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LAUNDRECYCLE – WATER- AND ENERGY SELF-SUFFICIENT LAUNDRETTE

Problem – Challenge

While the City of Cape Town, South Africa, already experienced a severe water crisis in 2018, other regions across the country are increasingly at risk of facing the same fate. At the same time, thousands of residents of informal and rural settlements have limited or no access to save water and are exposed to the negative consequences of the lack of wastewater infrastructure. In addition, the country suffers from so called load shedding, which are planned power black outs for several hours to reduce energy demand. The development of new solutions and the use of alternative water and energy sources are therefore urgently needed.

Solution

The aim of the laundromat "LaundReCycle" is to run completely off-grid and therefore save water and energy, while providing laundry services to the customers as well as new economic opportunities for the operators. The technology is based on a natural and resource efficient water treatment process, using biological treatment methods. The treated water is reused in a closed cycle, while water losses are filled up with rain-water from the roof. The system is powered by off-grid solar power with battery storage. The technology was first developed by the researchers at ZHAW in Switzerland. After a technology transfer workshop in 2019, the South African partners built the LaundReCycle pilot facility in Cape Town in January 2021. Since then, the local partners operate the laundromat and provide valuable insights for the research activities led by ZHAW. The aim of the project is to develop a marketable solution that can be implemented across the country. In this context, the researchers are also looking into the integration of other greywater sources, such as greywater from the shower and using the treated water not only for the laundry but also for other purposes such as irrigation.

