Congressional Staff Briefing

The Role of Energy Storage In a Clean Energy Economy

Friday, April 24, 2009, 3:00 — 4:00 p.m.

Location: 122 Cannon House Office Building

Presented by:

Program:
As the nation moves to a clean energy economy, it is critical that Congress provide the correct investment and policy incentives to guarantee the deployment of clean energy resources and sustainable transportation technologies. Energy storage technologies are strategic tools to manage variability and assist with power system integration of renewable energy.

This panel of industry experts will focus on three important energy storage technologies:

- Compressed Air Energy Storage
- Battery Technology & Plug-in Hybrid Electric Vehicles
- Pumped Hydro Storage

Energy storage technologies would: 1) enhance our nation's energy independence by maximizing storage capacity to address resource variability and load management in the transportation and power sectors; 2) reduce emissions of greenhouse gases to meet our climate change goals; and 3) create new jobs in the sector of research & development, manufacture and operation of energy storage technologies and facilities.

Opening and Objectives
Lisa Jacobson, Executive Director, Business Council for Sustainable Energy

Compressed Air Energy Storage (CAES) and its Significance for Maximizing Renewables on the Grid
Stephen Byrd, President, PSEG Holdings

Battery Technology and its Significance for Grid Integration and Plug-In Hybrid Electric Vehicles (PHEVs)
Eladio Knipping, Senior Technical Manager, Environment, Electric Power Research Institute (EPRI)

Pumped Hydro Storage Systems as a Means of Increasing the Penetration of Renewable Energy
Mike Jones, Director New Generation Development, Pacific Gas & Electric

Question & Answers, Closing Remarks

Speaker Bios

Stephen C. Byrd (stephen.byrd@pseg.com) is President – PSEG Energy Holdings and Senior Vice President – Business Development and M&A for Public Service Enterprise Group Incorporated (PSEG). PSEG Energy Holdings is comprised of two subsidiaries: PSEG Global, which owns and operates generation assets in Texas, California, Hawaii and New Hampshire; and PSEG Resources, which holds lease equity investments in a variety of energy-related assets. Stephen leads the new business development efforts at PSEG Energy Holdings, with a focus on capitalizing on opportunities driven by climate change. The three key renewables-driven business development efforts are: Compressed Air Energy Storage (CAES); a 350 MW wind farm to be located approximately 16 miles off the shore of southern New Jersey; and large-scale solar generation projects in PSEG's core markets. PSEG Energy Holdings is actively pursuing the development of solar projects larger than 1 MW, leveraging PSEG's core development capabilities to generate solar power at the lowest possible cost.

Mr. Byrd is a member of the New York State Bar Association, and holds a joint Doctor of Law and Master of Business Administration degree, from the University of Virginia. He also earned a Bachelor of Business Administration degree in finance from the College of William and Mary.

Michael L. Jones (mlj2@pge.com) is the Director of New Generation Development in Pacific Gas and Electric Company's (PG&E) Power Generation Department. In his 26 years with PG&E, Mr. Jones has a broad background in hydro and fossil generation acquisition, divestiture, asset management, and operations and maintenance in PG&E's regulated and unregulated investments.

Pacific Gas and Electric Company is headquartered in San Francisco, CA and delivers electricity and gas to 15 million people in PG&E's 70,000 square mile service territory in Northern and Central California. PG&E's generation assets consist of 6,800 MW of generation including the 1,212 MW Helms Pumped Storage Project.

Mr. Jones received a Bachelor of Science degree in Mechanical Engineering from Washington State University, a Master of Business Administration degree from John F. Kennedy University, and is a registered Mechanical Engineer in the State of California.

Dr. Eladio M. Knipping (eknippin@epri.com) is a Senior Technical Manager in the Air Quality program area of the Environment Sector at the Electric Power Research Institute (EPRI). His current research activities focus on the origin and fate of air pollutants, with emphasis on particulate matter and gaseous co-pollutants (e.g., ozone): laboratory and field studies of atmospheric chemistry; environmental fate and transport; development and application of air quality models; evaluation of receptor (source-apportionment) models; instrument development and application; atmospheric deposition of acids and other trace substances; and characterization of particulate matter. Dr. Knipping is also involved in several cross-discipline initiatives evaluating the environmental impacts of emerging technologies. He joined EPRI in 2002.

Dr. Knipping received his BS degree in civil engineering from the Instituto Tecnológico de Santo Domingo (Dominican Republic). He received both his MS degree in environmental engineering and his PhD degree in mechanical and aerospace engineering from the University of California, Irvine.