

Waste Management in the LATAM Region

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Waste Management Country Report: Argentina

This paper aims to provide a better understanding of business opportunities for the Netherlands in waste/circular economy sector in Argentina



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ARGENTINA

Country Information

Argentina is famous for its amazing landscapes, from cactus-filled deserts and lofty Andean peaks to deep-blue lakes and verdant forests. Add to that the wonders of the Iguazú Falls and Patagonia. It is the world’s eighth largest country, well known to the Dutch as the birthplace of Queen Máxima.

Argentina is a federation of 23 provinces plus the autonomous city of Buenos Aires (CABA). Together with the surrounding municipalities, the city constitutes the Metropolitan area of Buenos Aires (AMBA). This metropolitan area has a population of 15.8 million, which occupied only 0.4% of the surface of the Argentine Republic and generated almost half of the GDP (48%)^{ix}.

The country is endowed with fertile lands, gas and lithium reserves and has great potential for renewable energy. It is a leading food producer with large-scale agricultural and livestock industries.

The historical volatility of economic growth and the accumulation of institutional obstacles have negatively affected the country’s development. A turning point in economic policies came in 2020 as a result of the change in government and the COVID-19 outbreak. As a response, Argentina has implemented fiscal, monetary and exchange rate policies designed to support the social and productive sectors. As Winston Churchill put it: “Never let a good crisis go to waste”. The aftermath of the COVID-19 pandemic may provide a unique opportunity for a green recovery and a just transition to a circular economy in Argentina.

1. The Waste/CE Market Analysis

1.1 Facts & Figures Waste Generation and Composition

According to the Ministry of Health and Environment, in 2018 Argentina produced almost 14 million tons of Municipal Solid Waste (MSW), or around 0.86 kilograms per person per day. Some 10% was recycled, the remainder was landfilled or improperly disposed of in dumpsites. 50% of the Municipal Solid Waste was organic waste. Fishing industries contributed their fair share of organic waste with 140 kilotons in 2018. 19.7% of Municipal Solid Waste consisted of recyclable materials such as glass, carton and plastics.

Key Indicators	
Size	Argentina is 67 times larger than the Netherlands
Population (2019)	45 million ⁱ
Nominal GDP (2019)	USD 444.4 Billion world rank: 29 ^{thii}
GDP per capita (2019)	USD 23,040 ⁱⁱⁱ
Import from the NL (2018)	USD 27 million ^{iv}
Economic growth (2018)	-2.5% ^v
Ease of doing business rank (2019)	126/180 ^{vi}
Corruption index (2019)	66/198 ^{vii}
Unemployment rate (2019)	9.8% ^{viii}
Currency	Argentinean Peso (ARS)
Time difference NL	-5/-4 hours

There is no data available on the generation of Construction and Demolition (C&D) Waste. In 2018, the total amount of Hazardous Waste was almost 152 kilotons^x. Furthermore, Argentina produced 400 kilotons of Electrical and Electronic Equipment Waste (WEEE) per year^{xi}.

Some waste management data can be found at the national level at the Ministry of Environment and Sustainable Development (MAyDS) and at the metropolitan level in the [Ecological Coordination Society of the State Metropolitan Area \(CEAMSE\)](#). In general, reliable data on the Argentinian waste sector is hard to find. This can be a promising field to bring in Dutch products and expertise.

1.2 Collection and Disposal

1.2.1 Waste Collection

In Argentina, the population is highly concentrated in urban areas (90%). This is why in this report we mainly concentrate on urban waste, with some comments on opportunities in rural waste as well. The concentration in urban areas has a positive impact on the collection coverage which is 99.8%^{xii}. 46% of the collection is carried out by the municipalities, the other 54% is done through subcontracting. CEAMSE is the main waste treatment company in the country and also the operator of landfills. Among other tasks, this organization is responsible for waste management in the Metropolitan Area of Buenos Aires (collection, transport, transfer, treatment and final disposal). In Buenos Aires, big international waste collection companies are also active: Benito Roggio (Cliba), Aesa (Veolia) and Urbasur (Urbaser).

1.2.2 Waste Disposal

According to the Ministry of Environment and Sustainable Development of Argentina, the waste of almost 65% of the population ends up in sanitary landfills. Such landfills are mainly concentrated around the bigger population centers. In regions such as Mesopotamia in the northeast only 15% of Municipal Solid Waste ends up in sanitary landfills. The remainder goes to waste dumps or is dumped illegally, buried etc. Altogether there are some 5,000 waste dumps in the country.

