

# DOING THINGS RIGHT IS A POINT OF HONOUR AT VIBORG DISTRICT HEATING



**Niels Ladefoged from Viborg District Heating, Denmark** is living proof that there is always a better solution. He has for a number of years actively contributed to the research and development of the Kamstrup products by providing wishes, demands and his cooperation. And people listen to Niels Ladefoged who has been in the district heating business for more than 25 years and functions as a service technician in a meter fleet of 7,838 installations.

Niels has been with Viborg District Heating since 1996. In 2000 he laid the first stone of a total renewal of the meter fleet – a project which brought in Kamstrup as supplier of heat meters.

## LARGE HEAT CONSUMERS DESERVE MORE

It was therefore only natural that Viborg District Heating in 2009 was among the first to install the latest heat meter from Kamstrup, the MULTICAL® 801, at their large consumers.

MULTICAL® 801 is the latest addition to the Kamstrup product range of energy meters. It stands out as the roughest meter type on the market. As well in relation to functionalities as in relation to design, this meter is tailored for the industrial and commercial segment that typically demands very robust equipment.

“The MULTICAL® 801 serves our large-scale customers just right,” says Niels Ladefoged. “This kind of consumers often has building automation and will benefit from drawing the heat meter and thereby the heat consumption into the control system. They have to account on a monthly basis for their heat consumption, and because this meter has room for two communication forms, they and we can both collect data from the meter, even though they may read via LON to CTS and we read via radio.”

And then this meter has a backlit display – a small detail highly valued by Niels Ladefoged: “A meter like this is rarely placed where this feature isn’t helpful!”

So far the MULTICAL® 801 has been installed at a handful of large-scale consumers, and a lot more will be up and running before the end of the year.

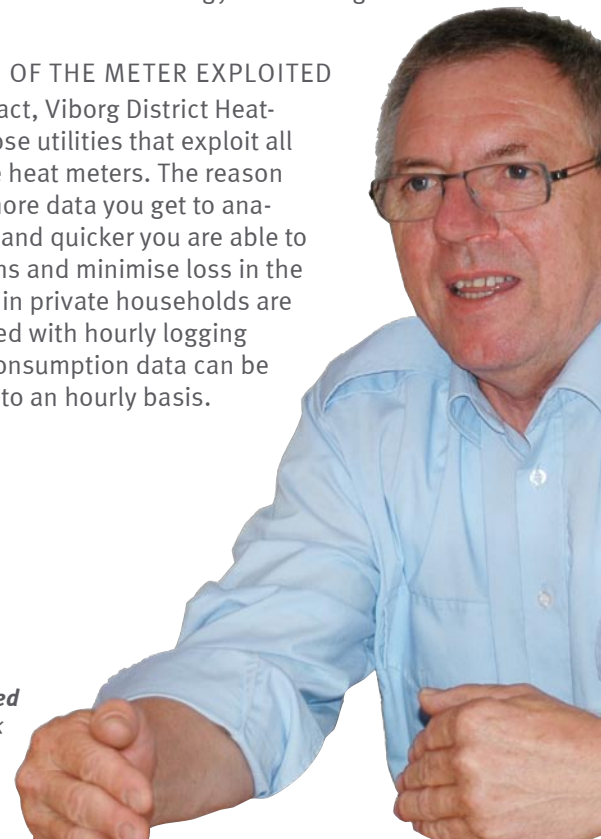
## ENERGY COUNSELLING

Of the 14 employees at Viborg District Heating two are working with energy counselling. Much of this counselling work is based on information from the heat meters. In Viborg meters are read every month, and in case of deviations from the normal consumption pattern, the customer will receive a written offer of energy counselling.

## ALL FEATURES OF THE METER EXPLOITED

As a matter of fact, Viborg District Heating is one of those utilities that exploit all functions of the heat meters. The reason is simple: the more data you get to analyse, the better and quicker you are able to detect deviations and minimise loss in the grid. All meters in private households are therefore ordered with hourly logging depth so that consumption data can be analysed down to an hourly basis.

**Niels Ladefoged**  
Service Technician, Viborg District Heating, Denmark





Combined heat and power plant, Viborg, Denmark

### TARIFFING LAYS THE GROUND FOR SAVINGS

The goal is to achieve savings – in the operation and at the customers. Viborg District Heating has decided that all imposed energy savings must be obtained in the own grid which is why the whole system needs a trimming.

For a number of years the tariff-function in the meters has been used for tariffing the return temperature as a means of financial incentive. This has not only an effect on the customers' energy awareness and economy, but also on the operation of the utility. "If we can lower the return temperature by just one degree, we will achieve a yearly saving of almost 30.000 Euro," Niels Ladefoged explains; and he complements by giving an example of a large-scale customer who had to make an additional payment of 240,000 Euro because of too low delta T; but two years later when he had optimised his heating installations, he received an extra 107,000 Euro in return.

### PRIVATE RADIO NETWORK

Viborg District Heating can effortlessly access the plenitude of consumption data because most of the meters in the grid are equipped with a radio module and read

by the utility's own radio network. "Originally the meters were equipped with a telephone modem, but the dependency of the tele provider was sometimes an obstacle. Today we run our own radio based network.

The software for reading the meters, linked together in the radio network, is placed on Viborg District Heating's own servers, and the utility handles the system itself. "I was in charge of implementing the system – an exciting, but also demanding process", says Niels Ladefoged. "We are regularly expanding the system, and it therefore makes sense that we handle it ourselves. And once the meters are trimmed in, everything is running automatically without us having to intervene."

### THE FUTURE WILL BE SUSTAINABLE

Currently Viborg District Heating gets all its heat energy delivered from Viborg Krafvarme A/S (Viborg CHP), but there are new plans for the future. A plant for waste incineration is planned and expected to be able to produce what amounts to 50 % of Viborg District Heating's sales. And if the pieces fall into place, Viborg will have a geothermal power plant within the next 4 to 5 years.

#### Facts:

- ➔ Yearly heat sales approx. 200,000MWh
- ➔ 293 km distribution system
- ➔ 7838 installations
- ➔ Approx. 500 large scale/industrial customers

- ➔ Radio based reading of all meters
- ➔ Operation handled by Viborg District Heating
- ➔ Meter fleet consisting of:



MULTICAL® 801



MULTICAL® 601



MULTICAL® CDE