



Available in a variety of styles, Tesla Solar Roof tiles produce low-cost electricity.

Solar “Shingles” Replace Traditional Roofing

You can turn the roof of your house into a solar generator with a Tesla solar “shingles”. The technology is proven with installations in place on more than 400,000 roofs nationwide. Tesla Solar Roofs have been on the market since 2007. By 2011 they had installed more than 10,000 roofs; however, there have been recalls and production problems over the years.

In 2019, Tesla unveiled Solar Roof V3, having cut installation costs by about 40 percent. They refined installation to be faster and more affordable.

Currently Tesla Solar Roofs are only available in the U.S. In addition to company installers, the company certifies 3rd party installers. To find the nearest certified installer, visit the Tesla website and indicate “Order Now” on the Solar Roof page.

Tesla Solar Roof costs will vary depending on the number of tiles needed to meet home energy use. The return also will vary depending on roof size, average local price of electricity, and average amount of sunshine received throughout the year. A Solar Roof Calculator considering these factors can be found on the Tesla website.

After one year of operation, customer Austin Flack, Los Angeles, Calif., reported his experience to his YouTube subscribers. In need of a new roof for his 1,745-sq. ft. home, he discovered a composite tile roof would cost close to \$12,000. Adding traditional solar

panels to the roof would add an additional \$18,700 to the total cost. A Tesla Solar Roof producing 8,441 kWh/year was quoted at \$33,749. This was only \$3,049 more than a conventional roof. He installed the roof in January of 2020.

In the first year after installation, Flack’s solar roof produced 7,998 kWh. This was 93 percent of what Tesla had promised. Monthly production dropped significantly as area wildfires increased from August on. He considers a 7 percent reduction acceptable given the roof was caked in ash for 5 mos.

Bottom line, after paying \$2,245 for electricity in 2019, his 2020 costs including fees was \$156.62. The added cost for the solar roof will be recovered in less than 20 years, less if electricity prices continue to rise.

Tesla Solar Roof tiles are available in a variety of styles. They are more than 3 times stronger than standard roofing tiles, but weigh half as much and don’t degrade over time like asphalt and concrete roofing.

Editors note: As this issue went to press, a story went public that Tesla has had more troubles with its Solar Roof Tile business. Apparently there are some roofs it works better on than others but some installers have not been making that clear to customers. Bottom line? Buyer beware.

Contact: FARM SHOW Followup, (www.tesla.com/solarroof).

Firewood Totes Save Time, Space

Eric Petrevich needed an inexpensive way to haul and store split wood that he sells to individual homeowners and wholesale markets, so he started using metal cages from 275-gal. chemical totes.

“By using totes, I’m able to limit how many times I handle the wood. The totes allow the wood to season well, save space, and ensure consistent measurement of wood quickly and easily,” says Petrevich. “Each tote holds about one third of a cord.”

He buys the totes in bulk for \$20 to \$30 apiece, then removes the poly containers and sells them locally for about \$40 apiece to people who use them for dog houses or water storage.

“I load the wood directly from my wood processor into the totes,” says Petrevich. “Once a tote is full, I use my Kioti 75 hp. 4-WD loader tractor to haul the cages to a storage area and stack the cages 2 or 3 high. I place a lid on the top cage to keep rain and snow off the wood. The wood gets plenty of airflow and sunlight.”

When he sells a cord of wood, he uses rotating forks on the tractor to quickly load the wood into his dump truck (Vol. 44, No. 4). “The rotating forks were designed for use on a forklift, but I adapted them to my front-



Used metal storage totes work well to store and move firewood, and can be stacked to save space.

end loader,” says Petrevich. “I lift the totes over the side of the truck, and rotate them upside down to dump the wood directly into the truck.”

He says the totes are made from galvanized metal and will last for years, even when stored outside.

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To help level his fields, Clarence Kooistra rebuilt an old cultivator into this “hay float”.

