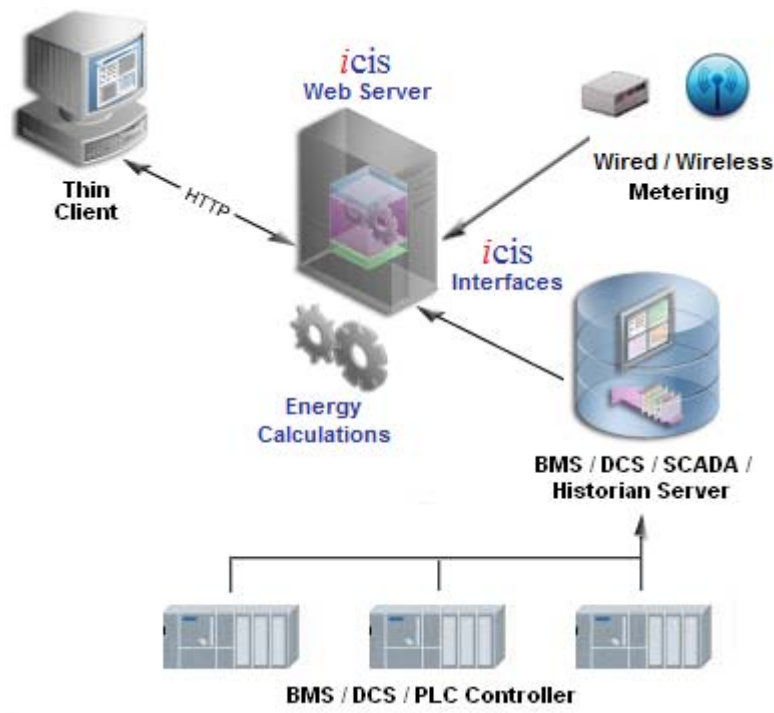


## Plant Energy



The *icis* Plant Energy Application allows for Web based energy analysis and reporting direct from your desktop browser. The application contains numerous features such as:

- Connection to metered and non-metered data contained within an Automation system which provides real and virtual data for *icis* energy tools
- Direct connection to wired and wireless metering devices utilising our Modbus and Zigbee network interfaces
- Analysis tools for Power, Water, Steam, Oil, Gas and Emissions all from one single access point
- Real time performance results with feature rich graphs that provide KPIs' and energy reduction reviews

### Introduction

*icis* Plant Energy is designed to interface directly to historian servers, metered devices or to wireless enabled *icis* devices. By doing so our unique set of virtual and direct metering can build and backfill your organisations historical energy consumption to allow for instantaneous analysis.

By providing this unique toolset for metering and analysis your organisation can begin to implement energy reduction programs guaranteeing an instant return on investment.

**Integrated Control  
And  
Information Systems (ICIS)  
Limited**

## Benefits

### Discover Organisation Energy Usage

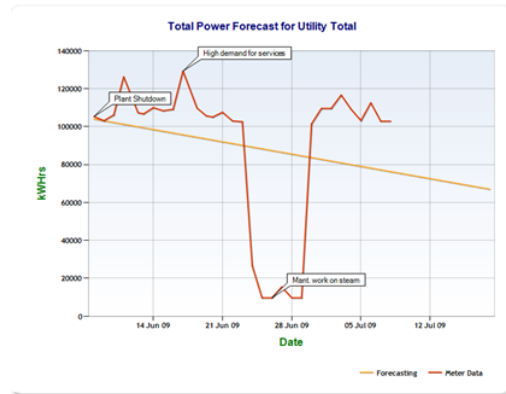
By using *icis* Plant Energy you will discover your organisations true energy consumption and waste generation with information broke right down to specific users, cost centres and equipment.

By leveraging the power of your Automation system or our wired and wireless interface solutions, you can start to build accurate analysis results that are used for reduction programs, future plant expansions, targeting and energy reviews.

The application enables users to discover an organisations actually energy consumption and efficiency. Thus providing relevant and real-time information to enable Operational and Engineering changes that will help increase efficiency and reduce costs.

### Multiple User Application

As *icis* Plant Energy generates a diverse range of information in user friendly tabular and graphical format it opens up your organisations energy data to a whole new audience and embeds its use in day-to-day Business analysis which is a goal of any well defined Energy Management strategy.



For example some of the users are:

#### 1. Management Review

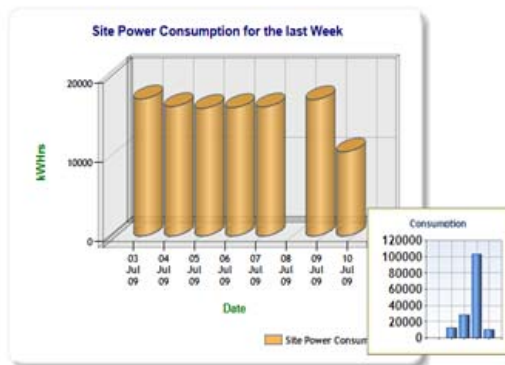
The application allows for the review of real-time usage and performance information at the highest metered level of an organisation, thus allowing users to verify if organisational energy targets are being met without having to analyse reams of data.

#### 2. Engineering Review

The application allows for the review of real-time and historical energy usage across all buildings and equipment. Through the use of its multiple analysis tools this aids in energy improvement programs and helps to visualise reduction changes implemented within an organisation.

