Reporter Key Features
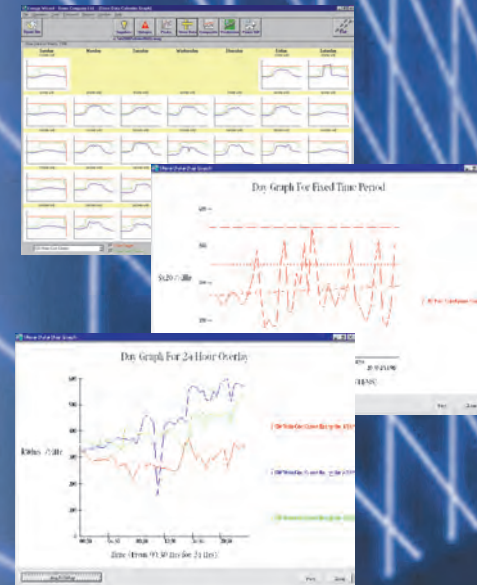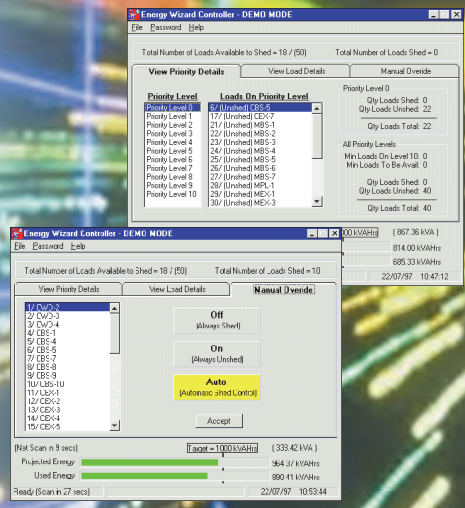
♦ Costs can be easily apportioned to profit/cost centers.
♦ Actuals, both energy and cost, can be compared with budgets, norms & targets.
♦ A check Power Bill can be printed.
♦ Opportunities for load control can be identified.
♦ Different tariff structures can be analysed for net bottom line effect.
♦ Improvements can be locked in by continuously monitoring energy use against targets.
♦ Risk management strategies are greatly assisted..

The Controller

The controller module is designed so that the plant's energy manager can set up a 'Master Matrix' of all plants which can be shed and the condition under which this can be done. For example, a chiller may need to operate between −18ºC and −25ºC or a pump may only be allowed four starts an hour.

If the plant is likely to exceed set targets the "controller" interrogates the master matrix to see what is available for shedding. This will be displayed on the screen with all applicable constraints. The automatic controller can be placed in charge.

Controller Key Features

♦ Handles complex plant shedding and restoration.
♦ Uses a predictive load shedding algorithm to maintain pre set targets.
♦ Can manually override the shed status of individual loads from the main computer or from a network computer.

The Purchasing Decision

The Monitor / Reporter module can be purchased separately, if you should only wish to monitor and analyze information for management reporting. For load shedding and load shifting controllers, both the Reporter module and the Controller module will need to be purchased.

We hope this overview assists you to appreciate our new **EnergyWizard** software, its simplicity, its flexibility and its power.

Properly used this package should pay for itself in under six months from energy savings and should also give improved knowledge of plant operations, energy usage and cost structures.

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Energy *Wizard*

Gather Energy Information

Enter Supplier Tariff

Comprehensive Energy Management

Loadshedding and Control

Key Benefits

· *Windows Based*
· *Accepts data in a wide variety of forms*
· *Competitively priced*
· *Exports files to Excel*
· *Handles complex tariff structures*
· *Provides usage and cost outputs*

