

## BEST PRACTICES AND TECHNOLOGIES

Reducing our Water Footprint

El Agua Nos Une – SuizAgua América Latina

# Colcafé

## Wastewater Treatment Plant Colcafé S.A.S

SDG: 6.3. Water Quality  
7.2. Renewable Energy



### Company / Implementor

Colcafé S.A.S.

### Sector:

ISIC 1062. Coffee decaffeination, roasting and grinding

### Location:

Medellín, Antioquia 6.200596, -75.581717

Update: 22 Jan. 2018



### Results

- The operation of the wastewater treatment plant is expected to achieve a reduction of at least **11,500 mg/L** in the COD.
- We expect to replace a fraction of natural gas by biogas generated during the methanation process and the sludge generated during treatment.



### Other benefits

- Economic savings derived from the use of biogas and dewatered sludge as a biofuel in the boilers.
- Reduction in income taxes obtained as a result of bid 769 issued by Colciencias. We expect to achieve savings equivalent to **USD 147,138.56** in 2017 and **USD 166,666.67** in 2018 in income taxes.



### Supplier Information

**Supplier:** Biotecs Ingeniería de Tratamiento de Aguas Ltda.  
**Contact Information:** [www.biotecs.com.br](http://www.biotecs.com.br), [biotecs@biomax.com.co](mailto:biotecs@biomax.com.co).  
Parent located in Brazil and affiliates and/or associates in more than 20 countries worldwide, including Colombia.



### Implementing Company

**Company in charge of implementing the solution:** Colcafé S.A.S  
**Contact Information:** Hugo Andrés Santamaría.  
**E-mail:** [hsantamaria@colcafe.com.co](mailto:hsantamaria@colcafe.com.co)



### Description

Transformation of the wastewater pre-treatment plant into a non-domestic wastewater treatment plant with the following single processes: screening, homogenization, pH adjustment, flotation-coagulation-sedimentation, hydrolysis, methanation, aeration and filtration. The plant will have an odor control system for hydrolysis, methanation and sludge dewatering processes.

Biogas and dewatered sludge are expected to be used as biofuels to reduce the consumption of natural gas. Eventually, depending on the quality of the waste, it could be used in some of the plant's activities/processes.

This plant is being built in the space of the old plant, which is being operated while progress is being made in the construction of the new plant. The location of the new equipment requires the construction of a 25 m high metallic structure with four slabs each measuring 96.8 m<sup>2</sup> and 4.5 m in height.



Vertical Wastewater treatment Plant



### Investment and Operating Costs

**Investment Costs:** USD 2,089,910, with an execution in 2017 of USD 1,406,152.

**Operating Costs:** USD3 to 4 per cubic meter treated, which represented an increase between 1.5 and 2 USD/m<sup>3</sup>, compared to the previous treatment.



### Recommendations and Limiting Factors

- Given the characteristics and concentrations of pollutant loads in wastewater generated during the production process, it is necessary to apply advanced technology which in some cases is not available in the national market.
- Complex and lengthy technology/supplier selection process that took more than a year and generated cost overruns, delays and expiration of terms.
- The space for the construction/installation of the new plant is small.