

Sustainability Today – Where are we now and where do we go from here?

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From a Global Perspective

In an April 2009 interview conducted while he was attending the G20 Summit in London, Bjorn Stigson, president of the World Business Council for Sustainable Development (WBCSD), was queried about the impact the current economic meltdown is having on sustainability. Reporter Ben Block from the Worldwatch Institute asked Stigson:

How do you expect the ongoing recession to affect sustainable business efforts, such as reducing pollution, water consumption, and energy use? Are businesses turning away from corporate responsibility?

This was Stigson's reply:

"The question I get from around the world is: Has sustainable development fallen off the table given there is a recession? My response is the opposite. What has happened is that sustainable development has come to a tipping point, in my view, and that the focus on the strategic aspect of sustainable development, climate change, and so on - that focus is even stronger than before. It's stronger in companies, and it's stronger in governments. The recession is not really a barrier or a blockage."

He went on to make the following points:

- "If you look at the analyses by the International Energy Agency, and you look at actions up to 2030, then 50 percent of emission reductions must come from energy efficiency. Then, if you look at where you consume energy in the industrialized world, about 40 percent of energy use is in buildings, 25 percent is in land transport - cars and so on. So



two-thirds of the problem is efficiency standards for buildings and cars."

- "The price of carbon will not do anything for the energy efficiency of buildings. Energy efficiency of buildings is a very important part of the efficiency improvement in society, but it's such a fragmented value chain. If you want to improve the energy efficiency of buildings, you have to look at the building codes and formal standards."

Finally, when asked how he would rate various countries' efforts, he responded:

"Europe is much more energy efficient than the U.S. If you look at it in a scale, Japan started looking at [efficiency] earlier, then comes Europe, and then comes the United States. The U.S. is on the same level as China, and so on. It's not a very energy-efficient country."¹

So, what is going on in the United States and what steps are being taken to put us on par with the more sustainable countries worldwide?

In the United States

Though our track record may not be the greatest, most US citizens believe we are making progress. The fact that President Obama included \$25 billion in the stimulus package for energy efficiency certainly reflects that the commitment at the Federal level of government is increasing.

Add to that figure the expenditures on green building in the United States since 2005, and the trend is undeniable. According to the 2009 Green Building Outlook at McGraw Hill Construction, green building investment in the United States in 2005 was approximately \$10 billion. In 2008, it was five times that amount or \$50 billion, and by 2013 it is projected that Americans will invest three times that amount, or \$150 billion, in green building. The trend is clear and it should be obvious to even the most skeptical of naysayers that green building is certainly no fad; it is here to stay.

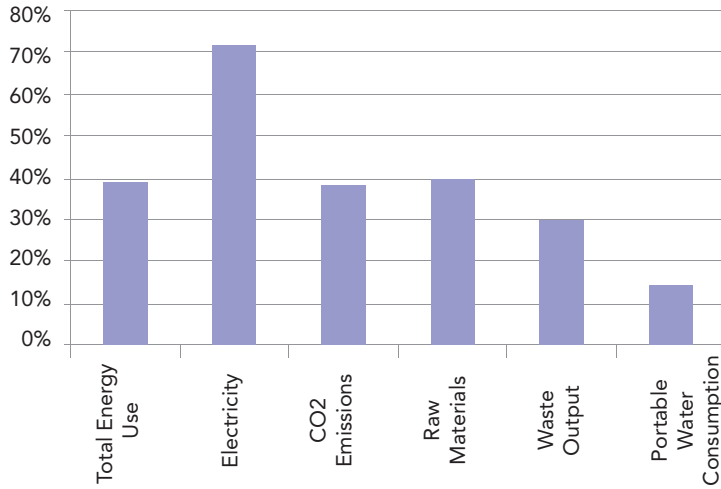
The increased awareness of 'green' buildings can in part be attributed to organizations such as the US Green Building Council (USGBC), the group responsible for creating the LEED (Leadership in Energy and Environmental Design) building standard. USGBC also assimilates statistics on the built environment and studies the impact property has on wider environmental, social and economic issues. Information from USGBC shows that the built environment in the United States accounts for a large share of environmental impacts.

