

The new National Solid Waste Law

Brasilia – Work station of the Cooperative of Recycling, Labour and Production (Cortrap).

Solange Monteiro, São Paulo

After almost 20 years of discussion, the National Solid Waste Policy (PNRS) was passed in December 2010. In general, it has been much praised. However, the law divides responsibility for correct waste disposal between manufacturers, retailers, distributors, importers, consumers, and government. The question now is how to bring together different players with different degrees of awareness, training, and financing. This was central to the discussion during the first Seminar on Solid Waste in Brazil: Perspectives and Challenges, presented October 24–25 in São Paulo, by the Conjuntura Econômica magazine and the Brazilian Institute of Economics (IBRE) of the Getulio Vargas Foundation.

CONCEPT

Asking why previous proposals had failed and the PNRS succeeded, Congressman Arnaldo Jardim ((see p. 40 sidebar for full titles of all participants), who chaired the

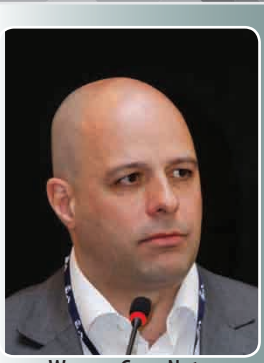
Photo: José Cruz / ABr.

working group responsible for the policy proposal, said, "This is an integrating law." Significantly, the PRNS replaced the concept of polluter-payer ("which sounded like a threat") with the idea of shared responsibility. A second factor was to set targets by sector for collection and disposal with reporting systems and waste inventories. "It is expected that industries will come to a consensus on their tasks," Jardim said. "Only when there is no consensus will the government impose mandatory targets."

Nabil Bonduki of the Ministry of Environment said the first PNRS requirement is to minimize residues. "The packaging industries, for example, should rethink the packaging of products with a short shelf life that generate waste quickly," he said. Sharing management of solid waste will require first-rate planning "because the PNRS will not be successful unless all levels of government are mobilized to carry out its


Arnaldo Jardim


Nabil Bonduki


Werner Grau Neto

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policies." Bonduki said the PNRS policy objectives can transform Brazilian society — fighting poverty, for instance, by bringing collectors into the formal market

For Jardim, the challenge is for society to change its consumption patterns. He pointed out three major tasks for successful PNRS implementation: "First, we must reconcile existing state and municipal laws; there are still conflicts. Second, it is necessary to institute policy tolls, particularly taxes. And third, we have to valorize recycled material."

Lawyer Werner Grau Neto said, "Our society is not used to thinking that the government, citizens, and industry all have a share in this task." He stressed


Breno Palma


Eleusis Bruder Di Creddo


Cristina Godoy

the responsibility to carefully craft agreements so that they do not generate disputes. "We cannot wait for the judiciary to decide questions about this policy, nor wait another 20 years to see it in place," he said.

MUNICIPALITIES

The experts saw municipalities as weak links in the PNRS chain. The 5,565 Brazilian municipalities must present waste management plans by August 2012 and close dump sites and start landfills and selective collection by August 2014. So far, according to the Ministry of Environment, just 1,112 municipalities have landfills, and 670 have selective collection. According to businessman

THE GREAT CHALLENGE
Increasing the number of sanitary landfills and expanding selective collection of garbage

	Counties with sanitary landfills		Counties with selective collection	
Region	Number of counties	Population (Millions)	Number of counties	Population (Millions)
North	37	2	16	1
Northeast	97	15	57	11
Midwest	62	4	27	2
Southeast	534	51	335	38
South	382	15	235	7
Total	1,112	88	670	58

Source: Ministry of Environment.

Breno Palma, even in urban centers claiming to have selective collection, the recycling rate is less than 2% of total waste produced. He estimated that every year the country loses R$8 billion in recycling opportunities.

According to Eleusis Bruder Di Creddo, Brazil's urban population currently generates 183,000 metric tons of waste a day, 32% of which could be recycled but only about 0.3% (1,500 metric tons) actually is. It is true, he said, that every day recyclers handle 26,000 tons of metal, 10,000 tons of paper, 26,000 tons of plastic, and 1,300 tons of glass. But, he said, this "comes from industry, which already has a reverse logistics chain and informal collection."

