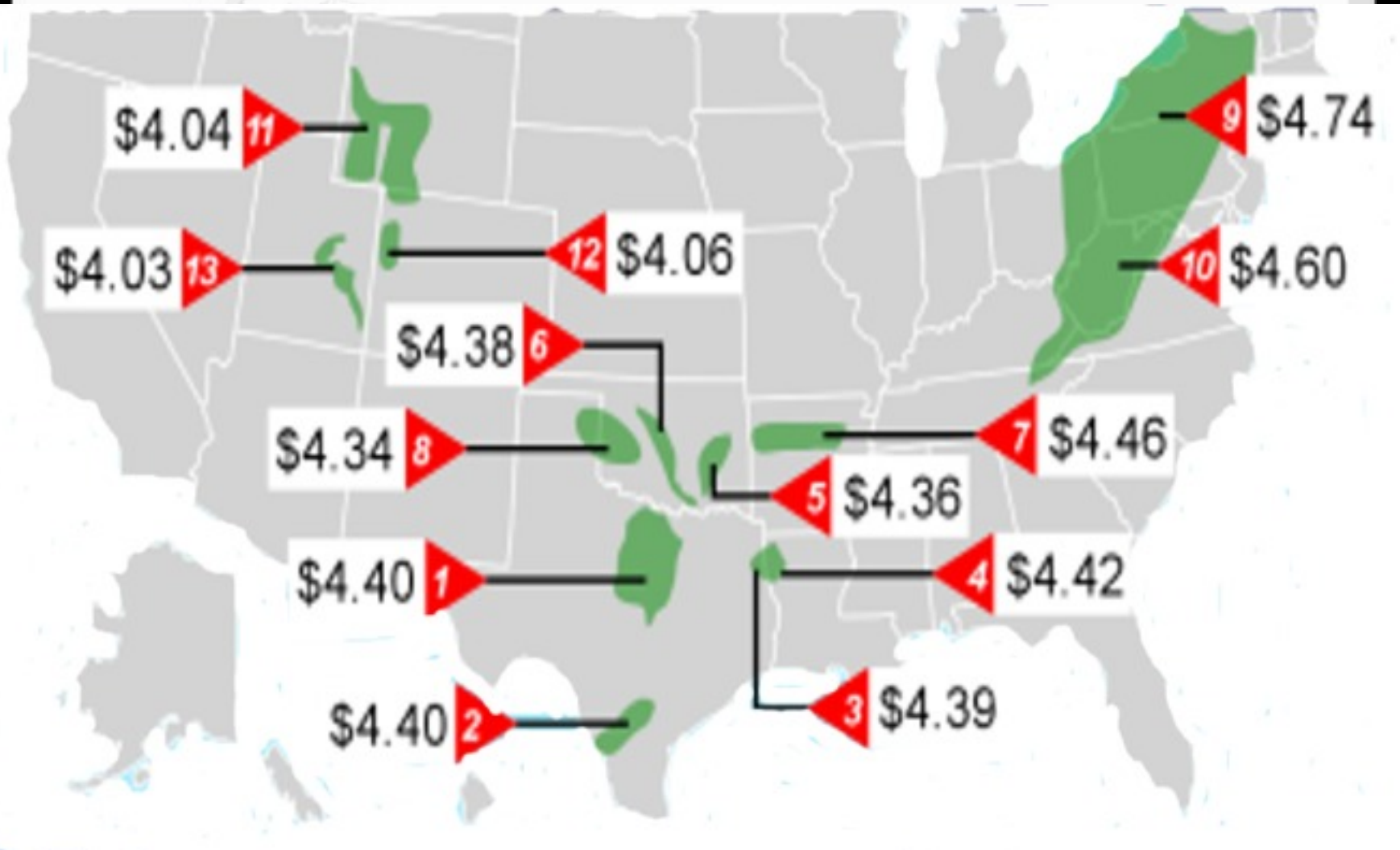


The background of the slide is a photograph of a power transmission line. Two large metal lattice towers are prominent in the center, with several high-voltage power lines stretching across the frame. The towers are situated in a flat, open field with dry, brownish grass. In the far distance, a city skyline is visible under a blue sky with scattered white clouds. A faint rainbow is visible in the sky, arching over the towers. The text is overlaid on the upper half of the image.

