

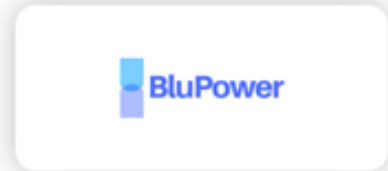
# Incubatee's Diary

## Startup at iTIC - BluPower

Upamanyu Ghosh  
 Founder, BluPower  
 KID: 20210321



# BLUPOWER



### Establishment Date:

April 18, 2020



### Number of Team Members:

2



### About the Business:

Blupower's is in scaling of distributed & decentralized hydropower solutions that produce reliable renewable energy, which are climate resilient, and balance the competing demands on water through a combination of innovative hardware design and AI.



### Founding Member/s:

• Upamanyu Ghosh, Founder



### Problem Statement:

Having renewable energy or energy in the first place is not a certainty in large parts of the world. Hydropower is identified as one of the cheapest ways of providing the energy to communities, but it has some drawbacks. The technology mostly needs larger infrastructure and often floods valleys, disrupting the local ecosystem and the lives of those it should be helping. Hydropower is also not scalable, making it more expensive than it needs to be



### Products or Services:

Blupower is a clean-energy company developing vortex hydro plant for low-head rivers or canals sites that remained unfeasible up till now for electrification. In comprehensible terms: this means that water flows with minimal height difference, from 1- 10 metres, can now be used to generate energy through our vortex hydro plant



### Value Proposition:

A predictable and cost efficient hydropower plant with an LCOE <\$0.03/kWh. Uniquely designed to limit complexity civil works, logistics, installation requirements and maintenance, and to be neutral to fish, debris and sediments without extra structures. With a global small hydropower potential of 217GW, a huge impact in energy generation can be achieved with smart, decentralized hydropower.



### Key Highlights:

- Winner of social Alpha Energy Challenge 2.0
- One of 98 selected youth projects from around the world - Youth Sustainable Energy Hub
- 2- Patents Applied



### Target Market:

Governments | Renewable Energy Utilities | Rural Population| SMEs



### Current Stage of Startup:

Prototype

**BluPower** is a hydropower startup with the aim of developing hydropower projects to help generate renewable energy. They plan to tap into the international market especially in Europe, Australasia, and African countries. In Indian, they wish to start by developing watersheds in drought-affected areas and use the runoff water to generate renewable energy using their hydro-engines. This energy may be utilized for irrigation purposes, charging batteries, or for powering nearby hydrogen synthesis plants enabling indigenous production of green hydrogen in India. While on one hand watersheds will help in recharging the groundwater, BluPower's hydropower module will generate clean electricity thus enabling a carbon-neutral economy.

By 2030, BluPower hydro solution will produce reliable and clean energy globally, amounting to 8,000 GW.hr of energy annually that impacts 20 million lives in grid deficient communities.

At present we have developed a proof-of-concept and have received initial grants for developing our Minimum Viable Product. We have manufactured the turbine which is to be tested in Indian labs for further upgradation in future models.

We shall be limiting their generation capacity to less than 25 MW in India as in 2015, the Indian government stopped categorizing hydel projects larger than 25 MW as renewable.

We have found new innovative applications of their product in thermal power plants which shall help increase the overall efficiency of the same. We are also contacting independent project developers for developing a product specific to their needs especially for rural areas where the grid is unreliable.

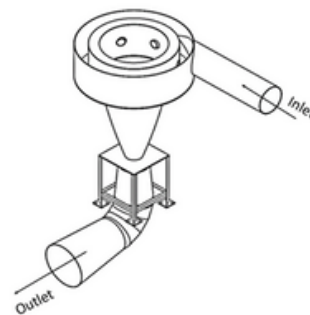


Fig. 38: BluPower Turbine

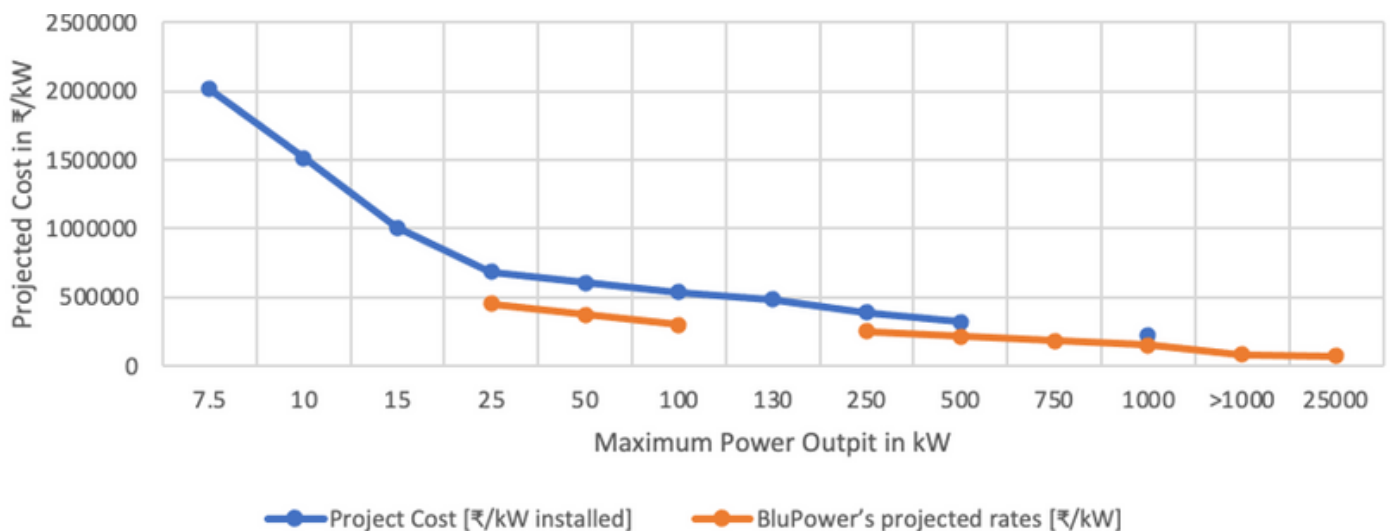


Fig. 39: HydroPower Systems - Cost to Build