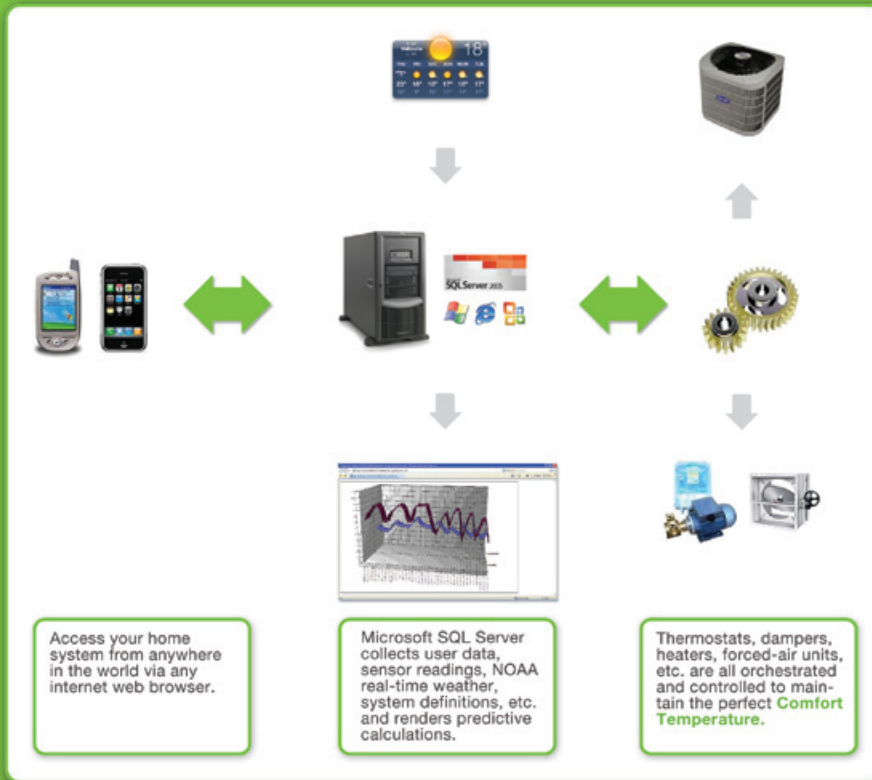


go green with env

by Climate Automation Systems



The first system of its kind to take intelligent climate control technology, previously exclusive only to large-scale commercial buildings, and bring them into the residential market. **env** balances all aspects of the home environment from forced air to radiant systems incorporating real-time weather data and established rules to result in an ideal climate not just for the home environment, but the earth's environment as well.

The true brilliance of the **env** system is the user-friendly Microsoft Windows control panel that integrates and governs the kinds of complex HVAC systems found in today's homes. These may include central forced air, radiant heating/cooling, humidity control, domestic hot water generation and other mechanical systems. The goal of **env** is to optimize all of these operations based on its four rules for a Sustainable Environment and provide homeowners with the ideal home climate.

Going green with env means:

- Reducing energy consumption
- Increasing human well being and comfort
- Maximizing the efficient and rational use of energy sources (Exergy)
- Reduction in CO₂ emissions

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env BENEFACTS

- > Reduction in the cost of operation of HVAC systems through implementation of strategic profiles.
- > Reduction in energy consumption.
- > Maximize the rules of Exergy.
- > Reduction in CO₂ emissions.
- > Satisfaction of the rule of a Sustainable Environment
- > Elimination of mechanical room wall controls and ongoing maintenance and replacement expense.
- > Ease of installation and reduction in cost of installation.
- > Possible application of tax credits for a Green installation based on State and Federal regulations.
- > Because **env** is rules based no charges for custom programming will be incurred at the time of installation or in the future when changes occur. However, hardware changes in the mechanical room may require a license HVAC contractor to implement.
- > Upgrade to new control strategies via software updates instead of hardware changes.

env FEATURES

- > **env** is a rules based system that does not require any custom programming to install or use. All tables and rules used by the system are entered using a standard web browser via point and click menus.
- > **env** maintains a SQL Server database that is used to calculate performance and compute Climate Control Strategies (CCS).
- > **env** accumulates historically:
 - a. kilowatt hour consumption by device
 - b. temperature variations by zone
 - c. zone efficiencies
 - d. radiant water temperatures by zone
 - f. and other data
- > Various reports and graphs can viewed and produced from this database.
- > **env** interfaces to National Weather Service to gather forecasts that are used to alter CCS, i.e., the outside air temperature is rising rapidly... decrease the water temperature in the radiant floors well ahead of normal operation thereby saving energy and making you more comfortable.
- > **env** uses humidity readings to compute comfort levels and manage radiant cooling panels reducing the possibility of condensation.
- > **env** optimizes and manages the combined use of forced-air and radiant systems to achieve ideal comfort, energy savings, and strategic use of energy resources.
- > **env** allows user to report their level of comfort by zone and modifies CCS accordingly.
- > Users/installers can select from different radiant control strategies, i.e., constant circulation, slab sensor or T-Stat control, outdoor reset, proportional reset, return water temperature differential, etc. This is accomplished using virtual device drivers not mechanical room hardware.
- > User defines Climate Profiles (CP) by zone: Vacation, Summer/Winter, transitional, on/off.
- > Climate Profiles define on/off events and temperature strategies by date and time. For example, turn off the master bedroom floors at 11PM but turn on the forced-air in enough time to heat the room to 68°F by 7AM. Or turn off the domestic hot water heater at 11PM and back on again at 6AM.
- > **env** generates web forms so that users can view and operate the Environment from any browser anywhere in the world.
- > **env** automatically backs up its files locally and on the Climate Automation Systems web site.
- > **env** constantly monitors the health of the environment and the mechanical systems and reports problems to the property owner or service company via email or Text Messaging.
- > **env** has a heartbeat and "reports in" to Climate Automation Systems' web site periodically. If a report is missed, the property owner is notified that there may be a problem making env perfect for vacation homes in extreme climates.