

## Living Energy Farm

### August - Sept 2015 Newsletter

#### LEF on CNN

In case you didn't catch that notice we sent out earlier, CNN posted an article about intentional communities with a couple paragraphs about LEF. See the end of the newsletter for the link.

#### What Would It Take to Get You to Join the Movement?

As LEF moves forward, we want to support the creation of a movement that enables people to live in a way that is truly sustainable. We have had many conversations with people about what that means. Some of these people have land and houses. What does sustainable community mean for you? We would like to know. On our website, [livingenergyfarm.org](http://livingenergyfarm.org), we have set up a comment section. Go to the [livingenergyfarm.org](http://livingenergyfarm.org) website, and you will see our survey linked near the top of the page, or you can go straight there at <http://livingenergyfarm.org/comments/guestbook.html>. We would like you to answer the question, what kind of sustainable village would you be willing to live in? What would it look like? What would your role in it be? Tell us about it.

#### Summertime, And the Livin' is Easy....

We have had a very full summer this year at LEF. We increased our seed production considerably, and we have managed to harvest most of it. We are still bringing in the last of the crops. In the early summer we even managed to keep construction moving along at a good clip. We have had a lot of great people come out to help us this year. When August hit, we felt the weight of our planting choices. ("Whose idea was it to plant so many #@\$\*#\$ tomatoes!" Like that.) We said goodbye to our summer interns and welcome Brie and Shawn who arrived recently.

We have managed to can quite a lot of tomatoes, pear sauce, and what not. And we have dried a LOT of food. Did we mention that we have the best solar powered food drier in the world? (See last newsletter.) We have been having a fantastic time drying all sorts of things -- okra, onions, pears, canteloupes, apples, peaches, tomatoes. How many canteloupes can you put in a one gallon jar? Twenty, if they are dried.

With some of our seeds crops, like okra, we can eat it green or let it mature and dry for seed. With some crops, like peppers, we get to eat the pepper AND save the seed. Thus we now have a LOT of dried peppers. We have a plan at this point to develop dried foods as a business. That should be lots of fun. We found this very nifty hand cranked food chopper. Not cheap, but it will cut a pile of veggies to ribbons with little effort. Maybe this fall, certainly by next spring,



*They make the babies work too hard on the farm. Nika just turned 1, happy birthday!*

we will have dried veggies to sell.

### **Cutting Firewood with DC Power**

At LEF, our favorite source of energy is DC solar power, run straight from the photovoltaics without any inverters or expensive battery sets. Our DC powered economy continues to develop. The most recent addition is a DC powered buzz saw. This kind of saw pre-dates chainsaws, and they are much more durable than chainsaws. We picked up one with a PTO drive, figuring we would either run it with DC power or a woodgas tractor. The full



*Rosa supervises winter squash sorting with Shawn, Marlisa, and Deb.*

horsepower output of our 1400 watt solar rack is about 1.5 horsepower. (6 panels, 30 volts each, in series for 180 volts, an industrial voltage so we can use over-the-counter industrial DC motors.) That's not much for spinning a big saw blade, but we hooked it up, and it works pretty well. Cutting firewood with sunshine, imagine that! The photo is below, and a quick youtube video can be found at <https://youtu.be/WdAbkyi-I4c> If you have ever visited LEF before and watched all the work that goes into dealing with firewood, you have to see the youtube video. It's very different from cutting wood with a bowsaw or crosscut saw. The buzz saw whacks through a chunk of wood in a fraction of a second that would take several tiresome minutes to cut with a handsaw. As our integrated community economy evolves, finding the right tools is really helpful. Clearly this kind of saw will be a big time saver, for us and for future LEFers. This kind of tooling would be very helpful in agriculturally oriented villages all over the world.



### **Zero Fossil Fuel Infrastructure**

With fall rumbling on the

*Cutting stove wood with solar power straight from our PV panels, MUCH faster than a hand saw, and with no batteries or inverters.*

horizon, we are picking up where we left off with all the projects it takes to make this thing work. It's a bit of a "chicken and egg" question as regards our housing and our zero fossil fuel technologies. If we had more comfy places for people to stay on the land, then it's easier to attract people to stay. But if those people come before the zero fossil fuel infrastructure is adequately in place, then they will likely become dependent on "short term" workarounds that in turn make it harder to do what we really want to do.

