

Title of case study	Hurricane Katrina: A climate wakeup call
Name of organization(s)	Entergy Corporation
Business sector	Energy & Utilities
Region(s) relevant to case study	<input type="checkbox"/> All regions <input type="checkbox"/> Africa and the Arab States <input type="checkbox"/> Asia and the Pacific <input type="checkbox"/> Caribbean and Central America <input type="checkbox"/> Europe <input type="checkbox"/> Least Developed Countries <input checked="" type="checkbox"/> North America <input type="checkbox"/> Polar regions <input type="checkbox"/> Small Island Developing States <input type="checkbox"/> South America
Country(s) relevant to case study	USA
Adaptation sector(s) relevant to case study	<input type="checkbox"/> Business <input type="checkbox"/> Education and training <input type="checkbox"/> Food security, agriculture, forestry and fisheries <input type="checkbox"/> Human health <input checked="" type="checkbox"/> Oceans and coastal areas <input type="checkbox"/> Science, assessment, monitoring and early warning <input type="checkbox"/> Terrestrial ecosystems <input type="checkbox"/> Tourism <input checked="" type="checkbox"/> Transport, infrastructure and human settlements <input type="checkbox"/> Water resources <input type="checkbox"/> Other (please specify):
Adaptation activity	<p>Entergy Corporation is an American energy company engaged in electric power production and retail distribution operations. Entergy delivers electricity to 2.7 million utility customers in Arkansas, Louisiana, Mississippi and Texas with annual revenues of more than \$11 billion and approximately 15,000 employees.</p> <p>Having watched some of the southern communities it serves get battered over the last several years by hurricanes and floods of increased frequency and intensity, Entergy commissioned a report to look at the potential economic risks of climate change along the Gulf Coast. It concluded among other things that over the next</p>

20 years, the Gulf Coast could face cumulative economic damages reaching as high as \$350 billion. "In the 2030 timeframe, hurricane Katrina/Rita-type years of economic impact may become a once in every generation event as opposed to once every ~100 years today," the report stated.

After suffering \$2 billion in losses from Hurricanes Katrina and Rita, Entergy considers itself the prime example of the potential negative physical effects of climate change. While Entergy points out that the 2005 hurricanes cannot be clearly linked to climate change, the New Orleans-based energy company believes the storms can be viewed as a sign of things to come if greenhouse gas emissions are not brought under control. Facing significant infrastructure damages and forced relocations of several offices located in New Orleans, the hurricanes prompted CEO Wayne Leonard and other senior managers to begin preparing for potential future climate impacts and adapting to observed changes in climate.

Following Hurricane Katrina, Entergy took immediate action to relocate important business centers, including moving a data center to Little Rock, Arkansas, creating redundancy in data storage throughout the service area, and moving its transmission center to Jackson, Mississippi. Entergy made decisions about where to locate these important business centers based in part on information about the climate-related risks in different geographic regions within the service area, and in order to locate centers and buildings in different parts of the service area.

In addition, Entergy put together a business continuity group specifically to look at broader implications of climate in the context of other serious business threats, including terrorist acts and a potential flu pandemic. The group, which included both in-house experts and consultants in the fields of security and medicine as well as energy, undertook a three-phase analysis.

The first phase was a scoping study identifying likely changes in a number of key climatic and related physical effects over the near term (20 years), medium term (20 to 50 years), and long term (end of the 21st century). Using GIS (geographic information system) techniques, consultants mapped potential changes in climate and physical effects to Entergy's service area and to other areas where Entergy has large-scale investments. The second phase looks at the correlation of each identified risk with Entergy assets or operations, in order to identify candidate threats for response and adaptation. The third phase assesses existing risk mitigation plans and seeks

	alternatives to reduce impacts.
Cost-benefit	<p>In the near term, Entergy recognizes that unchecked climate change poses potential long-term risks to the economic viability of Entergy’s franchise and asset base, both of which are located in an area that is vulnerable to flooding and hurricanes. The recent intense hurricanes that ravaged the Gulf Coast have put Entergy’s business continuity planning to the test and provided valuable lessons on how to manage near term physical risks, restore systems, and recover from devastation.</p> <p>Another issue Entergy has to contend with is that, as a regulated utility, its investment decisions must be cost effective, in order to keep the price of electricity reasonable. The next steps will require more careful deliberation as they are likely to be more expensive and taken in anticipation of events expected to occur over a longer time horizon.</p>
Case study source(s)	<p>Case Studies and Tools: A Systematic Review of the Literature on Business Adaptation to Climate Change (Network for Business Sustainability)</p> <p>Business Leadership on Climate Change Adaptation: Encouraging Engagement and Action (PwC)</p>
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