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# U.S. Utilities Need to Deliver Low-Carbon Electricity to Remain Competitive

U.S. utilities, which are responsible for 40 percent of the nation's greenhouse gas (GHG) emissions, will need to provide cleaner, low-carbon electricity and enable their customers to better manage and reduce their energy use in order to remain competitive, according to a report from Ceres.

A key finding of the report, "[The 21st Century Electric Utility: Positioning for a Low-Carbon Future](#)," authored by [Navigant Consulting](#), indicates that making the transition will require significant changes to the utility industry's traditional business model. These include implementing energy-efficiency measures and delivering cleaner low-carbon electricity through renewable and smart-grid technologies.

The report outlines key trends impacting the industry, roadblocks that must be overcome, and actions that utilities must take to transition to providing cleaner energy to their customers on a significantly larger scale.

Several industry trends include the need to reduce GHG emissions by up to 80 percent by 2050, increase policies and regulations at all government levels to make fossil-fuel based electricity less competitive and increase utilization and support for energy-efficient and smart-grid technologies.

Key barriers preventing utilities from acting more quickly include uncertainty about the future price and responsibility for carbon emissions reductions, rate models based on electricity sales, and limitations of conventional electricity infrastructure to support large-scale renewable energy and customer energy management.

Researchers provide several recommendations to help utilities transition to a low-carbon industry. These include managing their carbon emissions across the enterprise and aligning those costs and risks with existing and foreseeable carbon-reduction scenarios, pursuing all energy-efficiency measures, integrating renewable energy resources in their generation mix, incorporating smart-grid technologies and conducting transparent resource planning.

U.S. utilities are already making significant changes, [spending 43 percent more on energy-efficiency programs in 2009](#), according to a recent report from the nonprofit Consortium for Energy Efficiency (CEE). NREL's assessment this year finds that [more than 850 utilities across the United States now offer green power programs](#) with green power sales exceeding 6 billion kilowatt-hours (kWh) in 2009.