We have identified two priorities that really need to be in place (and aren't yet) simultaneously with the main house: the woodgas tractor and better cooking facilities. The CNN article that mentions LEF incorrectly says we have a woodgas tractor. It is more accurate to say that we have a couple tractors, and a pile of woodgas equipment sitting next to them. We are in the process of arranging a date. Let's hope they get along. We have been re-arranging our collection of farm equipment in preparation for this fruitful relationship. We traded our 1939 tractor named Eleanor (very sad to see 'er go...) for a 1960s vintage tractor named Rocinante, who joins Eeyore, also 60s vintage, among our iron steeds. The old '39 just wasn't going to work so well on woodgas, and we can't afford to shut down the farm while we fiddle with woodgas. So now we are set with one tractor to run the farm while the other gets married to a gasifier.

The other project for this winter is some better cooking equipment. We currently have two solar cookers (one parabolic, one oven), one rocket stove with a chimney, one rocket stove without a chimney, an old-fashioned wood cookstove, and a prototype biogas setup. Biogas has potential for us as cooking fuel, but we don't yet have the feedstocks to make a significant amount of gas. Solar cookers are fantastic, sometimes- without a way to store solar heat, cloudy weather can quickly shut them down, and solar cookers never work for breakfast except in June.

Firewood contains an impressive amount of stored solar energy, but cooking with wood comes with its own problems. There is a trade-off between efficiency and smoke in your face. A good chimney on your stove means a good draft, which keeps smoke out of your face, but also means less heat hitting the pot. Proponents of rocket stoves claim that with small, dry, uniform firewood, rocket stoves are super efficient and create no smoke. This is mostly true, but unfortunately we often run short of crispy dry toothpicks, and have to settle for less than perfect firewood. With real world fuel, rocket stoves make smoke.

There is a reason every home in America a century ago had a similar old-fashioned, vented cookstove. They weren't stupid. They were more than happy to lose some efficiency for the sake of keeping their eyesight. A lot of women nowadays in the non-industrial world have badly damaged eyes from cooking over smoky wood fires.

We did not envision LEF as a technology development center, but it seems like we are moving more in that direction. We are hoping to develop a cheap, simple way of storing high-temperature solar heat for cooking. We have some advantages over what they had in the 1800s. Fresnel lenses, reflective materials, small efficient pumps. We have pulled some of these materials together, and done some research. We are going to try a dry iron design, and probably a solar boiler as well. The intent is to try to reduce the need for fires for cooking. A cheap, effective design for storing cooking temperature solar heat would be usable all over the world. Oh, and Deb says she is going to build that solar ammonia ice maker for refrigeration. 200 PSI solar heated ammonia? Wish us luck.

## **Workshops**

**Carpentry 101**, Course 2, Sat Oct 17, 1 - 4 PM, Magnolia House, 217 Fredericksburg Ave, Louisa VA. This workshop will focus on basic carpentry technique, how to use power tools and hand tools safely. You may come to this workshop even if you cannot come to Course 1. \$25 suggested donation but no

one turned away for lack of funds, \$50 flat fee if you to take home a set of sawhorses that you build! This workshop is intended for people who have little or no carpentry experience. We will progress slowly through the workshop.

### **Links for Media Articles About LEF**

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>

First video on youtube

<https://www.youtube.com/watch?v=ppTBO8d6jhY>

Second video on youtube

[https://www.youtube.com/watch?v=wdSX\\_TIYkD4](https://www.youtube.com/watch?v=wdSX_TIYkD4)

Video on vimeo

<https://vimeo.com/128744981>

Slideshow produced by Alexis a while ago

[https://www.youtube.com/watch?v=4x\\_C3iScoAw](https://www.youtube.com/watch?v=4x_C3iScoAw)

*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](http://www.livingenergyfarm.org), or contact us at [livingenergyfarm@gmail.com](mailto:livingenergyfarm@gmail.com). Donations to the Living Energy Farm Education Fund are tax deductible.*