

## ABSTRACT

Presentation: Brandon Budenz 11/8/2012

### The Power Exchange

The citizens of the world have a need for energy. There is evidence now that what has been feasible through the 20<sup>th</sup> century, the combustion of various carbon-based compounds, will soon not be due to growing demand, diminishing supply, and especially environmental impact. Since renewable forms of energy will gradually become the new standard, changes in transportation and power transmission will follow. Instead of gasoline automobiles being the predominant form of transportation, electric automobiles will become the form most numerous. When electricity is generated from certain renewable forms of energy like solar and wind, storage is needed to maintain a continuous power supply. The electric automobile will perform the functions of providing transportation and providing continuity to the power transmission system. This presentation will explain the contribution of the electric automobile to power transmission. Because of the large storage capacity of an electric automobile, several automobiles together can function as a power plant. The University of Delaware has a registered power plant at STAR Campus, consisting of several electric automobiles. These automobiles charge and discharge at 12 kW each, stabilizing the grid.