

## Template for Evidence(s)

### UI GreenMetric Questionnaire

University : IFSULDEMINAS  
Country : BRAZIL  
Web Address : <https://www.ifsuldeminas.edu.br/index.php>

#### [5] Transportation (TR)

##### [5.9] Zero Emission Vehicles (ZEV) Policy on Campus



Figure 1: Passos Campus bicycle rack built with tires.



Figure 2: Poços de Caldas Campus cycle tour.



Figure 3: Machado Campus bicycles available for free.



Figure 4: Machado Campus new road junction with cycle way.



Figure 5: Inconfidentes Campus bicycle rack.



Figure 6: Pouso Alegre Campus bike group.



Figure 7: Rectory bicycle rack.



Figure 8: Rectory electric wheelchair.



Figure 9: Poços de Caldas Campus electric vehicle - Electric Mobility Project.



Figure 10: Poços de Caldas Campus electric vehicle and vehicle charger.



Figure 11: Poços de Caldas Campus electric bikes.



Figure 12: Poços de Caldas Campus electric bicycles rack.

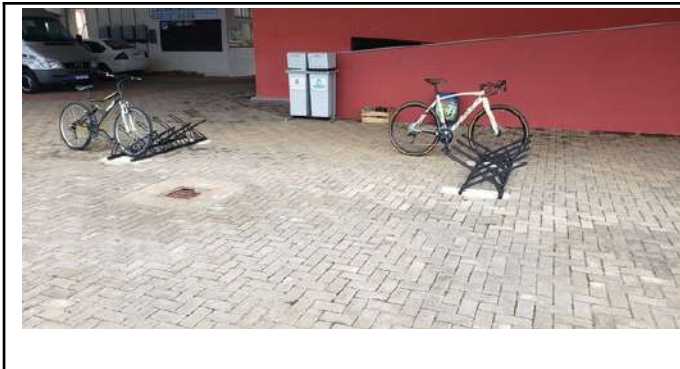


Figure 13: Poços de Caldas Campus bicycle rack.



Figure 14: Inconfidentes Campus bicycle rack.

## Description

### Figure 1: Campus Passos bicycle rack built with tires

The students of IFSULDEMINAS - Campus Passos has a sustainable bike rack, made with used tires and with capacity for up to 10 bikes. Available at: [https://www.pas.ifsuldeminas.edu.br/index.php?option=com\\_content&view=article&id=994:logistica-sustentavel&catid=34:noticias&Itemid=58](https://www.pas.ifsuldeminas.edu.br/index.php?option=com_content&view=article&id=994:logistica-sustentavel&catid=34:noticias&Itemid=58).

### Figure 2: Campus Poços de Caldas cycle tour

More than 120 cyclists from Poços de Caldas and the region participated in the cycle tour "De Bike em Poços", a sports event that allied environmental awareness and solidarity, whose participation was made by donating 1 liter of milk. The activity was organized by a student association of IFSULDEMINAS – Campus Poços de Caldas. Available at: [https://pcs.ifsuldeminas.edu.br/index.php?option=com\\_content&view=article&id=3129:de-bike-pocos&catid=34:geral&Itemid=58](https://pcs.ifsuldeminas.edu.br/index.php?option=com_content&view=article&id=3129:de-bike-pocos&catid=34:geral&Itemid=58).

### Figure 3: Campus Machado bicycles available for free

IFSULDEMINAS – Campus Machado has set up a bike rack for use by the entire academic community. The project started in 2017, with the realization of the bicycle paths. Now, with the arrival of 10 bikes and safety equipment, a pilot unit was established in front of the cooperative. In the future, the intention is for new units to be started. Available at: <https://www.mch.ifsuldeminas.edu.br/noticias/170-2018-01-08-12-12-08/4813-2018-07-06-14-00-19>.

### Figure 4: Campus Machado new road junction with cycle way

The new road junction of access to Campus Machado is located at Rodovia Machado - Paraguaçu, km 3. The new entrance will bring more security, comfort and agility to the more than three thousand people who transit the institution daily. The access road to the Campus has been signposted, illuminated, has landscaping and bike way. Available at: <https://portal.mch.ifsuldeminas.edu.br/index.php/noticias/2012-novo-trevo>.

### Figure 6: Campus Pouso Alegre bike group

A small group of servers from IFSULDEMINAS – Campus Pouso Alegre, that every day attracts new fans, discovered the bike as a form of leisure, sports, transportation and to ease the stress of the daily work routine. Available at: <https://portal.poa.ifsuldeminas.edu.br/noticias/rodas-da-liberdade>.

### Figures 9 to 12: Poços de Caldas Campus Electric Mobility Project

The R&D project entitled "Intelligent efficiency system, quality monitoring of generated and stored energy, regulatory and financial impact on the implementation of electric mobility", which for the purposes of dissemination and marketing was called Poços + Inteligente: A new way of life . It was approved in Strategic Call nº 22/2018 - Development of EEEL Electric Mobility Solutions with a budget of R \$ 2,671,562.05 reais, resources from DME Distribuição S / A - DMED and DME Energética S / A - DMEE (DMED acting as a proposing company and DMEE as a cooperating company, respectively). The executing institutions of the project are the Pontifical Catholic University of Minas Gerais (PUC) Campus Poços De Caldas and the Federal Institute of Education, Science and Technology of the South of Minas Gerais (IFSULDEMINAS) campus Poços de Caldas, in addition to the partner companies ABB, Alba and Maze.

The project, which is expected to last three years, officially started in December 2019, and aims to implement and develop a structure and shared laboratory for research on electric mobility, as well as the development of research and commercial hardware and software solutions for electric mobility .

Within the structure that will be implemented in the city of Poços de Caldas, we can highlight the implantation

of three vehicle chargers (one with AC slow charge, one with DC semi-fast charge, and one with AC and DC fast charge). The acquisition of an electric car, 30 electric bicycles, three bike racks with electronic locking and the setting up of a shared research laboratory (PUC - IFSULDEMINAS - DME) in electric mobility, with photovoltaic generation and stationary batteries.

The project has several lines of action, with research and development of the entire mobility system, with an application for sharing and managing the car and bicycles integrated with the DME charging system. Research and traceability, including the development of intelligent hardware based on artificial intelligence for the electric car. Studies of the impacts of loads and sources in the DME distribution network and proposals for regulatory changes, among others.

Source: Prof. Dr. Yull Heilordt Henao Roa - Project's Coordinator.

**Figures 9 to 12: A pioneering project in the region in electric mobility starts in Poços de Caldas**

The initiative has the participation of DME, City Hall, PUC Minas and IFSULDEMINAS, with approval by ANEEL and the involvement of more than 30 researchers. Available at: <https://portal.pcs.ifsuldeminas.edu.br/engenharia-da-computacao/3246-projeto-pocos-mais-inteligente-inicio-fevereiro-2021>.