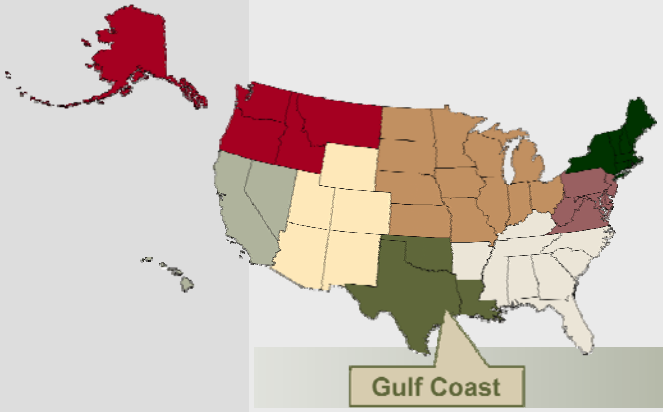
Gulf Coast
CHP Regional Application Center



FACT SHEET

About Us

In January 2005, the U.S. Department of Energy (DOE) established the Gulf Coast Regional CHP Applications Center (GCAC) at the Houston Advanced Research Center.

Mission

The mission of the Gulf Coast Regional CHP Application Center is to help the DOE double the nation's CHP capacity from an estimated 46 GW to 92 GW by 2010 by being a champion for CHP in Louisiana, Oklahoma, and Texas.

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STATES:

- Texas
- Louisiana
- Oklahoma

Goal

The goal of the Gulf Coast Regional CHP Application Center is to identify, facilitate, or positively influence the development of 1500 MW of CHP in Louisiana, Oklahoma, and Texas.

Objectives

The Gulf Coast Regional CHP Application Center will achieve its regional goal by identifying, facilitating, and influencing the development of CHP in the following four market segments:

- ***Large-scale Industry*** - The coastal areas of Texas and Louisiana are characterized by a high concentration of energy intensive petroleum refineries and chemical processing facilities. Many of these facilities are already employing CHP. According to the consulting firm Energy & Environmental Analysis (EEA), CHP adoption at these facilities accounts for 98% of the 23 GW of CHP already installed. Furthermore, EEA estimates that another 11 GW of CHP is technically feasible in this market. The GCAC will consider

new CHP installations, refurbishment of existing CHP installations, and the opportunity for waste heat recovery to drive opportunity fuel-based CHP adoption. The GCAC's objective is to identify, facilitate, or influence the development of 800 MW of CHP within the large industrial market segment.

- ***Institutional Buildings*** - Governmental and quasi-governmental buildings such as hospitals, universities, military installations, prisons, and similar operations are often good opportunities for CHP development due to their need for high reliability power, 24-hour operation, and multi-building campus settings. In combination, these factors provide excellent opportunities to serve thermal loads through district-style energy systems. In particular, universities and hospitals in the region have some experience with on-site generation and CHP systems. Existing adopters provide numerous case study opportunities that can be leveraged for the replication of systems and solutions. This is especially true with the development of "packaged" systems and third party ownership business models, which address important barriers perceived by quasi-governmental and governmental entities. GCAC's objective is to identify, facilitate, or influence the development of 400 MW of CHP among the institutional building market segment.
- ***Medium-scale Industry*** - Texas, Louisiana, and Oklahoma are host to a wide range of medium-sized industrial operations including food processors, semiconductor, pharmaceutical, biological, and similar operations. These operations have a very low rate of CHP adoption, even though they have a need for high reliability power, 24-hour operation, and excellent thermal loads. Many medium-scale industries could benefit from CHP in the 20 MW size range or smaller, but in many cases they are unaware of CHP technologies and opportunities due to smaller (or non-existent) internal energy management resources and a lack of experience regarding on-site energy production. As a result, the medium-scale industrial sector is thought to be underserved currently. EEA estimates that a 6.5 GW market exists among medium-scale industrials for CHP in the sub-20 MW size range. GCAC's objective is to identify, facilitate, or influence the development of 250 MW of CHP among the medium-scale industrial market segment.
- ***Emerging Market Sectors*** - Regional context of energy markets, demographics, and technology drivers are anticipated to create new emerging opportunities to implement CHP in market sectors where it was previously not attractive. Although a number of drivers are creating market opportunities, high gas prices, in particular, are anticipated to enhance the appeal of "opportunity fuels" available in wastewater treatment, agricultural operations, and some industrial settings. Because little experience exists to date regarding implementation of on-site generation, CHP, anaerobic digesters, and renewable bio-fuels in these settings, stakeholders suggested the GCAC initiate actions to study, assess, and quantify opportunities emerging in wastewater treatment, agriculture, and some owner occupied commercial buildings like hotels and casinos. Additional actions in these areas may be proposed at a later date depending upon the outcome of the initial actions and market analysis. The GCAC's objective is to identify, facilitate, or influence the development of 50 MW of CHP among the emerging market segments.

Overall, the region has seen rising electricity and natural gas prices. In fact, because the region's states have high percentages of natural gas-based generation, most electricity price increases are directly related to fuel price increases. The resulting shrinkage in the "spark

gap" led to the conclusion that high-value thermal loads would be the first and highest priority for successful CHP development.

Each of the states in the Gulf Coast Region represents a different regulatory context for CHP development. Because of the transition to electric competition in Texas, the state actually represents at least two different contexts within its own borders: competitive in the large urban center of Dallas/Fort Worth and Houston, for example, and traditionally regulated in locations like Austin, San Antonio, and in rural parts of the state.

Key regulatory and legislative issues relating to CHP market development in the region are as follows:

- Difficulty in obtaining workable interconnection arrangements with incumbent utilities in Louisiana
- Uncertainty relating to market opportunities for CHP in the competitive utility markets in Texas
- An excellent climate for CHP development in partnership with municipally-owned utilities in San Antonio and Austin, Texas
- Regulatory changes proposed relating to emissions rates under standard emissions permits for distributed generation technologies in Texas.
- Pending legislation creating a small portfolio standard benefiting CHP in Texas (to be resolved later)