

FACTSHEET

LOW
ENERGY
DISTRICT

Cologne

Home Energy Management

SMART SOLUTION 3: SMART ENERGY-SAVING TENANTS



- Increases tenants' independence by giving them control over their energy mix and consumption in an easy way using the Smart Home application
- Provides clear data on energy consumption, allowing tenants to move towards lower energy consumption and increased renewable energy usage
- The dynamic "PV-Mieterstrom" pricing model allows citizens more control over their individual usage and expenditure, increasing their quality of life

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What is the solution?

Within the project, some apartments (50 to 100 from a total of 596) will receive SmartHome equipment which enables them to save electricity and warm water required by radiators.

RheinEnergie is working to create a dynamic price model by introducing PV-Mieterstrom. This is a tariff for the tenants of the settlement which allows them to use photovoltaic systems. This tariff combines solar electricity with our available electricity tariff FairRegio. Depending on the performance of the battery, which is still in the design stages, the balance of energy used for the current quarter will be between 30–50% from photovoltaic current with the remaining 50–70% coming from the public power grid.

In addition, the tenant should be able to receive information on their energy consumption for comparison and analytics. This will help tenants get a better feel for their energy use.

How does it work?

The SmartHome app allows tenants to turn off all electrical appliances and lights at any time and from anywhere. This can be done easily at home or on the move via smartphone, tablet or PC. In combination with smart plugs (SmartMeter), tenants can keep track of the current energy consumption of any connected devices. The application clearly documents consumption patterns of the devices for comparison and analytics.

Integration with other smart solutions

The information on energy consumption will be used by the Siedlungsmanagement software to improve forecasts for power and heat consumption. The data will be collected and prepared for the City of Cologne's Open Data-Platform and for the tenants themselves (SmartHome). The control of the Smart Home System will be integrated into the Siedlungsmanagement.

Expected impact

Positive impacts of this solution include:

- Reduced green gas emission
- Reduced heating costs
- Reduced public electricity consumption
- Improved quality of life

SmartHome enables individual devices to connect from anywhere via smartphone or tablet. Users can also create "scenarios" rules or schedules that are automatically switched. Tenants can therefore save energy without manually reconfiguring electrical appliances and heating.

Potential for replication

A system like SmartHome is easily replicable in other houses. There is no need to lay cables, so it can easily be installed in existing constructions. The only thing that is required is an internet connection with a router and a PC, tablet or smart phone.