Sustainable
- Environmentally
Sound
- Consistent

Keep These in Mind as You Listen to Speakers

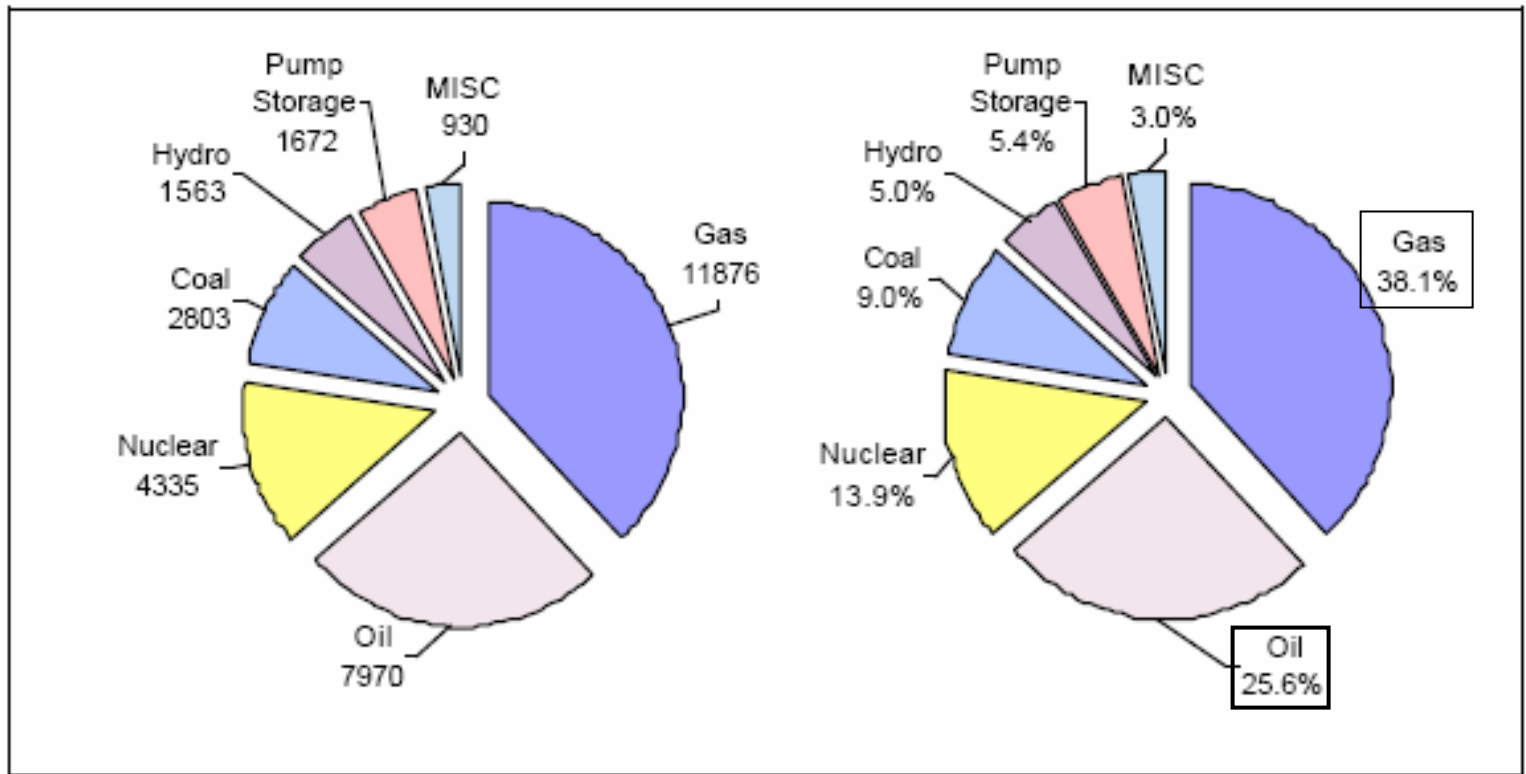
Where we are – Undiversified, Committed with Efficiency

