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| SCMer’s Brewing: A Green Supply Chain | December 8BUAD 6600 |
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**Company Overview**

*Mission Statement*

SCMer’s Brewing Company (SB) is committed to providing our customers with the highest quality, best tasting beer while maintaining an environmental stewardship in our community. We are dedicated to being environmentally responsible in our brewing practices, while still being able to serve our customers with a satisfying and flavorful beer.

*Organizational Structure*

SCMer’s Brewing Company employs a total of 75 people. Our organizational structure is composed of the President, Vice President, VP of Human Resource, VP of Sales, Supply Chain Manager, and Operating Officer (See Appendix A). As a small craft brewery, all top-management personnel work together in order to adhere to our mission statement. In order to perform as a sustainable brewery, management and line employees are responsible for creating ways to become more environmentally friendly. It is management’s responsibility to report these directly to the President and develop a proposal that will implement these sustainable ideas.

**Our Product**

*Tasty Brews*

SCMer’s Brewing is a very small craft brewery that produces three distinct types of beer. Our brewery provides customers with a light beer, a medium-bodied beer, and a dark beer. The light beer has a smooth, rich, and sweet flavor accompanied with a nutty finish. The medium-bodied beer is a perfect mix of sweet fruity flavors and a dry nutty finish. The dark beer has a toasty aroma and provides a tasty blend of roasted caramel and coco flavors. Although our beers have three distinct flavors, each type is produced in a sustainable manner in order to hold fast to our mission statement as environmental stewards.

*Our Office: The Brewery*

The brewery is located in Toledo, Ohio and serves great tasting brews to the surrounding cities in Ohio and Southern Michigan. There are several components to a brewery which are listed and explained below. Brewing beer requires four basic ingredients: malt, hops, yeast, and water. Most beers however have additional ingredients to make them unique and flavorful. The following is an explanation of the equipment needed and the steps taken to produce our tasty brews:

* Mash Tun: The mash tun is where the brewing process begins. Malt is crushed and hot water is added so starches can turn into sugar (Pacific Western Brewing Co., 2010). This is where wort, or young beer, is created (Brew Masters, 2010).
* Boiler Kettle: Wort is transferred to the boiling kettle where hops and other flavorful spices and ingredients are added (Pacific Western Brewing Co., 2010).
* Cooling the Wort: The wort is cooled using a counter flow heat exchanger. Wort is also filtered to remove any particles left behind from the boiler kettle before being transferred to the fermentation tanks (Orion Breweries, 2009).
* Fermentation Tanks: This is the longest step in brewing and can take anywhere from between 7 days to 4 weeks, depending on the desired alcohol content. Yeast is added to the wort and then stored at an almost freezing temperature. The Wort turns to beer as the yeast turns the sugars into alcohol and carbon dioxide (Brew Masters 2010).
* Filtration Units: Beer is filtered one last time so that the flavor and color is just right (Orion Breweries, 2009).
* Bottling Line: The bottling line is one of the most crucial parts of the production process. It must be constantly operable so that the fermentation tanks can be emptied and new beer can be produced. Most bottleneck obstacles occur at the bottling stage of production (Brew Masters, 2010).
* Warmer: After bottles are filled and capped, they are sent through a warmer to get the beer to room temperature. This removes condensation from the bottles created during the filling process so it eliminates the chance of mold once packaged in the cases (Brew Masters, 2010).

(See Appendix B)

**The ‘Go Green’ Way**

*Growing Importance of a Green Supply Chain*

With a growing concern in the community about sustainability and going green for the good of our planet and essentially our community, it is no wonder why many businesses have followed suit. There has been a huge increase in companies’ emphasis on green and sustainable supply chains. “A Green Supply Chain can be thought of as a supply chain that has integrated environmental thinking into core operations from material sourcing through product design, manufacturing, distribution, delivery, and end-of-life recycling” (valuestreaming).