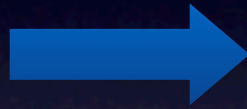
Northern California Power Agency 2011 Annual Conference

Napa, CA
September 22, 2011





Order No. 888



Order No. 890



Order No. 1000





Planning



Incumbent Developer Issues

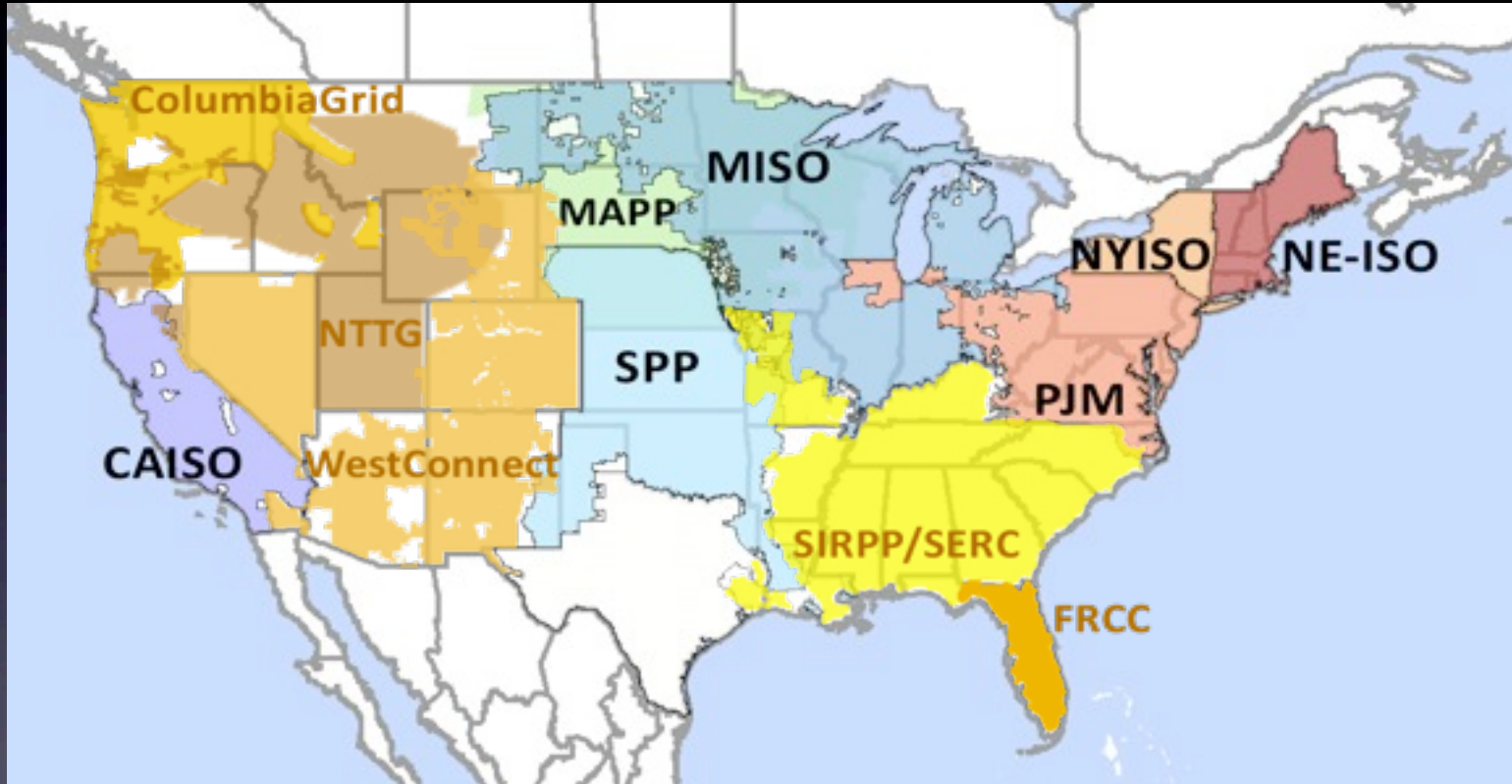


Cost Allocation



Siting

Current Transmission Planning Regions

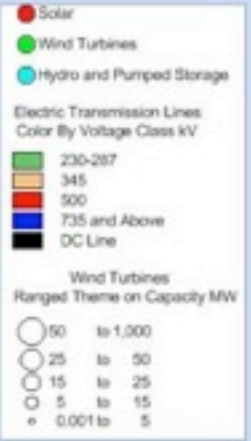
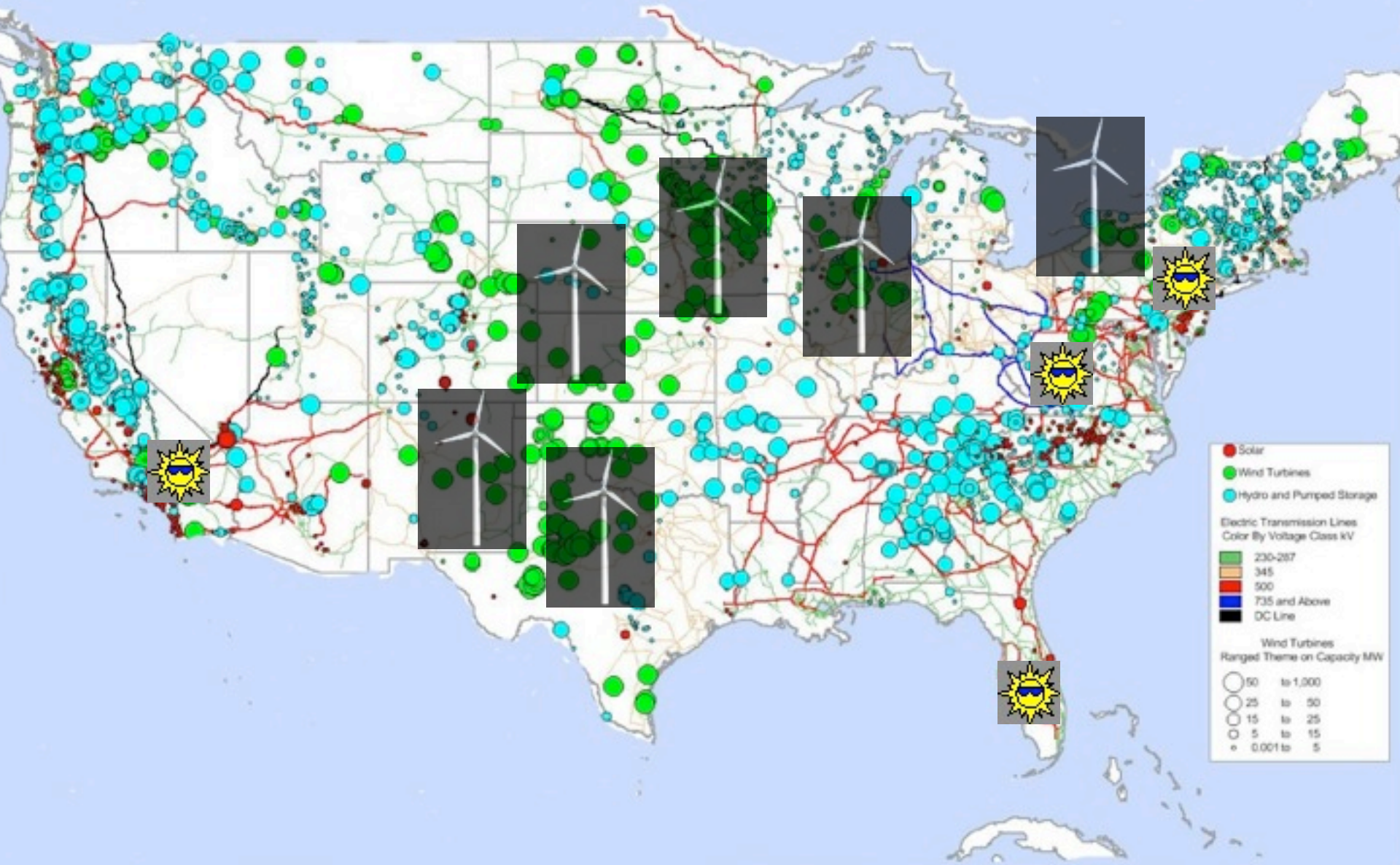


- This map is for illustration purposes only. This map generally depicts the borders of regional transmission planning processes through which transmission providers have complied with Order No. 890. Those borders may not be depicted precisely for several reasons (e.g., not all transmission providers complying with Order No. 890 have a defined service territory). Additionally, transmission planning regions could alter because transmission providers may choose to change regions.



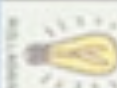
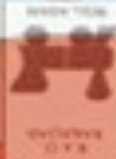
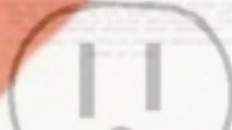
“Transmission planning for a reliable, economic and open grid...”







