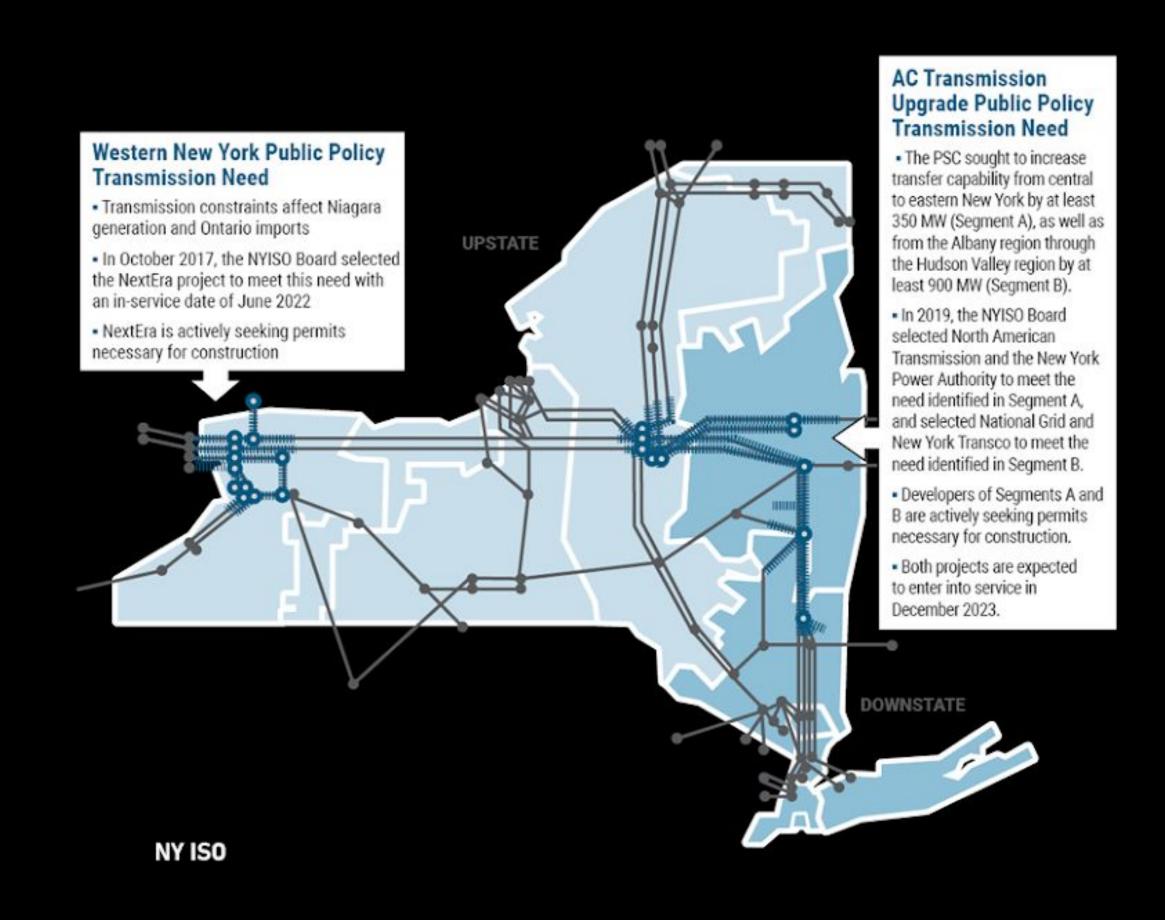
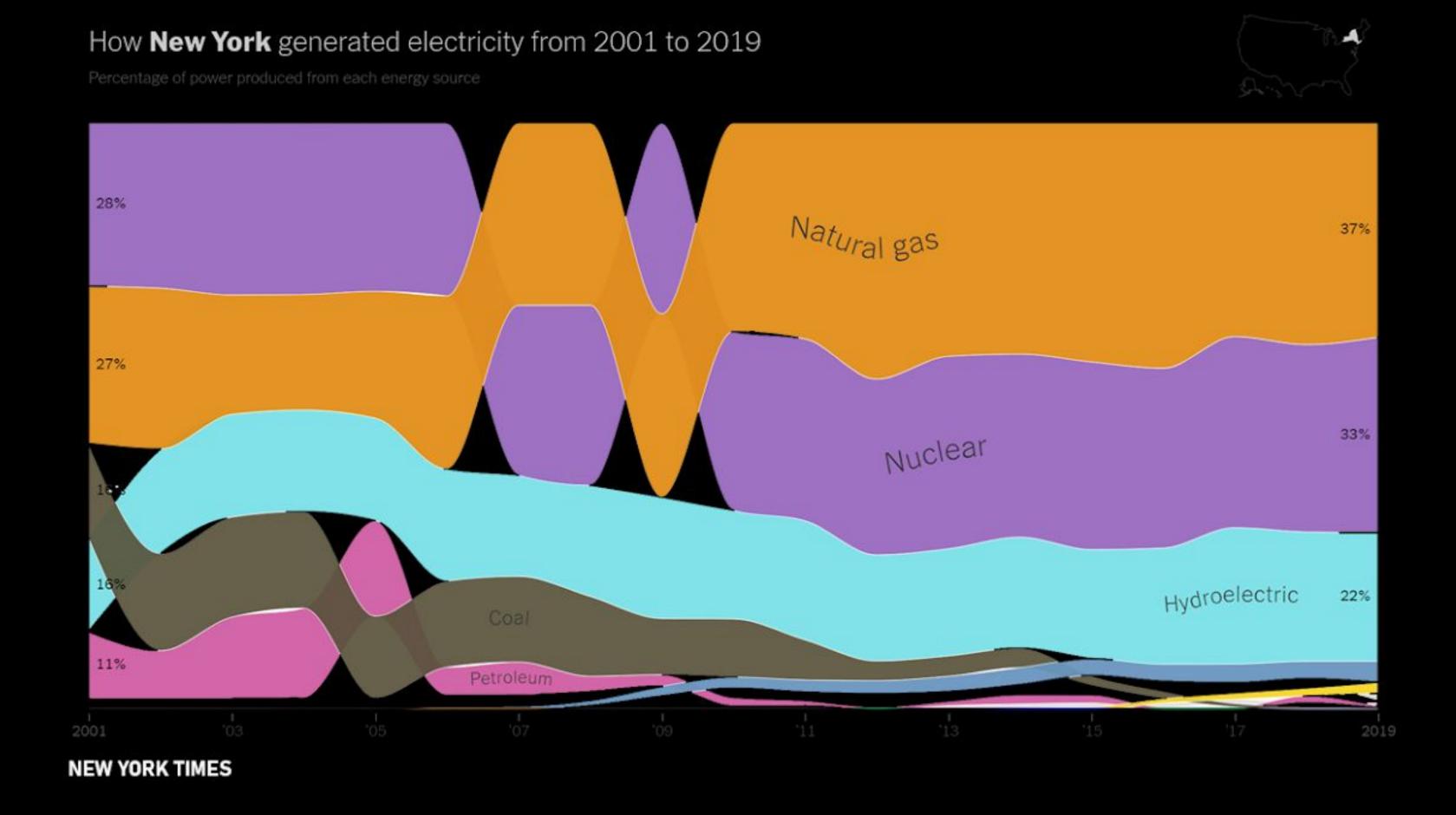
