

**THE HOMEOWNER'S GUIDE TO GREEN BUILDING:  
A CUSTOM SOURCEBOOK FOR SARATOGA COUNTY RESIDENTS**

Trisha Carile & Ian Bain  
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half (46%) of people buying a new home or making major renovations are considering green products (NAHB 2010). Homeowners and homebuilders alike are realizing that greener homes can cost less to build and operate, last longer, are healthier to live in, use less water and energy and often have a higher re-sale value (USGBC 2010).

Green building can be implemented to support sustainable economic development and expansion globally and within Saratoga County. Sustainable building practices incorporate many principles, but generally touch upon energy efficiency, indoor air quality, local materials, green building systems, and smart building design (Bauer 2010). Builders use a variety of techniques to reduce the energy needs of a structure and increase the ability to capture or generate their own energy.

amplify ecological and human health consequences in the surrounding areas (SCPB 2010). As a result, Saratoga County would benefit greatly from increased green home designs. There are already several successful local examples: Phinney Architecture is a LEED certified, green driven architecture firm in



about green buildings strategies in an effort to understand what techniques will be most effective in Saratoga County. From this information, we will to create a supply of knowledge in an accessible, informative sourcebook for green building in Saratoga County to address the lack of knowledge Gallagher and Ornvold found. We hope this sourcebook will promote green (l) 0.2 (l) 0.2 (a).2 (l) 0963989 0.24

After analyzing our interviews, we determined whether a green building resource would be most useful to local homeowners, builders, or architects. This resource consolidates and lays out information regarding what green building techniques work best in the region as well as what information homeowners ask for most.

### *Defining Green Design*

When asked to describe what “green design” means to them, all of our builders gave unique answers. Some builders tried to define green design in terms of different home certifications, such as LEED and Energy Star. However, these builders made a clear distinction between certifications and true green building, suggesting that a LEED certified house does not necessarily make it a green build.

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When Gallagher and Ornvold performed their interviews, they dedicated most of their time to learning about each builder's process and what techniques they implement. From their interviews, we learned that local green builders all implement a variety of green building techniques during their home building projects. Almost all green builders first considered environmental impacts in siting or in the pre-construction phases. Some builders looked to preserve the natural features of the land with minimal disturbance of natural landscapes surrounding their homes. The initial building orientation and window size for southern exposure to maximize passive solar was an important element for most builders. From there, builders considered the whole home – integrating elements of the HVAC system (heating, ventilation, and air conditioning) to work efficiently together. Only a few builders considered the use of recycled materials, where all of them ensured that they installed high quality insulation in their homes correctly and effectively (Gallagher and Ornvold 2010).

#### *Green Building Techniques And Resources For Non-Green Builders*

All non-green builders first started by saying that they work for the clients. One builder stated that “we try to educate [about green building options], but we don't try to get moralistic with our clients. I get all different kinds of people, so I have to play things a little more evenly.” Builders cannot pressure their clients into choosing green design elements; they can only present them as an option. As a result, non-green builders focus more on the client's wish list than incorporating green building techniques.

However, our non-green builders mentioned a range of green building techniques they do implement when their clients ask for them. Figure 1 demonstrates the variety of green building techniques local builders implement without advertising themselves as green. There are clear similarities between non-green builders techniques and green builders techniques. Both builders reference preserving the natural landscape, insulation, and using natural materials. Non-green builders all mentioned energy efficiency and indoor air quality as green building techniques their clients were concerned most with. The



practices, and “understand what’s in it for them.” Most builders found homeowners that come to them looking to implement green design, especially a specific certification, are unaware of what that involves. The dominant belief is that green building is often associated with higher costs, but majority of builders said that within the past five years, costs have become much more competitive. These changes in cost are apparent looking at Gallagher and Ornvold’s interviews from 2010 and comparing them to our interviews from 2012. The cost of spray foam insulation, based on their interviews and ours, has dropped to a competitive price in recent years. There are also government incentives and rebates available to homeowners that were not available in 2010.