MONOPOLY





GreenBiz - VERGE

Energy



Information



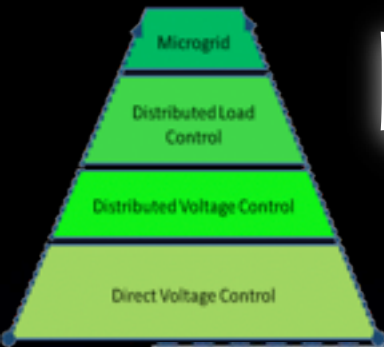
Buildings



Vehicles

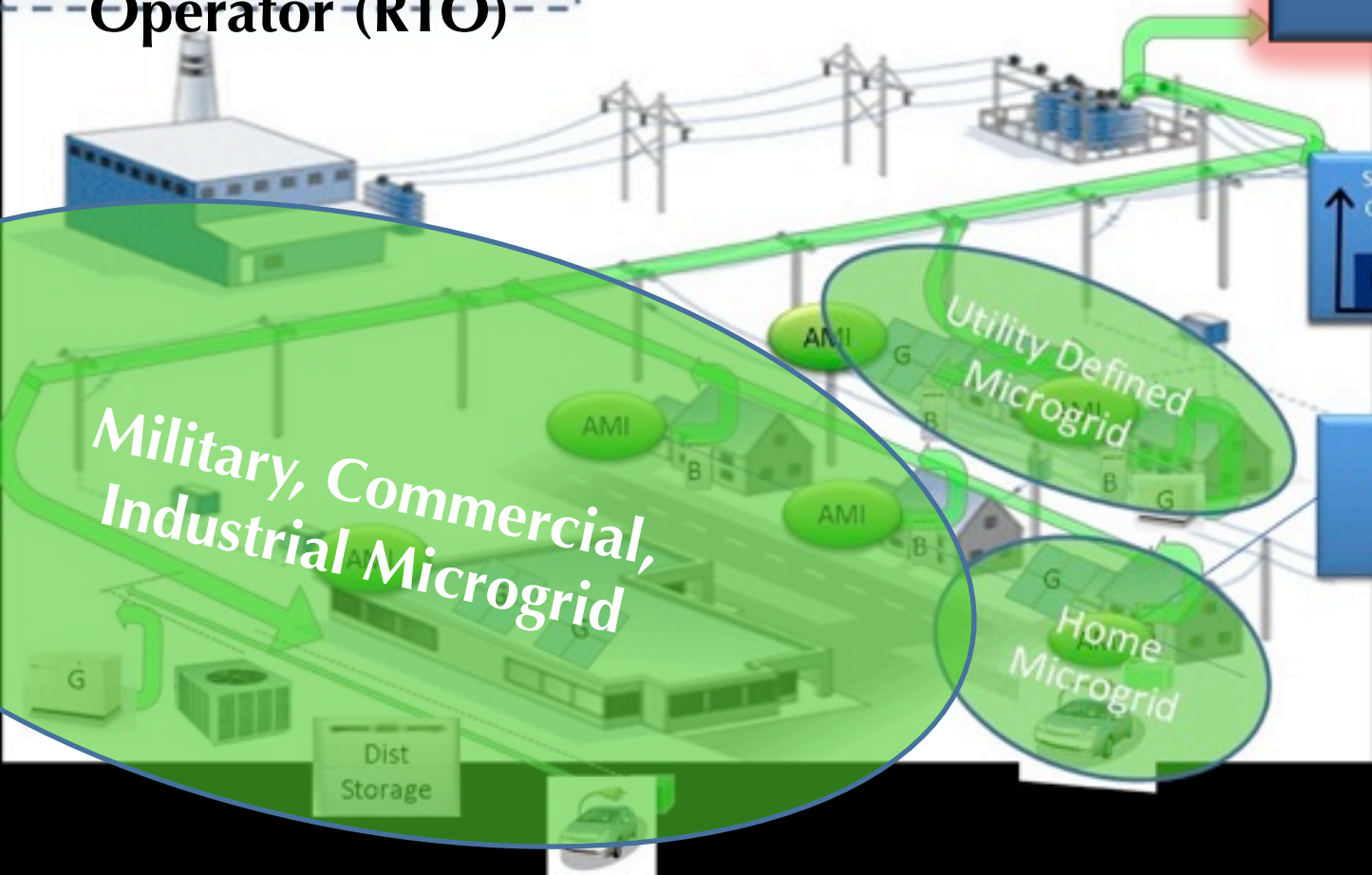


Dominion MicroGrid Vision



Regional Transmission Operator (RTO)

