

Why To Start An HVAC Sector Strategy With Economizers

Problem Statement

Title 24 requires economizers to undergo factory certified function testing or field commissioning testing per a defined test procedure to verify that they perform according to the design intent. Once installed, economizers require regular maintenance as a malfunctioning economizer can easily go unnoticed and cause substantial increases in heating and cooling energy consumption. Studies have shown that nearly 70¹ percent of all economizers tested in the field malfunction and thus waste considerable energy. (HVAC energy accounts for approximately 40 percent of a typical commercial building and properly functioning economizers have the potential to reduce HVAC energy use by up to 40 percent.)

Proposed Sector Strategy

The California Economizer Certification Program “CALECP” will educate, train and certify licensed C-20 HVAC contractors and technicians in the proper installation, commissioning and maintenance of advanced economizing strategies. Economizers consist of mechanical components, smart controllers and Fault Detection and Diagnostics capabilities that are integrated with mechanical cooling systems and provide partial cooling even when additional mechanical cooling is required to meet the remainder of the cooling load. Through proper installation and maintenance practices, advanced economizers have the potential to improve energy efficiency in commercial facilities across California and help achieve significant energy savings.

Incidence of Operational Problems of Existing Unitary HVAC Systems In California²

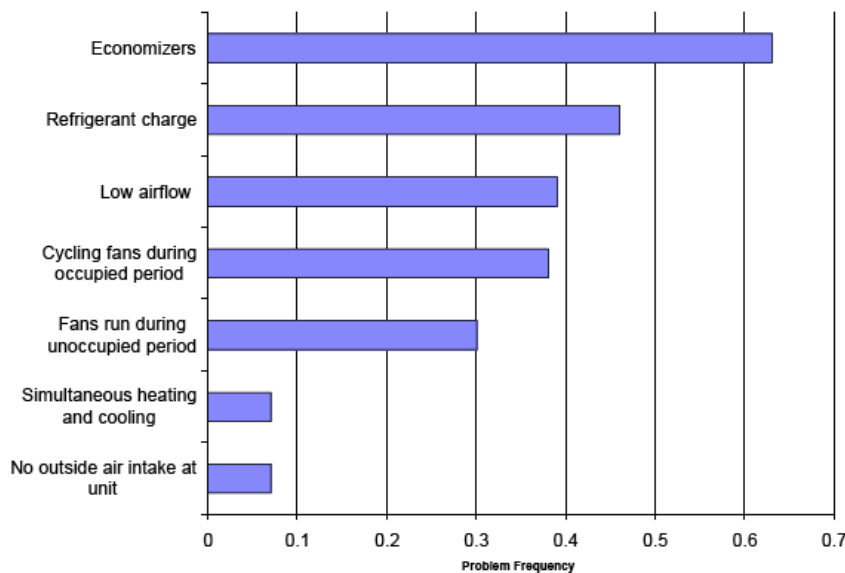


Figure 6. Summary of Field Findings from Element 4 Field Research.

¹ See CEC Technical Report titled “Small HVAC Problems and Potential Savings Reports” prepared by Architectural Energy Corporation, Pete Jacobs, Lead Author, Pages 8-9

² Ibid