Energy Business Intelligence

Microturbines: Lessons Learned from Early Adopters (November 2002)

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Results Flyer

The Microturbines results flyer is available for download as a PDF file. The Adobe Acrobat Reader is required to view PDF files. If you do not have the Acrobat Reader application software, you may download the Reader for free from Adobe Systems Incorporated.

For more details on this study, download a PDF of the results flyer.

Overview

For the past few years, microturbines have been touted as a technology that could revolutionize the energy business. Promises of a low-cost, modular, low-maintenance, and environmentally clean way of generating electricity on-site were finally put to the test starting in 1999, as manufacturers commercialized their products and started shipping units to end users. What do these early adopters have to say about this "revolutionary" technology?

Our E Source Multi-Client Study will investigate energy users' attitudes and experiences with microturbines, explore the various drivers for early-adopter purchases, learn how users are judging success, and find out whether early buyers intend to purchase more units. In addition to presenting a series of comprehensive case studies, we'll synthesize findings and provide in-depth analysis of the results to give energy service providers and others the knowledge they need to succeed in future distributed generation markets.

As a study subscriber, you'll benefit from E Source's experience, industry knowledge, and contacts with energy users, as well as from our analytical and strategic marketing expertise.

Study Objectives

- Assess the overall experience of early-adopter microturbine users
- Compare and contrast the experiences of users from a variety of industries and organizations
- Evaluate the criteria used in deciding whether to purchase distributed generation, and find out why buyers chose microturbines over reciprocating engines or other alternatives

- Define the time, effort, and cost required to implement a microturbine project

- Determine the pitfalls to watch out for in microturbine rollouts and recommend ways of avoiding them

Implications for Energy Service Providers

Whether you're promoting distributed generation or simply watching from the sidelines, energy users' experiences with and reactions to microturbines will have a dramatic impact on your business. In the end, energy-user acceptance will determine whether microturbines become a major factor in the future, as some industry observers expect, or join the legions of other innovative technologies that have failed to win commercial acceptance.

Will you need to find ways to capitalize on a trend toward the use of microturbines? Knowing what energy users are looking for and how they feel about microturbines will allow you to better prepare your business to compete in changing retail markets.

Study Scope

Early adopters can tell us a great deal about the viability of microturbines for applications within a variety of commercial and industrial settings. We'll ask them to detail their experiences in a number of categories, including:

Customer Motivations

Embracing distributed generation at any level is a significant undertaking that challenges the status quo. What factors drive organizations to consider it? Do they believe it will lower their overall electricity costs? Does fear of reduced reliability drive them to try on-site alternatives to grid-supplied power? What role, if any, does restructuring play in the distributed generation equation?

Gathering Information

Once the decision to try distributed generation has been made, where do energy users go for information about available technologies? Do they turn to the equipment manufacturers, to their energy service provider, to both, or to neither?

Making the Buying Decision

With an emerging technology like microturbines, the buying decision can be difficult. Are companies interested in microturbines merely as a means to cut their energy bills, or are they driven by other considerations, such as power reliability or environmental performance? Do companies sole-source this purchase, or are they more likely to use a bidding process? Who are the market players? More important, who within the buying organization has the ultimate authority over the purchase, and who influences his or her decision?

Implementing the System

Implementation is a big hurdle. Overall, how complicated is the installation of a microturbine system, and what are the maintenance requirements? How many people will it take to make the project move forward, and can it be done with internal resources or will outside consultants be needed? How much time does it take? Do companies generally start with a limited trial and then expand their use of the technology once they're comfortable with results, or do they dive right in with an extensive rollout?

Economics of Microturbines

What sorts of loads are users powering with microturbines? Are the units being installed for baseload applications or for peak shaving? What does it cost to install and operate a microturbine system, and what sort of payback are users looking for? What peripheral considerations have an impact on the strict bottom-line analysis of a project?

Overcoming Obstacles

It can be invaluable to know ahead of time what the pitfalls of adopting a relatively new technology might be. We'll ask early buyers to describe the obstacles they faced during implementation. Did challenges arise relative to the physical installation of the system? Were there regulatory or environmental hurdles to contend with? Which obstacles were expected, and which came as a surprise? Were there, in retrospect, any warning signs that might alert others in time to head off major trouble? How were the various obstacles ultimately dealt with, and was it worth the hassle?

Judging Success

Like any other investment, a microturbine system is purchased with specific goals in mind. What criteria are companies using to judge project success? Is it purely economics (cost savings) or are operational goals, such as ensuring higher reliability, a part of the picture?

Looking Ahead

Have early adopters been pleased enough with results to continue rolling out this technology? What are their future plans for distributed generation? What do they want from microturbines in the future that differs from the units they've been using? Are they investigating other types of distributed generation, such as fuel cells, as part of their strategic planning?

Study Methodology

Real-world case studies are the best way to tackle an emerging and rapidly changing technology like microturbines. For "Microturbines: Lessons Learned from Early Adopters," E Source will work with the major microturbine manufacturers and distributors to identify the early adopters in North America, and we'll select the best case-study candidates—those with the most successful and the most replicable projects.

To add personal depth to our research, we'll locate the key decision-maker within each business and use one-on-one interviews in combination with a cross-cutting survey to draw out a frank and comprehensive view of end-user attitudes toward microturbines.

In all, we'll investigate projects at approximately 50 companies implementing microturbines to learn why they've done it, how they've done it, the results they've seen, and whether they'll do it again. We will also develop 5 detailed case studies based on face-to-face interviews and group discussions with decision-makers in selected adopting companies.

We'll provide you with our expert analysis of the opportunities and threats posed by microturbines and assess the prospects for this technology in the context of general trends for distributed generation.

Subscription/Deliverables

The research is scheduled to be conducted between May 2000 and September 2002.

Subscribers will receive:

- An interim report and conference call based on preliminary results of executive interviews, was delivered December 2000;

- Periodic postings of individual in-depth surveys to a Web site created exclusively for this study; and

- A comprehensive final report, delivered during the fourth quarter of 2002, highlighting the most interesting findings from our research.

Please note that the precise dates of deliverables may vary depending on the number and status of microturbine implementations in the North American market.