Many analysts consider it unlikely that municipalities will articulate good waste management plans in an election year, but Bonduki said that failure to meet the deadline will mean a loss of transfers from the federal government and stressed the need to find economically viable ways to establish systems. One study, he said, suggests regionalization, bringing all municipalities into 380 larger units.


Mario Reali


Wladimir Ribeiro


Diógenes Del Bel

The cost of setting up and maintaining landfills only becomes feasible, he said, for regions with at least 120,000 residents. Large regional units, he added, "could be managed by concession, public-private partnership, or direct provision."

Cristina Godoy noted that in the 1990s, the Company of Environmental Sanitation Technology of São Paulo state (Cetesb) helped to establish municipal consortia to set up landfills, "but bad management eventually resulted in dumpsites," she said. That must be avoided this time.

For mayor Mario Reali, well-managed consortia might help generate technical expertise. "We have

Consortia "require mayors with regional vision. In addition, the consortium not only demands scale, it demands that large municipalities help small ones."
Wladimir Ribeiro

RETAIL AT THE EPICENTER

Every day about 25 million Brazilians go to a supermarket. That is why the retail sector has become the center of major initiatives to raise the awareness of consumers and suppliers.

Although the three largest supermarket chains operating in the country added nearly 800 points for voluntary disposal (PEVs) including packaging, batteries, light bulbs and electronics, Sussumu Honda said supermarkets are still concerned about the PNRS concept of shared management. "When it comes to reverse logistics, many questions remain to be investigated and decided," he said.

Honda pointed out that "The private sector has to carry out a number of actions that depend on the efficiency of the public sector in selective collection. Otherwise, it may be a major effort for nothing." He also had questions about the management capacity of cooperatives of those who work with solid waste. "When the policy is implemented, solid waste volumes will increase significantly, and


Sussumu Honda

logistics will have to work in parallel," he said. "If not, we risk seeing supermarket parking lots transformed into dumpsites."

Honda argued that in addition to sharing responsibilities for disposing of used products, retailers and manufacturers should consider sharing costs and think about pricing. "There is the risk of burdening the consumer in a few product categories, inhibiting their consumption," he said.

Actions within the retail sector have unquestionable potential. Honda pointed out the sector's previous commitments to the Ministry of Environment to reduce the use of plastic bags by 40% by 2014; in some cities the target has already been met. In fact, he said, in Jundiai city the use of plastic bags is down by 95%.

Felipe Zacari Antunes said that Walmart encourages use of reusable bags by offering customers a three-cent refund for every five items purchased without a plastic bag; "since 2009, we have paid R$1.9 million in refunds to customers and reduced the use of plastic bags by 42%."


Environmentally friendly reusable bags are sold commercially to replace plastic bags.

Photo: Fabio Rodrigues Pozzebom / ABr.

to invest in technology and institutional arrangements," he said, citing the example of Lindoia region in São Paulo, where 14 municipalities have come together to set up a shared landfill.

Lawyer Wladimir Ribeiro warned, however, that consortia do not solve all problems. "They require mayors with regional vision. In addition, the consortium not only demands scale, it demands that large municipalities help small ones. If São Jose dos Campos city, for example, does not help cities like Monteiro Lobato and Paraibuna," he said, "the solid waste problem will not be solved."

A problem identified by Diogenes Del Bel is that there is no information system to serve as a basis for decision making. The ideal would be a national database consolidating all waste treatment company inventories in each state, to help establish a quality standard for waste treatment services.


Odair Luiz Segantini


Newton de Lima Azevedo


Estanislau Maria

Odair Luiz Segantini pointed out that if there is to be a shift in the model for waste management, the taxpayer will have to pay for it. "Today, the average investment in public sanitation in Brazil is R$10 per person per month. In some U.S. states it is R$70, and the excellent public sanitation in Japan costs R$100," he said. Municipalities will need to establish ways to collect such taxes.

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Newton de Lima Azevedo

THE COMPLEX ELECTRICAL AND ELECTRONIC LANDSCAPE

The PNRS requires certain sectors to undertake reverse logistics. This will not be easy for the electrical and electronics sector, which represents 15% of Brazil's industrial output, 4.5% of GDP, and a vast variety of products.


