

## Brazilian University Gets Zero Energy Consumption Building

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USP (University of São Paulo), Brazil's most renowned university, which is financed by the São Paulo state, has just launched the official project of the Center of Studies on Climate and Sustainable Environments (Cecas), the first environmentally sustainable building in the Armando de Salles Oliveira University City, where the university is headquartered, in São Paulo.

The new building is planned to have zero consumption of energy, reduced environmental impact and should also be part of multidisciplinary research by several units at USP. The center should house the Theme Network on Global Change, the Center for Earth Science and the Environment and the Laboratory of Sustainable Models for Constructions.

According to information provided by the press department at USP, it is a model building, with three floors and an area of 6,000 square meters (64,583 square feet), which was planned to generate all the electric energy to be consumed in the phase of usage and operation through the installation of advanced technologies in the international market. The building should also contemplate projects turned to sustainability and reduced environmental impact.

In the launching ceremony, the USP chancellor, Suely Vilela, announced investment of 5 million Brazilian reais (US\$ 2.1 million) in the new building.

"Congregating the USP Theme Network on Climate Change, the Laboratory for Sustainable Models for Constructions and the Center for Earth Science and the Center of Studies on Climate and Sustainable Environments contributes expressively to the discussion of the strategic theme not just for the country but also for the world," she pointed out.

To the director of the Astronomy, Geophysics and Atmospheric Science Institute (IAG), Márcia Ernesto, the "center represents multidisciplinary and integrates several research groups of the university in different areas of knowledge. Whatever the routes followed, this convergence of ideals resulted in a grand, innovative and model project for the University of São Paulo," she explained.

According to the deputy director of the College of Architecture and Urbanism (FAU) of the USP who is also the project director, Marcelo de Andrade Romero, three basic proposition were considered during the construction of the new building in the campus: maximization of the architecture relations versus climate, as a way to reduce the future energy consumption (passive solar technology); the use of active technologies with low energy consumption and the implementation of initiatives turned to sustainability and reduced environmental impact during the phases of construction, usage and operation of the building.

The forecasts, among other aspects, include control of solar radiation by means of automated external protection against solar rays, optimization of natural lighting and shelves of light, natural ventilation with automated control, solar air conditioning at the auditorium and employees room, ground air cooling, collection of rainwater for reuse in toilets and

garden irrigation, flat-plate solar collectors for water heating in showers and sinks, as well as use of building material with recycled contents.

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