Focus Keyword: Sustainability, Gold Birch, White Pine, and Poplar, Bark, Construction, Process, Eco

The importance of sustainability in construction

As the world's technology advances, so do its methods of construction. At the same time, as the world's environment weakens, the attention towards sustainability strengthens. Considering how much pollution and environmental damage construction causes, sustainability may feel far-fetched. However, by focusing on specific principles, such as reusing, conservation, and quality, sustainable construction can grow into a promising market.

Knowing the construction industry, this may be hard to implement. Sustainable construction, however, really highlights creating and maintaining a healthy environment while reducing any negative environmental impacts. A green environment is an ideal future but it will take work and effort to achieve.

01_©Gensler (2012). Shanghai Tower Under Construction. [Photograph].

Methods and Materials of Sustainability

The main two forces against sustainable construction are construction methods and materials. For obvious reasons, construction methods are destructive to environments and can leave irreversible effects. Deforestation, for example, displaces animals and people and destroys ecosystems. Major environments, such as the Amazon Rainforest, fall victim to construction and deforestation for more settlement.

Demolition is another method that is disruptive to the surrounding environment and can release a lot of pollution in the process. To achieve sustainability, different methods need to be applied. Granted, it won't solve all issues overnight, but it's a step in the right direction. A couple of examples of sustainable construction methods are managing waste and reusing old buildings.

Unfortunately, material waste is a primary contributor to overall waste within the construction process. To better manage that, being precise when cutting materials and controlling what can and can't be recycled can alleviate the heavy waste outcome. Another option is reusing existing buildings. Everyone loves DIY, don't they? Reusing and adapting old structures into green buildings can liven a city street while promoting sustainability.

02_©Reuters Photo (2019). Deforestation in the Amazon by Farmers. [Photograph]. (Itaituba, Para, Brazil).

The more obvious route to sustainable construction is through materials. There is an entire market that caters to sustainability through building materials. One example is SmilePlastics, a company from South Wales that makes hand-crafted panels out of material waste. This simple technology is a perfect example of how recycling and reusing can be implemented. Many other initiatives are also tackling

sustainable materials and are advancing towards new materials that are lighter and stronger. Bamboo, recycled plastic, and laminated timber are some options for materials that are friendlier to the environment and help achieve sustainability.

Another company that is paving the way for better material is Bark House, a Cradle to Cradle Platinum Certified business that creates unique facades and products using tree bark. Using different tree species like Gold Birch, White Pine, and Poplar, Bark House takes a multi-step approach that works with loggers to ensure that forests are respected and biodiversity is supported.

Designers need to promote such materials and implement them in their designs to accelerate the attention given to sustainability. Along with their positive environmental impacts and efficiency, sustainable materials also give an aesthetic and special appeal to a building's inside and out.

03_©Bark House (2015). Bark House Wall Panels. [Photograph].

The World's Greenest Building

Now we can discuss the importance of sustainable construction and materials forever. It's easy to imagine an ideal world full of green buildings and sustainability but it's not as easy to produce it in our real worlds. However, some architects and designers have pushed their limits and strived to create projects that help and enhance the environment. The Center for Sustainable Landscapes, or CSL, by The Design Alliance Architects, is an education and research facility that generates its energy and treats storm and sanitary water captured on-site.

Designed to be the world's greenest building, the CSL is the only project that meets the highest green certifications, including LEED Platinum and Living Building Challenge. Built on a reclaimed brownfield site, the CSL regenerates the surrounding ecosystem. The materials used for the project are mostly locally sourced within the United States and include recycled steel and salvaged wood.

Overall, this project hopes to connect people to their environment by mimicking nature and functioning efficiently. Standing as a net-zero building, the CSL uses a combination of solar panels, geothermal wells, and even a wind turbine.

04_©Denmarsh Photography (2013). The Center for Sustainable Landscapes [Photograph].

Future Hopes of Sustainability and Construction

Moving forward, scientists, designers, and everyday civilians need to look towards sustainability as the earth's only option. More critically, people within specific sectors, such as construction, need to explore and apply sustainable practices for current and future endeavors. Its importance for future generations is evident and, while it's a big shoe to fill, it's not impossible to pursue. Companies and organizations are curious and interested in sustainable material and construction and are taking the responsibility to make a difference.

Whether by inventing new ways or advancing existing technologies, sustainability is closer than we might think. Similar to the CSL, choosing our sites wisely and problem-solving to create better opportunities and outcomes will also make a difference. While our earth's supply is finite, our creativity reaches infinity and that's what needs to be maximized. Sustainable construction ties in multiple industries, like science, design, and technology, and makes an impact on the everyday person.

References

- Elemental.green. n.d. *12 Companies Leading the Way With Eco-Friendly House Building Materials*. [online] Available at: <https://elemental.green/12-companies-leading-the-way-with-eco-friendly-house-building-materials/> [Accessed 30 March 2021].
- ArchDaily. 2013. *Center for Sustainable Landscapes / The Design Alliance Architects*. [online] Available at: <https://www.archdaily.com/364575/center-for-sustainable-landscapes-the-design-alliance-architects> [Accessed 30 March 2021].
- Smile Plastics. n.d. *Smile Plastics, Recycling Waste Materials. Designed to Inspire.*. [online] Available at: <https://smile-plastics.com/about/> [Accessed 30 March 2021].
- Zitzman, L., 2020. *Sustainable Construction: Methods and Benefits* | *BigRentz*. [online] Bigrentz.com. Available at: <https://www.bigrentz.com/blog/sustainable-construction#:~:text=Sustainable%20construction%20is%20the%20practice,%2Dtoxic%20and%20high%20quality.%E2%80%9D> [Accessed 30 March 2021].