Organic Waste Management and Composting Center

by María Agustina Ferrari / 2021-03-12 14:34:40 / International / 9945 / EN

Year of commitment : 2012
CO2 Impact : The GHG avoidance/reduction of this project is of 101, 144 tons of CO2 equivalent/year. To estimate the amount of GHG avoided by this project, the project implementation scenario was compared with the scenario of disposal of all the organic waste in the l

7 500 000 €

Builder

The City of Buenos Aires

Green energies : Carbon capture
Digital services : Waste
Sustainable mobility : Urban Logistics
Water cycle : Risk management/Resilience
Circular economy and waste management : Circular economy
Biodiversity & Ecosystems : / Ecosystems preservation /

Government

Manager / Dealer

Private company

GENERAL INFORMATION

It has been observed in recent years that the rate of waste generation per capita has significantly increased in the suburbs of the City of Buenos Aires, accompanying an increase in the level of consumption.

Furthermore, organic waste represents about 43.56% of the municipal solid waste that arrives at Transfer Station, leaving a fraction that is difficult to manage due to its properties (odor, pathogens presence and vector attraction, among others); therefore, it is usually discarded and sent to landfill. As it is well known, the impact of burying organic waste in landfills is very high as it has major negative effects such as greenhouse gas emissions, generation of leachate and odors, among others.

Therefore, the Government of the City of Buenos Aires understands that, due to the above aspects, it is essential to implement a robust waste management plan, promoting zero food waste strategies, household composting and implementing different projects that allow the organic fraction to generate a valuable product that can be sold in the market.

In 2014, the Ministry of Public Space and Urban Hygiene started studying the organic fraction generated from different sectors such as supermarkets, gastronomic establishments, schools, hospitals and public buildings, to determine which generator was best to include in the collection route. Currently, the City presents three differentiated collection routes and more than 100 businesses segregate waste in three fractions: organic, recyclable and waste. Furthermore, there are several drop points where citizens can leave their organic waste every Thursday and at the end of the day, the material is collected through these routes.

The organic waste collected is treated in a composting facility, located in the City Recycling Center. This plant consists of three (3) HotRot 3518 in-vessel composting system, each with a capacity of ten tons per day. The shaft is rotated periodically to provide mixing and aeration. Primary aeration is provided by air injection nozzles positioned along the length of the composting system.

In the Recycling Center there is also a pruning waste facility, that process all the forestry waste generated from the public and private sector. The pruning waste is transformed into a chip that is later reused in the local market and in the green public spaces. This facility processes over 18,000 tons per year and the product can be used as chip (mainly), mulch, pellets, briquettes or structuring material for the composting facility located in this Center.

In addition, it is important to mention that the organic waste management plan contemplates three in situ composting centers that process green waste generated from the maintenance of all the green parks. These centers treat mainly grass cutting, leaves, small branches, flowers, among others and uses a windrow composting process. All the compost generated in these centers is then used by the Government in the green spaces, promoting circular economy and efficient systems of waste reduction. The capacity of the centers is up to 25 tons per day.

Finally, since 2012, the Government of the City of Buenos Aires has a Mechanical and Biological Treatment facility located near the landfill that processes over 1,250 tons per day of household waste. This facility aims to treat most of the organic waste through a composting process, promoting greenhouse gas reduction.

By implementing all these measures, the Government of the City of Buenos Aires aims to reduce the amount of greenhouse gas emissions, as most of the treatments implemented are composting processes. Furthermore, by promoting zero food waste (waste reduction) and in situ treatment, the amount of fossil fuels required for transport is reduced and therefore, the amount of greenhouse gasses generated.

Progress Status

Delivered

Data Reliability

Self-declared

Funding Type

Public

Website Enterprise / Infrastructure

https://www.buenosaires.gob.ar/ciudadverde/disfruta-la-ciudad/centro-de-reciclaje
https://www.buenosaires.gob.ar/ciudadverde/noticias/la-ciudad-tiene-3-centros-de-compostaje-en-palermo-chacarita-y-lugano
https://www.buenosaires.gob.ar/alimentos

Sustainable Development

Attractiveness :

The organic waste management plan of the Government of the City of Buenos Aires is a community-wide benefit project as its main objective is to grant citizens with a healthy and environmentally friendly city.

This is possible through constant education and training in environmental awareness, since its

success is related to correct source segregation, being citizens the main actors in this regard.

Among the main projects and programs granted to citizens are:

- Zero Food Waste Program.
- Household composting Workshops.
- Household composting Guide and videos (free and accessible to any citizen from the Ministry main page).
- More than 300 composters were delivered to schools and residents of the City.

On the other hand, regarding the differentiated collection route for organic waste, it is important to mention that there is a great deal of work being done with both, private and public sectors. In this way, different companies - such as shopping malls, supermarkets, restaurants, bars, among others – and the public sector are committed to taking responsibility for their organic waste and segregating this fraction.

Moreover, there is a great deal of work being developed in vulnerable areas in the City of Buenos Aires. For instance, all organic waste generated from the gastronomic fair in the vulnerable area Rodrigo Bueno, is source separated, gathered and collected in a different way. In the same way, there is a great work being developed with the McKinsey organization and Barrio 31, where household organic waste is source separated, gathered and collected in a different way. Finally, the organic waste generated in different urban recyclers' cooperatives is source separated and three times a week this material is collected through one of the differentiated organic waste routes.

Well Being :

By implementing the organic waste management plan, the Government of the City of Buenos Aires has reduced greenhouse gas emissions, diverted organic waste from landfill, reduced costs regarding landfill disposal and promoted circular economy and cultural change. In this way, a great deal of work has been done with users and stakeholders, granting citizens a healthy and environmentally friendly city.

