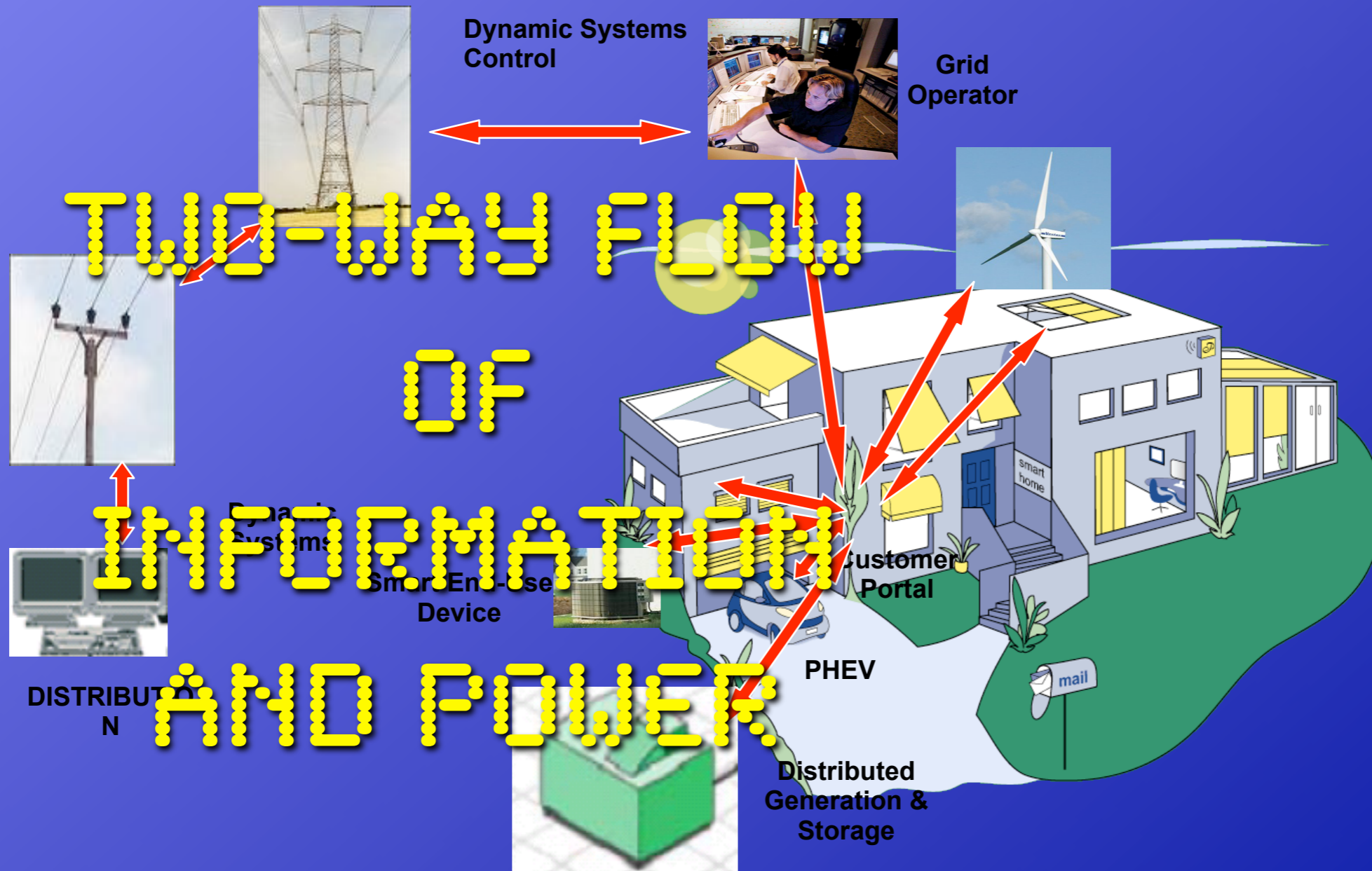


Smart Grid & PHEVs: Components of the Future Electric Network

