Chapter 23

Return on Investment: Are Green Schools Worth the Cost?

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ABSTRACT
The authors illustrate how school leaders are faced with many difficult choices, particularly as funding decreases and demands for student productivity increase. They explore how politicians reject the notion of green schools because they are more expensive than traditionally built schools. However, with energy costs for school districts second only to personnel costs, the return on investment in green schools can be found in both retrofitting schools and/or in new school construction. The authors conclude that, using the business technique of examining Return on Investment (ROI) for comparison, green schools can yield significant returns when efficiently managed.

INTRODUCTION

Gutter and Knupp (2010) defines a green school as:

A facility that creates a healthy learning environment for children and educators while reducing the environmental impacts and lowering operating costs, thereby saves schools energy, resources and money. A green school observes green building and maintenance practices by using green chemicals or other alternatives to toxic chemicals; seeks to be energy efficient and mindful of resource consumption; serves nutritious food; and teaches students the importance of school, community, and the earth’s environment and resources. (p. 12)

Green buildings address environmental issues including water usage, waste materials, energy, and health (O’Mara & Bates, 2012). Green buildings having lower operating costs, and better indoor environmental quality, meaning they are cost effective, and contribute to the triple bottom
line (Halpren, Klein, Brown, Beger, Grantham, Mangubhai, Ruckelshaus, Tulloch, Watts, White & Possingham, 2013). Savitz and Weber (2006) define the triple bottom line as environmental, social, and financial costs or in terms of return on investment, “people, planet, and profits” (p. 4). Savitz and Weber (2006) contend the triple bottom line “captures the essence of sustainability by measuring the impact of an organization’s activities on the world ... including both its profitability and shareholder values and its social, human and environmental capital” (p. 2). Savitz and Weber (2006) and Slaper and Hall (2011) further point out, “The trick isn’t defining TBL. The trick is measuring it” (p. 4), reporting that no “universally accepted standard” (p. 4) exists for the triple bottom line as different entities measure the environmental, social, and financial costs in different ways (Marcus, Shrivastava, Sharma & Pogutz, 2011; Stenzel, 2010).

Henry Kelly, President of the Federation of American Scientists states, “Failure to invest in green technologies is not financially responsible for school systems” (p. 3) reflecting further he described, “the public benefits of green schools are even larger than those that work directly to the financial advantage of schools” (Kats, 2006, p. 3).

Almost half of America’s public school buildings were built to educate the baby boomers – a generation that is now retiring from the workforce. Public school enrollment is projected to gradually increase through 2019, yet state and local school construction funding continues to decline. National spending on school construction has diminished to approximately $10 billion in 2012, about half the level spent prior to the recession, while the condition of school facilities continues to be a significant concern for communities. Experts now estimate the investment needed to modernize and maintain our nation’s school facilities is at least $270 billion or more. However, due to the absence of national data on school facilities for more than a decade, a complete picture of the condition of our nation’s schools remains mostly unknown. (American Society of Civil Engineers, 2013, p. 7-8)

**ECONOMICS AND GREEN SCHOOLS**

The 2008 recession exacerbated concerns for America’s school infrastructure and the movement to invest in building new schools that meet educational needs and are also green (Carreth & Carreth, 2013).

As more school districts begin to focus on the lifecycle costs of their facilities, rising energy costs have proven to be a motivator for certain types of school construction projects. Energy costs, from heating to technology, are typically a school district’s second highest expenditure after personnel; so many school districts are looking to make their school facilities more sustainable. School energy efficiency improvements have become even more compelling with the escalating cost of energy throughout the nation. (American Society of Civil Engineers, 2013, p. 58)

The 2011 21st Century School Fund Fact Sheet reported over 98,000 American elementary and secondary schools serve public school students in PK-12 with over 1 million acres of school building areas. The Fund also estimated $271 billion is needed to address deferred maintenance of buildings and school grounds (21st Century School Fund, 2009, 2011; Hylton, 2007). Deferred maintenance and poor facility conditions were listed as two critical factors in student and faculty health issues (AASA, 2009), “with poor air quality being the biggest problem” (21st Century School Fund, 2011, p. 1).

Despite knowing the needs of schools, with the recession of 2008, addressing the needs for America’s schools continues to be a low priority (Hanson, 2010; Hylton, 2007). In the long run, chronically deferred maintenance is costly, both
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