

## Act Local, Think Global: Superior Institute of Engineering of Porto Campaign for a Sustainable Campus

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**Abstract :** Act Local, Think Global is the name of a campaign implemented at Superior Institute of Engineering of Porto (ISEP), one of schools of Polytechnic of Porto, with the main objective of increase the sustainability of the campus. ISEP has a campus with 52.000 m<sup>2</sup> and more than 7.000 students. The campaign started in 2019 and the results are very clear. In 2019 only 16% of the waste created in the campus was correctly separate for recycling and now almost 50% of waste goes to the correct waste container. Actions to reduce the energy consumption were implemented with significantly results. One of the major problems in the campus are the water leaks. To solve this problem was implemented a methodology for water monitoring during the night, a period of time where consumptions are normally low. If water consumption in the period is higher than a determinate value it may mean a water leak and an alarm is created to the maintenance teams. In terms of energy savings, some measurements were implemented to create savings in energy consumption and in equivalent CO<sub>2</sub> produced. In order to reduce the use of plastics in the campus, was implemented the prohibition of selling 33 cl plastic water bottles and in collaboration with the students association all meals served in the restaurants changed the water plastic bottle for a glass that can be refilled with water in the water dispensers. This measures created a reduction of use of more than 75.000 plastic bottles per year. In parallel was implemented the ISEP water glass bottle to be used in all scientific meetings and events. Has a way of involving all community in sustainability issues was developed and implemented a vertical garden in aquaponic system. In 2019, the first vertical garden without soil was installed inside a large campus building. The system occupies the entire exterior façade (3 floors) of the entrance to ISEP's G building. On each of these floors there is a planter with 42 positions available for plants. Lettuces, strawberries, peppers are examples of some vegetable produced that can be collected by the entire community. Associated to the vertical garden was developed a monitoring system were some parameters of the system are monitored. This project is under development because it will work in a stand-alone energy feeding, with the use of photovoltaic panels for production of energy necessities. All the system was, and still is, developed by students and teachers and is used in class projects of some ISEP courses. These and others measures implemented in the campus, will be more developed in the full paper, as well as all the results obtained, allowed ISEP to be the first Portuguese high school to obtain the certification "Coração Verde" (Green Heart), awarded by LIPOR, a Portuguese company with the mission of transform waste into new resources through the implementation of innovative and circular practices, generating and sharing value.

**Keywords :** aquaponics, energy efficiency, recycling, sustainability, waste separation

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