As organizations are now restructuring to reduce their company’s ecological footprint, supply chains have increasingly become a key area of focus. We are now seeing that improvements in transportation, operations, raw material selection, and packaging are all at the top of the list of green supply chain initiatives.

In the past, many companies only cared about ensuring that they follow all government regulations so as to not violate any rules set forth to protect our environment. “Traditionally, companies incorporating green projects have focused solely on cost avoidance by assuring compliance, minimizing risk, maintaining health, and protecting the environment” (valuestreaming). Currently however, companies are now taking these steps further towards ensuring their ecological footprint is not as big as it was in the past. To do this, companies are finding ways to become more sustainable and take paths which create less waste and are therefore more environmentally friendly.

Companies are now realizing that making more economically friendly choices is actually saving them money in the long run. Some green initiatives save companies money immediately (such as switching to environmentally friendly light bulbs) and others require larger startup costs with huge savings in the long run (such as installing solar panels to offset a company’s energy usage).

*Green Supply Chain Framework*

There are four essential dimensions that provide the framework for a green supply chain. These dimensions must be kept in mind when going green in any business or industry. Due to the nature of imperativeness these dimensions demand, it has laid out the framework for our green brewery. The dimensions are as follows:

1. Operational Alignment – A business must align their strategy with their green initiatives in order to achieve long term success in their plan.
2. Business Partner Collaboration – A business must find suppliers and allies with similar initiatives in order to be successful.
3. Business Capabilities – While it is imperative to make every effort to change or go green whenever possible, a company has the capability to only go so far. A business must be sure not to push limits or boundaries. Otherwise, their efforts could be adversely detrimental to the company.
4. Metrics and Measurement – After changing the company’s strategy, operations, suppliers, supply chain, etc., in order to determine success and compliance of the company, the new strategies must be followed and measured to ensure that the company is heading in the intended direction.

**Sustainability Initiative**

*A Triple Bottom Line Approach*

SCMer’s Brewing will adhere to the Triple Bottom Line (TBL) philosophy. The philosophy encourages companies to participate in economic, social and environmental practices in order to reach sustainable, yet profitable, goals. People, planet, and profits are all going to be considered in decisions made by the firm (Toffel 316).

1. People - The social aspect considers the involvement of the company with their employees and the community. Fair labor treatment is probably the main factor and SCMer’s Brewing will ensure sure they treat their employees fairly. An Employee Stock Ownership Program (ESOP) is one way SCMer’s Brewing will include their employees in decision making and will give them the opportunity for involvement with company. An ESOP is a good way to keep employee production up and turnover rates low.
2. Planet - The TBL preaches attention to reduction of the ecological footprint which will be explained thoroughly below.
3. Profits - Economically, TBL extends profits of a company to the proceeds its community receives from having the company located in their neighborhood. Triple bottom line accounting will be used by SCMer’s Brewing and will consist of reporting results of the social and environmental practices which the company uses to achieve their sustainability goals.

*Our Ecological Footprint*

SCMer’s Brewing Company is dedicated to reducing our impact on the environment by adhering to the sustainability framework of Ecological Footprinting. A company’s ecological footprint compares the environmental impact of production activities to the consumption of the Earth’s limited resources (Toffel 316, 317). It allows companies to calculate the amount of resources, such as land, water, and energy, it takes to produce a product. SCMer’s Brewing has developed ways to reduce our ecological footprint. Some examples include recycling materials used during the brewing process and distributing our product to surrounding areas in order to reduce transportation emissions.

**SCMer’s Year-Around ‘Green’ Beer**

*Where the ‘Green’ Beer Grows*

The location of the plant is a crucial decision for a successful development of a brewery. Many factors need to be considered. We developed a process of selecting the location of the plant for two different options: build a brand new structure, or use a vacated shop (See Appendix C).

Cost component evaluates the cost of building a new plant versus buying a vacated location. Since the prices of real estate are down and building owners are eager to sell their unused factories, it would be considerably cheaper to buy. Renovations costs are to be expected, but would be less expensive than building new.