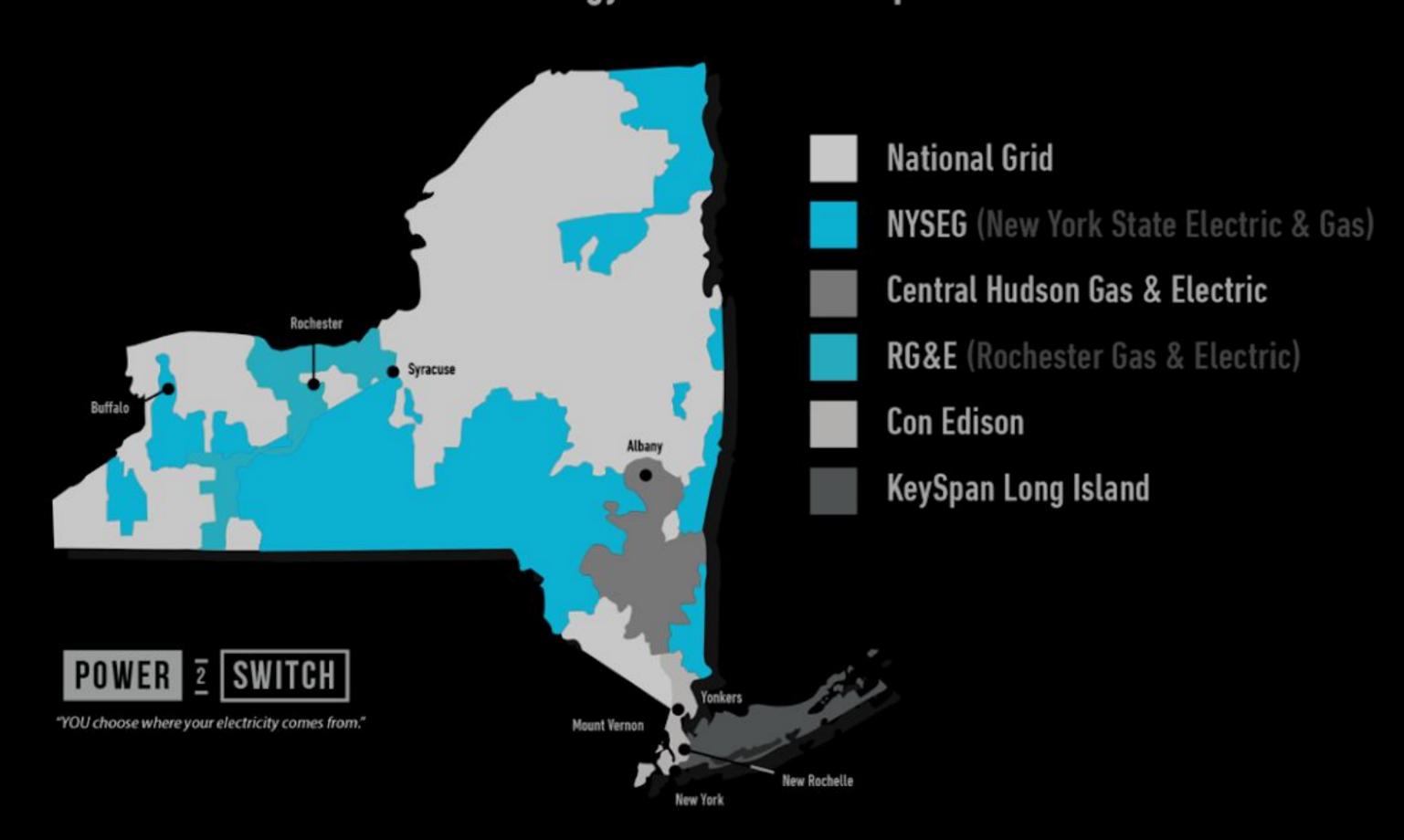