Dominion Substation
E-Grid Database
Electrical GIS



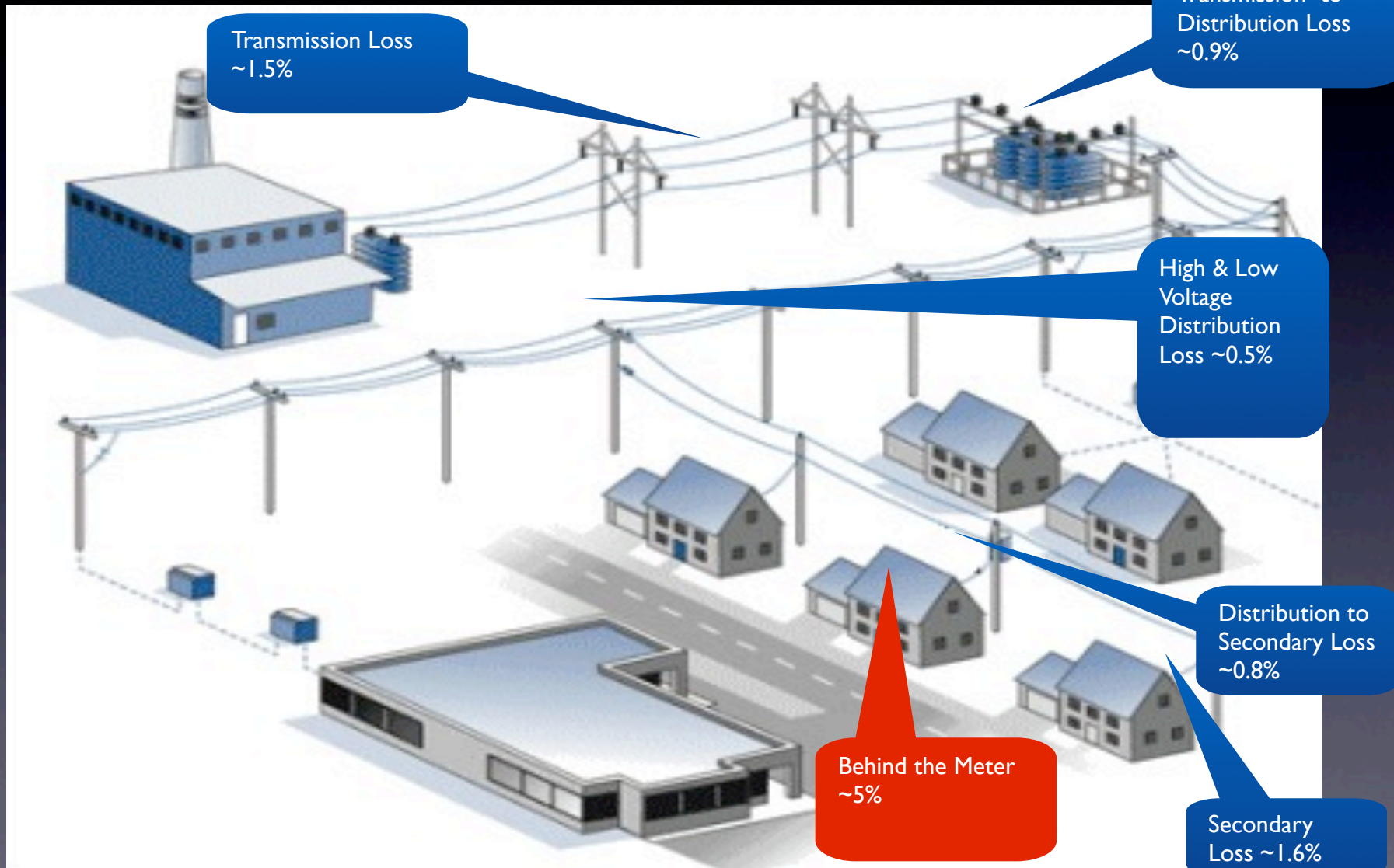
System & Regional Operations Center
B G L

