



Regional CHP Application Centers

Southeast Regional CHP
Roadmap Meeting
September 20th, 2005

Ted Bronson, Power Equipment Associates

ORIGINS – RACs

- **BCHP Working Group**
 - USDOE, ORNL, Utilities, R&D Organizations
 - 1999 Consensus Roadmap
- **US DOE / EPA CHP Challenge ('98)**
 - 2000 CHP Roadmap
- **Selection of UIC's ERC as Pilot RAC (2001)**
- **Initial Scope:**
 - Education and outreach
 - Project Support





BCHP Working Group



REPORT
TECHNOLOGY

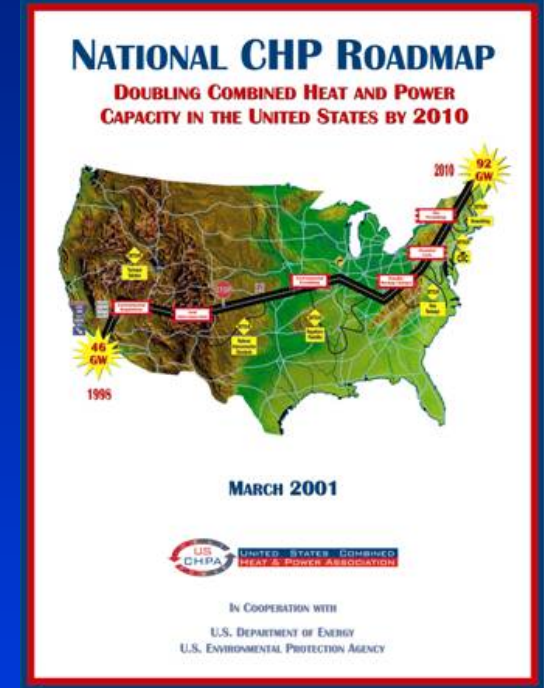
**BUILDINGS
CHP**



U.S. DOE CHP Vision and Technology Roadmap

REGIONAL RECOMMENDATIONS:

- 1) Raise CHP Awareness - Create new and support existing CHP awareness efforts by Regional and State Groups
- 2) Conduct a coordinated outreach campaign to educate architects, building designers, and local building and other code officials about CHP
- 3) Provide SWAT team technical assistances to those interested in installing CHP Systems



