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## Summit Stresses Alternative Energies' Time Is Now

WORCESTER— The state's hydrogen and fuel cell industry is growing up.

With more money flowing into the field from disciplined investors and companies sobered by expansive predictions from the late 1990s that never came true, alternative energy technology companies are focusing on developing ideas, selling products and making money, an industry expert said yesterday.

"The biggest difference is we're focused on success, whereas last year we focused on technological breakthroughs," said Brad Bradshaw, president of the Massachusetts Hydrogen Coalition Inc.

Mr. Bradshaw was among Massachusetts alternative-energy experts attending the second annual hydrogen and fuel cell summit yesterday at Worcester Polytechnic Institute.

The summit drew researchers and business people, some of whom have labored over groundbreaking technologies for years. Speakers repeatedly described fuel cells — which are essentially batteries that can cleanly and quietly power everything from military equipment to buses — as "the way of the future."

But speakers also emphasized customers and revenue. James P. Dunn, director of NASA's Northeast Regional Center for Technology Commercialization, led a panel discussion on fuel cells with a joking reference to past attitudes that "fuel cells are the technology of the future — and always will be."

Optimism is good, Warren Leon, director of the Massachusetts Renewable Energy Trust, told the group during a luncheon speech. Focusing on commercializing products and avoiding hype, however, are crucial for companies that do not want to disappoint public policy makers and consumers.

"Because the technology is exciting, because there is a need for constant innovation, many (researchers) are interested in the technology," Mr. Leon said. "That's fine, and that's important, but they sometimes don't give enough attention to how to turn the technology into a money-making product."



Brad Bradshaw, president of the Massachusetts Hydrogen Coalition Inc., stands near the Acumentrics display and holds a core of a fuel cell during hydrogen and fuel cell summit at WPI

An increasing focus on products and profits, however, has pervaded energy technology businesses as investors such as venture capitalists Kleiner Perkins Caulfield & Byers have poured money into companies, Mr. Bradshaw said.

"They're going to want to get their money back, so what you're seeing is the maturation of certain companies in the market," he said.

Company officials acknowledged that reality yesterday in presentations highlighting lightweight fuel packs for soldiers in the field, large-scale fuel-cell systems capable of powering a locomotive and membranes that purify hydrogen.

"Obviously, everything has to lead to a sale," said Prashant S. Chintawar, executive director of marketing for Cambridge-based Nuvera Fuel Cells Inc.

Jeffrey Altman, president and chief executive of Hy9 Corp. of Hopkinton, a maker of metal membranes that purify hydrogen, said Hy9 has changed strategy when necessary to satisfy customers, including selling purifier components rather than integrated hydrogen generators.

"We're here to make money for our investors and create value," he said.

Greg Cipriano, vice president of marketing and military development at Protonex Technology Corp. of Southboro, said Protonex has focused on creating fuel cells for the military but hopes to leverage its expertise to capture civilian markets, too.

The company's technology could follow a path similar to that of GPS, or global positioning systems, which are increasing finding consumer applications in cars, he said.

"We think fuel cells will have a good shot of being successful by running that same route: military first, commercial second," Mr. Cipriano said.

People in the fuel-cell industry have definitely adopted more realistic outlooks and pitches since the late 1990s, when technology advanced so quickly that many felt certain new commercial uses for products were just around the corner, said Mr. Leon of the Renewable Energy Trust.

They have learned, he said, that "just because you're a good engineer or a good inventor, that doesn't make you a good product developer and a good business."