

**Seventh Annual Regional Sustainable Development Forum:
Being a Part of the Climate Change Solution:
Individual Action for Collective Impact**

January 25, 2008, MIT Sloan School of Management

Session 7: Green Building Operations – Healthcare, Schools, and Offices

Presenters:

Jesse Foote, Manager, Green Campus Building Service, Harvard University

Janet Brown, Partner Coordinator, Hospitals for a Healthy Environment

Tolle Graham, Healthy Schools Coordinator, Massachusetts Coalition on Occupational Safety and Health

Moderators:

Paul Lipke, Sustainable Step New England

Bill Ravanese, Health Care Without Harm

Introduction by Paul Lipke from Sustainable Step New England, which is a neutral convener of sustainable operations discussions in New England.

Jesse Foote:

- Critical that the organization is dual reporting to academics and facilities (one co-chair from each).
- Now 18 full-time staff and 40 part-time students.
- What they do:
 - o Green campus building service (old and new buildings)
 - o Campus Energy Reduction programs – labs
 - o Residential Green Living Programs – Encourage green behavior (student to student)
 - o HGCI Base Program Staff
 - o HGCI Courses at Harvard Extension School – Courses on institutional change and green building
- Diverse building innovations – 25 Current or Complete LEED certifications, including one Platinum. Also, first LEED-certified commercial kitchen in the country (technology includes variable speed range hoods, pulper for composting, and energy efficient dishwashers).
- Identified over 200 energy conservation measures in 60 building complexes within a 12 month period for HRES (residential).
- 50% of electricity is offset by purchasing Renewable Energy Certificates.
- Piloting a variety of new ideas, such as dual flush toilets, waterless urinals, roof mounted wind turbines, and therma-stor heat recovery.
- Engaging in large-scale social marketing, including a campus sustainability pledge: *I support Harvard University's efforts to reduce its environmental impacts and*

implement Campus-wide Sustainability Principles. I will make my contribution by pledging to do at least three of the most applicable actions listed below:

- *Turn off computers, lights, and other equipment when not in use.*
- *Recycle paper, cans, glass, and batteries.*
- *Make double-sided copies.*
- *Shut my fume hood sash every time I leave the hood (lab users only).*
- *Tell others about this sustainability pledge.*
 - 10,000+ Harvard staff, students and faculty pledged in November, 2007.
- Formalized leadership and accountability via ‘Harvard’s Sustainability Principles’: *Harvard University is committed to continuous improvement in:*
 - *Demonstrating institutional practices that promote sustainability.*
 - *Promoting health, productivity and safety through better building design and campus planning.*
 - *Enhancing the health of campus ecosystems & increasing the diversity of native species.*
 - *Developing planning tools to support triple bottom line decision-making.*
 - *Encouraging environmental inquiry and institutional learning throughout the University.*
 - *Establishing indicators for sustainability for monitoring, reporting & continuous improvement.*
- They have also made the following ‘Implementation Commitments’:
 - *Integrate sustainability requirements into Harvard’s Capital Approvals process.*
 - *Integrate sustainability into annual financial reporting processes.*
 - *Establish a set of university wide indicators for monitoring progress.*
- The ‘Green Campus Loan Fund’ of 12 million dollars, which provides interest-free capital for high performance projects is also notable.
- Question and discussion around whether the numbers provided by Harvard are design or post-occupancy statistics
 - Answer is that they are likely design, but that they are now trying to check actual performance. Audience member stressed how important it is to actually see performance.
- Q: How did they get to this point?
 - Identify champions – e.g. Danny Beaudoin, the director of Facilities for Harvard School of Public Health
 - Piloting new ideas – e.g. Dual flush toilets, Roof mounted wind, waterless urinal
 - Peer to peer training programs – Bringing together people like managers or staff working in a certain area to teach, research, and motivate each other.
 - Large scale social marketing – e.g. University pledge
 - Establishing formalized leadership and accountability – e.g. Harvard’s Sustainability Principles, and now more specific Green Building Guidelines
 - Added ‘Harvard Prerequisites’ that will be in addition to LEED prerequisites

- Cost effective green building Construction and renovations = finance for cost effective capital investments
- For more information: www.greencampus.harvard.edu/theresource
- Q: Brigham-Young Women's Hospital is going for LEED certification, and looking like it will cost around .5% to do so. Any ideas of costs?
- A: Harvard has found the same; projects that are LEED Silver or Gold are not costing more. It is hard to pull out that number, but generally going for LEED is not costing more. Even their LEED Platinum project did not increase the cost; budget was created before decision to go for LEED Platinum, and not significantly changed after decision made.
- Q: What proportion are new construction versus renovation?
- A: More than half are renovations.
- Q: What are you doing with regards to the triple bottom line of the decisions you are making, for example considering the social impacts of the Alston Campus?
- A: He is thinking more about environmental side, so not able to speak to other issues. Can say, however, that a lot is going into environmental considerations with the Alston Campus.

Bill Ravanesi:

- Global NGO in 55 countries, with 455 organizations in their tent.
- Aim to make Boston a sustainability Mecca within the national healthcare scene.
- Held a forum to which they invited the hospital executives and brought in big shots in sustainable building to promote it. Why did they organize it? Architects said they could not sell sustainability in Boston. Heading into the largest building boom since the 1960's, so it would be a shame to miss out on it. Now, architects, builders and others are getting on board.
- The first LEED project is under construction now – a LEED Silver facility.
- Went to the City of Boston/BRA and asked that their Green Guide for Healthcare Construction – their cookbook as to how healthcare facility construction take place – be adopted as the standard. Was accepted.
- LEED for healthcare coming out this Spring, incorporating the GGHC into it.

