

FELICITY - Facilitating the Modernization of Public Street Lighting in Brazil



Project Profile



Challenge

In its Nationally Determined Contribution (NDC) to the Paris Agreement, Brazil set forth the goal to achieve a 10% efficiency gain across its energy sector by 2030. In order to fulfil this goal, it is necessary to reduce both emissions and energy consumption.

For Maringá, a reduction in the energy consumption requires alterations to the city's public lighting system. Therefore, the city is planning a modernisation of the street lighting system which will considerably reduce energy costs while making the city safer and will also contribute to the fulfilment of climate goals.



In Detail

FELICITY's support to Maringá included an overall assessment of public lighting in the city, an implementation plan, development of tender documents, and energy diagnosis for energy efficiency. For the establishment of the monitoring system, FELICITY supported the development of studies which assessed potential tools and models to be used for energy management. Finally, FELICITY contributed to the creation of a financial modelling analysis, management of social and environmental risks, as well as a monitoring and evaluation programme plan. All advisory products are in line with national requirements and international standards.

FELICITY's support also involved capacity building activities such as trainings on technical standards for energy efficiency in public lighting, as well as measurement, verification and energy consumption management. Additional courses covered energy standards and mitigation of risks in energy efficiency in public lighting.

While intentions were to structure the project through a framework loan between the Regional Bank of Southern Brazil (BRDE) and EIB, the city later decided to finance the project through a public-private partnership (PPP).

For this PPP arrangement, new studies on the legal and financial viability of a public-private partnership model were carried out by Maringá to complement the studies that had been previously prepared by FELICITY.

FELICITY (Financing Energy for Low carbon Investment – Cities Advisory Facility) is a project preparation facility implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and financed by the German International Climate Initiative (IKI) of the Federal Ministry for Economic Affairs and Climate Action (BMWK), between 2017-2022.

FELICITY works in close cooperation with the European Investment Bank (EIB) to support urban investment projects that significantly contribute to sustainable development and climate change mitigation. FELICITY offers technical assistance to cities in designing and structuring their infrastructure investment projects. FELICITY's support to cities has the potential to leverage EUR 541 million.

This is achieved through low-carbon project pipelining and preparation; capacity development for cities and national intermediaries such as National Development Banks (NDBs); policy recommendations on specific national framework conditions; and the development of knowledge networks for climate finance projects.



Support

FELICITY provided capacity development and advisory services to the city of Maringá by supporting preparation of financing for the lighting replacement project. Public lighting will be updated to current energy efficiency standards through the implementation of LED systems. More than 50,000 lighting units, including a central system for monitoring energy consumption are included in the project.



Partners

In Brazil, FELICITY worked closely alongside the Ministry for Mines and Energy, and partnered with the City of Maringá. As the project transitioned into a PPP in 2022, it extended the partnership to the Institute of Economic Research (FIPE) Paraná, a think tank that supported further work on the PPP model.

FELICITY has also supported the set-up of a Project Implementation Unit (PIU) in Maringá to ensure coherent preparation and implementation of the project. The PIU was instrumental in the process of transitioning the project into a PPP.

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Capacity building is a repetitive activity due to staff turnover in Municipal structures, with the initial support of FELICITY the local partner can replicate the training session when FELICITY ends.

Geraldo Faridas
(Parana Cidade)

Outlook and Scaling

With documents prepared by FELICITY, the procurement process for the PPP will start imminently. The private concessionaire may use the framework loan between EIB and BRDE to finance the project.

Following the support for this project, the city of Maringá decided to build a 5MW solar energy plant to generate green electricity in the city. This will enhance the sustainability of the public lighting project as it ensures green energy for the lighting system. This pledge was a direct result of the project preparation work of FELICITY and further enhanced the project's positive effect on local sustainable energy and energy efficiency.



Project in Numbers

- Over **50,000 lighting units** will be replaced with LED lamps.
- Estimated investment of **EUR 42 million** through a PPP
- Annual emissions reduction estimates: **1,265 ton/year** and **19,000 tCO₂e**q across 15 years.
- Savings estimated at **EUR 3.2 million** per year.
- Creation of approximately **220 green jobs**.

FELICITY has Supported These Achievements:



Enabling Access to Climate Finance

FELICITY facilitated a partnership between BRDE and Maringá which has enabled access to a framework loan valued at EUR 30 million. The loan is established between EIB and BRDE in Brazil. The PPP approach may be included in the overall financial structure.



Enhancing Bankability

All procedures and requirements of the PPP are aligned with the EIB guidelines for public procurement.



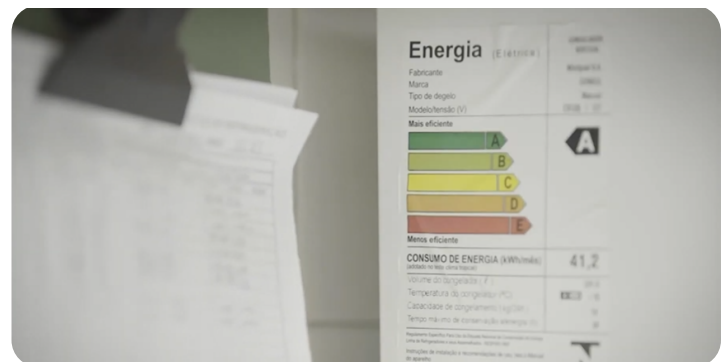
Knowledge Sharing

FELICITY supported the Ministry of Mines and Energy of Brazil on the development of project preparation guidebooks for replicating experiences in other municipalities, and has worked with the World Resources Institute in Brazil on a report with recommendations on potentials in urban climate finance.



Contributing to Green Recovery

FELICITY advised local and national governments in Brazil, developing project preparation methodologies and a publication on Green Recovery through Cities.



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[Visit FELICITY's Website](https://www.felicity-project.com)

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