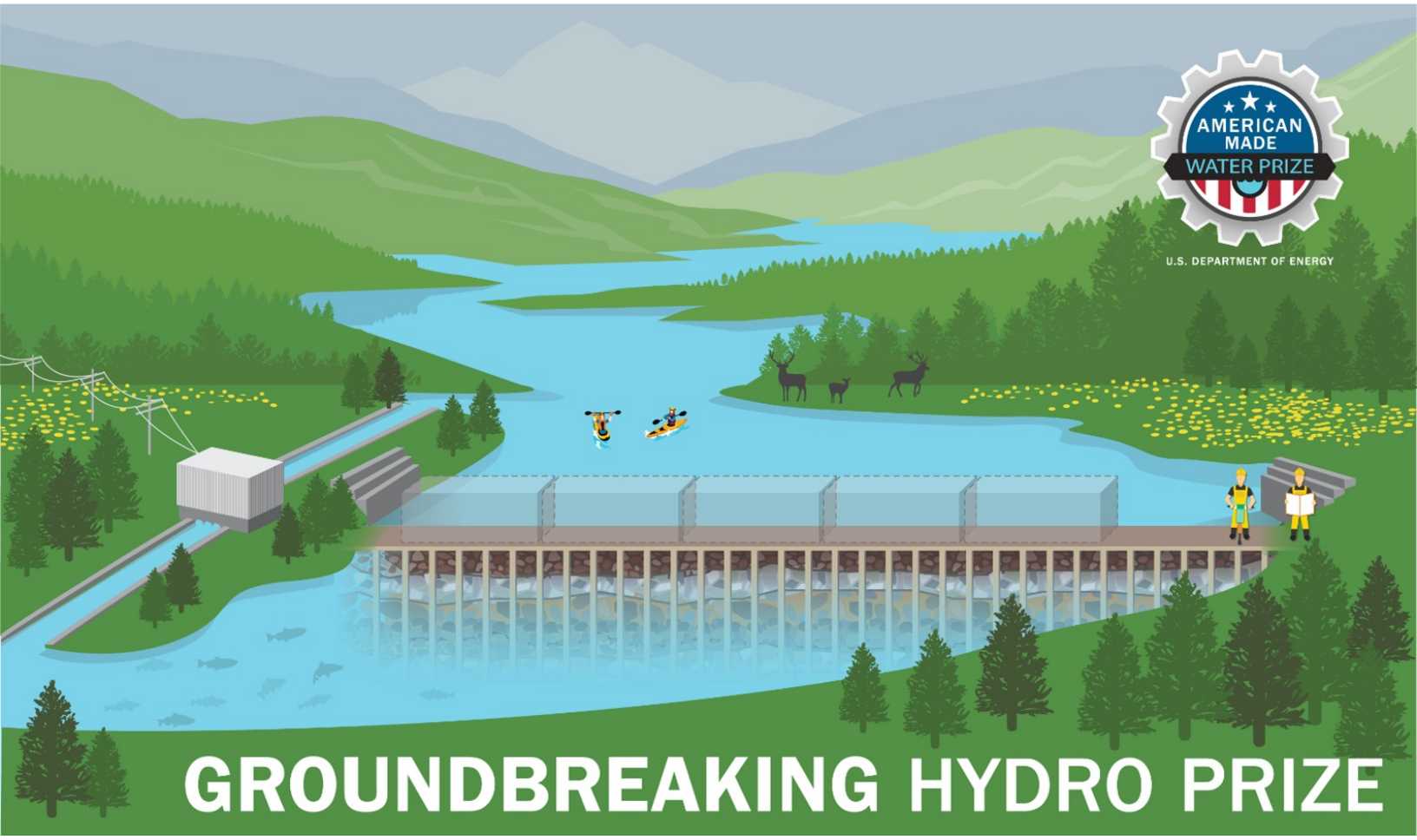


Groundbreaking Hydro Prize

Guru Rathod, CEO / CTO
Aeonture Corporation

Project Description:

Hydro Plants can be constructed and operated as plug and play infrastructure at any location in live streaming water, in shorted period. All components are detachable and can be replaced while the plant is in operation, in case they rust or degrade over the time with little effort. Plant can be retired with no traces left behind, so local ecosystem can be restored to original condition.

