

A closer look at the cost of building green

by Harvey W. Berman

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In June, [I wrote about the results](#) from a recent survey-based study conducted by [Sustainable Rhythm](#), a consulting firm (“SRS”). The SRS revealed that most of the persons in the building industry who were surveyed believed that the actual cost of building green is significantly more expensive than normal building methods.

The SRS also posited that this perception was in contrast with two studies cited in the report that concluded that the cost of building green was not significantly more expensive especially when the other benefits of building green were considered. These benefits include lowering utility and operating costs, increasing energy efficiency, reducing potable water consumption, reducing greenhouse gases and landfill waste, and improving occupant and workplace health, comfort, and productivity.

Virtually everyone who responded to my article echoed the benefits of sustainable construction, however, views differed as to whether the cost of building green was considerably higher than normal construction costs - even from those experienced with green building.

So, I decided to delve deeper into the subject by looking at the two studies referenced in the SRS. Here’s what I learned.

The first study is titled the “[Cost of Green Revisited](#)” by [Davis Langdon](#), a construction cost consulting group (July 2007). The Langdon study, which involved 221 buildings, concluded “there is no significant difference in average cost for green building as compared to non-green buildings.” The study arrives at this outcome based on a review of academic buildings, laboratories and libraries, community centers, and ambulatory care facilities.

The study compared 83 buildings where LEED certification was a primary goal with 138 similar buildings where LEED was not considered during design. The study did not review residential construction, office buildings, schools, or mixed-use buildings, which may be a significant limitation in the study’s findings.

Another indication of a limitation in the study’s results is the author’s conclusion from its analysis of the difference between LEED-seeking and non-LEED buildings that were studied:

- There is very large variation in costs of buildings, even within the same building program category.
- Cost differences between buildings are due primarily to program type.
- There are low-cost and high-cost green buildings.
- There are low-cost and high-cost non-green buildings.

Because the cost of individual projects varies so widely from project to project, the study's authors indicate that it may be difficult for individual projects to use the data to assess what, if any, cost impact there may be for incorporating LEED and sustainable design into their project.

Even so, the study still found that many green projects were able to build within their budget - there just was a wide range in results from project to project.

The second study referenced in the SRS is "[The Cost of Green in NYC](#)" conducted by Urban Green, the NYC chapter of USGBC (Fall 2009). This study, which involved assistance from Davis Langdon and others, concluded "The Cost of Green in New York City found no significant difference in the cost per square foot between green and non-green buildings, based on analysis of luxury high-rise and commercial interior projects."

The study involved 107 projects - 63 that had either achieved or were pursuing LEED certification and 44 that did not involve the pursuit of LEED. Of special interest, the study concluded that soft costs associated with LEED certification were not substantial in terms of overall project cost.

For example, the median cost of LEED design fees for all construction projects was \$0.56 per square foot. The study indicated that the median cost of LEED documentation was \$0.30 per square foot. Even so, the study found that the range of LEED fees was considerably higher, with some adding nothing more for LEED design fees and others adding as much as \$6.62 per square foot.

While this article only scratches the surface of the subject of the cost of green construction and is not intended to support or contradict the findings of these studies, it is clear from these studies that there are many projects where the cost of building green is not significantly different than projects that do not involve sustainable principles.

Many factors impact cost including the experience of the green consultants and team members, the project design and budget, the geographic area, the type of project, the timing of inclusion of consultants, the design and construction schedule, and project goals.

To ensure that your sustainable project fits within your budget, be sure to research and make careful choices early in the design and construction process.