A new shop would be advantageous because it would be built very energy efficient. However, the cost would be much higher. Energy costs would be lower with a new facility and the advantage is shown in Appendix C.

The time factor evaluates how much time it would take from making a decision until actually producing beer and generating revenue. It was determined that renovating a facility would be a significantly faster process. Obtaining permits, designing the plant, working with contractors and suppliers, and the actual construction of a building are all very time consuming.

The ecological footprint would also be greater for building a new facility because of the costs associated with transportation and manufacturing of the materials needed; which would impact the environment. After looking at the cross-evaluation between building a new facility and renovating an old one, it was determined that using a vacated factory in the Toledo area would be the best option (See Appendix C).

*Beneficial Re-use of Waste Material*

Grain

Manufacturing produces a final product, as well as byproducts of the process, that are usually unwanted. It can be a large expense for some manufactures to properly dispose of these byproducts, especially if they are hazardous. Sourcing transportation and disposal handling of waste material is often a requirement. Fortunately for brewers, their byproducts are desirable.

Handling of spent grain can be taken care of through cooperation with local farmers. During the brewing process most of the starch and carbohydrates are removed from grains used to make the beer. What is left over is a spent grain that is mostly protein. Farmers use this byproduct as a healthy feed supplement for dairy and beef cows. The grain can be given away for free. The benefit to the brewery is that it is picked up and hauled away instead of paying for waste management services to take it to a land fill. This arrangement is in line with our mission statement and a triple bottom line approach as it is economical, waste reducing, and supportive to the community. It also helps to build awareness of our brand among those who benefit from the reuse.

Yeast

Another unwanted byproduct of brewing is yeast. Yeast is an organism that reproduces rapidly. In the process of making beer, most breweries end up with excess yeast that they cannot use. Handling of yeast waste can be a hazard to the local water supply if it is not dealt with properly. Water treatment plants use microbes to treat water that will be reused as supply water. As a contaminant in waste water, yeast is detrimental to the treatment process because it competes for oxygen with the microbes and causes them to be less effective.

Again, beneficial re-use is the answer to disposing of this byproduct. Yeast can be offered to local bakeries that need it for their businesses. Unlike breweries, bakeries kill all of their yeast in the making of their products so they cannot simply source the ingredient from an ever-replenishing supply. The yeast can be offered for free in exchange for someone else picking it up and hauling it away.

Spent Hops and Trub

After the beer is extracted, there is a mucky, pudding-like byproduct left on the bottom of the kettle that needs to be disposed of. It smells terrible and is not good for animal feed, yet it still does not need to be land-filled. These spent hops and trub can be used as compost. Through a beneficial re-use program, it can be picked up and hauled away by anyone who needs fertilizer for growing. We will not produce enough of it for use on large farms, but anyone growing for a local farmer’s market or maintaining a personal or community garden could make good use of it.

Water Conservation

For most manufacturers, sourcing water as a raw material is not one of their most pressing concerns. However, for beer brewing the industry standard is six gallons of water per every one gallon of beer made (ecobrew.net). For a brewer that makes thousands or hundreds of thousands of gallons of beer each year, this inefficiency represents a large waste related expense and a large ecological footprint.

Reducing the amount of water wasted is an important cost saving initiative as well as a sustainability concern. Some breweries have on-site water treatment facilities, which will be discussed later. The initial concern is how to put less water down the drain to begin with.

Heating water to the temperatures required to make beer produces boil off in the form of steam. Catching that steam using a condenser and a holding tank would keep it from simply being vented outside and lost.

