

Germany's "Energy Savings meter" scheme

Policy background

The ["Energy Savings Meter" programme](#) in Germany was launched in 2016 by the German Federal Ministry for Economic Affairs and Energy (BMWi) and managed by the Federal Office for Economic Affairs and Export Control (BAFA) with the aim to leverage digitalisation for the benefit of energy efficiency improvements. The programme ended in 2022.

Businesses promoting digitally enabled energy efficiency solutions to their customers could apply for funding to develop these digital solutions. The energy savings can be achieved through various ways: behavioural changes, maintenance or optimisation of energy-consuming appliances, or investment in more efficient products, and in different sectors and customer basis: households, public bodies, companies or other end customers.

Metered savings approaches were used to develop the market for "digital energy efficiency services" and to reward companies based on performance (pay-for-performance).

The technical guidance was quite broad, meaning that the managing authority had to assess the accuracy of all measurement protocols put in place by companies. This took more time than expected and contributed to the limitations of the project.

Technical aspects

The "Energy Savings Meter" gave some flexibility to establish a measurement method. It allowed three metering methods:

1. Simplified measurement concept

This method can be used when energy consumption is constant or can be reasonably assumed to be constant. For example: households, small businesses. The baseline is based at least on the average value of the last three annual bills and, if necessary, adjusted for weather. No other correction is needed. Metering of output or relevant influencing factors, is not required.

2. Standard measurement concept

This method monitors energy consumption, external and/or internal factors that influence energy consumption (for example, weather, number of employees), as well as outputs (for example, produced goods). The baseline period has a default duration of one year but can be shorter if the applicant can prove a good correlation of the

data afterwards. Funding recipients are expected to pursue a process based on ISO 50006¹, whereby they meter all relevant variables during an appropriate time period, develop a statistical model (a multivariate data analysis showing the relationship between the variables), implement the energy saving measure, and compare the energy demand calculated in the model with the metered energy demand.

3. Alternative measurement concept

Applied if the standard method is not appropriate, for example for individual subsystems (e.g., a compressed air system). The rules of the standard system are also valid for the alternative system, insofar as it makes sense to apply them. The deviations from the standard measurement concept should be described.

Experiences

Projects have been funded in a variety of settings, including offices and retail stores, hospitals, swimming pools, hotels, restaurants and industrial sites (IEA, 2019). This includes providing individualised energy advice to consumers in real-time, automatic "energy-saving assistants" or innovative building and heating technologies that integrate weather forecasts and leverage some form of artificial intelligence, e.g., self-learning algorithms (IEA, 2019). Further evaluations are needed to understand its impact on the development of a digital energy services markets and pay-for-performance scheme.

The variety of the projects submitted has created complexity in managing the programme, from project selection to energy savings verification. This resulted in increased administrative costs. The process was continuously streamlined including, for example, by updating funding documents and requirements (IEA, 2019).

Further readings

IEA (2019). [Case Study: Energy Savings Meter Programme in Germany](#).

Weiß, U., Werle, M., Pehnt, M., Blohm, M., Chmella, T., Becker, M., Geissler, J., Grein, A., & Milojkovic, F. (2017). [Funding measured energy savings: first findings on performance-based "Energy Savings Meter" funding scheme](#). ECEEE 2017 Summer Study.

¹ ISO 50006:2023. [Energy management systems — Evaluating energy performance using energy performance indicators and energy baselines](#).

Werle, M., Ernst, C., Weiß, U., & Hermann, L. (2019). [Metering energy savings: insights from the "Energy Savings Meter" funding scheme](#). ECEEE 2019 Summer Study.

BAFA [Technisches Merkblatt](#)

<https://www.bundesanzeiger.de/pub/publication/1KVCMnhwaBibpVtVGzQ/content/1KVCMnhwaBibpVtVGzQ/BAnz%20AT%2021.02.2019%20B1.pdf?inline>

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