April 30, 2018

The Honorable Wilbur Ross
Secretary
U.S. Department of Commerce
1401 Constitution Ave., N.W.
Washington, DC 20230

Dear Secretary Ross:

The Environmental Technologies Trade Advisory Committee (ETTAC) is a federally-established committee whose purpose is to advise on the policies and procedures of the U.S. Government that affect environmental technology exports. In this capacity, we especially appreciate your efforts to promote the export of U.S. environmental goods and services.

The ETTAC recommends that the bilateral discussions between the U.S. and Brazilian governments concerning trade barriers relating to solid waste and other environmental services be resurrected. Those discussions, which included several meetings and communications between U.S. and Brazilian officials, were a component of the U.S.-Brazil Commercial Dialogue. Incorporation of the 2014-2016 ETTAC recommendation to facilitate a series of workshops, address environmental issues and find ways to overcome trade barriers with Brazil would be appreciated. There are significant obstacles to foreign companies providing technical expertise, waste and recycling equipment, and services in Brazil. These obstacles impair Brazil's ability to improve public health and the environment in connection with waste management. Some of these obstacles include:

- Tariff escalation tied to local content requirements
- Tendering practices that favor domestic companies over foreign bidders
- Local certifications and safety approvals that do not recognize international equivalents

The attached Brazilian Solid Waste Toolkit (Toolkit) quantifies the solid waste opportunities in Brazil and contains additional recommendations concerning capacity building and funding for Brazil's enforcement of its National Policy on Solid Waste. **The ETTAC recommends the Toolkit be distributed to the inter-agency Environmental Technologies Working Group (ETWG). The Toolkit format can then be used to identify other countries that have similar needs in the waste management sector, and offer opportunities for American businesses. The ETTAC Waste and Recycling Working Group identified India, Indonesia, and Mexico as other countries that likely provide substantial opportunities for U.S. companies, and recommends that future ETTAC charters consider developing solid waste toolkits for other countries.**

We appreciate the opportunity that ETTAC has been given to provide advice on further growing bilateral trade between the U.S. and other high priority countries, including Brazil. We look forward to further opportunities to be of service.

Sincerely,

Ron Swinko
Chair, ETTAC

Attachment

U.S. Environmental Technologies Trade Advisory Committee — Brazilian Solid Waste Toolkit

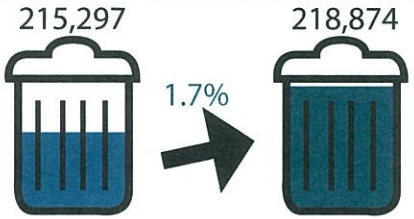
Overview

Brazil is one of the largest countries in the world both in population and size. With a growing population that exceeds 200 million people and more than a dozen cities with at least one million residents, the proper management of solid waste is a critically important environmental and public health issue. Brazil has taken some steps to address certain aspects of its solid waste infrastructure in recent years, but much work remains to be done. There are numerous obstacles that prevent U.S. companies from providing needed goods and services in Brazil. The market for solid waste-related goods and services, including waste collection vehicles, processing equipment, landfill and landfill gas equipment, and environmental and consulting services, is likely measured in the billions of dollars. According to the most recent data, in 2015, the MSW market in Brazil had annual revenue of R$27.5 billion, equivalent to 8.5 billion USD.

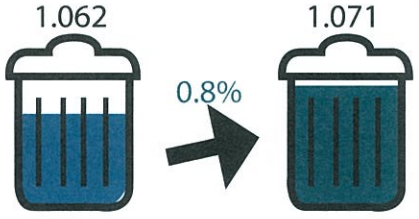
Solid Waste Data

As in many developing countries, accurate and timely solid waste-related data is difficult to obtain. According to the most recent available data from the Panorama of Solid Waste in Brazil 2015,[1] published by the Brazilian Association of Public Cleaning and Waste Management Companies (ABRELPE), Brazil generates approximately 80 million metric tons of MSW per year. According to this report, solid waste generation has increased 12 percent from 2010 to 2015, despite the economic downturn in Brazil in recent years.

