

A Further Strategic Move to Sustainability—A Case Study on IKEA

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IKEA, a giant furniture company, has engaged in sustainability practices and reached substantial achievement. However, we found that there are several aspects of sustainability that IKEA can work to reduce ecological footprint and stay as a strong and unique leader in sustainability in the furniture industry. Our paper firstly reviews IKEA's current sustainability practices, followed by the literature review on other furniture companies' sustainable approaches of selecting and using raw materials. We found that IKEA could make sustainable transitions in materials to reduce their environmental impact and make strategic investments to maintain its leadership in industry. Solutions, implementation, and possible impediments are discussed.

INTRODUCTION

IKEA is a furniture company founded in Sweden in 1943, focusing on providing modern furniture at affordable prices for the everyday people. IKEA 's vision is "to create a better everyday life for the many people. Our business idea supports this vision by offering a wide range of well-designed, functional home furnishing products at prices so low that as many people as possible will be able to afford them." Founder Ingvar Kamprad wanted to reflect independence and long-term success in the ownership structure of IKEA. Beginning in 1982 IKEA has been owned by IKEA foundation in the Netherlands. IKEA only uses its profits for reinvestment, charitable purposes through the IKEA Foundation, or kept as financial reserve for future investments.

Following its vision, IKEA has exerted many efforts regarding sustainability, reducing its footprint on the environment. In 2011, IKEA appointed Steve Howard as its Chief Sustainability Officer, who was in charge of the company's sustainability strategy, aiming to better environmental and social performance while limiting the impact that IKEA's impacts had on the environment. Howard strongly believes that sustainability will be one of the main factors that shape society and business during this century (Miller, n.d.).

However, there is much room for IKEA to reduce its impact on the environment. As a member of the furniture industry, IKEA uses a tremendous amount of wood. As an industry giant, IKEA uses about 1% of the world's total wood (Kelly, 2012). IKEA's subsidiary company, Swedwood, handles the production of all of IKEA's wood-based furniture (IKEA Manufacturing Subsidiary, 2006). Currently, 61% of

IKEA's wood is sustainably sourced, and although this may seem like a large percentage, there is still a large portion of their hefty wood supply not sourced sustainably (IKEA Group Sustainability Report, 2016). Although a vast majority of IKEA's products are made from particleboard rather than solid wood, a large amount of wood pulp goes into the manufacturing of particleboard (Making Solid Wood, 2015).

Furthermore, IKEA uses a large amount of palm oil in its products. Palm oil's high melting point made it ideal for packaged items. It is an ingredient that can currently be found in about 50% of our daily products and unfortunately, it is harmful to the environment (Peters, 2015). IKEA uses palm oil in its candles and wood. Although this palm oil comes from certified segregated sustainable sources, it still adds pollution and greenhouse gases to the atmosphere (IKEA Group Sustainability Report, 2016). Palm plants thrive in warm, tropical climates and therefore, Indonesia and Malaysia has become the main sources for palm oil production. Because of the high demand of palm crops, over 17 million square feet of land is cleaned an hour in order to make room for palm plants in these tropical regions. Palm oil production has caused the orangutan population to lose 90% of their total habitat within the past two decades (Good, 2015). Using extensive literature review, our paper aims to provide solutions and ways of implementation to use less wood and find substitute material to palm oil in order to improve IKEA's sustainability performance.

IKEA's Current Sustainability Efforts

Renewable Energy

By 2017, IKEA has allocated over \$3 billion to sustainability investments after recently announcing its \$1 billion support fund alongside its 2016 sustainability report. Of this \$3 billion, \$1.5 billion has been invested in wind and solar projects starting in 2009. Additionally, IKEA has designated a little over \$600 million to renewable energy (Vij, 2017). With this early adoption of renewable energy, IKEA has the opportunity to set the bar for other firms within the furniture industry and influence them to use clean renewable energy sources rather than environment-harming traditional sources.

Product

Besides investment on renewable energy, IKEA recently released a new product called the IKEA Growroom. This new product is a DIY sustainable garden that consumers can purchase and put together like any other piece of IKEA furniture. This product fits into IKEA's consumer-centered strategy where they allow customers to bring home and assemble their own products to give consumers a sense of pride in their new furnishings. It comes in seventeen pieces and it can grow enough food to feed an entire neighborhood. It is small enough to fit in a backyard, which makes it the perfect product for city dwellers who do not have enough space for gardens (Hanley, 2017).

In February 2017, IKEA developed a new line of kitchen cabinets called Kungsbaka made from reclaimed wood planks and laminate coating consisting of recycled PET-bottles. IKEA said that every year billions of PET-bottles are used but only a small portion of those are recycled while the rest become waste. IKEA uses a special melding process to convert the plastic bottles into laminate sheet. This process involved cleaning the bottles, grounding them down to flakes, and then melding them together to create sheets of foil one-quarter of a millimeter thick. This foil is placed over the planks using light glue and then painted. Once these cabinets are finished, they are made up of 99.9% of recycled materials.

Product developer Anna Granath started working on this project two years ago with the goal of creating a more sustainable kitchen front. IKEA teamed up with an Italian supplier and started exploring the options that recycled materials could offer in the furniture manufacturing process. They discovered a plastic foil manufactured in Japan with post-consumption PET-bottles. After the development of this new kitchen cabinet line, Granath noted "We need to become better at using the planet's resources in a smart way. Our ambition is to increase the share of recycled materials in our products. We are looking into new ways to re-use materials, such as paper, fiber, foam, and plastic, so that we can give them a new life in a new product" (Dalheim, 2017)

People

In addition to focusing on environment, IKEA also contributes to social issues with the IKEA Foundation. Through the IKEA Foundation, the company focuses on providing homes, education, and a regular income to impoverished children in countries where its suppliers are located. IKEA strives to create circles of prosperity for children in poverty to break the poverty cycle and give the children the best life possible.

LITERATURE REVIEW ON USE OF WOOD AND PALM OIL

Wood Use

IKEA's first and foremost sustainability issue is centered around their astronomical wood use. Within the furniture industry, wood is used for its beauty, durability, and availability. Although most of IKEA's products are made from particleboard rather than solid wood, the production of particleboard requires a large amount of solid wood. Fortunately, some companies have developed sustainable wood products that do not contribute to the worldwide epidemic of deforestation.

Atlantic Furniture reclaims old rubber trees at the end of their latex production cycle and uses them for furniture manufacturing. Additionally, Atlantic Furniture plants a new tree for every tree that they use in manufacturing. Vermont Wood Studios, a purely American furniture company that doesn't outsource its furniture manufacturing, is a founding member of the Sustainable Furniture Council and prides itself on promoting forest and environmental preservation, particularly in the rainforests. Along with every order customers place with Vermont Wood Studios, the company plants a tree. Manchester Wood, an American furniture company based in the northeastern United States, only uses trees grown in sustainably managed forests within the region. Along with this, all of their suppliers must meet strict state and national standards that have been set by the Sustainable Forestry Initiative. EcoChic Lifestyles reclaims wood from fishing boats and then creates rustic and unique furniture for its customers. Many of their pieces reflect the former color of the wood and life, making each piece unique for EcoChic customers. Greenington Fine Bamboo Furniture took a different approach than all of the previously mentioned companies (Baker, 2014).

Steelcase, one of IKEA's competitors, has a system in place for transforming their waste into someone else's asset. If Steelcase ends up with excess inventory, such as wood tops, drawer pulls, etc., they donate them to humanitarian organizations such as Habitat for Humanity so they can be put to good use. Steelcase's wood plant in Kentwood, Michigan, uses their excess wood to provide for local school woodworking programs in order to give the scrap wood a second life and support a new generation of craftspeople (Promise + Progress, 2016).

IKEA uses particleboard in a majority of their finished products rather than wood, but the manufacturing of particleboard still uses a large amount of wood pulp. Particleboard has been a very popular building material since the 1960s, but it is a problematic material due to the formaldehyde resin that binds the wood-based fibers together and the large amount of wood that it requires to produce. The issue with formaldehyde resin is that when the materials begin to age, formaldehyde gas emissions are reduced but the cutting of the material can cause toxic dust to be emitted into the air. Fortunately, there are three alternatives to particleboard that use polyurethane resin to bind agricultural byproducts in order to reduce the environmental impact of finished products.