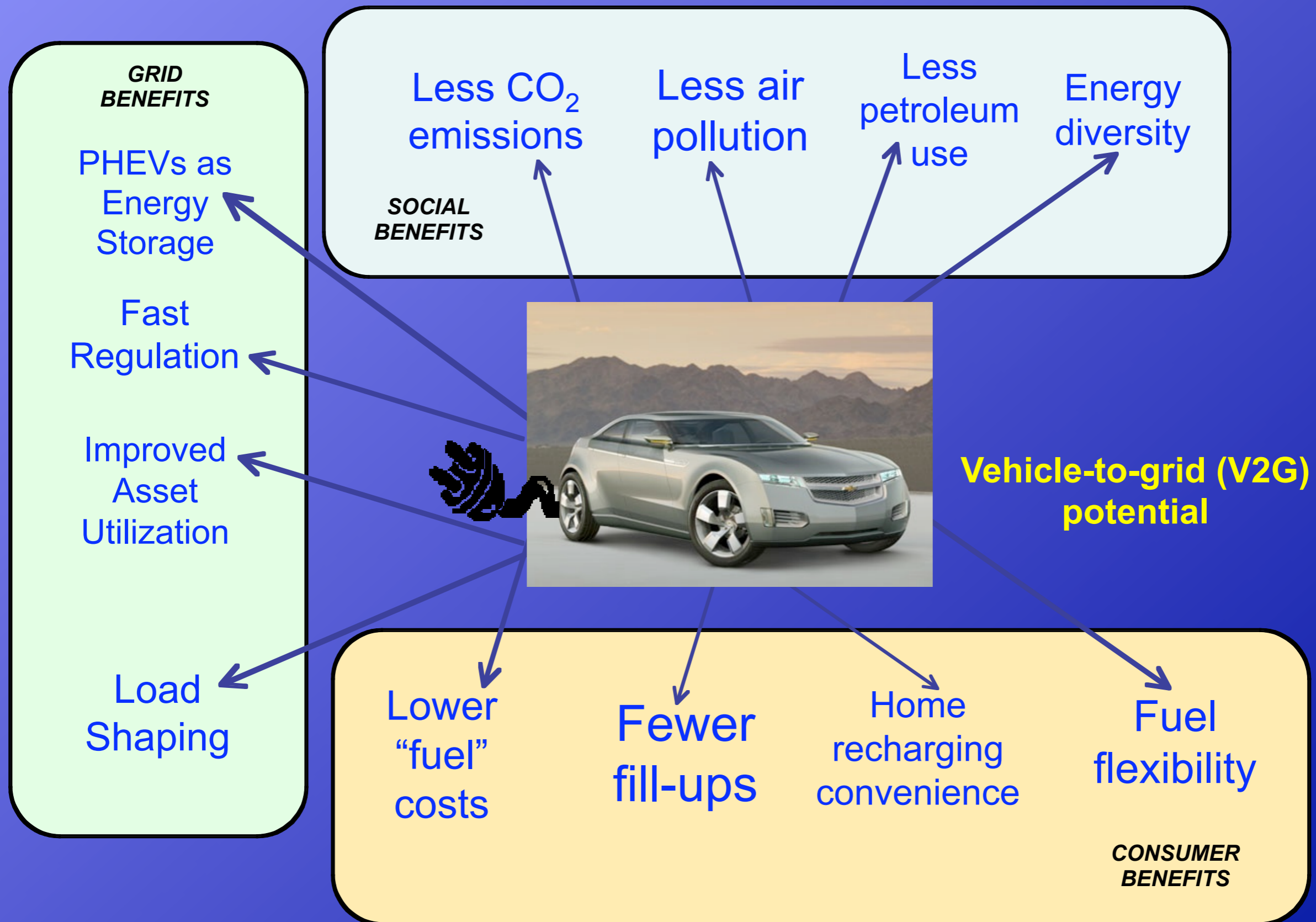


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The