NEW YORK STATE ENERGY TRENDS AND TRANSITIONS





New York Energy Service Area Map



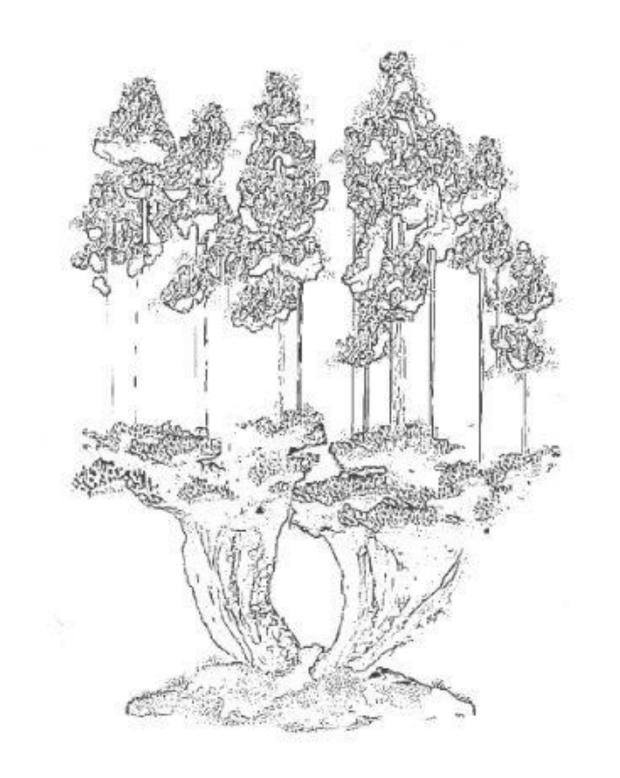
New York City's Biggest Power Producer Aims to Import Renewable Energy From Upstate

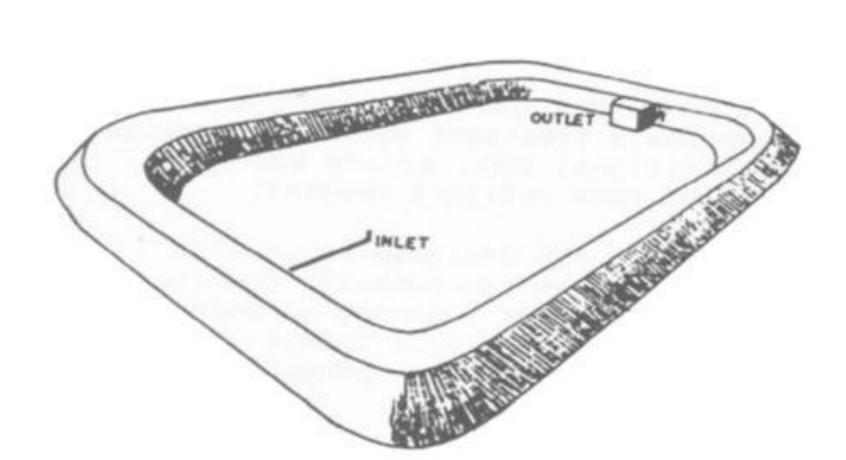
The Ravenswood plant owners look farther afield to supply clean electricity to the metropolis.

JULIAN SPECTOR | JANUARY 15, 2021

NYC plan to import Canadian hydro sparks opposition

Source: By David Iaconangelo, E&E News reporter • Posted: Wednesday, September 9, 2020