Another way to reduce water waste is to reuse water from a heat exchanger. When the wort is finished boiling it needs to be cooled right away. This is done by using a heat exchanger and unheated city water. (Eastendbewing.com) The wort is run through the heat exchanger, and the water cools it down rapidly. In return, heat is transferred to the cool water and heats it to around 160 degrees. Dumping this water out of the heat exchanger down the drain would waste the water, the energy it took to heat the wort, and the money spent for both. Capturing that water in an insulated tank can keep it hot over night so that it can be used the next day for cleaning and sanitizing the brewing kettles and equipment. This is because 80% of most breweries’ water consumption is used in direct relation with cleaning and sanitizing. (EastEndBrewing.com)

Capture of Caron Dioxide

As yeast ferments the wort, chemical reactions take place that create alcohol in the beer. A byproduct of these reactions is carbon dioxide gas. Carbon dioxide is a known greenhouse gas and harmful to the atmosphere. Fortunately for brewers, it is also an ingredient in beer. It is used to carbonate the beer and give it its effervescence. Instead of allowing the carbon dioxide released from the fermenters to escape into the atmosphere, it can be captured and used to carbonate beer as it becomes ready for bottling.

 Sourcing carbon dioxide that meets requirements is an expense to brewers, and it contributes to the brewery’s ecologic footprint. However, by using a recovery the gas can be captured and stored. Carbon dioxide from fermenters flows through a foam separator and a gas scrubber to a compressor, and then through filters and driers to a storage vessel. This provides a supply of carbon dioxide t with a low oxygen content that can be used. (Greenlime.com.au)

Long Term Initiatives

Because SCMer’s Brewing is a startup business, sustainability initiatives need to be cost saving, or at least affordable. It is better to implement them from the beginning rather than having to change an already existing method later. However, some sustainable initiatives cannot be implemented without considerable amounts of capital.

After establishing itself and the ability to raise large amounts of money through equity and debt financing is possible, our brewery may want to look into producing its own electricity though the use of solar cells, wind turbines, or fuel cell technologies.

Wind and solar energy is becoming very commonplace and more affordable. However, in order to power an entire brewery, dependency on the sun and wind is not practical; especially in Northwest Ohio where sunlight is diminished a considerable portion of each year. Installing cogeneration fuel cells can power an entire microbrewery with power left over to sell back to the electric utility company if such an agreement can be reached. Fuel cells can run on natural or bio gas which is mixed with oxygen in the air to produce hydrogen and generate electricity. For our consideration, one model DFC300 from manufacturer Fuel Cell Energy can provide up to 300 kW, with 47% electrical efficiency, 24 hours a day, 7 days a week. A DFC1500 can provide 1.4 MW of electricity with virtually no air pollution. (Fuelcellenergy.com)

The cogeneration fuel cells offer another benefit. The exhaust of these machines produces waste heat that can reach 700 degrees. Systems have been built in that allow its users to capture that energy in a heat exchange. For our brewery, this captured heat could be used to boil water in the brewing process and heat the offices. (sierranevada.com)

Another investment that smaller breweries have made has been installing their own waste water processing systems. This keeps the water that is bought from local utilities but not turned into beer from going into the sewer. It also takes burden off of the local water treatment facilities.

Maintaining one’s water treatment facility on site allows a brewer to source less water from local utilities and rely on internal processes to more efficiently use resources. An added benefit is that a byproduct of this process is a usable resource. During the anaerobic digestion of wastewater by microbes in the treatment process, methane gas is produced (sierranevada.com). The methane gas bubbles up and can be captured and stored as fuel. In fact, it should be captured as methane is a greenhouse gas 25 times more harmful than carbon dioxide to the atmosphere. (epa.gov) Methane gas is highly flammable and can be used to fuel boilers.

Again, it should be noted that fuel cells and water treatment plants are projects that need to be considered for the future. The cost of these investments is staggering and would need to be carefully evaluated after the company is viable.

*Our ‘Go Green’ Helpers*

Transportation

 It is very important to SCMer’s Brewing that we use suppliers who are located within a short distance to prevent creating a large carbon footprint on our environment. Transportation pollution is plays a huge factor in the global warming we are now seeing which is a direct result of pollution. Our company’s vision and mission is to be more environmentally friendly and the closer a supplier is located, the smaller our carbon footprint will be.

