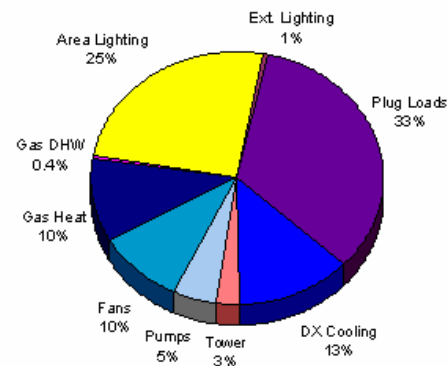




Energy Modeling

Alares has been using energy modeling techniques to provide clients energy use and energy cost forecasting information. Using various energy modeling techniques, Alares can determine the choice of building parameters that improve energy efficiency while maintaining thermal comfort and cost-effectiveness.

Many of our projects involve modeling the energy performance of buildings. This has included multi-family residences, military housing units, commercial buildings, federal facilities, and schools. The goals of each project are different, but most of our projects involve the evaluation of a new or advanced technology, typically comparing the results on a performance and cost basis to standard technologies or baseline systems. These technologies may be system-based (advanced HVAC options, air-distribution systems, etc.) or envelope-based (PCM walls, shading features, etc.).



Total Cost: \$363,701/ yr
Normalized Cost: \$1.329/ sf/ yr

LEED

The U.S. Green Building Council's Leadership in Energy and Environmental Design Rating System (LEED™) requires energy modeling to assess the energy use of a building and to quantify the savings attributable to the proposed design. During the conceptual design of the project, energy modeling can provide valuable input. During schematic design, energy modeling allows those involved in the design process to optimize their focus on the most promising energy-saving strategies. Seeing how the energy consumption of a building breaks down by fuel type, task, and building component allows the design team to focus on the major drivers of energy use.

Life Cycle Cost Analysis

Energy life-cycle cost analysis (LCCA) is a decision-making tool for building owners and designers. It provides a means of comparing the present values of two or more design alternatives. A computer model is developed early in the design process using energy modeling software for the basic building design. Various changes are made to the model that reflects design alternatives. The model calculates the energy costs for each alternative. For each alternative, first costs and maintenance costs are calculated, and along with the energy costs, are input to the LCCA model. Alares conducts this analysis on all of our energy projects.