Total MSW Generation (t/day)



MSW Generation per Capita (kg/inh/day)



In addition to MSW, municipalities are responsible for other waste streams, which fall under their general responsibility to keep localities clean and protect the environment. The most common examples are healthcare wastes (HCW) and construction and demolition wastes (CDW). According to ABRELPE's Panorama report, the collected amounts in 2014–2015 were:

Type of Waste	HCW	CDW
Total Collected in 2015	260,063 (t/year)	123,721 (t/year)
Per Capita Collected 2015	1.272 (kg/inh/year)	0.605 (hg/inh/day)

According to the Brazilian Ministry of Environment, as of July 2017, only 10 of the 26 states in Brazil had solid waste management plans.[2]

1 http://www.abrelpe.org.br/panorama_apresentacao.cfm

2 http://www.mma.gov.br/cidades-sustentaveis/residuos-solidos/instrumentos-da-politica-de-residuos/item/10611 (accessed July 21, 2017)

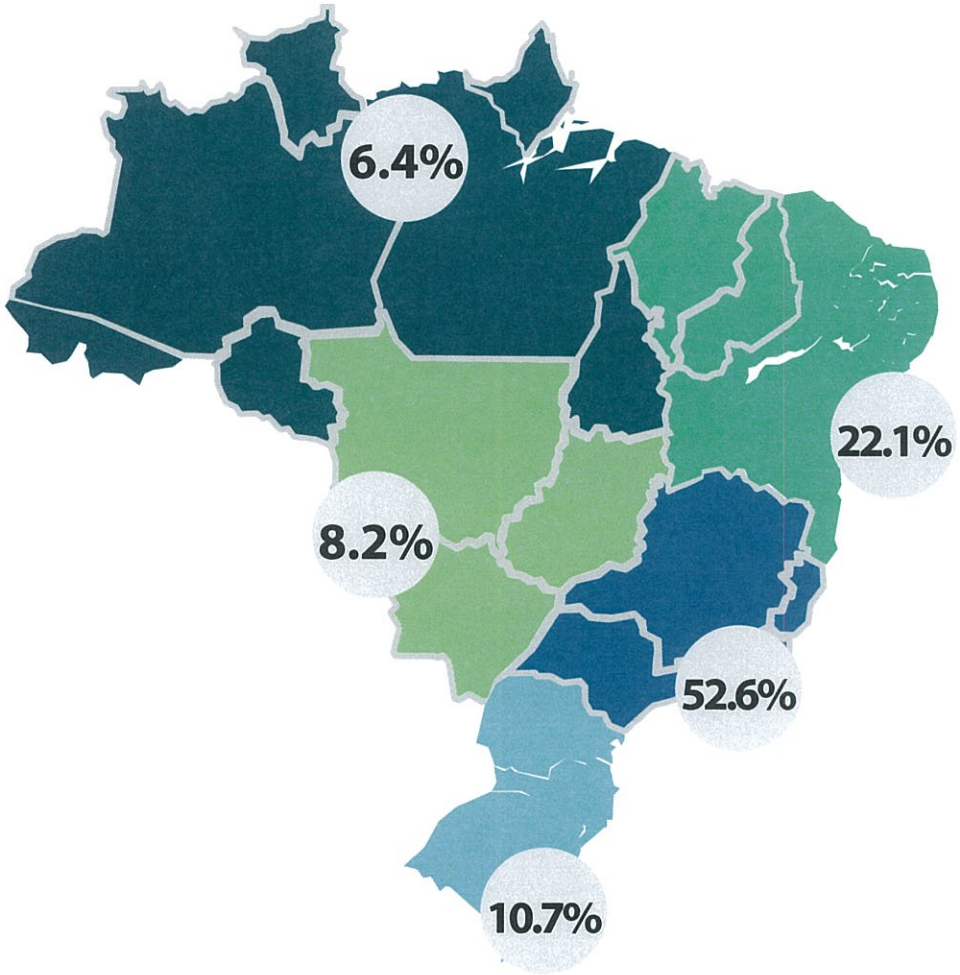
Waste Collection

Waste collection in Brazil is generally performed by private companies, who contract with municipalities to provide service. The U.S. Department of Commerce estimates that 80 percent of solid waste management in Brazil is performed by private sector companies.

The most commonly used system is manual collection and rear load compaction trucks; however there is a growing trend in the most developed cities for automated (containerized) collection, by adding lifters to rear load trucks. Companies are usually contracted by the municipalities to exclusively manage the entire waste management system in a city (collection, transportation, transfer, final disposal, and other related urban cleaning services, such as street sweeping, gardening, etc.).

Automated collection systems in use in Brazil

Waste collection is more concentrated and developed in the southeast part of Brazil and requires some improvements in the North and Northeast regions, and interior of the country.