Suppliers

Although the ingredients used to make beer are not locally grown, it would make sense to use the closest supplier of barley, hops, yeast, etc… However, it is also important that we find organic suppliers (the closest ones possible) because organic farms are better for the environment and the crops grown are friendlier to the consumer since they are grown without chemicals, pesticides, genetic alterations, etc…

Water

Another important ingredient in great tasting beer is great tasting water. While we could import the best water in the world, it is important to our mission that we import the best water we can find locally. Rather than using city water that is chlorinated, we will only use a supplier who provides for natural water found in nature (such as spring water). This means that the water we will use for our brewery will be all natural and therefore healthier for the environment and customers.

As noted previously however, 80% of water usage within a brewery is used for cleaning and sanitizing. Therefore, it is beneficial to only source roughly 20% of our water from a natural source and the remainder of sourced water (which would be used for cleaning) from regular city water.

Bottling

Luckily, we currently have the largest glass supplier in our own backyard who is also the largest supplier of glass beer bottles in North America. It would make great sense to use Owens Illinois (O-I) as our supplier of our glass bottles since they are locally based company. O-I also has a focus on sustainability stating: “We take measurable actions to reduce our impact on the environment, while supplying quality products that are pure, safe, healthy and infinitely recyclable to our customers” (O-I.com). In addition, I-O is a leading support of the Keep America Beautiful Foundation and the National Recycling Coalition. Therefore, not only would we be supporting a local partner, but we would be using a supplier who strives to makes the same initiatives as our company does.

The down side to O-I is that they have not manufactured bottles in Ohio since the 1930’s so we would be sourcing bottles made in their closest factory; Pennsylvania, Illinois, or West Virginia (angelfire.com). However, there are distributors of O-I glass bottles located in Ohio as well as Michigan. Therefore, transportation associated with buying bottles from O-I would be low.

A requirement that we will have for our bottles will be labels etched into the glass rather than paper labels. This will eliminate the need for paper and glue consumption in bottling. Also, bottles distributed to our customers can be collected for wash and reuse. Business to business customers, such as bars, can save our bottles for a delivery person to pick up. However, because most individual consumers will not have a lot of time and space to collect our bottles, we will provide a financial incentive for returning our used bottles (much like a state provides incentives for citizens to recycle cans, plastic bottles, and glass). Another beneficial aspect of our bottles would be to make them thicker so that they can withstand more times of washing and reusing.

Energy Consumption

“Heating, cooling, and ventilation accounts for 39 percent of the energy use in a typical office” according to earth911.com. For this reason, when it comes to running our facility and buying energy, it is important that we use renewable energy to run our facility so that we reduce our ecological footprint as much as possible. While it is not financially feasible for our company to install solar panels or a wind turbine since the setup costs are extremely high, it is possible to outsource renewable energy through a third party company. A few companies which are within a close 200 mile radius include: (found by using http://www.green-e.org/):

1. DTE Energy – locally located in Detroit, MI and provides 85% wind and 15% biomass energy to the public and businesses nationwide (60 miles away).
2. Consumers Energy Company – locally located in Jackson, MI and provides 70% wind and 30% biomass energy nationwide (74 miles away).
3. Choose Renewables – locally located in Grand Rapids, MI and provides 100% wind energy nationwide (180 miles away).

Cost

 While costs associated with making an organic and sustainable product will be more expensive, the cost of our product for the consumer will be higher to make up the difference in operating costs. (Please refer to “Profit: The Third Line” listed below)

*Where the ‘Green’ Beer Flows*

Distribution

Distribution of the product will only be done regionally in order to reduce transportation costs but more importantly to reduce our carbon footprint. SCM’ers Brewing will focus on distributing in Ohio, Michigan, and Indiana.

Distribution of beer is highly regulated and only a very limited number of distributors can operate in certain regions which would help us keep our transportation costs low since a distributor would be found locally. Unfortunately, no distributors in the area offer sustainable or ‘green’ practices at the moment. However, efforts with them could be made to influence them in their choices.