2002 - Vermont Own Load Electric Energy Supply



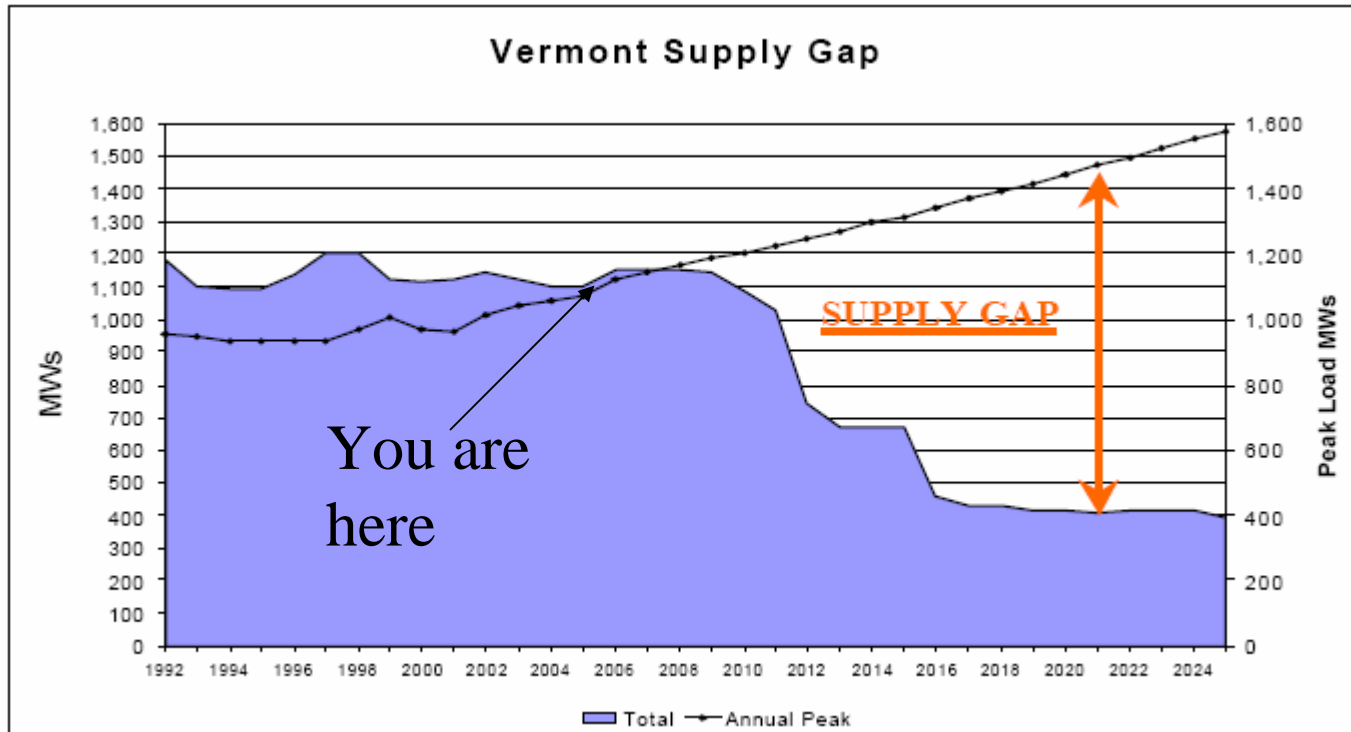
Vermont is different from New England

Summer 2003 MW



