

Georgia-Pacific: Water, carbon & waste

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Abstract

This paper discusses the principle of circularity as it relates to water, carbon and waste. It presents several examples but focuses on the efforts of Georgia-Pacific that align with the principle of circularity.

Keywords: Georgia-Pacific, circularity, sustainability, water, carbon, waste



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INTRODUCTION

Circularity is a theory of sustainability that creates a systemic, cyclical approach to production. There are three critical pieces to the principle of circularity: water, carbon and waste (Visser, 2011). The object of circularity is to redefine the way consumption occurs. Patagonia, an outdoor outfitter, is an example of a company that has redefined the way it sees consumption. After the recession in the early nineties, the owner of this company realized that “growth for growths sake” is bad for the environment. Now the company only creates new products when the demand is driven by the consumer (Visser, 2011). This is the first step in making consumption, and in turn, production, a cyclical process as opposed to a linear one. Currently we live in a culture of linear consumption. Consumers purchase products, use them for a period of time and then discard them for the next new product. Lots of these products go to the landfill. In a circular culture of consumption the product would be broken down into different components and repurposed for other products or processes (Hislop & Hill, 2011). This illustrates the basic principle of circularity.

There are other theories of sustainability that are similar to circularity: industrial ecology theory and eco-efficiency. Industrial ecology has six principles: industrial metabolism, dematerialization, life cycle analysis, energy systems, biosphere interface, and policy innovation. The effect of these principles is to bring balance and harmony with nature to the industrial economy. There would be closed industrial systems that replaced linear processes with circular processes. These processes would be supported with technical and managerial innovations and leadership planning would flourish (Hawken, Lovins, & Lovins, 1999). In the nineties, the theory was eco-efficiency, or how to produce more with less and maintain similar quality. The focus was on natural capital such as water, minerals, oil, trees, fish, soil and air. Eco-efficiency contained four principles: resource productivity or lean manufacturing, bio mimicry or circular manufacturing, service and flow instead of acquisition and consumption (more like a service leasing model), and finally investment in natural capital (Hawken, Lovins, & Lovins, 1999). Today we have the theory of cradle to cradle manufacturing that says waste is only acceptable if it can be used again in the system (Visser, 2011).

Several proposals to conserve our natural resources and promote a circular economy have been researched. The Green Alliance recently published an article on circularity that promoted the conservation of phosphorus, metals and water (Hislop & Hill, 2011). Visser (2011) promotes carbon, waste and water as the three components most needed to reach a circular consumption economy. It seems that many of these theories from both concepts are becoming part of the global sustainability conversation. Hislop and Hill (2011) believe phosphorus is critically important because it is required in the agricultural industry. Phosphorus is a non-renewable resource that is used in fertilizer throughout the farming industry. They point out that there is a lack of knowledge about how long the reserves of phosphorus may last and that there is no awareness of the considerable waste of this mineral. Other sources of phosphates include manure, human waste, and food and crop residues. The principle of circularity would take the waste from humans and animals and extract the phosphorus eventually repurposing it back into agriculture (Hislop & Hill, 2011). Developing a plan to either levy a tax on phosphorus or implement a program that takes other sources of phosphorus and repurposes them is a way to create circularity in the economy.

Water is another resource that is taken for granted both in personal consumption and in manufacturing. There are a number of suggestions for repurposing water used to make both food

and other products. Companies are starting to become more aware of their use of water. One example is Sodexo, a large food service company, who has just recently published their first ever sustainability report. The report acknowledges that it is far easier for a manufacturing company to track and improve sustainability efforts than it is for a company that is a provider of goods, particularly in food service. However, Sodexo began using a software program in 2009 that allowed it to establish a base line for tracking and measuring their progress now and in the future. The company was able to acknowledge in their first year that they increased the purchase of responsibly grown coffee and certified sustainable seafood. Future plans include operations and improvements with regard to their energy, carbon, and water goals for both client sites and operations sites. Although part of this initiative is driven by a shareholder resolution from the California State Teacher's Retirement System, it is still a step towards corporate social responsibility by a company that is not in manufacturing (Redell, 2011). Hislop and Hill suggest the need for a change in the understanding of how we manufacture and use products with water. The goal is to challenge companies to think more about the beginning and middle of the process of manufacturing in order to begin the circularity conversation. In Sodexo's case it is thinking about the impact their services have on water, waste and carbon that started the conversation.

Georgia Pacific (GP) is a manufacturer of tissue, pulp, paper, packaging and building products. GP has for many years been a company that is concerned about the environment and its effect on it. Beginning in 1930, GP has been on the leading edge of new innovations in the paper business. One of their first automatic dispensing systems was for paper towels for public consumption. They are still making these kinds of devices today. They just recently launched the enMotion paper towel dispenser that is touch-less and controls the amount of paper dispensed. GP is also heavily involved in forestry conservation and has over the years donated forest land back to states for preservation and started pine forests to teach sustainable logging and harvesting (Georgia-Pacific). GP is an example of a company that has a sustainability strategic plan that encompasses all levels of the company from the CEO on down.

Georgia Pacific's sustainability statement says:

“GP creates long-term value by using resources to provide innovative products and solutions that meet the needs of customers and society while operating in a manner that is environmentally and socially responsible and economically sound.”
(Georgia-Pacific)

In addition Georgia Pacific has three dimensions to their sustainability model: social, environmental and economic. The social and environmental dimensions pledge to make people's lives better through the products they make while supporting the communities where they live and work. They also pledge to maintain quality work environments and to source responsibly by using resources wisely, complying with laws, and minimizing the impact of operating facilities while reducing the adverse impact of their products already in use. The economic dimension is the last piece to the sustainability statement. This pledge says GP will maintain profitability, manage the cost to customer and consumer, create preferred products and positively impact their communities through local purchases of goods and services, taxes and community support. As a paper company GP should be a responsible steward of two important resources: water and timber. The company has recently launched two products that are designed to meet the needs of the consumer but also minimize the effect on the environment (Georgia-Pacific).

The first of these products is the Aqua Tube. The Aqua Tube is being launched in the European markets in early 2011. The Aqua Tube is a fully flushable biodegradable bathroom

tissue core. The idea was first introduced to the market through a survey of how many people would actually be interested. GP discovered that 80% of consumers would be willing to use the Aqua Tube because it would be convenient. Georgia Pacific figured out a way to make a tube strong enough to hold the toilet paper but dissolve in water. It flushes just like normal bathroom tissue requiring no further use of water, yet it can also be recycled or composted. Of course recycling is the ideal path for the tube. However, since GP discovered through their initial survey that consumers hardly ever recycled the old cardboard tubes flushing was the most logical choice for an environmentally sustainable outcome (Georgia-Pacific).

Another new productive innovation by GP is the PerfectTouch hot cups that are composed of about 80% wood fiber, but can be composted in facilities that have final screening. However, the most significant contribution so far to the principle of circularity by Georgia Pacific is the Reduce, Reuse and Recycle plan that they implemented with the new enMotion dispensers. When the company began replacing all their paper towel dispensers with the new automated ones, they took the old dispensers and recycled each component including taking the plastic and making auto parts. They have repurposed over 20,000 dispensers up to this point (Georgia-Pacific).

There are many examples of companies who are good environmental stewards and there are numerous organizations that are dedicated to the conservation of wildlife, the ocean, rainforests, timberlands and many other important natural resources. Gugliotta (2008) discussed the problem of used tires. This is especially a problem in the United States mostly because of our infatuation with the automobile. Tires are too costly to recycle. The process that is required to retrieve the oil and rubber from the used tire requires more energy than making the tire in the first place. They can be shredded and used for playground cover, mulch and highway backfill, but mostly they create huge dumps that attract vermin and mosquitoes. The article suggests that burning the tires in concrete manufacturing and as industrial fuel may be the most efficient way to get rid of them. Some environmentalist would argue that the pollutants create too much greenhouse gas, but their profile is almost identical to other fossil fuels (Gugliotta, 2008). This is one way to begin thinking about consumption in a circular form as opposed to linear.

Water conservation is another topic that is starting to appear in many research articles and in company sustainability reports. Georgia Pacific has included water in their most recent strategic sustainability plan (Georgia-Pacific). Other companies are also starting to recognize the importance of water in manufacturing and distribution. Thomas Kostigen in his article, "Better Planet: Everything You Know about Water Conservation is Wrong," states that we should be monitoring not just the water we use but the virtual water in our products (Kostigen, 2008). According to Kostigen, food production uses approximately 70% of the water consumed in this country. Perhaps that is why Sodexo has included water in its strategic sustainability plans or why water is also part of the research in Hislop and Hill's article. Water may one day be a bigger commodity than gasoline or wheat, if companies and individuals do not start using it conservatively. Water has a footprint just like carbon does and right now awareness of this footprint is practically non-existent. Consumption patterns in this country affect resources in other countries because every product either contains water or uses water in its manufacturing. Hislop and Hill (2011) suggest creating a water stewardship similar to the timber stewardship. Partly in response to the new water awareness in the sustainability conversations Georgia Pacific has included a water initiative in their most recent strategic sustainability plans. One aspect of this plan is to upgrade and modernize their paper mills and to upgrade machines in the various processing plants so they are more energy and water efficient.

It is apparent that there are corporations that are committed to environmental conservation especially as it affects their bottom line. Some companies such as Georgia Pacific have been fortunate to have leadership that sees the whole picture. Other companies are starting to understand the need to be involved in their companies' environmental footprint. Whether this is driven by the company, consumers or other outside sources it is the way of the future for corporations. Corporations developed products without regard to the environmental consequences for years, however in today's world of scarce resources, conservation and informed consumers that is a luxury that no longer exists. The days of corporations conducting their business out of the watchful eye of someone are long gone. Perhaps ELF (environmental liberation front) actually did accomplish something even if their methods were extreme. They at least raised public awareness about environmental issues. The public has just been slow to react.

Some critics might argue that corporations are designed to create products and provide jobs and report to their stockholders, but that is a limited picture of the world in which they live. Companies should take responsibility for their actions both environmentally and in their business practices. A good business plan should include a good environmental plan as well. It gives investors and partners a sense that the company is responsible and a good choice as a partner or investment. The economic dimension that Georgia Pacific includes in its sustainability dimension is a good example of a company that acknowledges its responsibility to its shareholders but sees that as only one part of its mission in the community (Georgia-Pacific). It is similar to being a well-rounded individual. A well-rounded company will have a business plan, an environmental plan and a philanthropic plan and a good leadership team can make all those plans work together.

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