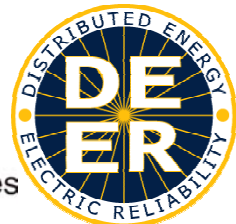




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## DOE/CETC/CANDRA Workshop on Microturbine Applications January 21-23, 2003 ~ Calgary, Alberta, Canada

### Agenda

*Tuesday, January 21, 2003*

#### **Day 1 – Poster Session**

4:30 – 8:00 **Registration**

5:00 – 9:00 **Reception** (*hosted by Climate Change Central*)

5:30 & 7:00 **Welcome**

Paul Hunt, Climate Change Central

5:00 – 9:00 **Manufacturer Displays / DOE/CETC Project Posters**

**Poster Co-ordinator: Dave Stinton, ORNL**

19 Poster Presentations will be in place during the Workshop:

- ◆ 60 kW Mariah CHP in the Place des Arts, Montréal Hugues Moisan, Hydro-Québec
- ◆ 2 Capstone 60 kW/Unifin CHP installation at the Regina General Hospital Fred Hill, SaskEnergy
- ◆ 30 kW Mariah CHP operating on Light Fuel Oil Chuck Faulkner, Nova Scotia Power Inc.
- ◆ BurnerGen, A Microturbine Burner for Boiler Applications Wim Mallon, Gasunie Research
- ◆ Packaged Landfill System Operational Experience Chuck Smith, C2HMHill
- ◆ Microturbine Installation and Operational Experiences in Southern California Vince McDonnell, APEP
- ◆ 60 kW Cummins/Unifin CHP at a Health Canada Lab, Toronto Bryan Halliday, CETC Ottawa
- ◆ Progress and Update on the DOE/GE Advanced Microturbine Program Mike Bowman, General Electric
- ◆ 2x30kW Mariah CHP installations at SAIT Bruce Robertson, SAIT
- ◆ Performance Analysis of a Commercial Cooling Heating and Power System Matthew Cowie, University of Maryland
- ◆ CHP Packaged Systems for Supermarkets Jim Kesseli, Ingersoll-Rand Energy
- ◆ CHP Packaged Systems Using Capstone Turbines Abdi Zaltash, Oak Ridge National Laboratory
- ◆ Integrated Energy Systems Test and Verification Program Richard Sweetser, EXERGY Partners Corp.
- ◆ Recuperator Materials Development Program Phil Maziasz, Oak Ridge National Laboratory
- ◆ Microturbines, Lessons Learned from 52 Early Adopters Dave van Holde, Esource
- ◆ New Capstone Microturbine/Carrier Absorption Chiller Systems Tom Rosfjord, United Technologies Research Center
- ◆ Review of Gas Compressor Technology Terry Whitehead, Enbridge Gas Distribution
- ◆ Electric Performance of 30 kW Capstone Microturbine Eric LeCourtois, Hydro-Québec (LTEE)
- ◆ Operational Experience with Turbec Microturbines Stefan Ernebrant, Turbec



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## DOE/CETC/CANDRA Workshop on Microturbine Applications

### Agenda

*Tuesday, January 21, 2003 (continued)*

#### ***Manufacturer Displays***

Bowman Power Systems  
Capstone Turbine Corporation  
Copeland Corporation  
DY Refrigeration  
Elliott Energy Systems  
Ingersoll-Rand Energy Systems  
Mariah Energy Corporation  
Turbec  
United Technologies Research Center



*Wednesday, January 22, 2003*

#### ***Day 2 – Microturbine Installation and Operating Experiences***

7:30 Continental Breakfast & Registration

8:20 Welcome & Goals

Frank R. Campbell,  
CANMET Energy Technology Centre  
Ottawa

#### ***Combined Heat and Power***

*Moderator: Debbie Haught, US DOE*

8:30 Microturbine using Waste Heat in a Brickworks Site

Paul Lambert, Kohler Power Systems

9:00 Experience with Broad Chiller using Microturbine Exhaust

Rod Schwedler,  
Southern California Gas Co.

