

FERC's Role In Markets for Innovative Technologies



NEMA

October 6, 2008

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Commissioner
FERC



Grid Supporting Technologies



Roles of Grid Supporting Technologies

★ Transmission Device

- ★ Voltage Support, VAR, Mitigation Tran Loading- In Trans Rates

● Distribution Device

- Power Quality, Voltage Support, Load Relief, Load Leveling- In Dist Rates

● Customer Device

- Peak Reduction, Power Quality, UPS, PHEV- In Cust Rate

● Market Services

- Ancillary Services (Regulation & Operating Reserves), Arbitrage Energy & Capacity Prices- In Energy & Capacity Markets

FERC Regulatory Relation To Grid Supporting Technologies

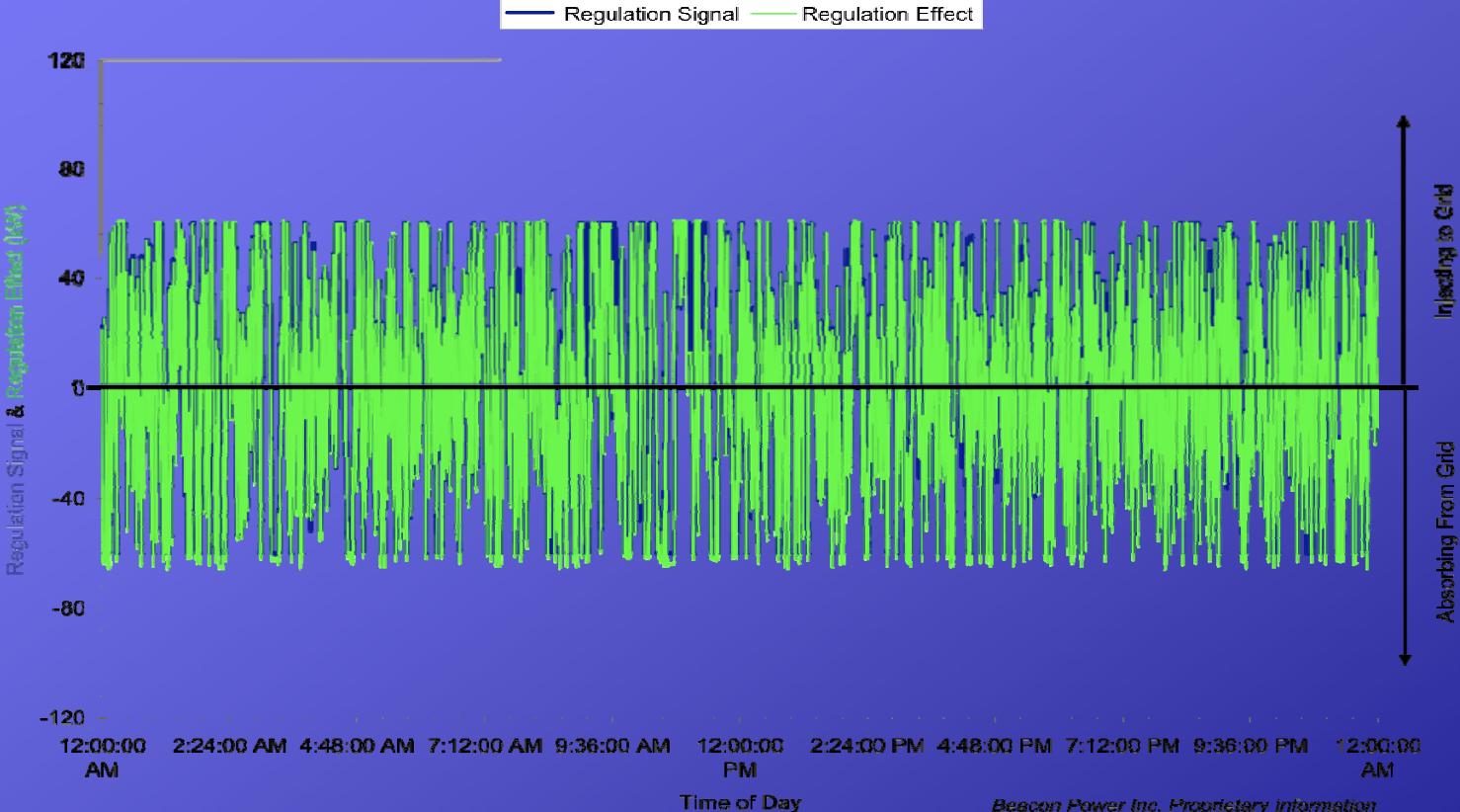
- ★ **When Is a GST a Transmission Facility Included in Transmission Rates?**
 - ★ Voltage Criteria
 - ★ Location Criteria
 - ★ Service Provided
- **When Is It a Market Based Facility?**
 - When Bids Into Energy, Capacity & Ancillary Services Market
- **Could Be a Hybrid With Both Transmission & Market Based Tariff Support**