Transportation

All transportation related to the distribution of the beer will be done through our transporting fleet which will be made of biodiesel trucks. These trucks emit less emissions and the production of biodiesel versus regular diesel is a much more sustainable option.

Transportation of cases would be made only when the truck is loaded at 75% of full capacity or higher. It is not cost effective, logistically, to have trucks make rides for small quantities and this will also ensure that all trips made by our trucks are optimal and reduce our carbon footprint.

**The Green Office**

It is important to implement small changes around the office that will provide an environment for employees that follows corporate strategy and reinforces a sustainable corporate culture. Small changes and implementations can make a huge difference in the long run with regards to profits, the environment, and mentality. A few small changes can add up in the long run.

The average business generates 1.5 pounds of waste paper per day according to The Environmental Protection Agency (earth911.com). There are a few things that can be done to help lessen our business’ ecological footprint. They are as follows (earth911.com):

* Ensure all office printers have the capability and are set up to print on both sides of a paper. The impact this procedure will have can be shown in the fact that “a single-sided 10-page letter costs $0.55 to mail while that same letter, copied onto both sides of the paper, uses only five sheets and $0.34 in postage.”
* Buy recycled paper for the office. “A ton of 100 percent recycled paper saves the equivalent of 4,100 kWh of energy, 7,000 gallons of water, 60 pounds of air emissions, and three cubic yards of landfill space.”
* Get toners and cartridges refilled for a cheaper price than buying new ones. Not only does this save the company money, it also cuts back on resources needed to create a new cartridge and cuts back on waste that is created by throwing old cartridges away (greenoficeideas.net).
* Purchase recycling bins for all offices for paper, cans, and plastic to cut down on garbage which will end up in landfills and instead send as much material as possible to be recycled and reused.
* “Use automatic setback thermostats to adjust the temperature for weekends and evenings and keep the blinds closed to conserve heat in winter and keep it out during summer.” This is important because “heating, cooling and ventilation accounts for 39 percent of the energy use in a typical office.”
* Turn off all computers at the end of the workday and activate sleep modes for all printers, copiers, and faxes. The emission cut backs from doing something this simple can be astronomical: “if every U.S. computer and monitor were turned off at night, the nation could shut down eight large power stations and avoid emitting 7 million tons of CO2 every year.” “IBM estimates it saved $17.8 million worldwide in 1991 alone by encouraging employees to turn off equipment and lights when not needed.” (earth911.com)
* Replace old fluorescent lighting fixtures using T-12 lamps with T-8 fluorescent lamps which will provide better color, reduce flickering, and add to a 20% less energy usage. The savings for this would be immediate. “Replacing tungsten bulbs with compact fluorescent lamps typically makes an immediate cost savings of between 50-80 percent, and CFLs last up to 10 times longer.” This can be a significant savings considering th fact that “according to a US Department of Energy (DOE) end use study from 1995, lighting accounts for about 29 percent of the energy use in a typical office.”

There are many other ways to save money and cut back waste in an office environment. The most important step is to put a member of the staff in charge of keeping up to date on all possibilities available that will make the office and company as a whole as green as possible and ensure that our progress is being monitored and evaluated which will ultimately continue SCMer’s Brewing down a path of greater sustainability.

**Marketing a Green Idea**

Marketing eco-friendly and sustainable practices is known as ‘green marketing’. Green marketing is not just a trend that will disappear in the advertising world. As more and more people become conscious of their impact on the environment, consumers will be more willing to purchase eco-friendly products. In a survey conducted by IPSOS, it was discovered that 79% of consumers would rather purchase products from a company who follows sustainable practices. This number is expected to rise to 89% within the next year. The survey also concluded that 35% of consumers are even willing to pay premium prices for environmentally-friendly products (Green Business Opportunities, 2009). These statistics are great indicators for SCMer’s Brewing as to how well our ‘green beer’ will be accepted in the market.