Intelligent Grid System



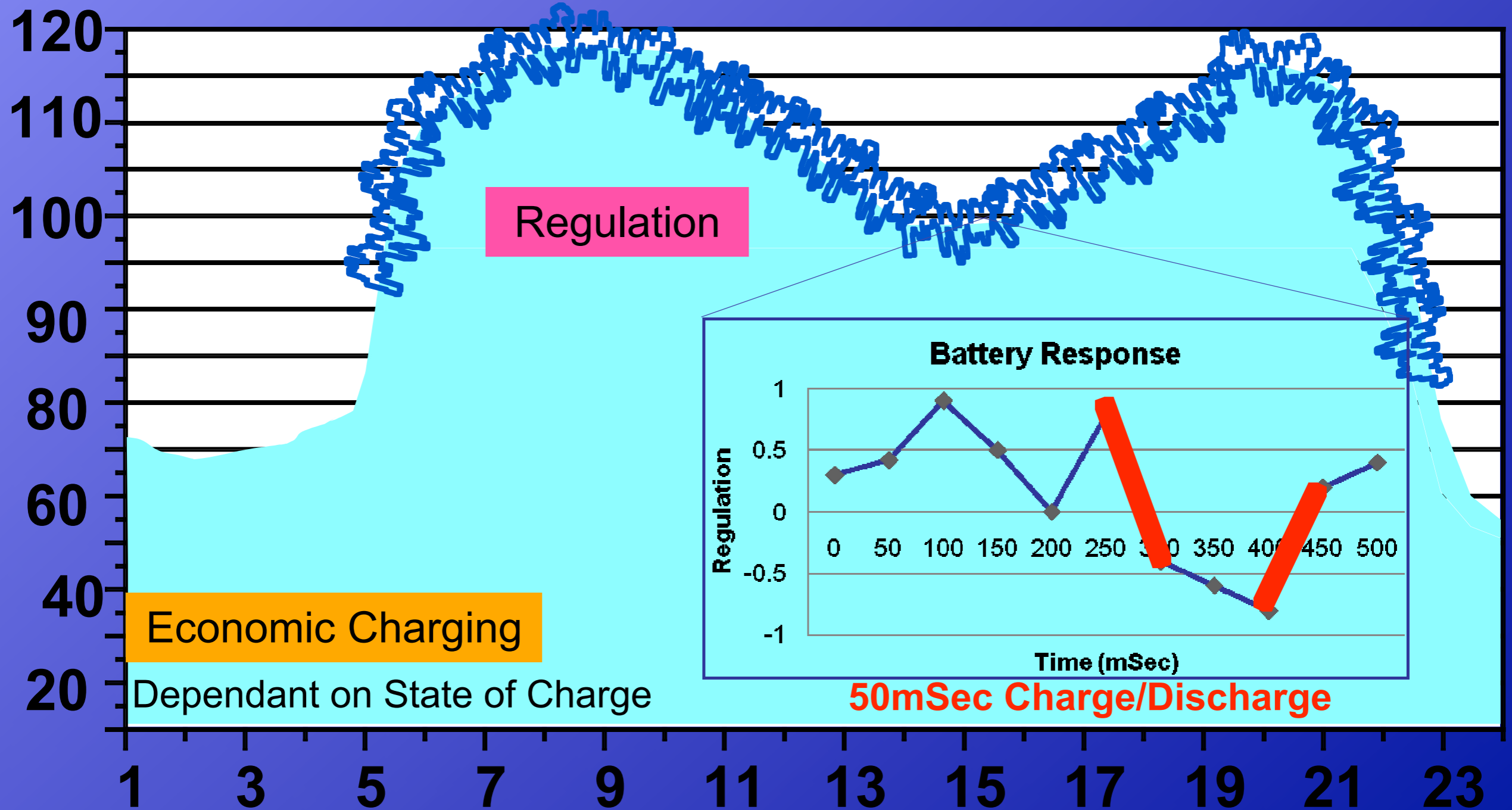
PHEV Benefits



Grid Benefits