90 Second Video Pitch:

Modular Plug and Play Hydro-Plant without Dam construction Presentation

Key Project Members:

Team Lead Name: *[Er. Guru, Rathod, CEO/CTO Aeonture Corporation]*

Team Member 1:

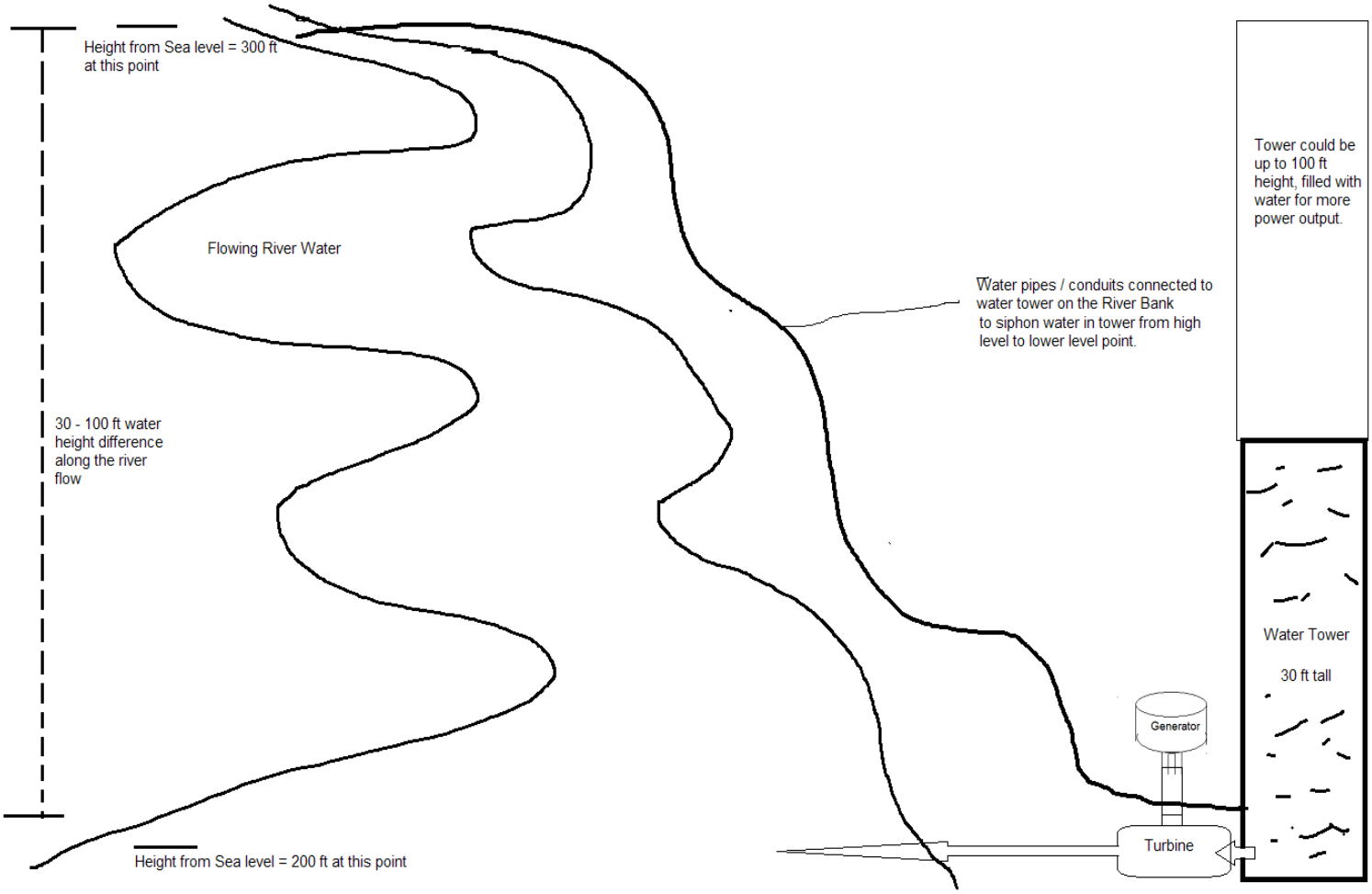
Team Member 2:

Team Member 3:

Technical Narrative:

To operate a Hydro plant, we don't need to construct anything in River bed to store water. River flows through the slope. If we calculate the height difference of river bed from one location to another location, say 1 mile apart, that difference in height could be 30 ft or may be more. All we do is siphon the water using suitable conduit/pipe. Multiple conduits placed together to siphon water from one point to another point through river or along the banks can be used. If we use 10 pipes of suitable size, we can transfer lot of water to the place on the land, next to river. There we construct a water holding tank (water tower) of 30 ft or higher. This will be built on ground using the off-shelf components. Water continuously flows in this container/water tower and we place the turbine at the bottom outlet, which drives generator. This whole infrastructure is off the water, so its very convenient to operate, maintain and expand, without constructing a dam.

