Green Building Initiatives

The conventional wisdom is that the transportation and industrial sectors will be most affected by these local GHG initiatives. However, when one takes a close look at these local regulatory initiatives, it is clear that brunt of the GHG emissions reductions will fall on owners and operators of multi-family residential and commercial buildings since the buildings account for the largest source of GHG emissions in most cities. As a result, the costs to comply with the aggressive GHG emissions reduction strategies may soon become an important element of due diligence.

The Energy Department estimates that all public and private buildings consume about three-quarters of the nation's electricity and emit about half of its greenhouse gases. Commercial buildings consume about 40 percent of the nation's natural gas. In densely populated older cities with well-developed mass transit systems, buildings account for an even higher percentage of GHG emissions. Indeed, New York City just released a GHG inventory that showed that the consumption of electricity, natural gas, fuel oil and steam needed to operate buildings generates 79% of the city's total GHG emissions. City-owned buildings represented 64% of the government GHG emissions.

According to a recent McKinsey report, market distortions provide disincentives for building owners and occupants to make energy-efficient investments in residential buildings. For example, a person renting an apartment may be use appliances that consume a lot of electric power but the landlord has little incentive to buy more efficient appliances because the tenant pays the electricity bills. Likewise, because renters have little incentive to buy energy-efficient appliances that will have to be left in the apartment when they vacate it.

Another study by McGraw Hill Cos. estimated that the market for green building could approach $60 billion by 2010, or roughly 10 percent of the overall residential and nonresidential construction markets. The McGraw-Hill Cos. Study indicated that green buildings currently constitute less than 5% percent of total construction today but that figure is expected to double by 2010.The Green Building Alliance estimates that the U.S. green building products market is now about $8 billion and may increase to $32 billion by 2010. In contrast, the market was less than $800 million six years ago.

However, the Building Owners and Managers Association (BOMA) has indicated that developers and building owners are finding their profits squeezed by high energy and water costs. BOMA says that these factors constitute 28% of operating costs for downtown office properties, and 30.4% for suburban properties.

Representatives from the real estate industry, influential tenants are demanding green office space in large cities, doing due diligence on buildings' sustainability and asking about the certification level of the building. Some real estate firms have started to jump on the green building bandwagon because they have become nervous about holding a portfolio of obsolete, inefficient buildings. Increasingly, clients and tenants show a preference for green buildings, which have been proven to increase productivity, retain employees and lower absenteeism. The combination of reduced operating costs and more satisfied occupants translates into 3.5% higher occupancy rates, 3% higher rents, and a 7.5% increase in building value, says the McGraw-Hill 2006 Smart Market Report.

Corporations with sustainable business policies are building highly visible green headquarters including Bank of America, Toyota, Goldman Sachs, Hearst, IBM, JPMorgan

Chase and Herman Miller. The Freedom Tower, which replaces the World Trade Center, will be LEED-certified.

Since the Supreme Court ruled that greenhouse gases can be considered a pollutant and also relaxed the standing requirements, we should expect to numerous lawsuits to delay and block delay new projects. It is not too hard to envision environmental organizations and project opponents using NEPA and state environmental review laws to delay or block projects on climate change grounds. The plaintiffs will likely allege that local regulators did not sufficiently evaluate climate changing factors. Local governments may be required Climate Change in environmental impact reports which may also mean that guidance on completing environmental reviews may have to be revise.

Much of the focus to date has been on the indirect GHG emissions of buildings through reducing energy consumption by swapping out inefficient lights, installing light sensors and better-insulated windows, and adjusting heating, ventilation and air-conditioning (HVAC) systems. However, energy consumption is only a part of a building's carbon footprint. Many large buildings have large oil-fired boilers that emit significant amounts of GHG directly into the atmosphere and are considered "major sources" under the Clean Air Act that must obtain a Title V air pollution permit. Indeed, a building owner in New York City was recently fined $190,000 for not obtaining Title V permits for two of its buildings.

The key question for developers, building owners and their professional service provides will be what standard should be used to demonstrate compliance and what professionals should be doing the post-occupancy certifications?

Several states with mandatory green-building rules use the Green Building Initiative (GBI) "Green Globes" standard as well along Leadership in Energy & Environmental Design (LEED) construction certification standard adopted by the U.S. Green Building Council. Both standards have been accredited by the American National Standards Institute (ANSI), the United States' official certifier of more than 10,000 voluntary consensus standards across dozens of business sectors.

While GBI is in the process of having its Green Globe standard accredited by ANSI, the U.S. Green Building Council does not plan to submit its LEED system for certification but instead is partnering with the American Society of Heating and Air-Conditioning Engineers and the Illuminating Engineering Society of North America to integrate LEED into commercial building codes. The National Association of Home Builders Research Center, which is also an ANCI standards developer, submitted its parent trade group's Model Green Home Building guidelines for national standard certification this past summer.

