



# Regional CHP Application Centers

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U.S. DOE DER Program Peer Review

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# Overview

- **RAC Origins**
- **Pilot Program Success – the Midwest CHP Application Center**
- **Solicitation – Goals and Scope of Work**
- **The Winners**
  - Mid-Atlantic -Northeast -Northwest
  - Intermountain -Pacific
- **RAC Coordination Activities**
- **Summary / Future Outlook**



# 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



# U.S. DOE CHP Vision and Technology Roadmap

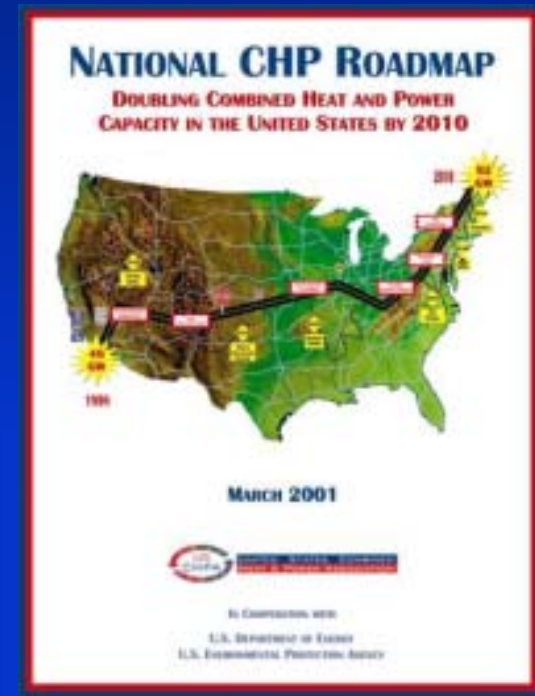
By 2010, **double** the amount of CHP capacity in the United States

1998, 46GW



2010, 92GW

Our CHP activities are guided by the actions identified in the National CHP Roadmap as those items required of us to meet the CHP Goal



- Raise CHP Awareness
- Eliminate Regulatory and Institutional Barriers
- Develop CHP Markets and Technologies

