

Sustainable Development pertaining to the company **GRAIN/STRUCTURE** LLC

Green Consumerism

A growing trend in American consumer habits has been towards “Green Consumerism”, or Ethical Consumerism. This section is intended to discuss consumer habits and the continually growing trend towards conscious buying habits. In addition, the desire to own and display ecologically sound products is a driving force in green consumerism. Alex Williams wrote, in the *New York Times*, that the “...vision of an eco-sensitive life as a series of choices about what to buy appeals to millions of consumers and arguably defines the current environmental movement as equal parts concern for the earth and for making a stylish statement.”¹

Working with Matthew Walter Woodworking in Westchester County, NY, one of the wealthiest areas in the country, we dealt with this high-dollar eco-consumerism on a regular basis. One story which stands out to me is about a family who wanted a new kitchen. Typically, we use species hardwood for the doors and frames of the cabinets and maple plywood for the carcasses (the box behind the doors). Our client was trying to update the kitchen in an eco-sensitive way and was therefore very particular about the materials going into it. They specified bamboo for the floors since it is very fast growing and therefore very renewable. For the cabinets, they wanted a simple, modern look without any hardwoods which lead us to build it entirely out of plywood. Normally, plywoods are manufactured with glues that emit formaldehyde, a known carcinogen in high concentrations. Our savvy client was aware of this and asked that we use E0 plywood, which means there is essentially zero formaldehyde off-gassing effects. Acquiring this material was expensive since it had to be shipped from a manufacturer in Sweden, but our client was understanding of this and willing to pay the premium. The irony to the whole job was that the kitchen and flooring that was removed in order to make room for the new one was simply disposed of. A classic case of “out of sight, out of mind,” the clients new kitchen was indeed a better solution from a green perspective, but what about the environmental cost of sending the old construction to the landfill?

¹ ALEX, W. (2007, July). Buying Into The Green Movement. *New York Times*, p. 1. Retrieved from Academic Search Elite database.

The lesson to be learned is the same point of Alex William's New York Times article – he cites environmental activist Paul Hawken saying, “Green consumerism is an oxymoronic phrase.”² As with the kitchen story, buying green is fundamentally backwards unless it is a necessary purchase. Purchasing something new to replace something old will always have more impact than simply not replacing the original product in the first place. Looking at it optimistically, it is important to recognize the positive intention that green consumerism offers. As Americans, we consume goods rapidly so the shift to modest buying patterns will be slow, but green consumption and educated buyers is indeed an important first step.

The Manufacturing Process

Since the subject of this paper is a business which manufactures physical product, I will be discussing sustainable development in regards to the processes involved. The common definition of sustainable development states that it “meets the needs of the present without compromising the ability of future generations to meet their own needs.”² To me, Sustainable Development (as it applies to goods and services) implies some sort of equilibrium between consumption of resources and the resulting production of goods. For a better understanding of this, I have laid out the basics of the typical product development cycle that I have come to know through many years of running small businesses and playing a direct role in each step of the product's life cycle.

There are three primary steps in leading up to a product being in the customer's possession. First, the conceptualization and design stage requires communication, computer or traditional drafting, and engineering the specifics of the product. Communicating occurs through telecommunications and information technologies. This means moving data around which consumes electricity for the devices needed (phones, fax machines, computers). Design and drafting usually starts with designers using ink and paper to sketch ideas and refine the idea until all criteria are met.

² United Nations. 1987. "Report of the World Commission on Environment and Development." General Assembly Resolution 42/187, 11 December 1987

Today, designers frequently use computer aided design (CAD) during the later stages of refining the concept which can move directly into engineering. The engineering phase then refines the designer's work further with regard to manufacturing compliance. They must also often design the tooling and jiggging components needed to manufacture the product. Engineering also includes the logistics of sourcing raw materials and facilities (either in-house, or outsourced) needed to make the product.

Next, the manufacturing stage requires additional communications, obtaining raw materials, and the actual fabrication processes. Communications are very much the same as the design phase. Raw materials must be shipped to the factories, which requires some sort of third-party freight company and generally consumes oil. Finally, the machines required to build various products vary greatly, but almost always consume electricity at much higher rates than the design and engineering phases. Not always, but often, some sort of finishing processes, such as painting, is needed. This may require additional outsourcing which can mean moving the unfinished goods to another, separate facility. Finally, there is sometimes packaging involved, but this is usually designed and manufactured alongside the product itself.

The last step is getting the product to the purchaser. Doing this involves distribution which can either be direct to the customer, or involve one or several distributors. The energy consumed here usually takes the form of oil for transportation purposes.

Throughout all of this, there are ongoing advertising campaigns required to bring public attention to the product. This means lots of communication, additional design services (art, graphics, manuals, website, ads etc). Printed ads also mean paper and ink usage.

The details of all this are very specific to the company and the product or service rendered. Clearly, a lot of energy goes into making products. The goal for sustainability is to find a balance where that energy used can somehow be given back or initially acquired from a renewable resource with minimal environmental impact. Powering computers and machines through renewable energy sources like

wind and solar energy are ideal as is paperless communication where possible. In addition, specifying recycled materials for the product's construction helps to reduce the need for using fresh resources. Otherwise, using renewable resources is a viable alternative. Finally, proper recycling of waste materials is important. This can mean re-using the waste for another purpose, or remanufacturing it for usefulness in another means.

