

BEST PRACTICES AND TECHNOLOGIES

Reducing our Water Footprint

El Agua Nos Une – SuizAgua América Latina



Change of technology in the air-conditioning system

SDG: 7.3 Energy Efficiency



Company / implementer

Universidad Autónoma de Occidente

Sector:

ISIC 8030 Higher education

Location:

Cali, Valle del Cauca- Colombia 3°21'14" N 76°31'22" O

Update: 01 Feb. 2018



Results

- Savings in energy from one technology to the other amount to approximately 50%, and in relation to the campus' total energy consumption, it amounts to **8%**.
- Savings in energy after modernizing the cooling plant of the central building will be equivalent to **540'000Kwh/Year**.



Other benefits

- Savings in relation to the system's energy consumption of approximately **COP\$215,000,000/year**.
- Greater efficiency and comfort.
- Return on investment in eight years, but can be reduced to five with new AC automation projects.
- These pieces of equipment use less space in a more effective manner, **180 m²** instead of **250 m²**.



Supplier References

Supplier: Calidare, y Omega Ingenieros.

Contact Information: omegaingenieros.com
omegaingenieros@omegaingenieros.com -Tel: (+57-2) 8835779 -
8836438 – 6804945. Offices in Cali, Cartagena and Bogotá (Colombia)
Calidare: (57) 2 6835330. Offices in Cali (Colombia)



Implementing Company

Company in charge of implementing the solution: Universidad Autónoma de Occidente

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Description

The project consisted of the modernization of the cooling plant of the central building by replacing the two condensed air chillers with two condensed water chillers, which are considered more energy efficient.



Investment and Operating Costs

Investment Costs: USD 500,000

Operating Costs: Human resources for the maintenance and operation of cooling systems.

Useful Life: 20 years



Recommendations and Limiting Factors

- Increase in noise levels, which was mitigated with the installation of modular acoustic panels on the ceiling and walls.
- The use of water for the operation of the condensed water chillers has increased by **8%**. The water is treated by the University.



Cases of Application

N/A



References

Information provided by the University:
<http://uao.edu.co/wp-signup.php?new=www.campusostenible.org>
<http://www.uao.edu.co/investigacion/inicio>