He Built His Own “Hay Float”

Why pay to rent something when you could make your own? Clarence Kooistra of Strathmore, Alberta, Canada, didn’t want to keep renting hay floats to level out his alfalfa fields. So, he rebuilt an old cultivator that works as well as the equipment he had been using.

“Renting equipment is always expensive,” he says. “Plus, you need to make sure one is available at the time you need the float, so my partner and I decided to build our own.”

Kooistra found an old cultivator frame with no shanks on it that would allow him to add hydraulics to push the wheels up through the frame so the weight of the frame and wheels would help level his fields.

“We found the cultivator on a dealer’s lot and wondered who on earth would buy a cultivator frame on wheels with nothing on it and came up with ‘no one’ as an answer,” Kooistra says with a laugh. “I should have bought a lottery ticket that day.”

Because the frame was empty, it only took 15 to 20 hrs. to get the frame ready to work as a hay float. Clarence went back to the rental business to look at the hitch design.

“I wanted a floating hitch so the frame would follow the contours of the ground,” he recalls. “I didn’t need it to be stiff. I took some pictures at the rental place and went home to build one the way we wanted it.”

He made a hitch with a couple pins that allow it to move up and down. A hydraulic cylinder pushes into an upright to force the

frame off the ground.

“We had to adjust the linkage so the wheels would lift farther up when we’re in the field and only halfway through the frame to lift it off the ground for transport.”

When they move between fields, the hay float is only 1 1/2 ft. off the ground.

Adjusting the linkage on the hydraulics for the transport wheels involved moving one of the stops of the cylinder so that it would start lifting the wheels sooner.

His hay float has a V-shaped bar at the front with 3 straight-across bars behind, as opposed to just one bar on a regular hay float.

“The 3 bars improve on what a regular hay float can do,” he says. “When gopher mounds get hit by a regular float, sometimes the dirt simply falls over the top of the bar. In this case, 3 bars are spreading the dirt out to level it.”

They also use their “homemade float” to spread manure out in pastures. Once it’s dry, the bars break it up and pulverize the manure.

Kooistra says they have no plans to mass-produce their home-built hay float. They use it on their land and let the neighbors borrow it.

“They like the way it works,” he said with a laugh. “I borrow their post pounder and they borrow my hay float. I don’t rent it out.”

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Big Wood Stove Pays For Itself Fast

“I farm but have time in the winter to build a few wood stoves for local folks. Many people want a bigger stove than what’s on the market, and I can build stoves as big as they want,” says Bill White, Twisp, Wash.

He recently sent photos of a stove made from 1/4-in. thick steel that measures 32 in. long by 30 in. tall and 25 in. wide. It weighs 545 lbs., and the door alone weighs 35 lbs. The door is double hollow steel to prevent warpage.

“This big stove will heat a 3,500-square foot house. The owner only needs to load logs in it twice a day, even when outdoor temperatures are about 25 degrees,” says White. “An afterburner in the firebox is used to reburn the smoke to make the stove more efficient, and to reduce smoke and emissions.”

Located near the top of the firebox, the afterburner consists of 4 horizontal pipes with tiny holes drilled into them. Air enters the afterburner through holes drilled into the back side of the stove’s legs.

A clean-out hole located above the stove’s door is used to remove soot.

White has built about 15 stoves over the years, and says each house requires a different size stove. “I call them ‘The 3 Bears Stoves’ because the first one I built was too small for the owner’s house. The second one was way too big, so I built a third one in between that was just right.”

He says his stoves are built to last. “The first one I built is 40 years old. The owner



Bill White’s big, heavy wood stoves are built to last. This one can heat a 3,500-square foot house.

still uses it every winter to burn 10 cords of firewood, but it hasn’t burned out yet.”

He builds the stoves with a big 8-in. dia. smoke stack “to ensure enough air flows through.” A 6-in adapter can also be fitted to the pipe.

White charges about \$50 per hour labor plus materials, which he says is “fairly inexpensive. Also, I’ll gladly share my stove design with others.”

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