



NAIOP Study Shows Levels of Achievable Energy Efficiency in Buildings

Facts about the Study

The report is a positive tool that explains the costs and realities of increased efficiencies. The study will be utilized to help policymakers comprehend the economic realities of the cost of achieving higher energy efficiencies. Its objective is not to serve as a guide to building a green or certified development; it is a tool to show how standard development can be adapted to realize large energy efficiency gains with a practical payback.

This study is based on a real building. The study uses an actual, 95,000 square-foot, speculative, four-story building in California, modeled in three climate zones represented by Chicago, Ill.; Baltimore, Md.; and Newport Beach, Calif.

The results of the study do not apply to all buildings. The study analyzes a typical office building that represents more than 50 percent of new Class A construction in 2008. Property types are unique, and just as NAIOP believes that a “one-size-fits-all” approach to mandatory reductions isn’t applicable to all development, the elements of this study do not characterize all buildings.

The study analyzed more than 40 variances of different energy efficiency features, and includes the top eight effective features in the written report. The report is not intended to be an exhaustive index of every energy efficiency available. It looked at varying levels of 13 different efficiency measures (approximately 40 total variances evaluated). Features like landscape design were not included because they are not measured by building codes. Other features, including occupancy sensors, were already incorporated into the base model and were not included as additional energy savings.

The report acknowledges the benefits of an integrated design approach. The study does not dispute that an integrated building design could achieve higher efficiencies. Yet it is important to recognize that an integrated approach isn’t economically feasible for all building types or practical in all markets. The study shows that, using today’s standard design practices, there are greater energy savings that can be realized.

Solar technologies can increase efficiencies, but come with a high price tag. Employing solar generation technologies could close the gap between the efficiencies achieved in the study and the 30 percent above the ASHRAE 90.1 -2004 standard. However, at an installed cost of more than \$1 million and a payback of up to 100 years, it far exceeds practical and economical limits. For a developer to consider including solar technology, NAIOP believes federal, state and local incentives must uniformly increase.