

Solar energy pioneer from Switzerland

# Heating entire houses with hot water storage tanks

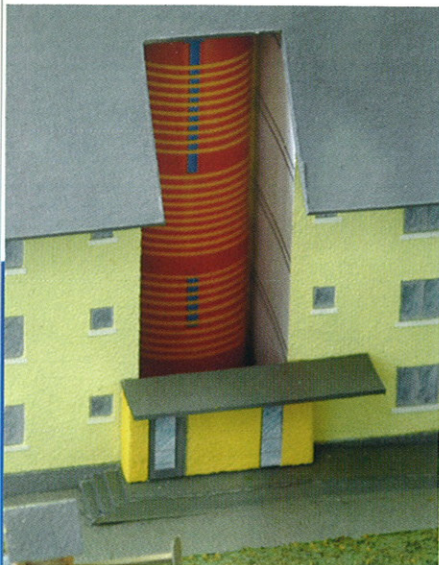
**Josef Jenni, the CEO and creative head of the Swiss company, Jenni Energietechnik, was often laughed at because of his ideas. Now he's having the last laugh. The reason: His hot water storage tanks are booming.**

"When I claimed it would be possible to heat a house with solar energy all year round, providing 100% of the necessary heat, no-one believed me," explains Josef Jenni. In 1976, he founded the company himself and has been working in the field of solar and environmentally friendly energy ever since completing his university degree. The company situated close to Berne mainly concentrates on solar thermal heating. His first product, and the biggest seller to date, is a hot water tank – called the Swiss Solar Tank.

The evidence is clear. Josef Jenni looks over the roofs of his company: "Over the year as a whole, we obtain 100% of our heat and electricity from the sun," he observes, pointing to a nearby house. It belongs to his brother, a joint manager of the company, and it also gets its electricity and heat for heating from the sun. "That's the sun house," he says proudly. It's his dream, built in 1989. For a long time, this idea was regarded as Utopian considering its location in central Switzerland where the weather is often foggy. "In winter, we had enough energy left over to heat a swimming pool." Another dream also took concrete form in November last year, in a nearby building. "The multiple dwelling unit gets 100% of its energy for heating and hot water from the solar tank."

Today, the company has about 60 employees. Every day, they produce up to ten small solar tanks (up to 5,000 liters) and one large tank (from 10,000 to 50,000 liters). Last year, the Swiss company built around 1,200 units, and taking its products and services together, achieved sales of 10 million Francs. In addition, there has been a shower of awards: For environmental protection, innovation and keeping the peace. The press, universities and other companies have been beating a path to their door – for training, lectures and tours of the establishment.

◀ Generous, inexpensive, environmentally friendly and self-sufficient with heat – these factors describe the first multiple dwelling unit to derive its entire thermal requirements for heating and hot water from the sun. Josef Jenni turned his dream into reality together with an architect. The secret: There is a 17 meter tall Swiss Solar Tank in the middle of the house, holding 205,000 liters of water. ▼



The secret of success is a plural: secrets – a mixture of creativity, persistence as well as reliable staff and suppliers. “I welded the first tank in 1982,” he says, “but it was flawed.” Three years and many optimizations later, the business finally got going with a national publicity campaign involving solar-powered vehicles. The current tanks are simple and ingenious at the same time. “The outer jacket is made from hot wide strip, except for the base,” he explains. In accordance with the AD 2000 code of practice, the hot wide strip is exclusively supplied by ThyssenKrupp Steel. Dr. Thomas Nießen, technical customer adviser from ThyssenKrupp Steel (IDS) is a qualified materials expert, and adds, “It’s important for the steel to have excellent even surface properties. That’s all the more difficult the wider and thinner the strip is.” Jenni nods: “It’s got to look good, be good to work with, safe and resistant to corrosion.” Cooperation with the Group has developed into a partnership since 1997, although the decisive factor was something quite different: “ThyssenKrupp Steel took me seriously.” Urs Steiger, ThyssenKrupp Materials Switzerland, is responsible for the sales of ThyssenKrupp Steel products in Switzerland, and understands him: “The solar market is growing.” Thomas Nießen and Urs Steiger emphasize: “Jenni Energietechnik is a visionary customer that makes high-tech products from our steel.”

This is how the solar tank is built: Coils are unwound by machines that Josef Jenni developed and built himself, then the strip is passed through straightening rollers, cut, rounded and welded. “Following this, we install the boiler and heat exchanger on the inside.” He defined the production method himself. “Then we attach the bases. Finally, the tank is provided with connection pipes.” It is then surface coated with red paint, and another Swiss Solar Tank is ready.

This is how it works: The solar collectors on the roof of the building can nowadays achieve temperatures of up to 250 degrees Celsius, and are connected to the tank using heat exchangers. The heat exchangers transmit energy to the water in the tank. The building can thus be heated or provided with hot water by separate water circuit systems. The trick: “The storage tank can be heated with oil, gas or wood-fired boilers if there is insufficient sunlight,” he explains. “In principle, electrical heating would also be possible.”

His ideas are not only contributing to a paradigm shift in energy policy – he is a committed politician – but also to palpable environmental protection. Nevertheless: “Global warming is underway, raw materials are running out and we won’t be able to plug our energy gap with nuclear power either. It’s time for a rethink.”

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[www.jenni.ch](http://www.jenni.ch)  
[www.thyssenkrupp-steel.de/industry](http://www.thyssenkrupp-steel.de/industry)  
[www.thyssen.ch](http://www.thyssen.ch)

► To prevent the hot water tanks from rusting, they are painted red at the end of the production process. This paint has very good coverage and only one coat is required – leading to less environmental pollution.

▼ The interior of a Swiss Solar Tank is clearly structured and ingenious. The water heated by the solar collectors is used for heating the water in the tank via the heat exchangers, which means water is heated for the heating system and other applications.



▼ Josef Jenni (middle) is not only the CEO of the Swiss company Jenni Energietechnik, he is also the creative head of the company. His business and his inspiration is centered on heat from solar energy. Dr. Thomas Nießen, technical customer consultant at ThyssenKrupp Steel (left) and Urs Steiger, ThyssenKrupp Materials Switzerland and responsible for sales of products from ThyssenKrupp Steel, believe in Jenni’s idea and supply excellent hot wide strip for the tanks.

