

MAAC  
PARTNERS



# Mid-Atlantic CHP Application Center Roadmapping Workshop

July 8, 2004

# MAAC Mission

The Mid Atlantic CHP Application Center will assist organizations to locate, design and implement economically viable distributed energy projects that make appropriate use of their recoverable waste heat.



# Regional Application Centers

- Six regional centers in operation
  - Working on establishing two more
- Funding provided by DOE
- Primary functions are:
  - Increase awareness of CHP
  - Provide technical assistance
- Goal is to increase use of CHP

# MAAC Overview

- Operated by the CEEE of UMD
- Funding received in February 2004
  - Under contract to MDEA
  - Funding provided by DOE
- Key staff:
  - Reinhard Radermacher, CEEE Director
  - Dennis Moran, MAAC Director
  - Sandeep Nayak, MAAC Assistant Director

# Workshop Objectives

- Increase awareness of Federal and Mid-Atlantic region CHP situation
- Increase communication among CHP stakeholders
- Begin development of a network of CHP supporters in this region
- Establish roadmap for MAAC
  - Priorities
  - Board of Advisors
  - Action Plan

# Workshop Agenda

- National Perspective on DG & CHP
- Federal Market Overview
- CHP Status in Mid-Atlantic States
- Participant Introductions
- Overview of Barriers & Action Items
- Lunch
- Breakout Sessions
  - Priorities for Region
  - Action Plan Development
- Group Reports & Conclusions
- Campus CHP System Tour & Reception



# Overview of CHP Barriers and Action Items

Dennis Moran

Mid-Atlantic CHP Application Center

# Overview Agenda

- Survey Results
- Findings from prior efforts
  - Key Issues / Barriers
  - Action Options
- Plans for Afternoon Breakout Sessions

# Participant Survey Results

# Survey Results

<b>PRIMARY DRIVERS OF INTEREST IN CHP</b>	<b>Ave</b>	<b>Max</b>	<b>Min</b>	<b>#</b>
Reduce operating costs	4.7	5	3	18
Reduce energy waste	3.2	5	1	18
Reduce emissions (replacing dirty boiler)	3.0	5	1	18
Improve reliability (exposure to power failures)	3.0	5	1	17

# Survey Results (continued)

<b>BARRIERS TO INCREASED CHP USE</b>	<b>Ave</b>	<b>Max</b>	<b>Min</b>	<b>#</b>
<b>Market / Technology Barriers</b>				
Limited understanding of benefits among End Users / Customers	4.1	5	1	17
High fuel price	3.8	5	0	17
High volatility of fuel prices	3.7	5	0	16
<b>Utility Interconnect / Regulatory Issues</b>				
High standby charges	4.4	10	1	14
Expensive interconnect requirements	4.0	5	3	14
Lack of consistent application process	3.8	5	3	15
<b>Environmental / Permitting Issues</b>				
Lengthy and complicated permitting process	4.0	5	1	15
NIMBY attitudes and obstructionism	3.4	5	1	14
Lack of credit for “recycling” wasted energy	3.4	5	1	14

# Survey Results (continued)

<b>PRIMARY MARKETS FOR CHP IN THIS REGION</b>	<b>Ave</b>	<b>Max</b>	<b>Min</b>	<b>#</b>
Universities	4.5	5	3	13
Hospitals	4.3	5	1	14
Industrial plants	4.0	5	3	12
District heating & cooling systems	3.8	5	0	12
Manufacturing - Food Processing	3.7	5	1	11
Manufacturing Plants (general category)	3.7	5	3	3
Federal government facilities	3.6	5	1	13
Manufacturing - Paper / Pulp	3.6	5	1	10

# Survey Results (continued)

<b>MAAC PRIORITIES -- EDUCATION/OUTREACH</b>	<b>Ave</b>	<b>Max</b>	<b>Min</b>	<b>#</b>
Types of information to provide:				
Case studies on local projects	4.7	5	3	13
Project feasibility screening tools	4.1	5	0	15
Project development guidebook	3.9	5	1	15
Communication channels priorities:				
Presentations at other association meetings	4.1	5	1	13
Direct contact with end-users and trade allies	4.1	5	1	15
Workshops & seminars organized by MAAC	4.0	5	1	14
Website	3.9	5	3	13

