



# MASSACHUSETTS CLEAN TECHNOLOGY AWARDS

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



## Middle School Clean Tech Awards:

Region III: Southwest MA  
Award Winner:

Ian Chaney, Holy Trinity School, Fall River

*"Static Electricity – Renewable Energy?"*

My Name is Ian Chaney and I am a seventh grade student at Holy Trinity School in Fall River, MA.

I enjoy baseball, both playing and watching it. The Red Sox are my favorite team and I watch them as often as I can. I recently went to Holland to participate in the Youth Friendship Games as a People to People Sports Ambassador. I enjoy traveling and learning about new countries and the food they have there. I enjoy just being outside and spending time with my friends. I am a Star Boy Scout working towards my Eagle Scout badge and hope to achieve this before I am 14 years old.

I live with my Dad, my Mom and my dog Snuggles. During the winter I shoot competitive archery with an Olympic recurve bow and recently placed 7th in the Northeast Regional National Tournament for my age group. My favorite subjects are science, math and computers.

### MY PROJECT:

I got the idea to make a project on static electricity when I touched someone and I got a spark. I wondered if I could store the spark and reuse it as a form of renewable energy.

The procedure I followed was to first I created 3 different types of static generators: The first was a simple static tube using a 3 foot piece of 1/2 inch PVC pipe and a cloth. The cloth was rubbed up and down the pipe over a Leyhen jar; the static electricity jumped to the jar and was stored in it.

Next was an electrophorus generator using Styrofoam plates, Aluminum foil on a piece of cardboard and a cloth; the process for collecting and storing the electricity was the same.

The last generator I built from a six inch section of 4 inch pvc pipe with a handle on top acting as a "drum"; a 1/2 inch PVC pipe inside, wrapped in a cloth; a screen; and a copper pipe. This generator works by the 4" PVC pipe "drum" spinning, creating friction against the cotton cloth. The friction creates static electricity which jumps from the drum, to the screen, to the copper



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pipe and then to the Leyden jar. This is very simple to use. All you need to do is turn the handle. When you do this, the drum rotates as I said before, creating friction. When the static gets to the Leyden jar, the jar stores it.

I then discharged the Leyden jar and measure the voltage. Static electricity is high voltage and low current.

All techniques worked well, but the electrophorus worked the least well, and the best charge came from the first method with the simple three foot pipe.