Chains at the front and back of tractor attach to base of carport, where Weller also attached six 8-in. wheels to act as "bumpers" while moving across rough terrain.

Weller ran the front chain through an 8-ft. long piece of square tubing that's secured to the loader bucket with ratchet straps.

Deere 4120 Tractor Used To Move 18-Ft. Wide Building

"In a recent issue of FARM SHOW Phil McIntyre of Montgomery, Texas described how he moved an RV carport with his Massey Ferguson 50 hp tractor. I recently used the same idea to move a big building with a Deere 4120 tractor," says Jeff Weller of Dunnellon, Fla.

Weller says he tried to contact Phil to thank him for the idea and ask some questions regarding the building he wanted to move, but wasn't able to reach him.

"Our building was 18 ft. wide, so simply draping the chain over my tractor's 6-ft. loader bucket and front weight box would have put too much stress on the building frame. I wanted to set the 'pick points' as close to the sides of the carpet as possible," says McIntyre.

He ended up running a chain through lengths of 8-in. square tubing secured to the loader with ratchet straps.

"I welded braces together across the ends of the building. My Deere 4120 was able to easily pick up the 800-lb. building with 800-lb. test chain."

He attached six 8-in. utility wheels - 3 on each side - to existing holes in the bottom of the frame to act as bumpers on his hilly terrain. "The wheels worked great to keep the ends of the building from digging in as I went up and down hills," says Weller. "With only my wife to help balance the carport, we were able to move it almost 300 yds. in only a few hours, with most of that time spent removing fencing. Although the building got a little bit torqued during travel, it squared up perfectly once it was placed on the footers we had poured.

"All in all, this is a great way to move a metal building. If you can drive under a building and have enough tractor power and strong enough bracing materials - you can probably move it," says Weller.

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Power Cost Is Zero For Minnesota Home

By Jim Ruen, Contributing Editor

Van Gooch and his wife pay nothing to heat, light or operate their all-electric home in west central Minnesota. Even in years of heavy snow and frigid cold, the home has zero energy cost. Photovoltaic solar panels more than offset electric energy needs for the energy efficient home.

"We produce enough energy in the summer to more than offset energy we get from our local electric co-op in the winter," says Gooch. "We're on off-peak dual fuel. When we buy back energy, it's at about half the normal rate, but we sell to them at the full rate. It's working well, and we are ahead of the game, producing about 104 percent of the energy we use."

The design of the house makes it possible for Gooch to get by with only 7.74 kW capacity solar panels. It includes a compact 1,596 sq. ft. of living space built for minimal heat loss.

Double stud walls, with a 3-in. space between 2 by 4's and 2 by 6's, are filled with 12 in. of dense packed cellulose insulation. The house is covered from inside out with a plastic sheet, foam sheet, vapor barrier and cement board. The walls are R-43 rated.

Gooch used triple pane windows that have an R-5 rating, while the nearly 17 in. of cellulose above the ceiling gives an R-60 rating.

Even the concrete slab has an R-40 rating, thanks to 8 in. of XPS foam underneath it. The ICF (insulated concrete form) foundation walls have an R-23 rating, while the continuous vapor barrier minimizes air leakage at all joints, seams and edges.

"This house uses about 40 percent of the energy use of our previous home," notes Gooch.

Passive solar plays a big role in the home's energy balance. A large south- facing window lets in the winter sun, producing a heat gain of 10 degrees over the thermostat setting. Heat is absorbed by the tile-over-concrete floor and released as the sun goes down.

"We don't want the heat in the summer, so the architect designed the house with 4-ft. eaves," says Gooch. "We get no solar gain in the summer."

Additional heat is provided predominantly by a ground source heat pump and in-floor heat. The in-floor heat extends to the garage, which is maintained at 41 degrees throughout the winter.

When built, the home was outfitted with all Energy Star appliances and LED and fluorescent lighting. Ceiling fans extend the comfort zone and reduce cooling load in the summer.

Van estimates the house, with all its energy-saving features, cost about 30 percent more than a conventional build. The solar panels have dropped in price by 50 percent since the house was built 6 years ago. Tax credits and grants reduced the price to about $30,000 at the time.

"We get back about $1,000 a year," says Gooch. "I don't expect to see a full payback. However, when the house is sold, I expect the solar will be appreciated by the buyer."

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During summer, Gooch generates enough solar power to sell energy back to the power company so that the small amount of energy he uses each winter is essentially free.

When needed, winter heat is provided by a ground source heat pump and in-floor heat, which extends into the garage.

Double stud walls have a 3-in. space between them for a total rating of R-43. Photo at right shows plumbing for in-floor heat.

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