

## Estimated impacts

**95 KG/A**

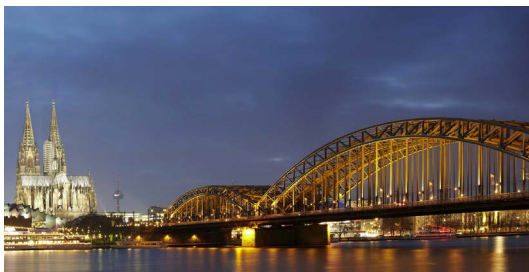
reduction in CO<sub>2</sub> emissions

**8%**

energy savings

**24H**

automatic and optimized heating control



## Cologne

### Technical partners

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### City contact

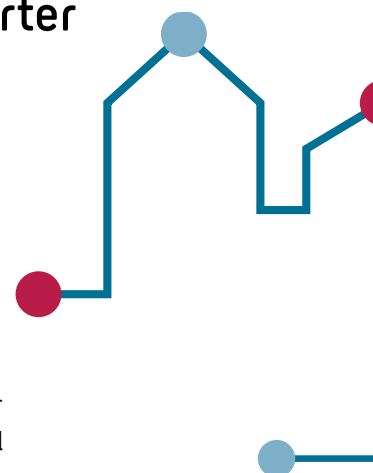
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## What is it?

Deployment of a smart home system focused on automation or better control of domestic appliances. The system includes heating thermostats, sensors for the state of windows (open/closed), smart plugs, indoor temperature and humidity sensors, and it offers the possibility of programming on/off status of devices from the app. The ultimate goal is to improve tenants' quality of life, as the decrease in energy consumption is not the main target.

## What did GrowSmarter do?

The German utility RheinEnergie has developed a prototype of the Smart Home System for its residential clients. An evaluation process led to the Smart Home System which supports multiple radio protocols and open API to integrate the data into AGT's system (See factsheet 23: 'Smart meter info'). The technology was offered to all households in the Stegerwaldsiedlung



settlement and it has been installed in five dwellings.

The feedback from those five dwellings was generally very positive, and all responders in a qualitative survey reported having an easier time heating their home and better ability to estimate their power consumption.

## Lessons learnt

The qualitative follow-up (via surveys) of the new technology performance is a good tool to evaluate how the Smart Home system improve the quality of life. Good communication with potential clients is essential. In terms of data collection, a contract must be drawn up which gives the participant a clear and comprehensible understanding of what data is being collected and for what purposes.

The communication campaign with the tenants should be planned well in time to inform about the advantages of this solution and overcome their doubts to share their energy consumption data.

## Upscaling & replication potential

Expanding the functionalities of the Smart Home system by including information on disaggregated and real-time energy consumption data will raise the potential for scalability of the platform.

Considering the experience in GrowSmarter, an intensive market study to investigate the interests of residents in the target group is crucial. Citizens are in general not familiar with the technology. Information and engagement campaigns to raise awareness about the benefits of Smart Home systems would contribute to the upscaling of the solution.

Early and extensive communication is beneficial



## How did the measure work?

### Technical feasibility

Promoting dynamic energy visualization tools in the German residential sector is still very challenging, since tenants are reticent to trust uncertified individual meters and they prefer to wait for the certified ones (not deployed in the country).

### Economic feasibility

The economic feasibility is very sensitive on data collection possibility. With the current functionalities, the monetization of the increase of comfort could justify the investment, although it is uncertain if clients are prepared to pay for this service.

### Replication potential

Considering the experience in GrowSmarter, an intensive market study to investigate the interests of target residents is crucial. This should be accompanied by information and engagement campaigns in order to replicate or scale up Smart Home systems