

Sustainability Spotlight

Design Inspiration through Biomimicry

Have you ever wondered why something is designed the way it is? Whether that something was well-designed and impressed you or poorly designed and made your life more difficult, everything you use has been designed by someone. In the realm of infrastructure, buildings, roads, and utilities are designed with the intent to enhance the quality of life and provide comfort for all humans. However, infrastructure design can be inefficient and damage the environment if design professionals do not take into consideration design methods that contribute to a more sustainable outcome. One such design method is biomimicry.

According to the Biomimicry Institute, *“Biomimicry offers an empathetic, interconnected understanding of how life works and ultimately where we fit in. It is a practice that learns from and mimics the strategies used by species alive today. The goal is to create products, processes, and systems—new ways of living—that solve our greatest design challenges sustainably and in solidarity with all life on earth. We can use biomimicry to not only learn from nature’s wisdom, but also heal ourselves—and this planet—in the process.”* In other words, biomimicry is utilizing nature as inspiration and offering more sustainable solutions to real world design problems.

Putting biomimicry into practice, here are some examples of innovative design solutions and their natural inspiration:

- The Kingfisher – the beak of this bird was used as inspiration for the design of the bullet train. The refined design incorporated a sharper front to exit tunnels more quietly and also made the train 10% faster on 15% less electricity.
- The Polar Bear – understanding how the fur on a polar bear works can lead to the development of better insulation for buildings or even textile design for clothing.
- Insects – Studying the bumps on wings of certain insects and understanding how they collect water on their bodies has helped architects design buildings to capture water from fog.



Image Sources: Biomimicry Institute & Biomimicry in Action TED talk

For more information on biomimicry, please visit the Biomimicry Institute’s website at <https://biomimicry.org/> and check out this fascinating TED talk on biomimicry https://www.ted.com/talks/janine_benyus_biomimicry_in_action?language=en



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