DAISUGI

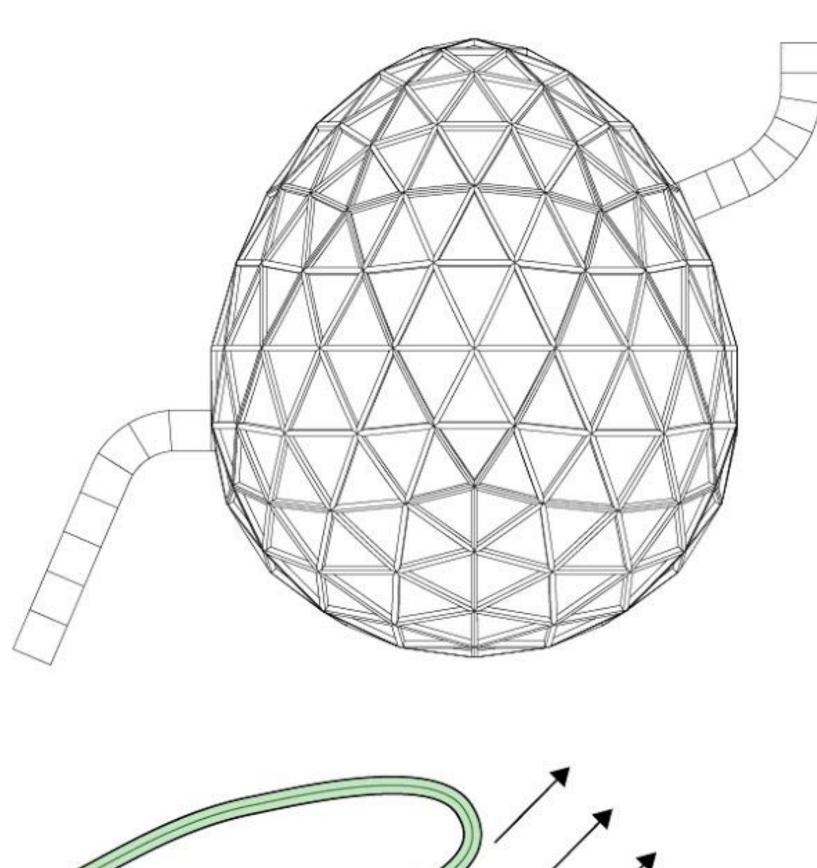
Sometime in 15th century Japan, a horticulture technique called daisugi was developed in Kyoto. Written as 台杉 and literally meaning platform cedar, the technique resulted in a tree that resembled an open palm with multiple trees growing out if it, perfectly vertical. The method involves pruning the branches of Kitayama cedar so that the remaining shoots grow straight upward from a platform. The technique was developed in Kyoto as a means of solving a seedling shortage and was used to create a sustainable harvest of timber from a single tree. Done right, the technique can prevent deforestation and result in perfectly round and straight timber known as taruki, which are used in the roofs of Japanese teahouse. Rather than harvesting the entire tree for lumber, loggers can fell just the upper portions, leaving the base and root structure intact. It can be done with different species of trees as well as other plant varieties.

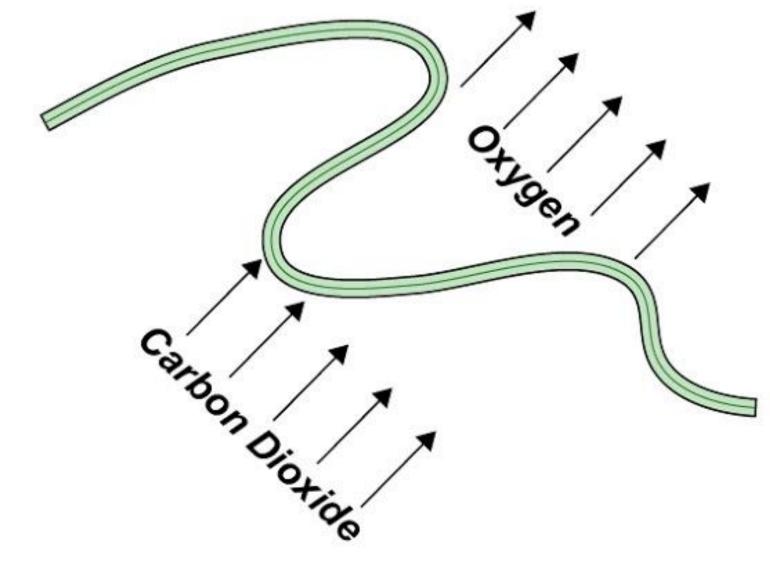
WASTEWATER TREATMENT PONDS

The most often used ponds in domestic wastewater treatment are the stabilization pond and facultative lagoon. The stabilization pond is designed to be aerobic throughout its depth and the facultative lagoon will be anaerobic at the bottom and aerobic at the top. This article will examine the normal uses of each of these treatment ponds. In other parts of the world, where rivers are contaminated with sewage, a city of 15 million people cleans its waste water with its flood plains. On the edges of Calcutta, flanked by a smoking escarpment of the city's trash and ribboned by its highways, an Indigenous technology of 300 fish ponds cleans its water while producing its food. And through a combination of sunshine and sewage and a symbiosis between algae and bacteria, the wastewater is broken down. Fish ponds continue this cleaning of the water in a process that takes around 30 days.

LIVING BRIDGES

The Khasi people live in a forest that receives more rainfall than anywhere else on earth. And during the monsoon season, travel between villages is cut off by these floods, which transform this entire landscape from a forested canopy into isolated islands. This hill tribe has evolved living root bridges that are created by guiding and growing tree roots that you can barely wrap your arms around through a carefully woven scaffolding. Multiple generations of the Khasi men and the women and the children, they'll take care of these roots as they grow to the other side of that bank, where they're then planted to make a structure that will get stronger with age. This 1,500-year-old tradition of growing living root bridges has produced 75 of these incredible structures. And while they take 50 years to grow, in this landscape they actually last for centuries.







