



U.S. DEPARTMENT OF ENERGY
Midwest Clean Energy Application Center

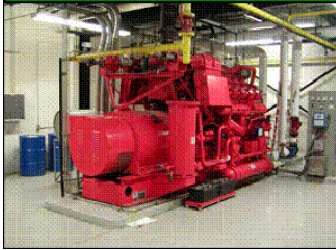
Promoting CHP, District Energy, and Waste Heat Recovery

www.midwestcleanenergy.org

The US DOE Midwest Clean Energy Application Center, one of eight Regional Application Centers (RACs), promotes the implementation and investment of "Clean Energy Technologies" throughout the 12 state Midwest region.

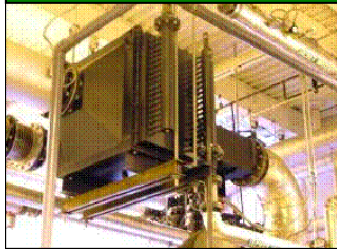
CLEAN ENERGY TECHNOLOGIES

Conventional CHP



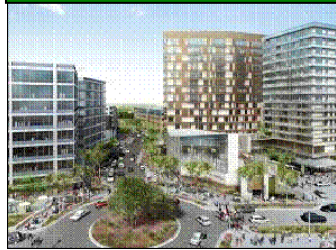
The sequential production of electric and thermal power from a single dedicated fuel source

Waste Heat Recovery



Captures heat otherwise wasted in an industrial process and utilizes it to produce electric power. These systems may or may not produce additional thermal energy

District Energy



Central heating & cooling plants that incorporate electricity generation along with thermal distribution piping networks for multiple buildings (campus / downtown area)



John J. Cuttica
 Director
 312-996-4382
cuttica@uic.edu

Clifford P. Haefke
 Associate Director
 312-355-3476
chaefk1@uic.edu

Stefano Galiasso
 Project Support
 312-622-6170
sgalia2@uic.edu

Sam Rinaldi
 Administrative Support
 312-996-2554
samr@uic.edu

Graeme Miller
 Policy Intern
 312-996-3711
gmille7@uic.edu

CLEAN ENERGY TECHNOLOGIES BENEFIT LOCAL ECONOMIES AND SUPPORT NATIONAL POLICY GOALS

- Enhances energy security
- Advances climate change and environmental goals
- Improves business competitiveness
- Increases energy infrastructure resiliency
- Diversifies energy supply
- Improves energy efficiency

MIDWEST RAC SERVICES

- **Education and Outreach**
 We engage with stakeholders, allies, potential end-users, and others with an interest in "Clean Energy Technologies." We organize presentations, workshops, webinars, newsletters, and other forms of outreach on relevant topics.
- **Policy Support**
 We monitor state policies as they pertain to "Clean Energy Technologies," providing technical information and education to regulatory and legislative bodies.
- **Project Support**
 We are a source of independent information for potential "Clean Energy Technology" adopters. Our services include project feasibility studies, economic modeling, performance specs, regulatory analysis, referrals to local resources, and other types of technical support.

A program at



A program sponsored by



Energy Efficiency & Renewable Energy



NATIONAL STATUS OF CHP INSTALLATIONS

- 84,570 MW installed at 3,500 sites nationally (average capacity of 24.2 MW and median capacity of 1.2 MW)
- Represents almost 8% of total U.S. generating capacity
- Saves over 3 quads of energy each year!
- Eliminates over 400 million tons of CO₂ emissions each year!

REGIONAL APPLICATION CENTERS SUPPORT DOE INDUSTRIAL TECHNOLOGIES PROGRAM (ITP) GOALS

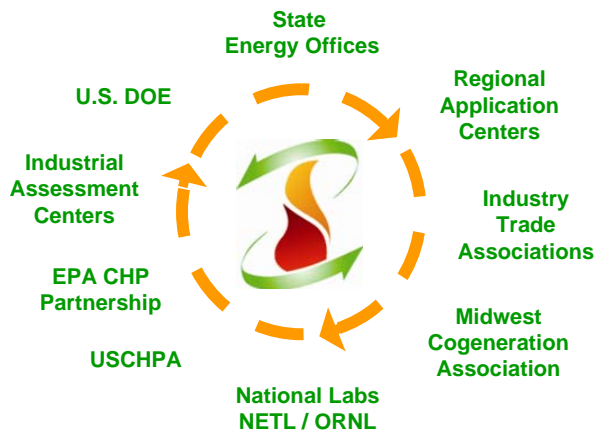
- Reduce energy intensity in the industrial sector is 25% over the next ten years
- Increase CHP capacity from 8% of total generating capacity in 2010 to 20% by 2030



2030 CHP – Proposition: 20% of US Capacity	240,900 MW
Reduced Annual Energy Consumption with CHP	5.3 Quads
Total Annual CO ₂ Reduction	848 MMT
Total Annual Carbon Reduction	231 MMT
Number of Car Equivalentents Taken Off Road	154 million

MIDWEST CENTER PARTNERSHIPS

The Midwest RAC functions as a partnership seeking input and guidance from the “Clean Energy Technology” stakeholders in the Midwest.



TARGET MARKETS FOR CLEAN ENERGY

The RACs understand that a target marketed approach in education and outreach is necessary in promoting the concepts, benefits and barriers of “Clean Energy Technologies.” Target markets with great potential include, but are not limited to:

- Colleges & Universities
- Data Centers
- Ethanol Facilities
- Food Processing Facilities
- Gas Pipelines and Compressor Stations
- High Rise Hotels & Office Buildings
- Hospitals & Nursing Homes
- Industrial Facilities
- Landfill Gas to Energy
- Livestock Manure to Energy
- Schools
- Water & Wastewater Treatment Facilities