

Harper Age 9 Kinetic Energy Converted to Electromagnetic Energy

Hi my name is Harper and I am nine years old. I am a student in Year 4 at Appin Public School. I have entered the Snowy Hydro Energy Competition because when I'm older, I don't want the world to be destroyed. I want to do something to help save our planet.

What problem am I addressing?

At the moment we are burning and wasting fossil fuels to power our lifestyle. This makes me feel pretty bad because Earth is being destroyed while we just sit on the couch eating popcorn. I want to make a difference so I've come up with an idea.

What's my idea?

I am going to take advantage of rain, gravity and electromagnetism to generate free, and clean electricity. My idea is to harvest electricity from rainwater which can fall at any given time on any given roof on any structure in many places in the world.

My idea is a low cost, easily managed and maintained system which carries potential energy to generate small amounts of electricity which can be accumulated and stored in batteries for the purposes of selling back to a commercial utility power grid or kept at the business or residence for occupier use.

The units themselves will be deployed in a manner which can see upwards of 50 units fitted to a standard 3 bedroom house or tens of thousands, servicing a large commercial building, for example, a factory or sports stadium.

The units themselves follow a very simple design principle which will be made from 100% recycled plastic, will be made in a very simple manufacturing process, leading to low consumer startup and ongoing costs therefore making it affordable and accessible by all income classes of the world.

How will it work?

The plan will see turbine units placed inside a specially designed downpipe.

As we all know, in a rain event, water is collected on the roof of any structure.

This water is then channeled into the roofs gutter systems, and onward into the downpipes for expulsion into existing stormwater systems.

I plan to place multiple turbines in the downpipes and magnetise them by placing small polar opposing magnets on the blades of the spinning turbines and also inside the wall of the pipe.

As the water falls down the drainpipe due to gravitational pull, it will force the turbine blades to rotate, the magnets will pass each other but not touch, thereby creating an electromagnetic discharge. This discharge is then captured and transferred to batteries for later use.

I will be able to change the future with this amazing invention because my system is using renewable and clean energy. I want to help build a sustainable future for my generation and beyond.