So why market SCMer’s as a ‘green company’? The statistics above are a very good indicator that revenues will increase and that we may eventually have the ability to expand on our green initiatives. If we market our sustainable practices, consumers will be more understanding of the prices we charge and they will be more open to buying our eco-friendly products. We plan to make our practices known in our marketing strategy in the following ways:

* Include a shortened version of our mission statement on our bottles that includes our commitment to sustainable practices
* Indicate that all bottles/cartons are made from recycled material (See Appendix D).
* Add a ‘Sustainability’ section to our website that explains current sustainable practices taking place in the brewery, as well as future plans that continues our commitment to green initiatives.

**Community Involvement in Our Sustainability Initiative**

Philanthropy and giving back to the community are essential to a positive image of a corporation. Since sustainability is SCMer’s Brewing’s mission, our focus on philanthropy should follow the same path. Sustainability of a community is becoming a huge concern for cities all around the United States but particularly for those cities within the rust belt which includes Toledo. Many communities are re-claiming abandoned land within dying cities to create an environment for those without access to land to grow their own food in areas called “urban gardens”.

One organization in Toledo that does just this and whom is making a huge effort to create a sustainable environment for the community is ToledoGROWs; “a community gardening outreach program of Toledo Botanical Gardens” (toledogarden.org). These urban gardens not only create sustainability for a community but they also enhance the community by:

* “Beautifying neighborhoods,
* Connecting urban dwellers back to the land and nature,
* Providing wholesome, nutritious, and economical food,
* Reducing crime and blight, and
* Promoting the creation and use of green space.” (toledogarden.org)

Giving back to an organization such as this that lives the same ideas of sustainability which our company’s strategy is founded upon will strengthen our public image, create a more sustainable environment within our own community, and help employees understand that we are serious about our commitment which in turn will make their commitment to our strategy much stronger.

**Profit: The Third Line**

As discussed, sustainable practices in any business can be both a cost benefit as well capital intensive. The obvious choices are the practices that will cut back on day to day expenses like reductions in electricity. The more difficult decisions will involve large capital investments and long payback periods. These investments will bring with them maintenance expenses, depreciation expenses, and interest expenses from any debt financing used to procure them.

SCMer’s Brewing is attempting to be a differentiator, not a cost leader in the beer industry. Therefore operating at the lowest possible cost is not in our mission statement, nor is providing beer for the cheapest price. Our target market will be people who have discerning tastes in beer and do not mind paying a little more for quality. Only sustainable practices that are economically and physically feasible will be attempted. Projects that are not appropriate for consideration in one year may be appropriate in future periods as technologies improve and costs of current technologies like wind turbines and fuel cells decrease.

While using suppliers who grow organic crops is more costly for our company, we see a quickly rising demand for organic products from customers. Therefore, it is known that while our end product may be more costly that our competitors products, we are selling a product that was produced from start to finish in such a way that the consumers environmental impact is much smaller than if they were to buy a competitors cheaper product. Thus, our customers will be willing to pay a higher cost for a product they can feel confident in the fact that their purchase is making a difference.

**Appendix**

*Appendix A*

Organizational Framework

*Appendix B*

Typical Brewing Process



\*\*Pacific Western Brewing Co. 2010

*Appendix C*

Cross-Evaluation Between a New and Vacated Facility

More important factors are attributed a higher weight and the options are rated lower if the factor is better served by the option. The rating is multiplied by the weight and the lowest score determines the best option.

|  |  |  |  |
| --- | --- | --- | --- |
| Factors | Weight | New Facility | Vacated Facility |
| Cost | 3 | 3 | 2 |
| Renovation Cost | 1 | 0 | 1 |
| Operating Cost | 1 | 1 | 2 |
| Time | 2 | 3 | 1 |
| Energy Efficient | 3 | 1 | 2 |
| Ecological Footprint | 3 | 2 | 1 |
| TOTAL |  | 25 | 20 |

*Appendix D*

Marketing a Green Idea by Bottling

Bottles will have label information etched on to reduce paper and glue usage while making it easier to wash and reuse them.

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