Janet Brown:

- What do you think about when you think about hospitals? Sterile, no daylight, expensive, stuffy. They want to create 'healing environments' that decrease the stress of the people in the facility, and bring it into harmony with nature. Ironically, hospitals are typically anything but.
- Were able to demonstrate that commitment to the environment is good business. Purchasing is controlling who comes into the facility; if you have to let a 'bad guy' in, at least you know they are there and can "escort them through". Hospital

hired her to save money; no mistake about that. Look for opportunities to save money first.

- Senior leadership is key; if you don't have it, make sure you can find your champions. Someone that can take you to the board/leadership to garner the commitment.
- Simplicity of programs is key – should be as easy to comply with a program as it was to do nothing (e.g. recycling systems must be obvious and bins as widely distributed as garbage).
- Connections, friendly reminders, repeating messages is important.
- Sustainability is not an 'extra credit project'. You have to 'dip every department into the sustainability bath'; everything has to be considered through this lens. Have people consider the broad implications of every decision being made. Takes time – best to start somewhere (something where you can save some money) and build it from there.
- They are focused on the operations side of the equation; considering how decisions in the day-to-day functioning of a healthcare facility.
- Have a GGHC Credit Organization (www.gghc.org)
- Learn more from talking to workers on the floor than you can in the boardroom. An important role for someone working on sustainability is looking out for a respectful environment for the workers that are in the space.
- The Green and healthy building network was formed to bring some of these organizations together. Made people focus on things like energy think more about the importance of making environments healthy.

Tolle Graham:

- “We know what the problem is and we have the findings, so why does it take so long to get repairs done? It should be about the health of our children, yet why does it take so long? The money should be in the budget to fix our schools.” – A parent
- Problem is that Boston is a poorer school district; Asthma rates range from 0% to 27% by school. Teachers have the 2nd highest rate of occupation-related Asthma in the country.
- Yearly inspections done, and their findings are disturbing:
 - o 85% have leaks/water stains
 - o 36% have visible mold growth
 - o 63% have overt pest signs
 - o 83 need repairs
 - o 61% have improper chemical storage
- Correlation between these numbers and asthma rates in the schools.
- Their organization is a strong coalition of school staff, parents, and an ally on the City Council.
- They have developed a Healthy Schools Platform:
 - o Comply with 1996 city inspection ordinance
 - o Support school-based environmental committees
 - o Comply with state IPM law

- Use safer cleaning products and update equipment
- Retrofit School Buses
- Have a nurse in every school
- Prioritize repairs for health
- Participate in Community/City Taskforce (BUAC, Boston School Dept, Health Commission)
- Motivating schools to use Integrated Pest Management (IPM) to promote environmentally friendly schools. It's the law, but was not being followed in many cases.
- Using the IPM law as a means to encourage good maintenance practices, which eliminate pests and contribute to 'greening' the school environment
 - E.g. Opportunity to develop comprehensive policy on less toxic products and school chemical management.
- Have a Green Cleaning Initiative. Cleaning for Health Principles:
 - Keep the dirt out
 - Use less-toxic, third-party certified, cleaning and paper products and hand soaps
 - Update and maintain equipment
 - Cleaning with detergent to eliminate germs
- Coalition keys to success:
 - Develop platform goals and keep community identity
 - Provide open forum with no retaliation
 - Maintain respect of city
 - Challenge city but also advocate for resources
 - Have city council ally
- Resources:
 - www.masscosh.org
 - www.buac.org
 - www.turi.org
 - www.healthyschools.org
 - www.massschoolbuildings.org

Q & A:

Q: How did you get money to retrofit the busses?

A: Project from the EPA to give money for retrofit of diesel vehicles. Also noted that Harvard now requires that all construction vehicles over a certain size must meet these diesel standards (filters and using cleaner diesel fuel).

Q: Is there a website that is particularly good at outlining successes in green cleaning?

A: Paul said the State of Massachusetts 'Environmental Preferred Purchasing Program' lists a lot of preferred vendors and so on. Janet said that it also takes education; disinfecting is typically not better, especially if not done well, but people think we need to use strong disinfectants. Green cleaning does not mean dirtier, but have to overcome this stereotype.

Q: If the Harvard projects did not have these interest-free loans, would the projects get off the ground?

A: Likely still would, as all it would do is extend the payback time. These interest-free loans have a maximum five-year payback time (for new projects), so would just make longer.

Follow-up Q: Concern that this money at low rates is available for large projects and public sector, but what about small private firms?

A: Lots of innovative solutions. One is companies that will essentially make the investment, but also take share of the rewards. In a way, this is an outsourcing of that component of the business.

Paul asked, 'When was the last time oil was at \$25/barrel?' In 2003. Things are changing quickly; people are looking for energy savings, realizing that prices are only going up. Looking at the longer-term. Paul commented that "I want a statue of the guy who separated capital and operational costs" in accounting (to topple). Places like Harvard and now hospitals trying to break down this wall, considering their entire lifecycle costs.

Less than 300 hospitals out of about 6500 nation-wide following the GGHC or LEED, but growing very quickly. More and more companies, both healthcare providers and construction companies, are making it a normal part of business.

- People now recycling at a 96% rate when a building is demolished.
- Pharos Database will be online soon that will give the specs on recycled materials.