

# VES

## Vykon Energy Suite®

### Overview

Vykon Energy Suite® (VES) is a applications suite designed to help manage energy and facilities. Built on the Niagara Framework, VES has the ability to gather data from diverse systems including utility meters, building automation systems, and mechanical and electrical systems. VES integrates common protocols including Modbus, BACnet, OPC, and LonWorks. In addition, users can import data from a variety of Sources including CSV, HTML, MV-90 and XML. Beyond data gathering, VES provides a window into the energy portfolio with a web-based reporting suite.

### **Server Hardware Requirements**

- » Intel Pentium™ III, 500 MHz or higher
- » Internet Explorer™ 5.0 later or Netscape Communicator™ 4.5 or later.
- » 1GB hard drive minimum and 5gb for applications that need extensive archiving capacity.
- » Display should have 1024 x 768 pixel resolution.

# Cost Profiling Data Sheet

## Applications

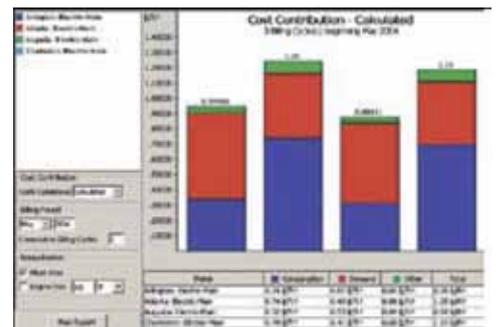
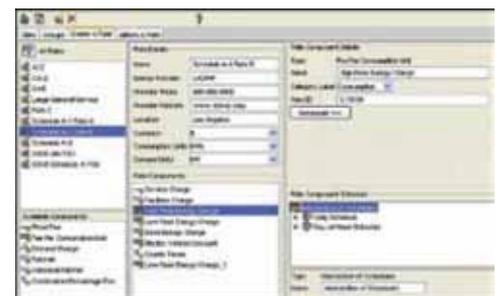
Cost Profiling is a module in VES designed to help manage energy costs. Users can easily compare energy costs based on metered interval data and applicable rate structures to benchmark facilities, identify inefficiencies, implement changes, and measure results. Cost Profiling empowers an organization to proactively manage budgets, calculate accurate cost projections and reduce energy costs.

## Supply-Side Benefits

Cost Profiling simplifies utility buying strategies. Users can compare different procurement strategies and rate structures without actually switching energy providers or rates. Energy managers can aggregate and disaggregate meters, try alternative rates, manipulate consumption and demand levels, and utilize a combination of rates on a single meter or group of meters. Cost Profiling also allows you to compare actual costs to a pre-determined budget with delta and variance from forecasts and helps take the risk out of energy procurement.

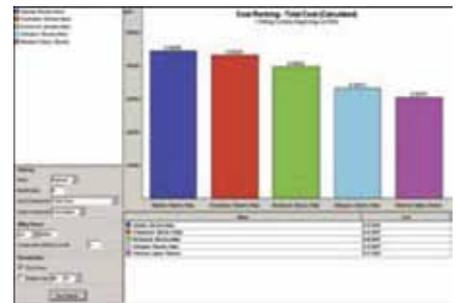
## Demand-Side Benefits

Identifying inefficiencies within or between buildings can be a daunting task. Relying on utility invoices and spreadsheets can be a monumental effort, especially when analyzing multiple accounts or meters. Cost Profiling provides comprehensive capabilities through a web-browser. By analyzing meter interval data, users can determine which sites have the highest costs, normalize for floor area and weather, and access the latest information. Cost Profiling helps identify and validate strategies at any time, from any location.



## Features

- » Web-based application allows access from anywhere via any standard Web browser.
- » Enables users to determine effects of alternate procurement strategies without actually switching rates or providers.
- » Actively allows users to analyze the benefits of flattening loads by aggregating meters.
- » Provides templates that help users manipulate consumption levels and determine "what if" scenarios.
- » Permits users on change peak demand levels and re-compute costs based on alternative peaks and consumption patterns.
- » Works with Niagara-based control systems to enable implementation of load shedding/shifting strategies.



## Cost Profiling Reports

**Invoice Reconciliation** - Compare utility invoices to calculated values to identify billing errors. Users can establish a historical baseline with manually entered data from utility invoices.

**Cost Contribution** - Determine how meters - whether sub meters within a building or main meters across an enterprise - contribute to the aggregate energy expense.

**Cost Ranking** - Rank meters to determine the most costly. Normalize data based on Outside Air Temperature and floor area.

**Budget Report** - Users can enter budgets or use historically generated data, then compare against actual costs. Make projections for reporting periods before it's too late.

**What-if Analyzer** - Enables prediction of future costs. Users can manipulate consumption patterns and demand levels to project savings from various strategies.

**Rate Comparison** - Analyze alternative rates and energy providers. Determine the effect of an energy strategy before you implement it!



## Rates Modeler

The foundation of Cost Profiling is Create-a-rate™, a sophisticated rates modeler that will handle many common rate types and rate components. Once a rate is added in Create-a-Rate, the thin client, web-based application provides fast and easy cost reporting using any standard browser. The What-If Analyzer empowers any energy manager to manipulate energy and rate variables to determine project payback before making the investment.