The biggest landfill in South America is located in Buenos Aires. The so called [Complejo Ambiental Norte III](#) is operated by CEAMSE and receives 14,000 tons of garbage a day (about twice the amount of Doña Juana in Bogotá). Assuming the average garbage truck carries a load of 20 tons (in reality it is less), it means that 700 garbage trucks are needed on a daily basis to deliver Buenos Aires's garbage to the landfill. The associated logistics probably do not go unnoticed by the surrounding community. In the city of Buenos Aires, there is no space to create new landfill sites. This creates pressure on the overall system to minimize the generation of waste and divert as much as possible from landfill. Dutch companies can step in with waste prevention strategies, recycling, (possibly) waste to energy, etc.

1.3 Value Chain

1.3.1 Recycling

Traditionally, waste collection for recycling in Argentina has been dominated by the informal sector (also referred to as the “cartoneros”). In the city of Buenos Aires alone, the number of waste pickers is 25,000 and the number of people dependent on these activities is nearly 100,000. Same as in other Latin American countries, there are initiatives to integrate the waste pickers in a more formal system of recycling, but not all waste pickers are interested to join in. At this stage, approximately one third has a formal contract and sells the recyclables to cooperatives of waste pickers. Many of the others sell to private companies and/or on the black-market. It is estimated that 15 cooperatives recover 15% of the solid waste generated in Buenos Aires.

In 2017, the total recycling of plastics in Argentina (domestic, industrial, commercial, agricultural) amounted to 228,000 tons. The recovery industry is as yet underdeveloped, and it is concentrated in metropolitan areas. In Buenos Aires, there are several so-called green points (puntos verdes) installed around the city, where citizens can hand in their recyclables. Unfortunately, the country has not implemented systems of Extended Producer Responsibility (EPR) yet. In this area, Dutch public and private entities could be a major help with a final goal of increasing recycling rates significantly.

1.3.2 Composting

50% of Municipal Waste in Argentina is organic in nature. There are a number of plants for the biological transformation of waste through aerobic composting in different locations. Unfortunately, the project team has not been able to unearth information on the capacities of the plants nor on their performance. In most plants, composting is carried out with minimal equipment and their lifespan tends to be limited. The composting plant with the highest capacity is the one operated by the private company Tecsan Ingenieria Ambiental S.A., in the Norte III Complex in Buenos Aires. It has a capacity of 800 to 1,100 tons per month. In 2010, the compost produced was registered with SENASA (National Service for Agri-food Health and Quality) to be used as a soil improver.

In the Netherlands, separate processing of organic waste from households is mandatory. As a result, and on the basis of experiences in mushroom cultivation, Dutch companies have a long track record in composting techniques. In parallel with technological innovations, it will be important to work on the introduction of composting standards which will help to create a market for the compost.

1.3.3 Waste to Energy

At first glance, the size of the metropolitan area of Buenos Aires and its waste output (15 million people and almost 18,000 tons a day) appear to justify research into the possibility of mass burn incineration plants. Indeed, in September 2019 the Italian company P&W Engineering and Consulting reported that in the period 2016-2017 it carried out studies into the feasibility and preliminary design of one combined MBT and Waste to Energy plant at Buenos Aires Villa 31 (capacity 18,000 tons per year) and another Waste to Energy plant in Buenos Aires Villa Soldati (capacity 930,000 tons per year). However, to date, there is no such plant in Argentina (and not even in South America, for that matter). It would be interesting to know the results of the P&W studies and possibly follow up with an update of the figures. As a result of the application of the Zero Waste Law in the city of Buenos Aires, today landfill gas capture is used to produce electricity in one out of the four existing landfill sites in the province of Buenos Aires. The main source of dry biomass in the country is agriculture (raw agricultural commodity and rice straw). According to a recent study by the National Industrial Technology Institute (INTI), it is estimated that there are 80 biodigesters of different sizes in the country. As an example, the private company Pacuca SA is building three biodigesters that will generate electricity from animal waste.