# Survey Results (continued)

<b>MAAC PRIORITIES -- TECHNICAL ASSISTANCE</b>	<b>Ave</b>	<b>Max</b>	<b>Min</b>	<b>#</b>
Provide project assistance as appropriate to:				
Educate decision makers	4.5	5	3	15
Provide independent evaluation of proposals	3.6	5	1	14
Assist in permitting process	3.5	5	1	12
Support planning & RFP process	3.3	5	1	6
Conduct scoping or feasibility assessments	3.0	5	1	12
Assist in state utility & environmental regulators	3.6	5	1	13

# CHP ISSUES & BARRIERS

# CHP Issues / Barriers

The issues that need to be addressed to increase CHP utilization can be grouped into 3 main categories:

- Market / Technology
- Utility Interconnect / Regulatory
- Environmental / Permitting

# Market / Technology Barriers

- High NG price and low electricity prices
- Uncertainty over future (prices, deregulation)
- Limited awareness of CHP benefits
- Risk-aversion of engineers, owners & managers
- Inadequate sales, service and finance support
- Equipment buyer not responsible for energy bills
- Poor business climate
- Application technical limitations
- Low value placed on reliability
- Federal market not well understood

# Utility Interconnect / Regulatory Issues

- Application process is complex & expensive
  - Need expert support
  - Can make small projects uneconomic
- Utility resistance
  - Long waits to process applications
  - Expensive interconnect requirements
  - High standby charges
- Evaluation focuses on costs and ignores benefits
- Regulatory processes are structured around large generation projects

# Environmental / Permitting Issues

- No credit for emissions reductions from “recycling” wasted energy
- Movement from input-based to output-based emissions standards is slow
- Lengthy and complicated permitting process
- NIMBY / BANANA attitudes and obstructionism
- Stringent environmental controls may make coal unfeasible in many applications

# Potential Actions for Overcoming Barriers

# Market & Technology Actions

- Raise awareness of CHP opportunities & benefits among:
  - Potential users – owners and management firms
  - Developers
  - State utility regulatory and environmental personnel
  - Utilities
- Provide simple evaluation tools
- Provide direct technical assistance
- Support ongoing RD&D of emerging technologies
- Develop & promote programs to help overcome institutional barriers
- Help establish local sales & service networks

# Utility / Regulatory Issues

- Work with states' utility regulatory commissions, environmental protection agencies, PJM, and utilities to help establish:
  - Reasonable standby tariffs.
  - Mechanism to provide credit for the distribution system benefits that a CHP system may provide.
  - Uniform interconnect technical requirements.
  - Consistent interconnect application process and fees.

# Environmental / Permitting

Provide info & technical assistance to support:

- Streamlined siting and permitting procedures for low-emission CHP systems.
- Development & promulgation of output-based standards
- Assigning credit CHP systems for emissions reductions resulting from “energy recycling”



# Draft MAAC Action Plan

## Education / Outreach Efforts

- Disseminate information:
  - Technology & benefits descriptions
  - State baseline characterizations
  - Project feasibility screening tools
  - Project development guidebook & case studies on local projects
  - Local sources for equipment, service and additional assistance
- Communication channels to be used:
  - Website
  - Workshops & seminars organized by MAAC
  - Presentations at professional/trade association meetings
  - Direct contact with end-users and trade allies

# Draft Action Plan (continued)

## Provide Technical Assistance

- Focus on high-potential projects
- Provide project assistance as appropriate to:
  - Educate decision makers
  - Conduct scoping assessments
  - Support planning & RFP process
  - Independent evaluation of proposals or feasibility assessments
  - Assist in permitting process
- Work with state regulatory and environmental agencies efforts to develop appropriate guidelines, procedures and evaluation criteria

# Draft Action Plan (continued)

## Advisory Committees

Create advisory committee(s) composed of representatives from:

- Federal and state government agencies
- Equipment manufacturers, distributors and service providers
- Project developers and consultants
- Customers – facility owners and managers
- Associated trade associations