METHANE DIGESTER

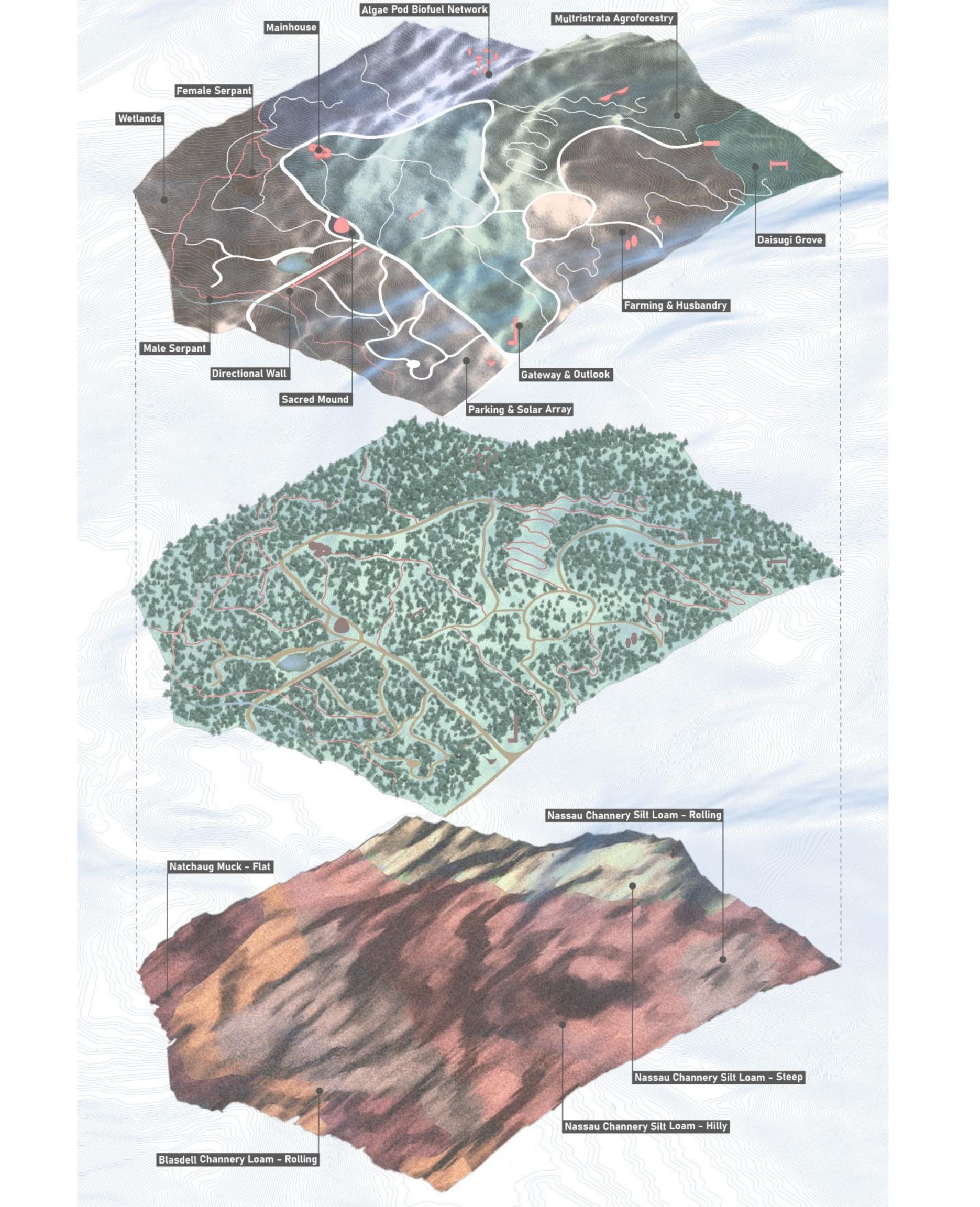
A Methane Digester creates opportunity from waste. Harnessing the by-product of human and animal excrement, the methane digester extracts both biogas and ready-to-use fertilizer from waste that would otherwise be disposed of in environmentally harmful ways. This is done by sealing the waste into closed containers, and allowing microbes to feed off of that waste, creating a sustainable cycle of constant renewal. The biogas produced during this process can be used to generate electricity and heat. If done at a large enough scale, biogas from methane digesters can even be used as an environmentally friendly alternative to fossil fuels. In addition to this, what remains of the original waste becomes a viable and green source of fertilizer, perfectly suitable for farming and soil enriching needs.