9:30 CHP and Cooling using Microturbines in Australia

Glen Watt, CSIRO

10:00 *Coffee Break / Poster Exhibit*

10:30 Microturbine CHP Projects in the Netherlands

Wim Mallon, Gasunie Research

11:00 European Power Systems MicroCHP Field Experience

F. Berti, European Power Systems

11:30 Cogeneration with PowerWorks Microturbines at Morningside; Large Commercial Greenhouse

Hedley Shaw,  
Morningside Rose Gardens Ltd.  
Benny Benson, SCS Energy

12:00 Experience with Capstone and Ingersoll-Rand Microturbines Using Waste Fuels

12:30 *Lunch (hosted by PTAC)*

Eric Lloyd,  
Petroleum Technology Alliance Canada



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## DOE/CETC/CANDRA Workshop on Microturbine Applications

### Agenda

*Wednesday, January 22, 2003 (continued)*

#### **Waste Fuel Applications**

**Moderator: Rob Brandon, NRCan**

- |      |  |   |
|------|--|---|
| 1:30 | <b>Biodiesel Fuel: A Next Microturbine Challenge</b>                 | Mr. Noriyasu Mimura<br>Meidensha Corporation, Japan |
| 2:00 | <b>Using Microturbines with Oilfield Gas in Downtown Los Angeles</b> | John Walton, BFGW Group                             |
| 2:30 | <i>Coffee Break</i>  |   |
| 3:00 | <b>Microturbine Cogeneration Using Biogas (Video)</b>                | Tim Lockhart, Town of Lewiston                      |
| 3:30 | <b>Capstone Experience in Alberta Oil Fields</b>                     | Dan Boonstra, Enerflex Power Systems                |
| 4:00 | <b>Poster Review</b>   |   |
| 4:45 | <b>Adjournment</b>   |   |

*Thursday, January 23, 2003*

#### **Day 3 – Markets and Future Directions**

- |       |  |                      |
|-------|--|----------------------|
| 8:00  | <i>Continental Breakfast</i>   |                      |
| 8:30  | <b>The Real Market Realities for DG Systems</b>                                      | Ritchie Priddy, CERA |
| 9:00  | <b>Open Discussion</b>   |                      |
|       | <b>Moderator: Rob Brandon and Debbie Haught</b>                                      |                      |
|       | ◆ What are the niche markets for microturbines?                                      |                      |
|       | ◆ What are the barriers; are they growing or being overcome?                         |                      |
|       | ◆ How far off the market are current costs; what needs to be done to get costs down? |                      |
|       | ◆ What are the R&D imperatives?  |                      |
| 10:00 | <b>Adjournment</b>   |                      |

#### **Site Tours**

- |       |   |  |
|-------|---|--|
| 10:20 | <b>Board buses</b>  |  |
| 10:30 | <b>Travel to Site tours (sponsored by CANDRA) – scheduled Departures 10:30, 10:45, 11:00</b>                                |  |
| 11:00 | <b>2x30kW Mariah CHP installations at Southern Alberta Institute of Technology</b>  | Myra Berrub, Mariah Energy Corporation |
| 11:45 | <b>Lunch (hosted by Enmax Power Corporation)</b>  | Wes Kadonaga, ENMAX Power Corporation  |
| 12:30 | <b>Wrap-Up/Future Activities</b>  | Debbie Haught / Rob Brandon            |
| 12:45 | <b>Tours of other sites</b>   |  |
|       | ◆ 4 Ingersoll-Rand 70 kW CHP at Morningside Greenhouses (Red Deer, Alberta) returning at 6:00 p.m.                          |  |
|       | ◆ 30 kW Capstone in Oil Field Application, with more than 30,000 hours operation (Consort, Alberta) returning at 11:00 p.m. |  |



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