Our Sun

Submitted By: Pólis Institute

Organization Profile

Organization Name: Pólis Institute of Studies, Training and Advisory Services in Social Policies.

Organization Type: Civil society

Website: https://polis.org.br/

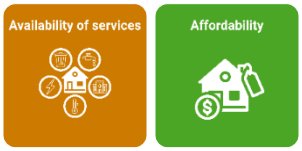
Practice Details

Country(ies): Brazil

City(ies): São Paulo

Start Year: 2022 **Ongoing:** Yes **End Year:** N/A

Main Adequate Housing Components:



Housing Thematic Areas:

- Communal & Self-Build Housing
- Housing Rights & Social Inclusion
- Housing & Climate Mitigation

Relevant SDGs:



UN-HABITAT

Problem & Context

In Brazil, 53% of families spend half or more of their income on electricity, resulting in social, economic, environmental, and cultural hazards. Inequality becomes even more evident when observing that low-income families primarily use electricity for food storage and preparation, while wealthier households use it for comfort appliances such as air conditioning. Although Brazil has initiatives to expand access to electricity, it still lacks policies to include self-managed social housing in its energy transition policies. Furthermore, it has yet to recognize community-based and self-managed models of solar energy production. In this context, the project “Our Sun: Foresting Solar Energy Collectives” emerges as a community-driven and innovative response to combat energy poverty in social housing, combining sustainability, social justice, and grassroots empowerment.

Solution Developed

“Our Sun” project aims to combat energy poverty affecting low-income families living in social housing and empower them to be actively involved in the energy transition process. The first phase of the project benefited 300 residents of the Paulo Freire Housing Complex, located in São Paulo periphery in partnership with the São Paulo Union of Housing Movements (UMM/SP). To address this challenge, the initiative combined mapping of the families’ energy profiles, a theoretical and practical training cycle on energy justice and photovoltaic system operation, and the installation of a solar micro power plant led by trained residents. The main objectives were to reduce the burden of electricity costs in common areas, promote the inclusion of energy issues as part of the right to housing, and generate technical knowledge capable of expanding job and income opportunities. The solution stands out for combining technological innovation, community engagement, and a self-management methodology, making the Social Technology of Solar Energy Collectives effective, replicable, and oriented toward more just and resilient cities.

Implementation

The Our Sun project implemented integrated actions in research, training, and knowledge dissemination to combat energy poverty. Conceived and led by Instituto Pólis, in partnership with the National Union for Housing Movements of São Paulo (UNMP/SP), it received financial support from the Energy Transition Fund (ETF) and the Council of Architecture and Urbanism of São Paulo (CAU/SP), in addition to Instituto Pólis's own investment. The total amounted to USD 270,000 for the purchase of materials, equipment, execution of training activities, and acquisition of photovoltaic panels.

The schedule began with community mobilization, through meetings, assemblies, and participatory workshops. Then, the learning path combined theoretical classes on energy justice, climate change, and distributed generation, with practical training in the installation,

operation, and maintenance of photovoltaic systems, increasing socio-environmental knowledge by 83%. Five residents from UNMP/SP were trained to participate in the installation of the first solar power plant of the East Solar Collective 1 reducing electricity costs in common areas by 75%.

The project culminated in the establishment of East Solar Collective 1, responsible for managing the power plant. Additionally, Instituto Pólis's participation in the National Council of Cities and in the monitoring of the Clean Energy Program enabled the inclusion of Social Distributed Generation in the base text of the National Conference of Cities.

Enablers & Obstacles

The implementation of Our Sun was driven by community engagement, mobilized through assemblies, workshops, and meetings; the partnership with the Union of Housing Movements of São Paulo (UMM/SP), which reinforced the project's political legitimacy; the financial support of the Energy Transition Fund (ETF) and the Council of Architecture and Urbanism of São Paulo (CAU/SP); and the technical expertise of Instituto Pólis in leading socially impactful projects.

The main challenge was the low level of familiarity among families with energy-related issues and the use of photovoltaic technologies. This challenge was overcome through intensive awareness-raising actions, theoretical and practical training, continuous support, and participatory work-ensuring that residents became active participants in the installation, operation, and maintenance of the solar micro power plant.

Results & Impact

The Our Sun project installed a solar micro power plant that, from 2023 to August 2025, operated for 805 days, generating 43.37 MWh of electricity, saving R$ 61,580.00, and avoiding the emission of 37.68 tons of CO_2—equivalent to planting approximately 2,581 trees. The 100 families benefited by reducing electricity costs for common areas by 75%. The savings allow residents to reinvest in expanding the plant, strengthening the project's autonomy and sustainability.

Beyond the quantitative results, the project also generated significant social impacts. Residents received technical training and education in energy justice and self-management, becoming key players in energy management and multipliers of knowledge within their communities. This contributed to social inclusion, recognition of local knowledge, and a broader awareness of the rights to adequate housing and clean energy.

Already a reference in energy justice discussions, the initiative has the potential to influence the inclusion of Social Distributed Generation in the National Clean Energy Plan and guide changes to the Minha Casa Minha Vida housing program budget to integrate renewable energy. The replication of this social technology in other regions holds strong potential to reduce energy

poverty, strengthen social housing movements, and contribute to more just, resilient, and environmentally sustainable cities.

Replication & Scale Up

The project is being replicated in the Carolina Maria de Jesus housing complex, in São Paulo/SP, benefiting more than 900 residents. The replication occurs through the energy self-management methodology, which empowers residents as active agents of local transformation—a key factor ensuring the project's success. The Solar Collective East 1, formed in the first cycle, will take on the management, monitoring, and maintenance of the new plant, transforming the community from passive recipient to protagonist and strengthening a just and popular energy transition.

The Social Technology of Solar Energy Collectives enables collective and democratic access to renewable energy in social housing, strengthening self-management and community organization. Its integration into housing policies, such as Minha Casa, Minha Vida, could benefit hundreds of thousands of families living in energy poverty. This practice reduces energy costs, creates job opportunities in the solar sector, and demonstrates that the energy transition can be just, inclusive, and scalable at the national level.

Policy Uptake

This housing practice has informed or been partially integrated into policy discussions, strategies, or pilot-level policy instruments.

The practice was partially integrated into policy discussions through a collective advocacy effort that led to the incorporation of the Clean Energy Program into Minha Casa, Minha Vida, expanding access to solar energy in social housing. We have been monitoring the program's implementation through our work with the National Cities Council, where we identified the need to create a dedicated political group to advance the topic. This also led to the organization of a technology dissemination event and the Working Group on Self-Management and Solar Energy.

Lessons & Takeaways

We are prioritizing greater initial involvement of families to accelerate awareness, expanding the number of trained residents to strengthen self-management and knowledge multiplication. Additionally, we are reviewing communication and engagement strategies to further integrate the community and optimize the replication of the technology in other housing complexes.