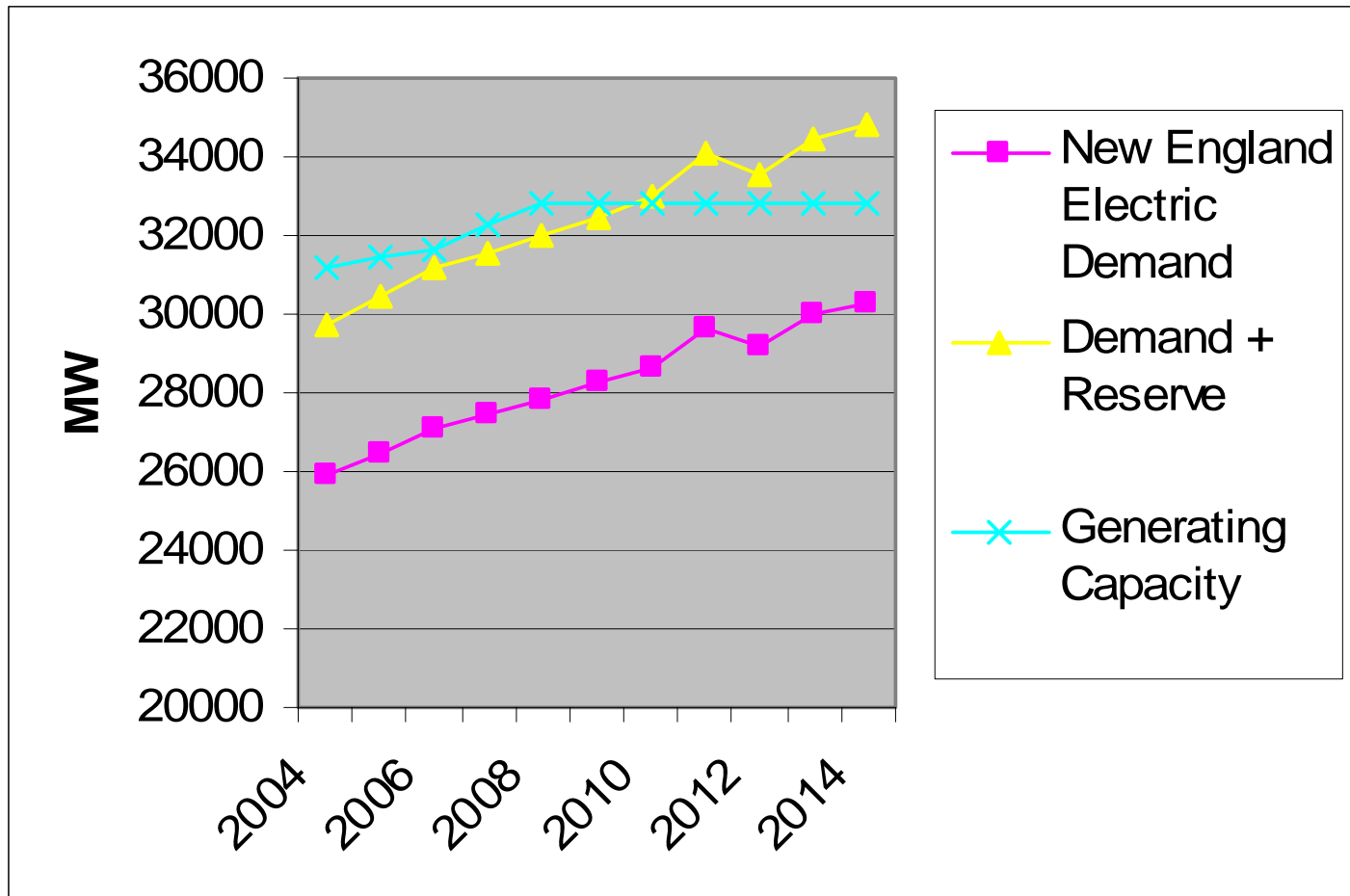
Very Commodity (Gas and Oil) Heavy

Vermont Year of Need: 2009

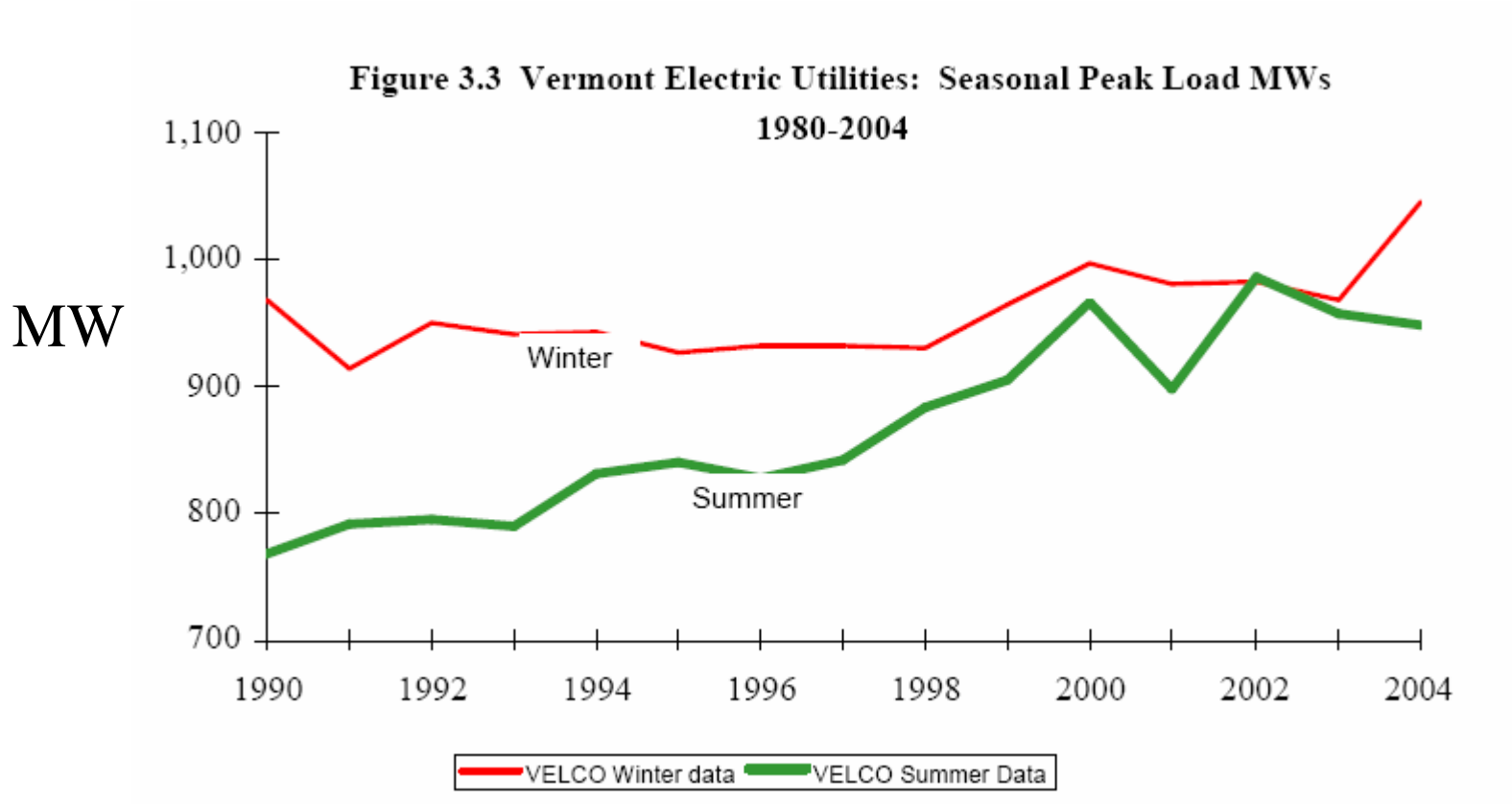


