

# HVAC Sector Strategy Recommendation: Start With An Economizer Initiative

## OVERVIEW

A sector strategy focused on lighting control systems (an individual commercial lighting technology) is NOT analogous to a sector strategy focused on the entire HVAC sector or even “commercial quality maintenance” which is an extremely complex contractual relationship between a contractor and customer that spans dozens of HVAC "subsystems". On the other hand, Economizer control systems--an individual commercial HVAC technology--ARE analogous to lighting control systems.

Between 65% and 75% of economizers already installed are not functioning properly, even those included in maintenance contracts, and represent a significant energy savings opportunity in California. Further, economizers are notorious for not being properly installed. Further still, Title 24 2013, requires economizer controls to include features (fault detection and diagnostics), features that are already available in the marketplace as replacement products but have not yet gained any measurable market share. In addition, newly available replacement economizer systems are equipped with "self commissioning" features that can both guarantee proper installation and document it—which increases realization rates.

Many other parallels exist between CALCTP and an HVAC sector strategy based on economizer control systems. Examples are that both technologies are installed by technicians, contractor and technician training are required—particularly in light of the impending Title 24 2013 requirements—there has been no certification or certificate program that measured/documentated an understanding of the specific technologies (that is, lighting control systems and economizers), etc.

Some important differences between the two sectors also exist, but do not create insurmountable barriers. One major difference is that individual electricians must be licensed in California. This is not true of HVAC technicians, which makes it more difficult to communicate with them directly. But, this is true no matter how one targets the sector strategy for HVAC. The advantage of an HVAC sector strategy focused on economizer controls and not something broader and more complex is that an organized existing HVAC industry infrastructure can be tapped to reach the unlicensed technicians. This infrastructure includes labor unions, technician training societies (RSES), contractor associations (ACCA, IHACI, MCAA, MSCA, SMACNA), and in particular economizer controls distributors and their association (HARDI), as well as economizer controls manufacturers (Honeywell, Belimo, Trane) and their association (AHRI). This infrastructure can be complemented by the IOUs' own internal resources, the California State Contractors License Board (CSLB), and the California Division of Apprenticeship Standards (DAS).

Another important and somewhat nuanced difference between the two sectors is that whereas electrician certifications were not prevalent before California required licensing for individual electricians, “prestigious and hard to earn” HVAC certifications DO ALREADY exist. Working with--and not competing with—the certifying bodies in HVAC such as HVAC Excellence, North American Technician Excellence, and UA STAR is absolutely crucial. (Other “niche” certifications should also be considered including AABC, NEBB, TABB, BPI, and NBC.)

Another often overlooked similarity between lighting control systems and economizer control systems is that there are "energy savings estimators/calculators" for both which helps establish the value proposition for potential end use clients/customers. In spite of the fact that an independently developed savings estimator for economizers has been available for FREE for at least a dozen years, it is barely known. Bringing it to the attention of and training facility managers, corporate real estate professionals, contractors, sales personnel, service managers, customer service agents, and technicians, distributors and even HVAC manufacturers in its use would be an important step forward. Establishing its relative reliability across all the , as well as the research and regulatory communities would likely be a game changer for energy efficiency.

## **BACKGROUND OF ECONOMIZER CONSENSUS PROJECT “KEY INITIATIVE”**

The WHPA's "Key Initiatives" effort, while only introduced to the WHPA's Executive Committee under that name in June 2012, has been underway for nearly a year. It began with the first ever face-to-face meeting of the WHPA Council of Advisors in November 2011. Several hours of that meeting were devoted to a spirited discussion about cost effectiveness tests, energy efficiency estimation and modeling, and HVAC program design/implementation. At the behest of SCE, WHPA Staff developed a straw man for formal follow up activities and next steps. That straw man became known as the “Economizer Consensus Project.” It was endorsed by Energy Division Demand-Side Program Branch Program Manager, Simon Baker in February of 2011 during a meeting of HVAC Senior Program Manager, Paul Kylo (WHPA funder at that time) and WHPA Senior Advisor, Dale Gustavson (whose company now manages the WHPA), along with Energy Division’s Hazlyn Fortune, Nils Strindberg, Peter Lai (representing DEER), and Baker.

Ultimately, the Economizer Consensus Project was unanimously selected by the WHPA Executive Committee as its highest priority. An extremely detailed plan of action and budget have already been established and, most importantly, beyond the WHPA Executive Committee, there has already been enthusiastic buy-in/endorsement from other important stakeholders including two sides of the CEC, (Title 24 and EPIC) several CEC consultants, Honeywell, Purdue University, University of Colorado, Carrier Corporation, and others (see detail in proposal).

## **IMPORTANT FINAL THOUGHTS**

Not mentioned above, but an important benefit of an HVAC Sector Strategy focused initially on economizer systems significantly increases the chances of success for everyone involved, including technicians, contractors, labor unions, apprenticeship programs/administrators, distributors, manufacturers, HVAC education institutions, HVAC industry trainers (including sales trainers), technician certification bodies, ANSI accredited installation and maintenance standards developers, utilities, codes officials, property and facility management professionals, the CEC, the CPUC, and ratepayers. Too broad a sector strategy is less likely to succeed because without short-term success--as it is measured by each of these stakeholders/stakeholder groups--any strategy will stall. The advent of the WHPA in 2009 makes possible a level of communication and cooperation among these groups that has never existed before. A manageable starting point is focusing all our attention and expertise on a single technology on which all of the above agree can and does save energy when properly installed and maintained.