FERC's Regulatory Role

- ★ **Transmission Service Pricing**
- ★ **Transmission Planning**
- ★ **Wholesale Market Services**
 - **Energy**
 - **Capacity**
 - **Ancillary Services**
- **Reliability**
- **Advanced Transmission Technologies**

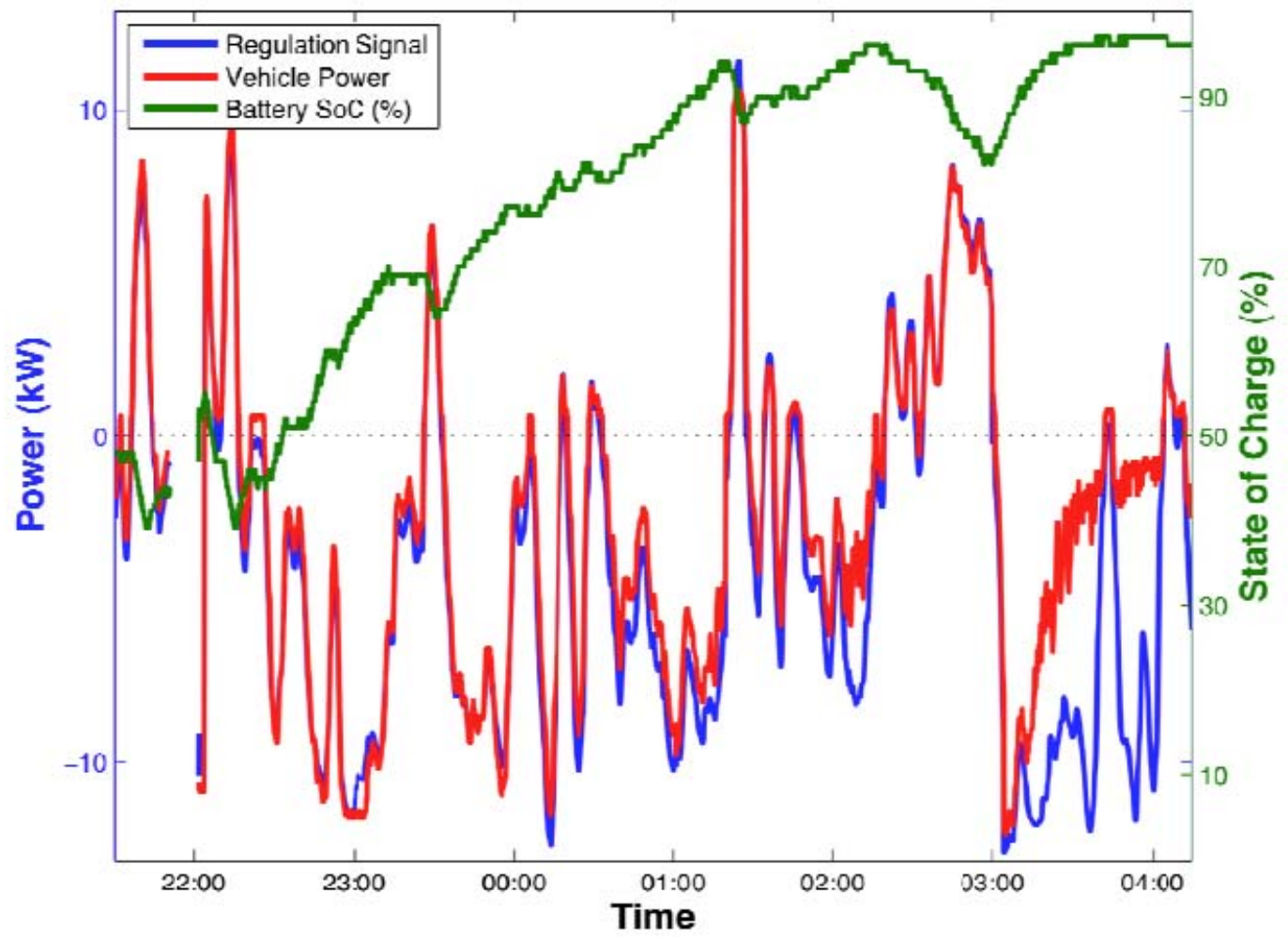
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Fast Regulation Service

