

## CONSULTING CASE STUDY

Being environmentally friendly brings financial as well as social benefits.

# The Dollars and Cents of Green Construction

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BY ANDREW MEYERSON

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## EXECUTIVE SUMMARY

- **WHEN PLANNING CONSTRUCTION PROJECTS**, consider the tax implications, rebate offers and soft benefits associated with environmentally friendly construction. Construction companies may not be eligible for these on buildings they construct for others, but building owners and any subcontractors used on the projects are.
- **IT'S MOST COST-EFFECTIVE TO CONSIDER** green elements before beginning construction, but some elements such as solar panels can be added to existing buildings.
- **FIRMS AND COMPANIES CAN BE** environmentally friendly and also save or earn money in seven ways: Tax rebates; LEED incentives; recycling the core and shell of existing buildings; using energy-efficient devices; maximizing natural energy sources; building on HAZMAT and Superfund sites; and calculating the intangible benefits of green construction.
- **WHILE CPAs MAY FIND IT DIFFICULT** to quantify the soft benefits, studies show that environmentally friendly buildings raise employee retention and productivity rates, improve the retail customer experience and generate higher average revenues, and bring apartment building owners higher-wealth clients willing to pay more in rent.

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**M**y company has gone green—and as its controller, I’ve helped its management and customers recognize that the tax benefits, rebates and lower utility costs of being environmentally friendly add up to a real bottom-line reward for doing the right thing.

### **The Business Case for Green**

Green design and construction can save energy and buffer the bottom line in the following ways:

- Earn tax breaks and rebates.
- Lower construction costs.
- Reduce or eliminate the need for heating and air-conditioning equipment and the associated costs of purchase, maintenance and electricity.
- Cut energy and water bills by as much as half.
- Increase labor productivity, retail customer sales and apartment rental prices.
- Protect operating budgets from increases in energy prices.

We’ve used many “green” elements in building three Stop & Shop supermarkets, and come to understand that green construction can be a smart business decision as well as a socially conscious one. In addition to the hard cost savings, studies show that natural light and fresh air improve employee productivity and retention, allow apartment-building owners to charge higher rents, and increase retail revenues by encouraging customers to stay in stores longer and spend more. In this article I’ll share what I’ve learned to help my fellow CPAs suggest incorporating green concepts when their firms undertake construction projects or clients plan to build commercial or residential properties.

This year is a particularly good time for small and midsize firms and companies to consider construction projects, to take advantage of a two-year extension and upgrade to the U.S. Small Business Administration’s 504 loan program. Loans can be used for the purchase of equipment, construction, renovation or acquisition of land by small businesses, and carry low fixed interest rates. For 2005 and 2006, the maximum for loans to general businesses has been raised to \$1.5 million; minority- and women-owned businesses can borrow up to \$2 million and manufacturers can borrow up to \$4 million.

### **GOING GREEN FOR STOP & SHOP**

Like many good ideas, the environmental approach we took actually was suggested by our client; Stop & Shop management already had the design in mind when it

hired us to manage its construction project. Its vision was to earn tax incentives and rebates—as well as to improve the customer experience and maximize sales—by recycling the concrete from the demolition portion of the construction project and using high-efficiency heating, ventilation and air-conditioning (HVAC), energy management and hot water reclamation.

That translated into lots of skylights that allowed natural light into the stores, and a system that automatically dims or brightens the overhead fixtures depending on the amount of sunlight. Stop & Shop also installed a hot water reclamation system that draws off the heat being generated by the refrigeration units in the stores and uses it to preheat the water that runs into the hot water heaters.

Our interest in green construction began long before Stop & Shop hired us, though. If it's done right, green construction doesn't add cost, and its long-term return on investment (ROI) is real. It increases the value of the building and reduces operating costs every year. And the benefits to the environment and to employee health and retention are priceless.

As the construction managers on green projects, we ourselves don't get any tax benefits. But our clients and subcontractors do. And our local utility company, like many across the country, offers rebates to customers who lower their use of electricity and to the contractors who perform the work that makes it possible.

## The Solaire Building

If there's a poster child for green construction, it's likely the Solaire Building in New York's Battery Park. Its 27 stories of luxury apartments make use of solar panels, an ozone-free heating and air-conditioning system and fresh-air-enriched ventilation designed to consume 35% less energy, 65% less peak electricity and 50% less potable water than conventional high-rise buildings. A thermal envelope around the building maximizes daylight, and occupancy and daylight sensors automatically shut off energy in public spaces when it's not needed. An on-site black water treatment system supplies water for the toilets, and a storm water catchment system waters the "green roof" and rooftop gardens. More than 93% of the waste generated by the construction was recycled.

**Tax credit:** \$2.8 million over five years.

**Grant:** \$100,000, New York State Energy Research Development Authority New Construction Program.

### SEVEN STEPS TO GREENER BUILDINGS

The best approach to green construction is to consider it before you start a new project, so you can build the elements into the project plan up front. Installing high-efficiency windows, for example, doesn't add much cost and can generate a quick ROI if it's done as the structure is being built. It's much more costly if the old windows have to be removed. But some elements—solar panels, for example—can be added at any time.

