



The Key to Resource Adequacy

Federal Policy and Market Impacts

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Demand Response

- ★ **FERC Authority**

- ★ **2005 EPA Act**

- ★ **Assess and Encourage**

- ★ **2007 Energy Law**

- ★ **DR Assessment**

- ★ **DR Plan**

Top 10 Reasons To Do DR

- ★ **Reduce Price Volatility**
- ★ **Reduce Congestion & Resultant Price Spikes**
- ★ **Improve System Efficiency**
- ★ **Improve Reliability - Reserves & VAR Support**
- ★ **Rapidly Deploy Needed Resources**
- ★ **Mitigate Market Power**
- ★ **Reduce Emissions**
- ★ **Avoid/Defer Generation/Transmission/Distribution**
- ★ **Support Resource Adequacy at Least Cost**
- ★ **Save Money for Consumers**

DR in Resource Adequacy

- ★ **Treat DR as Comparable Resource**
 - ★ **Permanent Solution**
 - ★ **Utility Grade Resource**
- ★ **DR provides:**
 - ★ **Peak Load Reductions**
 - ★ **Operating & Spinning Reserves**
 - ★ **Regulation**
- ★ **Consider DR As Alternatives:**
 - ★ **Transmission Enhancement**
 - ★ **Transmission Expansion**
 - ★ **Peak Generation**
- ★ **Development Needs**
 - ★ **Better DR Forecasting Tools**
 - ★ **Easier & Less Expensive M&V**

Areas To Improve DR Success

★ Disconnects

★ Retail Price vs. Wholesale Market Price

★ Throughput Incentive to Sell More
Electrons

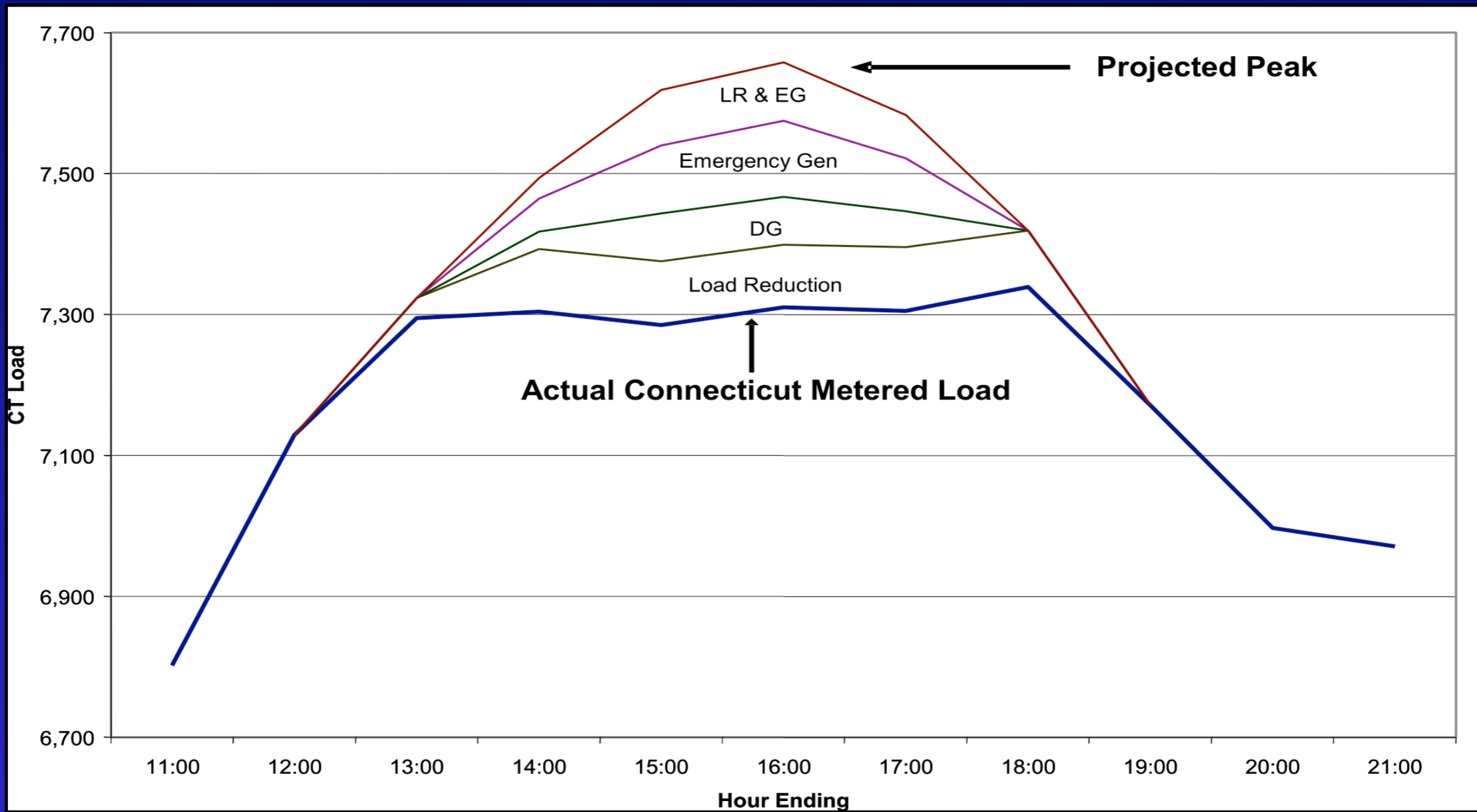
★ Vertical Integration Favors Supply-Side
Investment