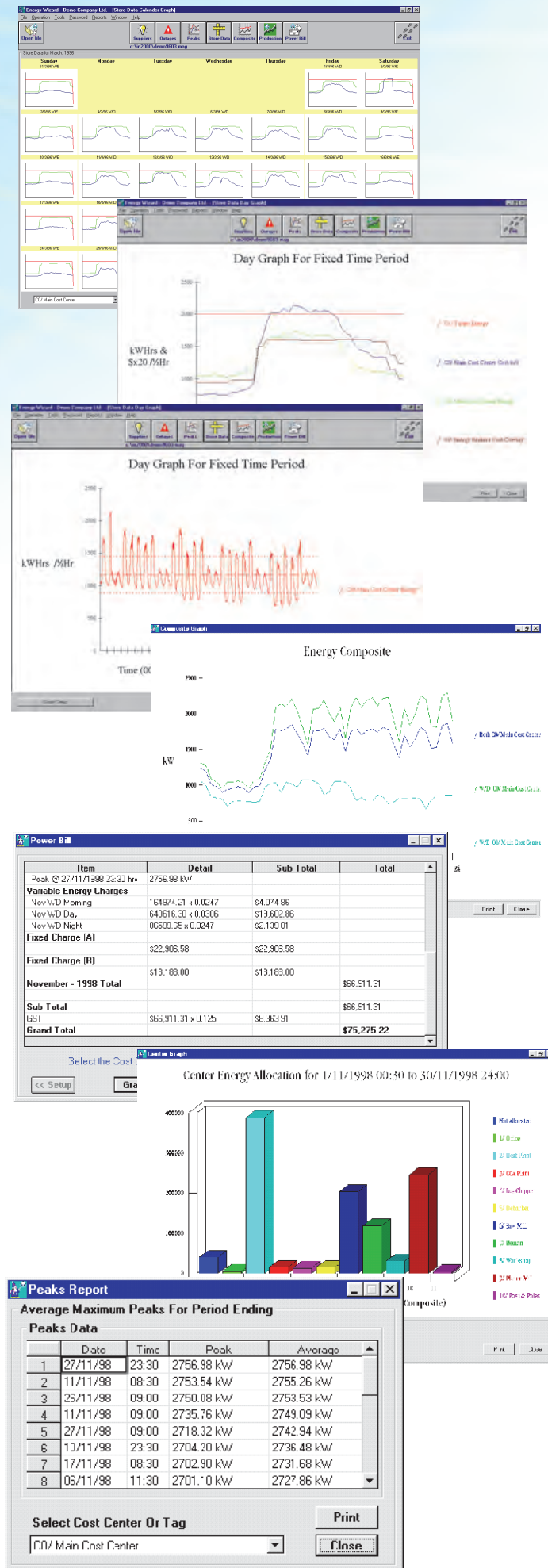# Energy Management & Load Shedding Software

Introduction

This energy management software has been designed to answer the differing requirements of **management** who want analysed data for strategic planning, audit, accounts or tariff negotiations and **site personnel** who need real time information to optimize plant processes, with the flexibility to move to automatic control if desired.
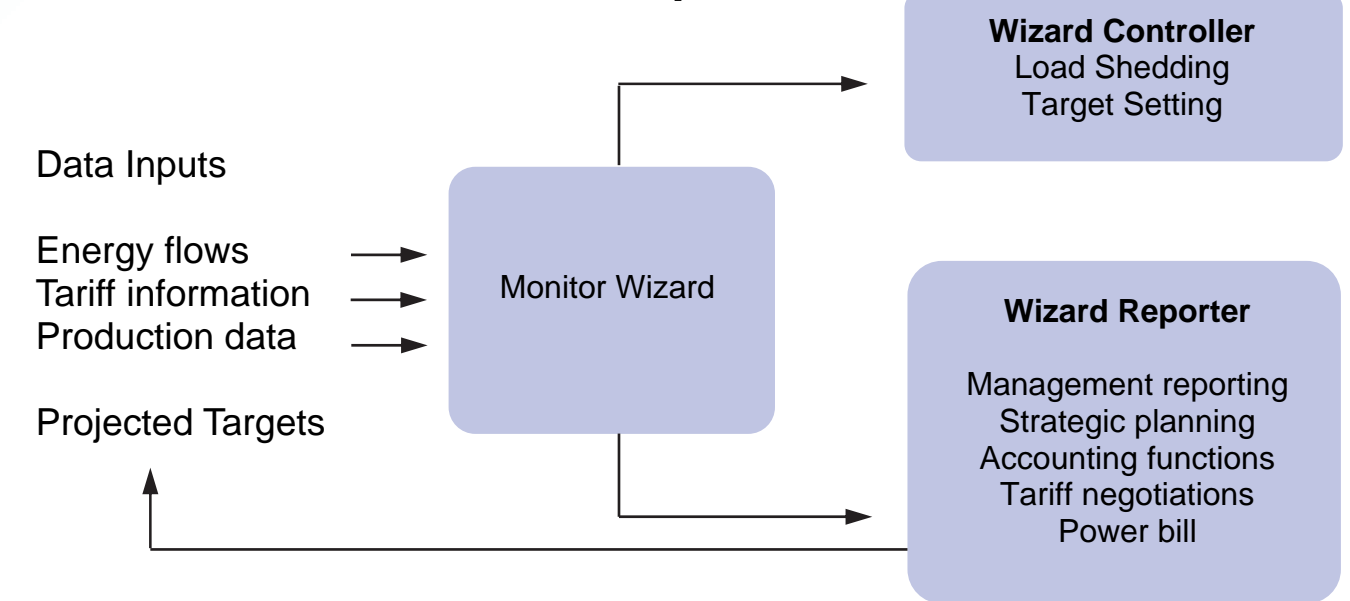
Energy Wizard has been developed as a result of numerous request from clients who anticipated the opportunities and pitfalls of the deregulated energy markets of the 1900's and is an additional feature to our very successful MicroScan SCADA package.

