

Living Energy Farm
November - December 2024 Newsletter

Living Without Fossil Fuels on Agrarian Futures Podcast with Alexis Zeigler

A new podcast is out about Living Energy Farm. Here is the promotional text from Agrarian Futures:

“It’s easy to feel powerless in the face of climate change. But where can we find models for living in harmony with the planet—before it’s too late? Alexis and the community at Living Energy Farm are doing just that: building a self-sustaining, non-extractive way of life that is energy independent and sharing their knowledge with others.”

“Alexis brings a unique blend of practical, technical expertise and a deep philosophical vision for restoring our spiritual connection to nature—and to one another. These themes are at the heart of this show. If you’re seeking grounded hope and a climate-resilient model for living, we think you’ll find this conversation inspiring.”

Living Without Fossil Fuels on [Spotify](#) and [Apple Podcasts](#).

Direct Drive DC Microgrids in the Caribbean

Debbie and John are preparing to return to Puerto Rico in the second half of January, where they will be doing two new installations, checking up on installations from previous years, and doing a few events and workshops. In March, John and Lucy (our solar installer friend who has been distributing small solar kits from LEF in flood ravaged areas of North Carolina) will be traveling to Trinidad to install DC equipment at Wa Samaki permaculture center. Debbie is currently in communication with the Wa Samaki team to design their DC Microgrid and can get equipment to Trinidad in time for John and Lucy's trip. On the Trinidad end, the work is being coordinated by Rodjé Malcom, a friend of ours from Jamaica who has helped with work there as well. The Wa Samaki projects will probably be a low voltage system for a tiny home, and a solar water pump to supply the permaculture center with water for irrigation and fire suppression.

Biogas

For 13 years, firewood was the fallback fuel for cooking at LEF. Starting a rocket stove every cold winter morning, or burning lots of wood in an inefficient indoor wood stove, is not fun. We do what we can with Insulated Solar Electric Cookers (ISECs), but the ISECs can’t cook breakfast, and they can’t cook in heavily cloudy weather. We cook three meals a day for 8 - 12 people, year round. We have been upgrading our biogas for years. We have never made it all the way through winter on biogas. This year, we are going to make it. We have had heavy clouds for much of December, and temperatures at night as low as 10 F, with many days in the 40s F. That’s challenging for houses and biogas digesters heated with solar heat. But we have not lit a fire to warm our house. The digester needs to stay about 85 F ideally, though 80 F is tolerable. We are past the winter solstice, and the lowest tank



Deb standing next to our biogas storage bag. It’s solstice and we still have lots of biogas. We are very happy about that!

temperature we have seen is about 78 F. The modern focus on solar photovoltaic (PV) electricity is a monumental mistake. Solar hot water collectors are four times more efficient per square foot than PV panels. We could not keep our house, or our biogas system, warm with PV panels. But with thermal panels, we can.

We have had some trouble with fibrous material clogging up our input pump (a homemade invention of ours), but we have that worked out now. Otto is very diligent in taking care of Seymour (that's the digester), and now as we head toward New Years, we are actually gaining gas in our storage. Hooray!!!! Nothing in our 14 years of working on LEF has felt like such a positive change as being able to cook whatever we want whenever we want on biogas. We are continuing to work on the biogas tractor, though no big developments there recently.

Thank you Otto, thank you Seymour!

Easy Reapers and DC Microgrids in Ghana?

We mentioned in our last newsletter that our Easy Reaper went to the Borlaug Dialog at the World Food Prize in Iowa. (That's our simplified combine harvester for harvesting small grains.) We talked to a lot of folks there, including a lot of African business people. There are lots of people who think the project is a good idea. We did not find anyone in particular who owns a production facility who wants to make them in the U.S. We had hoped an American company would make them and we could make a fair return on the process. That is not going to happen at this time. There are several very small African companies, primarily in Ethiopia and Ghana, who are interested in producing them. Those will be produced under license with LEF, but not at any substantial profit to us.

As far as our DC Microgrid is concerned, it is clear that people who do not have ready access to grid power and propane/ natural gas like our renewable energy systems more so than wealthier consumers. If we could facilitate the spread of the DC Microgrid, we could make coal, nuclear, natural gas, and industrial "renewable" energy obsolete. Tropical regions -- where thermal demands are reduced -- would seem to be the "low hanging fruit." Add all that up, and Sub Saharan Africa would be the largest region on Earth for which circumstances are favorable for the spread of DC Microgrids.



Otto has taken diligent care of Seymour, our biogas digester, with good results. The green device in the foreground is a silage chopper we brought in from China. It is very helpful in preparing organic materials for Seymour.

It appears that the first Easy Reaper built outside of LEF is going to be built in Ghana. We are currently trying to figure out if we can plant a solar energy project there, something like what we have accomplished in Puerto Rico. It would certainly be convenient to work on both projects in the same locale. But Ghana is far away.

Would DC Microgrids serve unmet needs in Ghana for communities that do not have good access to energy? Could our conservationist model spread there, and to other parts of Africa? Everyone we talk to, Americans and Africans alike, has told us that it would be a favorable environment. But we don't really know how quickly the technology might spread, and how much we are able to put into a project in Africa at this point. If we do pursue that project, the first step would be a mission to talk to solar companies in the area. That could be a combined trip in which we also consult with the folks wanting to build Easy Reapers.



From left to right, Jefferey and Theo from Sayetech, a small Ghanaian company that makes small farm equipment, and Kerry, from the University of Missouri. They came to LEF to study the Easy Reaper.

Kerry Clark (who has been supporting the Easy Reaper project from the University of Missouri) has been quite successful working with African

businesses to enhance their ability to produce threshers and other farm equipment. Another person who has done that kind of thing is Katerine Putz, a German woman who has built an organization around helping small African businesses set up distribution for biogas systems (and *not* just give them away, which only undercuts local businesses). We would like to do the same thing with the DC Microgrid -- set up local solar companies to distribute the technology and the equipment.

Currently we are trying to figure out a realistic game plan for the coming months. We continue to consult with folks in Baltimore, as well as organizations local to where we live, about building Energy Independent Cooperative Housing. (Modestly priced housing built using LEF's technologies, see prior newsletters.) We continue to work on our various technology development projects (a direct drive washing machine, the Easy Reaper, and other direct drive appliances). We live at somewhere around 2% as much energy as the average American. We have a powerful set of technologies that could have global impacts. How we get more people to notice and support what we are doing, and help our technologies to spread, is not entirely clear. The total donations we get is usually around \$20,000 per year. That pays for materials mostly. Thank you very much to the folks who support us.

If you have any thoughts, resources, friends, or a willingness to work in Ghana or West Africa, let us know. We would love to see LEF grow to a larger organization with higher levels of funding. If you have any connections or means to help us make that happen, let us know.

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 Institute are tax

deductible. [Click here to make a tax deductible donation.](#) Make sure to designate your donation for *Living Energy Institute*.

Podcasts about LEF:

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[Socialist News and Views Special Interview: Integrated Activism And New Simple Harvester](#)

In this special we speak with Alexis Zeigler, a Founder of Living Energy Farm and Writer who published the book *Integrated Activism - Applying the Hidden Connections Between Ecology, Economics, Politics, and Social Progress*. Zeigler says he is a firm believer in individual and community self-sufficiency and self-determination.

Articles about LEF:

[Living Energy Farm: A Community Free of Fossil Fuels?](#)

By Guénolé Conrad, originally published by Low-tech Lab

[Direct Solar Power: Off-Grid Without Batteries.](#)

A lengthy, well-researched article by Low-Tech Magazine, based in France. The article talks a lot about optimal utilization, AKA “community is the magic bullet that makes renewable energy work.”

[Power Shift, Award-winning Living Energy Farm Makes Living Off-grid Sustainable.](#) This is one of the best brief summaries of LEF we have ever seen, by Matt Dhillon at Cville Weekly.

[Decolonizing Puerto Rico Through Solar Power.](#) By Megan McGee, published by Truthdig. An excellent review of our work in Puerto Rico.

YouTube videos about LEF:

[Cooking and Heating With Direct Solar Power \(No Batteries\)](#)

Lithium batteries can be the most expensive and extractive part of a solar system — costing \$8,000 or more. What if we could cook, heat, and refrigerate food, without them? This video by @sambutlerUS shows how we can start making transitions in our communities today.

[Solar Power Systems That Last Forever](#), focused on our solar powered kitchen.

[How to Never Pay an Electric Bill.](#) 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.

[How to Live Without Fossil Fuel \(Introductory Video\)](#)

[Powering a Community with Solar Electricity](#)

[The Best Way to Store Off-Grid Energy](#)

[Batteries that Last \(almost\) Forever](#)