Riches from garbage

Kalinka Iaquinto, Rio de Janeiro

We have to change the way we think of solid waste. In 2010 Brazil’s population increased by 1% over 2009 and produced 61 million tons of municipal solid waste — 7% more than in 2009. Usually the waste ends up in dump sites and landfills, a solution that has heavy environmental, social, and economic costs. But Sabetai Calderoni, president of the Brazilian Institute for Sustainable Development, says, “What we mistakenly call garbage is actually precious raw materials, which can bring social, economic and environmental benefits. … It makes no sense to bury or burn money: For industry, scrap can generate wealth. And reuse of waste can be a source of jobs and income for those working in various stages of the recycling process.”

The new recycling markets will boom for two reasons: better logistics for collecting and recovering solid waste for reuse, and shared responsibility, with the public and private sectors and consumers all participating. Both are incorporated into the National Solid Wastes Program (PNRS) enacted in 2010.

Logistics

A survey by the Institute of Applied Economic Research found that Brazil loses R$8 billion annually by sending waste to landfills and dump sites instead of recycling it. New logistics methods, to be in place in the second half of 2012, should change the situation. “We believe better logistics will enhance recycling in Brazil and offer such advantages as environmental preservation, energy saving, and less use of natural resources for new products and jobs,” says Nabil Bonduki, Ministry of Environment Secretary for Water Resources and Urban Environment.

The new logistics will deal with both materials that were never consumed, such as cancelled orders and surplus goods, and
products that have exhausted their useful lives. Prof. Paulo Roberto Leite, chairman of the Brazil’s Reverse Logistics Council (CLRB), says an estimated 5% to 6% of used products are currently recycled into goods worth R$15 billion, adding “With the introduction of the new law, the used goods market may increase dramatically.” The market for used goods is just opening. Right now, Leite says, “Returned used products generally contain raw material of special economic interest, such as iron and aluminum. The aggregate value allows companies to buy junk to reuse the raw material.”

**Process**

Pesticide containers are a successful case in point. Since 2002, the National Institute for Processing Empty Containers (Inpev) has coordinated recycling logistics. João Cesar Rando, Inpev president, explains the process: The invoice shows where packaging should be returned. The farmer washes containers three times and returns them to brokers (retailers and cooperatives) and ultimately to manufacturers. Trucks that deliver filled containers collect empty ones. With 421 collecting units across the country, in 2010 Inpev returned 31,266 tons of packaging; 92.5% was recycled, 9% more than in 2009. In the first quarter of 2011, 8,092 tons were processed, 17% more than in the same period a year earlier.

**Growth**

The electronics industry is halfway to meeting the new mandates. Some companies have embraced sustainability to meet market demand and comply with state and local laws. Itautec, which sells computers and related equipment, began recycling electronics in 2003. Volume surged from 527 tons in 2009 to 3,842 tons last year. Of all the waste the company produces (5,100 tons, including organic waste), 92% is recycled.

But, says João Carlos Redondo, Itautec sustainability manager, there is no correlation between what Itautec produces and what it gets for used goods. “What we mistakenly called garbage is actually precious raw materials, which can bring social, economic, and environmental benefits for the country.”

SABETAI CALDERONI
back. This is an important point. Although the PNRS has set recycling targets, the manufacturer is not able to collect obsolete products from homes and businesses. Redondo explains that “Consumers decide to purchase and dispose of products. In Brazil, computers have more than 10 years of use, and there is a social network in which one person hands the product off to another.” He believes that to improve recycling, Brazil needs a public education program so that consumers understand how to use and dispose of products, and state recycling policies must be aligned with national policy because manufacturers cannot afford different recycling systems for each state.

The government committee for monitoring the PNRS has discussed both alignment of recycling policies and tax differences. Bonduki says, for instance, that the National Solid Waste Policy establishes that companies will be entitled to a federal value-added tax credit on solid waste bought for use in manufacturing.

**Exemption**
To prevent taxation of recycled goods as raw materials, for instance, Itautec takes two steps. First, customers state that they delivered the product voluntarily and not in return for new products, and the company sends the product to an appropriate destination for either recycling or reuse. Second, individuals sign a disclaimer of exemption receipt. Redondo says that because the volume is small, the company generates destination certificates honoring the client’s wishes and makes a photographic record as donated equipment is dismantled.

TGestiona has recovered modems, cell phones and other electronic equipment since 2006. Then it collected 7,000 items a month, today it collects 70,000. The company schedules collection, screens the materials, cleans and reuses parts deemed usable, and sends the rest to a repair shop or to be destroyed.

Is recycling worthwhile? Clóvis Travassos, Tgestiona director general, says yes. But success depends on recognizing that recycling generates costs to users and busi-

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nesses. Redondo says the investment in recycling pays off for Itautec because besides being more environmentally sustainable it costs the company less than what it would cost to dispose of the materials in landfills.

The ideal, says Tgestiona’s Travassos, would be to combine sustainability with income generation, but that will require profound changes. “There are companies that only care about recycling because of the legislation. We have to change this culture,” he says. Bonduki thinks that will come: “We hope that the guidelines of the National Solid Waste Policy will bring about a shift in how we conceive of the product right up to environmentally sound disposal.”

National Solid Waste Policy (PNRS)

Waste Groups
At first, the law states, recycling systems should comprise actions and procedures for collecting, recycling, reusing, and disposing of waste from five groups: electronics, packaging in general, medicines, fluorescent lamps, and packaging for lubricating oils.

Innovation
The PNRS brings together modern concepts of solid waste management: shared responsibility, integrated management, inventory, sectoral agreements, product life cycle, reduction, reuse, recycling and waste treatment, and environmentally sound waste disposal. It also calls for national, state, and municipal waste management plans. It provides for social inclusion by strengthening cooperatives and associations of collectors of recyclable materials.

Penalties
Consumers who break the law with respect to recycling materials and selective collection will first be warned. For later incidents, they may be fined R$50 to R$500.

Imports
The law sets fines from R$500 to R$10 million for importing hazardous solid waste that may damage the environment and public health.