¹ See <http://62.50.73.69/transformingthemarket.pdf>.

The graph that follows tells the story. The statistic that stands out is that buildings account for 72% of all electrical consumption in the US.

Exhibit 1:

Environmental Impact of US Buildings



Source: USBGC

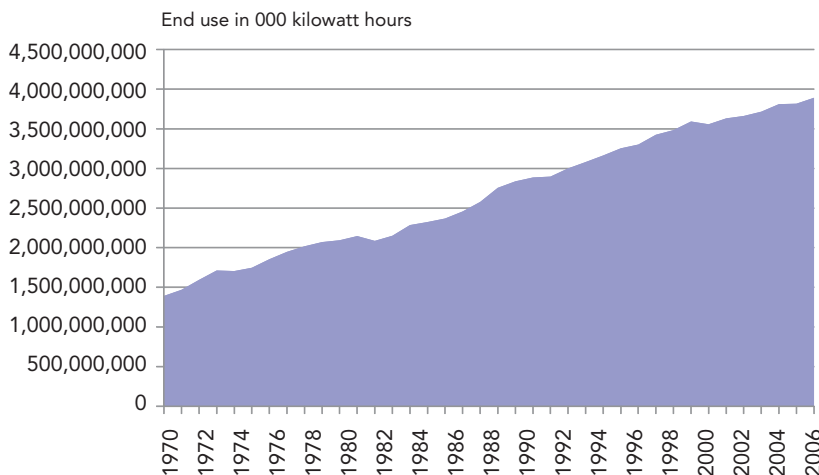
It is worth noting that energy costs, which average 28% of total operating expenses (“opex”), surpass all other similar line items for buildings. The next most costly opex is repairs and maintenance at 23%, followed by administrative costs at 19%, cleaning at 18% and roads and grounds at 12%.

What Can We Do?

From an ownership, operational and investment perspective, what steps can we take to improve not only our sustainability ranking relative to other nations, but also building performance? According to the Environmental Protection Agency (EPA), the average commercial building should easily be able to reduce its energy consumption by 30%. If this is, in fact, possible, a 30% reduction in electricity usage in America’s 4.7 million commercial office buildings would reduce America’s total electricity use by 22%. That’s significant!

Exhibit 2:

Electricity Consumption Nearly Tripled Since 1970



Source: U.S. Energy Information Administration

What scale are we measuring such a reduction against? In 2007, the end-user electricity consumption in the U.S. was approximately 3.9 trillion kilowatt hours, up from under 1.4 trillion kWh in 1970, nearly a three-fold increase. The national population, meanwhile, grew about 48% over the same period. Per capita electricity usage has doubled since 1970, and of course this has been an era of soaring energy costs. The annual consumption of electricity in the U.S. is about twice the norm for other industrialized nations.

Other Property-Level Opportunities

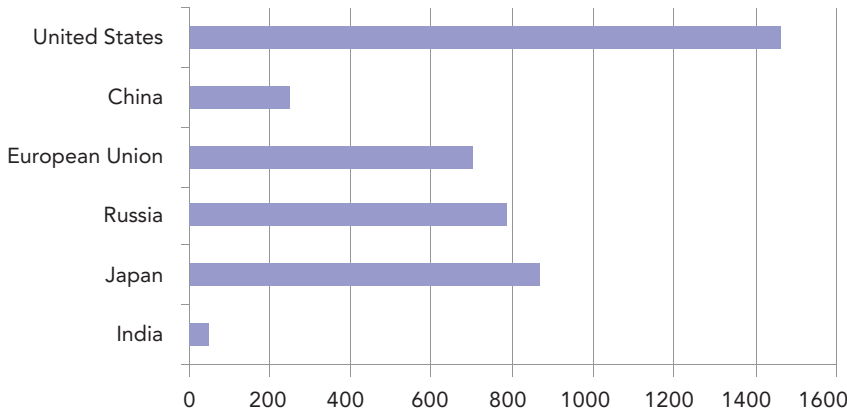
In addition to energy strategies, there are a variety of other options that also contribute to making property operations and systems more environmentally responsible and improving its financial results. The following list focuses on green components and strategies that can enhance building performance from both an operational and environmental perspective:

- Environmentally friendly landscaping
- Shift from annuals to perennials indigenous to area
- Low flow fixtures (faucets, showers, toilets and urinals)
- Motion sensors in stairwells
- High efficiency motors
- VAV (variable air volume) systems
- Variable frequency drives on all motors
- Filters on air returns during tenant improvement (TI) work to improve/clean air
- CO2 sensors installed to monitor air quality
- Environmentally friendly cleaning products
- LEED compliant finishes
- Provision of Zipcars, with tenants encouraged to use public transport and offered the use of Zipcars
- Locating proximate to public transport

One other consideration gaining momentum in the investment and development worlds is the use of performance contracting versus a standard construction process. In this scenario, an investor/developer focuses on lifecycle procurement (analyzing and comparing the life, cost and durability of various building

Exhibit 3:

U.S. Electricity Use Per Capita Is About Double the Average for Other Industrialized Nations



Data based on 2005 World Factbook

components) versus basing procurement and financial decisions on the lowest “first cost” alternative. In situations where this approach is taken, the goal is for the savings from improved building performance to pay/repay for the improvements or upgrades undertaken.

In a valuation scenario, this process would be an integral component of an appropriate “cost benefit” analysis wherein the costs of various alternatives are assessed on the basis of their long term financial benefits.

Success Stories – Adobe

Of the green initiatives undertaken in the US, perhaps one of the most successful is the work undertaken by the software giant, Adobe. Few corporations can claim such tremendous success on such a large scale. This group’s efforts serve as proof positive that “green is the color of money”. (Check out Green is the Color of Money video by Ben Shedd and Gary Christensen, www.deepgreentv.com, released in 2003 yet still timely and helpful.)

The green initiatives undertaken at Adobe involved three buildings totaling one million square feet, which were constructed in the time frame between

1996 and 2003. Over a period of five years, Adobe completed more than 64 energy and conservation projects. The financial results are shown below:

Costs	\$1,400,000
Rebates	\$389,000
Annual savings	\$1,200,000
Payback	9.1 months
ROI	121%

As a result of these initiatives, the company was able to report the following reductions in use of:

Electricity	37%
Natural gas	41%
Domestic water	22%
Irrigation water	76%
Solid waste²	85%
CO₂ emissions³	19%

Source: *Improving Operating Efficiency Reduces Operating Costs*, George Denise, Cushman & Wakefield, *Green Building Finance and Investment Forum West*, March 2009.

Suffice to say, Adobe serves as a benchmark by which the rest of corporate America should gauge not only its environmental, but also its financial success.

How Do We Get to the Next Level?

Acknowledging the great success of a major corporation in the movement toward sustainability, the reality is that

adopters of green and sustainable goals come in a wide variety of “packages”. Whether the perspective is that of a developer, investor or tenant, green alternatives are increasingly becoming a part of the financial parameters within which decisions are made. Once a developer, investor or tenant decides to incorporate green features, the next step is often a requirement to get funding for the specific project.

As we all realize, funding a project today can be quite difficult, both as a result of current economic conditions and the requisite incorporation of lenders, investors, underwriters and valuers into the process. In the absence of substantive empirical data, the valuation and underwriting communities are facing unprecedented challenges relative to documentation and validation of green performance claims. With virtually no sales from which to derive capitalization rates, the most common method of comparison in financial circles, analysts must draw on the depth of their experiences to identify and objectively quantify the benefits of green opportunities.

