



Top Five Cool Renewable Energy Projects

November 30, 2013 / R201311007

Gadgets, libations, installations and even a documentary are proving that renewable energy entrepreneurs are working hard to make our lives better in every way possible.

As chief editor of RenewableEnergyWorld.com, I read and hear about a ton of developments in the renewable energy industry. I would guess that our newsroom receives in the neighborhood of one thousand press releases each month. Our small team of editors does its best to cover as many pieces of great news as we can, but alas, we can't get to them all.

Every once in while, however, I end up with a handful of small, interesting news tidbits that I'd like to share with you, our readers, because I think that like me, you'll find them pretty cool. So without further ado, here's are this month's *Top 5 Cool Things in Renewable Energy* that I've heard about lately.

5) Solar-powered Toilet



In 2011 the Bill and Melinda Gates foundation announced the Reinvent the Toilet Challenge with the intention of bringing sanitary human waste removal systems to the 2.5 billion people worldwide who don't have access to safe and affordable sanitation. A team from the California Institute of Technology was awarded a grant by the foundation in 2012 to develop their solar powered toilet prototype.

This week, kitchen and design behemoth Kohler announced that it would be supporting that Caltech team in its efforts. Caltech's system includes a self-contained water purification and disinfection system that allows water to be reused and does not require wastewater disposal. Kohler is joining forces with the university to provide plumbing products and design expertise to the Caltech team, as well as on-the-ground technical support for the system's field trial in India.



"It is exciting and certainly an honor for us to work with the Caltech team, who are true pioneers of their time," says Rob Zimmerman, Kohler Co. sustainability marketing manager. "Kohler is known for pioneering innovative products and helping to advance technology, and through the Gates Foundation challenge, we get the opportunity to support others in their efforts to push traditional systems to a new level."

4) Sausage Farm Goes Energy Independent

New motto: Established 1937. Energy Independent in 2013



What's that old adage about not wanting to see how sausage is made? I don't remember exactly how it goes but I'm sure I agree with it. In the case of Wampler Farms, however, at least the sausage is made with 100 percent renewable energy.

I met Harvey Abouelata, President of ARIES Energy at [Renewable Energy World North America Conference](#) last week and he told me about his latest project with Wampler. ARIES Energy served as the integrator of a biomass-to-energy gasification system that was the first commercial application of a Proton Power Inc (PPI) system in the world.

PPI's renewable energy system produces hydrogen on demand from biomass and waste sources. This technology, referred to as Cellulose to Hydrogen Power (CHyP), is ideal for clean energy applications such as distributed or central-station electrical power generation, hydrogen production or producing synthetic fuels such as renewable gasoline, diesel and aviation fuel, according to Abouelata.

This project uses locally grown switchgrass as a feedstock to produce power from the hydrogen on-demand system. The PPI system is supplemented by a 530-kW of solar PV array that was installed in two parts, first in 2009 and then 2011.

Wampler Farms is now net-zero grid-connected; producing clean renewable energy that provides its entire base electrical needs. You can see an interview with [Ted Wampler, Junior on the local Tennessee news channel](#) about the farm's solar array.



3) Solar-powered Vodka Distillery



Yeah, that's right, vodka. And it's on Hawaii, too. About two weeks ago, I received a press release from [Ocean Vodka Craft Distillery](#), a family-owned craft vodka distillery located on Maui. If the picture alone doesn't do it for you, then how about this: the vodka is distilled from organically-farmed sugar cane and blended with deep ocean minerals from water sources from a depth of 3,000 feet off the Kona Coast, according to the company. Apparently there is also a martini-lovers garden on the premises that features Kula Lavender, local citrus, passion fruit, pineapple and strawberries. Yum.

So why did RenewableEnergyWorld.com get the press release? The entire operation is powered by a 61.2-kW solar PV array. According to the company, the distillery and facility receive 100 percent of their power from the solar PV and battery backup, which went online in December 2012. The system uses SolarWorld panels and K3 Energy Solutions LFP (lithium ferrous phosphate) batteries. Two Princeton Power System inverters round out the system.

Vodka on Hawaii with solar PV and organic gardening? What's not to love?