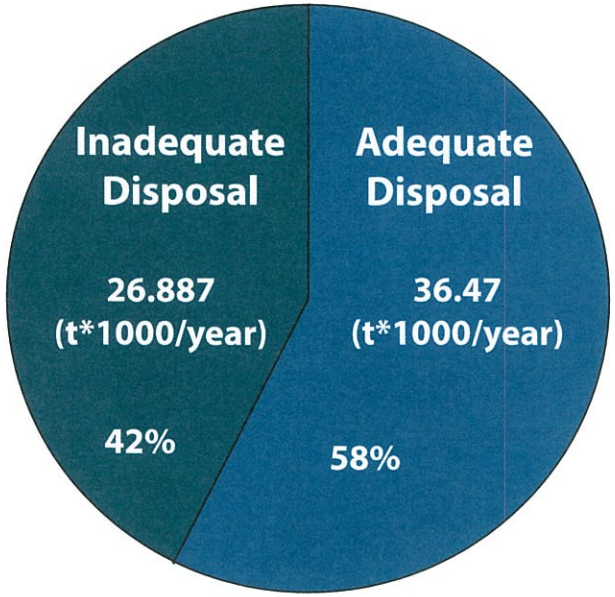


Region	Total MSW Collected in 2015 (t/day)
North	12,692
Northeast	43,894
Midwest	16,217
Southeast	104,631
South	21,316

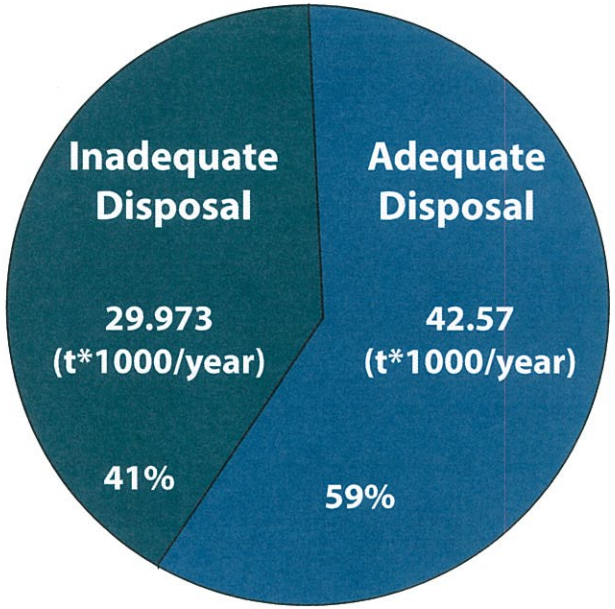
Graphic one: *Designed by Drawnhy97/Freepik*

Waste Disposal

2010



2015



The majority of MSW collected in Brazil is disposed in sanitary landfills (58.7 percent); however around 30 million metric tons are sent every year to one of the more than 3,300 dumpsites and uncontrolled landfills located throughout the country. A substantial amount of solid waste continues to be dumped illegally, and is a common practice in the majority of Brazilian municipalities.

MSW final disposal in Brazil (t/year)

Number of municipalities by type of adopted MSW final disposal site

Final Disposal Type	Number of Municipalities
Sanitary Landfills	2,244
Uncontrolled Landfills	1,774
Open Dumps	1,552

The largest dumpsite in Brazil (Jardim Gramacho in Rio de Janeiro), which once received 9,000 tons per day and supported more than 1,500 rubbish pickers who worked there, closed in 2012. A small number of Brazilian landfills collect landfill gas generated

by decomposition and either flare it or process it into renewable energy. According to the Atlas of GhG Emission and Energy Potential by waste destination in Brazil,[3/4] published by ABRELPE in 2013, there were 21 projects for landfill gas to energy generation in Brazil, with an installed capacity for 254 MW biogas powered generation and potential for an additional 282 megawatts (MW). By comparison, there are about 632 landfills in the United States with landfill gas collection systems, which generate over 2,200 MW of renewable energy, and reduce greenhouse gas (GHG) emissions.[5]

Waste to Energy

There are no waste-to-energy (WTE) facilities currently operating or under construction in Brazil; however, there are several projects requiring environmental permits and there is some interest in evaluating whether WTE could play a role in upgrading the country's solid waste and energy infrastructure.

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3 https://www.globalmethane.org/expo-docs/canada13/msw_05_Silva. pdf

4 http://www.waste.ccacoalition.org/document/atlas-ghg-emission-and-energy-potential-waste-destination-brazil

5 https://www.epa.gov/lmop/basic-information-about-landfill-gas

Recycling

There is increased interest in recycling solid waste in Brazil; however, limited recycling capacity exists except in several of the largest cities. In San Paulo, for example, several recycling facilities have opened recently to sort metal, plastic and paper. In Rio de Janeiro, the system is still under development, and currently relies heavily on the informal sector (*catadores*) and manual sorting plants.