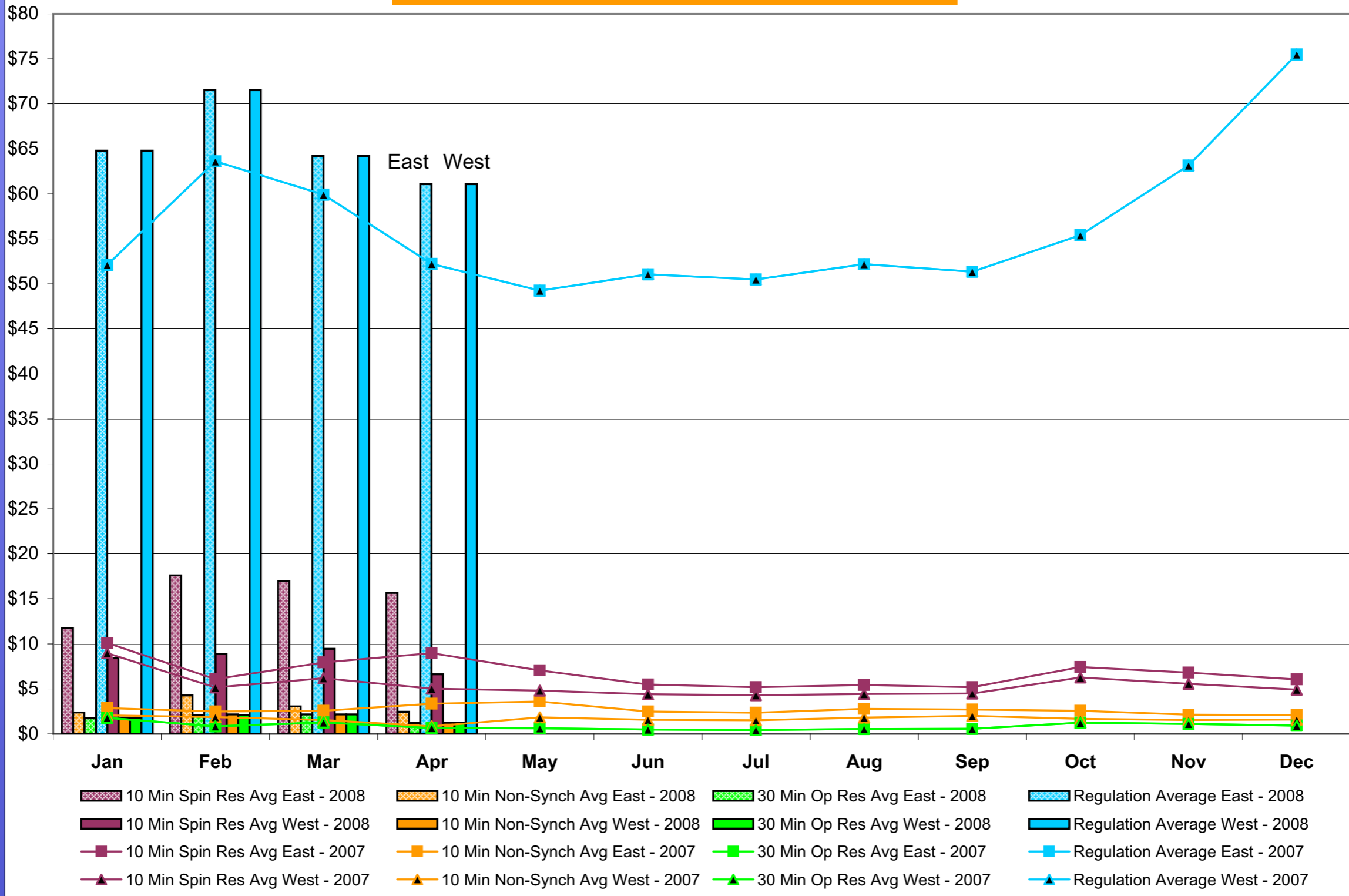
Regulation vs. Economic Dispatch

Load (MW x 1000)