New England faces a gap around the same time

New England Year of Need: 2011



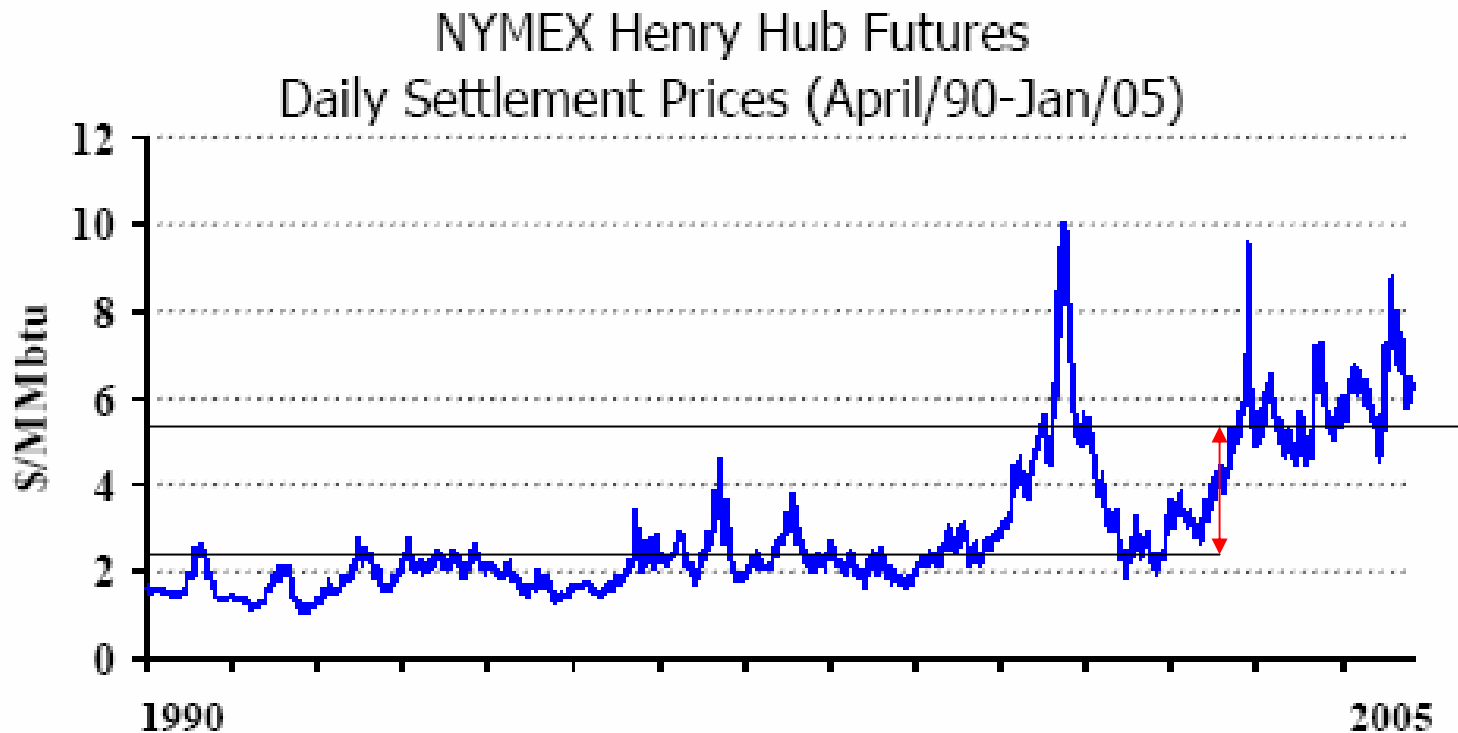
Summer Growth Is Key to Forecast of Demand



