



2009

MASSACHUSETTS CLEAN TECHNOLOGY AWARDS

A Program from The Foresight Project Inc; www.theforesightproject.org



Region II, Central MA
CleanTech Award:

Kareem Abdelkader and
Fatima Vakil,
Alhuda Academy,
Worcester

"Which Shape of Blade
is Most Effective for
Wind Turbine?"

ABOUT US:

Kareem has 2 brothers, loves to play soccer and basketball. Kareem is president of the student body of Alhuda Academy; he also led his debate team to win the debate match. He placed in AMC-8 (American Math Competition) at the school level, as well as the school spelling bee, and state science poetry contest.

Fatima has 2 brothers, with a 3rd one on the way, loves to read and do beading for jewelry. Fatima has won numerous awards including American Math Competition (AMC-8), National Geographic Bee, Letters About Literature, Spelling Bee, and many others.

OUR PROJECT:

The project examined different blade designs/ shapes on wind turbines to see which design will produce the most electrical output, as measured by a multimeter. The students examined 5 different designs, some which are common commercially, while others were of their own design.

They constructed a wind turbine from a kit. Then, they designed and made the 5 different blade shapes; tested them using a multimeter and a resistor to measure the electrical output. They utilized a variation of Ohm's Law to calculate the electrical output.