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Insights on Utilities: November 2008

PERSPECTIVE #
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IN THIS PERSPECTIVE

Welcome to the November 2008 issue of Insights on Utilities. We publish every month, examining recent events and offering opinions on key trends in the utilities industry. Please forward this newsletter to colleagues or others who might find it relevant. And, we welcome your feedback on our newsletter; please email us to provide any commentary.

This Energy Insights update looks at the issue of open access to real-time consumer energy usage, heat recovery from pipeline compressors, and software for EH&S applications.

Lessons from the Mainframe Era – Don't Stifle Innovation!

At the end of 1960's – the computing era dominated by the mainframe – IBM was by far the dominant computer vendor with a 74% share of the U.S. market. During this era, users could only purchase computers from IBM as complete systems that bundled hardware, software and services for a single price. There was little incentive for users to purchase software from independent software vendors and, indeed, IBM actively discouraged its customers from doing so. As a result there were very few independent software vendors and they were limited to niche markets that IBM could not or would not service.

All of this was about to change. In January of 1969, the U.S. Justice Department charged IBM with monopolistic practices in an antitrust suit. At nearly the same time, an IBM competitor, Control Data Corp. and one of IBM's customers, Data Processing Financial & General Corp., each brought civil antitrust suits against the company. The trustbusters charged IBM with blocking competitors from an adequate opportunity to compete, and asked the courts to order any necessary divorcement, divestiture or reorganization of IBM. The company called the charges unwarranted and vowed to defend itself forcefully.

By June of 1969, IBM had agreed in a consent decree to price and license its software separately from its hardware and services. By unbundling its hardware and software and thus allowing third party companies to develop software for its hardware and enabling users to choose offerings from IBM and other software vendors, IBM set off a tidal wave of innovation that created the software industry as we know

it today. If not for this change, companies like Microsoft, Oracle and SAP would not exist.

Fast forward to 2008. Utilities are regulated monopolies in most markets and even in competitive energy markets they still tend to act like monopolies. Energy users have little real choice with regard to how they buy energy and associated services. However, factors such as rising energy costs, concerns over climate change, and the availability of "demand-side" technologies such as smart meters and in-home displays are changing consumer attitudes and desires with respect to their energy usage, costs and carbon footprints. Recent research conducted by Energy Insights with its national online panel of residential energy consumers in the U.S. found that over half of the respondents were very concerned about climate change and over a quarter were willing to pay $1-5 extra per month to support efforts to limit energy-related greenhouse gas emissions. Additionally, nearly 70% of the respondents were highly interested in having an energy usage display in their homes and would be likely to use the information to use energy more efficiently, improve management of monthly energy costs, and conserve energy.

Given the apparent demand by consumers to play a more active role in managing their energy usage, and the current availability of advanced technologies such as smart meters, broadband communications networks, in-home displays and distributed energy resources, we believe that it's time for utilities, regulators and policy makers to revisit IBM's decision in 1969 and promote open access to real-time consumer energy usage (and possibly production) data to third-party organizations. The key concept here is not a change in regulations or standards (although both may be necessary) but a change in behavior and an altered relationship among utilities, consumers and other market participants. We expect that, if the utility industry makes this change, we would see another wave of innovation – this time from independent providers of energy management and distributed generation services. This would not prevent the utilities from providing these services to their customers; however, energy consumers would now be able to choose offerings from their utility as well as multiple independent energy service providers.

Waste Heat from Compressor Stations Providing Green Power

A new source of distributed and, sometimes, "renewable" power is being tapped at natural gas pipeline compressor stations. These small power plants, typically in the 5MW range, use the waste heat from compressors used to transport natural gas long distances to produce electricity via organic Rankine power cycle systems. The technology has traditionally been used in geothermal power plants. So far, most projects are being developed by independent companies that sell power to electric utilities via long-term contracts, but at least one utility, Nevada Power, has opted to own a project. Altogether, less than 100MW of waste heat projects have been built or announced in

Canada and the United States, but a number of companies Energy Insights spoke to expect to add them to their portfolios in the future. The undisputed leader in developing waste heat pipeline projects is Ormat Technologies Inc. Ormat, a Reno, Nevada, firm with Israeli roots, has been a pioneer in Rankine cycle technology for four decades. The company has moved from being solely a technology firm to a power project developer.

Just how big is the market for heat recovery from pipeline compressors? A report issued earlier this spring by the Interstate Natural Gas Association of America (INGAA) estimated that some 90-100 compressor stations in the United States would meet the then economic criteria for developing heat recovery power projects, representing some 500-600MW of potential power generation capacity. One pipeline operator, NiSource Gas Transmission & Storage, has even posted a list of its compressor stations on its Web site, limiting the list to where such projects may make sense. Given the possibility that more states and provinces might start to favor such clean generation projects, the market could be even larger.

IN THE NEWS

The World of Compliance

ESS and Oracle recently announced an alliance to address compliance at Oracle's OpenWorld conference. The plan is to tightly integrate Oracle's Governance, Risk and Compliance Manager and Oracle Business Intelligence Enterprise Edition with ESS's applications software, providing detailed functionality in environment, health and safety (EH&S) as a part of Oracle's operational risk and controls offering. The companies demonstrated a prototype at the conference.

Our View

According to the Energy Insights report, *Attitudes and Trends: Sustainability and the Greening of Utilities in North America* (Document #EI215066, November 2008), over 90% of utility respondents believe that the future legislative landscape regarding climate change will lead to increased regulations for utilities with respect to environmentally sustainable or "green" business practices. For oil and gas, an even greater percentage – 94% – believed that there would be increased regulation for oil and gas. With sustainability becoming an integral part of reporting to regulators and shareholders, Energy Insights expects a tighter integration between EH&S applications and ERP systems – the locus of financial reporting. Oracle is acknowledging the importance of a comprehensive view of enterprise financial and operational reporting. It has a strong partner in ESS. SAP is also moving in this direction with its Compliance module developed by Technidata being tightly integrated with ERP. Ultimately, sustainability and "green" are much bigger than EH&S. Green covers initiatives such as recycling and energy efficiency, while sustainability covers energy and the

environment, societal and economic objectives. Companies that want to establish a corporate culture of sustainability will look toward enterprise-wide solutions.

LEARN MORE

RELATED RESEARCH

To learn more, please refer to the following Energy Insights documents:

- Attitudes and Trends: Sustainability and the Greening of Utilities in North America, November 2008, Document # EI215066
- Energy Insights' Load Forecasting Workshop Highlights, October 2008, Document # EI215031
- Strategy on the Field as Energy Companies Manage Through Changes in Ownership and Economic Conditions, November 2008, Document # EI214898
- Worldwide Utility Industry IT Spending Guide, 2007-2012, Version 1, November 2008, Document # EI214886
- Europe Takes the Lion's Share of PV Market, September 2008, Document # EIRS57Q
- Real-Time Data Delivery for the Intelligent Grid: Looking at Data Historian Offerings, October 2008, Document # EI214820
- Load Forecasting Salary Survey, October 2008, Document # EI214596
- EMEA Utilities Industry Quarterly Update: July to September 2008, October 2008, Document # EIOS58Q
- What's Next for PV?, October 2008, Document # EI214544