★ Failure to Value DR for Full Benefits
Provided to the System

★ Barriers to 3rd Party Participation

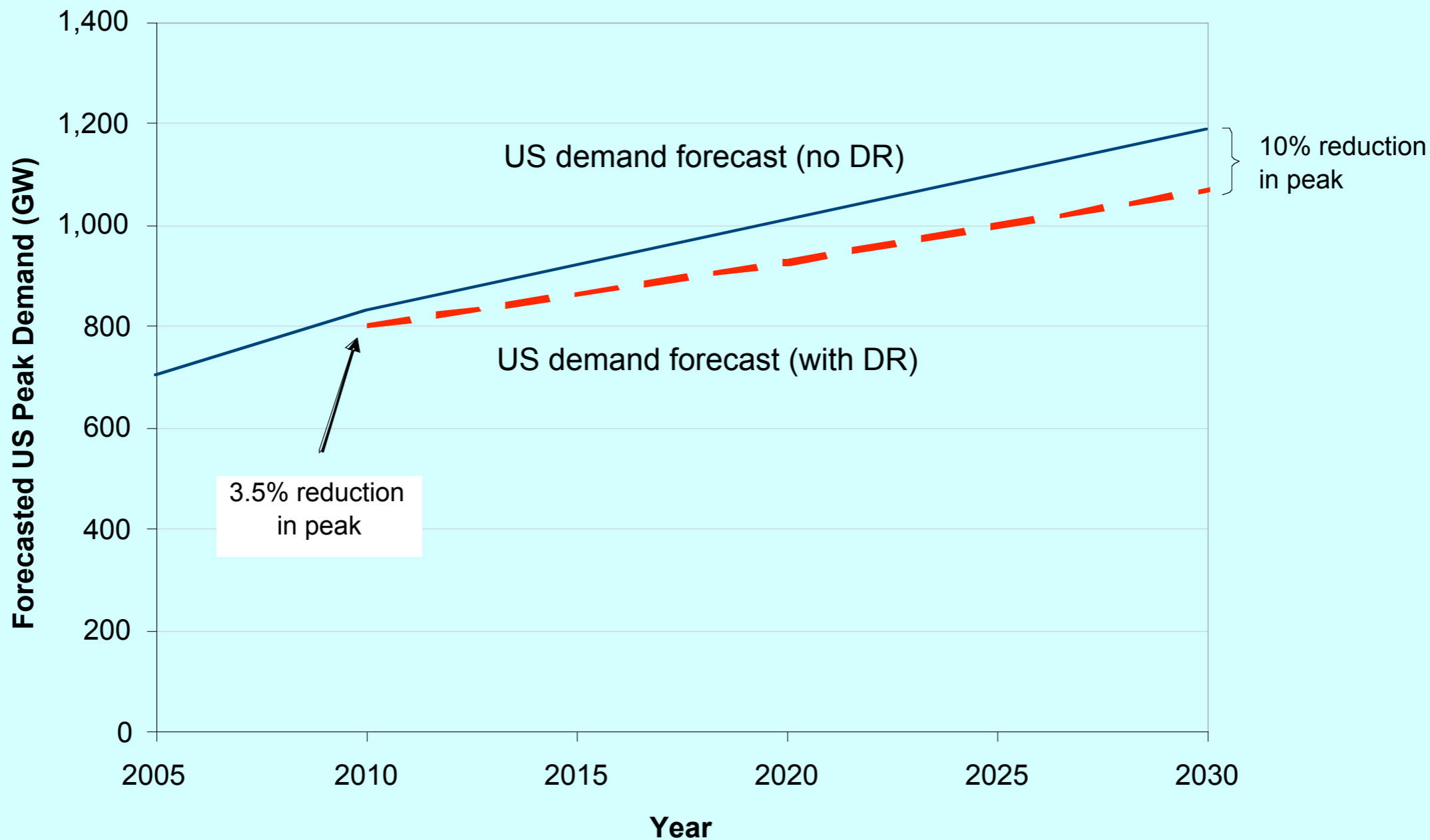
Connecticut Load - August 2, 2006

(Integrated Hourly Data)



