

RESIDUAL WATER TREATMENT PLANT

The ECOTEC University is located in Samborondón City, in Guayas province in Ecuador. ECOTEC has a residual water treatment plant, built on 2020, which treats the subsequent waters from the sinks and sanitary facilities of all the campus, under strict environmental surveillance. The city of Samborondón is supplied with water by the state company AMAGUA, which treats the water of the Daule river, located on the neighboring city Daule, to supply the demand of water of Samborondón, Guayaquil and Daule.



In Samborondón the water consumption yearly rate per capita is 48 m^3 ; since the Samborondón city has a population over 100 000 habitants, the consumption of water is about 4.8 million m^3 of water per year.

This consumed water is disposed by sinks, sanitary facilities, showers and others and it's directed through the sewage to the Tarifa Residual Water Treatment Plant with a capacity of 40 liters per second or 52 560 m^3 a year, the treated water is downloaded to the Babahoyo River; however, the capacity of treatment of the Tarifa water treatment plant is below the total estimated download of the Samborondon population.

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Furthermore, Samborondon had on 2012 a green area index of 5.94 m^2 per capita of 2012, almost 270 127,44 m^2 of green area that needed to be watered on a daily basis, which is done with a provider that uses tank trucks filled with water, that comes from the public service, for this purpose.

This increases the water footprint of the city. Due to this background, ECOTEC university aware and committed with the environment, build its water treatment plant, which has two phases of operation.

Phase 1

The plant treats the domestic water download with high quality equipment and physic and chemical processes with international endorsement.

Phase 2

The plant uses the treated water for irrigation of the campus green areas.

Since the plant is designed for a capacity of 8000 daily people the treated water will surpass the demand needed on campus for irrigation; which is why this project will also benefit Samborondon by exporting the treated water to be used as a resource for the city's green area irrigation plan, reducing both the water footprint and demand sent to the Tarifa water treatment plant, consequently reducing the environmental impact of the city.



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This program also aims to create a sustainability culture on the students, by making them a part of the sustainability program, through the following complementary activities:

- sustainable information dissemination,
- transversal sustainability subjects on the career pensum
- sustainability aimed degree thesis
- informational flash
- sustainability campaigns
- and others

In this way and throughout other projects, that complement the actives that the students perform, the University ensures that their students foster the SGD's, empowering in them the drive to seek the sustainable solutions to social problems.

With this background, the University makes a positive impact on society and the students; while attending directly to the SGD's "6 Clean water and sanitation", "11 Sustainable cities and communities" and 13" Climate action"

PROGRAM IMPACT AND SUCCESS

The program success and impact are measured in the scale of treated and irrigated water.

The plant is treating 100% of the water download of the institution, and is ready to move to phase 2.

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SDG IMPACT

The program addresses the following SDGs

GOAL 6: Clean Water and Sanitation

GOAL 11: Sustainable Cities and Communities

GOAL 13: Climate Action



LOOKING FORWARD

According to the strategic objective of the project the water treatment plant by the year 2026 is to irrigate 100% of the green areas on the university and the surplus to be used as a resources by the local Government for its green areas irrigation plan.

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