Harvest water from air without electricity or fuel

Obtain potable water without contributing to global warming.

XDOBS.COM LLC 800-658-8745

The XDOBS Night radiant A2WH system condenses water out of the night air using blackbody radiant cooling techniques which allows our system to operate without requiring the electricity hungry compressor used in most chilling designs and without energy intensive heating cycles required by desiccant and salt based designs. It is the only system designed to produce a net surplus of energy during operation. By eliminating the need for large amounts of electricity this system can deliver the water needed without releasing 0.2 to 0.8 pounds of carbon dioxide per gallon common with other Atmospheric water generators. This system is renewable because it utilizes the energy differential between the earth and the cold of space present in the night sky this energy can be harvested every night when there is a clear view of the stars and can be produced in large scale.

Our radiant cooling strategy regularly obtains nighttime temperatures 8F to 20F below ambient at our test site in Utah while our proprietary optimized air flow system is used to produce more water on more nights and allow operation in a broader range of environmental conditions than possible with previous dew harvest designs.

It is specifically designed for humid regions where ambient dew point is within 8.0F of the ambient temperature at 10:00PM. This system tends to work best in areas with high humidity but it can work in any region and all seasons even the driest desert when combined with an enriched humidity stream such as produced by greenhouses.

The Night Radiant A2WH system is manufactured in 100 square foot units and in ideal weather conditions each unit will produce between 2 to 4 gallons per night. It requires no external fuel or electricity and has almost no moving parts. About 15 watts of PV per 100 sq foot is included and is used to operate the onboard microcontroller. It requires a clear view of the night sky unobstructed by trees or buildings. It operates best when the skies are clear but can operate with a moderate amount of cloud cover.

This is much less expensive than using solar powered electricity with the electric powered units. The ratio of savings increases rapidly especially when installed in industrial scales over 10,000 gallons per day. Comparable electricity driven systems would be combined with sufficient PV solar panels to provide all needed power. The Electric systems claim to consume between 0.6 and 2KWh per gallon of water produced. At 0.6KWh per gallon it would require 1.8Kwh to produce 3 gallons. Assuming a 6 hour sunlight day 300 watts worth of solar panel should provide 3 gallons of water per day. Please contact us with empirical cost and actual energy consumption feedback from people who have field tested the electric systems using PV for power.

One of the waste products of our system is dehumidified chilled air which averages 5F to 15F below ambient. For roof mount systems this air could be ducted into an air exchange system and may reduce the amount of air conditioning needed during PM hours. We hope to get obtain adequate telemetry data over the next year to determine how many air conditioning hours could be eliminated in which areas. This cold air will eliminate enough air conditioning hours to help justify the cost of the system in USA markets.

We have historically focused on systems capable of 3,000 to 50,000 gallons per day and are researching viability of a 6 to 10 gallon per day system available for the USA market intended for rooftop installation in the humid gulf coast states. We hope to see interest in coastal areas where people need a source of potable water to survive after a major disaster knocks out both power and water. To obtain reasonable production costs production must be ramped up into the range of 100,000 square foot per month. We are currently conducting research to determine if there is sufficient market demand to consume that amount of product and what price point must be reached to obtain this volume. We must be confident of selling 400 systems per month before investing in a production line for these small units. In particular we are attempting to determine what price point would be needed in various markets world wide at that volume. A particular concern is which channels would be best for distribution? Any feedback or advice would be greatly appreciated (joe@xdobs.com).

Thanks, Joe Ellsworth

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