HIGH VOLTAGE TRANSMISSION SYSTEM

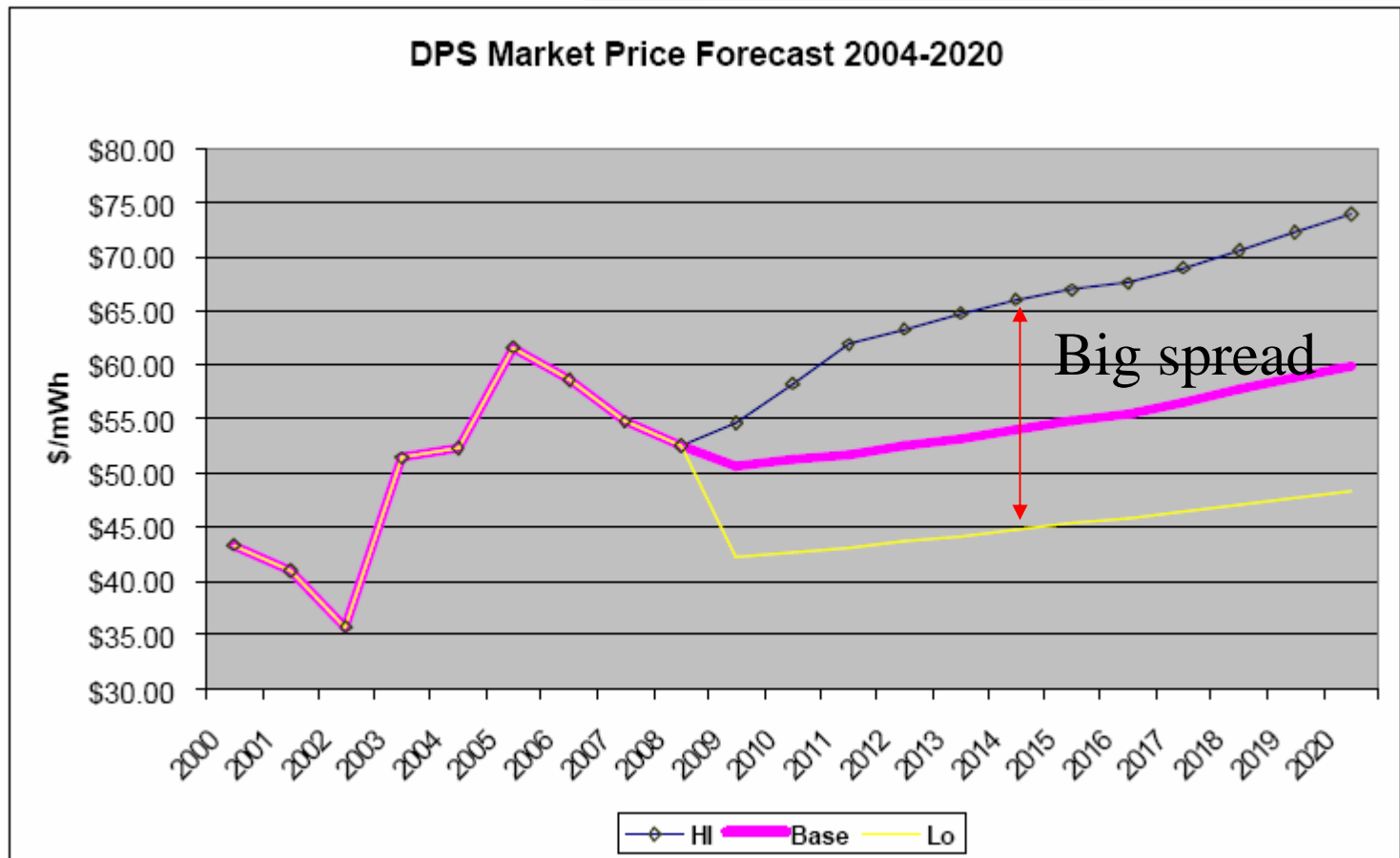


Natural Gas Cost UP!



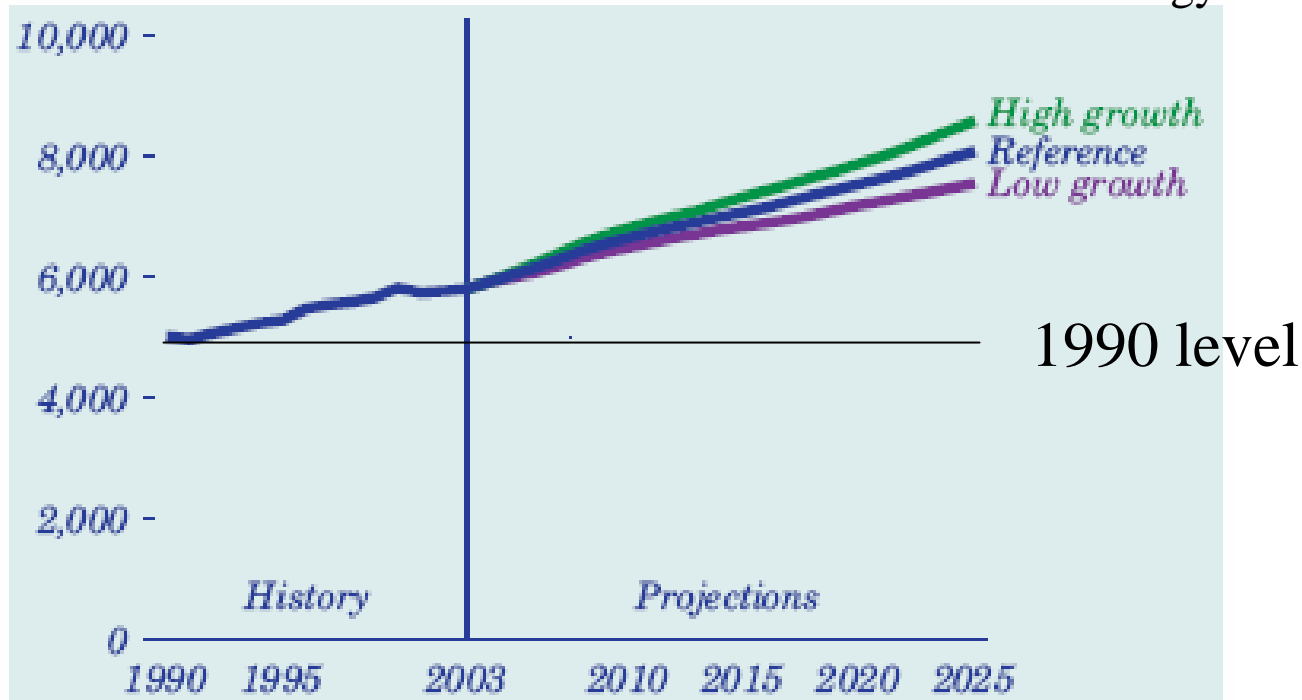
http://www.naruc.org/associations/1773/files/david_biegler_agf_w05.pdf

