Regulatory Reality

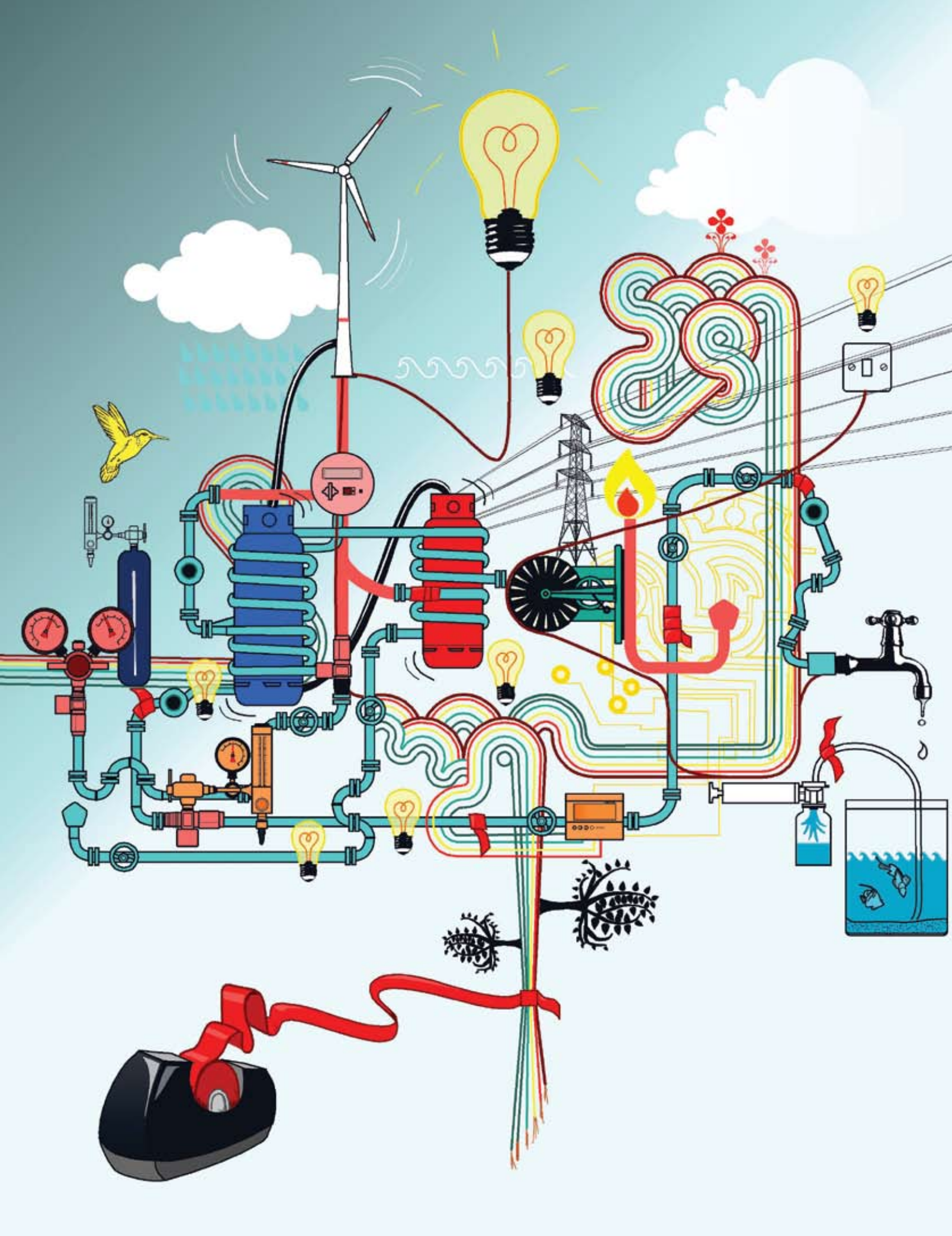
+ AMID ECONOMIC CRISIS, FEDERAL SUPPORT REMAINS STRONG

By Laurel Lundstrom

Despite an ailing economy, the federal government's interest in modernizing the electricity grid to be more reliable, use less energy, save money, increase the nation's security and lower greenhouse gas emissions, remains strong.

