INFOLETTER

MUNICIPAL ENERGY MANAGEMENT

Dear Sirs and Madams,

For decades it is known that the energy consumption can be reduced by 10% to 20% with the systematic introduction of a Municipal Energy Management (M.E.M.) by means of low or non-investment measures. Savings of this magnitude are also economically interesting for the municipalities. Nevertheless, the systematic energy management is very slowly implemented in the municipalities. In this Info Letter, we are dealing with the "why" and the requirements of the municipal energy management.
With the introduction of a M.E.M. you get a better overview of the own energy costs and at the same time, thus creating a basis for investment in municipal infrastructure. A successful implementation of energy management sometimes requires changes in the organization. The relevant energy managers need the support from colleagues and the supervisors in their work. The clear message, "In our community energy efficiency takes precedence!" arguments also a high role model for staff and for the public.

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The Interreg IVB North Sea Region Programme
Investing in the future by working together for a sustainable and competitive region

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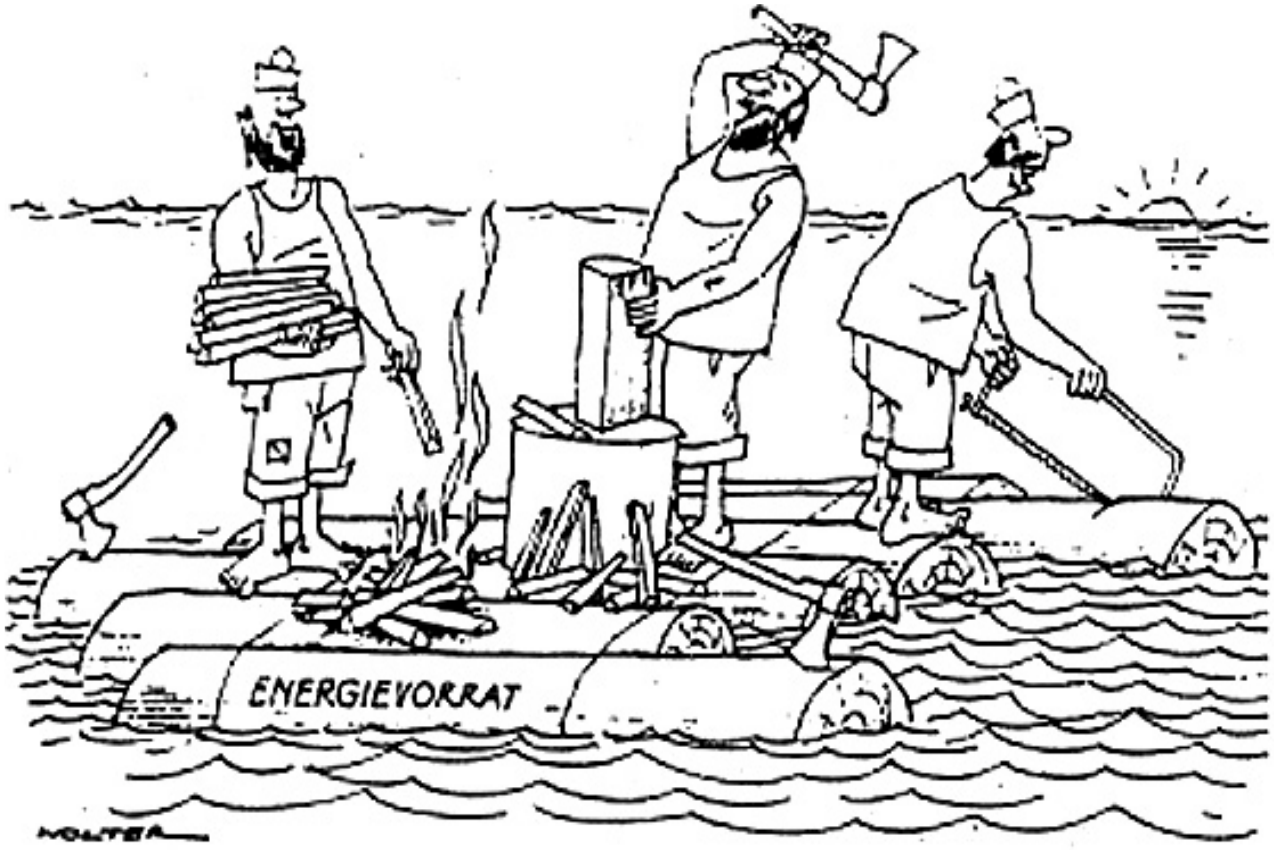

