



Louisiana Critical Infrastructure

Improving Resilience for State Critical Infrastructure

Policy Background

Louisiana is no stranger to extreme weather events, including tropical storms, hurricanes, and flooding. Located on the Gulf of Mexico, the state's geography consists of abundant swamps, coastal marshes, wetlands, beaches, and numerous barrier islands that cover approximately 20,000 of the 43,600 square miles comprising the state's total land area. Parts of the state are at (or below) sea level, and rivers define much of the east and west borders.

A recent major weather event, Hurricane Isaac in 2012, was a Category One storm at landfall and caused an estimated \$611 million in damage. Winds from the storm caused widespread power outages that left over 900,000 electricity customers without power, and some residents had no electricity for more than ten days. Damage caused by Isaac, along with the impacts of previous hurricanes and significant weather events along the Louisiana Gulf Coast in the past several years, acted as a focusing event for resilience in the state, boosting the adoption of critical infrastructure policies. Further, decreasing land area from manmade constructs and rising sea level exacerbates the state's need for improved reliability and resilience initiatives and the policies that support such endeavors.

The installation of onsite combined heat and power (CHP) can provide resilient and reliable energy to critical infrastructure facilities. The total operational electric capacity for CHP across Louisiana is 6,300 MW. There is potential for another 4.9 GW of CHP capacity, mostly in the chemical and petroleum refining sectors, two major contributors to Louisiana's economy.

Quick Facts

Location: Louisiana
Market Sector: Government
Policy Type: Critical infrastructure
Policy Start: 2012
Geography: Statewide

Policy Development

House Resolution (HR) 167 and Senate Resolution (SR) 171-2012 were passed by the Louisiana Legislature on June 4, 2012. These resolutions requested that the Department of Natural Resources and Public Services Commission establish guidelines to evaluate the feasibility of CHP in critical government facilities. Under the resolution's definition, critical facilities include police and fire stations, prisons, jails, water and wastewater plants, hospitals, shelters, command and control centers, communications centers, and data centers. The criteria for selection include being operational for 6,000 hours/year and having a peak electricity demand greater than 500 kW. CHP is considered feasible if it:

- Provides 100% of the facility's critical electricity needs,
- Can sustain emergency operations for at least 14 days, and
- Achieves at least 60% efficient energy use.

Additionally, energy savings must exceed the system's installation, operating, and maintenance costs over a 20-year period. This resolution is almost identical to the 2009 Texas HB 1864, amended HB 1831, which requires critical facilities to evaluate CHP feasibility under similar circumstances.

HR 167-2012/SR 171-2012

...urges and requests that the Department of Natural Resources, with the Public Service Commission, adopt rules and regulations to ensure high levels of energy security in critical government facilities through implementation of on-site combined heat and power systems.

Policy Outcomes

Louisiana Resolution No. 171 requires that all government entities, including all state agencies and political subdivisions of the state (cities, counties, school districts, institutes of higher education, municipal utility districts), must:

- Identify which government owned buildings and facilities are critical in an emergency.
- Obtain a feasibility study to consider the technical opportunities and economic value of implementing CHP before construction or extensive renovations to a critical governmental facility.

Additional Support for Enhanced Resilience



Hurricane Isaac image
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In 2018, the U.S. Department of Housing and Urban Development awarded Community Development Block Grant National Disaster Resilience (CDBG-NDR) funds to thirteen states. Louisiana received \$92,629,249 of CDBG-NDR funds for projects administered by the Office of Community Development, Disaster Recovery Unit. One of the projects was Louisiana's Strategic Adaptations for Future Environments (LA SAFE).

LA SAFE is a statewide resilience policy framework focused on helping communities plan for and implement safer, stronger, and smarter development strategies within three basic typological scenarios (Low, Moderate, and High Risk areas). Resilient energy, including the incorporation of CHP, is one of the priorities.

Adaptive communities must contemplate future energy uses in anticipation of potential population gains and losses, as well as future economic activities in environments with both favorable and unfavorable future flood risk profiles.¹

Examples of Resilience Policies from Other States

- **Texas** – In 2013, HB 1864 amended HB 1831, requiring the Texas State Energy Conservation Office to develop CHP assessment guidelines for state facilities.
- **New York** – In 2013, New York established program opportunity notice (PON) 25685—the CHP Acceleration Program—which provided incentives for grid-connected systems up to 3 MW that could continue operations during a power outage.
- **New Jersey** – The New Jersey Clean Energy CHP/waste heat to power (WHP) program provides incentives for CHP and WHP installations. In 2018, a 10% increase in incentives for CHP installations with black-start and islanding capability was introduced.

For More Information

U.S. DOE SOUTHCENTRAL CHP TECHNICAL ASSISTANCE PARTNERSHIP (CHP TAP)

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More CHP Project Profiles:
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Date produced: 2020

¹ https://lasafe.la.gov/wp-content/uploads/2018/09/LASAFE_Guidelines_Operational_v1_09162018.pdf