Intech Instruments Ltd and ECNZ (who produced the original conceptual design), both have long track records in the Energy Sector. Intech Instruments Ltd supply software, instrumentation and SCADA systems to Industry in 22 countries world wide. ECNZ is New Zealand's primary electricity producer with considerable knowledge of electricity markets and industrial customers.

We believe that the future energy market will lead to more stringent industry tariffs and more price volatility, making automation of load control increasingly valuable as a necessary cost control function.

Overview of the Wizard Components

Wizard Controller
Load Shedding
Target Setting

Data Inputs

Energy flows →
Tariff information → Monitor Wizard
Production data →

Projected Targets

Wizard Reporter

Management reporting
Strategic planning
Accounting functions
Tariff negotiations
Power bill

Energy Wizard software spans the different applications that modern business requires, providing as it does, real time mimics, management reports, power bill analysis and automatic load shedding amongst other functions.

The system can accept raw data from Industrial PLC's, signals from analogue or pulsing transducers, or discrete data from other sources.

You will find this **user friendly** windows application will make a **significant** contribution to the reduction of your energy costs per unit of production and an increase in your productivity and profit.

Wizard Outline
There are two main Wizard modules, the Monitor / Reporter and the Controller.

The Monitor / Reporter
The Wizard Monitor (with your existing MicroScan 2000 SCADA package) monitors

analogue data (kW's kVA's, litres, or kg's) and can either show these instantaneous values on a mimic diagram on the computer screen or integrate them over time to produce energy consumption figures (eg: kWh's, kVAh's) or flow rates (eg: litres/sec or kg/hr). These consumption values can be logged periodically.

The Wizard accepts 200 configurable data streams. Data are appended to a master file which is configured to accept a months **half hour** data.

In the case of electrical quantities the typical accepted practice in the wholesale industry in New Zealand is to deal in half hour periods.

We therefore log all energy consumption values on a half hour basis. This of course does not preclude being able to access the real time instantaneous value for display at any time.

Readers should not that it is the typical practice to define the peak kW as the **average kW in the half hour with the highest kWh.**

This convention perpetuates the need for half hourly logs of data accumulated over the half hour, resetting to zero each period, as the base requirement. Similarly steam flows are usually described in kg/hr or gas flows in GJ/hr and the half hour log provides meaningful flow figures.

Any number of these prime data streams can be combined to provide a 'maths grouping' being a new single stream of data. For example, this may include half the electricity from a feeder A, and all of the electricity from a feeder B which may equate to the energy used by a product.

Once the 'maths grouping' is established, targets for consumption versus product output can be set and variance and sensitivity analysis carried out. Similarly targets for the controller module can be set so that effective load shedding will occur.

Day Graph For Fixed Time Period

Day Graph For Fixed Time Period

Energy Composite

Power Bill

Center Energy Allocation for 1/11/1998 00:30 to 30/11/1998 24:00

Peaks Report
Average Maximum Peaks For Period Ending