



Harvard Business Review

Fix Utilities Before They Need a Rescue

by *Peter Fox-Penner*

Something is seriously wrong with the basic assumption behind the business model of utilities, and companies of every kind are likely to feel the consequences.

Utilities have always assumed that their output would continue to grow, allowing for economies of scale and lower prices. But electricity and gas customers—aided by the utilities themselves—are reducing consumption. Sales are already flattening, and they'll only fall faster as governments put in place more incentives to control greenhouse gas emissions.

In most industries, it's all well and good for companies with outmoded business models to collapse and disappear, but not in utilities. We need healthy power companies to keep the economy running and underwrite the transition to climate-safe forms of energy.

Right now utilities in the industrialized world need enormous amounts of capital to finance the \$1.5 trillion transition to low-carbon production. It's unrealistic to think that regulators will permit power companies to raise rates repeatedly, and with sales declining, utilities won't be able to attract enough capital. The worldwide recession exacerbates the problem and, because it consumes most of business and government leaders' attention, threatens to postpone any real resolution of it. If utilities fail, governments will have to step up and underwrite the switch to low-carbon alternatives—an unappealing prospect at a time when countries are going deep into debt to fix their economies.

The solution, I believe, lies in an idea first advanced in HBR decades ago. For more than 30 years I've studied the utility industry, advised energy companies, and served as a federal energy official. While working on a project for the Edison Electric Institute, I came across an HBR article about energy services by Roger W. Sant, who founded the energy giant AES. Sant's article drew on concepts originally advanced by Amory Lovins but placed them in the context of a business model. After talking to many CEOs and leading thinkers in the industry, including Duke Energy CEO Jim Rogers, I've come to the conclusion that selling services, not output, is the logical next business model for the industry.

 A Better Business Model (Located at the end of this article)

To put it simply, customers would pay for each lumen of light generated rather than each watt of power consumed. The cellular industry provides a crude analogy: Your mobile phone service charges you for minutes, text messages, and video downloads rather than for bits per second, which is the underlying commodity. In the new model, utilities would charge you for the amounts of light, computer time, heat, cooling, and so forth that you use.

That would be a radical change with far-reaching consequences: Because the use of such energy services will continue to grow for the foreseeable future, utilities could expect rising rather than falling revenues. Moreover, power companies would have a strong incentive to develop and market efficient new technologies. Utilities inevitably would get into the business of selling or leasing such technologies and persuading customers to use energy-efficient appliances. At the same time, all customers would develop a much better understanding of how they use energy and would be better able to lower their costs and carbon emissions.

One reason the services idea didn't take hold in the past was that the technology to implement it wasn't mature. The recent emergence of the "smart grid"—sensors that collect boatloads of customer data and computers that interpret the information—now makes the energy-services model both possible and compelling.

Yes, the transition will be a colossal challenge, but the shift has already begun. Many utilities are experimenting with versions of the energy-services model. Duke Energy has proposed to regulators, for example, that it provide energy-saving hardware to customers and then be allowed to keep much of the difference in energy costs.

Corporate leaders have long been advocates for a robust, low-cost energy supply, and recently many have championed greenhouse gas controls. Other than that, the business community hasn't paid much attention to the power industry. But today's economic and environmental realities call for business leaders to engage more deeply with the utilities' challenges. Corporate executives, after all, understand changing business models better than most regulators and policy makers do. Their ability to grasp and communicate the need for a regulatory and business model that provides financial stability for the utilities—and thereby a reliable energy supply—will be crucial in the coming years.

A Better Business Model

To survive, utilities will need to charge customers not for units of power but for hours of heating, cooling, and light provided,

using data collected by new sensors placed in homes and workplaces.

Because they could gain from customers' use of efficient technologies, power companies would have a strong incentive to develop and market solar panels, wind turbines, and efficient heating, cooling, and lighting units.

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