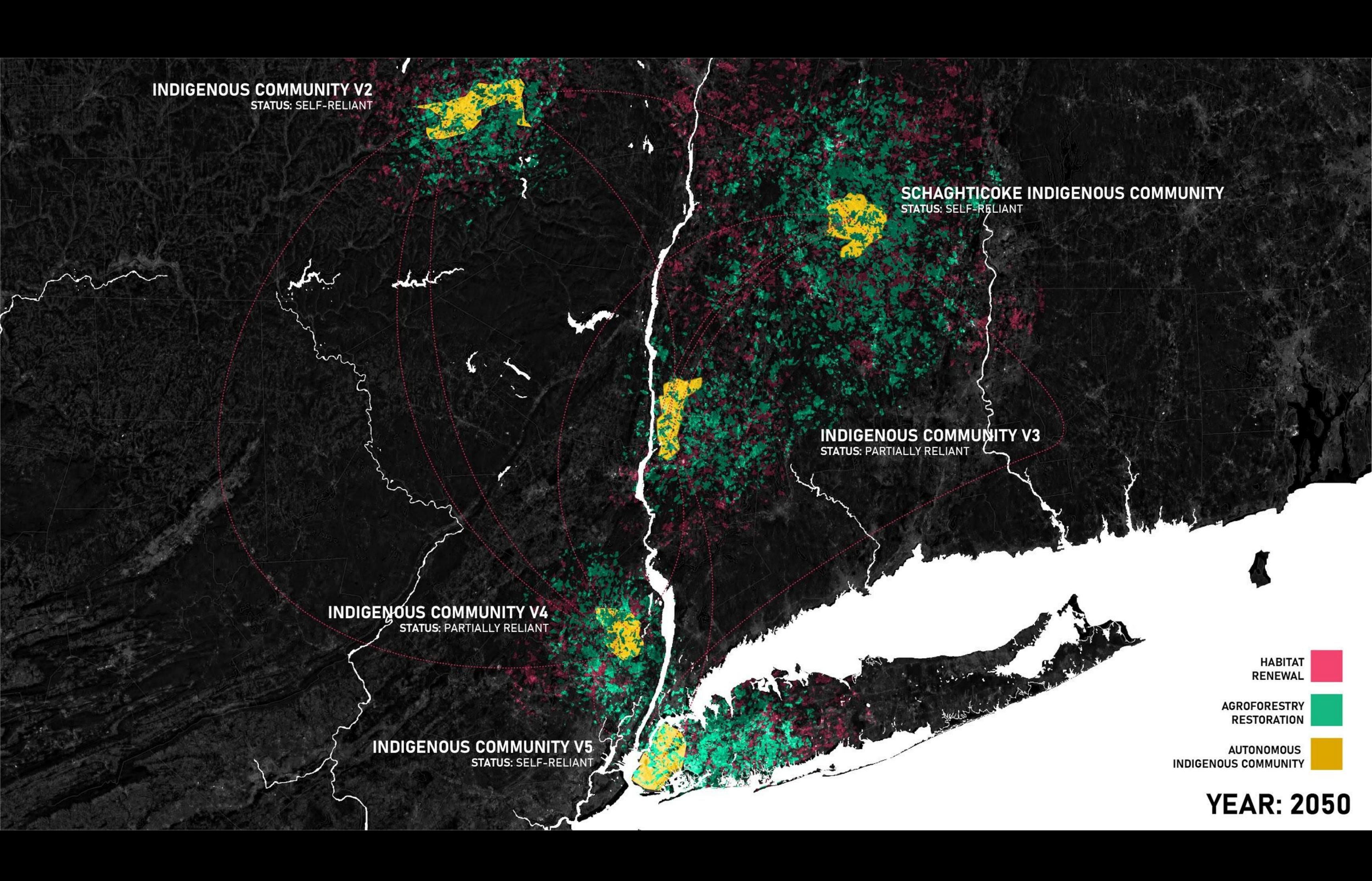
MICROALGAE VINES

In a bid to discover new and creative alternatives to our specie's dependence on fossil fuels, algae has emerged as a viable candidate with a slew of sustainable properties. Algae as a species can be considered invasive, but if used thoughtfully algae can be capable of harnessing biofuels capable of energy production that could one day rival preferred fossil fuel options. They can prosper in a variety of conditions and climates, however they thrive along sub-tropical and tropical coast lines. In addition to this, algae does not require land that would otherwise be used for farming, adding to a list of sustainable and spatial benefits. As the planet heats up and our climate zones continue to migrate further north, New York is quickly becoming a possible habitat for oxygen producing algae vines that can as a facade bioreactor.

