Rider Coaster

As you are pedaling on the famous Santa Monica beach trail you see a ribbon like structure floating above the water. It almost looks like it’s moving with the waves with its elegant curves. You decide to discover new roads and see this structure for yourself. You pass the excitement on the pier and the rollercoaster you love to ride. As you ride on the new pier it feels like you are riding the wave. The subtle up and down movement of the track is caused by coiled springs and ceramic cylinders underneath the track. This creates the piezoelectric effect. The cylinders are made from polarized ceramics which produce electric current when under pressure. This current is fed into a grid which connects all the cylinders and stored in Lithium batteries. Energy is generated by the cyclists themselves. You are the energy.  
As you reach your destination you discover a cyclist’s paradise. There is excitement in the air. You feel the energy of your fellow cyclists. There is a big LED battery meter showing the amount of energy produced for everyone to see. This motivates everyone to keep going.  
You decide to try the rider coasters curves, which you saw from the beach.  
It feels like riding the waves as you go around the bends and highs and lows. After that roller coaster ride you get refreshment drink from the shop which also has bicycles for hire. As you take a rest under the solar power shaded seating and charge your phone at the given power outlets. Clean fresh energy from the sun for you to utilize. You feel energized yourself and ready to take on the next challenge. There is an elaborate bicycle park with ramps and half pipes which exceed your wildest dreams. You put your back pack in one of the lockers that’s provided so you don’t lose it when you do a double somersault on your bike to show of your skills.   
All the while people are excited to keep moving and are aware of the energy generated by them by looking at the energy meter.  
When you leave you feel like you achieved and played your part. Something small but significant in the bigger picture. It was energy well spent which in turn will power Santa Monica again.

ENVIRONMENTAL IMPACT ASSESSMENT

The operation of the Rider Coaster will aid in the green energy transition while maintaining a critically unobtrusive relationship to the natural environment and the local ecologies of Santa Monica. The environmental advantages put forth by the Rider Coaster exist in its design, operation, siting, and lightness on the land. Through its versatile placement specifications, Rider Coaster will generate energy from the cyclists. Santa Monica has a very popular cycling and skateboarding culture the structure will be effective in this niche environment. Rider Coaster decreases environmental impact through its lightness on the ocean. With only the footprint of the very little columns, the installation of Rider Coaster results in involvement from the public and creates consciousness from the users. Which has long term effects because the user will think about how much energy has to be spent on the track to generate enough electricity for everyone to utilize. No displacement of native species, established ecologies and the breakwater will be effected. Rider Coaster is aesthetically and physically integrated with natural ecologies, neither impeding on their topographical domain, nor shading them from access to available sunlight.

The project will contribute to Santa Monica’s carbon neutrality, with zero net emissions. As an external initiative for energy production, Rider Coaster will become a community asset as it produces green energy to be put back into the grid, allowing the city’s carbon neutral goals to be attained more rapidly.

In the operation of the Rider Coaster it is not threatening to local bird and fish populations.