Environ biocomposite board is made from cellulose fibers that are bound together by polyurethane resin. This material is about twice as hard as solid oak but it's made from recycled newsprint and soybean wastes, making its production much more eco-friendly. There are other Environ building materials made up of sunflower hulls and wheat straws. Environ biocomposite board has a lifespan of up to 150 years, making it a green building material. The materials used are grown in a relatively short time period and they do not require cutting down trees to produce. Another benefit is that the polyurethane resin that is used does not emit toxic gases at any point during its lifespan.

Dow Chemical developed an alternative material for particleboard called Woodstalk. Rather than using wood-based materials, Woodstalk production uses wheat straw. Wheat straw can be grown and

harvested annually, therefore making it a sustainable resource. The wheat straw in Woodstalk, like the cellulose fibers in Environ biocomposite board, is bound together by polyurethane resin. Woodstalk is a very versatile material, being used for building materials from furniture to countertops. Woodstalk is moisture resistant, lightweight, and extremely durable. Using wheat straw to produce Woodstalk does not require the burning of materials and therefore, it does not add to carbon dioxide emissions.

The third alternative to particleboard, PrimeBoard, is made up of agricultural fiber bound together by polyurethane resin. Much of this agricultural fiber is wheat byproduct. A majority of the waste leftover from wheat production is burned, but the manufacturing of PrimeBoard uses the wheat straw leftovers to make a biodegradable and sustainable alternative material to particleboard. PrimeBoard can also be cut to size for customers which cuts down on the amount of PrimeBoard waste (Sustainable Alternatives to Particleboard, 2010).

Palm Oil Use

IKEA's next major sustainability issue stems from the use of palm oil. As stated earlier, palm oil harvesting adds pollution and greenhouse gases to the atmosphere. Because palm plants are found in warm, tropical climates, such as Indonesia and Malaysia, the land cleared to harvest palm plants has caused the orangutan population to lose 90% of their natural habitat in just the past 20 years.

Researchers (i.e. Good, 2015) at the University of Bath have seen a breakthrough with the development of a synthetic alternative to palm oil. These researchers developed a process to chemically engineer an oily yeast that mimics palm oil's properties. Scientists believe that by using *metschnikowia pulcherrima*, a yeast used in South Africa's wine industry, they can create an eco-friendly alternative to palm oil. Palm plants need to be grown in tropical climates and take up a lot of land, but this alternative yeast can be grown anywhere and can be fed any form of organic feedstock. The land needed to grow this alternative could be anywhere from 10-100% less than the land needed to grow palm plants, which would be largely beneficial to the environment. Unfortunately, this alternative currently costs about \$400 more per ton to produce than palm oil. With this ongoing development, scientists believe that they can reduce costs and release this new product into the world within the next few years (Good, 2015).

A new biotech company in the Bay Area, Kiverdi, is working on developing a synthetic palm oil made from carbon dioxide. Kiverdi does this by using microbes to transform waste carbon into new oil inside of bioreactors. Cofounder and CEO Lisa Dyson says, "You can think about the process as being similar to brewing beer, but instead, we are brewing replacements to plant-based oils and protein, and we use carbon dioxide and other gases as an input to the process." Kiverdi cofounders were inspired to develop this process by NASA research in the 1960s. The research looked into how microbes could be used in outer space to recycle carbon dioxide from an astronaut's natural breathing cycle into their food in a closed-loop cycle. Dyson says that the challenge with this new process and invention is being able to find early adopters who will work with Kiverdi. She wants Kiverdi to partner along the value chain, working closely with partners to identify main issues and where the process can help.

This synthetic palm oil is still in the development stage, but it is believed that it will be cheaper to produce than regular palm oil. Production of this synthetic palm oil will take hours, rather than months like traditional palm oil and can be cultivated from much less land. Once fully developed, oils can be made to order for customers. This process is making use of carbon pollution and this quicker process will be able to help meet demand as the demand for palm oil continues to increase (Peters, 2016).

SOLUTIONS AND IMPLEMENTATION

Wood Use Solutions and Implementation

In order to use less wood with manufacturing furniture, IKEA can take one of two actions: use bamboo to manufacture furniture or use alternatives to particleboard in manufacturing. With the depletion of natural resources, some members of the furniture industry are switching over to bamboo. Using bamboo comes with many more advantages than using wood when it comes to furnishings. Bamboo is very durable and is ideal for everyday use. It is much more resistant to damage than wood materials.

Bamboo is also resistant to swelling and shrinking. Because of this, bamboo is ideal for outdoor furniture since it will not be affected by the changes from humid to dry air and fluctuations in temperature. Surprisingly, bamboo has a higher tensile strength at 28,000 per square inch compared to steel's 23,000. Bamboo is so strong because it grows straight as opposed to other trees. The "knuckles" in the bamboo do not weaken the structure of the bamboo, although they are denser than the rest of the stalk. When bamboo is laminated, it becomes stronger and the layer of laminate provides a layer of protection against wear and tear from normal use. All in all, bamboo furniture is stronger than the everyday furniture found in homes. Additionally, bamboo furniture comes in a wide selection. Customers can pick from a variety of styles and finishes, just as wood. Furniture designers have been using bamboo in innovative designs either in all-bamboo pieces or within composite materials. The appearance of bamboo is another perk of manufacturing furniture with this material. The furniture will have a fine grain and can be ordered in many different stains and finishes (Blake, n.d.).

If IKEA were to start manufacturing furniture with bamboo rather than particleboard, they could engage in a contract with a Chinese company called Forever Bamboo (Forever Bamboo by Xcel Distribution, n.d.). This would benefit IKEA because they would still have an outside company harvesting their raw materials so it would not add to their in-house processes. Additionally, this decision would benefit IKEA because many of their manufacturing plants are located in China so the transportation from supplier to manufacturer would be less costly than if the supplier was located somewhere outside of China.

Another alternative available to IKEA is using different kinds of material similar to particleboard made out of agricultural byproducts. This material does not require wood and also is bound together by polyurethane resin rather than formaldehyde resin, making it better for the environment in both aspects. IKEA has the option to choose from three different types of materials: Environ biocomposite board made up of cellulose, Woodstalk made up of wheat straw, or PrimeBoard made up of agricultural fiber. IKEA would be able to turn to Environ Biocomposites, LLC as their supplier for Environ biocomposite board. Environ Biocomposites, LLC is based in Mankato, Minnesota (Company Overview of Environ Biocomposites Manufacturing, LLC, n.d.). If IKEA were to decide to transition to using Woodstalk, they could turn to Dow Chemical in order to either develop a supplier contract or get a license from Dow Chemical in order to have access to materials, information, and processes (Sustainable Alternatives to Particleboard, 2010). Lastly, if IKEA were to choose to transition to using PrimeBoard, they could use PrimeBoard, Inc. based out of Wahpeton, North Dakota (PrimeBoard, Inc., n.d.).

By manufacturing furniture using any of the previously mentioned products (bamboo, Environ biocomposite board, Woodstalk, or PrimeBoard), IKEA will be reducing their environmental impact. In order to transition to manufacturing with bamboo, IKEA will have to redesign their products accordingly, as bamboo has different properties than particleboard. As time passes and having access to sustainable forests becomes more difficult due to high demand and low availability, the price of sustainable lumber will increase as the price of bamboo remains constant, so this move to redesign their products to be manufactured with bamboo would benefit IKEA financially in the long run. With any of the materials previously mentioned, IKEA would need to re-engineer their manufacturing processes (Epstein, 2008). With any material change comes a change to the manufacturing process. Transitioning to a manufacturing process that involves Environ biocomposite board, Woodstalk, or PrimeBoard would be beneficial to the environment because the binding material (polyurethane resin) of these materials, as opposed to the binding material of traditional particleboard (formaldehyde resin), does not emit toxins into the atmosphere.

By turning to these new suppliers, IKEA would be involving their supply chain in their sustainability strategy. Because these would be new supplier relationships, IKEA would have the opportunity to build a system with them from scratch. IKEA should use a combination of methods in order to work with suppliers regarding their sustainability strategy. They should develop written policies and communication in order to make sure the supplier is following IKEA's standard. Dell did this with its Restricted Materials Program, which has its suppliers in an agreement to restrict/eliminate certain materials in their supplies to Dell. IKEA can also use questionnaires and audits to screen these new suppliers before engaging in

contracts. These questionnaires and audits allow IKEA to verify that their suppliers are meeting the minimum standards that IKEA has. British American Tobacco used this method and created the Business Enabler Survey Tool (BEST) in order to evaluate their suppliers and compare them based on 102 different criteria. IKEA should also hold supplier meetings, provide training and technical assistance, and collaborate on research and development with said new suppliers in order to ensure that all parties are on the same page as far as sustainability is concerned.

Nike currently has a six-step process to select and approve new factories called the New Source Approval Process (NSAP) that IKEA could mimic and tweak in order to fit their needs when picking a new supplier. The NSAP steps are as follows: 1) factory profile, 2) inspections for quality, 3) environment, safety, health, and labor inspection, 4) third-party labor audit, 5) review of the need for a new factory, and 6) approval by the compliance department. By tweaking the steps including factory profile and review of the need for a new factory, IKEA could use this model when selecting new suppliers. The first step could be replaced with verifications such as receiving samples of materials or meeting with management of supplier. The fifth step could be replaced with review of new material processes or discussion of cost and delivery/transportation schedules. L'Oreal also has a well-developed supplier selection process that IKEA could attempt to mimic when choosing a new supplier. L'Oreal begins the process by developing a contract that requires suppliers and their subcontractors to comply with L'Oreal's labor standards. Following this, L'Oreal monitors their compliance with the contract by conducting unannounced supplier audits made up of plant inspections, review of documents, and interviews with employees. L'Oreal uses the result from these audits and rates them on a scale that they have developed and decide in corrective measures with their suppliers need to be taken (Epstein, 2008).

Palm Oil Use Solutions and Implementation

In order to reduce their impact on the environment, IKEA must switch from using palm oil to using a sustainable alternative for palm oil. Because these new alternatives have not been fully developed yet, IKEA has two options: invest in Kiverdi for the purpose of speeding up development or wait for scientists to work out the kinks of their new product. Investing in Kiverdi would come with some risk, as they would risk the possibility of losing money in a product that may or may not work with their products. Unfortunately, if they wait for scientists to finish developing this new product, they will be damaging the environment even more by continuing to use traditional palm oil in the meantime.

If IKEA were to invest in Kiverdi and possibly even integrate them into their company, they would need to engage in collaborative research and development. Although this would involve a great deal of financial risk for IKEA, this could benefit both companies in the long-run. Kiverdi must be involved in the design process of IKEA's products to help develop an alternative to palm oil that has the necessary properties to fit in with IKEA's products. With this collaborative research and development, Kiverdi could help IKEA to tweak current products in order to adapt to the change of ingredients. This would lead to more innovative, socially, and environmentally-friendly products (Epstein, 2008). This decision to invest and possibly acquire Kiverdi would make IKEA an early adopter and give them a positive corporate image compared to their competitors who continue to use traditional palm oil. Kiverdi CEO, Lisa Dyson, has already stated that they would like to work with "early adopters who will work with innovators through scale-up and commercialization." Kiverdi strives to be a partner in the value chain in order to identify areas where Kiverdi can provide solutions. This move would financially benefit both Kiverdi and IKEA as Kiverdi would have financial backing to research and develop this new alternative palm oil and IKEA would eventually be able to spend less money on palm oil, due to the manufacturing costs of this palm oil alternative being expected to be cheaper by time it is fully developed (Peters, 2016).

Another option that IKEA has to motivate Kiverdi if they were to acquire them is to offer incentives and rewards. As the development of the sustainable alternative palm oil continues, IKEA can offer Kiverdi researchers and developers with cash prizes, banquets and plaques recognizing their progress, etc (Epstein, 2008). These rewards would urge Kiverdi to continue development and begin to implement their new product into IKEA's processes.

In order to avoid risk, IKEA can wait until researchers fully finish developing their alternative to palm oil. In the meantime, IKEA can begin to calculate and measure the land that they are using through palm oil use. Once this new oily yeast is fully developed and released to the market, IKEA can calculate and measure the amount of land that they are using by using this new product and then compare results with traditional palm oil. This will be an indicator of their progress in regards to sustainability. In order to compare the environmental impacts of traditional palm oil and this new alternative substance, we need to accurately measure the environmental impacts that come with each. In order to do this, we would calculate the amount of land cleared in correlation with the amount of traditional palm oil used. Once IKEA is able to transition over to the alternative “palm oil”, IKEA can then measure the amount of land cleared in order to produce the amount that they use. It is currently expected that this new alternative to palm oil will use 10-100% less land than traditional palm oil, so IKEA’s results should reflect that. Once IKEA has the final data, they can publish their results in that year’s sustainability report in order to inform consumers about how this change affected their ecological footprint.

Regardless of whether IKEA decides to invest in Kiverdi or wait for scientists to finish the development of alternative palm oil, IKEA needs to measure the social and environmental impacts and the value that their stakeholders place on them before making the decision to move forward with switching over to an alternative to palm oil. First, we need to identify the impact being valued, which in this case would be land cleared in order to harvest the oil (specifically the natural habitat of orangutans). We also need to identify the population whose values we will be measuring, which in this case would be IKEA stakeholders (management, employees, customers, etc.). IKEA would now need to choose between the methods revealed preference or stated preference. For sake of ease, We would personally recommend using stated preference in order to find out IKEA’s stakeholders feelings on the environmental impacts associated with palm oil harvesting. Once all of these items are identified and decided, IKEA must find their stakeholders’ WTP (willingness to pay) for the orangutan’s habitat.

There are six different methods that IKEA can use in order to find out their stakeholders’ WTP. One method is open-ended WTP where respondents are asked to state their maximum WTP for that particular resource. If IKEA were to use this method, they would ask something along the lines of “What is the most that you would be willing to pay for the conservation of the orangutan’s natural habitat?” This method is not used often due to the fact that it leads to unrealistic responses. The second method is called close-ended iterative bidding where respondents are asked if they would be willing to pay a specific amount for something. If they say yes, the price increases and if they say no, it is decreased. This is done until they agree on a value. The third method is contingent ranking where respondents rank specific combinations of quantities of the subject and the willingness to pay for each segment. These combinations are then ranked from most preferred to least preferred. This survey method is easy for respondents to answer and is easy to analyze post-survey. The fourth method is called dichotomous choice where the respondents are given randomly assigned prices and then asked whether they would be willing to pay that price or not. Surveyors then take all of the data they collect and calculate each asking price’s probability of triggering a positive response. The fifth method is payment card with comparative tax prices where respondents are asked to value the subject after seeing a card showing tax-prices for other publicly provided subjects. This shows what individuals in different tax brackets would pay for said subject. The purpose of this is to provide a reference point for respondents to make informed decisions. The last method is payment card with a range of prices. This method involves asking respondents to state the maximum price they would be willing to pay for the subject after being given a range of prices (Epstein, 2008).

CONCLUSION

IKEA should engage in two activities to improve upon their current sustainability strategy: replace traditional particleboard with one of the sustainable replacement options (Environ biocomposite board, Woodstalk, or PrimeBoard) and invest in Kiverdi. With the replacement of traditional particleboard with Environ biocomposite board/Woodstalk/PrimeBoard, IKEA will need to find new suppliers. In order to find these suppliers, IKEA must use processes in order to assure that their needs will be met and that the

suppliers have the same standards that IKEA has. With investment in Kiverdi, IKEA will need to work with them through collaborative research and development, as well as motivate them with rewards and incentives. Along with this, IKEA will need to engage in processes to ensure that Kiverdi is a supplier that is up to par with IKEA's standards.

Unfortunately, with both solutions come impediments. With transitioning from traditional particleboard to a sustainable alternative, IKEA may have to change their production processes. Along with this, the new material will be expensive and IKEA may have trouble finding a supplier capable of producing the large quantities that IKEA will need. If these materials are more expensive, IKEA may have to raise their prices, which would go against their current business model. With investing in Kiverdi, IKEA will be putting a lot of capital investment into a risky project. If Kiverdi does happen to be successful and IKEA is an early adopter, they should raise their prices to compensate for this new synthetically made palm oil. Raising prices comes with risk because consumers may turn and give their business to competitors whose prices will stay the same by continuing to use traditional palm oil.

Although both solutions come with risks and stipulations, we believe that it would be in IKEA's best interest to go ahead and move forward with these sustainability efforts. In the short-run, IKEA would be facing a lot of risk and it would be financially costly. In the long-run, we believe that engaging in these activities would give IKEA a competitive advantage over its competitors as well as a boost in profits as the cost of these new materials decreases over time.