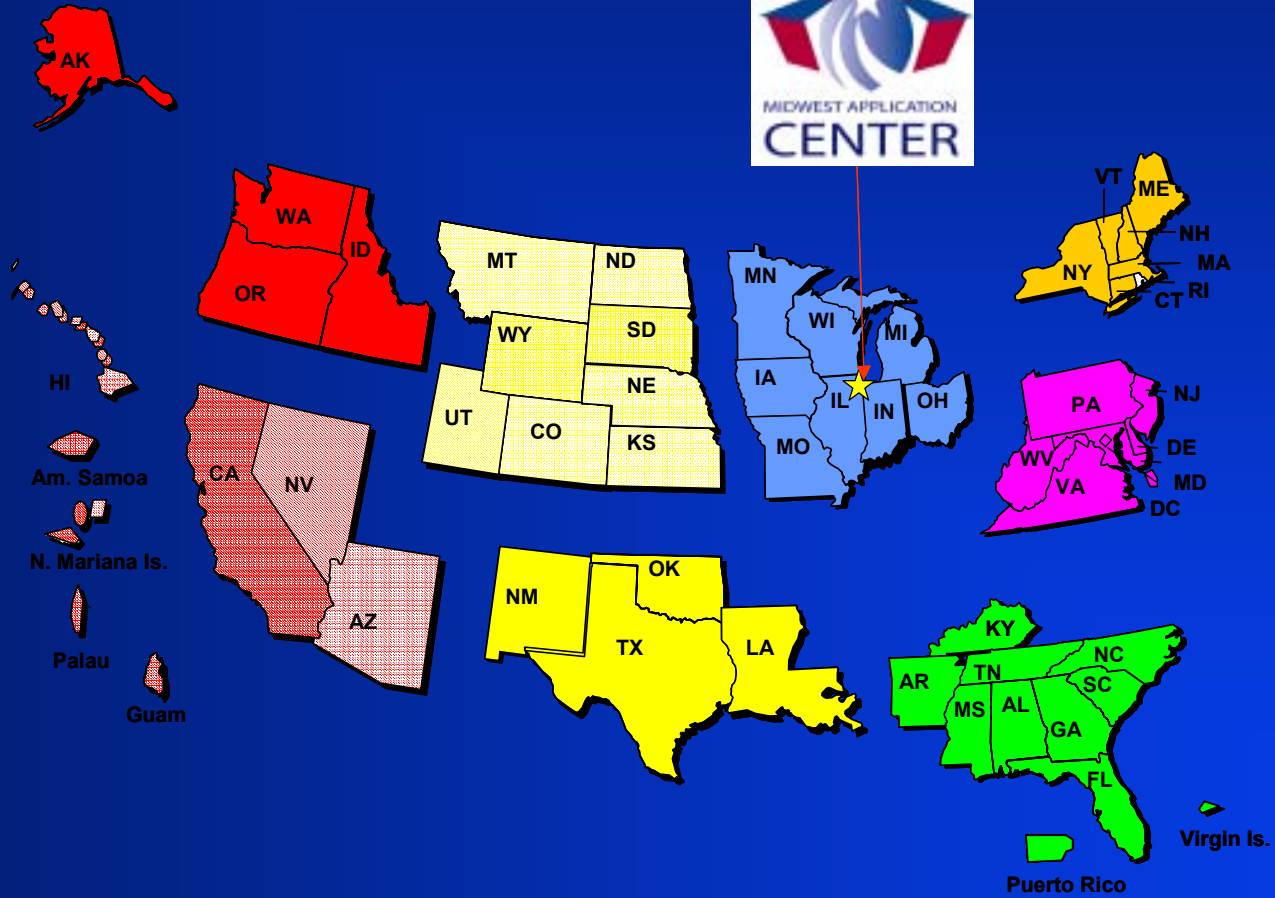


# Pilot Regional CHP Application Center

- **Intent of Pilot CHP RAC to facilitate deployment of CHP technologies (Double CHP in the Region) 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**
  - **Establishing protocols and methods for future centers**



# 2000 CHP ROADMAP



# Midwest CHP Application Center

(Established In March, 2001)

- **Partnership Between:**

- **Univ. of Illinois @ Chicago Energy Resources Center (UIC/ERC) and Gas Technology Institute (GTI)**

- **Primary Subcontractors:**

- **Avalon Consulting ---Website & Data Bases**
- **PEA --- Midwest CHP Initiative**