According to ABRELPE, nearly 70 percent of the Brazilian municipalities operate separate collection initiatives for recyclables, which can be either formal curbside collection, drop off centers or informal partnerships with the catadores. Brazil has one of the highest aluminum can recycling rates in the world (over 90 percent). It also has a 63.4 percent recycling rate for "paperboard" and a 51 percent of PET recycling rate. These impressive numbers may be attributed, in part, to the *catadores*, who collect cans, containers and other recyclables, particularly in Brazil's larger cities. It is estimated *catadores* collect up to 90 percent of the materials recycled in Brazil. Some *catadores* are members of local cooperatives that collect recyclables and sell them to industry and recycling companies.

Recent Developments

Brazilian governments at both the national and local levels have high ambitions for improving both environmental policy (including waste) and the day-to-day management of waste and recyclables; however, the fragmentation of enforcement authority among federal, provincial and local entities—coupled with the 2015–2017 economic downturn—has slowed progress. In 2010, Brazil finalized its National Solid Waste Policy, which seeks to improve the sustainability of solid waste management.

After the International Solid Waste Association (ISWA) initiated its efforts to close the 50 biggest dumpsites in the world in 2015–2016, ABRELPE has sought the closure of such dumpsites in Brazil and the reduction of illegal dumping. If these dumpsites remain open, the country will spend USD 7.3 billion to deal with environmental impacts and at least 2.5 billion USD to treat health problems caused by it over the next five years (2017–2021). In January 2017, Brazilian government authorities and ABRELPE announced that the Estrutural dumpsite in Brasilia would close by early 2018. This dumpsite had been identified by ISWA in its campaign to close the world's 50 largest dumpsites. The Landfill , which accepted more than 1,000 tons per day, closed in January 2018. [6]

In late 2015, ABRELPE released a report highlighting the required investments needed to implement adequate final disposal of all MSW generated in Brazil, with a 2023 target date. The amounts are shown on the table below in billions of US dollars:[7]

	CAPEX	OPEX*
Sorting Systems	0.21	2.35
Composting	0.05	0.8
Sanitary Landfills	0.7	0.22
LFG System	1.4	0.25
TOTAL	2.36	3.62

6 https://www.globalmethane.org/expo-docs/canada13/msw_05_Silva.pdf

7 Required annual amount to run the system after completion of the demanded investments

Regulatory/Trade Obstacles

There are significant obstacles to foreign companies providing technical expertise, waste and recycling equipment and services. These obstacles likely contribute to the continued prevalence of illegal dumping, limited recycling and limited investment in solid waste infrastructure, which in turn impairs Brazil's ability to improve public health and the environment surrounding waste management. Examples of such obstacles include:

- Tariff escalation tied to local content requirements
- Tendering practices favor domestic businesses over foreign bidders
- Local certifications and safety approvals do not recognize international equivalents
- Failure to recognize international standards

Recommendations

1. Resurrection of the bilateral discussions between the United States and Brazilian governments concerning trade barriers relating to solid waste and other environmental services.

2. Implementation of the ETTAC Trade Liberalization Subcommittee's recommendation that the U.S. government facilitate a series of workshops under the U.S.-Brazil Commercial Dialogue, specifically focused on solid waste issues.

3. Elimination of regulatory/trade obstacles that prevent American and other foreign providers of waste and recycling goods and services from assisting Brazil.

4. Capacity building by federal, state and local governmental entities in Brazil.

5. Enforcement and increased funding for the 2010 National Policy on Solid Waste.

For Additional Information

2015 Top Markets Report Environmental Technologies, U.S. Department of Commerce, International Trade Administration (July 2015)

2016 Top Markets Report Environmental Technologies Country Case Study – Brazil, U.S. Department of Commerce, International Trade Administration (2016) http://www.trade.gov/topmarkets/pdf/Environmental_Technologies_Brazil.pdf

Municipal Solid Waste Management in Brazil: Conditions, Problems and Solutions, Eduardo Castagnari, ABRELPE President (2015) http://www.iswa.org/uploads/tx_iswaknowledgebase/wm_2005_153paper.pdf

ABREPLE website http://www.abrelpe.org.br/

Solid Waste Association of North America (SWANA) website – www.swana.org

What a Waste: A Global Review of Solid Waste Management, the World Bank (2012) https://openknowledge.worldbank.org/handle/10986/17388

A Roadmap for Closing Waste Dumpsites, International Solid Waste Association (2016)

The Impact of Solid Wastes on the Atmosphere and Coastal Areas of Developing Countries: Issues and Emerging Solutions, Martin Medina (Feb. 11, 2009)