Utilities, for instance, are set to benefit from a measure included in the $700-billion bailout package signed into law last year that would allow them to write off smart grid-related meters and equipment at a hastened pace. These tax incentives would be worth $915 million and, by taking bigger deductions annually, would let companies depreciate investments over 10 years, instead of the usual 20, according to a recent Dow Jones Newswire article. ↘

Illustration by Carol de Angel



But whether this measure will be enough to spur capital spending on these applications is yet to be seen. The U.S. Department of Energy (DOE) estimates that investments totaling near $1.5 trillion will be needed between 2010 and 2030 to build the new infrastructure.

Standard & Poor's, an international credit ratings company, is optimistic. The company predicts that although utilities may significantly adjust their spending because of the economic crisis, expenditures are more likely to be deferred rather than to be eliminated permanently. The company's most recent report goes on to say that utilities will continue to invest in improving "a rapidly aging and increasingly unreliable infrastructure," instead of the more expensive option of building a new plant.

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President Barack Obama sees improved energy efficiency as essential to stimulating the economy. Transforming to a clean energy economy could create five million new jobs, says Obama's "New Energy for America" plan. Modernizing the electricity grid, in particular, is paramount to remaining globally competitive and minimizing the impact of global warming, the president said in an interview last October. However, he believes investments in a new, more intelligent infrastructure cannot be left to private enterprise. The federal government is going to have to be involved in the process, he said.

Several pieces of legislation at different stages of consideration would encourage this federal support.

Under Title XIII of the 2007 Energy Independence and Security Act, signed into law just over one year ago, the DOE is expected to establish a "Smart Grid Investment Matching Grant Program" to reimburse 20 percent of the cost of all qualifying smart grid investments and, in cooperation with the Federal Energy Regulatory Commission, to scale up research and demonstration projects. In particular, the legislation tasks the DOE with carrying out projects in five areas of the United States, including rural areas and one governed by a tax-exempt entity, such as a public power utility.

By the Act, states, starting in December 2008, had to consider making utilities show that they had thought about investing in "smart" technologies before investing in "nonadvanced" applications. States have until the end of 2009 to decide whether they will obligate utilities under the law. Another major provision of the law would direct the development of an "interoperability framework" to better integrate the grid.

Two main bodies—a smart grid advisory committee and a task force—are designated within the bill. The task force, which held its first implementation workshop this past June, helps to coordinate the activities of the DOE Office of Electricity Delivery and Energy Reliability.

While an abundance of other bills have been introduced that include a smattering of provisions to push forward a smarter grid, only one measure, sponsored by Congressman Rick Boucher, D-Va., was written to exclusively spark smart grid investments.

▲ **Democratic U.S. Rep. Rick C. Boucher talks to supporters in Abingdon, Va., in this Nov. 2, 2004 file photo.** *(AP Photo/*Bristol Herald Courier*, David Crigger)*

Like Title XIII, Boucher's legislation, if passed, would declare, as a national policy, support for modernizing the electricity grid "to incorporate digital information and controls technology and to share real-time pricing information with electricity customers." It would direct President Obama to create a Grid Modernization Commission to facilitate the "general adoption of smart grid practices" and to promote ongoing support from the electricity sector.

Meanwhile, Senator Maria Cantwell, D-Wash., had introduced a similar bill in 2007, "The Reducing Demand through Electricity Grid Intelligence Act," that would have created tax credits linked to reducing peak demand and on-peak consumption, including an enhanced rate of return for utilities that invest in grid modernization. The law would have allotted smart grid technologies a five-year depreciation lifetime—five years less than under President Bush's bailout package—and would have allowed utilities to recover costs on inefficient, retired meters as soon as smart meters had been installed.

However, the bill failed to pass. While several provisions were incorporated into the 2007 energy bill, former President George Bush threatened to veto the stand-alone bill. According to Sen. Cantwell's media relations team, the senator may introduce a comparable bill during the next Congressional session.

This would fall in line with President Obama's energy plan, which accords achieving aggressive energy-efficiency goals with "a major investment in our national utility grid using smart metering, distributed storage and other advanced technologies to accommodate 21st-century energy requirements."

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Advancing the grid

+ PUBLIC POLICY WILL INSPIRE OR NECESSITATE IT

By Ken Silverstein

FEDERAL LAWMAKERS HAVE TAKEN A KEEN INTEREST in the concept, realizing that a modern grid is essential to improving reliability and bolstering economic output. A multitude of states, meanwhile, are either considering or enacting laws to promote digital technologies. Massachusetts, for example, recently adopted legislation to require utilities to perform time-of-use studies and adopt smart grid pilot programs.

EXPENSIVE UNDERTAKING

Creating a 21st-century transmission and distribution system could cost as much as $450 billion, according to the Pacific Northwest National Laboratory. But the investment could eliminate temporary lapses in electricity flow that can cost untold sums in lost economic opportunity. It could also eliminate the need to build some new generation.

A fully automated grid that is self-healing is the next step in the energy distribution evolution. But how will the added costs be absorbed? Most of the improvements made so far have been in response to state laws requiring more energy efficiency. As such, the regulated utilities get to pass through their capital costs to end users.

"The entire electric utility industry nationwide is moving in the direction Duke Energy hopes to move in Indiana," said Jim Stanley, president of Duke Energy Indiana, which has proposed modernizing its distribution grid in that state.

For their part, most investor-owned utilities (IOUs) have the resources to make the essential upgrades and just about all of them are in various stages of testing, deployment and implementation of smart grid tools. CenterPoint Energy, for example, is conducting trials using automated equipment that should permit it to anticipate problems and optimize performance of its wires. For customers, it simply means they will get improved electric service reliability, as well as more efficient responses to outages.

Ed Legge, of the Edison Electric Institute, notes that it is vital that the industry move away from a mechanical era and into an automated one, despite enormous costs and logistical challenges. Many state regulators agree and allow the expenses to be incorporated into the rate base. But Legge believes that the battle must be fought in each jurisdiction, adding that 90 percent of customers who participate in programs with their local utilities save money and conserve energy in the process.

In Pennsylvania, for example, utilities must begin installing smart meters at every home and business in an undertaking that is expected to last 15 years. State officials expect the move will initially cut peak energy use by 4.5 percent by 2013. And in California, utilities are rewarded for curbing peak energy demand, motivating the three major utilities there to spend $4.5 billion to install advanced meters.

FAIR POLICIES

But not all utilities are created the same. Consider rural utilities, which are installing advanced metering in record numbers. While those companies that are owned by their members support grid enhancement where it makes sense, they are opposed to mandates—something they say would unfairly burden their enterprises where service territories are spread out.

To determine the value of such business plans, rural power companies examine the cost of deploying smart grid technologies while trying to anticipate customer demand, said Jay Morrison, senior regulatory counsel for the National Rural Electric Cooperative Association in Washington. "That's the approach we want to see come out of any national legislation," he said, adding that if the states allow IOUs to pass through their costs, then rural cooperatives should receive similar benefits.

The reality is that the transformation of the transmission and distribution systems in this country will not magically materialize. It will, instead, be the culmination of multiple but separate contributions made by a range of utilities. The conversion has begun. But the colossal job means that all of the essential changes are decades away.

"If you are going to manage the grid then you have to know every source of power on it," said Eric Smith, director of the Structure Group's smart grid practice. "That provides better controls, better security and empowers customers to make better choices."

Some utilities are aggressively installing smart technologies. Others are taking a wait-and-see approach. Advances may be slow in coming, but they are practically inevitable. Public policy will eventually inspire or necessitate it, recognizing that a 21st-century grid will lead to greater national productivity.

Ken Silverstein is editor-in-chief of EnergyBiz Insider.