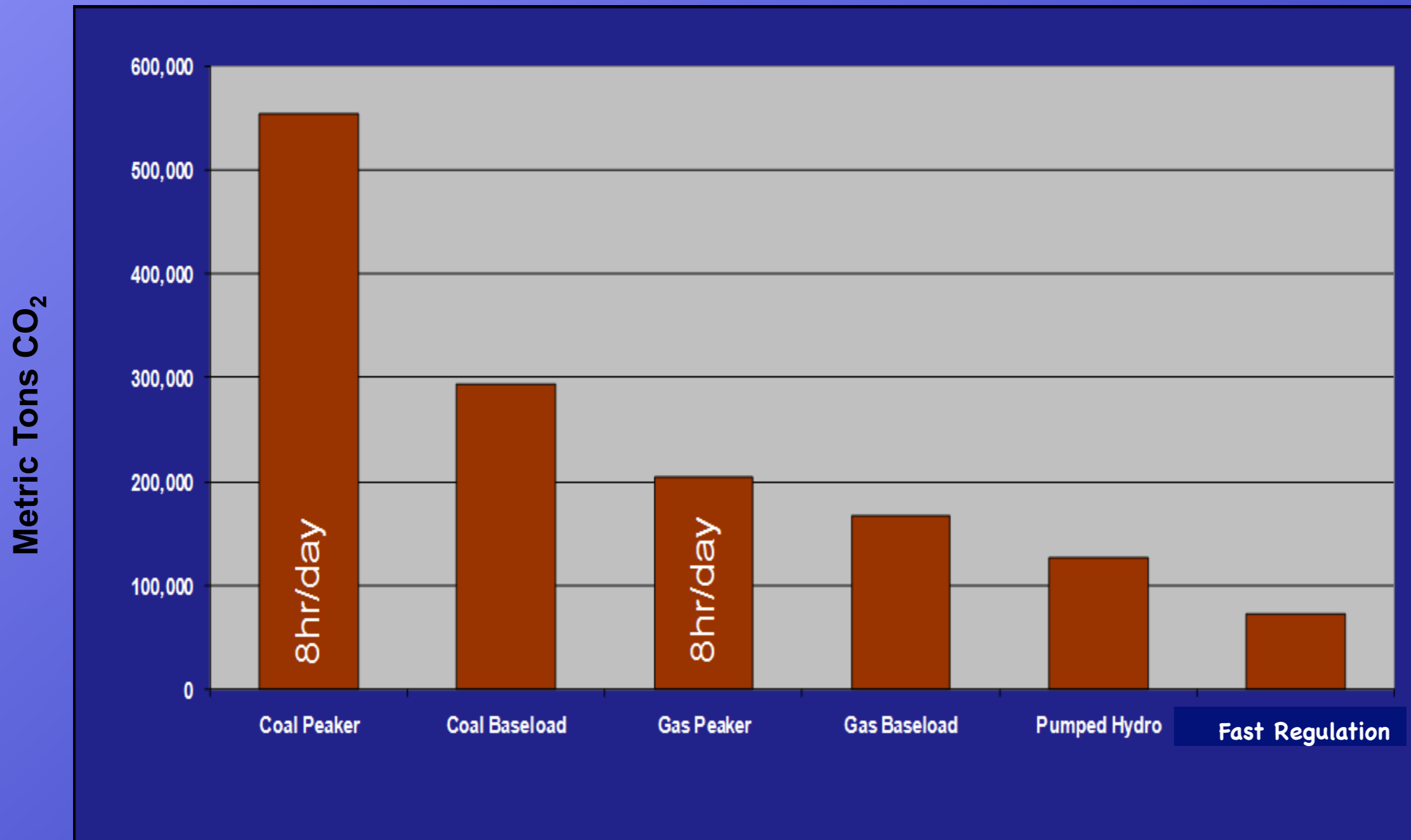
Fast Response Grid Services Are Valuable

**NYISO Monthly Average Ancillary Service Prices
Day Ahead Market 2007 - 2008**



CO₂ Benefits of Fast Regulation Service

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





UNIVERSITY OF DELAWARE
apjm
Pepco Holdings Inc
v2G

Vehicle-to-Grid Power (V2G) How does it work?

Summary Electric vehicles (EVs) are becoming more common, but they are also becoming more expensive. This is because of the high cost of the battery pack. The battery pack is the most expensive part of the EV, and it is also the most important part. The battery pack stores energy, and it is used to power the EV. The battery pack is also used to store energy from the grid. This is called Vehicle-to-Grid (V2G) power. V2G power allows EVs to store energy from the grid and use it to power the EV. This can help reduce the cost of electricity and reduce the carbon footprint of the EV.