Thus far, the LEED standard is the dominant certification tool. More than 1200 public and private buildings have been certified under LEED with another 4500 in the under development. Fifty-five cities, 20 states and eight federal agencies have policies requiring or encouraging various levels of LEED certification for new buildings. However, GBI has successfully some state legislatures to amend green building laws to recognize Green Globes as well as LEED.

Under the LEED system, commercial and residential developers register their buildings and projects to integrate technologies and building materials such as photovoltaic panels, low-water faucets, low-toxic paint, double-pane windows and rooftop gardens to help conserve energy, water and other resources. For new or remodeled buildings, the council has four LEED levels -- Platinum, Gold, Silver and Certified that are based on a point system. For example, points are awarded for indoor air quality, energy efficiency and location on a brownfield site.

6% of commercial developments are LEED-certified, projected to jump to 10% of the market by 2010. Buildings produce 21% of the world's CO2 emissions (38% in the US), more than transportation or manufacturing. About 15 million new buildings will be added by 2015. Commercial buildings, the largest polluter, are expected to grow emissions 1.8% a year through 2030. A recent United Nations study concluded that green buildings can do more to fight global warming than all curbs on greenhouse gases agreed under the Kyoto Protocol, while saving billions of dollars.

According to Turner Construction's 2005 Green Building Market Barometer shows it costs a mere 0.8% more for basic LEED certification, easily recouped through lower operating costs. A 2003 study sponsored by Massachusetts showed that the added cost of building to LEED standards was less than 2 percent and estimated that such buildings were, on average, 25-30 percent more energy efficient.

Over two dozen states and 100 U.S. cities already have policies that require or encourage varying levels of LEED certification for new buildings. Just last month, the Clinton Foundation, through an arrangement with several energy service companies and global banking institutions, promised to provide funding to 16 cities to renovate existing buildings with technology to lower CO2 emissions.

San Francisco has proposed the nation's most rigorous building standards that would affect private development projects. If adopted by the Board of Supervisors, new construction and major alterations of large and midsize commercial buildings as well as high-rise residential buildings would have to meet the gold LEED (Leadership in Energy and Environmental Design) standard by 2012. . It recommended that the city use another nationally accepted standard. New, non-high-rise residential buildings would have to achieve GreenPoint Rated. The standards be phased in between 2008 and 2012, becoming more stringent each year. For instance, new, large commercial buildings in San Francisco would have to meet the most basic LEED standard in 2008. Gold certifications would be required in such buildings starting in 2012. In 2004, the Board of Supervisors approved an ordinance requiring all new municipal construction and major renovation projects to achieve LEED standards. In 2006, the city started fast-tracking permits for developers who voluntarily met LEED standards.

A handful of other cities offer developers incentives to use green building techniques, but none imposes requirements that could stop a project . Boston is the only large U.S. city that has mandatory environmental standards for private developments. In January 2007, Boston added a new section to the City’s Zoning Code which requires projects subject to detailed development impact review to be LEED certifiable. The LEED requirement applies to projects involving 50,000 square feet or more of new development or substantial rehabilitation. However, Boston’s requirements are not as stringent as those under consideration by San Francisco. Boston does not require developers to go beyond the silver standard. projects in Boston may substitute up to four "Boston Green Building Credits" to replace the traditional LEED points used to obtain certifiable status. These Boston-specific criteria allow the City to focus on issues of particular local importance, including historic preservation, modernizing the electric grid, groundwater recharge and transportation demand management.

The first retail shopping center in the Mid-Atlantic region will receive LEED certification. The Main Street Eldersburg, a 90,000 square foot "lifestyle center" received final approval from the County Planning Commission in May. Groundbreaking will take place this summer, and the $20 million shopping center is scheduled to open by fall 2008. According to developer Black Oak Associates of Owings Mills the project has received pre-construction Silver

Core and Shell LEED certification from the United States Green Building Council because of a number of energy-efficient and environmentally friendly design features in the center.

The center will have a passive solar daylighting system with glass panels for interior daylighting. A high efficiency heating, ventilating and air conditioning package and advanced energy modeling will contribute to an expected energy savings of 30 percent each year over traditional building technologies. There will be a cistern water system that captures and reuses rainwater from the project's roof that, when combined with the use of drought-resistant plants, will save 30 percent of water use annually. White pavers will be used to reflect light in order to reduce the heat island effect that happens when black surfaces absorb heat. About 10 percent of all materials used in the construction of Main Street Eldersburg will be made with recycled content, 75 percent of construction wastes will be recycled and 50 percent of building materials will be manufactured locally, reducing transportation fuel costs.