That's **how we live! That's how we live! That's how we live ... all days.**
Source: "Jupp Wolter (artist), House of History in Bonn."

Municipal energy management

Do you know how much are the energy costs in your community?

With energy costs from 35 to 40 Euros per person per year your community is about the German national average. Corresponding to 10,000 inhabitants, this equates an annual cost of about 350,000 to 400,000 Euros – with an increasing trend. According to experts, 10 to 20% of energy costs can be saved with low- and non-investment measures without sacrificing comfort. According to the calculation example above this equates from 35,000 to 70,000 Euros a year. Do you know your energy intensive properties? Or do you know in what property the limited modernization funds have the greatest savings effect? The municipal energy management will be an answer to these questions. There are many reasons for the introduction of a systematic and sustainable municipal energy management. This Info Letter is the result of the "Working Group on Energy

Management" with Energy Managers of municipalities in Lower Saxony, who meet on a regular basis since 2011. There is some information for a successful introduction of the municipal energy management summarized in the following.

Why municipal energy management?

Yet the energy supply in municipal buildings in Germany causes costs of over two billion Euros every year. With energy prices rising, these costs are growing continuously and burden the municipal budgets every year a little more while municipal takings are declining.

Reduction of operating costs

Should the municipal infrastructure, such as the water purification, street lighting or schools in times of tight budgets remain to be financed, especially the operating costs must be lowered. Operating costs represent the lion's share of the building costs in a building's lifetime. Weak points can be systematically spotted by a strategic energy management. Therewith energy costs can be considerably lowered.

Decision basis for investments

The precise knowledge of the actual costs and savings in the individual properties is essential for proper investment decisions. An appropriate basis is set by the inventory of the municipal energy management. The exact knowledge of the energy consumption also simplifies the tender for energy supply. For example, the individual properties within the community can also be compared with their counterparts in other communities with characteristic values, i.e. the energy and water consumption per square meter net floor area and year. Due to the comparison of similar buildings the energetic quality of properties can be classified and rated.

Being a role model

Municipal action creates a great role model for the citizens. Set up a good example and catch it first at you.

Legal requirements

According to the draft of the EU Energy Efficiency Directive (as of 06/22/2011), municipalities will be obliged in the future to clean up energetically 3% of their building area per year. In addition, the local authorities are called to implement an efficiency plan and a municipal energy management. Municipalities also should only acquire products, services and buildings with high energy efficiency.

Optimized management

The operation of energy consuming facilities requires continuous monitoring. Usage times, weather conditions, contractual conditions and structural conditions and responsibilities change from time to time. The facilities must be continuously adapted to the changing conditions to ensure optimized operation.

Basis for energy certification and environmental protection program

Since 7/1/2009 an energy performance certificate must be prominently displayed at public buildings with over 1,000 sq. m. usable area and regular visitors. The public sector should set an example. The energy consumption data for the last three years is needed in the consumption certificate, which is particularly suitable for municipal buildings. The card can be created with little effort, if the necessary data is already available by the municipal energy management. Providing the energy performance certificate uncompleted or not on time is contrary to the regulations. M.E.M. is also an essential component for the local climate protection program by providing the data for a municipal CO2 balance.