## Company Profile

**Company name:** Axis Construction

**Ownership:** Private

**Location:** Hauppauge, New York

**Annual sales:** \$35 million

**Total number of employees:** 30

**Accounting/finance staff:** 4

**How I got my job as controller:** Networking through Construction Financial Management Association.

**Biggest accounting challenge in 2004:** Coordinating the 1031 like-kind exchange for sale of old building and purchase of new one.

**Biggest accounting challenges in 2005:** Managing health care and liability insurance costs, lowering mortgage interest rates.

**Solutions:** Modifying medical insurance coverage to increase the deductible and reduce cost, renegotiating banking relationships to decrease interest rate and improve terms and conditions.

Before we start a construction project, we consider the following seven elements:

■ **Tax rebates.** Virtually every state offers tax reductions for environmentally friendly construction (see “[States With Tax Incentives for Green Construction](#),” below).

■ **Recycling the core and shell.** When we are building on a property that has an existing structure, we save on costs by reusing as much of the existing concrete, core and shell as possible. That saves on material costs and also on carting away the rubbish.

■ **LEED incentives through the U.S. Green Building Council ([www.usgbc.org](http://www.usgbc.org)).** Owners of buildings that use green construction concepts can apply for a Leadership in Energy and Environmental Design (LEED) rating that entitles them to certain incentives and tax reductions. There is some up-front time and expense involved; we estimate the process adds about 2% to the cost, though it yields a full ROI.

■ **Energy-efficient devices.** Using efficient, modern HVAC devices saves operating costs and also may entitle owners and subcontractors to rebates offered by local energy companies. Since a significant portion of the value of a property is determined by its annual operating costs, decreasing them also increases the overall value of the building when it comes time to sell.

■ **Natural energy sources.** Designing facilities that make their own energy through natural ventilation and daylight also reduces energy requirements and operating costs. Fresh air and light already are hot commodities in the New York apartment market, drawing health-conscious, high-net-worth customers. The increased demand can result in higher rental income and purchase prices.

## RESOURCES

### AICPA Resources

#### Book

Audit Risk Alert, Construction Contractors Industry Developments—2004/2005 (# 022315JA).

#### Conference

AICPA Small Business Practitioners' Tax Forum  
July 18–19  
Marriott Baltimore Waterfront  
Baltimore, Maryland

#### CPE

Construction Contractors Advanced Issues, a self-study course (# 731990JA).

#### JofA article

“[Nail a Construction Niche.](#)” Mar.03, page 35.

### Other Resources

■ U.S. Small Business Administration, information on construction loans for small businesses, [www.sba.gov/financing/sbaloan/cdc504.html](http://www.sba.gov/financing/sbaloan/cdc504.html).

■ U.S. Green Building Council, [www.usgbc.org](http://www.usgbc.org).

■ Office of Energy Efficiency and Renewable Energy, U. S. Department of Energy, [www.eere.energy.gov](http://www.eere.energy.gov).

■ **HAZMAT and Superfund sites.** While cleaning up deeply contaminated sites is better left to experts in this field, we do consider sites that are slightly contaminated. Companies can buy them at reduced cost, and then use grants and funds from various environmental sources, such as the Environmental Protection Agency and HAZMAT Superfunds, to improve the facility in part at the government's expense. One site we're considering, for example, is a gas station where spilled oil has contaminated the soil, but not the water table beneath it.

■ **Intangible benefits.** Studies show that employee satisfaction, comfort, productivity and retention all improve when the workplace offers fresh air and natural light. Since more than 50% of the overhead of most nonmanufacturing businesses is employee-related, we know there's real value to them, even if they are hard to quantify.

We and our children live in a fragile, interconnected world. When we put the theories of green construction to work in our buildings, we're doing the right thing for Planet Earth as well as for our bottom line and that of our clients. ■

## States With Tax Incentives for Green Construction

State	Income Tax	Corporate Tax	Property Tax	Sales Tax
Alabama	■			
Arizona	■			■
Arkansas		■		
California			■	
Colorado		■	■	
Connecticut		■		■
Florida				■
Hawaii	■	■		■
Idaho	■			
Illinois			■	
Indiana			■	
Iowa			■	■
Kansas		■	■	
Maryland				■
Massachusetts	■	■	■	■
Minnesota			■	■
Missouri		■		
Montana	■		■	
Nevada			■	
New Hampshire			■	
New Jersey				■
New York		■	■	
North Carolina	■	■	■	
North Dakota	■		■	
Ohio		■	■	■
Oregon	■	■	■	
Rhode Island	■	■	■	
South Dakota			■	
Texas		■	■	
Utah			■	
Vermont			■	■

Virginia



Washington



West Virginia



Wisconsin



Source: Office of Energy Efficiency and Renewable Energy, U. S. Department of Energy, [www.eere.energy.gov](http://www.eere.energy.gov).



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