Building Integration of Micro-Generation Technologies

A Seminar Providing a Technical Assessment of Micro-Generation Technologies & an International Perspective on Commercialization Strategies

NIST National Institute of Standards and Technology U.S. Department of Commerce

Date: October 27th, 2010
8:30 to 5:00

Location: National Institute of Standards & Technology, Gaithersburg, MD

International Energy Agency
Energy Conservation in Buildings and Community Systems Programme

Registration: Visit the Seminar Website

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What is Micro-Generation?

Residential or small-commercial applications of the on-site generation of power with heating and/or cooling integrated into a building's energy system, which may include energy storage, advanced control strategies, or demand-side management

In conjunction with Annex 54 (www.iea-annex54.org) of the International Energy Agency's Energy Conservation in Building and Community Systems Program (IEA/ECBCS), the NIST Engineering Laboratory will host a one-day seminar on the integration of micro-generation technologies within buildings. This seminar presents an excellent opportunity for representatives from government, utilities, and the building community to learn more about a technology that is advancing rapidly internationally.

Participants will hear from international researchers on topics that include:

- **Current US and International market for micro-generation technologies**
- **Efforts to promote micro-gen through labeling, subsidies, and tariff reductions**
- **Examples of successful integrations**
- **Analysis of energy, environmental, and cost benefits**
- **Operation within a Smart Grid**

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8:30 **Welcoming Remarks**
Mark Davis, National Institute of Standards and Technology

8:35 **Introduction to the National Institute of Standards and Technology**
Hunter Fanney, NIST - Building Environment Division Chief

8:45 **Introduction to the IEA/ECBCS Annex 54**
Evgueniy Entchev, Natural Resources Canada - CanmetENERGY Research Centre

9:00 **Keynote Presentation**
Integration of Micro-Generation Technology in the United States
Bruce Hedman, ICF International

9:30 **Commercialization Programs and Strategies: An International Perspective**
U.S. EPA Energy Star Emerging Technology Award for Micro-CHP
Peter Banwell, U.S Environmental Protection Agency
Commercialization of Micro-Gen in the United Kingdom
Nick Kelly, University of Strathclyde – Energy Systems Research Unit
Commercialization of Micro-Gen in Germany
Peter Tzscheutschler, Technical University of Munich - Institute for Energy Economy & Application Technology

10:30 **Break**

10:45 **Micro-Generation: A View from the Grid**
A Utility's Perspective on Micro-CHP
John Rathbun, National Grid
Micro-Generation and the Smart Grid
TBA, NIST

11:30 **Integration of Micro-Generation: Case Studies**
Installed Performance of a Micro-CHP System in a New York State Multifamily Building
Marc Zuluaga, Steven Winter Associates, Inc.
Small-Commercial Application of Micro-CHP
Mike Cocking, Marathon Engine Systems
Single-Family Application of Micro-CHP
Karl Mayer, ECR International, Inc.

12:30 **Lunch – NIST Cafeteria**

1:30 **Technical Assessments of Micro-Generation Technologies**
Energy, Cost, and Carbon Savings of Micro-CHP Devices Integrated in U.S. Homes
Mark Davis, National Institute of Standards and Technology
Assessing Micro-Gen in Canada
Hajo Ribberink, Natural Resources Canada - CanmetENERGY Research Centre
Assessing Micro-Gen in Germany
Peter Tzscheutschler, Technical University of Munich - Institute for Energy Economy & Application Technology
Assessing Micro-Gen in Italy
Maurizio Sasso, University of Sannio

3:00 **Panel Session – Select Presenters**

3:45 **Travel to Building 226/Building Research**

4:00 **Tour of NIST Micro-CHP Test Facility**

5:00 **Adjourn**