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Many local organizations are 'greening' the economy

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Many local organizations are 'greening' the economy

The Obama budget has been published, and as expected, it has a strong emphasis on sustainable technologies. This is great news for Rochester. Over the last several years, area institutions have been sharpening their focus on green technologies and processes. Take a look at two Rochester companies that have been recognized internationally for their work: Eastman Kodak Co. and Xerox Corp.

Like many other companies, Kodak and Xerox have significantly reduced their use of water and energy and their discharge of pollutants. Over the last five years, Kodak reduced greenhouse gas emissions by more than 36 percent. Xerox reduced polluting air emissions from its facilities by 94 percent over a 16-year period. These are impressive results. But more notable is the effort both are making to create technologies and design products that generate less waste and use less energy. Here are some examples:

■ In the 1990s, Kodak introduced the single-use camera. This is a simple box camera with a roll of film; once used, it is turned in for processing. The camera is cracked open, the film processed and the prints returned to the customer. The potential for waste is enormous—pieces of plastic, electronic flash and batteries.

But designed for sustainability, today almost the entire camera is made from recycled cameras and parts. When the camera is returned, almost all the pieces are reused or recycled. Batteries that are partially used are sold to other companies.



INNOVATION EDGE

Ashok Rao

■ Xerox copiers use toner that is created by grinding a polymer material into fine particles. These particles are fused onto paper to create laser prints. However, during this process as much as 25 percent of the toner is discarded as waste. A color laser printer can produce as much as 157 pounds of waste for every 100,000 prints.

In response Xerox has developed solid ink. Colored cartridges of ink are melted directly onto the paper. The result is color prints with a semi-glossy look and clearer definition on the edges than is obtained by using a color laser printer. More significantly, these printers produce only five pounds of waste for every 100,000 prints.

■ A related Xerox innovation is erasable paper. Two of every five pages printed daily at an office are e-mails and reference materials such as Web pages. People refer to the printed version for a day and then usually discard it. Erasable paper is intended for such transient use. The paper self-erases within 24 hours—text and images fade away—and then can be reused. The product is still in the process of being commercial-

ized, but the potential for reducing paper costs is tremendous.

■ Another opportunity to reduce waste is with video displays, which in the future will most likely use organic light-emitting diode technology. Small molecules of organic compounds are vacuum deposited on a layer of glass. When triggered by an electric current, these compounds give off multi-colored light. Unlike the more conventional LCD display, OLEDs do not require backlighting. So power consumption is far less and the screen can be much thinner. The result is panels thinner than paper. This groundbreaking research was done at Kodak.

Kodak and Xerox have developed several other processes and technologies intended to reduce their carbon footprints and build a more environmentally friendly society. Other Rochester organizations also are developing eco-friendly technologies. Rochester Gas and Electric Corp. is a world leader in wind power generation. Rochester Institute of Technology's Center for Integrated Manufacturing Systems is one of the world leaders in creating processes for refurbishing, remanufacturing and recycling. And entrepreneurs in Rochester are developing new approaches to generating solar power economically and refining ethanol from sweet grass.

Imagination and innovation can "green" Rochester ecologically and financially.

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