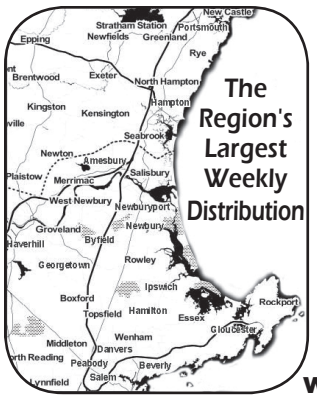

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Let Your Roof Go To Work For You

By Stewart Lytle, Reporter

REGIONAL – If you are thinking about adding solar power to reduce your utility costs, but don't like the look of raised solar panels on your roof, take a look in Salisbury at the new roof on the Johnson Lumber building.

It appears to be a standard metal roof on the 6,500 square-foot building. But look closer. The 10 feet at the top of the roof are different. Those panels across a 1,000 square feet of the roof are collecting solar rays that this winter will heat the air and water inside the building.

This is the brainchild of Fred Harkness, whose Harkness Built has been framing houses and buildings for 35 years. Harkness has long been interested in solar power and has come up with a different approach from the standard photovoltaic panels being used in solar farms and on commercial buildings and residences.

"Through many years of residential innovation, design, and construction, it became apparent to Fred that there was a definite need to improve and integrate roofing and energy technology. This became his ambition," the INroof web site states.

Harkness's panels do not produce electricity, at least right now. They collect the sun's ray and turn them into heat, both for the building space below and water heaters.

The average New England home spends 75 percent of its energy on water and space heating. INroof offers an opportunity to save on rising heating costs, while reducing a home's carbon footprint.

The panels are not only pretty to look at, they are much more efficient, capturing about 65 percent of the sun's energy as compared to 15 to 20 percent for the photovoltaic panels.

Harkness named his company, INroof Solar, and is producing the panels at CI Works in Amesbury. The name is apt. Everything to produce heat is inside the panels, invisible to anyone looking at the roof.

Running through the metal panel is a tube that contains a glycol solution. When heated, the glycol transfers the heat to a storage unit. A water source heat pump heats the building and water heaters.

Johnson Lumber Co. in Salisbury

Photo provided by INroof Solar

Metal roofs have other advantages. They carry a 30-year warranty and eliminate the problem of ice dams. INroof's Nor'easter panel has a Nor'easter collectors have a smooth, solar-collecting coating that sheds snow easily. If necessary heat can be pumped back through the roof to melt snow and ice. The panels are compatible with geothermal heating systems.

Unlike standard metal roofs, the INroof panels "go to work for you" heating the building and reducing your heating bills, said Joe Dipietro, project manager for INroof.

The INroof panels can be a "bit pricey," he said.

The INroof panels may be almost twice as expensive as a standard asphalt roof, but they are certified and qualify the owner for a 30 percent federal tax credit. Massachusetts is working on a tax rebate program.

In 2017, INroof won a $60,000 grant from the Massachusetts Clean Energy Center as part of its InnovateMass program. Harkness used the grant to reduce the cost of installing the panels for the new roof at Johnson Lumber.

The panels are great for upgrading any roof, but Dipietro believes they are ideal for new home and building construction.

INroof, which has a patent pending on its technology, is installing the panels on several homes and boat houses in Maine. The goal is to manufacture the panels and let contractors install them.

The company is also experimenting with adding thin photovoltaic solar collectors directly onto the metal panels. Together the metal roof, heating the glycol solution, and the thin photovoltaic collectors would heat the building and create electricity.

DiPietro said Johnson Lumber is planning to install the INroof panels with the thin photovoltaic collectors on the back side of its roof next year.