Gallagher and Ornvold had already concluded that associated costs and education were the leading factors that prevented builders from implementing green building in the Saratoga Lake Watershed several years ago (Gallagher and Ornvold 2010). Our recent findings stated the same, and that home-

ties of countertops to their clients, but they almost always choose the expensive granite over the countertop made from recycled bottles and mirrors.

*Homeowner's Green Building Preferences and Concerns*

All builders we spoke with agreed that homeowners are most concerned with energy efficiency and indoor air quality in regard to green building techniques. One non-green builder interviewed said he stresses indoor air quality to all his potential clients to ensure that the homeowner understands that this is a matter of health and safety. Specific green upgrades such as spray foam insulation were cited by builders as providing a comfort that was worth the extra money to their clients. However, these are only small

are not. Therefore, it is difficult to determine what aspects of design are worthwhile. For example, siding companies are producing vinyl siding made from post-consumer recycled plastics. Although this product is considered “green” for being made partially of recycled materials, it is still extremely harmful to the environment and energy intensive to make. The other major concern involved cost, and how to accurately calculate things such as return on investment so homeowners can see the difference.

## **Discussion**

From these results, we have concluded that non-green builders can only do so much to persuade their clients to choose greener options. We also discovered that the average client is concerned with their home being efficient, healthy, and comfortable. Our interviewees also provided us with some insight as to what building techniques are most effective in upstate New York.

Although we interviewed different types of builders, there are several similarities between Gallagher and Ornvold’s results and our own. The first being that, regardless of who you ask, everyone will give you a different definition for green design. The answer is complex, and the uniqueness of each response from both sets of interviews indicates that until the field stops growing there will always be a variety of answers out there. Both interviews also presented the same problems that prevented expansion of green building in Saratoga County. Cost and lack of education seemed to be the main issues in both interviews. Gallagher and Ornvold found that people and builders alike were put off by

The main difference between these sets of interviews came about exclusively because of the difference between green builders and non-green builders. Builders that advertise themselves as green are likely to receive clients that are already environmentally conscious or interested in green building. Because of this, these builders serve as teachers for their clients. They are expected to educate their clients on different green building options that fit their budget and can have the largest impact environmentally. On the other hand, the non-green builders we interviewed do not have that luxury. Their clients come to them with a specific idea already in mind. They work with a variety of people – some are environmentally conscious but most are not

green building techniques homeowners were most concerned with were indoor air quality and energy efficiency. Homeowners looking to renovate, rather than build a new home from scratch, were also concerned with the same two issues. Based on this information, we have provided two different





entirely since it would require constant updates and revisions.

## **Conclusion**

Saratoga County is growing faster than any other county in New York State (SCPB 2010), with tremendous room for growth in the green building field of home construction. In addition to concerns regarding sustainable development, a sustainable economy is necessary to foster growth. Green building can help more than just the environment, however homeowners must understand the associated benefits of green home design. The previous capstone project conducted by Gallagher and Ornvold concluded in their paper that green building information “needs to be easily accessible and well organized [...] as there are hundreds upon hundreds of websites that make claims about green building information” (Gallagher and Ornvold 2010).

After conducting interviews with local builders, we discovered more of the same. Homeowners need to be able to visibly see and feel the differences green building techniques create in order to consider them as viable options. The local builders are not in a position to force their clients to choose green, therefore an educational tool is needed to help persuade and enlighten homeowners.

Our solution to this problem expands on Gallagher and Ornvold’s call for more education. Instead of educating builders, we targeted the homeowners themselves. We first interviewed local builders to see what environmental concerns, if any, their clients had. Then, we consolidated information from various online and print green building resources and tailored it to Saratoga County, customizing the information to suit local homeowner interests.

We hope this sourcebook will be a comprehensive, informative guide that will assist local homeowners in choosing green products and building techniques for their home. In future work, we would suggest finding the means to provide accurate price comparisons for the sourcebook in addition to creating a better way to educate homeowners on the “whole house” method of green building.

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## Appendix A

Here is our base list of questions asked in every interview conducted. Additional clarifying questions were asked based on responses to questions.

