Case Study S3C

Smart Metering Projekt

S3C related keywords:

- Feedback system
- Shift of consumption
- Flexible tariff

"Flexible tariffs and a feedback system can help customers to save energy"

S3C
SMART CONSUMER
SMART CUSTOMER
SMART CITIZEN

Project Summary

The project Smart Meter was a German pilot study seeking to evaluate existing and future technology options in the field of smart metering and their respective potentials for energy conservation and consumption shifting via feedback information and variable pricing schemes. The project started in early 2010 and was finished in 2011.
The project was carried out in the Offenbach, Kiel and Mannheim area. After identifying suitable metering technology, a metering field trial was performed. The project had three main goals:

- Establish the potential for increasing energy efficiency in tariff-customers through smart meters, as well as feedback systems and dynamic tariffs;
- Establish the potential for increasing process efficiency for utilities with smart meters and communication systems;
- Produce advices for the standardization of meter and communication systems.

What sets this project apart from other Smart Grid projects?

Increasing energy efficiency through smart meters means mass-economic benefits. However, at the time when the project began, there were many barriers for introducing the new technologies in the private sector, because there was too little practical experience and technical knowledge for a mass employment. It was not clear how the additional costs in the business models could be mapped under the conditions of the liberalized energy market. The aim of the project was therefore to give a market acceleration through scientifically supported practice tests for technology and business models.

What happened?

Field tests showed that real-time tariffs in Germany can produce a peak-load reduction of about 5%. It was interesting that the relatively simple time-dependent tariff, in combination with a display device, reduced the peak-load about 10-12 % in the tariff study in Saarland. This suggested that technically more complex tariff systems were not necessary to achieve a greater impact on customers.

It was also clear that the recruiting of appropriate participants had a significant impact on the results and that certain household-specific factors largely influenced the results, such as the presence of shiftable loads (dishwasher, washing machine, etc) and the size of the household.

Another aspect of the study was to assess the impact of the use of the web portal on customers' energy consumption. While the analysis of consumption data has shown no significant difference in power consumption between portal users and the comparison group, 51.8% of the respondents indicated that the use of the web portal helped them to save energy.

Another issue was the declining interest in the feedback system, which was countered by offering further analysis such as load-aggregation or tips on how to save energy.

Further information / Contact

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