The Crystal Ball on Price Is Foggy



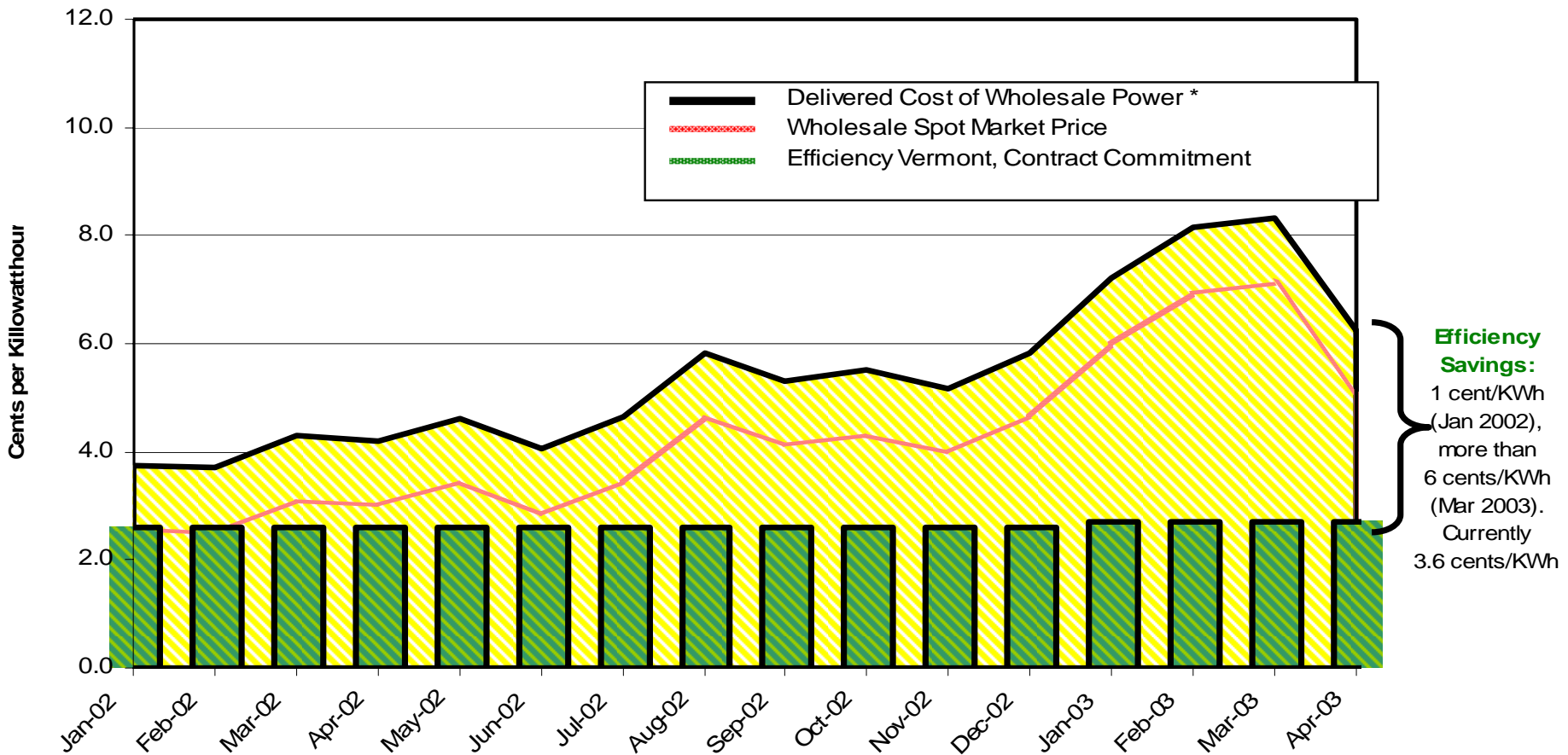
A Carbon Gap: What are the economic implications?

Figure 111. Carbon dioxide emissions in three economic growth cases, 1990-2025
(million metric tons) U.S. DOE EIA 2005 Annual Energy Outlook

