

SUSTAINABILITY STRATEGIES

<p>Path to Net Positivity</p>	<p>The path to net-positivity is achieved in progressive stages with multiple strategies that focus on reducing demand or augmenting production by harnessing renewable local resources. The first stage aims to be a low-carbon city by reducing energy demand under 1000 GWh, supplemented with targeted import from off-island. Future expansion achieves net-zero by matching energy demand and ultimately net-positive with a surplus of production through increasing efficiency in the capture of resources.</p>
<p>BioResources Strategy</p>	<p>Ample sun, wind, and rain power, cool, and hydrate the islands, while resource recovery systems ensure that waste and wastewater generated by the BiodiverCity's 375,000 residents are captured and reused. BiodiverCity's resource requirements will be served by a diverse combination of production, conservation, and recycling systems, making use of digital sensors and controls technology to improve reliability, security and efficiency of the power, water and waste management systems. Future expansion can take advantage of an adaptive infrastructure platform, including a toolkit of modular floating solar farms, greenhouses, aquaculture to augment the islands production and management capacity.</p>
<p>Sustainable Building Materials</p>	<p>Buildings utilize bamboo and Malaysian timber in conjunction with concrete made from industrial waste, and recycled materials. Modular prefabricated systems offer economies of scale, and can have greater degrees of customization with advanced robotic technology or on-site 3D printing. Bamboo has six times the tensile strength of steel, a negative carbon footprint, and can be grown on the neighborhoods themselves. This 100% renewable material is strong and light, easy to fabricate and transport and can be left exposed, reducing the cost of finishes.</p>
<p>SMART Grid</p>	<p>The SMART grid empowers the community with real time data and analytics to inform use and incentivize sustainability and buying decisions. Residents and visitors can easily access information on the energy mix in their neighborhood, from Waste to Energy to floating PVs, as well as how local industry uses water sources.</p>  <p>Image by BIG-Bjarke Ingels Group</p>