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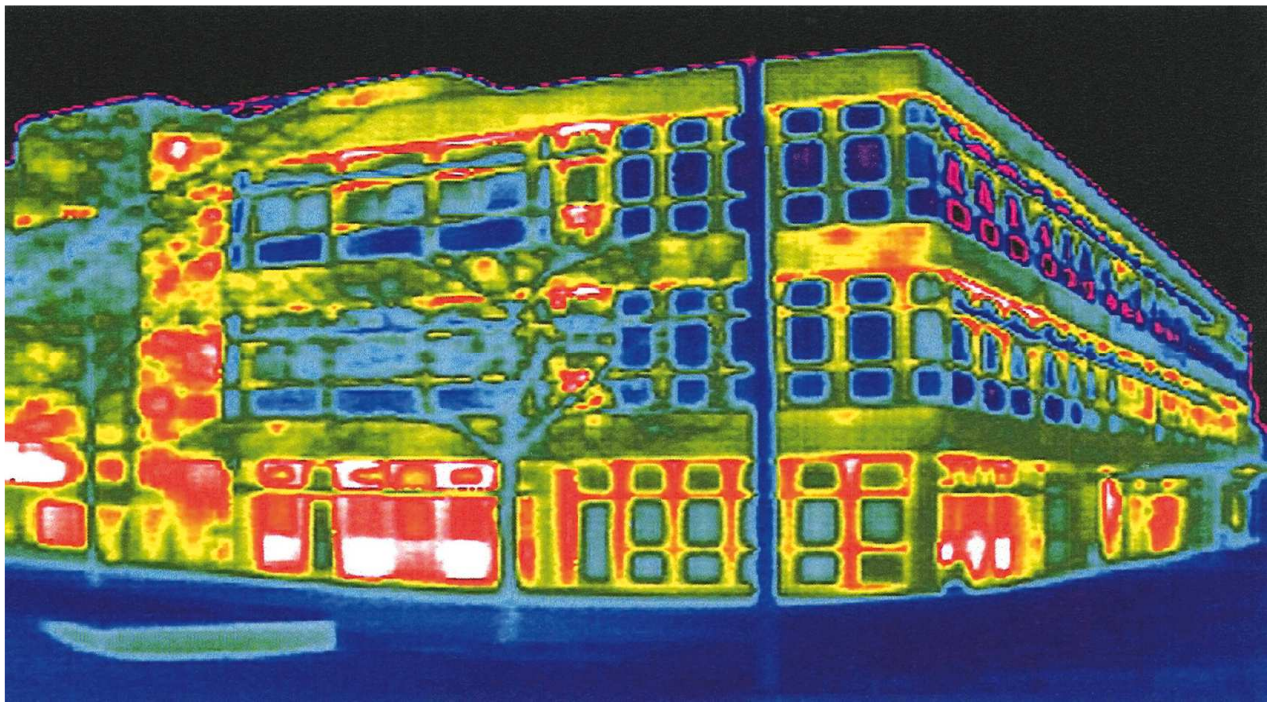

Source: District Schaumburg

What is Municipal Energy Management?

The term municipal energy management (M.E.M.) covers all strategies and actions to achieve a sustainable and efficient use of energy in all municipal fields of activity – that includes organizational issues as well as technical measures in one's own property, or the energy efficient procurement and mobility. M.E.M. is based on the continuous acquisition and analysis of the consumption of heat, electricity and water in the municipal buildings. The objective of the municipal energy management is to reduce energy consumption as possible without extra burdening on the public budget and without sacrificing comfort.

The tasks include:

- Development of a municipal political vision
- Clarification of responsibilities
- Systematic assessment of the individual properties (buildings, usage times, contracts, etc.)
- Regular consumption detection (heat, electricity, water)
- Performing building energy analyzes
- Planning, implementation and coordination of energy-saving measures
- Annual energy report with the communicationresults
- Monitoring and evaluation

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Implementing energy management

Setting up targets and action plans

Saving targets need to be set by senior management. Targets and standards can be formulated based on the actual consumption and comparison values for the own properties, which serve as a basis for employees responsible for the rehabilitation planning. A common action plan should be prepared apart from the determination of responsibilities and the allocation of appropriate resources. For each measure has to be defined, who, when, what, how many and why.