André Luis Saraiva

André Luis Saraiva questioned whether an industry so diverse — household appliances, computers, and cell phones among other products — can carry out reverse logistics. A major obstacle, he said, is the attitude of the Brazilian consumer. "With used electronics, 35% of consumers keep them; 29% donate them; and 19% sell them. So how can we comply with the law?" he asked. "The industry should be responsible for recycling 100% of returned products, not sold products; otherwise, to meet the target some industries will rent, not sell, their products, taking ownership away from consumers."

Saraiva also mentioned the relatively large informal market in information technology. "A trade federation surveyed in Rio de Janeiro reports that 42% of consumers buy pirated products. Who will recycle those goods?" he asked. "Who is responsible for reverse logistics in e-commerce, which already represents 32% of purchases in the country? What about licensing and approval of hazardous waste transportation? Who is responsible for deleting information from computers and cell phones that are returned?" Saraiva argued for gradual implementation of the law to give adequate time to raise consumer awareness of how recycled inputs are used in new products.

Saraiva also pointed out that there are no companies in Brazil that recycle, for example, used printed circuit boards and monitors. "Most companies end up reselling collected materials abroad," he said.



Photo: ABr archive.

Newton Lima Azevedo believes no institutional arrangement will be effective if it does not prioritize the improvement of public services. "Even if the cities had all the resources they need to invest [in waste disposal] today, it would not help because cities are not prepared to manage waste systems," he said. "We have 100 million people who do not benefit from sewage treatment. To bring them into the system, we would need to invest about R$17 billion a year through 2020. In the case of treated water, we are losing 40% in distribution. This is a serious waste." According to Azevedo, the 26 sanitation utilities in Brazil have more expenses than revenue, which suggests poor governance. He recommends instead public-private partnerships.


Felipe Zacari Antunes


Cesar Faccio


Adrianna Charoux

CONSUMERS

Some seminar participants argued adamantly that a major aspect of the PNRS should be to educate society about the need to change consumption patterns. "We already consume one and a half times what the planet can produce and absorb. We are using our ecological overdraft," said Stanislaus Maria. He noted that 76% of the resources extracted globally are consumed by only 16% of the people and gradual improvement in per capita income in developing countries could considerably

IF IT IS PROFITABLE, THERE IS MARKET
Share of selective garbage collection in total recycling, 2008

	Quantity (1,000 tons/year)	Share in total recycling (%)
Metals	9,818	1
Paper	3,828	8
Plastic	962	18
Glass	489	10

Source: Ministry of Environment.

exacerbate the environmental problem. He noted cities where awareness is more advanced. For instance, Copenhagen, Denmark, is building a huge composting plant within the city. "Copenhagen intends to have zero waste by 2016," he said.

To reach this level will entail a huge educational effort, considering that "70% of the population dispose of batteries in the trash, 66% drop medicines in the trash, and 39% discard cooking oil down the water drain," pointed out Felipe Zacari Antunes. Brazilian consumers have not yet felt in their pockets the consequences of their mismanagement of solid waste. In the tire industry, for instance, "unlike Europe, where the cost of disposing of used tires is reflected in a fee paid by the consumer upon purchase of a new tire, here the costs ... must be paid by manufacturers," said Cesar Faccio, whose organization is responsible for recycling the tires manufactured in Brazil.


Fernanda Belizário


Jorge Augusto Rodrigues


Jorge Soto

Adrianna Charoux noted that the PNRS is not clear about the responsibilities of consumers. It is necessary, she said, to establish clearly how to dispose of products and packaging and develop an efficient collection system.

In 2006 Estre, a company that provides landfill management, logistics and waste disposal, and soil remediation, established the Estre Institute, which in partnership with University of São Paulo state offers environmental education programs for schools. It aims to reach 11,000 high school students in 2011.

Fernanda Belizário argued that educating from childhood on transcends environmental concerns; she believes we need to show how in modern society consumption is part of the process of forming each individual.

"We do not talk about garbage; that is pejorative. We look at everything as if it is input, and find a place for it."