# Energy Profiling Data Sheet

## Applications

Energy Profiling is a module in VES that provides an advanced, user-friendly porfiling tool designed to help users manage **Energy** and **Enterprise** systems. Energy Profiling offers extensive reporting flexibility allowing users to profile any data point over any period of time. Users can trend and analyze energy, temperatures, production, and facility data. The day of week seletor allows users to define days or combination of days to be considered in given report. Fully browser-based, intuitive navigation tools make it easy to get the information when you need it, where you need it. Energy Profiling utilizes a robust time series database that enables complex, multi-faceted computations. Hundreds of thousands of records from years of data can be presented in web-based reports within seconds.

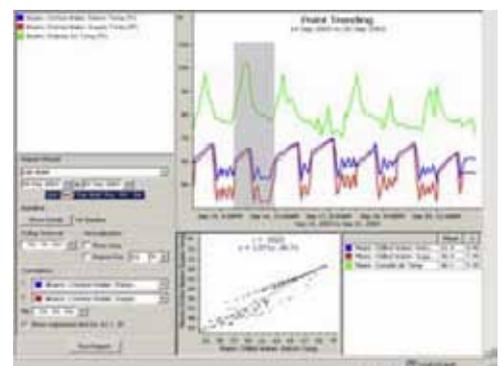
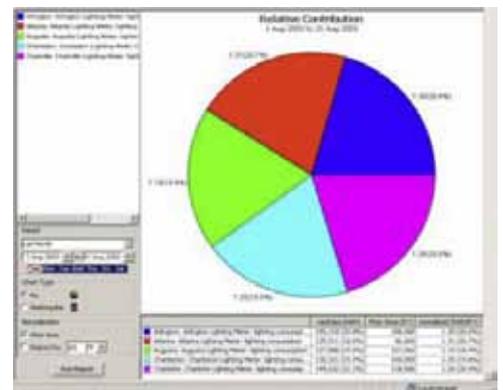


## Energy Benfits

Users can analyze consumption, demand and compute load factor with a click of the mouse. Meters can be aggregated and disaggregated on fly to determine how underlying meters affect the total portfolio. Energy Profiling allows different commodities to be converted to a common measurement unit to aggregate and compare dissimilar energy types. In addition to the flexible reporting capabilities, Energy Profiling normalizes potentially confounding variables such as weather and floor area to see what energy would have been under "normal" circumstances. With the comprehensive baselining features, users can compare energy usage against historical levels, giving users a scorecard on their conservation effects.

## Enterprise Benefits

Energy Profiling provides sophisticated facility reporting to analyze production information, temperatures, chilled water, equipment status, and more. Users can determine correlations and perform other statistical analysis on buildings, equipment, and energy. The exception report allows users to determine anomalies by comparing data values against a baseline or versus a user defined range, and runtime with runtime percentage information allows to schedule preventative maintenance. Energy Profiling provides a comprehensive M&V tool that meets International Performance Measurement and Verification Protocol (IPMVP) guidelines. The Robust reporting capabilities make it the perfect tool for comissioning buildings and equipment.



## Features

- » Dynamic profiling allows for transitioning between reports without redefining set parameters
- » Web-based application enables anytime, anywhere access.
- » Universal comparison allows users to convert measurement units to a common unit.
- » Graphical zoom provides ability to zoom in horizontally and vertically for more in-depth analysis.
- » Allows for aggregation of energy data on the fly.
- » Customizable Energy Portal Page and HTML frame support permits partners to develop product concient with its company graphics and messaging.
- » Extensive data import capabilities allow interval data to be added to the database.
- » Localization support provides quick translation into severnal languages.



## Energy Profiling Reports

**Appregation Analysis** - Computes consumption and demand along with load factor for a point or a group of points.

**Average Daily Profile** - Displays an average 24-hour period for any day or combination of days.

**Enterprise Ranking** - Ranks meters in the enterprise to identify the most and least efficient buildings.

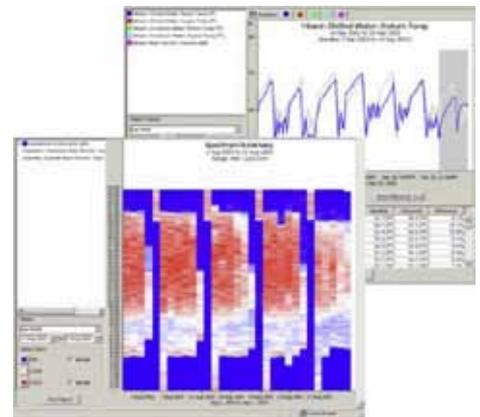
**Equipment Operation** - Displays runtime and runtime percentage for digital points, along with corresponding bar chart for selected points

**Exceptions** - Allows users to compare data values versus a baseline or against a defined range of values.

**Point Trending** - Performs statistical analysis to determine correlations, standard deviations, slope, regression line, and mean.

**Relative Contribution** - Determines how submeters or multiple main meters contribute to a total energy within or between sites.

**Spectrum Summary** - Utilizes pattern recognition to quickly identify anomalies with inconsistent patterns indicating a problem.



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