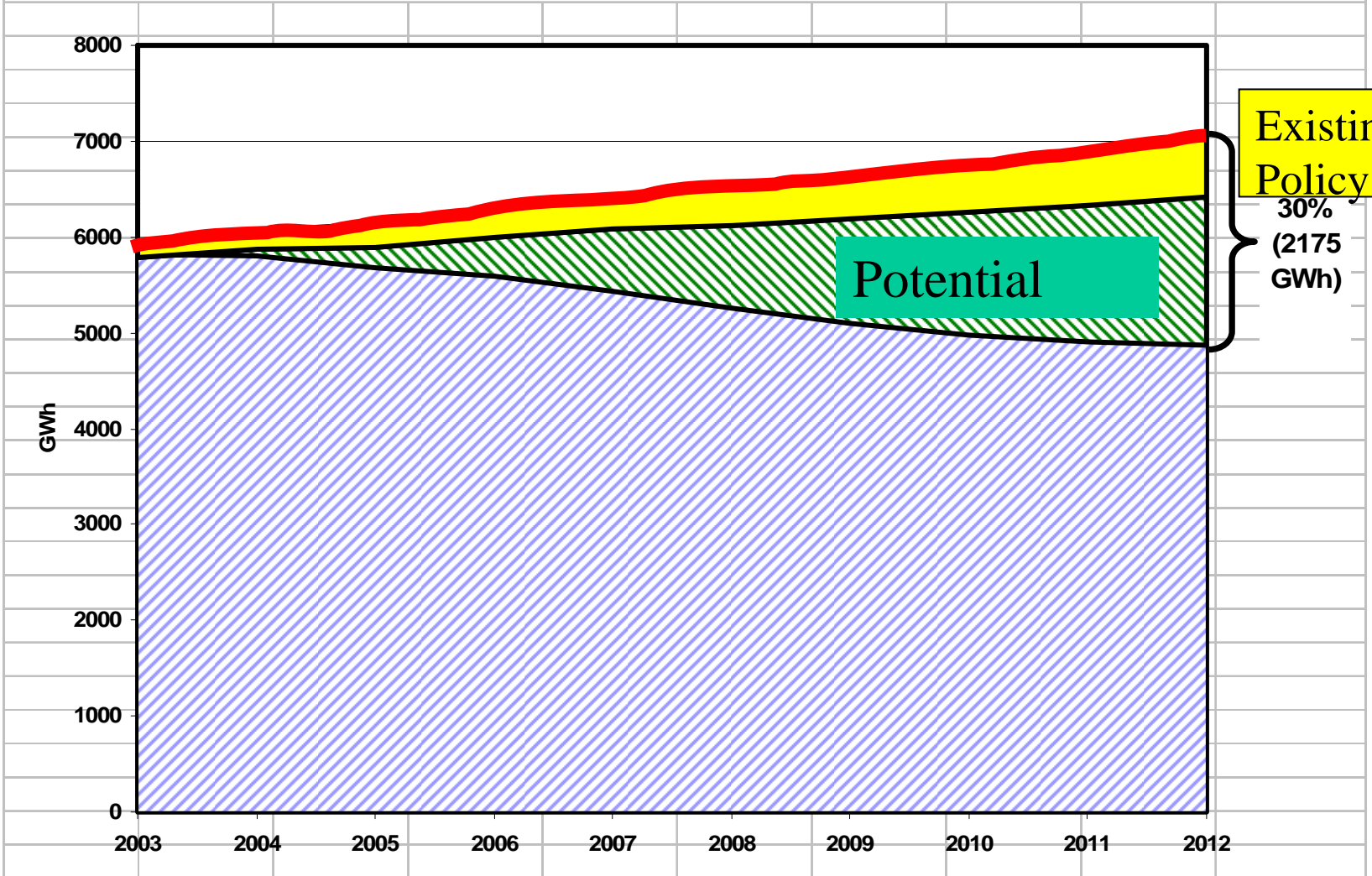


Efficiency is cheaper, avoids construction

Power Costs vs. Efficiency Vermont Costs for 2002 & 2003
NE-ISO Average Monthly Price



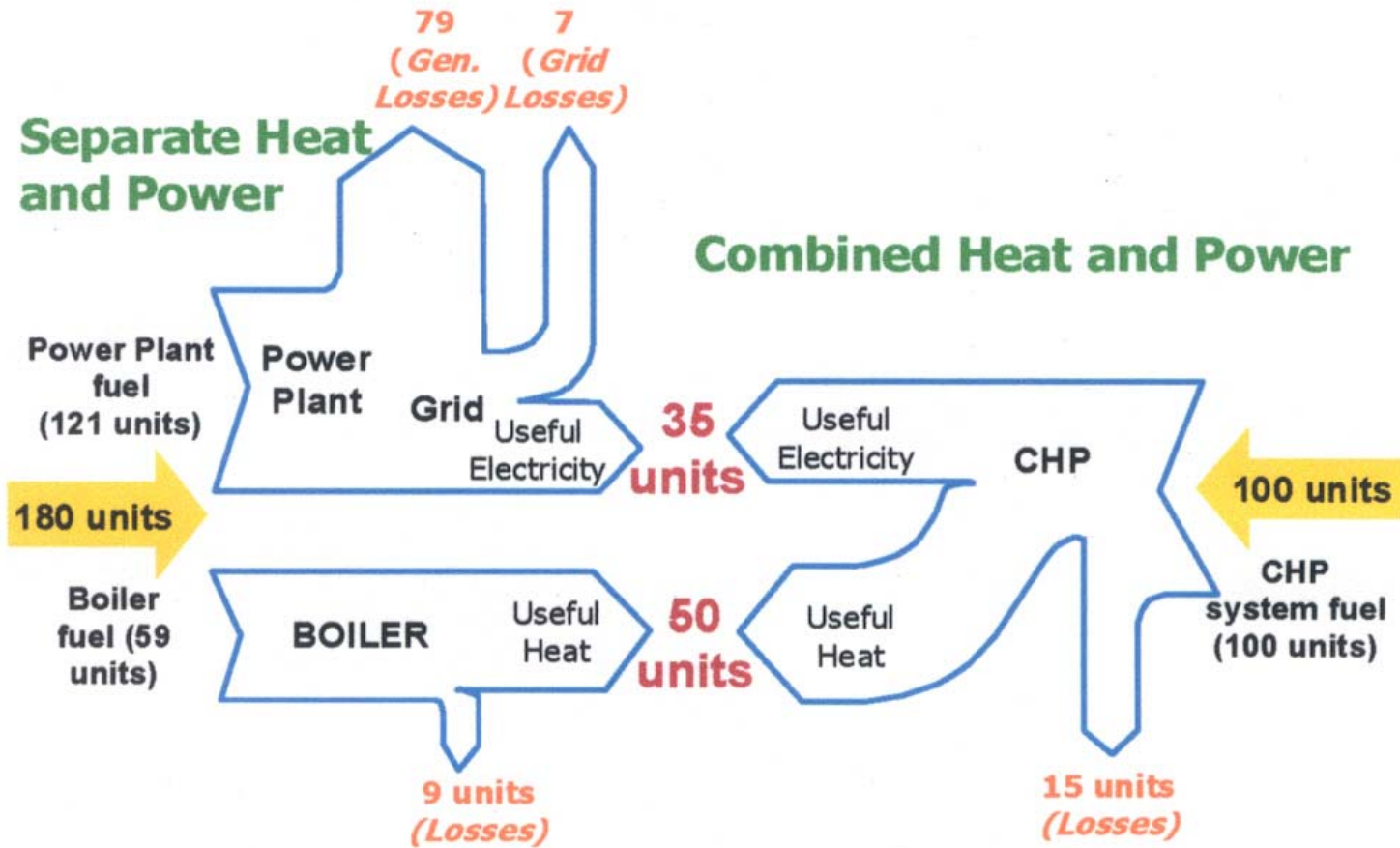
DPS: "MAXIMUM ACHIEVABLE SAVINGS" FROM ENERGY EFFICIENCY



Existing Policy
30%
(2175 GWh)