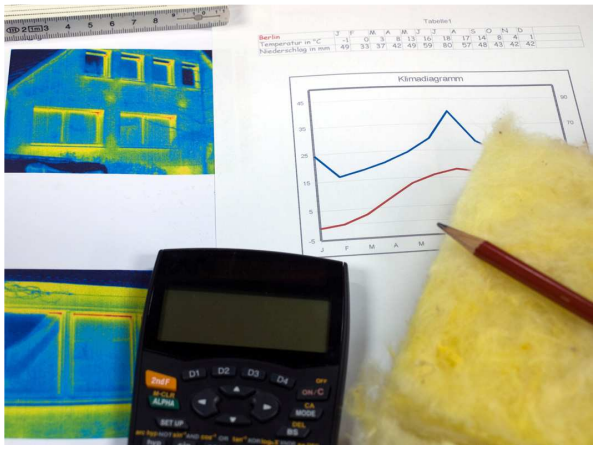
Organization and personnel resources

When it is formally institutionalized and has personal resources and decision competence, the municipal energy management experience is in many administrations particularly successful. The relevant conditions have to be taken by the management level!

Object pooling and coordination

A prerequisite for success is the departmental wide coordination of the activity and the concentration of powers in one hand. In order to avoid unnecessary conflicts, the different concerns such as the building maintenance and planning, the management of energy supply, remedial actions and booking schedules must be coordinated. In a professional multidisciplinary energy efficiency team that meets regularly, executives in charge of all departments involved should be represented, but at least:

- Energy managers
- Mayor
- Treasurer
- Responsible persons from the relevant departments, especially building maintenance, construction, environment, social issues, etc.



Source: Anhees - Fotolia.com

How many personnel are needed?

The introduction of energy management needs appropriate man power. A part-time job for an energy manager is also in municipalities with less than 50,000 inhabitants regarded as a sensible minimum and should not be exceeded. A technical education as qualification is an advantage but not absolutely essential. Flexibility and social skills are at least as important. The time effort in the first few months is twice as high as in the later-established state due to increased organizational efforts for the basic evaluation and coordination. With limited capacities it should firstly be restricted to one part of the building stock.

Ongoing task

Energy management is a permanent municipal task. The control of energy consumption and adaptation of management to changing circumstances require a continuing process.

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Monitoring by energy report

Checking the achievement is an explicit concern of the management level. The energy report is an instrument for this. The annual report analyses the current situation and visualises the development of energy use in the municipality. The results of the implemented measures are also represented. It is the monitoring tool for the local policy-makers and is therefore indispensable.

Non-*or low-cost measures*

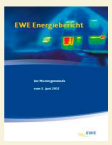
Start with the implementation of such measures, which promise quick results and require very little or no investment. Here are some examples:

- Optimisation of the control (flow temperature, night setback, running times, turning off in summer, energy-efficient heat pumps, etc.)
- Using turn-off power strips
- Using timers e.g. for under sink water heaters
- Using energy-saving lights
- Organisational measures (assignment plans, set room temperatures, etc.)
- Energy saving tips for employees

For more information:

The project "Climate change and local communities" offers at
http://www.kuk-nds.de/projekte/kommunales-energiemanagement-kem.html
various documents (in German) for download:

- Sample instructions for operation of service plants. The manual facilitates the work for the energy manager in the municipality.



- Checklist of non-investment measures for a building tour.
- Sample Energy Report for Municipalities
- Announcement of the rules for energy consumption values and the comparative figures in the non-residential buildings. Federal Ministry of Transport, Building and Urban Development.

- Basic component of energy management. Working materials, Agenda Office No. 45 State Institute for Environment, Measurements and Nature Conservation Baden-Württemberg.
- Energy management systems in practice. Guidelines for companies and organizations. Federal Environment Agency.

Links:

Information for municipal energy management; German Association of Cities 2012,
www.staedtetag.de/fachinformationen/wirtschaft/057992/index.html

Energy and Climate Change Management: The key to greater energy efficiency in municipalities; German Energy Agency (dena), Berlin July 2011,
www.energieeffiziente-kommune.de