



Sales, Development and Design Staff Share Their Views

TEL employees involved with our TPS (thermal processing system) equipment, one of TEL's main products, met recently to discuss how to make this equipment kinder to the environment, a goal which includes energy conservation.

More Customers Looking for Eco-friendly Equipment

Hoshi: I believe that the biggest challenge TEL is facing now is the environmental burden of our equipment during operation, especially its high energy consumption. I look forward to hearing your opinions today about how we can address these environmental considerations, mainly with respect to energy savings.

Okabe: I am in charge of development of elemental technology. We are the first part of the organization for the process of turning a basic component into a product, so



you could say that we have to be the first to think about the environmental impact. Specifically, we have challenges like creating systems for re-using expensive or rare gases.

Wamura: I am in charge of design for mass production, so I mainly deal with

customer needs like faster production schedules or cost savings. Still, I think it is important to make a real effort to communicate environmental concerns to the sales staff and to the customers, and make sure they understand.

Yasuhara: I am in a project for product quality management and assurance as part of our sales activities. The perception of quality has changed over the years; recently, getting the product to have less environmental burden has



come to be seen as one aspect of quality. For example, customers see the effect of equipment on the environment while it is operating, and the burden of the equipment on the environment after use, as an integral part of "quality."

Umeki: There really is a trend to that. We have heard a lot about this from customers, that they don't just want functionality in the equipment, they also want us to reduce their energy consumption. They told us that one strategy



for reducing energy usage would be to shorten the time from wafer input to output as much as possible. We developed equipment which did that, and it did reduce power consumption for wafer handling. Still, a survey by one of the semiconductor producers showed that, of all the systems used by semiconductor producers, TEL's TPS equipment had the highest power consumption. For our products to benefit the public, I really feel we are going to have to put more effort into reducing our equipment's energy usage.

Wamura: That's right. We need to increase the value of our products by taking more consideration of environmental concerns. I think that is the responsibility for us in the design department.



Umeki: Also, more and more requests from customers address not just the equipment itself, but also the associated facilities, material gases and wafer treatment methods. We may have a business opportunity here, with "environment" as the keyword.



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(photos at top of p. 16, from left)

Advancing Product Eco-friendliness by Proactive Marketing

Chiba: I'm in charge of making TEL products lead-free. We're running a program with the goal of removing all the lead from our products as of 2006. The problem however is that this raises costs, so we are really struggling to do this and meet our other goal, lowering costs, at the same time.



Yasuhara: Is it possible that you will be able to get past that by changing your approach? When you decrease the energy usage of the equipment, even if the product's price goes up, the energy expense during operation goes down, so it is quite possible that you have lowered the overall costs. Eliminating lead works the same way. The higher costs in the initial investment stage can be recovered in the long run. I feel it is the essential role of the sales force to do a good job explaining this to the customers and convince them it is worthwhile.

Wamura: In order to better differentiate ourselves from our competitors in environmental issues, we need to be more aggressive in trying things that other companies are not looking at yet.

Okabe: I think, in order to do that, the company as a whole needs to put out directives or slogans for attacking the necessary issues, like safety during development of eco-friendly products. They should not just follow the current lines of research. They will need a specialized structure for developing such products.

Yasuhara: Up to now, we've always developed our products in accordance with our customers' requests. But that is changing. We are overhauling the way we develop our products, with an emphasis on preserving the environment. I think it is completely appropriate for TEL to change over to a kind of manufacturing that we can be proud to describe to our customers.

Hoshi: I really support the proactive style of business, which reflects TEL's attitude toward the environment, and I support a continuing emphasis on environment-friendliness. We are not waiting for our customers to ask, we are making these changes on the basis of our own ideas. This is a good thing.



Meeting time: 1:00 – 3:30 PM, Thursday, June 30, 2005
Place: Headquarters Conference Room, Tokyo Electron Limited

In response to the exchange of opinions

This was a conversation among members involved in our TPS equipment, but as I listened to the lively discussion, I felt the members were looking more at our industry than just at our equipment.

There was some discussion of reducing environmental burden, mainly by reducing energy consumption of the equipment, and I felt that every one of the members had a direct sense of how many human and financial resources the entire semiconductor industry is devoting to the environment. I must also note that everyone seems to share a consciousness that the business is changing from the old model of manufacturing according to the

requests of semiconductor producers to a model whose technology is led by the equipment makers, on the basis of the knowledge and skills they have built up, and a model that is responsive to environmental concerns.

The Development and Marketing divisions of TEL have been cooperating closely in studies to reinforce environmental concerns at the design stage since 2004.

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