

Thank you very much for the kind introduction. I am delighted to be here and have the opportunity to provide brief remarks on the perspectives of the U.S. Department of Energy for this very important project.

In the Office of Electricity Delivery and Energy Reliability, one of our major focuses is America's electric delivery system. This includes both the R&D of the equipment that delivers electricity to our homes, offices, and factories; and the federal and state electricity policies and programs that shape electric system planning and market operations. We also coordinate closely with the Department of Homeland Security and others to bolster the resiliency of the grid and assist with restoration when major energy supply interruptions occur.

As I've mentioned, one of our roles involves research, development, demonstration, analysis, and technology transfer of "next generation" electric transmission and distribution technologies.

On the supply side, advanced electric transmission technologies are essential for clean energy devices such as renewables, clean coal, and nuclear power. On the demand side, advanced electric distribution technologies are essential for energy efficiency devices, demand response, and advanced transportation systems such as plug in hybrid electric vehicles.

Plug in Hybrid Electric Vehicles (PHEVs) are arguably one of the most exciting projects that we are pursuing at the DOE. Our FreedomCAR and Vehicle Technologies Program have embarked on a R&D effort to accelerate the technology and market readiness of plug-in hybrid electric vehicles.

The President's Advanced Energy Initiative highlights development of PHEVs with emphasis on battery technologies, including performance, life, and costs. In the 2007 State-of-the-Union address, the President pressed on the need for research in the PHEV area. This is planned to be a multi-million dollar effort to be conducted over the next decade.

In the spirit of this initiative, I am pleased to announce that the DOE, with the US Advanced Battery Consortium, is funding research and development work that will focus on improving the performance and durability of advanced batteries for PHEVs. Six companies have been selected for negotiation of awards totaling more than \$38 million, they are: 3M, A123 Systems, Compact Power (of Troy, MI), EnerDel, and Johnson Controls-Saft. Congratulations to these companies, and we looking forward to their contribution to making PHEVs a reality.

The promise of PHEV's will create a wealth of new possibilities. The delivery of a wide array of customized and cost-effective clean energy choices for consumers will be increasingly available. Automated grid operations could have near-zero economic losses from outages and power quality disturbances. The current need for massive new amounts of centrally located generation could be deferred or eliminated.

From fueling our cars with home-grown electricity rather than gasoline from foreign sources, we of course could see real reductions in oil imports. Additionally, reductions in greenhouse gas emissions will be possible from the use of clean power systems such as renewables, clean coal, and nuclear energy. Through vastly lower tailpipe emissions, our urban air quality can continue to improve.

All this from a new electricity delivery infrastructure built on smart grids, clean power, and advanced technologies such as PHEVs.

As we move forward with these technologies, we must address critical questions about PHEVs and the grid. What will happen to the electric grid if this important program achieves its R&D goals? Further, what happens when there are hundreds of thousands, if not millions, of electric and hybrid electric vehicles needing outlets to recharge their batteries with electricity from the grid?

Additionally, what power delivery technologies, tools, and techniques will be needed to protect the electric system and provide seamless “plug&drive” opportunities for consumers? And lastly, how will the nation develop and deploy smart grid systems for interoperability, dynamic pricing, distributed generation and storage, and demand response?

Answering these questions is paramount for the promise of PHEVs to be realized, and their promise offers enormous potential benefits for America.

The partnerships that have been created in order to fulfill these efforts are truly groundbreaking. Electric utilities, manufacturers, other government agencies, universities, and national laboratories are working together to help modernize America's electric delivery system. I wanted to single out a few of the key players in this study.

Pacific Northwest National Laboratory has been a world leader in the investigation of the feasibility of "smart grid" technologies and evaluating the potential benefits of PHEVs.

University of Michigan is a world class institution and provides outstanding capabilities in engineering and economic analysis of electric and transportation systems.

General Motors and the Ford Motor Company are global leaders in advanced transportation technologies, including electric and hybrid vehicles as well as fuel cell vehicles and hydrogen energy systems.

DTE is one of America's most innovative electric power companies and is involved in many projects to develop next generation and smart grid systems.

Today, I want to say thank you to this team of talented and driven parties. While the challenges are great, the opportunities are even greater. We look forward to working with you to create a more prosperous, clean, and secure electricity future for America.