Living Energy Farm
August - September 2026 Newsletter

LEF Land Day November 14

LEF will celebrate its 16th Land Day on Saturday, November 14, starting at 2pm and going into the evening. We'll have tours, a slideshow about ongoing projects, open mic performances, dinner and a dance party. Please join us! More details will be posted on the website in a few weeks.

Solar Work in Malawi

The Direct Drive DC Microgrid (D3M) developed at LEF has many advantages. With D3M, we conduct an analyses of needs rather than simply trying to supply bulk energy. We find the most efficient means of getting the work done with minimum energy inputs. At LEF we use direct drive solar- where appliances and motors run directly from PV panels, with no batteries and often no electronics- for all of our heavier electrical loads. This approach is simpler, cheaper, and much more durable than battery based solar kits.

Board of Directors of Ziwale, solar company installing direct drive solar with Pete Schwartz support. They are at Muzuzu Univeristy, Malawi.

We realized about 10 years ago that D3M could help low income communities all over the world. If D3M were pursued with adequate vigor, it could make grid power obsolete, at least in the tropics, and possibly far beyond. We have been supporting numerous resiliency focused organizations in the U.S., in the Caribbean, and now in Africa.

Our friends Pete (Fulbright Scholar from Cal Poly) and Ryan (electrical engineer from Cal Poly) have been working in Malawi to try to install D3M there. (They use the term DDS for Direct Drive Solar.) Pete is focused mainly on Insulated Solar Electric Cookers (ISECs), which he first developed. He is helping set up the manufacture of ISECs using mostly local materials in Malawi, including firing local clay pots on a solar kiln so they are not so reliant on imported metal pots. Pete and Ryan have also been working on DSO (direct solar optimizers). These circuits can improve DDS performance by 30% or more, and can help appliances run in low sunlight conditions when they would otherwise shut down. Pete has been setting up model solar kits that might be used in homes in rural Malawi. The idea is to use one photovoltaic panel to power both an ISEC and a charge station for phones.

Pete has also helped a few students from Muzuzu University set up their own solar company to install DDS systems called Ziwale Energy Solutions. This is a hopeful development in that D3M/ DDS is a cheaper, more ecologically benign form of solar energy. If the Ziwale team can make this work, then hopefully DDS technology can start to grow on its own.

This begs the question; lots of well-intentioned organizations are installing solar systems in Sub-Saharan Africa. Indeed, solar energy of various kinds is growing at an astronomical rate all over the world. What is so different about DDS/ D3M compared to all of that? The big difference is that almost all solar kits are battery based. At LEF, for example, we cook about 70% of our food with ISECs, using 8 solar panels, and no batteries. If we did our cooking with traditional solar, we would

need a huge battery set, and more panels, and still require backup for cooking in long cloudy spells. The use of batteries when it isn't necessary creates a pernicious incentive for designers to ignore efficiency, and for users to ignore weather conditions. In the end, the material footprint (and expense) of a battery-based solar system will be one or two orders or magnitude higher than providing similar services with DDS/D3M.

The solar installations in rural Africa supported by outside interests invariably involve putting small battery kits in each household. Many millions of dollars have been spent designing "microgrids" that connect each battery kit with wires from house to house and some very fancy computers that monitor the power needs in each house and share energy. This approach is very foolish in that lots of resources are spent trying to mimic AC grid power with little positive impact on improving the actual amount of work people can accomplish. Many engineers enhance their resumes by designing ever more complex load and communication controllers. The D3M approach just ties a wire from the PV panel to the load and that's it. Our approach is radically simpler.

Ryan with the Ziwale crew.

Solar in Kongoni Kenya

In our last newsletter, we mentioned the DC solar training that we conducted in Vermont. Our friend Ian Graham from Ontario attended this training. Since then he has begun working on setting up a D3M installation in Kongoni Kenya. There is a community of Quakers in Kongoni, and Ian is friends with some of the folks there. The community is not wealthy, and could benefit from some solar equipment for water pumping, grain grinding, cooking, etc.

Otto, David, and Sonya picking peanuts (Fluffles supervising). The last big harvest for this year.