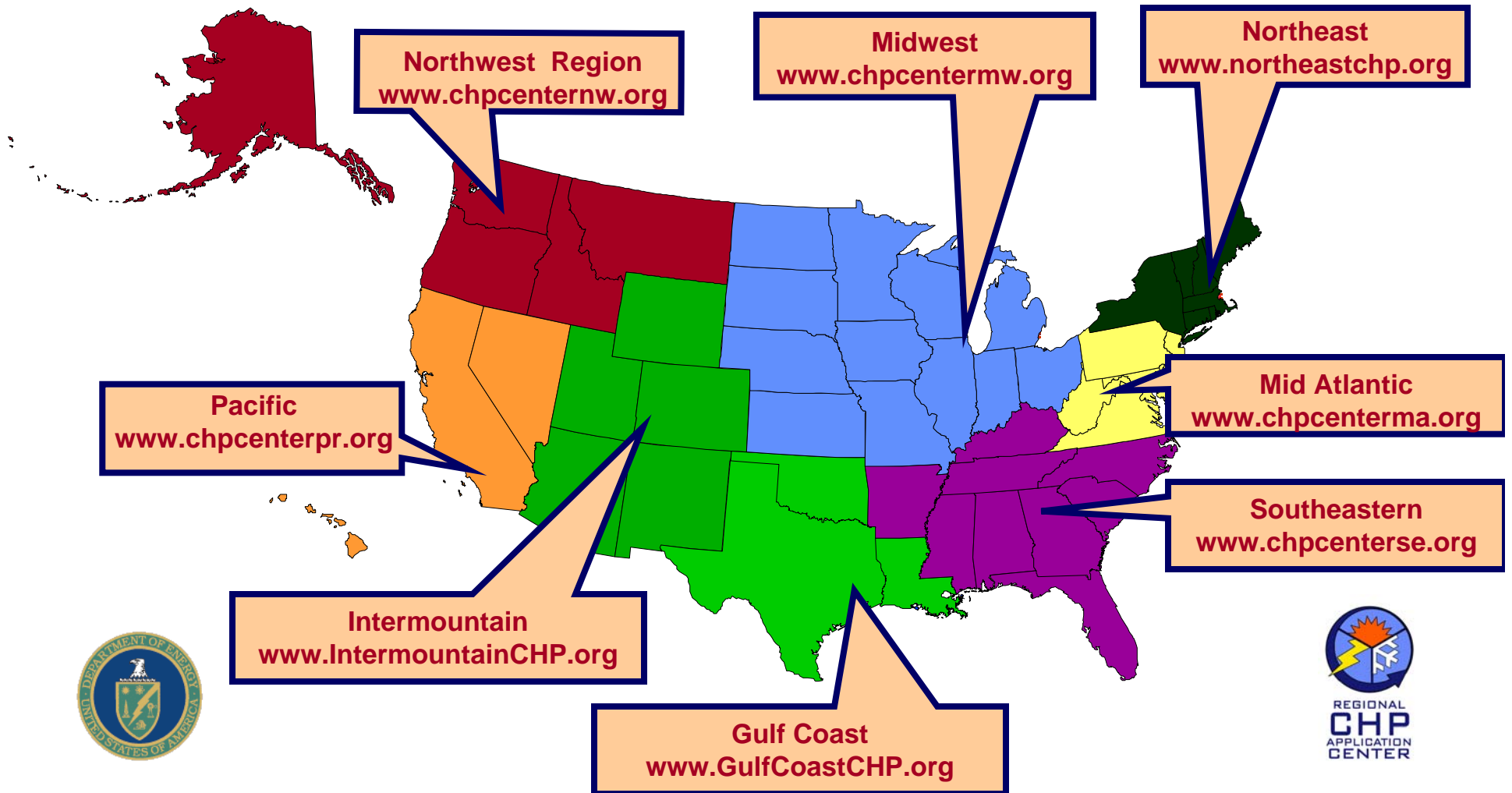
Regional CHP Application Centers

- **Purpose: DOE Headquarters Program to lead regional deployment of CHP technologies thru:**
 - **Educating regional players on benefits of CHP technologies, while reducing perceived risks**
 - **Providing project specific support**
 - **Providing feedback to DOE and industry regarding future R&D program needs**
 - **Providing regional coordination and implementation of DOE projects**



Regional Application Centers

The regional application centers will promote combined heating and power (CHP) technology and practices, serve as a central repository and clearinghouse of CHP information, and identify and help implement regional CHP projects.



LEVERAGE



RAC Services Offered

- **Education and Outreach**
 - Website (Available & Updated)
 - Focused Training and Educational Courses
 - Workshops / Conferences
 - Regulatory Interactions
 - Project Profiles / Case Studies
- **Project Support**
 - Site Evaluations (Screening)
 - Application Analysis (Tech / Financial)
 - Technical Assistance



RAC Operational Timeline

- **Year 1**

- **Getting word out that RAC exists**
- **Regional Roadmap Workshop**
 - » **Markets identified and prioritized**
- **Website launched**
- **Initial presentations at workshops put on by others**
- **State Baseline studies for targeted states**
- **Beginning of project profiles**
- **Meetings of Initiative or RAC Advisory Board**

- **Year 2**

- **Focused Training and Targeted Workshops**
- **Focused Project Profile Development**
- **Technical Assistance Program up and running**
 - » **Beginning of Site Evaluations**



Tools (Developed by RACs)

- **Economic / Site Feasibility Analysis**
- **Training Courses / CHP Primer (MW)**
- **Best Practices Installation Seminar for Project Developers (NE, MW)**
- **CHP Graduate Level Education (MW, SE)**
- **CHP Site Walkthrough Screening Guide (MW)**
- **Environmental Permitting Guidebook (MW, NE)**
- **CHP Resource Guidebook (MW)**
- **Hospital / Healthcare Targeted Market Materials (ORNL, MW)**
- **Heat Map – District Energy Planning and Assessment**



Tools (Developed by others)

- **US DOE / ORNL CHP Education and Outreach Projects**
 - **University Case Studies (IDEA)**
 - **Opportunity Fuels Report (RDC)**
 - **Project Installation Database (EEA)**
 - **Industrial Association Outreach (USCHPA)**
 - **Urban Planning (GTI)**
 - **State Issue Project (EEA and ACEEE)**
 - **Numerous Market Studies**
- **Recycled Energy Materials**
- **Other Govt Agencies**
 - **HUD CHP Guidebook**
 - **Steam Program, CHP Analysis Tool**
- **Economic Analysis Tools (ORNL CHP Assessment Tool)**
- **USDOE / ORNL Product Development and Deployment**



RAC Accomplishments

- **Regional Roadmap Workshops**
 - » In 2004, all 6 RACs engaged in developing regional roadmaps to mobilize personnel and identify areas of focus
 - » Some RACs used forum to build Stakeholder advisory groups or Initiatives – coalitions to drive policy change
- **Websites**
 - » Each RAC has an established website as an educational source to end-users, policy makers and other stakeholders
- **Collaboration with EPA CHP Partnership**
 - » Efforts to Develop CHP in the Ethanol Industry
 - » Commencement of efforts for Waste Water Treatment and Hotel / Casino Facilities



RAC Accomplishments

- **Market Specific Workshops / Forums**

- » Hospitals and Healthcare
- » Waste Heat to Power, Heat-Map Training
- » CHP Best Practices for A/E Firms
- » CHP for Dairy Farms
- » Waste Water Treatment and Landfill facilities
- » CA University facility managers working group

- **State Education & Outreach**

- » PUCs – Interconnection and Tariffs; Economics; Grid Support & Project identification (University of Utah)
- » Influencing Strategic Energy Planning (NWPPC, Nevada EE-RE Task Force, City of Chicago, MADRI)

- **Several 100 MWs affected**

- » From small buildings to large industrials, project support efforts are paying off



RAC Coordination Activities

- **Purpose:**
 - To leverage work already done to optimize performance of RACs
 - To identify regional strengths that can be applied nationally
 - To coordinate ongoing work, especially for market sector development (i.e. hospitals, schools, industrial)



RACs vs. Initiatives

- RAC – DOE Funded entity providing Education and Outreach and Project Support to develop CHP market
- Regional Initiatives – Voluntary, Ad-hoc organizations driving roadmap actions and Advocacy efforts in the Regions
 - **Provide insight and direction to RAC**
 - **Provide a mechanism to disseminate RAC results**
 - **RAC provides horsepower to implement ideas**



Southeast Challenges & Opps

Challenges

- **Low cost of power**
- **Strong IOUs**
- **No deregulation**

Opportunities

- **Gas on Margin in some states**
- **Good cooling and humidity loads with building issues**
- **Hurricanes / Storms – Need for reliable power**
- **Agriculture**



For Further Information

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