Billing Back Office
Customer Bills

The Hunt for Transmission and Distribution Losses

2010 Electric System Loss ~ 10.3%

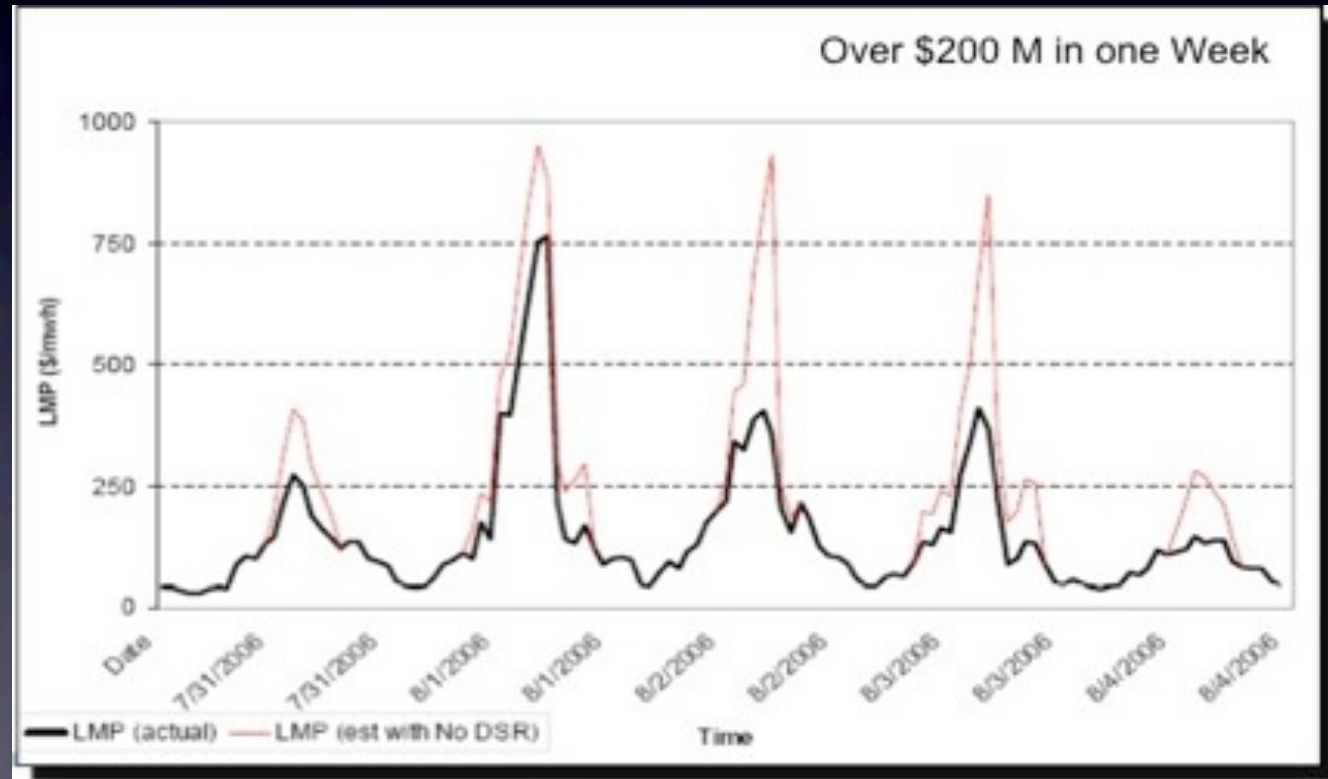
Includes Transmission, Distribution and "Behind



Grid Benefits of Demand Response

* PJM Study- a 3% Reduction in Demand of Top 20 5hr Blocks in 5 Mid-Atlantic States Could Save \$280 Million annually

* Brattle Group- a 5% Reduction in Grid Peak Load (757 GW) Can Result in \$3 Billion Savings Annually, for PV Over 20 Yrs of \$31 Billion







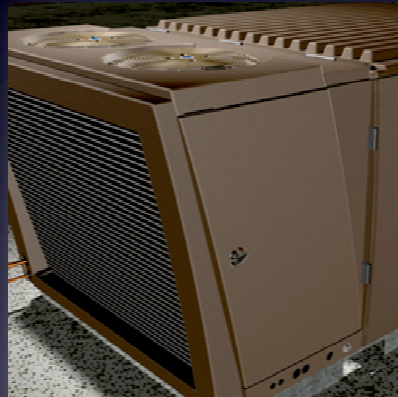




Transactive Load



ETS Heat



Ice-based AC



EV



UNIVERSITY OF DELAWARE

PJM

Pepco Holdings Inc

V2G

Pepco Holdings Inc

V2G

Vehicle-to-Grid Power (V2G)

How does it work?