Current GRAIN/STRUCTURE Process

Because I am the sole owner and employee of GRAIN/STRUCTURE, I handle every one of these details along side my client. My practice is the production of furniture and cabinetry or other woodworking projects. Luckily, that means I am primarily using a renewable resource to fabricate my goods. I make efforts to run a paperless operation, using email and the internet to communicate and advertise my work. While my design process generally starts with ink sketches on paper, I move into the computer drafting rather quickly. My tools, however, must be powered by electricity – Currently, this comes from our local nuclear power plant, Ginna. I transport materials and finished product myself using my gasoline powered truck. My waste material takes the form of saw dust, hardwood scraps, and engineered material scraps (plywood, press board).

Peer Comparison

There are, of course, many other people running similar businesses with similar goals. This section will outline a some other businesses to see how their operations are comparable to my own as well as to see what could be learned from them.

North on Sixty is a company in Ontario, Canada who specializes in recovered and recycled wood products. “Waste Not. They're two words we have always lived by ... Ultimately, minimizing waste is about creating harmony between people and their environment.”³ This company owns their own sustainable foresting operation

³ Company Philosophy, retrieved May 11, 2010 from North on Sixty, <http://www.northonsixty.com/company/>

which has been certified by the Forest Stewardship Council as responsible forestry. In addition, much of their lumber is recovered from aging structures within 300km of their shop.

North on Sixty's design principals are also very well considered. Thoughtful, space saving design as well as consideration for use of natural light when available are examples of the attention to detail which goes into their product. Most importantly, however, is their construction quality. I admire the statement, "We over-engineer our products. We employ impassioned craftsmanship and top-quality materials, without exception. We build things that will last, and last, and last - ultimately one of the most important elements of conservation."³ This is truly a fantastic mentality towards sustainability which, if embraced on a global scale, would scale back needless, repetitive consumption greatly.

Another interesting business model is Old Barn Reclaimed Wood Co. Old barn does not own their own forestry segment like North on Sixty, but similarly they do have heavy emphasis on reusing materials from unused structures. In fact, Old Barn uses reclaimed materials almost exclusively. The reason they prefer this is because "...nothing matches the appeal of reclaimed wood in terms of character, patina, durability, and environmental sustainability."⁴ There are a number of other businesses who share these values, GRAIN/STRUCTURE being one of them.

Improvement for Sustainability

With ethical consumerism and the procedures of my peers in mind, I can assess what I am already doing to achieve sustainability as well as analyze where I can improve my practices through learning from these other respectable businesses. A lot of the ideas and values are not necessarily new to me and I would argue that I already practice much of the ideals. However, what is important is the way in which these other companies have vocalized and put into words the thoughts and mentality which generally run in the background.

4 About Old Barn Reclaimed Wood & Antique Flooring, Retrieved May 11, 2010 from Old Barn Reclaimed Wood Co., <http://www.reclaimedwoodco.com/about/>

For example, North on Sixty has an interesting means of explaining their over-engineering and quality construction. The idea that a well made product with an intentionally long life span is indeed a sustainable product, especially when you consider that it is made from recovered/recycled materials. At GSL, I had developed a mentality similar to Old Barn's in regards to recovered material – It's character and stability are unbeatable. North on Sixty's approach adds to that in regards to sustainability making recovered material all the more desirable to use.

Recycling waste materials is an important next step I must consider. Generally speaking, because the woods I use are bio-degradable, I do not feel to much shame in sending it to the landfill. In the wintertime, my shop is extremely cold. I have been using electric heaters to warm it, but there is an obvious connection to be made – heat the shop with the waste. North on Sixty does just that, in a much larger building. It seems entirely logical to me that collecting waste through the warm months could easily amount to enough fuel to heat my small workspace through most of the winter. I could easily source a radiator and burner from the local house-salvage stores and construct a sustained heating system.

In the longer term, I need to tackle the issue of the green consumer. As with these other businesses, using marketing to convince potential clients of the benefits of recovered materials, high quality construction is just as much a benefit to my business as it is to their mentality. Even if they can't afford the higher prices associated with this level of work, spreading the message might be enough to dissuade somebody from turning around and buying a cheap, unsustainable alternative. If I can do that, I will be accomplishing much more than a paycheck can offer.

Conclusion

GRAIN/STRUCTURE is already on the path to a sustainable future. I feel confident that I have the right mindset and core values to build my business with minimal environmental impact. With green-consumerism in style, it is a perfect opportunity to help enlighten my already intrigued clients about the pathway to

better consumer habits and the benefits of buying local, handmade, sustainable product. With my competition being older, wiser companies, I can learn from their example and also strive to outdo their efforts. Perhaps with the eventual implementation of off-the-grid power from wind and solar, I could run a shop with less impact than North by Sixty has managed to do. Most important of all is the goals and means towards sustainability this research has afforded my company. Without a meaningful goal, one has little to work towards. I can say with more confidence now than ever that GRAIN/STRUCTURE has a direction and is moving forward with purpose.

REFERENCES

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