Can renewable energy be sustained?

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Engineers and entrepreneurs are rushing to explore alternative sources of efficient and renewable energy in New Jersey and elsewhere in the country. A Rutgers School of Business—Camden professor has strong words of caution as projects involving wind farms and photovoltaic cells proliferate.

With the electric-power industry poised for its most dramatic changes in decades, too little thought is being devoted to coordinating these piecemeal initiatives, warns Richard Michelfelder in a recent edition of *The Electricity Journal*, the leading policy journal for the electric industry.

The consequence, he fears, might well be a disastrous overload of the nation's electrical grid.

An assistant professor of finance at the Rutgers School of Business—Camden and former president and CEO of Quantum Consulting Inc., a national public utilities consulting firm based in Berkeley, Cal., Michelfelder comes to his assessment after a quarter-century in the energy-technology industry.

"When you start adding random assets to the grid, you also add the possibility of disruptions in the coordination of the flow of electricity," says Michelfelder.

His solution? Place the responsibility for promoting and exploring energy efficiency on the shoulders of utility companies, which are

uniquely situated to take on the challenge because of their longtime role in generating and transporting energy to almost all consumers of electricity.

"There are utility companies owned by state entities, by federal entities, some owned by private investors.

Regardless of ownership, utilities are in the best position to promote energy efficiency, and should be in the business of providing expertise on it," says the Rutgers—Camden researcher.

Written with Peter Jansson, an associate professor of engineering at Rowan University, Michelfelder's article, "Integrating Renewables into the U.S. Grid: Is It Sustainable?," is generating a buzz of its own.

In it, the two scholars outline how the electric power industry in the United States is looking at unprecedented fundamental change in the foreseeable future, and note that with appropriate incentives, free-market forces can work to integrate renewables into the New Jersey and Pennsylvania grids.

Aggressive public policy plays a key role in that dynamic, according to Michelfelder. "In New Jersey, we've been promoting energy efficiency for many years. We've been ahead of the curve with both the utilities and the state adopting programs since the 1980s," the Rutgers—Camden professor explains.

Making energy use more efficient – in essence, obtaining equal or greater service from less energy use – makes good public policy, according to Michelfelder. He sums the benefits up in a list he calls the Five Es: stronger economy, higher employment, cleaner environment, more efficient businesses, and less reliance on foreign energy sources.

As a new president and Congress take over in January, the Brigantine resident hopes to see a long-term national energy policy that provides concrete incentives to foster energy efficiency and renewable resources.

"We've had a couple of energy policies in the past, but they really didn't have a lot of teeth in them in terms of promoting financial incentives," he notes.

Michelfelder's zeal for exploring ways to make better use of resources grew from a youth's natural curiosity about the world around him.

"I first became aware of the issue in 1973, as a 16-year-old pumping gas. When I started, the price was 29 cents a gallon. By the end of the year, it was $1.45. The price of a barrel of oil started out that summer at $3 and ended up at $12," he recalls.

"The bottom line: That was my first job and I watched the price of gasoline go up 400 percent. I saw the huge impact it was having on business and people."

While still in high school, he started consuming *The New York Times* and the *Wall Street Journal* to get a handle on all things financial.

Michelfelder went on earn his bachelor's degree in economics from Holy Family College in 1980, his master's from Fordham University in 1982, and his doctorate from Fordham in 1989.

"When I was just about finished my PhD, I wanted to work in industry and see how to apply these tools and theories I had learned. All along, I thought I would leave academia for three, maybe four years, but I had so much fun in the business world that I stayed for 20," he chuckles.

During those two decades, Michelfelder started several successful energy

technology businesses including Comverge, Inc., which began in 1998, went public in 2007, and now helps more than 500 utility clients work to reduce peak electricity and increase energy-grid reliability.

He also served as an executive with Atlantic Energy, Inc., a major electric utility in New Jersey.

Michelfelder's passion for teaching and research brought him to Rutgers—Camden in 2002. He also has taught finance, economics and statistics courses at both the undergraduate and graduate levels at West Chester University, Monmouth University, Stockton College, Rowan University, Holy Family University, and Fordham University.

Michelfelder teaches undergraduate and MBA courses at the Rutgers School of Business—Camden.

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