Jorge Augusto Belizário

SOCIAL INCLUSION

Can all dumpsites be closed by 2014, as the National Solid Waste Policy requires? Everything will depend on whether the thousands of collectors who work in dumpsites can be brought into the formal market. "Today we have about 600,000 collecting workers working in unhealthy conditions, and they need to participate in the solid waste treatment cycle," Nabil Bonduki said.


Roberto Laureano Rocha

Roberto Laureano Rocha says the National Movement of Recyclable Material Collectors (MNCR) supported the law but still sees many challenges. "The first is to ensure we integrate [collectors in] this process in a dignified manner," he said. Rocha argued that collectors need to be seen as service providers and should participate in discussions on technologies for processing each type of solid waste.

For Werner Grau Neto, the law raises other questions. "There is the issue of handling hazardous waste, which the government has been unable to address with adequate health policies [for affected workers]," he said. "But that implies a liability risk for private companies, and now the courts are inundated with lawsuits by cooperatives against companies."

Henio De Nicola noted that "Strengthening the integration of collectors is desirable. But it is not clear … where funding will come from to invest in collector cooperatives to meet the policy goals," he said. "Today only 7% of all collecting workers are organized in cooperatives." The industry will have to pay to bring collectors into the solid waste treatment cycle.


The appropriate destination of garbage is a problem that affects most Brazilian cities.

Photo: ABr archive.

BUSINESS

Because companies are exposed to public judgment on their environmental practices, the private sector has already taken action. Jorge Augusto Belizário, for instance, said that "We do not talk about garbage; that is pejorative. We look at everything as if it is input, and find a place for it." In the Souza Cruz company, he says, this line of thinking is applied not only to reducing the waste generated, but also to inputs. "For example, our water consumption in 1999 was 8.7 cubic meters of water per thousand cigarettes manufactured; today, it is 2.2 cubic meters,'" he says.


Renato Netto

Renault Freitas de Castro

Henio De Nicola

At the Braskem petrochemical company the commitment to sustainability goes beyond reducing waste. "We encourage the market for recycled plastic by purchasing it," Jorge Soto said; he believes that other large buyers should do the same. Similarly, Renato Neto said that Johnson & Johnson is "concerned to use recycled material, reducing amounts — the packaging for Band Aids now uses 20% less material — and thinking about the life cycle."

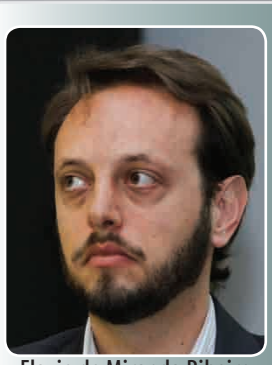
Companies see good business opportunities in recycled waste. "The market for recycling aluminum, for example, is composed of 2,000 companies with revenues exceeding US$600 million," says Renault Freitas Castro.

Henio De Nicola stressed the importance of government incentives to encourage recycling, and gave credit to Brazil. "In the last nine years we have recycled more [aluminum cans] than countries like Japan and Germany. It is a self-sustaining chain that does not depend on subsidies. We do not get tax relief," he said. "That means an aluminum can, whose life cycle is one month, pays the same taxes 12 times in a year."

Flavio Miranda Ribeiro thought that companies in general are showing more interest in their responsibilities. In October, the government received proposals from sectors that the PNRS requires to use reverse logistics related to collecting, disposing or recycling their used products. "We received over 100 proposals. It is an important test to determine the maturity of productive sectors to negotiate aggressive commitments," he said.

Silvano Costa was also optimistic about the prospects for reverse logistics. "The logistics can be carried out through government regulation, statements of commitment, or sectoral agreements. We want to prioritize sectoral agreements," he said.

Ribeiro said that companies realize that their inputs will become increasingly scarce and expensive, so saving resources has value. He saw four major ingredients in the PNRS transformation of Brazil's consumer society: "First, it is recognized that many changes are underway, and other radical ones must happen soon; second, society must mobilize for action and take responsibility; third, there is an unquestionable need for convergence of efforts and policies; and finally, we recognize that environmental education is indispensable."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