Analysts are presented with projections and pro forma statistics by green building developers, retrofit specialists and other sustainable consultants and must rely upon their experience and judgment to discern the reliability of such projections. Energy modeling, a widely used and useful tool, must be considered much the same way a cash flow analysis is – with attention to the reliability and probability of the projections actually occurring. This can be accomplished only through thorough and objective analysis, based on the best information at hand and without advocacy. Of particular importance is the investor’s or analyst’s own experience with and understanding

² Diverted through composting and recycling.
³ 38% with renewable energy credits.

of green components, practices and protocols – if they do not understand the basics, they cannot properly analyze the potential or possibilities. (An excellent resource for this type of information is the Green Building Finance Consortium, founded by Scott Muldavin, CRE. Their website is: www.greenbuildingfc.com)

Green Valuation and Underwriting

The biggest challenge here can be summed up in one word: education. The preponderance of professionals in both the valuation and underwriting communities have little, if any, experience in analyzing green properties, much less the impacts various green components or strategies may have on asset value. So how can this challenge be addressed?

In a March 2009 presentation at the Green Building Finance and Investment Forum West, held in San Francisco, lending entrepreneur Lisa Michelle Galley (Galley Eco Capital) put forth the concept of “measurable green underwriting”.⁴ The basic premise here is to identify and prioritize as many measurable ROI opportunities as possible. In other words, “translate” the green benefits of a particular investment into quantifiable measures upon which financial decisions can be made.

Ms. Galley suggests utilizing common characteristics that are easily supportable through the equity and credit evaluation processes. Interestingly, these factors are the same considerations that would be incorporated into an asset/market value analysis. They include identification and analysis of a project’s construction costs, lease up and absorption parameters, as well as any specific impacts from the green strategies employed.

Further, comparison of a green project’s operational expenses (particularly utility usage and maintenance costs), tenant improvement costs and tenant retention

characteristics in comparison to its competitors can reveal the extent to which green strategies might (or might not) provide a competitive advantage to the property being analyzed – and more importantly, a potential benefit to net operating income (NOI).

By considering the impact of such practices as building commissioning, an integral part of the LEED certification process, both underwriters and property valuers can better assess a green property’s risk parameters over time. Commissioning by a third party, independent expert significantly mitigates the risks associated with not only building performance, but also assists in documenting the plausibility of achieving proposed economic goals. Given the current lack of building sales, an analysis of operating performance is, and will likely remain, the most important basis for comparison of green versus non-green buildings for the foreseeable future.

The Win-win Scenario

Finally, the creation and incorporation of green lease clauses into standard lease agreements is increasing and will certainly facilitate a more balanced uptake of green strategies. Leases designed with a win-win mentality, wherein tenant and landlord share in both the costs and the benefits of green upgrades are overcoming some of the historical barriers created by net versus gross lease structures in which one party pays for green retrofits and the other party gets the financial benefit.

Potential green lease clauses created by industry groups such as the Building Owners and Managers Association (BOMA), coupled with adoption of green lease parameters by investment groups such as Kennedy USA, should greatly facilitate a broader and more multifaceted approach to the roles both landlords and tenants play in the adoption and implementation of green strategies.

In Conclusion

“We’ve got a long way to go, and a short time to get there.....” We are making progress, but not nearly as quickly as many scientists would suggest we need to. How we get there, achieve the 2030 goals and turn our “unsustainable” behavior around will be largely dependent upon how quickly the owners, investors, valuers and underwriters of real property in the United States realize that the end goal of green development is actually high performance. Though it incorporates social and environmental considerations as well as economic goals, green development is about providing the best product possible – both for the consumer and the environment. At the end of the day, those interests are, in fact, one and the same. ■

⁴ See <http://infocastinc.com/index.php/conference/146>.

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