Vehicle-to-Grid Power (V2G) is a technology that allows electric vehicles (EVs) to provide power back to the grid. This is done by using the battery pack in the EV to store energy, which can then be sold back to the grid during peak demand periods. V2G can help reduce the need for fossil fuel power plants and lower the overall cost of electricity.

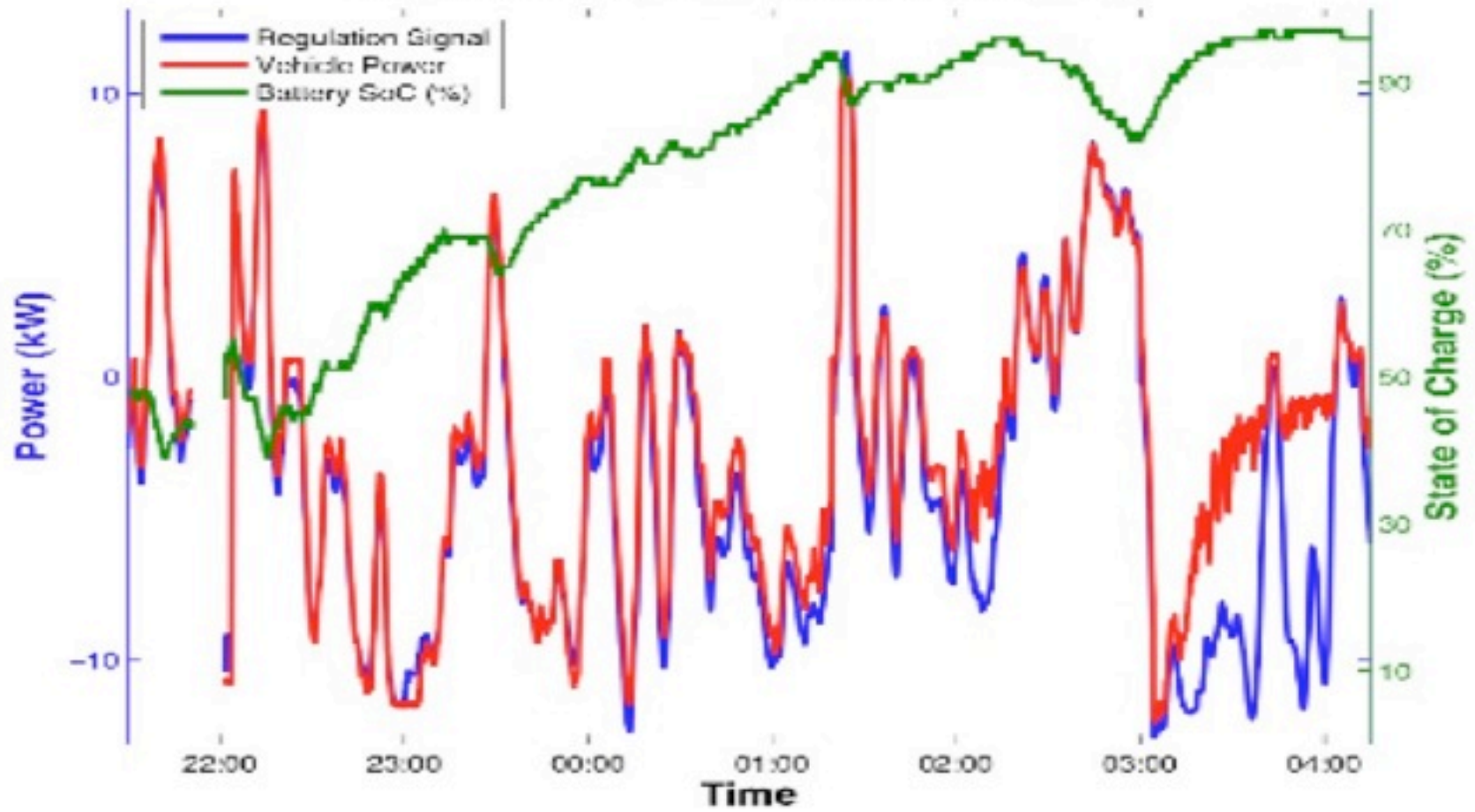
There are several benefits to V2G. First, it can help reduce the need for fossil fuel power plants, which are a major source of greenhouse gas emissions. Second, it can help lower the overall cost of electricity by providing a source of power during peak demand periods. Finally, it can help increase the efficiency of the power grid by allowing EVs to provide power when it is most needed.

There are also some challenges associated with V2G. One of the main challenges is the need for a reliable and secure communication system between the EV and the grid. Another challenge is the need for a standard protocol for V2G, so that all EVs can be used to provide power to the grid.

