Energy Management

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Energy management includes the planning and the operation of energy resources and energy consumption. Objectives are resource conservation and cost savings, while the users have permanent access to the energy they need. It is connected closely to environmental management, production management, logistics and other established business functions.

"Energy management is the proactive, organised and systematic coordination of procurement, conversion, distribution and use of energy to meet the requirements, taking into account environmental and economic objectives"

Integration of an EMP

It is important to integrate the energy management plan (EMP) into the organisational structure, so that the EMP can be implemented. Responsibilities and the interaction of the decision makers should be regularised. The delegation of functions and competencies extend from the top management to the executive worker. Furthermore, a comprehensive coordination can ensure the fulfillment of the tasks.

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Energy management in operational functions

Facility management

Facility management is an important part of energy management, because a huge proportion (average 25 per cent) of complete operating costs are energy costs. According to the International Facility Management Association (IFMA), facility management is "a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, processes and technology."

The central task of energy management is to reduce costs for the provision of energy in buildings and facilities without compromising work processes. Especially the availability and service life of the equipment and the ease of use should remain the same.

Energy procurement

Procurement is the acquisition of goods or services. Energy prices fluctuate constantly, which can significantly affect the energy bill of organisations. Therefore poor energy procurement decisions can be expensive. Organisations can control and reduce energy costs by taking a proactive and efficient approach to buying energy. Even a change of the energy source can be a profitable and eco-friendly alternative.

Production

Production is the act of creating output, a product or service which has value and contributes to the utility of individuals. This central process may differ depending on the industry. Industrial companies have facilities that require a lot of energy. Service companies, in turn, do not need many materials, their energy-related focus is mainly facility management or Green IT. Therefore the energy-related focus has to be identified first, then evaluated and optimised.

Production planning and control

Usually, production is the area with the largest energy consumption within an organisation. Therefore also the production planning and control becomes very important. It deals with the operational, temporal, quantitative and spatial planning, control and management of all processes that are necessary in the production of goods and commodities. The "production planner" should plan the production processes so that they operate on an energy efficient way. For example, strong power consumption can be moved into the night time. Peaks should be avoided for the benefit of a unified load profile.

Maintenance

Maintenance is the combination of all technical and administrative actions, including supervision actions, intended to retain an item in, or restore it to, a state in which it can perform a required function. Detailed maintenance is essential to support the energy management. Hereby power losses and cost increases can be avoided.

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Energy strategies

A long-term energy strategy should be part of the overall strategy of a company. This strategy may include the objective of increasing the use of renewable energies. Furthermore, criteria for decisions on energy investments, such as yield expectations, are determined. By formulating an energy strategy, companies have the opportunity to avoid risks and to assure a competitive advance against their business rivals.

Potential energy strategies

Passive Strategy:
There is no systematic planning. The issue of energy and environmental management is not perceived as an independent field of action. The organisation only deals with the most essential subjects.

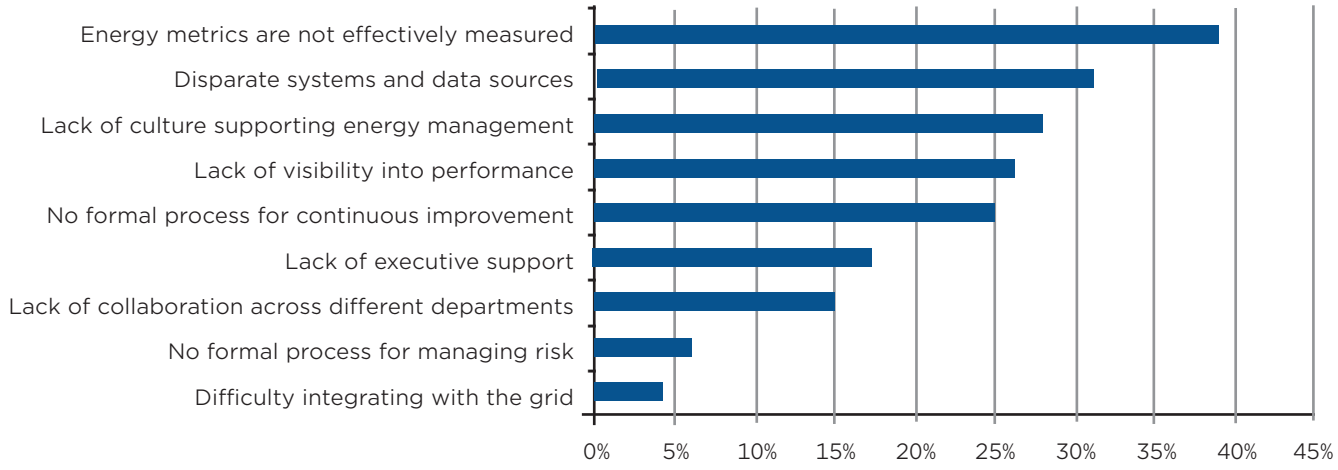
Strategy of short-term profit maximisation:
The management is concentrating exclusively on measures that have a relatively short payback period and a high return. Measures with low profitability are not considered.

Strategy of long-term profit maximisation:
This strategy includes that you have a high knowledge of the energy price and technology development. The relevant measures (for example, heat exchangers or power stations) can have durations of several decades. Moreover, these measures can help to improve the image and increase the motivation of the employees.

Realisation of all financially attractive energy measures:
This strategy has the goal to implement all measures that have a positive return on investment.

Maximum strategy:
For the climate protection, one is willing to change even the object of the company.

Top Energy Management Challenges



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