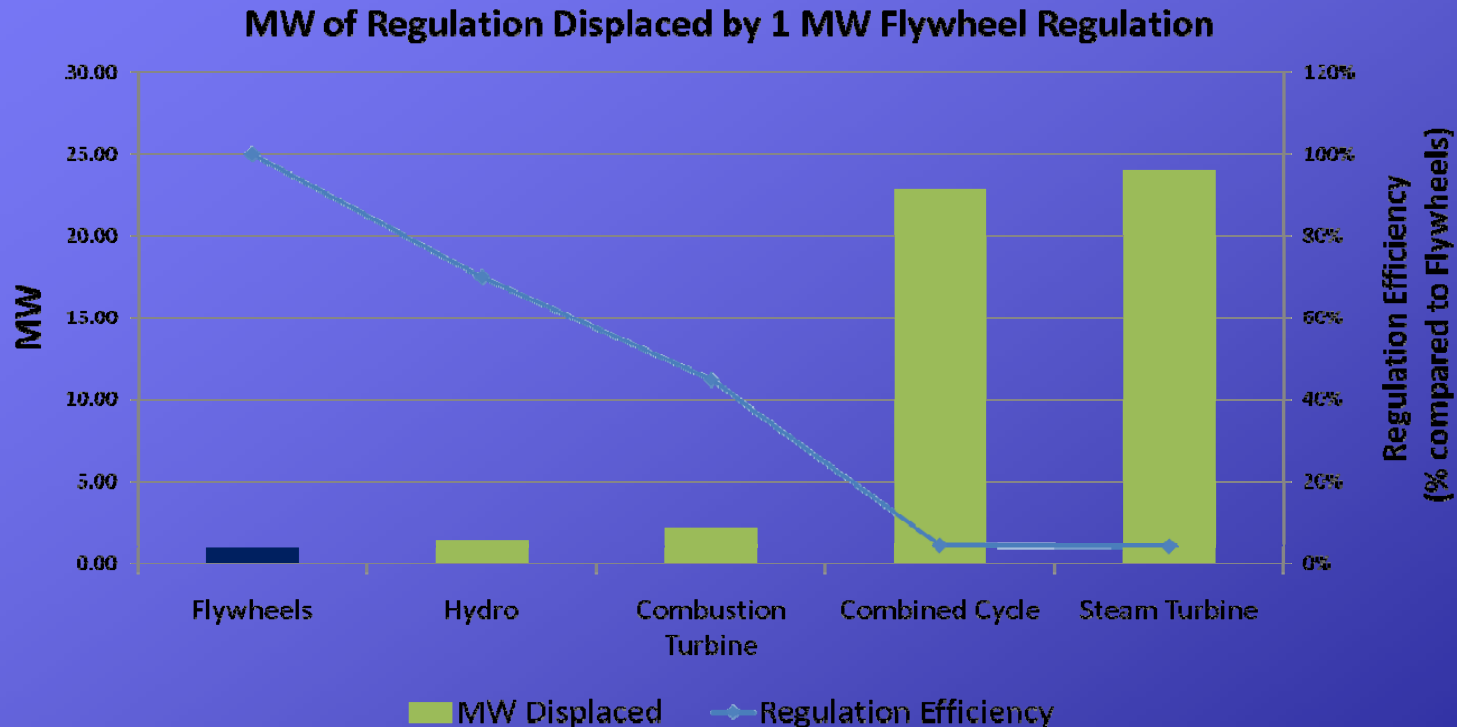


Regulation Service While Charging BEV

Regulation Supply (incidental charging)