DR for Resource Adequacy

Achievable Potential Peak Reduction From DR



Source: EPRI/EEI National EE and DR Potentials Study: Preliminary Results

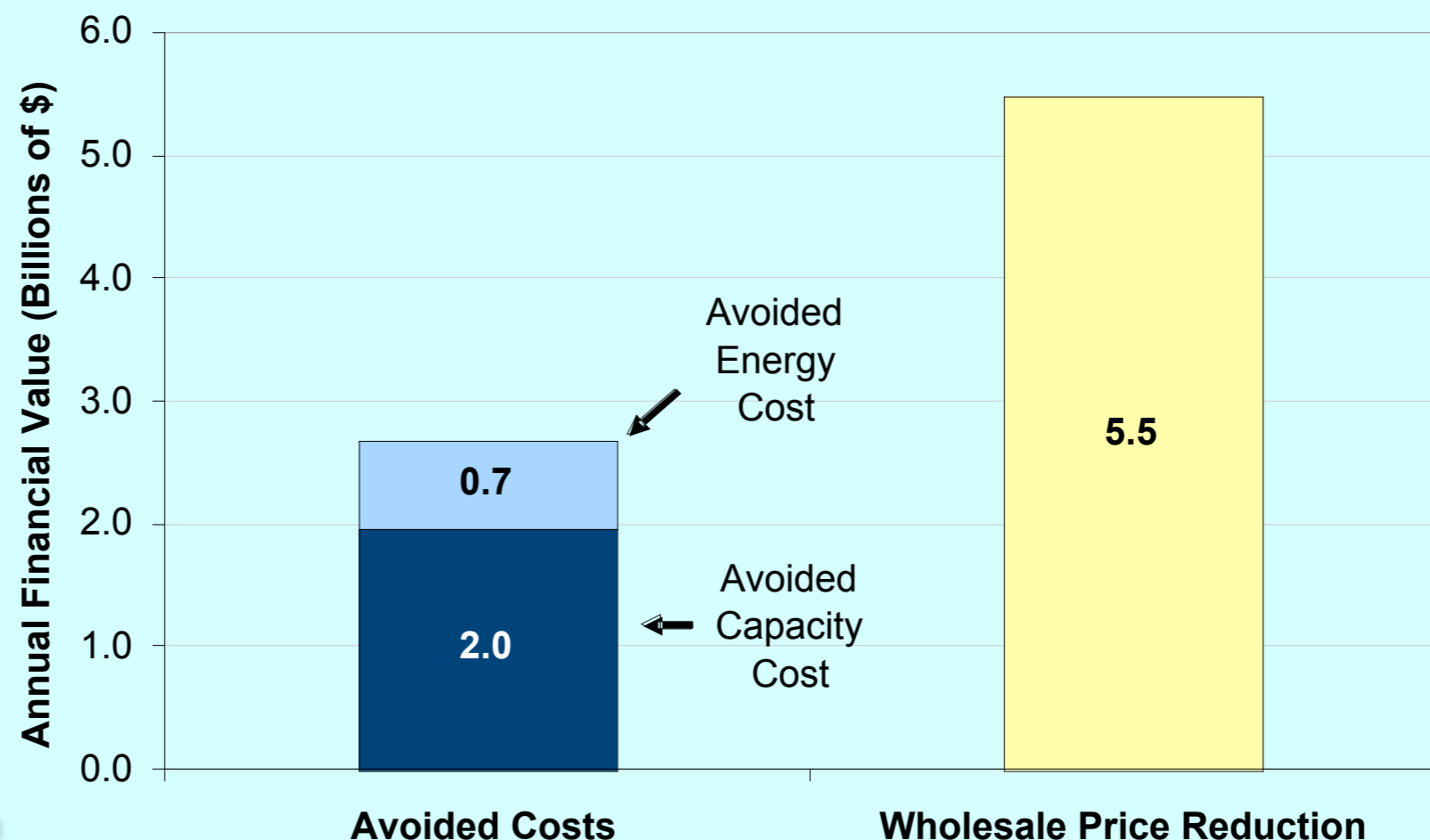
DR Consumer Benefits

20 Year NPV Avoided Cost Savings to Consumers = \$31,000,000,000

Assumptions

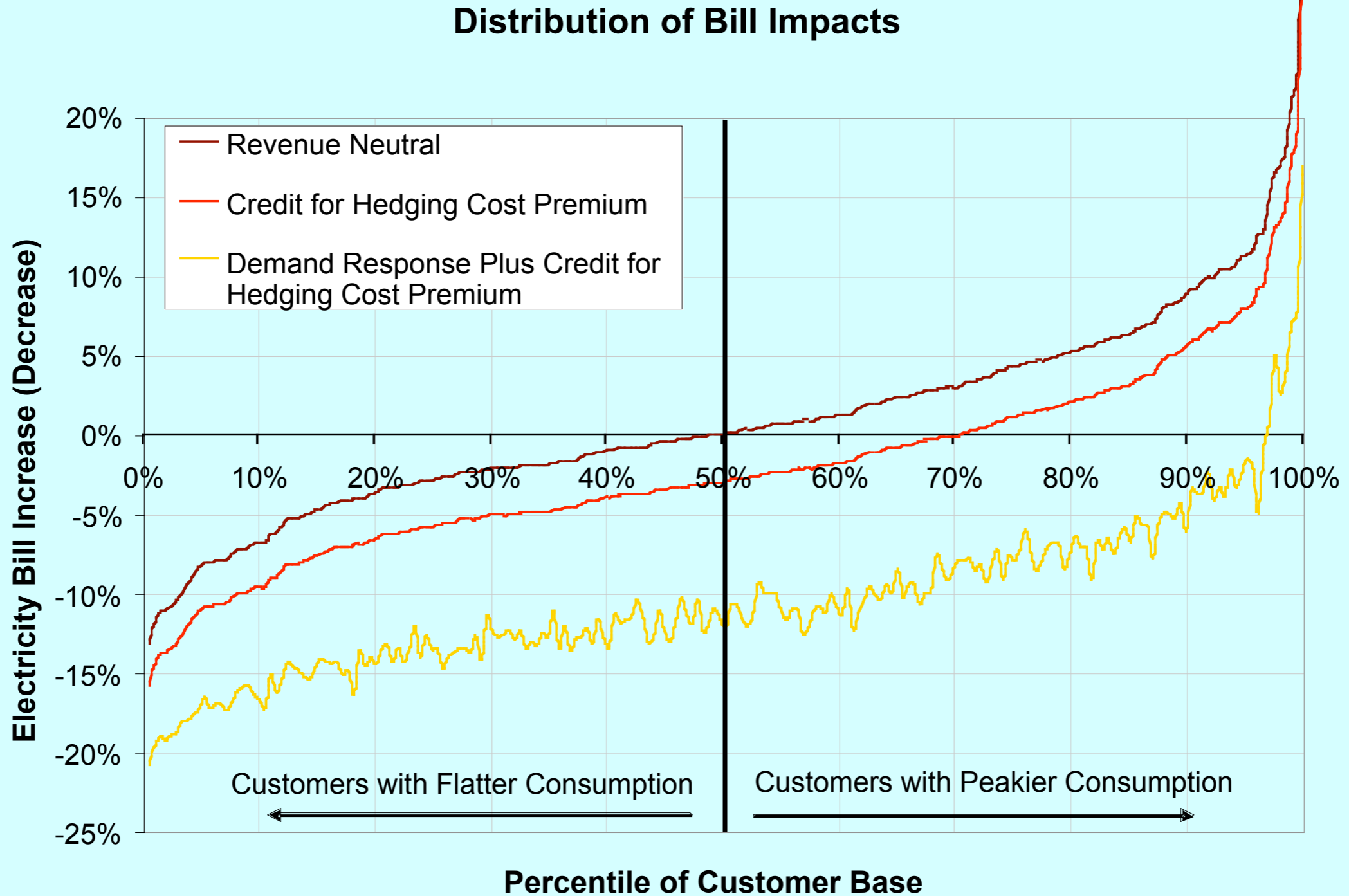
- 5% demand reduction in 757 GW
- \$52/kW-year capacity price 20 year horizon
- 15% discount rate
- 2% peak growth rate
- Avoided cost of energy is 36% of avoided cost of capacity*
- Value of wholesale price reduction is 278% of avoided cost of capacity*

Annual Value of a 5% Reduction in Peak Demand



*Derived from a study on the value of DR in PJM:
The Brattle Group, 2007, *Quantifying Demand Response Benefits in PJM*, Prepared for PJM and MADRI

DR Consumer Costs





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