MULTISTRATA AGROFORESTRY

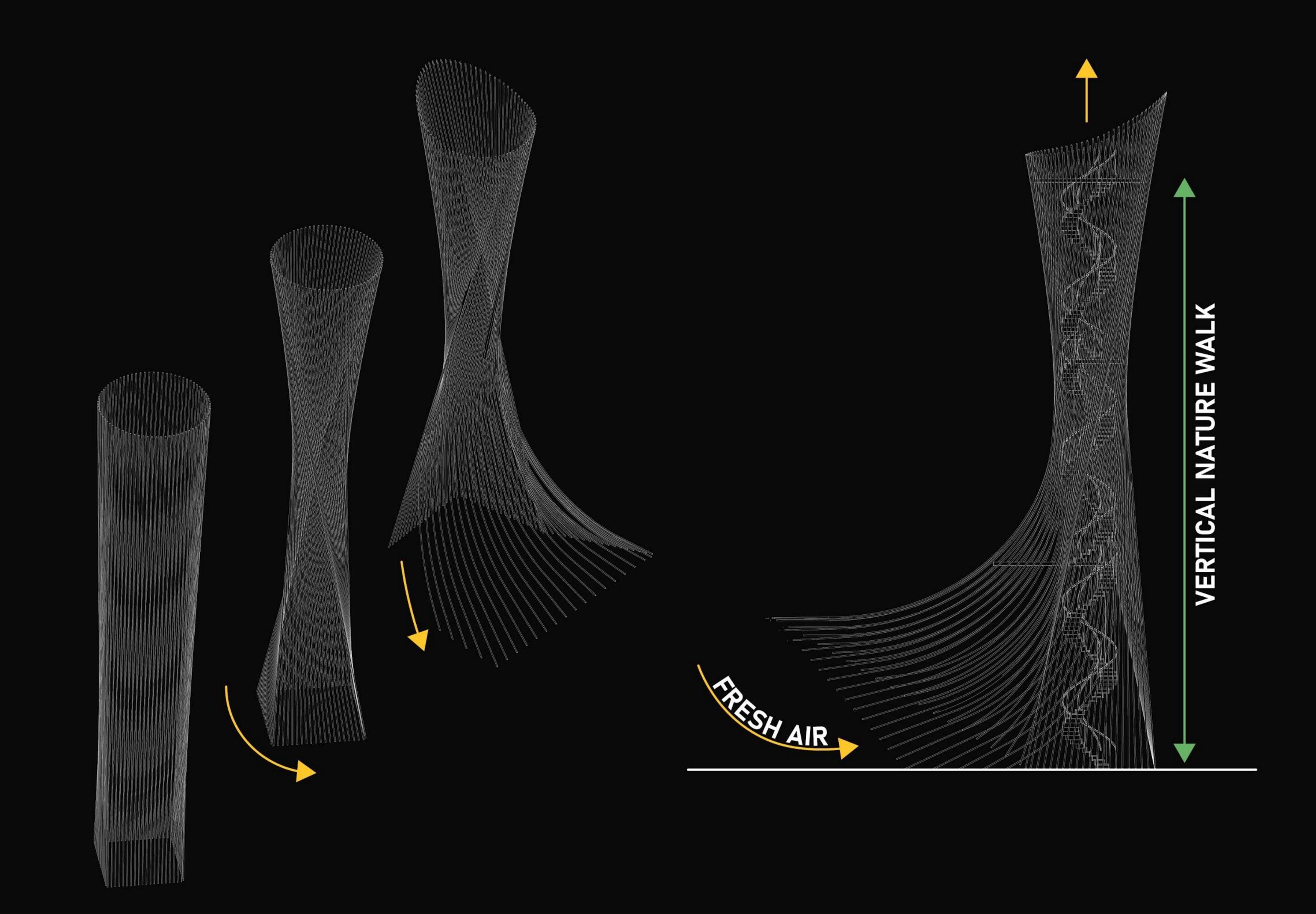
Land that has been occupied by a colonizing human presence has often been ravaged of its nutrients and resources. Multistrata Agroforestry is a method that can mimic the natural makeup of a forest through a variety of plant species and scales. By doing this, the land becomes rejuvenated as it returns to its former state. New habitats are created for displaced wildlife, carbon is sequestered and stored, and soil that was once degraded can begin to mend and flourish once again. In addition to this, groundwater is restored to proper balances and flood-risk is mitigated by the return of natural species. As a method of sustainability, multistrata agroforestry has the potential to give destitute land a chance to thrive.



