Social Cohesion :

Regarding social cohesion, the strategic organic waste management plan incorporates different strategies, such as:
(1) zero food waste promotion, with public information regarding how to reduce the amount of food being wasted;
(2) household composting workshops, community composting and a household composting guide for public use; and, finally,
(3) several treatment facilities, where citizens, children, non-governmental organizations and public representatives can learn about the importance of source segregation, household composting, food recovery and recycling.

Preservation / Environmental Improvement :

Diverting the organic fraction from landfill helps to reduce the impacts associated to greenhouse gas emissions, ground and surface water contamination, since it serves as the breeding ground for many vectors which lead to the proliferation of vector-borne diseases,

loss of the economic value of the land, loss of biodiversity, NYMBY effect, among many others.

By implementing an organic waste management plan, the Government not only promotes the strategic reduction of organic waste, but also the valorization of the products as well as the implementation of circular economy models. Therefore, the Government of the City of Buenos Aires states that the best waste is the one that is not generated.

Resilience :

The Government City of Buenos Aires has a Climate Change Action Plan which was developed with C40 team, it aims to reduce greenhouse gas emissions and, therefore, the amount of organic waste sent to landfill.

This Plan requires (1) increasing the capacity of the actual organic waste facilities - for instance, by incorporating a fourth green waste composting center; (2) generating new organic waste collection routes and treatment facilities; and (3) incorporating new organic waste reduction strategies. However, there are still many limitations regarding which technology is the most cost-effective (technically and economically), and how to open new commercial markets to make the whole management plan more sustainable.

Responsible use of resources :

The implementation of this organic waste management plan allows the Government of Buenos Aires not only to comply with local regulations on waste management and zero waste disposal by 2030, but also to show citizens the importance of source segregation and responsible consumption. The Zero Food Waste Program and the different waste treatment facilities are great examples of how strategic projects can help to reduce the amount of waste sent to landfill. It is important to mention that most of facilities are visited by schools, universities and public workers to show how small actions can make great changes.

Also, thanks to the experience of the City of Buenos Aires, in 2019 the Argentinian Government modified regulations regarding compost generated from municipal solid waste (Resolution N°1/2019 – Secretaria de Control y Monitoreo Ambiental – SENASA). Nowadays, if the compost comes from a differentiated collection route and complies with technical regulations, it can be registered at the national authority (SENASA) to be later agronomically used and sold.

Testimony / Feedback

https://www.ccacoalition.org/en/news/trash-could-be-wasted-opportunity%E2%80%94-or-key-achieving-global-sustainable-development-goals

https://c40-production-images.s3.amazonaws.com/good_practice_briefings/images/9_C40_GPG_SSWS.original.pdf?1456789082

Governance

The City of Buenos Aires Government

Holder Type : Regional Authority

The City of Buenos Aires Government

Builder Type : Construction Industry

Private company

Manager / Dealer Type : Private

The Government of the City Of Buenos Aires has formal contracts with each of the companies that operate in the different centers, which are accessible in the electronic files and published in the Official Gazette.

Private companies, such as, CUNUMI S.A. for the organic and pruning waste facility in the Recycling Center and BENITO ROGGIO E HIJOS S.A. – TECSAN INGENERÍA AMBINETAL S.A. – UNIÓN TRANISTORIA DE EMPRESAS for the Mechanical and Biological Treatment Facilities.

Business Model :

As mentioned above, the funding comes from citizen contributions.

However, it is important to mention that there are some economic benefits for implementing an organic waste management plan.

The first one is associated with landfill diversion. Promoting zero food waste and *in situ* organic waste treatment centers generates direct savings associated with: (a) transport from the place of generation to Transfer Station; (b) transport from Transfer Station to landfill (30 kilometers); and, (c) landfill disposal - including, costs for leachate and gas treatment.

This savings can be computed in economic terms (fossil fuels consumption, human resources, machinery requirements, among others), as well as in environmental terms (avoiding environmental degradation, loss of land value and carbon credits).

The second is associated with the valuable products that are generated in the facilities. For instance, it is important to mention that every ton of organic waste being processed in the composting centers has a direct economic benefit, as it is a product that is later reused by the Government City of Buenos Aires as compost in green parks.

Holder Type : Regional Authority

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Sustainable Solutions

Buenos Aires Organic Waste Management Plan

Description :

In terms of an innovative sustainable solution, the Government of the City of Buenos Aires implemented the organic waste strategy mainly as a way to address the landfill problem and to comply with the Zero Waste Law. However, this plan was implemented in compliance with the main international waste principles, such as waste management hierarchy, resource efficiency, implementation of complementary technologies, promotion of proximity between generation and treatment, among others. This was developed thanks to the experience of several years learning on how to manage each fraction, such as food waste, green garden, forestry waste, mixed waste, among others. The progressiveness of the plan has helped local authorities to learn that when organic waste is properly managed, it becomes a valuable resource (such as compost). Moreover, it also helps to demonstrate other municipalities how small or big scale projects can be implemented and tackle the organic issue.

Finally, the organic waste management plan incorporates the public and private sector; and empowers those traditionally underrepresented groups.

The companies websites are:

- EVA S.A. **(http://www.evasa.com.ar/)**
- **HIDROCOMP**

CO2 Impact : 101,14

- Urban project governance
- Low-carbon materials/ infrastructure

Company (es) Website :

Photo credit

Government of the City of Buenos Aires

Contest

Building candidate in the category

Sustainable Infrastructure Grand Prize

Date Export : 20230330005333