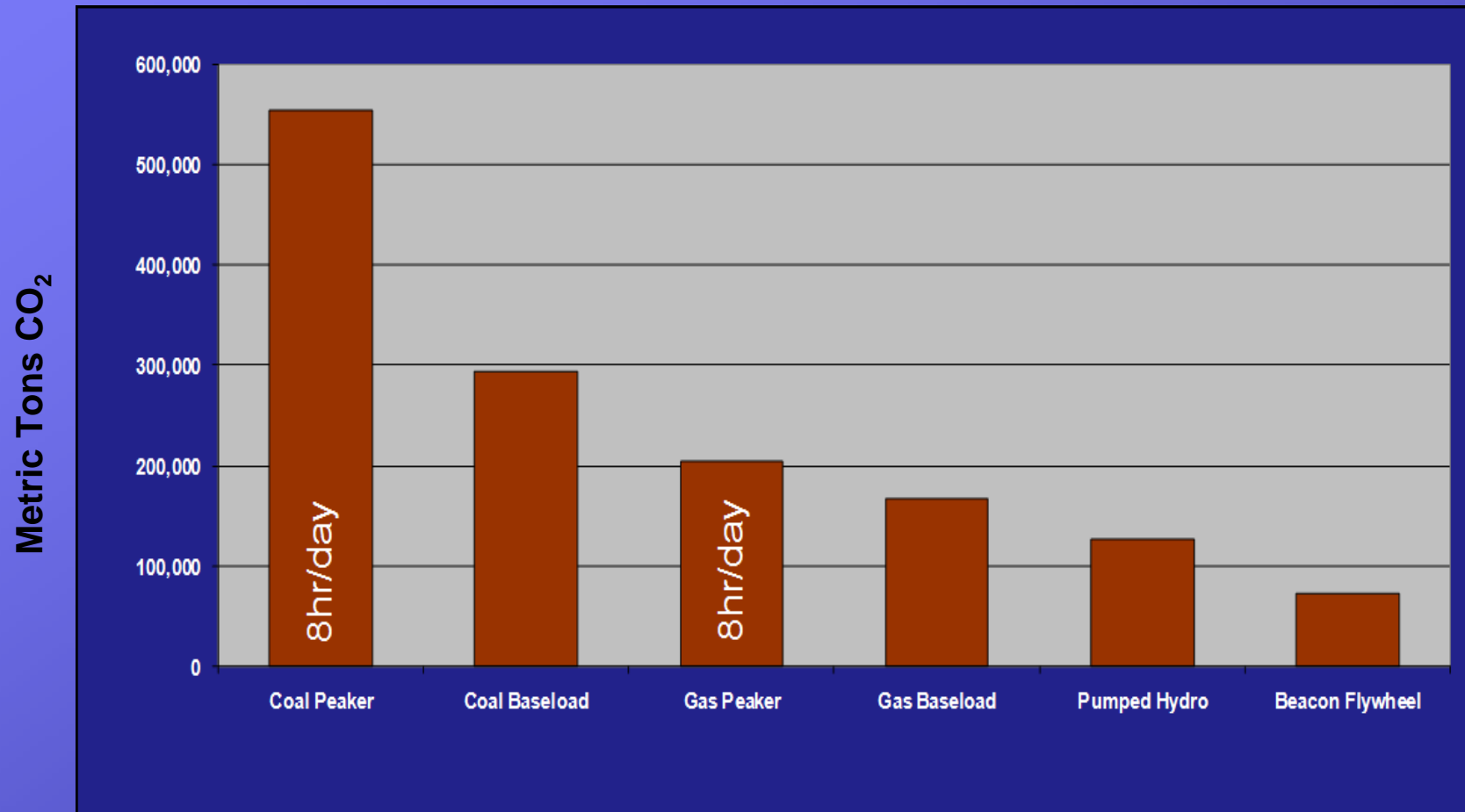
Efficiency of Fast Regulation Services



Fast Response resources reduces the amount of necessary Regulation

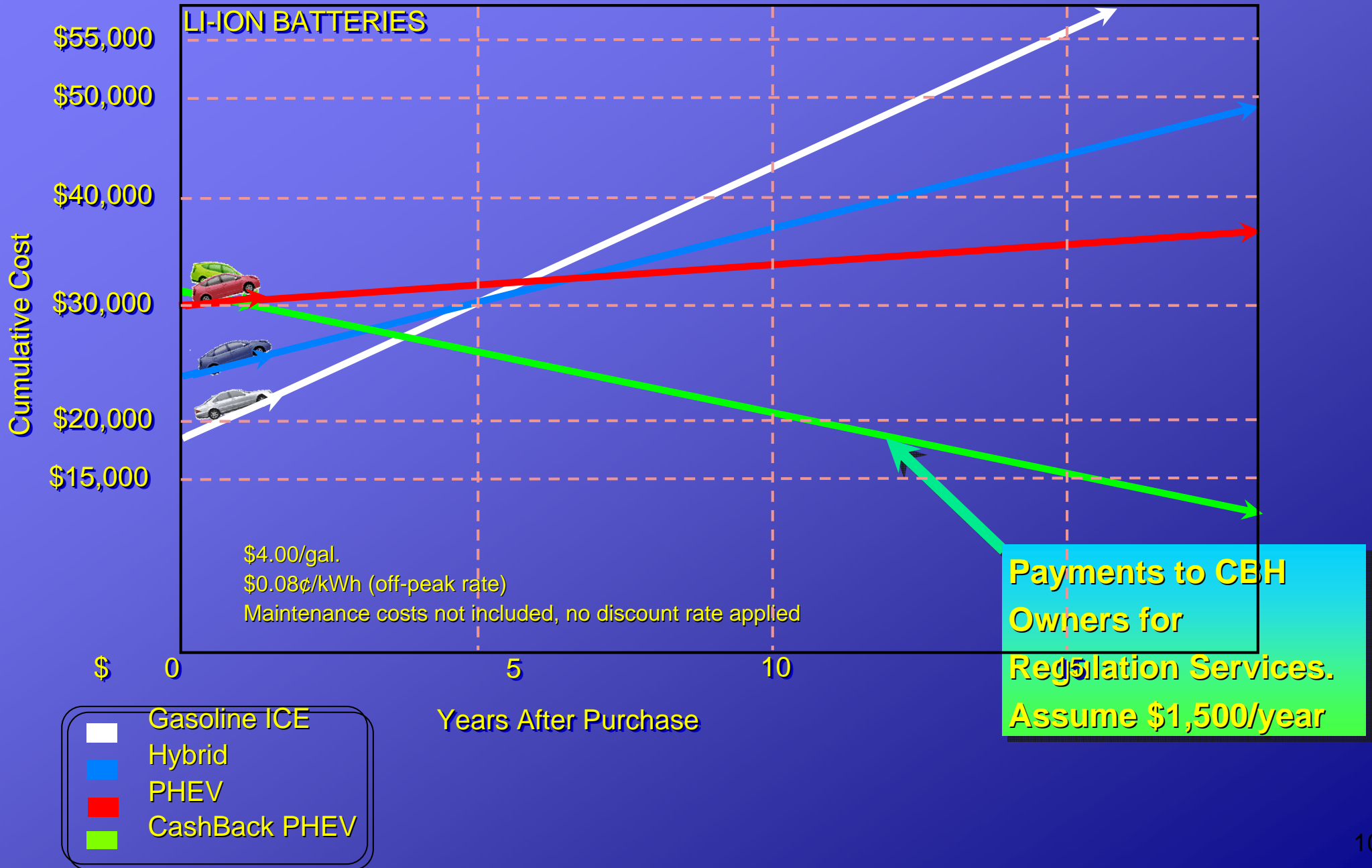
Carbon Reduction From Fast Regulation

From KEMA study: 20 MW of Regulation over 20-year operating life



Over 80% reduction in CO₂ emissions vs. present methods

Value of Fast Regulation Service



Conclusions - FERC & GST

- ★ **FERC Has Significant Authority To:**
 - ★ **Incorporate Into Wholesale Markets**
 - ★ **Require Incorporation Into Transmission Planning**
 - ★ **Use For Reliability**
 - ★ **Promote As Advanced Transmission Technology**

***Thank
You***