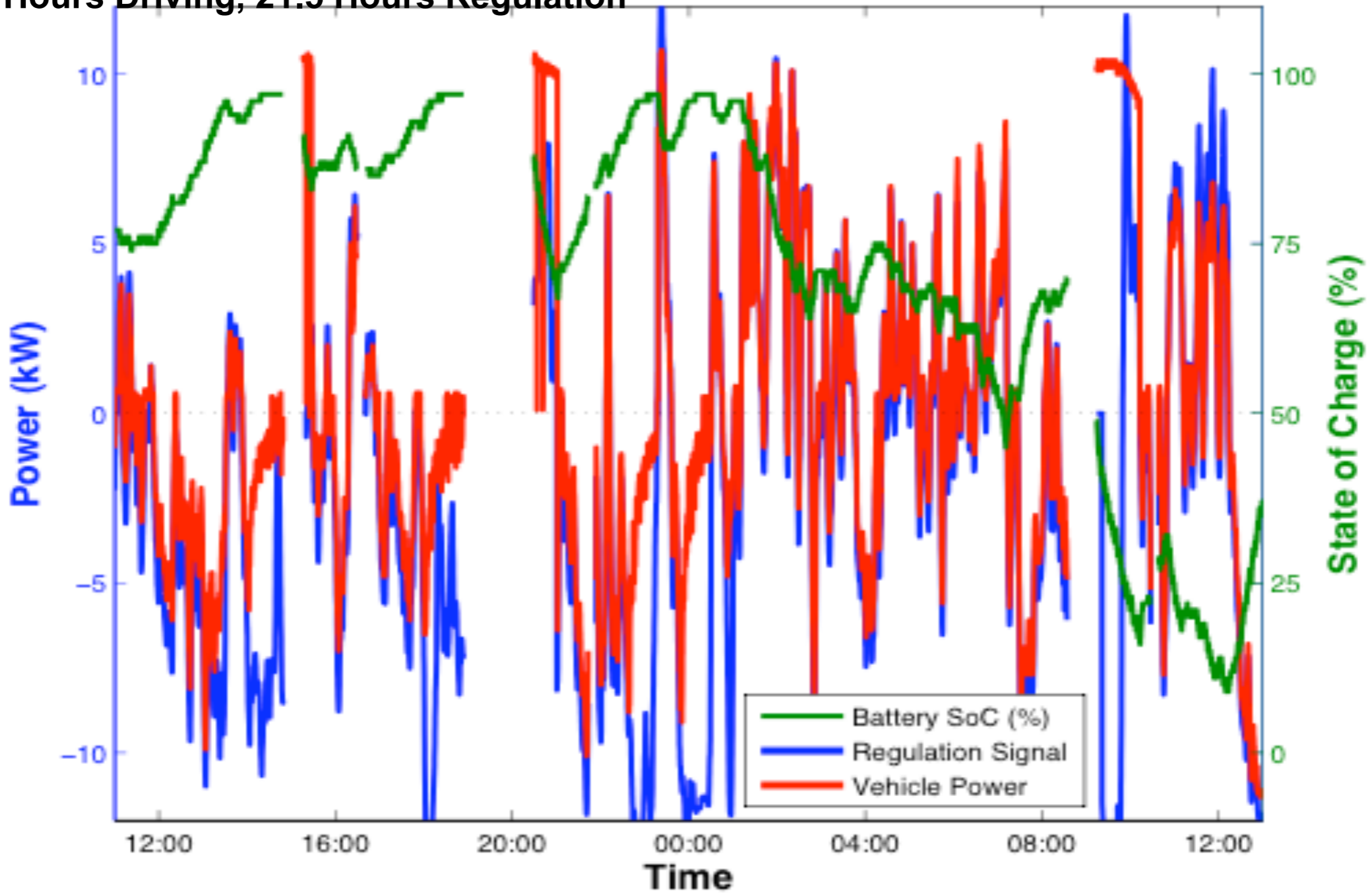
Applications V2G power can be used in a variety of ways. It can be used to power the EV, or it can be used to power other devices. V2G power can also be used to store energy from the grid and use it to power the grid. This can help reduce the cost of electricity and reduce the carbon footprint of the grid.

Elements needed for V2G There are several elements needed for V2G. These include a V2G-capable EV, a V2G-capable charging station, and a V2G-capable grid. The V2G-capable EV is the most important element. It must be able to store energy from the grid and use it to power the EV. The V2G-capable charging station is also important. It must be able to charge the EV and also be able to receive energy from the grid. The V2G-capable grid is the final element. It must be able to provide energy to the charging station and receive energy from the EV.