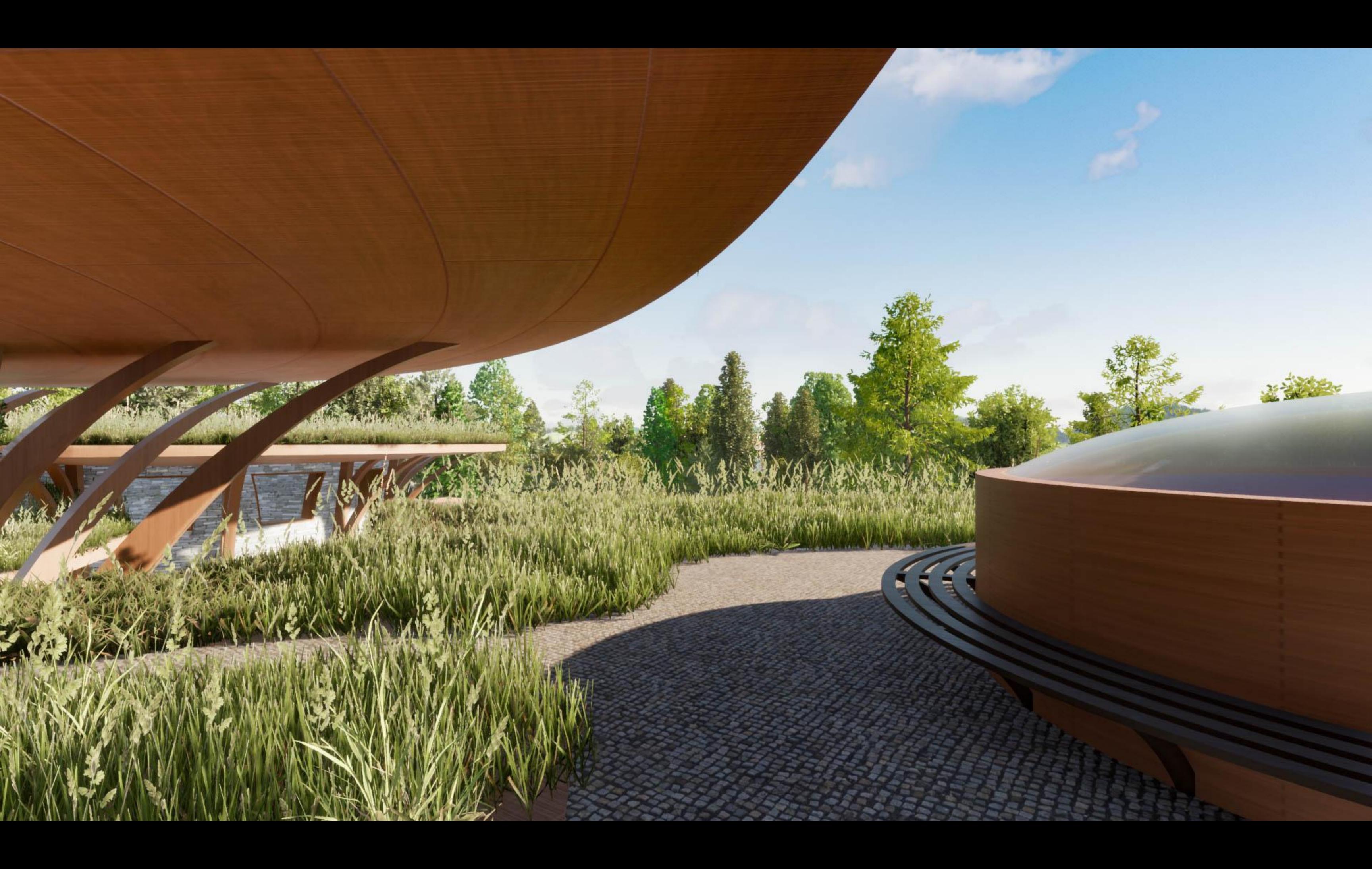










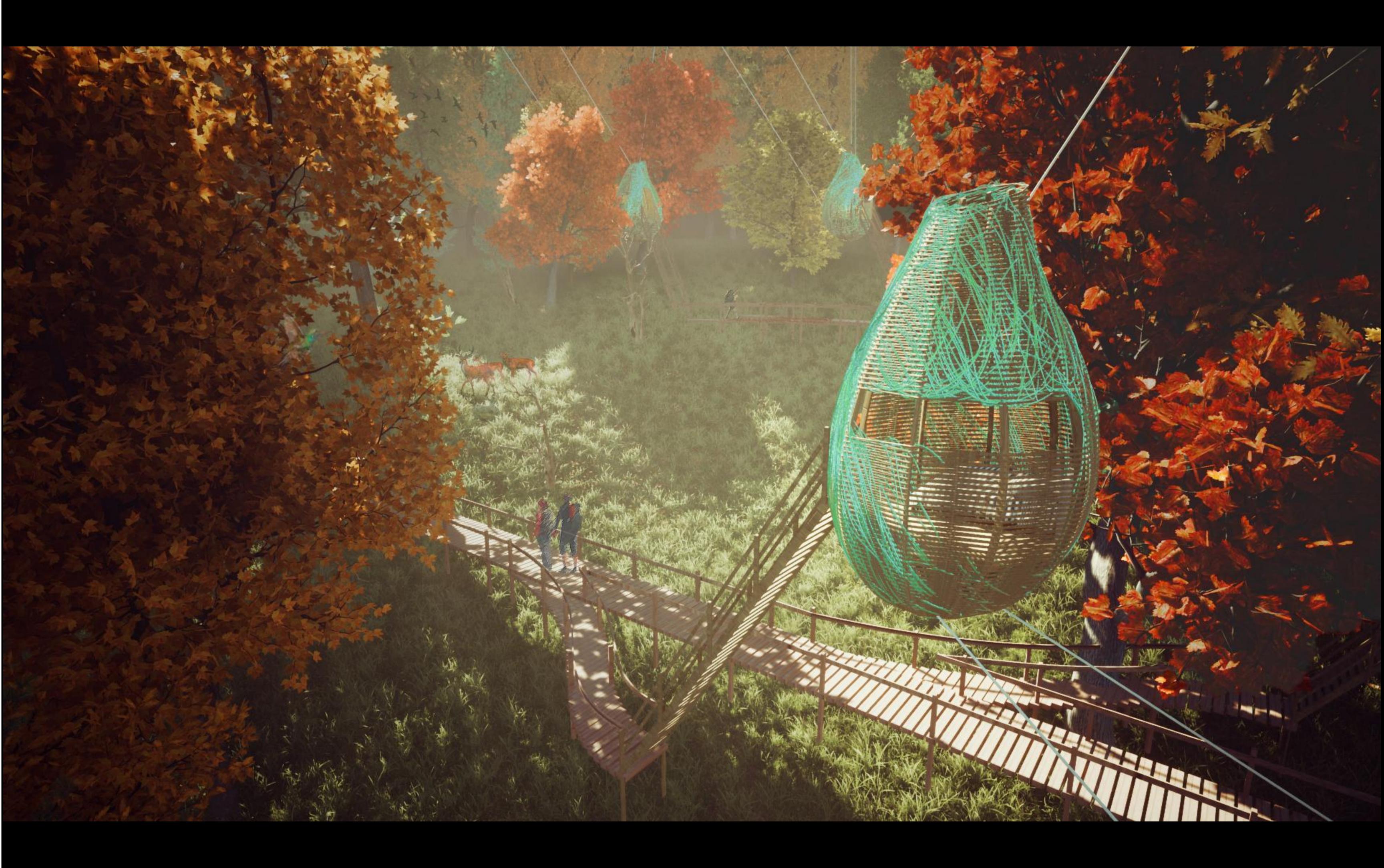
















ELEVATION: 577 FT



METHANE DIGESTER (PROJECT DRAWDOWN) ELEVATION: 824 FT