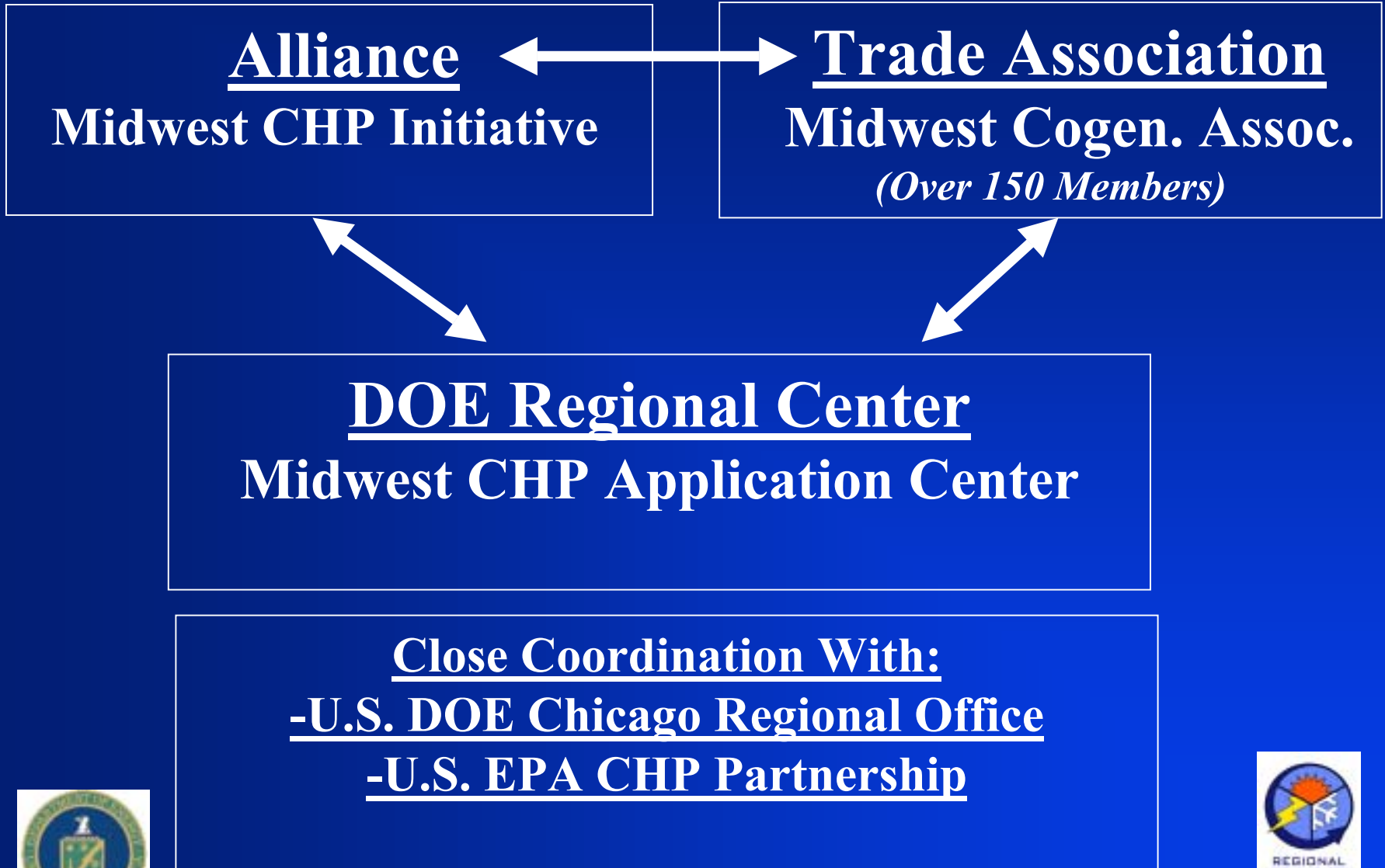


# Midwest CHP Application Center

- **Center Focus Is Source of Unbiased**
  - Information
  - Education
  - Technical Assistance
- **Area of Service – 8 Midwest States**
  - Illinois
  - Indiana
  - Iowa
  - Michigan
  - Minnesota
  - Missouri
  - Ohio
  - Wisconsin



# Working Together In The Midwest



# Areas of Emphasis

- **Year #1**

- **Get Ourselves Known**
- **Establish A Good Reputation**
- **Perform Baseline Assessments & Initial Case Studies**

- **Year #2**

- **Establish a Technical Assistance Program**
- **State Commission Interaction**
- **Targeted Education (Hospitals)**
- **Expand Funding Base (New Sponsors)**



# Areas of Emphasis

- **Year #3**

- **Continue Year #1 and 2 Activities**
- **Expand Technical Assistance (additional states)**
- **Expand Targeted Education**
  - » **Educational Market (High Schools / Colleges)**
  - » **Ethanol Plants**
  - » **Recycled Fuels**
- **IAC Midwest Partnership**
- **Electric Utility Interaction**
  - » **DG / CHP As An Operational Tool**
  - » **Network System Interconnection**



