

retrofit

Reduce HVAC Loads Now to Beat the Summer Heat, Reduce Energy Costs

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With summer temperatures around the corner, now is the time for you to make preparations for your building(s) to beat the summer heat. Did you know that heating, ventilation, and air conditioning (HVAC) costs account for 44 percent of energy consumption in all U.S. commercial buildings and 53 percent in U.S. office buildings? Cooling the outside air coming into a building during hot summer weather requires greater energy consumption, which means higher costs.

Traditionally, indoor air in commercial buildings is replaced with outside air every one to two hours to prevent high concentrations of indoor pollutants. Although this helps limit pollutants, the high volume of outside air must be cooled to maintain comfortable temperatures and humidity inside the building. At the same time, extra outside airflow to preserve air quality can result in some areas of the building getting too cold, sparking increases in complaints from occupants. This problem is further exacerbated in buildings with higher occupant densities than they were originally designed for—common in open-plan offices.

With this in mind, facility managers, building owners and contractors in the commercial retrofitting industry are seeking HVAC technology solutions that use less outside air to ventilate a building, thereby boosting energy efficiency and saving on costs while maintaining air quality.

One solution, HVAC Load Reduction (HLR) technology, cleans and recycles the indoor air instead of constantly replacing it with outside—complying with ASHRAE Standard 62.1 Indoor Air Quality Procedure. In doing so, HLR technology decreases the outside air intake by 60 to 80 percent. It also reduces peak HVAC capacity, resulting in 20 to 30 percent annual energy savings and up to 40 percent peak savings. This is particularly important during summer's peak demand days when electricity costs can skyrocket. Using less outside air reduces water consumption (on water-chilled systems), extends the life of air filters and postpones HVAC equipment replacement. Facility managers and building owners can also invest in lower-capacity, less expensive HVAC systems and benefit from decreased maintenance costs.

For example, **ArcBest**, a multibillion-dollar logistics business, has seen a decrease in energy costs and an increase in occupant satisfaction by retrofitting with the HLR technology. ArcBest has reduced its peak cooling load by 273 tons in the company headquarters building—a 36 percent reduction.

“I previously got calls from people that they were cold during the summer, which was a direct result of having to introduce so much chilled air into the building to meet the appropriate CO2 levels,” says Richard Rieske, director of Corporate Facilities at ArcBest. “Likewise, they felt drafts during the winter due to all the outside air that was being used to ventilate the building. When **enVerid**’s HLR modules are running, our people are more comfortable.”

The HLR technology can be installed as a retrofit, in renovations or in new construction, and is scalable—a network of multiple modules can be deployed to accommodate any size building. In retrofits, the HLR module sits side-by-side with existing HVAC infrastructure without requiring changes to the HVAC system.

Solutions like the HLR system also enable increased visibility through Internet of Things capabilities, providing 24/7 monitoring and active management of a building’s indoor air quality. This real-time insight allows for proactive management of buildings to reduce energy costs and keep occupants comfortable and happy all summer long.

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