2. Governance on Waste/CE

2.1 Waste Management

The environmental governance structure in Argentina is based on the distribution of powers among the federal, provincial and municipal governments which was defined in the 1994 constitutional reform. The federal Secretariat of Environment and Sustainable Development (SAyDS) coordinates environmental management functions with the provinces and

municipalities. The municipalities are in charge of the management of Municipal Solid Waste (MSW) in their jurisdiction. This means they are responsible for collecting and disposing of the waste, for setting the rules and levying the waste fees. They also take care of the operation and maintenance of the waste management infrastructure. At the provincial level, this is supported by a series of environmental organizations (ministries, secretariats or agencies) that promote waste prevention and environmental protection in waste management.

At the national level, Argentina has a General Environmental Law (Law 25,675) and a Management of Industrial and Services Waste Law (25,612). In addition, there is the Law on the Management of Domestic Waste (Law 25,916). In 2004, the Argentinean government developed a National Strategy for Integrated MSW Management, ENGIRSU, for the period 2005 to 2025. The main objective of this strategy is to minimize the generation of solid waste and maximize its valorization. This pushed the city of Buenos Aires in 2005 to implement principles from Greenpeace Argentina, as part of the *Ciudad Verde Plan* (Green City Plan), through the so called Zero Waste Law. The principal aim was to reduce the amount of waste ending up in landfills by 75% in 2017. When this was not achieved, the goal was changed into an 80% reduction in 2030. Initially, the law also prohibited waste incineration, but this provision was taken out in 2018.

Argentina has not yet implemented Extended Producer Responsibility (EPR) policies. Furthermore, efficient information management systems and additional economic instruments for sustainable waste management will be required. In Argentina, there are no specific national regulations for Electric and Electronic Waste (WEEE), but certain provinces have taken the initiative to regulate this. In some provinces electric and electronic waste is considered hazardous waste, in others it is not, complicating the management of WEEE at the national level. In 2011 Buenos Aires adopted Law No. 14,321 on the Sustainable Management of Electrical and Electronic Waste. However, this law is still in the process of implementation, due to the low priority given, and the lack of public awareness of the impact of waste (WEEE) on the environment.

2..2 Policy Landscape: Circular Economy

In 2016, Argentina launched its bioeconomy strategy document^{xiii} and in 2018, the Argentinian government co-signed a letter of intent with the Inter-American Institute for Cooperation on Agriculture, which paved the way for the country to become a regional bioeconomy knowledge hub. In 2019, the private sector took the initiative to strive towards the circular economy. The Association for the Study of Solid Waste (ARS), which is a cooperative effort between Argentinian companies and institutions with a desire to manage their waste sustainably, has developed the National Strategy for the Circular Economy. The aim is to pressure the government to improve the regulatory framework to support businesses in transitioning towards circularity^{xiv}.

3. Financial Aspects

The waste sector in Argentina remains underfinanced. The situation is slowly improving, however. Waste pickers are gradually getting acknowledged for their efforts. Currently, municipalities are spending between 15% and 20% of their budgets on waste treatment. These resources come from national or provincial property taxes. Awareness is growing on the need for Extended Producer Responsibility (EPR) schemes, which could pump additional funds into the overall system. In Argentina, circular economy projects which have been funded by the World Bank (WB) and the Latin American Development Bank (CAF) tend to focus on waste management programs. In 2020, the World Bank provided two guarantees to support the Fund for the Development of Renewable Energies (FODER). At the end of 2019, the high level of public debt (equivalent to 89.4% of GDP), it was reported that the persistent balance-of-payments deficit and the lack of access to global capital markets remain obstacles to acquiring international loans for sustainable development and circular economy projects.

4. Stakeholders

In many municipalities, the collection and transport of MSW is mostly carried out by the local government. Hazardous waste and Industrial waste are managed by the private sector. The biggest waste companies in Argentina are [Benito Roggio](#) and Veolia. In addition, Veolia has the biggest market share in collection and

processing of hazardous waste. In Argentina, the main associations in the sector are:

- [CEADS](#)
- [FACyR](#)
- [ARS](#)
- [CAIP](#)
- [AFCP](#)

5. Dutch–Argentinean Cooperation

Being the third investor in Argentina (after the United States and Spain) and Europe’s primary importer of Argentinian goods, the Netherlands plays an important role as international trade partner. This was evidenced by Argentina’s invitation to the Netherlands as guest country during its G20 Presidency in 2018. In March 2017, a number of agreements between Argentina and the Netherlands were signed on agro-logistics, water (governance, sanitation, wastewater treatment, etc.) and port cooperation. This offers a good opportunity for the inclusion of Dutch companies in future Argentinean developments in those sectors.