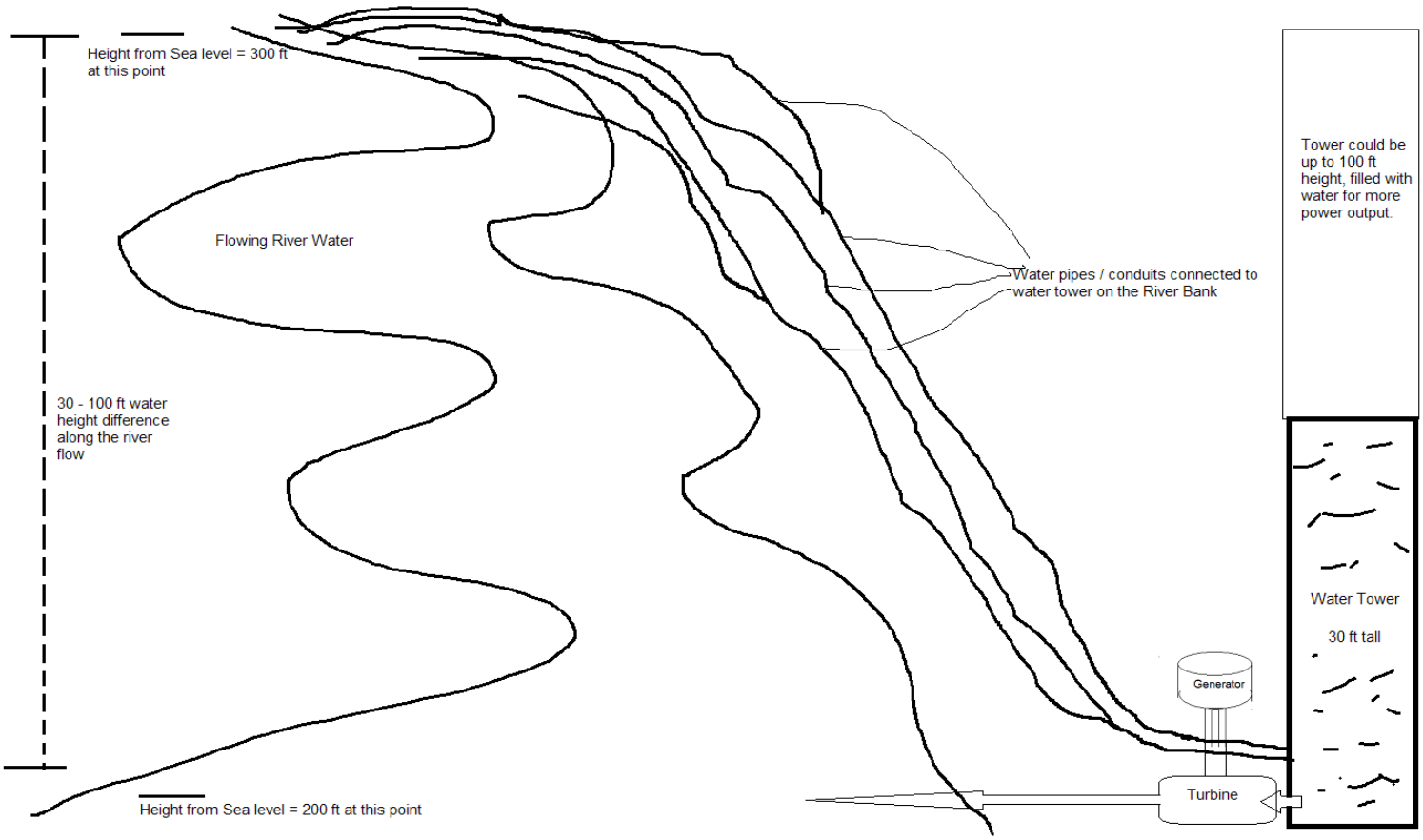
Below picture shows the concept.



We can siphon the water from high level to lower level easily using multiple pipes / conduits. When they all are connected to a water tower, very high amount of input flow is generated. Water continuously flows in tower and is released at the bottom and fed to turbine, which generates power. Multiple turbines can be operated on single water tower or they can be distributed along the river side at suitable sites / distances.

