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Energy efficiency for sustainable urban development - social housing and water supply

Improving energy efficiency in social housing and the water supply in Brazil

Context

By 2025, Brazil aims to have reduced its greenhouse gas emissions by up to 37 per cent compared to 2005. In order to achieve this, it plans to use more renewable energies and to improve energy efficiency by 10 per cent.

According to the energy planning authority (Empresa de Pesquisa Energética, EPE), by 2014, 28 per cent of the electricity produced in Brazil was used in residential buildings while around two per cent was used for the drinking water supply.

Based on economic and demographic trends, the National Housing Plan expects that around 1.5 million homes will have to be built annually by 2023. As a result, the public sector is investing heavily in social housing through programmes such as the Minha Casa, Minha Vida (MCMV – My House, My Life) housing

subsidy programme.

Through increasing comfort requirements of the housing users, electricity consumption increases. However, the requirements for the energy efficiency of buildings are low. In spite of this, the construction industry is showing initial interest in developing innovative solutions. The supply networks for drinking water in communities also consume a great deal of energy. In general, there is a lack of meaningful data and information on how much energy the systems use and consume.

In the social housing sector, activities are carried out under the abbreviation EEDUS. In the water supply sector, the abbreviation is ProEESA. This facilitates communication with the Brazilian partners and increases the project's visibility in the respective sectors.

Title	Energy efficiency for sustainable urban development
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Counrty	Brazil
Political Partner	Brazilian Ministry for Regional Development (MDR)
Overall term	2017 - 2021
Volumen	6.000.000 EUR

Objective

Conditions for energy efficiency in social housing and the water supply are improved.

Approach

The project works across four fields of activity:

- The funding guidelines for social housing will be designed to
 provide an incentive for the improvement of energy
 efficiency. Project managers devise recommendations to
 anchor energy efficiency in the funding guidelines of the
 MCMV housing subsidy programme. They also support their
 implementation. Lessons learned from existing pilot
 measures or studies
 are processed.
- New or adapted methods, procedures and instruments lay the foundations for ensuring that the MCMV housing subsidy programme's funding guidelines are structured specifically and implemented effectively. Construction defects are recorded faster and more thoroughly, thus improving the quality of the



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Left: Project team: Daniel Wagner, Rebecca Mendes, Fernando Finger, Márcia Fonseca, Letícia Oliveira, Arnd Helmke, Jessica Gama, Lothar Hoppe, Philipp Hõppner, Rita Cavaleiro, Lisa Sommer (from left to right.) Right: Webinar about the water sector

construction projects. The effectiveness and costefficiency of energy efficiency measures are made transparent.

- By strengthening the pool of information and knowledge, the organisations and individuals involved can participate in the processes of the Brazilian cooperation system in an appropriate and professional manner. Discussion and coordination processes thus become faster and more objective. Employees of the organisations apply the energy efficiency knowledge gained to their working environments. This field of activity is implemented mainly by GOPA Gesellschaft für Organisation, Planung und Ausbildung mbH.
- Energy efficiency is promoted in municipal water supplies. Existing regulations are designed to provide greater incentives for higher energy efficiency. This requires a comprehensive and reliable data pool. Effective and efficient evaluation approaches are developed. Digital methods are used to increase reliability. Employees will be trained in both regulation and evaluation using learning networks, and appropriate methods will be developed and disseminated. AKUT Umweltschutz Ingenieure Burkard und Partner GmbH is carrying out the work in this field of activity.

Activities in the context of the Corona crisis

During the Corona crisis the focus was on the team's health. The entire team worked remotely in order to avoid social contact.

At the same time, however, the project already took first actions to fight the pandemic.

In the water supply sector, a series of webinars were held in April to present the German water suppliers' (Berlinwasser and Stadtwerke Osnabrück) experience of pandemic plans to the Brazilian regulatory authorities and water suppliers.

In the field of housing construction, an analysis of hazards and potentials is being planned. It will cover building materials, building patterns, and building health standards (including humidity, ventilation, minimum setback, temperature, hygiene and hazardous substances). The starting point for this is the existing Brazilian Quality Programme for Housing (PBQP-H). An architecture competition to be held soon will also deal with the issue of health.

Further links

Social housing project homepage:

https://www.mdr.gov.br/habitacao/eedus

Youtube Channel:

https://www.youtube.com/channel/UCcBuC5KG_jysyeUnj-FMb3A

Water supply project homepage:

https://www.mdr.gov.br/saneamento/proeesa

Youtube Channel:

https://www.youtube.com/channel/ UC5Tt5m7JZDDqmY11r1X9nFw





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