6. Business Opportunities

In Argentina, business opportunities are abundant in the waste/CE sector. Let’s single out some prominent ones.

6.1 Processing of Organic Waste from Municipal, Industrial and Agricultural Sources

Overall, Argentina lacks knowledge on the production and application of high-quality compost and biogas. This creates many opportunities for Dutch actors to provide knowledge, technology and infrastructure solutions for compost and biogas production. In a country such as Argentina where agriculture is so prominent, there are opportunities in the joint development of circular agriculture systems in which agricultural residues are put to good use as valuable resources. This is an area where the Netherlands is increasingly developing innovative solutions and therefore a promising field of cooperation.

As part of the circular economy strategy and through its so called “RenovAr” Programme, the Argentinean government has promoted the use of biogas. In the period 2015-2020, 80 to 100 biogas projects have been developed. Currently, four provinces lead the generation

of biogas: Buenos Aires, Córdoba, Entre Ríos and Santa Fe. The field is still largely open in the other 19 provinces. Since in Argentina very basic technologies for manure treatment are applied, there are opportunities for Dutch companies with equipment to produce biogas or compost out of animal manure and food residues^{xv}. Regarding the extraction of gas from landfills, the Netherlands has extensive expertise and has developed innovative techniques for more efficient gas extraction.

Another meaningful market-driven opportunity in Argentina lies in the field of new packaging from the plastic waste generated by the agricultural sector and processing techniques as well as control systems for laboratories.

An interesting example of this is the plastics recycling plant of the Argentinean Association of Cooperatives (ACA) in Cañada de Gómez in Santa Fé Province. In this plant, discarded containers and silo bags from the associated cooperatives are processed into new containers and bags for own use and plastic pellets for sale to some 40 industries. In three years of operation, 9,000 tons of plastics were recuperated, which is about half of the volume used in the cooperatives. In purely economic terms, the plant is not yet profitable, but a lot of virgin polyethylene is saved. High end Austrian/German machinery was applied in this case.

6.2 Recycling Technologies, for EPR Packaging, Tires and Waste Electrical and Electronic Equipment (WEEE)

The Dutch value-chain approach with actions from public entities (EPR, green procurement, consumer communication) and private players can be inspirational for Argentina and can help create various markets in a.o. the plastic sector. EPR-systems for tires, WEEE and packaging waste should be implemented (same as in Colombia and Chile) to comply with more ambitious recycling targets.

Equipment suppliers in the Netherlands can offer a broad portfolio of waste separation and recycling plants, both for source separation and single stream recycling systems. These plants can process C&D waste, commercial and Industrial waste, bulky household waste

and plastic packaging waste. This can help to professionalize the waste processing sector in Argentina. As a side benefit, there are circular and regulatory consultancy opportunities. In the circular economy arena, there is scope for collaboration in new business models that keep materials in the loop.

6.3 Processing of Construction and Demolition (C&D) Waste

To date, only the metropolitan area of Buenos Aires has a formal recycling plant for C&D waste. Mid-sized cities will also need local and regional collection and recycling solutions. This will require a rethinking of the business model in the C&D sector. Argentina can benefit from the developments on the Dutch market in the use of secondary materials.

Besides, the construction sector offers opportunities for Dutch companies active in the first phase of the building life cycle. Argentina lacks knowledge on how to close the loop on building materials, starting at the design phase (eco-design). Architects and suppliers of sustainable construction materials can fill this void.

7. Concluding Remarks

Argentina is a fascinating member of the Latin American family of countries. "Never a dull moment", is a way to describe the Argentinean economy. The effects of the April 2018 monetary crisis still persist today, and the COVID-19 situation has not made things any easier. At the same time, Argentina ranks high in technological development in the region, with software development and data science being in the forefront.

In this context, the Argentinean waste and circular economy sector is developing slowly but surely. Dutch suppliers of equipment, services and expertise in waste/CE are advised to make a thorough assessment of available local technologies and approaches, then team up with local players to deliver additional products and services or to develop joint ventures or projects. As indicated in this profile, opportunities abound in the waste and circular economy sector. In addition, Argentina's vast agricultural sector offers a wealth of opportunities to work towards circular agricultur

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