

## Innovative Design for Getting Electricity and Fresh Water from Cloud

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Our atmosphere is saturated by water vapor with good percent at over the year. Our system is producing both electricity and clean water by harvesting and condensing water vapor in the atmosphere. Many researchers are trying to upscale this idea and some economists are trying to put feasibility studies for it. This idea is regarded a green technology as it is a renewable energy source. Our system depends on water to generate electricity and since water is the initial source of energy, it is called hydroelectric power.

The system works as the air balloon lifts the mesh surface at mid-level clouds near the dew point in the troposphere, (dew point where the temperature at which water vapor begins to condensate), for the current atmospheric conditions, it is typically (2-3 km). Then, the moisture content in the atmosphere will condense on the mesh surfaces. After that, through the drainage system, collected water will flow from the above to the surface and it will be divided into two sections. The first section of water will be a clean source of water and the second section will be used to produce electricity. At the end of the penstock there is a turbine, which is turned by the moving water. The potential energy of water, as it falls down, is converted to shaft work produced by the turbine and then it is converted into electricity through the generator. Power lines are connected to the generator that carry electricity to homes. This system can be used in any convenient place just by lifting the air balloon.