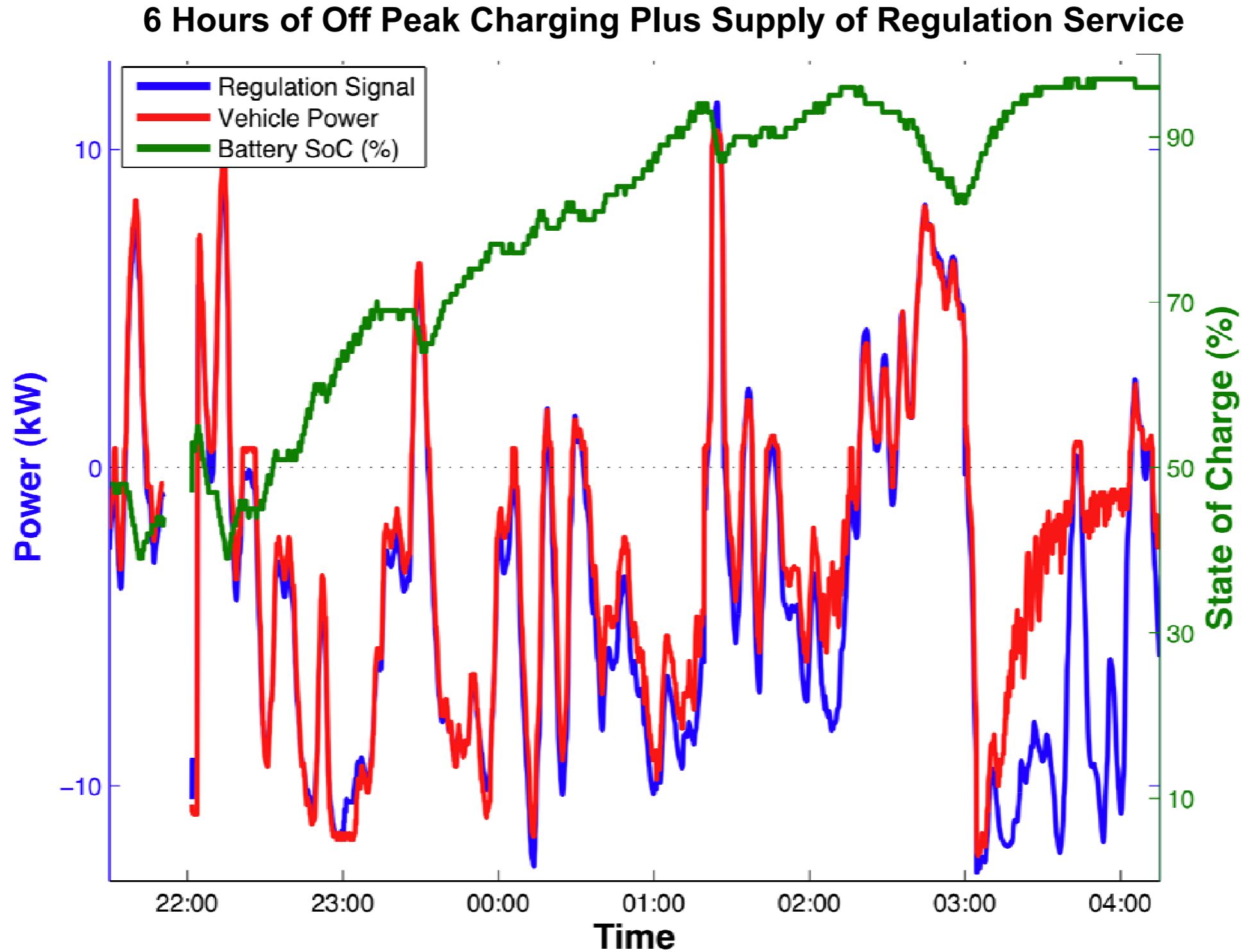
What is the University of Delaware doing? The University of Delaware is working on a V2G project. This project is called the Delaware V2G Project. The project is a partnership between the University of Delaware, Pepco Holdings Inc, and the Delaware Department of Transportation. The project is focused on developing a V2G-capable EV and a V2G-capable charging station. The project is also focused on developing a V2G-capable grid. The project is expected to be completed in 2015.

