

Apple plans nation's biggest private fuel cell energy project in NC

April 8 2012, By John Murawski



North Carolina will be home to the nation's largest private fuel cell energy project, a nonpolluting, silent power plant that will generate electricity from hydrogen.

Apple Inc. filed its plans with the N.C. Utilities Commission last week to build the 4.8-megawatt project in Maiden, about 40 miles northwest of Charlotte, N.C. That's where Cupertino, Calif.-based Apple has built a data center to support the company's iCloud online [data storage system](#) and its Siri voice-recognition software.

The fuel cell project, the nation's largest such project not built by an

electric utility company, will be developed this year. It will be located on the same data complex that will host a planned 20-megawatt solar farm - the biggest ever proposed in this state.

But it's the fuel cell project that's generating buzz, eclipsing anything ever dreamed of in California, the nation's epicenter for fuel cell projects.

"That's a huge vote of confidence in fuel cells," said James Warner, policy director of the Fuel Cell and [Hydrogen Energy](#) Association.

Fuel cells generate electricity through an electro-chemical process and are compared to batteries that give out power as long as they have a source of hydrogen.

They are exorbitantly expensive and in the past have been used only in experimental realms, such as NASA moon launches. The federal government offers a 30 percent tax credit, but no state incentive is available for fuel cells in North Carolina, making Apple's project all the more intriguing. Apple is also developing miniature fuel cells to power [laptop computers](#).

According to a recent report by the U.S. [Energy](#) Information Administration, fuel cells are among the world's most expensive forms of electricity, costing \$6.7 million per megawatt, which would put Apple's project in the \$30 million range.

North Carolina's fuel cell exposure is limited to demonstration projects that are a tiny fraction of the size of Apple's fuel cells. Microcell Corp. is the Raleigh, N.C., company behind the demos.

According to information on Apple's website, the fuel cell facility could be in operation toward the end of the year. Beyond that information,

Apple officials would not comment on the project. Nor would Bloom Energy, the Sunnyvale, Calif.-based company that will build it. The fuel cell modules, called Bloom Boxes, are used also by Walmart, Google, Staples, eBay, Cox Enterprises, FedEx, Bank of America, Coca-Cola, AT&T and Adobe, according to Bloom's website.

Charlotte-based Duke Energy, which is likely to buy the electricity output from Apple, referred all questions to Apple.

Apple does stand to receive bonus payments from Duke Energy if it puts clean energy on Duke's grid, offsetting electricity from conventional power plants. The amount Apple would receive for selling renewable energy certificates to Duke would be privately negotiated. Duke is required under a 2007 state law to buy electricity generated from renewable resources to meet the state's green energy targets.

Word of Apple's [project](#) first dribbled out in February in Apple's corporate sustainability report. But North Carolina regulatory filings provide new details.

The facility will consist of 24 fuel cell modules. It will extract hydrogen from natural gas supplied by Piedmont Natural Gas. But it's not clear how much gas will be required.

To qualify as a renewable facility, Apple or Bloom will arrange to produce landfill methane gas or some other biogas to offset its natural gas use. The biogas supplier has not been named, but that information will have to be disclosed to win approval from the N.C. Utilities Commission.

[Apple](#) currently has a 500,000-square-foot data center on the 11.5-acre site. Construction recently began on a second building on the campus, but whether it will be another data center or a building related to the [fuel](#)

[cell](#) investment is unclear.

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Distributed by MCT Information Services

Citation: Apple plans nation's biggest private fuel cell energy project in NC (2012, April 8)
retrieved 23 April 2024 from

<https://phys.org/news/2012-04-apple-nation-biggest-private-fuel.html>

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