



1 *Monitoring the energy footprint
in complex building structures.*

Image: Dr. Thoralf Winkler, Fraunhofer IFF

ENERGY MANAGEMENT SYSTEMS

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Smart Monitoring and Control of Energy Flows

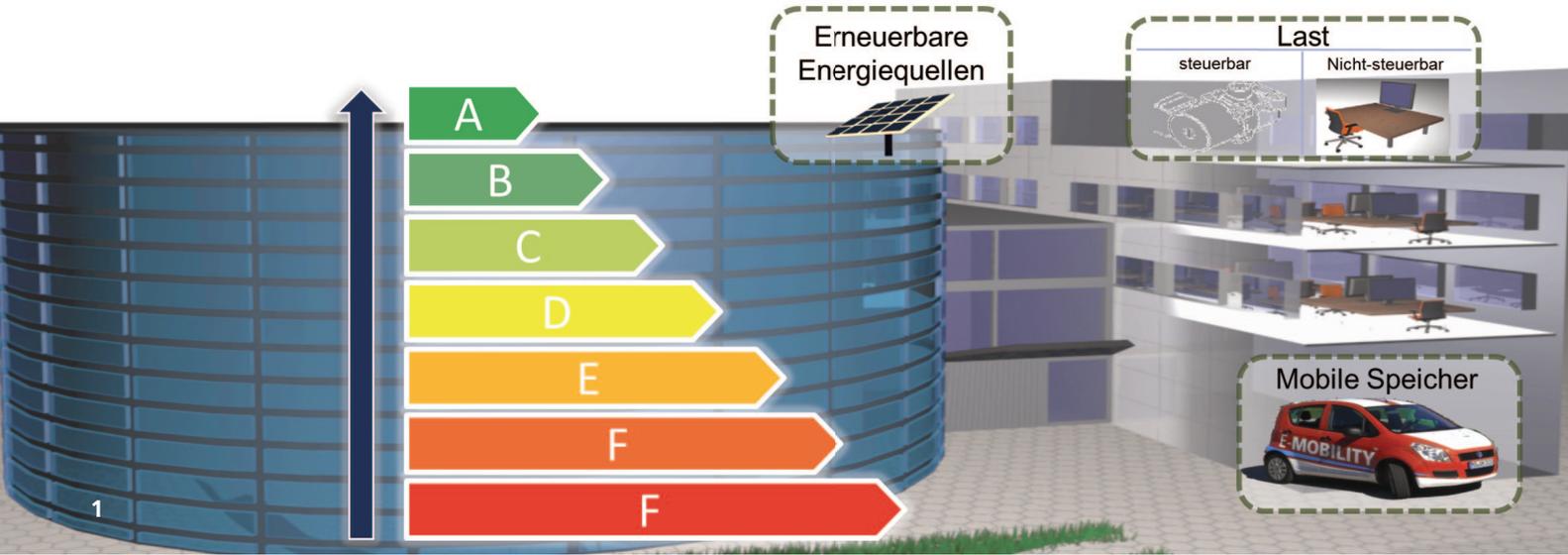
Rising energy costs in many businesses are increasing the importance of the issue of "efficient energy management". This especially pertains to companies with high-energy production, the energy consumption of which accounts for a substantial share of manufacturing costs.

Fields of Action

An energy management system helps businesses continuously meet the challenges of reducing and controlling costs and complying with legal regulations. We aim to assure that our clients use energy efficiently and sustainably.

Although a multitude of software systems in this domain are already commercially available, they chiefly include monitoring tools used to measure and later analyze energy consumption.

Efficient and sustainable energy use can only be guaranteed when systems support every phase of an energy management system's implementation and operation and cut energy costs permanently and demonstrably by controlling system components actively and dynamically. Control strategies that are derived from current energy consumption, available energy and anticipated energy requirements and facilitate independent and fully automatic control are also essential.



We Assure Clients' Competitiveness

Our developments enable our clients to "smartly monitor and control energy flows" through by:

- assuring competitiveness by optimizing energy use,
- maximizing the integration of renewable energies maximal,
- guaranteeing efficient and sustainable energy use in a company by controlling energy resources automatically and smartly and
- ensuring conformance with international standard EN 16001.

Our Services: We Do the Work

The Fraunhofer IFF is your partner when you are implementing custom energy management systems in your company. We will support you during the implementation of an actively controlled energy management system. Among other services, we provide consulting and support from the idea through the implementation of such a systems in your company. Our services include:

- analyses,
- system architecture design and
- energy management system implementation.

The Fraunhofer IFF additionally provides neutral coaching throughout the process of implementing an energy management system and solutions that support such a system's operation.

Analyses

At your request, we will analyze the feasibility and expected potential savings. This simultaneously delivers a sound basis for making a decision on the implementation of an energy management system in a company.

System Architecture Design and Energy Management System Implementation

A smart energy management system includes an additional software system that has to be integrated in the existing IT infrastructure. We can provide you system modules for this challenge, which are customized to concrete conditions. This assures that any risk during the implementation of an energy management system remains controllable and manageable. We can also help you draft an implementation plan and advise you when you are selecting hardware components by defining key data.

Our Expertise Is Your Edge

We have the latest commercially available software development tools and apply state-of-the-art development and quality management processes.

The Fraunhofer IFF's involvement in numerous national research projects dealing with energy management enables us to help you use your energy resources efficiently and sustainably.

This allows you to draw on and take advantage of the latest research findings to boost your competitiveness.

¹ Boosting energy efficiency in complex building structures by combining renewable energy producers with information and communications technologies.
Graphic: Alexander Pelzer, Fraunhofer IFF