**Intention of our team:**

Our focus is upon beautiful, engaging and elegant energy production systems which utilize existing infrastructure to create long lasting timeless systems to support local eco systems and economies for the world of our future. Drawing inspiration from the American industrial revolution, windmill pumps which support agriculture, futuristic forward focused automotive design of the 1950’s, and now America’s push for leadership in the renewable technology race of the world, we provide structurally robust, mechanically simple and visually inspiring works to help create a vision for what is possible by leveraging American innovation and simplicity for our bright future. With expected 300 year operational life cycles, these pieces will act as waypoints to inspire new directions, solve problems creatively, and provide works which craftspeople and experts in their field of study can be proud to be part of creating. Holistically, we expect these pieces to support the entire local organism of nature, human and wildlife. Intended to enhance the environment; these pieces are created as timeless representations of the transient nature of organic matter. Designed with ease of assembly, and transport in mind, as well as the ability to adapt to differing environments and landscapes, these solutions are created for America and the global community. Replicable and scaleable, these pieces can be delivered to any location and erected with the support of local installation crews. Designed to provide the surrounding area with new flora and fauna as well as electricity for battery powered mobile units from small batteries for electronics, to larger batteries for vehicles. Relying on the local communities and economies in which they are installed, maintenance manuals will be provided with all mechanical and structural drawings allowing for local technicians of all trades to participate in the maintained longevity of these works. Thus, these works will enhance local economies, provide tourists with inspired memories of place, be a cornerstone for communities such as Gerlach, enhance agricultural endeavors in remote locations such as the Fly Ranch property and cooperate with local government and residents to enhance their community with economically viable installations providing value aesthetically, functionally, economically and inspiring the minds of tomorrow. For enhanced interaction, we will provide a VR experience of the landscape, mechanical design, lighting design, and education on systems utilized within the work for users at the local installation site and worldwide via the web.

**Technology:**

We will be utilizing water pump, water storage, water energy, compressed air, wind energy, light art and battery storage.

**Construction Materials:**

Will consist of steel, stainless steel, aluminum, wood, recycled acrylic, concrete, LED lighting, electrical wiring, electrical routing technologies and associated interactive elements with battery bank.

**Activities that the design will support:**

Water production to support: filtration, distribution to support hygiene, showers, tap water, watering gardens on the property, replenish aquifer.

Electricity production to support: charging battery bank for charging small batteries as well as automotive batteries, water storage at high elevation during the dry season

**Inputs and maintenance:**

Labor is required initially to assemble work. Annual light maintenance is required by local professionals to keep systems running smoothly. Simple design with ‘no part is the best part’ design philosophy

**System outputs; waste materials generated:**

Water production is expected to be 12.326 cubic meters / hr.

Electrical production is expected to be 1-3 million kWh / year.

Grid tie connection is available where applicable.

Interconnected network of pieces is possible to provide services at multiple locations on the site, or in series or parallel.

Steel structure will need to be replaced at 300 years of service to the community

Wood elements will need to be replaced at 50 - 100 years of service to the community

Acrylic panels will need to be replaced at 50 - 100 years of service to the community

**Dimensions; primary materials utilized in design:**

(length x width x height): 10 meters x 10 meters x 30 meters (optional sizing to 90 meters height with proportionate length and width)

* steel
* wood
* acrylic

**Order of magnitude conceptual cost estimate:**

30 meter height piece: $450,000 to $500,000 for initial run, cost decreases expected after initial piece.

**Summary of on site prototype development:**

Prototype will be developed and constructed in Washington State; then delivered on site as proof of concept. Once installed, system will be tested at scale and if problems arise solutions will be implemented into design.

**Environmental Impact summary:**

The foundation consisting of steel and concrete will be the main impact on the surrounding environment. Upon arrival of parts the earth around the site will be tread upon by human foot traffic and equipment to install the work including the excavation of the foundation. Once installed, the work does not have any expected impact. Utilizing the existing steel industry which uses 81% to 98% recycled material for new steel production; we believe that supporting American industrial manufacturing will result in structures and parts that will be recycled from the beginning and will be recycled once again in the future. Wooden elements are intended to weather with the piece and will need to be replaced at critical degradation in the future. The old wood pieces can be burned as fuel or used in less critical structures within the community. Acrylic elements are intended to be utilized until they are visually distressed or to the point of affecting structural integrity. These old acrylic pieces have a variety of uses in structural, surfaces and new creations throughout the community. The new pieces of acrylic consist of 100% recycled acrylic. For the avian wildlife, we have taken into consideration the dangers that windmills provide. These blades will be slow moving and are intended to create a visual solid when in motion so that they do not appear as a “clear space” that would diminish the birds natural navigational senses around the pieces. Water conservation will be achieved through storage during the shoulder season between dry and wet times while also providing water filtration through the gardens and agriculture below and around the footprint of the work. This water will filter through the vegetation and thus, replenish the aquifer allowing for greenery to propagate year round. This process will naturally enhance the purity of the water supply and protect the fresh water resources which exist. Relying on the Gerlach and greater Northern Washoe County, these works will inspire creativity centered around renewable energy and provide a catalyst for new ideas, propel young creatives and incubate the intellectual momentum of the surrounding areas thus inspiring new solutions for the environment in Nevada. We expect the steel elements to last for 300 years and for wooden / acrylic elements to be replaced at 50 to 100 year intervals.