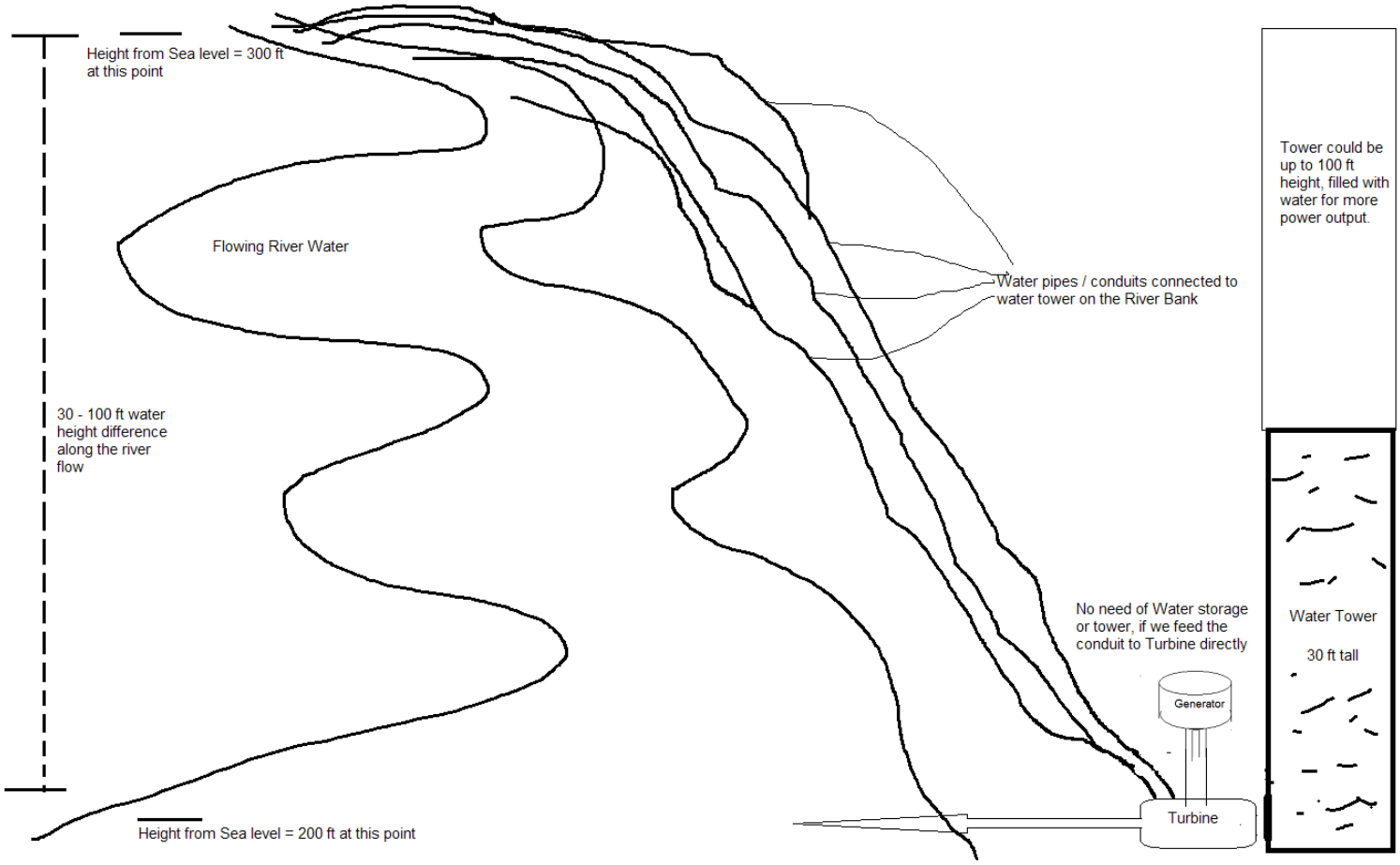
This kind of arrangement would require virtually no construction in the river bed and hydro plants can be made operational in lowest time period.

Below picture shows more pipes / conduits connected to the water tower.



If required, we can use Wind turbines to pump river water back at higher level point, where we have conduits placed for siphoning the water. This way, wind energy can help recycle the water.

Technically we don't even need tower or water storage facility to operate this Hydro plant. The water coming from all conduits can be combined into one big conduit and passed through the Turbine to generate the power. It will generate same amount of power as it will generate using the water storage facility. So virtually we can operate Hydro plant simply using conduits and turbine plus generator assembly, as shown in below image. This whole infrastructure is out of the river water and is installed on the land at suitable location.



As an example, let's consider one conduit carries 1000 gallon water per min into the water tower. If we have 10 conduits, we will be filling the tower at 10000 gallon per min. If we have bigger conduits, we can carry high amount of water into the water tower. In this way 1000000 gallons of water enters in Water tower and leaves from the bottom to turbine making as much energy as a Dam Hydro plant can make.

Supplementary Information

NARRATIVE WORD COUNT: 490 TOTAL WORDS