

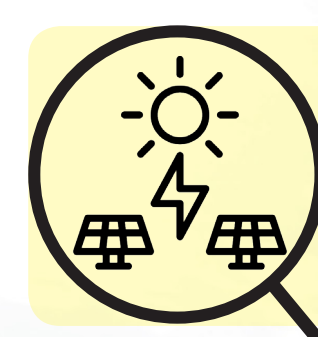
THE BINARY CANOPY

The Binary Canopy proposes a radical approach to public art; one that reimagines the traditional role of the designer/artist as more of an orchestrator designing a computationally processed algorithm. The design strategy is to optimize the functionality of the sculpture, and therefore relies on the capabilities of parametricism to define a canopy custom to its home. Inspired by the local dune topographies of the U.A.E., the Binary Canopy aims to set the precedent of an ideal marriage between form and function. The vision is to promote innovation towards renewable energy by creating a thought provoking and energy generating piece of artwork. The design ethos behind the sculptural solar canopy is that it must perfectly

respond to this specific site through a continuous dialogue with its climate constraints and surrounding environments. In order to create a comfortable exterior climate sheltered from glaring hot days, a canopy of such magnitude is necessary. Shading an oasis and botanical gardens designed to cool exterior temperatures during the regionally notorious summers, the canopy does not only catch the eye, but also showcases the potential of beautifully capturing renewable energy and balancing ecosystems. The idea behind this project sparks a new approach to multifunctional canopy design since undulating forms theoretically receive more direct sunlight and radiation, as explored in the form finding research behind this sculpture.



Aquaponic basin cools the gardens in summer and irrigates with nutrient infused water from the lake's wildlife.



Round 80W monocrystalline silicon PV panels generate the electricity that is stored in batteries underground.



Shade pockets keep areas cool during hot summer days. The undulating morphology creates shaded areas at all times



Botanical gardens can thrive, regardless of the hot climates, due to the nutrient enriched water and regulated climates.



Misting sprinklers around the gardens designed to maintain cool temperatures in the shade during hot summer days.