What does your company specialize in and what is your role in the company?

This project is based around green design, can you quickly tell us what the phrase “green design” means to you?

Do you integrate elements of energy conservation, recycled materials, or other green design practices in your work?

How do you present different green options to your clients?

What do you think makes people choose green design?

What, in your opinion, keeps companies and individuals from utilizing more green building techniques in their construction?

What resources do you find useful to learn more about green design?

The size of the company was determined by the size and number of projects they conduct every year. For example, a “large” builder might build an entire estate in a year or construct over a dozen homes. A “small” builder might focus on a couple of houses and assist with smaller renovations such as bathrooms and kitchens.

## Appendix B

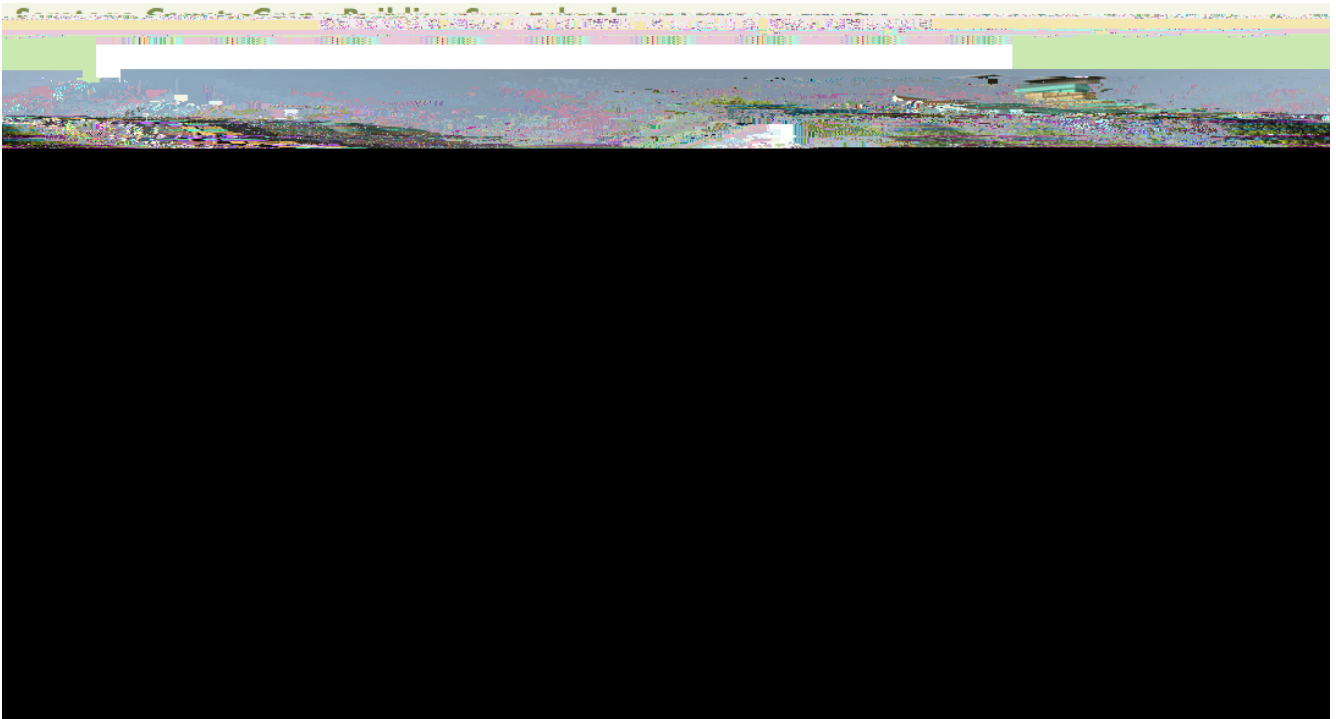
Link to Website: <http://academics.skidmore.edu/blogs/saratogacountygreenbuildingsourcebook/>

Screenshot of HomePage:



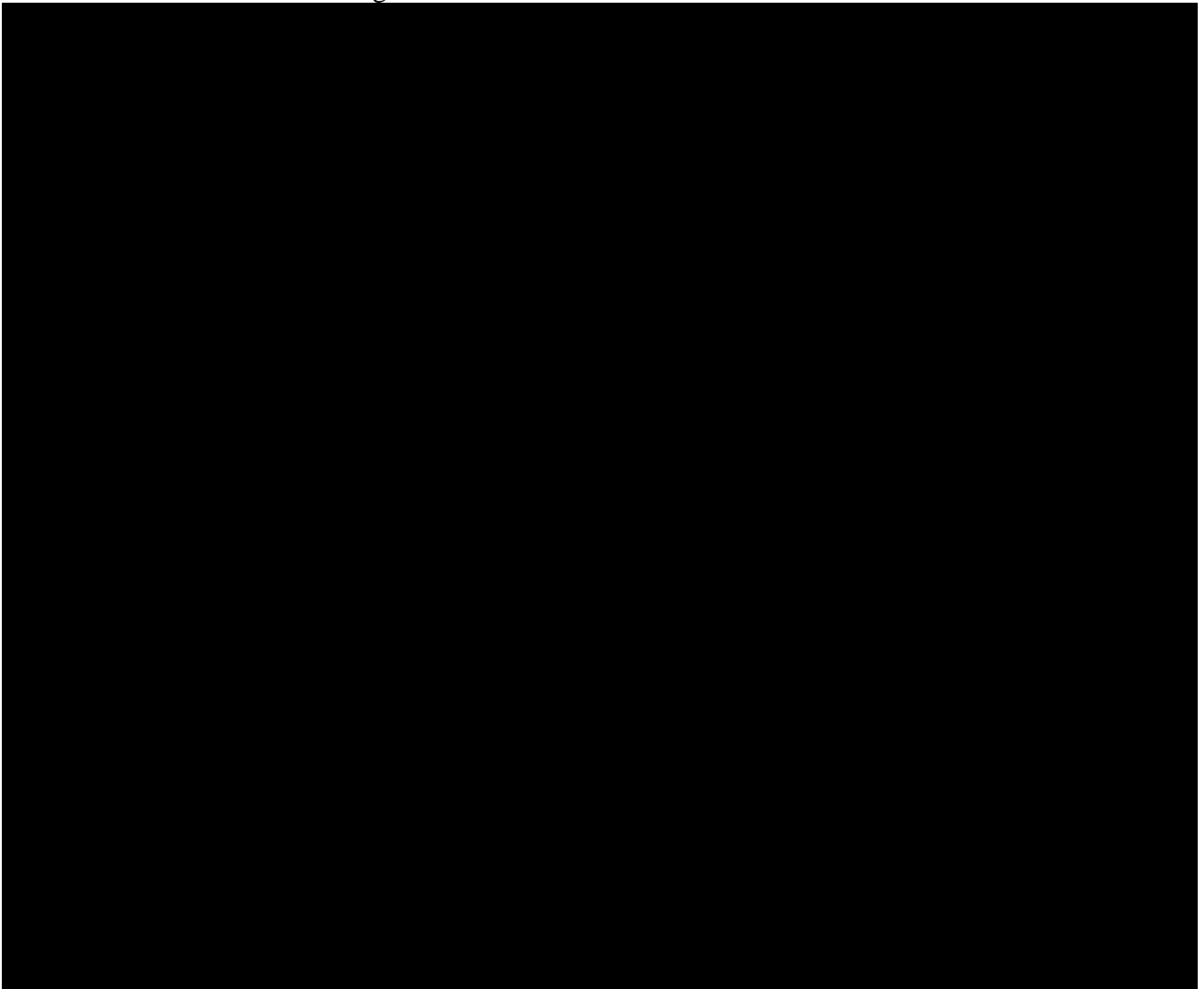
## Appendix B Continued

Screenshot of Home Cross-Section



## Appendix B Continued

Screenshot of Local Vendors Page:



## Appendix B Continued

Screenshot demonstrating what each product page looks like:

