Living Energy Farm
August, September, October 2020 Newsletter

The Living Energy Model in Jamaica

"Jamaica is on fire!" -- those are the words of our friends in Jamaica who have received LEF's solar energy kits. We have sent 2 shipments of solar kits so far (10 kits in July and another 20 kits in September), which are being distributed by The Source Farm (www.thesourcefarm.com), an ecovillage and educational center in St Thomas, Jamaica. Grid electricity in Jamaica is not available in all areas. Most of the electricity is stolen, and many people die trying to tie illicit wires to the transmission cables. The Jamaica power company dramatically increased their rates just before our solar kits arrived. Even consumers who use very little electricity are being asked to pay the equivalent of hundreds of U.S. dollars per month for electricity service. There has been, so we are told, a tremendous uproar. The "Jamaica is on fire" comment means people are very excited about alternatives to grid power.

Building and teaching to build durable solar kits in Jamaica.

In addition to distributing lighting and charging kits, we are helping folks from The Source Farm to set up what may be the first commercial scale daylight drive facility outside of LEF. The facility will process breadfruit and other locally grown produce into "value added" products using direct photovoltaic power, as we do at LEF. Breadfruit trees are highly productive plants, something like plantains in producing a starchy fruit that is quite nutritious. The problem is that raw breadfruit does not store for long, and farmers everywhere struggle to make a living selling only bulk products. The breadfruit project in Jamaica intends to dry and grind breadfruits to make breadfruit flour that can be stored and made into myriad products. We are working with several organizations, including Trees That Feed (.org), which has set up numerous breadfruit flour processing facilities in tropical areas around the world. They were excited to learn about our daylight drive systems. After a good deal of consultation and research, we have located a suitable shredder (for the fresh breadfruit) and grinder (to grind dry breadfruit) and are modifying them to run on DC power. The equipment we are putting together is heavy-duty, commercial grade – very durable tools.

We are very excited about both of these projects. We have been saying for years that if people worldwide understood the durability and low running cost of our DC Microgrid, it would spread far and wide. Once other people see these machines running in Jamaica, they will want to run their machines to run the same way. If you look at how much people pay for electricity all over the world, the highest rates are on islands where they have to import all their fossil fuel. But they often have lots of sunshine! The simplicity of running DC motors straight off of solar photovoltaic panels makes our methods very effective, and the conversion is often not difficult. Many woodworking, metal-working, or stationary agricultural machines are belt-drive with AC motors. We just pull out the AC motor and put in a DC motor. Some modern equipment has "direct coupled" motors – motors bolted right to the

machine, no belt or pulleys involved. Those conversions are harder to figure out. With the Jamaican project, we spent some time looking into options. Hobart is the big brand name for commercial food processing equipment. But they use very specialized, expensive AC motors that only fit their tools. Then we found another maker – Univex – that uses standard frame motors (frame means size in electric motor world), and that's what we are setting up for Jamaica.

Nicola from The Source Farm with an elderly recipient of one of our solar kits. Nicola is holding a solar powered light bulb.

The daylight drive side of our DC Microgrid is a lot simpler than the battery side. Our battery powered kits are very small, and it can be difficult for people to understand their limitations. Efficient 12V DC equipment has to be available to use these kits, and heavier appliances like refrigerators must be powered separately. We spent a few thousand dollars researching a half dozen light bulb companies, and then brought in good quality bulbs that we have been sending to Jamaica (and elsewhere). We tell people to get "car chargers" for their electronics. That works great. We spent some time and money importing DC fans, and found one that we really like. We have not spent the thousands of dollars that it would take to bring in a larger shipment (to bring down the per-unit cost).

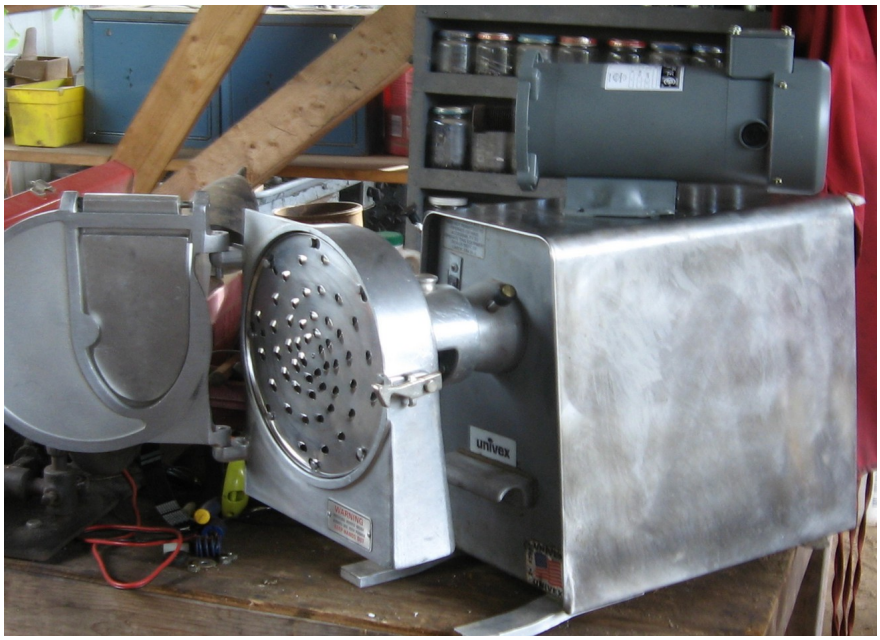
We have been researching other appliances as well. The Sundanzer refrigerator we use at LEF is great, but costs around $1,000. Our clothes washer at LEF is homemade – not an answer for other folks really. People in Jamaica, just like people in the U.S., want refrigerators. Should we spend time and money trying to bring in cheaper model(s) from China? We have found one that might work. We have not found a DC clothes washer that appears to be durable.

Durable solar power in rural Jamaica.

To bring in nickel iron batteries from foreign suppliers, we have to bring in sizable lots. The same is true for all of the DC equipment we use, especially the residential appliances. If you add up what it costs to buy bulk lots of batteries, light bulbs, fans, refrigerators, and

washing machines – that would be quite a sum. We are trying to figure out our strategy, financially and otherwise, going forward in Jamaica. Our DC Microgrid makes grid power unnecessary, but figuring out the best way to make that happen with limited resources is a challenge. Jamaica feels like the best opportunity we have had to grow our energy ideas.

The bottom line is that we want to spread our energy ideas in a context that supports more sustainable lifestyles, not just sell machines. The machines we use, and the ones we are sending to Jamaica, run without coal, nuclear power, fracked natural gas, or industrial renewable energy systems. That's a big issue. In the bigger picture, to run appliances without fossil fuel (never mind the greenwash about "carbon neutral"), we have to find machines that work. The durability, repair-ability, and labor conditions connected to other machines leaves us with some complex questions to answer.



Commercial grade Univex chopper/ shredder, on its way to Jamaica. The grey motor on top is the DC motor that will go inside the enclosure to power the unit.

The Source Farm has an ideological approach very much the same as ours. We have nothing but the highest respect for their work. We have gotten donations from people who have explicitly told us that they want us to use their money to grow this model in other parts of the world. That's what we are doing. This is a very exciting time for us.

Biogas

When we can find the time, we are sneaking in an hour or two here and there to make our new, larger biogas digester. We have installed most of the plumbing. We will probably coordinate wrapping it in strawbales at the same time we are wrapping straw around Magnolia House (the house in Louisa we are taking off-grid). We are hopeful that the new biogas system will not only give us biogas for cooking year round, but also fuel our small tractors (maybe). Our friend in Missouri Kris Ward continues to guide us in finding the right equipment. A lot of forklifts run on propane because it burns with less noxious fumes than gasoline and can thus be used indoors in warehouses. Using forklift propane fuel tanks and a natural gas carburetor should work on a small tractor, we hope.

Magnolia House

Magnolia House is a house in Louisa that we are taking off-grid. We have been using it as housing for LEF. We are hoping it will serve as front door for LEF, and as a more accessible educational venue. We had to do some footing work and repair some water infiltration issues. That was the worst of the project, and it's done. We have to box out the windows. Then stacking and stuccoing straw bales will go quickly. People often ask us, with some trepidation, about dealing with building inspectors. When the inspector came to look at our strawbale footings (more of a knee-wall really), he got very excited about straw bales. "You know, straw bale walls have a better fire rating than wood-frame walls insulated with fiberglass," he told us with great enthusiasm. We concurred.

Ending the Use of Facebook

It has been clear for a while that the management of Facebook has reactionary leanings. It has become clear more recently that Facebook is using its very powerful platform to try to strangle alternative news media outlets while advancing racist organizations. A story about that issue is here https://www.democracynow.org/2020/10/29/ari_berman_mother_jones_facebook_censorship Living Energy Farm will be deleting our Facebook accounts shortly. Please communicate with us through other means.

Food and Farming

We doubled our seed production this year, as well as growing a lot of food to eat, including grains, vegetables, and legumes. It was a very busy agricultural season. With the huge upswing of interest in gardening this year associated with the pandemic, there was a shortage of organic seeds. We grew and harvested as much seed as we could, knowing we could sell pretty much anything we grew. The harvest is largely done now, and it's nice to be able to relax a bit. We are still processing: shelling okra seed, threshing and winnowing lima beans and peanuts. Each year is different, and each year we learn new things. This year was challenging, as is the new normal. A late hard frost wiped out our spring potatoes. We had a drought in the early summer, then intense thunderstorms that knocked down much of the corn. Even with all that, we had a moderately good year. Most of our vegetables did well, and we had our best harvests ever of peanuts, wheat, lima beans, and sweet potatoes.

New biogas digester. The big pipe is for material going in. The smaller pipes are for liquid effluent coming out (which makes great fertilizer).

Our winter grain no-till (planting wheat without tillage) has worked pretty well, though we are still trying to figure out how to improve yields. Organic no-till has huge potential advantages, but weed control is a challenge. Given the numerous varieties of seeds we grow, as well as most of our food, our farm involves some complex planning. As we accumulate experience, we can hopefully do more and more organic no-till in the future, and contribute to that movement.

Children, Beavers, and What Not

We are enjoying a fantastic harvest of persimmons, kiwis, muscadines, jujubes, and a few figs and what not. We started an orchard at Magnolia, which is coming along. That orchard has better shelter from extreme weather than LEF proper. We named our children, Rosa and Nika, after Asian-American cross persimmons – Rosseyanka and Nikita's Gift. There are several more Asian-American persimmon crosses available now. Last year we grafted some of those, including Kassandras. This year – one year after being grafted! – we have two Kassandra trees that have set a considerable load of fruit. Incredible that they would come into full production so quickly. They are an earlier persimmon than Rosseyanka, more similar to the Nikita's gift, with some more density and seeds like an American persimmon. Very sweet though, like Asian persimmons.

Concrete, gravel and insulation will support strawbales on Magnolia house. This the hard part. From here, it's easy, and it means the house will stay at comfortable temperatures for decades to come.

We have been bringing in interns, albeit at a slower rate than pre-covid. They do a two week quarantine, working with us in the fields, then they can join us at our main residence. We continue to have some great folks coming through. We have been giving a few "social distance" tours, though at a much reduced rate than pre-covid. The kids are great. We have two creeks at LEF. The larger creek at the back of the property, called Gold Mine Creek, has had a resident beaver family for years. This year the beavers have expanded their activity. It's always been hard to get to Gold Mine Creek, but we recently cut a foot path down to a really nice swimming hole there. Just in time for… winter. Well, we will have fun next summer. We are continuing to bring in potential new members, using the same quarantine approach as with interns. Our life is good, more exciting than ever, with the potential growth of our ideas, and the fruition of many things. Please support us if you can.

Living Energy Farm is a project to build a demonstration farm, community, and education center in Louisa County that uses no fossil fuels. For more information see our website www.livingenergyfarm.org, or contact us at livingenergyfarm@gmail.com or Living Energy Farm, 1022 Bibb Store Rd, Louisa VA, 23093. Donations to the Living Energy Farm Education Fund are tax deductible.

Articles and videos about LEF:

How to Plan a Garden

https://www.youtube.com/watch?v=JT0qXD3m2AE

Cutting Firewood With Daylight Drive Solar Power
https://www.youtube.com/watch?v=mMwwZj8DxjE

Electrolyte Mixing for Nickel Iron Batteries
https://www.youtube.com/watch?v=ZAjlHN4oL_E

How to Never Pay an Electric Bill
https://www.youtube.com/watch?v=N5Wk7inoIxI&t=201s

This video is a walk-through of our energy systems at Living Energy Farm. It is a concise summary of how these systems work, and why they are not in common use already.

Solar Installations In The Navajo (Dine') And Hopi Reservations, March 2020
http://livingenergyfarm.org/solar-installations-2020/

This is a photo essay about our project to bring durable solar energy systems to the Dine' and Hopi Reservations, where thousands of people live without grid power involuntarily.

Living Energy Farm's Climate Justice Campaign
http://livingenergyfarm.org/support-our-climate-justice-campaign/

This is an updated web page describing our broader social justice ambitions.

Virginia Homegrown created a program at LEF (the LEF part starts at the 29 minute mark in the program)
https://www.youtube.com/watch?v=MDGP0C9MIzU

International Permaculture has done 2 articles on LEF. One is in issue #93, Autumn 2017, and the second is in issue #94, Winter 2017. See https://www.permaculture.co.uk/

Article about LEF at the Atlantic Online Magazine
https://www.theatlantic.com/politics/archive/2017/01/anarchism-intentional-communities-trump/513086/

Article about LEF in The Central Virginian
http://www.livingenergyfarm.org/cvarticle.pdf

LEF on CNN
http://www.cnn.com/interactive/2015/09/us/communes-american-story/

Cville weekly in Charlottesville VA
http://www.c-ville.com/off-grid-model-environmentalism-made-easy/#.VcHobF054yo