REFERENCES

- Baker, L. (2014, June 30). *5 Furniture Brands That Don't Contribute to Deforestation*. Retrieved from <http://www.onegreenplanet.org/lifestyle/furniture-brands-that-don't-contribute-to-deforestation>
- Blake, C. (n.d.). *Top 5 Reasons to Choose Bamboo Furniture*. Retrieved April 23, 2017, from <https://www.overstock.com/guides/top-5-reasons-to-choose-bamboo-furniture>
- Company Information - IKEA. (n.d.). Retrieved April 23, 2017, from http://www.ikea.com/ms/en_JP/about-the-ikea-group/company-information/#business-concept
- Company Overview of Environ Biocomposites Manufacturing, LLC. (n.d.). Retrieved April 19, 2017, from <http://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=737856>
- Dalheim, R. (2017, March 06). *Recycled PET-bottles become IKEA kitchen cabinetry fronts*. Retrieved from <http://www.woodworkingnetwork.com/furniture/recycled-pet-bottles-become-ikea-kitchen-cabinetry-fronts>
- Epstein, M. J., Elkington, J., & Leonard, H. B. (2008). *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental and Economic Impacts*. San Francisco: Berrett-Koehler, Inc.
- Forever Bamboo by Xcel Distribution. (n.d.). Retrieved April 24, 2017, from <https://www.foreverbamboo.com/>
- Good, K. (2015, February 15). *Finally! A Viable Palm Oil Alternative That Can Save Orangutans and the Rainforests*. Retrieved from <http://www.onegreenplanet.org/news/palm-oil-alternative-that-can-save-orangutans-and-the-rainforests/>
- Hanley, S. (2017, February 21). *IKEA Growroom Is A DIY Sustainable Garden For City Dwellers*. Retrieved from <https://cleantechnica.com/2017/02/20/ikea-growroom-diy-sustainable-garden-city-dwellers/>
- IKEA Group Sustainability Report FY16. (2016). Retrieved from http://www.ikea.com/ms/en_US/img/ad_content/IKEA_Group_Sustainability_Report_FY16.pdf
- IKEA Manufacturing Subsidiary, Swedwood, to Locate Its First U.S. Facility in Danville, Virginia as Part of Global Expansion Plan. (2006, October 12). Retrieved from <http://www.businesswire.com/news/home/20061012005755/en/IKEA-Manufacturing-Subsidiary-Swedwood-Locate-U.S.-Facility>

- Kelly, A. (2012, December 14). *IKEA to go 'forest positive' – but serious challenges lie ahead*. Retrieved from <https://www.theguardian.com/sustainable-business/ikea-sustainability-forest-positive-karelia>
- Making Solid Wood. (2015, February 26). Retrieved from http://www.ikea.com/us/en/about_ikea/newsitem/022615_pr_making-solid-wood
- Matthews, R. (2011, January 20). *The State of the Sustainable Furniture Industry*. Retrieved from <http://www.thegreenmarketoracle.com/2011/01/state-of-sustainable-furniture-industry.html>
- Miller, R. (n.d.). An interview with Steve Howard, Chief Sustainability Officer, IKEA Group. Retrieved April 02, 2017, from <http://www.globescan.com/news-and-analysis/conversations-with-leaders/steve-howard-chief-sustainability-officer-ikea.html>
- Peters, A. (2016, August 3). *This Startup Turns CO2 Into A Sustainable Replacement For Palm Oil*. Retrieved from <https://www.fastcompany.com/3062466/this-startup-turns-co2-into-a-sustainable-replacement-for-palm-oil>
- PrimeBoard, Inc. (n.d.). Retrieved April 24, 2017, from <http://www.cmdgroup.com/companies/15969/primeboard-inc/>
- Promise + Progress: 2016 Corporate Sustainability Report. (2016). Retrieved April 21, 2017, from <https://www.steelcase.com/content/uploads/2016/12/2016-Steelcase-CSR-2.pdf>
- Raw Materials. (n.d.). Retrieved April 17, 2017, from http://www.ikea.com/us/en/ts_dynamic/dynamiclist/filt_nel_glob?filter=1276842079561
- Sustainable Alternatives to Particleboard. (2010, March 07). Retrieved from <http://www.doityourself.com/stry/sustainable-alternatives-to-particleboard>
- Vij, V. (2017, March 8). *IKEA Allocates €3B for Sustainability Investments*. Retrieved from <http://www.justmeans.com/blogs/ikea-allocates-eu3b-for-sustainability-investments>