Green Building: Unlocking the Potential of the Sustainability Movement

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Only 2.7% of a commercial building's lifetime cost (LC) is incurred upfront during construction. For a modest increase of 0.05% LC, there can be a substantial positive return on investment (ROI) in terms of: (i) 90% LC and in operational/maintenance 88% LC, and effectuates a positive environmental impact. If the payback seems so apparent, then why aren't tenants demanding productivity enhancing office space, asset managers investing in energy reducing designs, and government agencies enacting policy to mitigate the net environmental impact of commercial structures?

Constructing a new building or refurbishing an existing building using principles that address each of these three questions is known as building "green" or green building. While green building is gaining some popularity with tenants, property managers, and government entities, it remains overlooked in the majority of construction ventures. It was the aim of this honors thesis to examine:

What defines a product, practice, or plan as being "green"?
One of the greatest difficulties of green building is determining what items and actions have a positive value in terms of occupancy enhancements, decreased energy costs, or ecology. This research attempted to outline the current value rating systems, their shortcomings, and various proposed solutions.

Which green principles have a positive ROI and which green principles have the potential to become so?
Since an income producing building is not valued singularly by its worth as an asset, any increase in construction or improvement costs must be passed through to the tenant. This creates a "premium conundrum" which ultimately then becomes a question of ROI. This research has attempted to focus on general building principles rather than individual practices, and discover those which can currently withstand the tenant premium, and those which have the potential to do so through frequency, technology, or policy.

Who holds the key to unlocking the standardized use of green building in commercial structures?
The traditional approach for marketing green principles focuses on a push strategy targeted at building owners/developers. This research attempts to demonstrate that such an approach, although aimed at the design stage of a project, fails to adequately incorporate the true decision makers, the tenants.