# Services Offered

- **Website (Available & Updated)**
- **Site Evaluations (Screening)**
- **Application Analysis (Tech / Financial)**
- **Technical Assistance**
- **Training**
- **Workshops / Conferences**
- **Regulatory Interactions**



# Accomplishments

- **Regulatory**
  - **Interconnect Workshop**
  - **Tariff Workshop**
  - **Commerce / Utility Commission Interactions**
  - **Four of Eight States Have Interconnect Standards In Place / In Process**
- **Technical Assistance**
  - **Potential Installations - > 100 MW**
  - **Engineering Firms Targeted**



# Accomplishments

- **Education / Information**
  - **Website --- 35,000 hits / month**
  - **Training Courses / CHP Primer**
  - **CHP Site Walkthrough Screening Guide**
  - **Environmental Permitting Guidebook**
  - **CHP Resource Guidebook**
  - **Data Bases**
    - » **Case Studies**
    - » **CHP Installations**
  - **Hospital / Healthcare Targeted Market**



# Regional CHP Application Center Expansion

- **Decision to expand Regional CHP Application Centers based on Pilot Center's**
  - **Proven ability to have direct impact on Regional Projects**
  - **Proven ability to use education to impact longer term perception of CHP as a viable option (Regulators, Engineers, Potential End Users)**
  - **Proven ability to begin to open markets through Targeted Outreach (hospitals)**





# Regional CHP Application Center Expansion

- **Issued Solicitation in early 2003 to develop new Regional CHP Application Centers with focus on**
  - **Education and Outreach (baseline assessments, case studies, outreach information, website development, coalition building)**
  - **Identification and Facilitation of High Impact Projects**
- **Five new Centers Selected in August '03**

**Intermountain**

**Northwest**

**Mid-Atlantic**

**Pacific**

**Northeast**



# Intermountain Regional CHP Application Center

## States

- **Arizona**
- **Colorado**
- **New Mexico**
- **Utah**
- **Wyoming**

## Key Partners

- **etc. Group**
- **Southwest Energy  
Efficiency Project  
(SWEET)**



# Mid-Atlantic Regional CHP Application Center

## States

- Delaware
- Maryland
- New Jersey
- Pennsylvania
- Virginia

## Key Partners

- University of Maryland
- Rutgers University



# Northeast Regional CHP Application Center

## States

- **Connecticut**
- **Maine**
- **Massachusetts**
- **New Hampshire**
- **New York**
- **Rhode Island**
- **Vermont**

## Key Partners

- **University of Massachusetts – Amherst**
- **Pace University**
- **NYSERDA**



# Northwest Regional CHP Application Center

## States

- **Alaska**
- **Idaho**
- **Oregon**
- **Montana**
- **Washington**

## Key Partners

- **Washington State University (Lead)**
- **State Energy Offices of all Participating States**



# Pacific Regional CHP Application Center

## States

- **California**
- **Hawaii**
- **Nevada**
- **Pacific Territories**

## Key Partners

- **San Diego State University**
- **University of California at Berkeley**
- **University of California at Irvine**



# 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)



# RAC Coordination Activities

- **Initial RAC Kickoff meeting at CHP Roadmap**
- **Regional Kickoff Meetings**
  - **Set expectations / communication**
  - **Identify Strengths**
- **Setup RAC Working Group**
  - **RAC Directors**                      **-ORNL**
  - **US DOE – Headquarters and ROs**
  - **Exergy Partners**                      **-GTI**
- **Quarterly Working Group Calls**
- **Miscellaneous Support**
- **Meeting Support**





# Summary

- **Pilot Program in Midwest successful in:**
  - Increasing awareness of CHP benefits and technologies to market players
  - Reducing perceived risk of CHP as viable option
  - Opening up CHP market sectors
  - Providing project specific support
- **New RACs developed for 5 regions covering 33 states**
  - Initial activities underway
- **RACs working together to leverage resources and optimize overall program success.**
- **Additional RACs may be considered in future**



# For Further Information

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