2) The Driblet: A "Pico-hydropowered" Water-saving Device

I've written before about my personal interest in energy efficiency. Our 250-year old home has gone through two energy audits and retro-fits, sports super efficient windows and [The Nest](#) digital thermostat that syncs with our smart phones. I like this stuff. That's why I was particularly interested when I heard about The Driblet, a small, wireless device that attaches itself to the pipe that connects your water supply to your showerhead or your facet or hose and measures how much water you use.



The Driblet has its own app and syncs to your smartphone so you can monitor and even control the amount of water being used wherever it is in place. You can also monitor the temperature of the water, thereby watching your energy use, too.

I can already envision my husband setting up an alarm on his phone and then yelling upstairs to my teenaged son when he's in the shower: "That's it! Turn it off!" after he's used whatever we deem to be an acceptable amount of water for a shower.

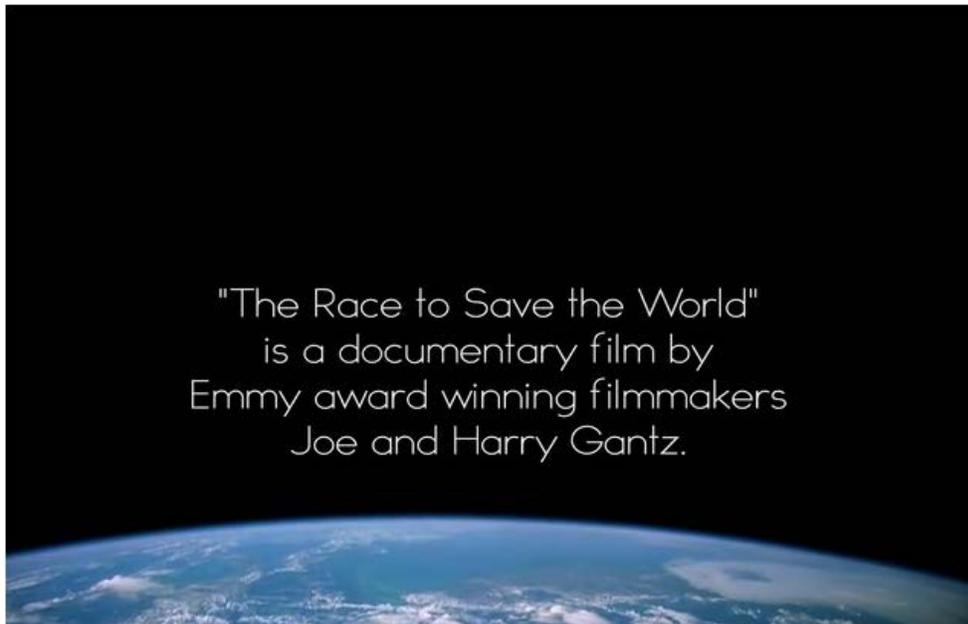
The coolest part about the Driblet, to me, is that it doesn't even use a battery. The water flowing through it gives it enough power to operate. A hydro-powered device that helps monitor your water use is pretty cool stuff.

For all of you wondering about how The Driblet could be used in conjunction with solar hot water, I asked about that, too. For now, the company has no plans to integrate The Driblet with solar water heating systems but perhaps that's a partnership that will happen in the future.

[You can watch a video about The Driblet on this page](#) and even become a project backer if you wish.

And finally, it's

1) The Race to Save the World



Who doesn't love a great documentary? Award-winning filmmakers Joe and Harry Gantz from View Film reached out to RenewableEnergyWorld.com to see if we would help them promote a kickstarter campaign for a new documentary they are creating. The documentary features four passionate renewable energy entrepreneurs who are literally putting everything they have into their pre-commercial projects, which range from low-impact hydropower to concentrating solar using inflatable collectors.

Not only does the film showcase their incredible inventions, it also shows just how difficult it is to get a new idea into the marketplace. With interviews from friends and family members, the documentary is not an attempt to preach about climate change. Instead the filmmakers chose to focus on what they call life-in-progress storytelling:

Our goal is to use the Emmy Award-winning style of filmmaking that the Gantz Bros do so well (Taxicab Confessions/HBO's American Winter) to personalize the absolute hell and personal sacrifice clean tech innovators (and their loved ones) go thru trying to commercialize prototypes that we should be demanding become available to us. Seeing what drives these heroic inventors and getting a peek at their commitment is what will hopefully inspire the only thing that is missing in the fight against global warming today - the willpower to use and demand the solutions that exist right now.¹

¹ The source: <http://www.renewableenergyworld.com>