



2010

## MASSACHUSETTS CLEAN TECHNOLOGY AWARDS

A Program from The Foresight Project Inc; [www.theforesightproject.org](http://www.theforesightproject.org)



Region II: Central  
Massachusetts

Yusuf Abdelkader: Alhuda  
Academy, Worcester

Clean Tech: *Solar-Powered  
Water Desalination*

### About Me:

I am the youngest of three brothers. I am 14 years old. I love to play sports, especially basketball. I also like to play video games with my friends. I also enjoy building things, and trying to figure out how things work. I have attended Alhuda Academy since kindergarten, and will graduate this year from middle school.

### My Project:

Many places in the world do not have access to fresh drinking water. Although salt water is plentiful, fresh water is very scarce.

Desalination plants offer treated fresh water, but the cost is very high. I set out to investigate if there could be a cost effective way for families to treat their own water to make it suitable for consumption. So I came up with a design and a slight alternative.

In my experiment I tried to figure out which design of a solar powered water desalination device could produce the most adequate quality and quantity of fresh water. The device was made from readily available materials, and the quality of the water was measured by testing the water pH and conductivity levels. I found that it is possible to desalinate your own water using solar power; the design with aluminum foil in it proved to produce a higher yield with regards to volume of water. The quality of the water was comparable between the two tested designs.