Lessons learned after living in an off-grid rental

Confession: when I booked a working vacation at an InForest cabin this summer, I wasn’t looking for an introductory course on sustainable living. I just wanted to escape the city without sacrificing the creature comforts my three teenagers demand. I got that, but took away so much more.

I thrive on the reenergizing effects of nature, and escape to the mountains, beach, or desert whenever I can. It’s something that’s become increasingly possible for many thanks to advances in solar panels, battery storage, data coverage, and flexible work-from-anywhere policies that have proliferated in the days since COVID-19. Now people can get their work done from just about any place that brings them joy.

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I knew going in that my energy demands would push the already-well-equipped solar-powered cabin to its limits. I had all the gear I needed to work remotely while also keeping my family entertained. That means one e-bike, a video projector, two Bluetooth speakers, five phones, two laptops, one tablet, three smartwatches, and a Starlink RV internet-from-space kit to keep it all connected. That’s on top of the lights and full suite of kitchen appliances and utility devices already inside the cabin.

For one week this summer I was able to work and play from the middle of a forest in Sweden, despite being totally

disconnected from the grid. The experience gave me a taste of what’s currently possible with off-grid tech, and a better understanding of the compromises required when resources are scarce — lessons I’ve since applied to daily life now that energy prices in Europe have gone through the roof.

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The Esther house is powered by a large solar array on the rooftop, with six 320W panels helping to keep a pair of 2.4kWh lithium-ion batteries charged. Each house is fitted with an inverter to provide 220V AC to wall outlets located everywhere you’d hope to find one.

Power generation benefits immensely from Sweden’s long summer days. Jesper tells me that their solar system is configured to provide about 1.5kW of charge per hour, which is enough to recharge half-empty batteries to full in about two hours. All excess energy is then diverted to the outlets. When the sun goes down, the house is wholly dependent upon the batteries for electricity.

Sweden’s short winter days present a real challenge for the cabins

Sweden’s short winter days present a real challenge for the cabins as the low, weak sun can’t keep the batteries charged. That means InForest cabins can only be booked from about March to mid-October. Jesper hopes to extend the season by purchasing an EV with bi-directional charging capabilities.

Ideally he’d like to buy a Ford F-150 Lightning pickup truck but it’s not scheduled to come to Sweden any time soon, so maybe the new Volvo EX90 SUV coming in 2024 instead. Whatever he buys, he can charge its relatively large 100kWh-plus battery at home before driving to each cabin every few days to charge their much-smaller batteries. Jesper or Petra already have to visit each cabin every two to three days anyway to clean them and refill the water tanks.

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Fresh water comes from a 250-liter (66 gallon) water tank. The house is also fitted with a 10-liter (2.6 gallon) water heater, which is enough for about five to seven minutes of hot water.

The cabin’s LED lights, a kitchen fan, a DC refrigerator / freezer, heating fan, and water pump all require electric power. Jesper estimates that each house consumes about 100W per hour when idle, allowing the batteries to power the house for about two days without any charging.

The houses require more than just electricity, however. They’re also equipped with a liquefied petroleum gas (LPG) system for the combined air and water heater and also for the stove and oven. There’s also a waterless composting toilet

from Separett that InForest takes care of after guests check out.

InForest houses are designed to be serviced, which is why all of the technology is housed in a utility closet that can be accessed from the outside to avoid interrupting guests. External connectors allow the water to be refilled and, eventually, the batteries to be recharged, just as soon as Jesper and Petra find a suitable EV.

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a:hover]:text-black text-gray-13 dark:text-gray-e9 dark:[&>a:hover]:text-gray-e9 [&>a]:shadow-underline-gray-13 [&>a:hover]:shadow-underline-black dark:[&>a]:shadow-underline-gray-63 dark:[&>a:hover]:shadow-underline-gray-63″>Esther’s kitchen is fully stocked with all the appliances you’d expect, except a dishwasher.