



U.S. Department of Energy
Energy Efficiency and Renewable Energy



Workshop on Distributed Energy Resources and Combined Heat and Power in Regulated and Competitive Markets

**Introductory Remarks by Maurice H. Kaya, P.E.
Chief Technology Officer**

**State of Hawaii
Department of Business, Economic Development, and
Tourism**

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Challenges Facing Hawaii's Electricity System

- Six small, isolated electricity systems
- 91.8% dependent on fossil fuel in 2003 – 80% oil
- Hawaii's economy is vulnerable to volatile oil market
- Highest statewide average cost of electricity in Nation
- Line losses and T&D constraints
- Growing demand will require additional generation

Past DBEDT Workshops to Encourage DER/CHP

- Combined Heat and Power, Jan 2001
- Distributed Energy Opportunities, Aug 2001
- Interconnecting DER, Dec 2001
- Workshops on CHP in Kihei, Kona, and Lihue, Dec 2002
- Hosted by Hawaii, Kauai and Maui Counties and co-sponsored by DBEDT, Rebuild Hawaii, The Gas Company, and others.

Purpose: Offer information on

- Benefits and challenges of DER for Hawaii's utility planning and regulatory processes.
- Results of model-based comparison of the economic benefits and risks associated with prototypical Hawaii DER/CHP projects.
- The beneficial aspects of the California DER experience with relevance to Hawaii.
- A fuel cell and hydrogen/LPG powered reciprocating engine CHP system for Kapolei.

Speakers and Topics

- E. Kyle Datta, Managing Director, Rocky Mountain Institute on *Incorporating Distributed Generation Into Hawaii's Utility Planning and Regulatory Processes*
- Steve Provol, President, Competitive Economic Insight, Inc. on *Evaluation of Alternative Commercial Approaches to DG/CHP in Hawaii*
- Mitch Ewan, Hydrogen Systems Program Manager, Hawaii Natural Energy Institute on *The Hawaii Hydrogen Power Park - A "Real-World Laboratory" to Evaluate and Demonstrate Hydrogen DER Technologies*
- Scott Tomashefsky, Senior Advisor to Chairman Keese, California Energy Commission on *Deploying DER/CHP in California and Hawaii*
- Panel Discussion/Q&A Moderated by John Tantlinger, Manager, DBEDT Strategic Technology Industries Development Branch

Mahalo to:

- **Western Regional Office, U.S. Department of Energy**
- **Steve Provol**, President, Competitive Energy Insight, Inc.
- **E. Kyle Datta**, Managing Director, Rocky Mountain Institute
- **Scott Tomashefsky** and the California Energy Commission
- **Mitch Ewan**, Project Manager for the Hawaii Hydrogen Power Park
- **Steve Provol, President, Competitive Energy Insight, Inc.**, thanks
 - KIUC for data and information
 - HECO for explaining their tariffs and their position on DER
 - Blue Point and Hawthorne Power Systems / Pacific Machinery) for assistance on the analysis.