One very attractive aspect of this project is that there happens to be a technical school very nearby. Ian has been working hard to organize the project. We have met (online) with the principal of Kongoni Technical College and they are enthusiastic about the Kongoni solar project. The current plan is that Ryan, who is currently in Malawi, will travel to Kongoni and help set up a plan for the installation. A team from Kongoni Technical College, with support from Living Energy Lights and Ian, will do the installation, and then use it as a demonstration from D3M. This project is very new but with the College's ongoing involvement, it seems likely we will be able to accomplish something substantial. Perhaps something like the Ziwale team can be created in Kenya.

LEF in the Catskills

September saw the United Nations Climate Summit and Climate Week in New York City. The main event focused on supply side “solutions” like industrial wind and solar. Activists in New York organized an alternative event, focused on resilience and responses to the metacrisis. We were able to participate in this alt-Climate Week by attending a “metacrisis salon” featuring Nate Hagens, who produces the well-known podcast The Great Simplification. The episode that Nate did about LEF last year brought more interest to us than any other media done about LEF. We were pleased to connect in person with Nate and the other folks at these events. Nate made a point of mentioning LEF several times when he was speaking to the crowd.

Also during this visit to NYC, we were introduced to a project to build an LEF style community in the Catskills. Our connection to this project is Chris Morello. Chris is a content creator with an impressive Instagram following, who uses his platform to promote community, and LEF technology in particular. He is friends with the owners of an 800 acre parcel of land in the Catskills who want to develop an ecovillage. Chris is very enthusiastic about building an LEF-style facility as the first development on the land. Fundraising efforts are under way, but this project is in its infancy, so we will keep you posted if it continues to go in a positive direction.

Biogas at LEF

Cutting a 7 foot swath of cover crop with a sickle mower and a 15 HP tractor -- fuel efficient farming in preparation for converting the tractors to biogas.

Biogas has made a huge improvement in the quality of life at LEF. Being able to cook anytime, without firewood, is great! We also want to run our small tractors on biogas. Our biogas digester is named Seymour. We have found that the best biogas food in terms of ease of availability and effectiveness (in terms of making gas) is green gas clippings from our front yard. Otto diligently mows the front yard with a direct drive electric lawnmower. Seymour loves the fresh grass. But fresh grass clogs a feed pipe easily. So after some years and an embarrassing amount of time messing about with different feeding processes, we have reverted to gravity feeding directly into a six inch pipe that goes directly into Seymour.

We have invested in an agricultural grinder from China to grind up the grass, along with a few more biogas bags to expand our storage capacity. We have also obtained a second smaller plastic tank, to build into a backup digester. Our goal is to have two digesters in operation so we can shut one down to clean it out. Seymour is definitely in need of an internal cleanout at this point as he has been in continuous operation for nearly five years now. Overall, we are in good shape to run the farm tractors at least fractionally on biogas next summer.

Woodfolk House in Charlottesville VA

Woodfolk House is a cooperative house in Charlottesville VA. Revenue from there helps support LEF. They have open rooms if you know anyone in that area looking for a place to live.

Farming at LEF

We are in the peak of harvest now. Harvesting is hard work, and we are finishing our road improvement project at the same time, which was perhaps not the best planning. It's been a tiresome few weeks, but the end is in sight.

The fruit harvest is meager this year because of late frost took out most of the crop, but our annuals did quite well. We grew Kentucky Rainbow corn, which is a beautiful multi-colored dent corn bred by Susanna Lien of Salamander Springs Farm. Despite some lodging caused by intense summer thunderstorms, the yield was quite good. We also had our best wheat crop ever, thanks to a very dry spring, and good crops of peanuts, black beans, Seminole squash and an abundant crop of sweet potatoes. We will be giving out Sweet Tater Door Prizes to those who want them at Land Day, so see you there.

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.
Living Energy Lights is the nonprofit outreach arm of our project. Donations to LEL are tax deductible. ***Click*** here ***to make a tax deductible donation to support our work. (That's the Living Energy Lights website, livingenergylights.com)***

Articles, Videos, and Podcasts about LEF are here. https://livingenergyfarm.org/articles-and-videos/