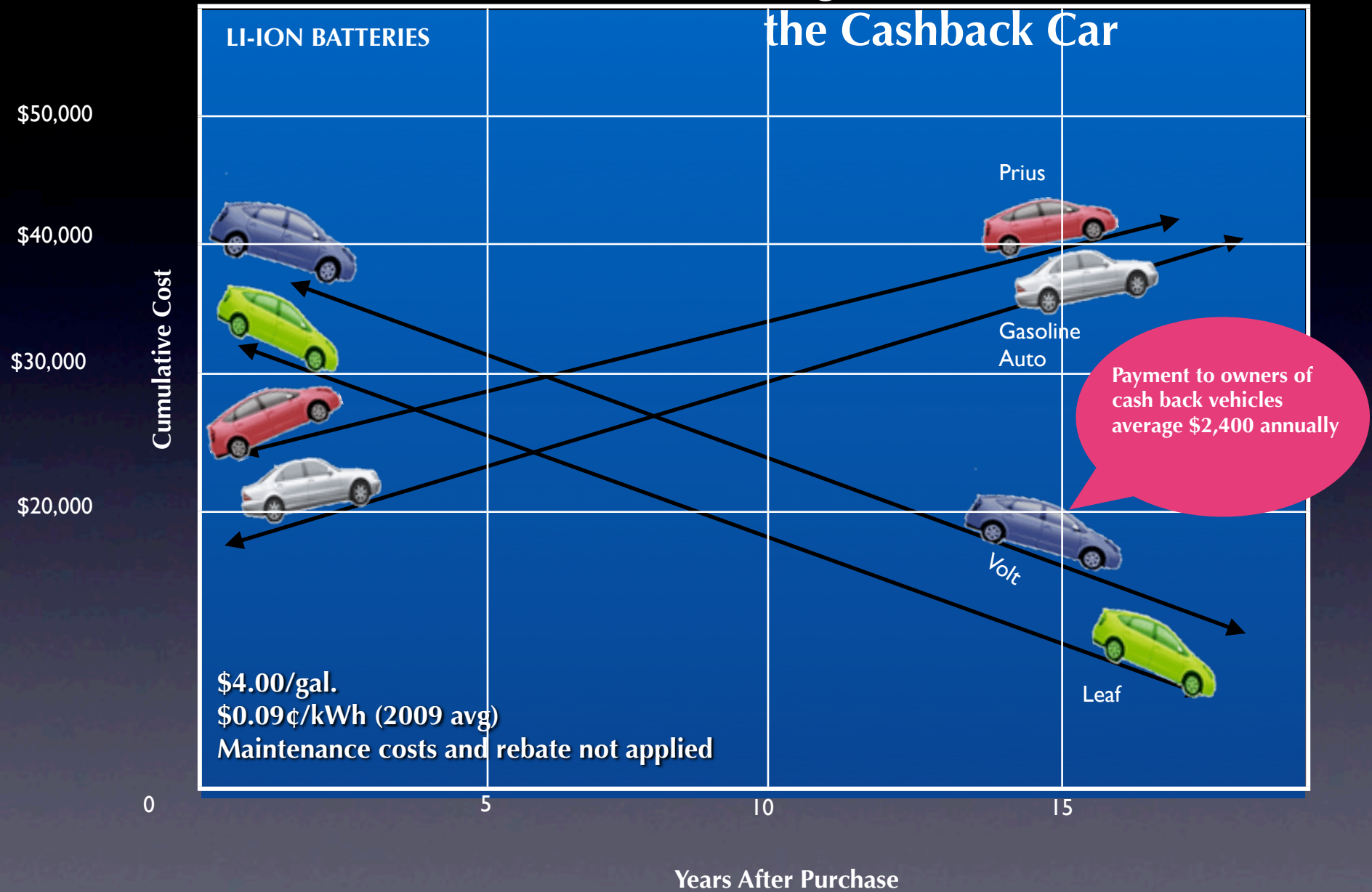
Despite these challenges, V2G is a promising technology that has the potential to revolutionize the way we use electricity. As more EVs are sold and V2G technology continues to improve, we can expect to see a significant increase in the amount of power provided by EVs to the grid.



Regulation Supply (incidental charging)



Regulation Services and the Cashback Car



A photograph of a power line tower in a field. A rainbow is visible in the sky behind the tower. The text "Thank you!" is overlaid on the image.

Thank you!