

INDUSTRIAL TECHNOLOGIES PROGRAM

COMBINED HEAT AND POWER

CHP: The Time is Now

As America embarks on a bold new energy strategy, CHP is poised to deliver immediate economic and climate benefits.

Combined heat and power (CHP) technology holds enormous potential to improve the nation's energy security, reduce greenhouse gas emissions, create green jobs, and support our move to a clean energy economy. The U.S. Department of Energy (DOE) has long championed CHP and is now prepared to harness its full power to help the nation meet its energy and climate goals.

What is CHP?

CHP is an integrated set of technologies for the simultaneous, on-site production of electricity and heat.

CHP is energy efficient, making use of heat produced during power generation and avoiding generation and transmission losses.

A Decade of Progress, A Vision for the Future

Over the past 10 years, DOE has built a solid foundation for a robust CHP marketplace. We have aligned with key partners to produce innovative technologies and spearhead market-transforming projects that have expanded CHP across the nation.

Today, 3,500 CHP sites provide more than 85 GW of electricity, reducing U.S. energy use by more than 1.8% and avoiding 248 million metric tons (MMT) of CO₂ annually.

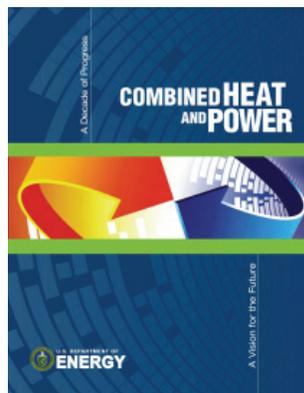
DOE's CHP accomplishments include:

- Increased efficiency of reciprocating engines to 47%, the highest efficiency for single cycle natural gas engines in the world
- Increased efficiency of ultra-lean burn gas turbines and microturbines to 38%
- Increased average efficiency of CHP systems to more than 70%
- Supported 125 training workshops and 350 installations.

Read more about DOE's accomplishments in *Combined Heat and Power: A Decade of Progress, A Vision for the Future*.

To access the full report:

www.eere.energy.gov/industry/distributedenergy/pdfs/chp_accomplishments_booklet.pdf



DOE Clean Energy Application Centers

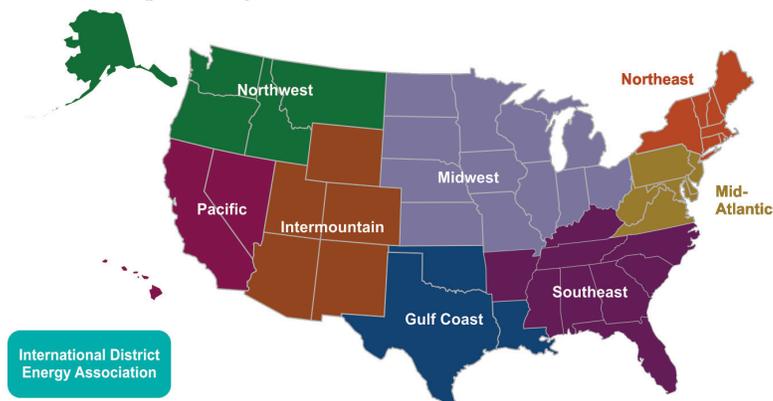
DOE's Regional Clean Energy Application Centers (RACs) promote CHP, waste heat recovery, and other clean energy technologies and practices and offer assistance for specific projects throughout the United States.

Key services of the DOE Clean Energy RACs include:

Market Assessments – Supporting analyses of CHP market potential in diverse sectors.

Targeted Education and Outreach – Publicizing the benefits and applications of clean energy technologies through educational resources and case studies.

Technical Assistance – Performing site assessments, producing project feasibility studies, and providing technical and financial analyses.



U.S. DEPARTMENT OF ENERGY
Clean Energy Application Centers

For more information on the DOE Clean Energy RACs:
www.eere.energy.gov/industry/distributedenergy/racs.html

Key Contacts:

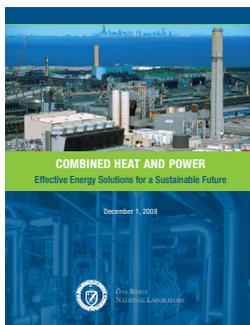
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Effective Energy Solutions for a Sustainable Future

CHP solutions represent a proven and effective near-term option to help the United States enhance energy efficiency, ensure environmental quality, promote economic growth, and foster a robust energy infrastructure. Providing 20% of the nation's electricity from CHP by 2030 will:

- Reduce annual energy consumption by about 5.3 quadrillion Btu
- Reduce annual CO₂ emissions by more than 800 MMT
- Generate \$234 billion in new investments
- Create highly skilled technical jobs



Read more about the potential benefits in *Combined Heat and Power: Effective Energy Solutions for a Sustainable Future*.

To access the full report:

www.eere.energy.gov/industry/distributedenergy/pdfs/chp_report_12-08.pdf

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America.

Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.