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## Stimulus Funds Speed Transformation Toward 'Smart Grid'

*High-Tech Firms Seek Out Utilities as They Upgrade*

By [REBECCA SMITH](#) and [BEN WORTHEN](#)

After struggling to sell cutting-edge products to utilities, technology companies are sensing better times ahead with the influx of \$4.5 billion in federal stimulus funds for so-called smart-grid projects.

The federal grants are expected to speed transformation of the power grid from a largely electromechanical system into a digital network that gives utilities more efficient ways to send electricity to customers. That could help cut pollution and electric bills.

Smart meters, one component of a smart grid, allow utilities to monitor usage almost in real time, letting them charge variable prices based on demand, for example. Corporate and residential customers would acquire tools to manage their energy use. Residential customers could be given an in-home meter to see how much power they are using and what it is costing them.

Utilities often take years to make technological change, in part because they must justify large expenditures to utility commissions to recoup costs through rates. Utilities also fear that new equipment could degrade transmission reliability if it doesn't perform flawlessly.

But now, utilities are being encouraged by state utility regulators to seek the federal stimulus funds. California regulators this month voted to expedite their review of smart-grid proposals to fit the U.S. Department of Energy's timetable for smart-grid grants.

That has opened up a sizeable sales opportunity for a host of tech companies, ranging from giant [Cisco Systems Inc.](#) to closely held [Tendril Networks Inc.](#) Some tech companies are beefing up staffs to pursue smart-grid projects, while others are helping utilities apply for the grants, the first of which could be doled out as early as next month.

North American utilities are expected to spend \$10.75 billion on computer hardware, software and services related to the smart grid this year, up from \$7.56 billion in 2008, according to research company [IDC Energy Insights](#).

The smart-grid market "may be bigger than the whole Internet," said [John Chambers](#), chief executive of networking giant [Cisco](#).

Federal assistance "will accelerate the progress of projects [for many utilities] from pilots to full-scaled deployments," said [Todd Arnold](#), senior vice president at [Duke Energy Corp.](#)

The Charlotte, N.C., company started installing advanced meters in Ohio last year as part of the utility's five-year, \$1 billion smart-grid initiative.

Duke in August requested \$200 million in federal funds to cover a quarter of the cost of installing two million advanced meters in Ohio and Indiana. The meters transmit readings wirelessly to utilities and customers and allow the creation of data portals to monitor energy use.

Ambient Corp. of Newton, Mass., started working with Duke in 2005, suggesting ways the utility might use Ambient's communications modules to scoop up data from smart meters to boost grid intelligence. But activity picked up only recently. Ambient last month wrote a letter to the DOE supporting Duke's smart-grid application and this month inked a deal to sell large numbers of modules to the utility, said John Joyce, Ambient's president.

The influx of stimulus dollars "is clearly significant for a firm like Ambient" because it stimulates investment in general and "will make us bigger" as utilities add projects, he said. Ambient had 2008 sales of \$15 million but declined to give the value of its deal with Duke.

Competition for the stimulus grants has been fierce. The DOE last month received roughly 570 applications from utilities requesting as much as \$14.6 billion in smart-grid funds -- more than three times the amount available. Grants can be as much as \$200 million per project and represent as much as half of a project's cost.

Tendril Networks helped a dozen utilities in eight states prepare stimulus applications by offering the services of its lawyers, grant writers and technical advisers. The Boulder, Colo., company, whose products help consumers control their energy use, advised utilities on cost estimates and technology-integration issues.

Tendril President Tim Enwall said he has identified two dozen utilities as potential customers if they win the federal grants. The grants could mean \$900 million in sales, with about 20 firms like his competing for the business, he said. The grants represent the largest sales opportunity his company has had since it decided to pursue utility sales two years ago and could accelerate the date at which Tendril seeks an initial public offering of stock, he said. The company declines to disclose Tendril's sales or projections.

PG&E Corp., meanwhile, has solicited Cisco and [International Business Machines Corp.](#) to design displays and manage data for a project to give 75,000 of its 570,000 business customers digital readouts to help them better manage energy use. The San Francisco-based utility is seeking \$42.5 million in stimulus funds as part of the \$85 million project.

[Microsoft Corp.](#) in July unveiled software that connects to utilities' systems and allows customers to monitor how much energy they are using. The Redmond, Wash., company also is developing products that will help utilities better manage information, said Troy Batterberry, a product manager in the company's 20-person energy group.

And Cisco in June created a unit to focus on smart-grid technology, complete with a dedicated sales force. Mr. Chambers, the CEO, said the team developing smart-grid products has "almost an unlimited budget." The San Jose, Calif., company, which has \$36.1 billion in annual revenue, expects to generate at least a \$1 billion a year of smart-grid related sales by 2014.

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