

Currently, electricity is generated mostly by fossil fuels which is polluting our planet creating all types of health and environmental issues. What can we do about it when we need electricity for our daily life. Besides solar, wind, and nuclear, a new promising technology is emerging.

Triboelectric Generators are the way of the future for power generation. Over time it will power the world. Triboelectric generators that convert motion into electrical signals. As electrical signals can also detect motion, developers have imagined self-powered touch sensors, heart rate sensors or respiration sensors powered by the heartbeat or breathing. The generator has also been placed in the ocean and gains power through the splashing of the waves. The invention of triboelectric nanogenerators by Zhong Lin Wang in 2012 inspired around 5,000 scientists all over the world to research this amazing technology. Triboelectric Generators are complicated in how they work., The generator gets its energy for static electricity. The presence of static electricity is caused by an imbalance between positive and negative charges in an object. For example this is how a thunderstorm works or how rubbing two balloons together can give a shock. It is generated when materials rub against each other. According to research writer Michael Le Page, each generator produces very little electricity and therefore, to produce a lot of electricity thousands and thousands of generators are put side to side and are attached to a wire then placed inside the ocean. According to nature.com There are several parts that make up a triboelectric generator. First two parts are the charge generating layers one on top and one on the bottom. When force is applied these two layers touch they generate electricity and the charge trapping layer stores the electricity. The generators can power many small electronic devices. It can be used on the floor to detect pressure from our feet. The generators can also be used in a medical sense to detect if anything is wrong. Now that I have explained the ins and outs of Triboelectric Generators, the question is does the generators have any potential. According to Georgia tech research a 1 by 1 meter Triboelectric Generator can produce 300 watts in theory if put in the ocean. To put it into perspective the average tv only needs around 60 watts to function. However because the generators are in very thin sheets it is very cheap and could be easily stacked. Scientists are still finding new ways to make it more efficient as this generator has a lot of potential. In my opinion the generators are only good in the ocean where they have constant pressure and very rough waves. Outside the water they can't be normally stacked and won't be pushed all the time. I don't think they will produce enough power to be useful. Triboelectric Generators are a very useful power source and can power devices so that they don't need to be connected to a power line. It can also be put in the ocean and they are very cheap, work 24/7 and they are eco friendly. Scientists are still creating newer and better versions of the generator. They gather power through harnessing static electricity through on and off pressure. In the end they have a lot of potential to be a new power source in the future.