Sustainable Gutter Water Energy

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Electrical interruptions plague St.Croix and many other Caribbean locations. St.Croix averages two electrical interruptions per property a month. A way to mitigate those interruptions would be sustainable energy right outside your property. The project identifies the common downspout on an average Caribbean property and harnesses the ability to generate electricity from the rainwater that travels through drain spouts. I created a prototype to capture and develop rainwater into sustainable electricity by inserting a small inexpensive 12-volt generator. The tests were done by using two water containers and pouring them through the prototype, simulating a rain event. The electricity from the generator was measured by a voltage meter determining how many volts are being produced per pour. Max volts on each pour were identified and an average was calculated for the test; 0.48 volts. Problems that occurred during testing included glue and caulking failures; the water containers could not simulate natural rain events; and how the water would flow through the generator.

Awards Won: