DISTRICT ENERGY MANAGEMENT

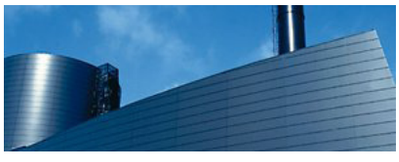
Real-time monitoring and proactive decision making

CUSTOMER CASE

7T is becoming Schneider Electric

TERMIS

Temperature Optimization Saves Millions for District Heating



Customer	
Hjørring District Heating, Denmark	
System Integrator	
7-Technologies	
Application	
TERMIS Temperature Optimization	
Data	
Number of heat exchangers / Gas-fired boiler plants	
6	
Main pipes	
~148 km / 96 miles	
Service pipes	
~ 102 km / 63 miles	
Number of consumers	
~ 8,400	
Maximum effect	
~ 85 MW	
Heat sources	
Purchase of residue heating	50%
Biogas	4%
Own production wood pellets	28%
Gas heated CHP plants	14%
Gas heated kettles	4%
Heat loss	
~ Reduced from 23% to 20.7%	
Return On Investment	
Less than one year	
Reduced CO_2	
227 ton per year	

Hjørring District Heating has reduced the inlet temperature with an average of 8 degrees. The result is a reduction in heat loss of nearly 10%. This corresponds to approximately 4.300 MWh.

"The more information we can get hold of, the better we will be at performing optimization. Let's face it, nobody can have the big picture of the ins and out of their network. TERMIS Temperature Optimization can help us find out where the bottlenecks are," says Per Sørensen, Managing Director of Hjørring District Heating.

The Challenge

Reduction in heat loss

Hjørring District Heating wanted to reduce its heat loss, as this was identified as one of the areas with the biggest potential for improving the efficiency.

The Solution

Real-time information about the network

After investigating various alternative products in the market, it was decided to go for TERMIS Temperature Optimization. The key factor for the decision was the ability to provide real-time information of the network. The estimates moreover showed that the Return On Investment was less than one heating season.
Hjørring District Heating uses TERMIS Temperature Optimization to calculate the optimal supply temperature at various points in time, which guarantees that the consumers will get exactly the heating they need.

The Result

New knowledge is useful knowledge

TERMIS Temperature Optimization has facilitated a reduction of the supply temperature to the lowest possible level. In addition, this has generated new

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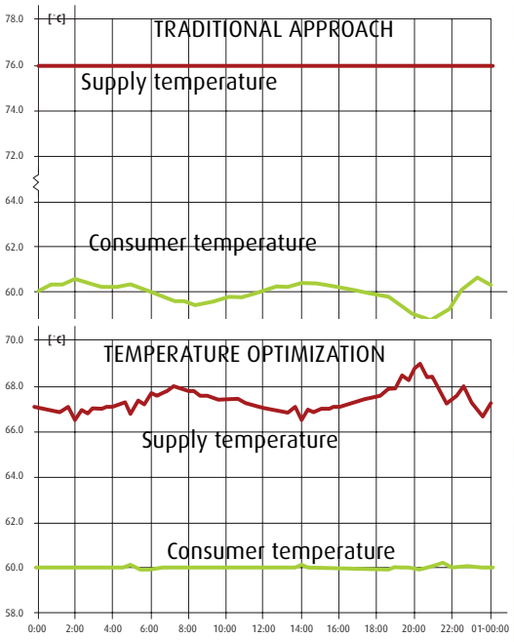

"Temperature Optimization has been a great success for us. We installed TERMIS Temperature Optimization in the autumn of 2006, and can now document savings of approximately 1.5 million Danish kroner (*~ 300,000 USD)* per year."

Per Sørensen, Managing Director at Hjørring District Heating.

detailed knowledge of the network. This information can be used to identity weaknesses in areas and determine how to remedy these weaknesses. The implementation of TERMIS Temperature Optimization enables Hjørring District Heating to work proactively rather than just reacting to events. Historically, more resources have been invested in optimizing at the actual plant, due to insufficient knowledge of the network. This is now all in the past.

Advantages in the operation

Overview of the Consumption

TERMIS Temperature Optimization uses SCADA data from the district heating network. This situation constitutes the best baseline for the optimization and encompasses operational changes such as valves that open and close, major clients with varying consumption, and any fluctuations during weekends and vacation periods. Any unusual operational interruptions will also be included in the optimization.

Vision for the future

Upgrading to TERMIS Operation

"Our next step is to upgrade to TERMIS Operation. This is an application with an intuitive user interface that provides easy access to predefined scenarios that are configured according to our specific needs and requirements. Our staff in the various departments will consequently have access to useful information from the network," says Per Sørensen.