

Paul van der Wansem— BTU International

For decades, BTU international has been a leading supplier of advanced thermal processing equipment for electronics manufacturing, which includes printed circuit board solder reflow and semiconductor packaging applications as well as, for the past 15 years, thermal processing systems to the solar manufacturing industry. This year, the company has expanded in the emerging alternative energy market with new process equipment for solar cell manufacturing, in addition to its existing products for nuclear fuel processing and the production of fuel cells.

The expansion includes the creation of a new Alternative Energy Business Group and two new, high-level appointments. John J. McCaffrey, Jr., has been appointed vice president of alternative energy in charge of engineering and product development, and Douglas Lawson has joined BTU as vice president of alternative energy in charge of marketing and business development.

The company celebrated the opening of a new solar research and process application laboratory in Shanghai, China, this year. Another is in the works closer to home, in Billerica, Massachusetts.

Global Solar Technology recently spoke to BTU's chairman, president and chief executive officer Paul Van der Wansem, about the change in the company's focus and how we might expect to see the company evolve over the coming years.

Q1: We've been hearing a lot about BTU in the solar market. How will your focus on solar cell processing effect your electronics assembly business?

Without question, the electronics assembly business is vitally important to BTU. It currently represents the majority of BTU's business, and it will for some time. However, anyone who watches the electronics industry can tell you that its cyclical nature can be a challenge to manage. We hope that by diversifying into alternative energy applications we can achieve a healthier balance of business. This will directly benefit our electronics assembly business by allowing us to maintain a larger corps of engineering and development staff, and will keep our factories and supply chains running smoothly, regardless of the business cycle—not to mention enabling us to maintain and even expand our customer service and support infrastructure. We are currently increasing our headcount by almost 10 percent, with many of the new hires coming in the engineering and development area.

Process-wise, there are a lot of similarities between the thermal steps for solar and electronics assembly. We hope to apply



BTU's Paul van der Wansem, chairman, president and CEO.

future technology breakthroughs to both markets. Also, for both markets we have an intense focus on reducing total cost of ownership and are focusing our engineering efforts in this area. For solar, reducing the cost per watt is vital to the industry's growth and sustainability. In electronics, cost pressure is not new and is something

we work on constantly. We are proud of our industry-leading Pyramax products that provide significantly reduced cost of ownership, achieved through a focus on uptime, and reduced nitrogen and power consumption. Our latest Pyramax product, introduced at APEX 2008, is the Pyramax 75A, which has extremely low running costs.

Q2: Can you tell us how it is going for BTU in the solar business?

During the past year we have increased the pace of our transformation into a process equipment company that serves the emerging high growth alternative energy industry while continuing to serve our traditional business in electronics. Recently we created a new Alternative Energy Business Group and more than doubled revenues and increased bookings by 2.5 times in the solar segment compared to 2006. We added two new executives with strong backgrounds in both solar technology and business development. In addition, we recently opened a new Photovoltaics Process Center within our facilities in Shanghai, China, and are establishing a second such laboratory in Billerica, Massachusetts. These facilities will be used to develop new solar process capabilities and provide an environment where customers can process photovoltaic devices—both silicon and thin film-based—on BTU systems. The Shanghai Photovoltaics Process Center is operated with our partner in metallization, DEK.

Q3: Why did you choose to focus on alternative energy?

A: Our decision to focus on alternative energy business as a prime driver for our growth was based on several key factors:

- The need for new energy—especially renewable, clean energy—has resulted in a large market demand;
- BTU has many core technologies and significant know-how that are applicable to processing devices used to generate alternative energy; and

- over the years we have built a strong global support network with key engineering and manufacturing capabilities in Asia and the USA. These strengths will serve as a base from which we will address the worldwide demand for process equipment used in Energy generation applications.

And as mentioned previously, we are welcoming the opportunity to balance and diversify our business, thereby strengthening our infrastructure in good times and in bad.

Q4: What is the outlook for BTU?

Looking forward, we see 2008 as an exciting and challenging year. We expect to continue to develop new products and technologies for both the electronics and alternative energy markets. As I mentioned, we are aggressively expanding our workforce and investing heavily in the kinds of new products that will support our growth in the years ahead.

We believe that the course we are on is the best way for us to support our customers' needs—whether in electronics or alternative energy—and the best way to enhance our investors' value. We see it as a win-win situation.

Atmospheric plasma surface modification for continuous processing of solar cells—Continued from page 10

Overview of Plasma Sources Suitable for Dry Etching of Solar Cells”, 28th IEEE Photovoltaic Specialists Conference, Anchorage, September 19-22, 2000.

1. A. Vijh, X. Yang, W. Du, X. Deng, “Film Adhesion in Triple Junction a-Si Solar Cells on Polyimide Substrates”, Dept. of Electrical Engineering and Computer Science, University of Toledo.

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Solar growth provides opportunities for electronics makers—Continued from page 18

Toyota plans to install Kyocera solar panels on its next-generation Prius hybrid cars.

Wall Street Journal published solar panel cost breakdown for installed \$8.25-per-watt panel:

- \$1.50 polysilicon
- 75 cents wafer
- 75 cents solar cells
- 75 cents panel assembly
- 50 cents inverter
- 75 cents racks & installation equipment
- \$1.25 for labor
- \$2 installers' overhead

Xantrex was acquired by Schneider Electric for \$15.00 per share.

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BTU International's integrated In-Line Diffusion System for phosphorous diffusion of solar cell wafers.