TREND ENERGY MANAGER

TREND ENERGY MANAGER AND YOUR TREND BUILDING ENERGY MANAGEMENT SYSTEM

Find out how and where the energy in your building is being consumed and take control.

Designed to be used in conjunction with your existing Trend BEMS, Trend Energy Manager's web-based software is used to highlight and investigate potential energy waste within your building. It incorporates controls data and energy usage from the Trend BEMS, plus data from other sources, to provide a fast and cost effective way of gaining control of a building's environmental performance and utility consumption.

TREND ENERGY MANAGER ENABLES YOU TO:

- Improve site energy performance, reducing cost and carbon footprint
- Maximise return on existing investment in BEMS equipment
- Save time on manual analysis and reporting
- Demonstrate the business benefits of an energy management strategy
- Demonstrate compliance with legislation and standards

KEY FEATURES OF TREND ENERGY MANAGER:

- The ability to leverage information from existing Trend BEMS infrastructure
- Collects, stores and analyses Trend BEMS point logs
- An intuitive web-interface
- Displays data in easy-to-interrogate graphical and tabular formats
- Different levels of user access (User, Administrator and Engineer)

COMBINING BUILDING AND ENERGY MANAGEMENT

A Building Energy Management System provides a highly efficient means of monitoring and controlling the environment and energy usage within a building. However, maximising the full capabilities of a BEMS can be a daunting task.

Large amounts of data – including occupancy parameters, meter and sensor data – is continuously collected and logged within the system. Without specialist Trend BEMS knowledge, an interrogation of the system and interpretation of the information against energy consumption can be an arduous and time-consuming task.

Using historical data already stored in the Trend BEMS, Trend Energy Manager's data collection and presentation system enables reporting and analysis of the system by comparing data against the tariff and energy supplier information that lies outside of the BEMS.

GETTING THE MOST FROM TREND ENERGY MANAGER

Trend Energy Manager employs an intuitive web interface and layout, making the system easy to navigate. Once installed, Trend Energy Manager will browse the BEMS and produce a list of system meter/sensors points from which data collection can be selected.

REPORT AND MONITOR

Reports are generated for the purposes of monitoring energy usage and costs, and monitoring energy wastage based on forecasted usage against actual usage. Depending on your requirements, there is an option to drill down into the detail or display a summarised view, which can be printed or download as a CSV file. For example, you may choose to:

- Overlay up to four plots on a single graph, to compare energy usage on specific months, weeks or days, easily drilling down to spot incidents of energy waste. *(fig. 1)*
- Measure the energy consumption against expected or targeted consumption. *(fig 2)*
- Compare the energy performance of any day in a month with a day from a previous time period. *(fig. 3)*
- Illustrate the total energy consumption, cost and CO_2 emissions for every building on the estate. *(fig. 4)*

ANALYSE AND IMPROVE

The analysis feature incorporates tools that take degree day and energy consumption data to form regression analysis and Cumulative Sum of the difference graphs (CUSUM); very useful for revealing trends in the performance, as well as showing the effect of changes to a building or its heating, ventilation and air conditioning (HVAC) plant, and the impact of energy saving measures. They also provide the information needed to set energy budgets. For example, you may choose to:

- Display energy performance against degree days from a previous period and compare with current performance *(fig. 5 & 6)* on a like for like basis, removing external variables such as outside temperature.
- Compare current energy consumption against a benchmark value to highlight areas of poor performance. *(fig. 7)*
- Plot heating and cooling consumption against outside air temperatures *(fig. 8)* to gain a better understanding of the relationship with external factors.

REPORTING USING TREND ENERGY MANAGER

FIG.1

STANDARD REPORTS:

Choose from a set of standard reports to highlight energy consumption at data point level. View detailed, daily, weekly and monthly graph types for up to four data points, including plant and environmental data.

FIG.2

MONITORING AND TARGETING (M & T):

Display energy consumption data against profiles and targets which have been set up for the data points, so that comparisons can be made between actual and expected consumption over a given period of time.

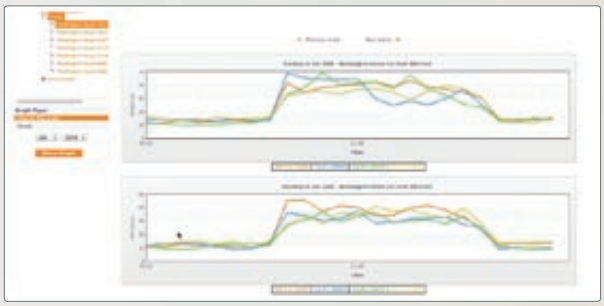

FIG.3

COMPARISON:

Generate customised reports to easily spot anomalies:

- Maximum, minimum and average daily values
- Week against week in a given month
- Day against day in a given month e.g. each Sunday in April
- Energy usage for different time periods in the day

FIG.4

COST REPORT:

Generate fiscal value or $C0_2$ reports on consumption.

ANALYSIS USING TREND ENERGY MANAGER

FIG.5

REGRESSION ANALYSIS:

Compare predicted (forecasted) energy performance, based on historic performance, with current performance.

FIG.6

CUSUM:

Display the cumulative sum of the differences between actual and predicted energy consumption.

FIG.7

BENCHMARKING:

Compare current energy performance against a benchmark value to spot the worst performing areas.

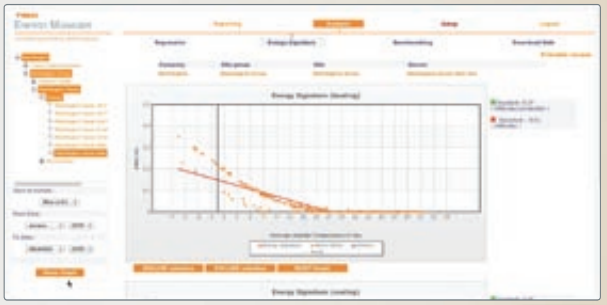

FIG.8

ENERGY SIGNATURE:

A graphical line representing the energy consumption against the average outside temperature of the day. There are two signatures, one for heating and one for cooling.

SEE THE TREND ENERGY MANAGER IN ACTION:

Simply insert into your disc drive and the movie file should auto start. Alternatively, view CD contents and double click the ‘TEM.wmv’ file.

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