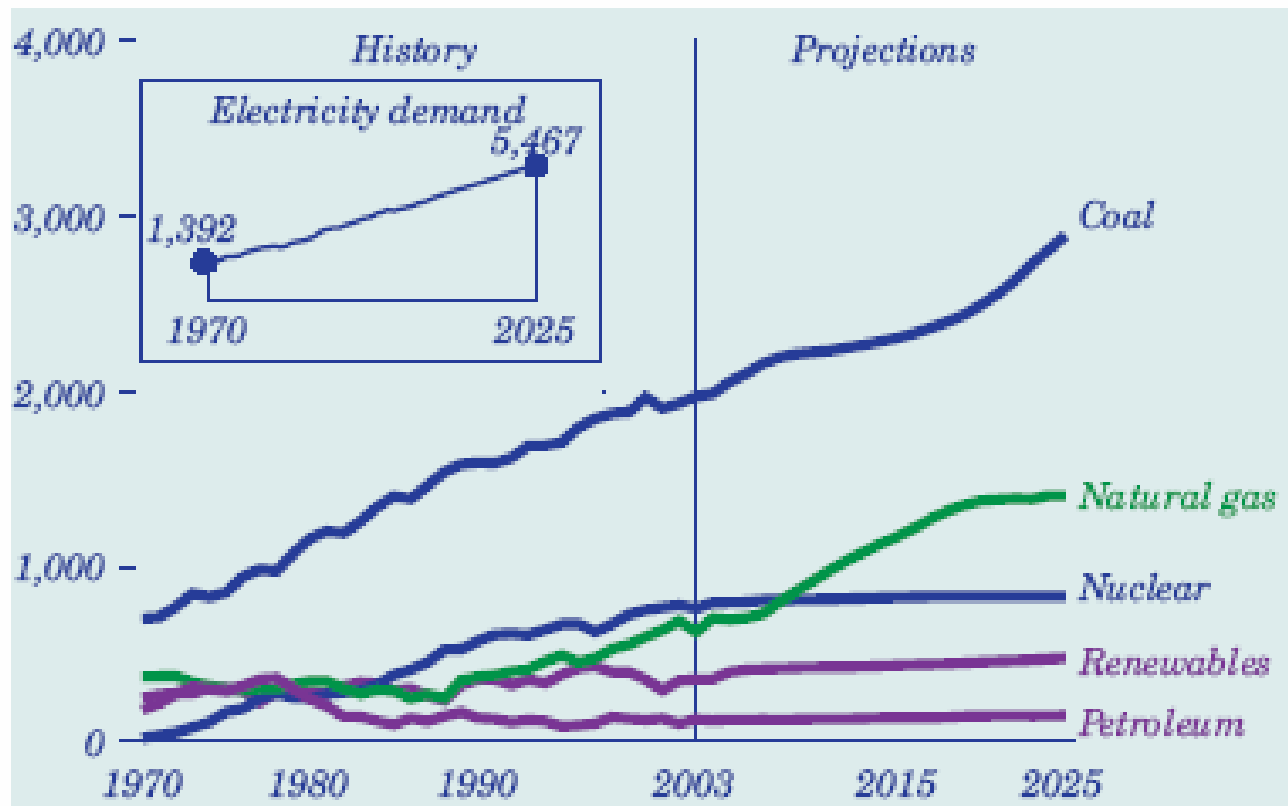
Potential

Customer Generation is Efficient



The US Status Quo

*Figure 5. Electricity generation by fuel, 1970-2025
(billion kilowatthours)*





Challenges for Vermont

- Power Supply Replacement
- Maintaining environmental quality
- Lowering costs
 - ❖ Pressure on low income customers due to higher energy costs
 - ❖ Pressure from large businesses due to prevailing rates
- Vermont Yankee specific issues (fuel, license)
- Wind siting
- Planning to integrate power, efficiency, and transmission



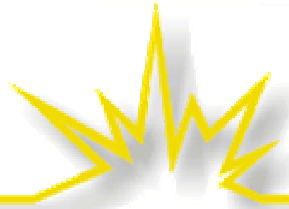
Vermont Yankee: Getting Used to Entergy

➤ Spent Fuel

- ❖ Federal Promise
- ❖ Jurisdiction
 - ◆ Safety, environment
- ❖ Connection to Vermont Clean Energy Choices
- ❖ Nose under the tent to license extension
- ❖ Uprate accelerates need

➤ License Extension

- ❖ Aging
- ❖ Experience
- ❖ Spent Fuel
- ❖ Need for Power
 - ◆ Climate change
 - ◆ alternatives



Wind

- A contributor to energy solution
 - ❖ Not correlated to fossil fuel price, supply
 - ❖ System benefits
 - ❖ No carbon
 - ❖ Declining cost
 - ❖ Local
- Reasons to Pause (assume all ecology issues solved)
 - ❖ Cost-benefit considering aesthetics
 - ◆ Offshore would be better site?
 - ❖ At high deployment (20%) system issue
 - ❖ Resulting development



Degree of Control of Vermont's Destiny

- What can Vermont do?
 - ❖ Developing in-state resources driven by planning
 - ◆ **Efficiency** to put the breaks on load growth
 - ◆ **Clean, small scale and customer-sited generation**
 - ◆ **Wind**, to the extent it meets other objectives
 - ◆ By the way, this brings **economic growth** for Vermont
 - ❖ Reduce need for new power lines
 - ❖ Continue significant use of long term contracts
- “Control” not the issue, rather external forces risky