

'LUZ DO SABER' PROJECT- ENERGY EFFICIENCY AND GENERATED DISTRIBUTION IN SCHOOLS

Porto Alegre, Brazil

Contributing to the implementation of the Paris Agreement

In 2017, Brazil reached a new milestone in installed capacity of photovoltaic solar energy, reaching 7.8 GW of installed capacity, adding centralized generation (3.2 GW) and distributed generation (4.6) GW. Brazil's Nationally Determined Contribution (NDC) aims to include 23% of other renewable energy sources in its energy matrix, resulting in 10% efficiency gains in the electricity sector by 2030.

'Light of Knowledge' Project

In cooperation with FELICITY, the city of *Porto Alegre* – capital of *Rio Grande do Sul* state, in Brazil - developed the '*Luz do Saber*' Project, which foresees the installation of photovoltaic (PV) panels in municipal schools and energy efficiency measures in 98 schools in the city.

The project aims to save energy, mitigate Greenhouse Gas (GHG) emissions, improve thermal comfort inside buildings and reduce electricity costs. In addition to the annual energy cost savings of municipal schools, the excess energy produced by the solar panels will be redistributed to the grid. With investments of approximately 25 million reais, the project will reduce electricity consumption by 3,422,229 kWh per year, equivalent to a reduction of 300 ton. CO₂eq. per year or 4.500 ton. CO₂eq. in 15 years, and savings of

approximately 2.6 million reais in the first year. It is estimated that 64 jobs will be created, contributing to the city's green economic recovery.

The project is coordinated by the Resilience Coordination of the Municipal Department of Local Governance of Porto Alegre (SMGOV), and counts with the engagement of the Project's beneficiary, the Municipal Department of Education (SMED), and the Municipal Department of Finance (SMF). The national partner in the implementation of the "Luz do Saber Project" is the Ministry of Mines and Energy (MME), through the Department of Energy Development (DDE).



FELICITY in a nutshell

FELICITY, Financing Energy for Low-carbon Investment, is an initiative of GIZ and the European Investment Bank to support urban projects expected to reduce greenhouse gas emissions with significant sustainable economic development benefits for cities. As a project preparation facility, FELICITY offers technical assistance to cities in designing and structuring their low-carbon infrastructure investment projects. To this end, it prioritizes the interest of cities and incorporates the perspective of international financiers.

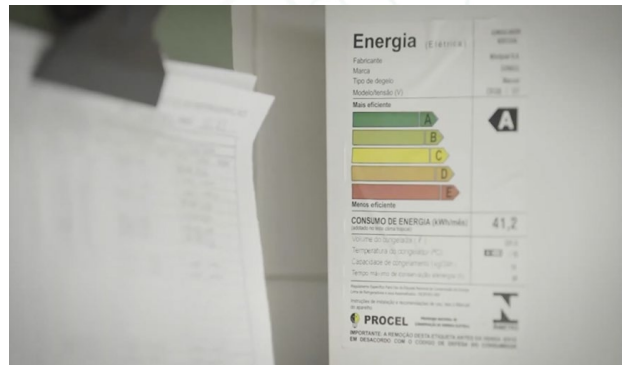


FELICITY Cooperation

A transversal team of national and international consultants and experts was mobilized to support Porto Alegre in the preparation of the Luz do Saber project, which involved carrying out energy audits in the 98 municipal public schools, preparing the basic project, defining baselines, modeling of energy generation potential of photovoltaic installations, assessment of energy efficiency measures, calculation of GHG emission reduction potentials, analysis of environmental and social risks, gender analysis, in addition to financial and economic analyzes to support bidding procedures and procurement plans.

Since 2018, FELICITY has trained 255 professionals in Porto Alegre, including civil servants from the city hall, school directors, teachers, and school staff. The project will be implemented with resources allocated by the Municipal Department of Education.

Faced with the potential of the 'Luz do Saber project', the municipality of Porto Alegre decided to extend its ambitions and expand the initiative (scale-up) to other public buildings in the city, which will receive equipment to improve energy efficiency and develop generation capacity of photovoltaic solar energy. This stage is under development, and the FELICITY Project supports the preparation of an Expression of Interest Procedure (PMI) that will result in the structuring of a Public-Private Partnership (PPP).



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