**Feature Rich Visuals**

icis Plant Energy incorporates user-friendly visuals in the form of tabular and graphical information. This increases the ease of use and training on the system, which in turn generates a high take up on application usage post installation. The result of which brings instant return on investment through energy analysis programs and reduction projects.



**Dynamic Metering**

icis Plant Energy offers you multiple methods for obtaining your energy data. Through our direct interfaces to wired and wireless metering devices with Modbus and Zigbee to our unique virtual metering technology for use with Automation and Historian systems. Using our unique virtual metering allows for the building of energy consumption items without the need to install an actual meter. This allows for the use of existing infrastructure and data to create a unique method of Energy analysis. With this ability to interface with physical meters and build over 20 types of virtual meters for Power, Water, Steam etc, a user

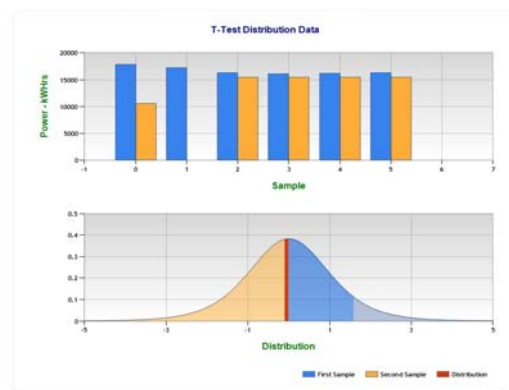
is offered an unrivalled flexibility in building and generating Energy consumption information.

**Analysis Tools**

icis Plant Energy provides various analysis tools that allow users to monitor energy usage, cost, carbon emissions and improvement projects.

For example tools include:

- CUSUM
- Statistical Analysis
- Comparison
- Forecasting
- Trending
- Scorecards
- Annotation
- Consumption
- Degree Days
- Savings & Targeting



**Reporting Tools**

icis Plant Energy provides a number of standard reports for User and Equipment Cost & Consumption information for an organisation. However in order to provide an additional level of flexibility it also allows for the creation of user defined reports that can be uploaded into the application by a

user. This offers end users the ability to design and generate their own reports as required without the need for external 3<sup>rd</sup> party developers. The reports can be generated manually or may be scheduled for automatic generation by a user who can subscribe to them.

### **Energy Program**

In order to support an organisational energy program *icis* Plant Energy offers numerous non-technical tools to application users. These tools are used to involve a complete organisation in the Energy Program and not just a select few technical staff members. An Energy awareness and reduction program should involve all levels within an organisation.

In order to support this *icis* Plant Energy offers:

- Energy dashboards
- An Energy forum & blog
- An Energy document sharing facility
- A register of Energy saving opportunities
- A register of Energy Projects

### **Browser Interface**

As *icis* Plant Energy is web based it allows for user interaction through a standard web browser. This removes the need for client tool installs and support on local desktops. The web server is the single point of installation and as such reduces the amount of Administrative and support tasks to just one machine if locally hosted.

### **Local or Remote Hosting**

*icis* Plant Energy can either be installed onto an organisations existing IT infrastructure and supported locally or it can be hosted by our remote application servers. For both scenarios our interfaces communicate with the local metered devices and transfer the data to the relevant storage location. For the remote hosting scenario our data is either transferred out to our servers via the internet over a corporate LAN or over a GSM network. We use Microsoft as our remote hosting provider on the Azure platform that offers unrivalled security and uptime for your energy information portal.



### **End-User Control**

*icis* Plant Energy provides detailed administration and configuration tools that allow for the control of its security, navigation, meter configuration, interface setup and much more. This ensures that the end-user has complete control over the application once installed. So as the energy program within an organisation grows so to can the analysis application without the need for any 3<sup>rd</sup> party support.

## Product Description and Specification

icis Plant Energy has been developed through Microsoft .Net Technology and is currently configured to run on version 3.5 of the framework. The system incorporates the latest features of the framework in its Security, Automation Interfaces and Front End design. In order to provide for a better user interaction we use the latest AJAX technology to enhance the user experience.

The report web server runs in Microsoft Internet Information Server (IIS) version 6 or 7, which can be enabled, on any Windows XP Professional or 2000 / 2003 / 2008 server.

The system uses Microsoft SQL Server 2008 Express Edition as its underlying data store for configuration and storage of information.

## System Compatibility

The system is currently compatible with the following:

- OPC
- OSI-PI
- AspenTech IP21
- GE Proficy
- Wonderware Industrial SQL
- ODBC Compliant Data Sources
- Modbus and Zigbee enabled devices

For other metering or BMS / SCADA / DCS and Historian technologies please contact [info@icissoftware.com](mailto:info@icissoftware.com)

## Prerequisites

The application requires a report server with a minimum configuration of:

- Windows XP Professional or Server 2000/2003/2008
- Microsoft IIS 6 or 7
- 1 GB of RAM
- 1 CPU of 2GHz
- 2GB Hard disk

## System Installs

The application ships and installs the following products and components:

- icis Plant Energy 4.0
- SQL Server 2008 Express\*
- .Net Framework 3.5

\*A full 5 CAL licensed SQL Server 2008 installation is recommended for larger installations.

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