V₂G for Grid Regulation Services

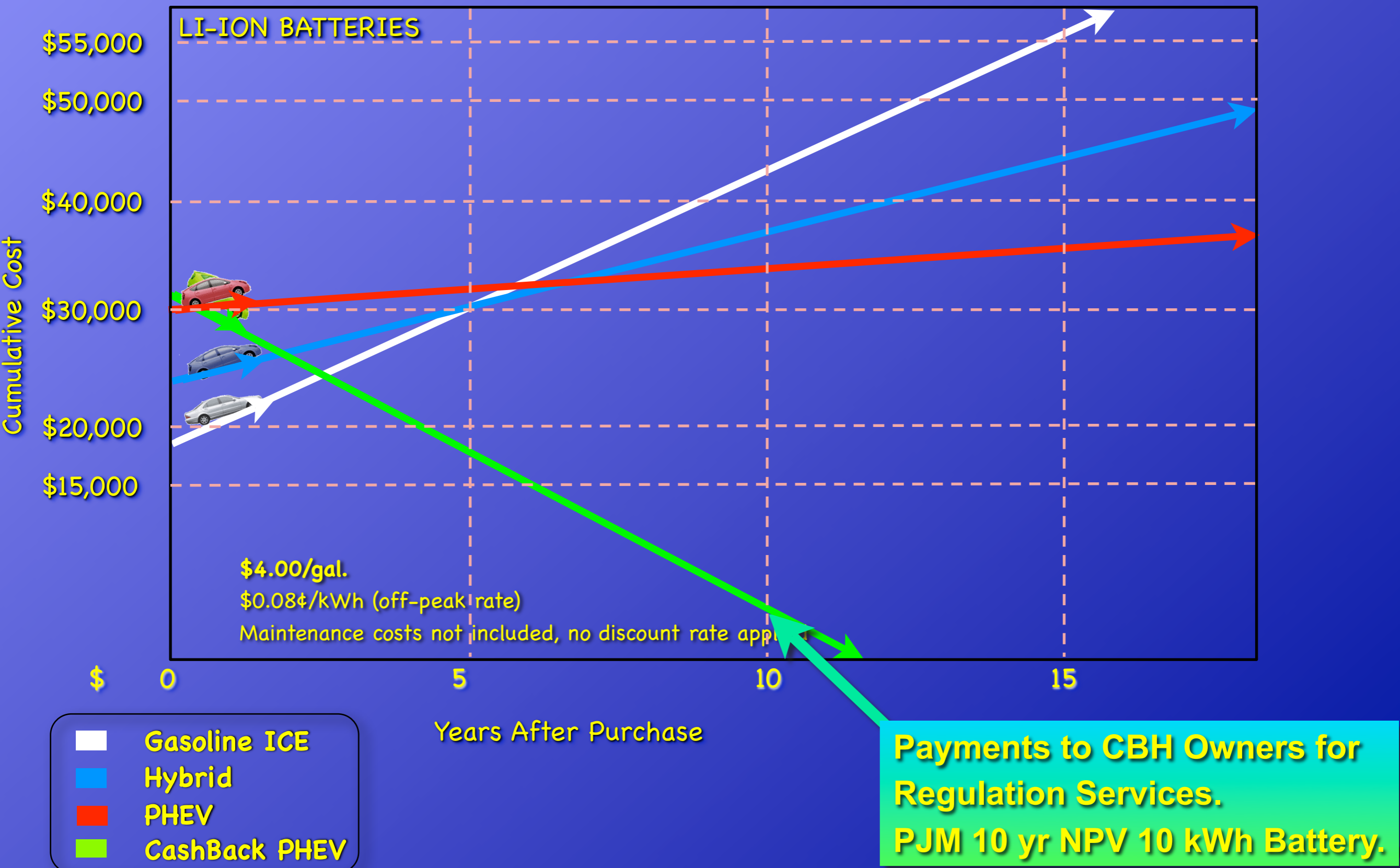
Actual MAGICC eBox Charging and Regulation Participation
2.5 Hours Driving, 21.5 Hours Regulation



V₂G for Grid Regulation Services



The "Cash Back" in CashBack Hybrid



Conclusions

★ The CASHBACK Hybrid :

- Will Save Their Owners Money on Their Total Energy Bills
- Will Cost Less Than a Conventional Gasoline Car in 3 Years or Less of Ownership (Incorporate Savings into Financing to Lower 1st Costs)
- Will Improve the Overall Efficiency of the Electric System and Save All Consumers on Their Electric Bills
- Will Reduce GHG and Urban Pollution
- Will Reduce Foreign Oil Imports
- Will Improve Electric Grid Reliability and Security

Thank You!
Questions?