

Top Management's Commitment and Highlights

Highlights

Highlight 6 | The Long Road to a Recycling-Based Production System

Fuji Xerox has been proactively implementing initiatives both in Japan and overseas to minimize new resource input when manufacturing products as well as to achieve "zero landfill." The main objective is to lower the environmental impact of a product after it has reached the end of its useful life. Issues surfaced in FY2005 as initiatives progressed, but a bright future is in store thanks to an onsite commitment and joint efforts with partners. Fuji Xerox's resource recycling enters a new phase.

Looking back over resource recycling initiatives

To lessen its environmental impact, Fuji Xerox, since 1995, has been manufacturing products in Japan that use parts from copying machines and multifunction devices collected from customers. Those parts, although reused, boast exactly the same quality as new parts. In August 2000, a framework for realizing "zero landfill" of end-of-life products was set up nationwide, and since FY2003 product recycling operations have continued to achieve profitability, thereby striking a balance between economic and ecological factors.

In December 2004, to raise the level of initiatives overseas to reduce environmental impact from landfill to the same level as in Japan, Fuji Xerox launched its International Resource Recycling System, through which end-of-life products are collected from nine countries and regions in the Asia-Pacific region and transported to Fuji Xerox Eco-Manufacturing Co., Ltd. (FXEM) in Thailand for disassembly and sorting. Recycling partners then participate in transforming those products back into resources.

The International Integrated Recycling System—one year on

The following four principles were created when the International Resource Recycling System was established: 1) Prevent illegal disposal; 2) Do not impact the environment of the importing country; 3) Do not import waste; and 4) Create benefits for the importing country.

"Although we attained only a 99.2 percent end-of-life product recycling rate for FY2005 compared to our original 99.6 percent target, we did manage to operate the system based on the four basic principles," explains Junichi Takahashi, president, FXEM. "To prevent illegal disposal, collected end-of-life products are sent from sales sites, together with a list indicating their weight, and disassembled at the plant and sorted into 68 categories. Sorted parts/materials are recycled as resources, with the aim of always striving toward "zero landfill." In addition, the weight is checked as one step of every process to prevent illegal disposal en route. In FY2005, nearly 20,000 end-of-life products were collected and 99.2 percent of those were recycled. In other words, more than 900 tons of landfill was avoided.

FXEM also obtained ISO 14001-2004 certification in September 2005 for its environmental management system. Environmental management has progressed thanks to the certification, and the benefits are beginning to emerge. For example, the company was chosen by Thailand's Ministry of Energy as one of the top five companies in the region in terms of energy conservation, and employee awareness has been elevated through discussions among themselves about appropriate work environments.

Concerted efforts based on a strong link between the nine countries and regions, including Thailand, are crucial for the International Resource Recycling System to operate smoothly. With that purpose in mind, the First International Recycling System Workshop was held in Bangkok in May 2006. Personnel involved from sales companies in those countries and regions gathered at the Workshop to gain an understanding of the circumstances faced in each location and to discuss methods to resolve various issues. Equipped with these methods, FXEM employees have made visits to overseas sales companies after the conference to investigate how they can for a path to resolve issues together.

One issue that has been clearly defined concerns the recycling rate target that the company was unable to meet in FY2005.

"We made the most of the technology we cultivated in Japan to build a recycling system with the aim of achieving 'zero landfill,' but we haven't met our target yet," Takahashi says with strong commitment. "The current issue is how we are going to accomplish the remaining 0.4 percent of the target. I would like to work jointly with Fuji Xerox's Asset Recovery Management (ARM) Unit to pursue activities that further raise the recycling rate."

FXEM is strengthening its technology development and support framework by hiring new engineers as well as other methods to improve the recycling rate.

Given this situation, initiatives aimed at lessening the impact Fuji Xerox places on the environment are now underway in all regions in which the company operates, with the exception of China. The company is currently looking into ways to lower the environmental impact of end-of-life products in China as well, which is currently an important hub for production and sales. The effort to build the International Resource Recycling System continues.



"We are aiming to further increase the recycling rate," Junichi Takahashi says.

Patient endeavors at production sites

Fuji Xerox has pushed ahead with an overhaul of its production sites over the past several years. With the transfer of production sites for new products to China and the reorganization of domestic production sites that is underway in Japan, the Integrated Recycling System was moved to Suzuka Fuji Xerox, because it is expected to play a vital role within the production system.

Suzuka Fuji Xerox, now the largest production site in Japan for Fuji Xerox and its affiliates, is attempting to increase production efficiency.

"We have adopted TPS, or the Toyota Production System, and our production reforms are making steady progress," says Takuzo Tsukamoto, president, Suzuka Fuji Xerox. Each day, 70 end-of-life machines are brought from the Logistics Center, then they are disassembled, cleaned, sorted or repaired, and inspected over one and a half days before reappearing as products containing reused parts that are of exactly the same quality as new ones. Thanks to the consolidation of logistics bases, the lead-time from collecting and sending end-of-life products to recycling line is now shorter and production is progressing steadily. The current issue is raising the rate of reuse further.



"It doesn't matter where you are, our approach toward reuse doesn't change," Takuzo Tsukamoto says.



Parts from collected products, which are guaranteed to be the same quality as new parts, are reused to produce new products.

"I would like to raise the reuse rate by introducing TPS mechanisms to reused part operations as well," Tsukamoto continues.

A crucial point for improving the rate of reuse is to increase the accuracy in the appraisal of parts. Even with set appraisal standards, the conditions of rust, scratches, and abrasions are not uniform. Furthermore, appraisal by humans entails the tendency toward "excessive quality" causing a drop in the reuse rate. When the time came to transfer the reused part line from Ebina, six of the employees scheduled to work on the new line underwent up to two months of training at the Ebina Center, after which they thoroughly communicated everything they had learned to other employees. However, achieving a dramatic increase in the reuse rate through such patient efforts has its difficulties.

Technology to pave a future for reuse

Fuji Xerox is trying to confronting those difficulties to the best of its ability through with the use of technology. The company plans to introduce an automated diagnostics system sometime during FY2006, which will enable the details of a part's history to be read and an automatically evaluated ion to be made as to whether the part can be reused.

Suzuka Fuji Xerox is carrying out its own independent activities and has developed the Repelle System, a technology that enables 100 percent recycling of plastic materials. "If the 'Repelle' idea can be incorporated into actual processes, it will enable an advanced level of plastics recycling and we will be able to convert used food trays, for example, into copy machine parts," says Tsukamoto, who has pinned high hopes on the system and has his sights on a recycling-oriented society.

Onsite endeavors and technological development lead to the conservation of natural resources. Fuji Xerox's efforts in this area are continuous and unrelenting.