

Wind power propels family's trade

By SHOSHANA HOOSE
The Minneapolis Star

At a factory in Plymouth, a father and son are borrowing from the past to meet the energy crises of the future.

Marcellus Jacobs and his son, Paul, build wind electric plants. They use the same basic design invented by the elder Jacobs and his brother more than 50 years ago to provide power to their Montana ranch.

But the latest models can generate about three times as much power as the original plant, enough to operate food processors, electric toothbrushes, and a household of other modern appliances.

And the clientele for wind electric plants has changed dramatically since Marcellus and Joseph Jacobs first started mass-producing them in 1930.

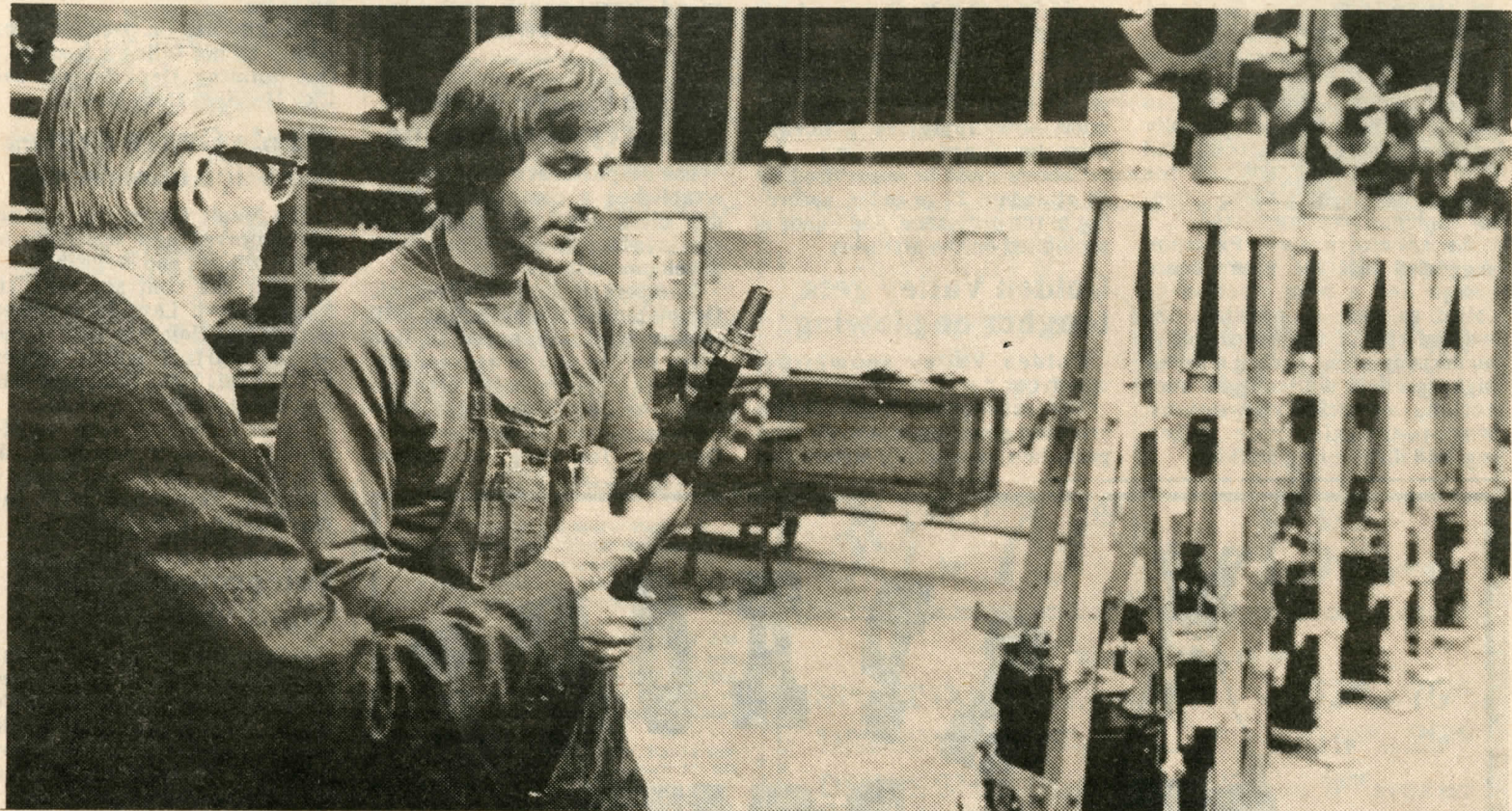
The farmers and ranchers who bought most of the original Jacobs generators lived in areas not served by power companies, and the wind plants provided their only source of electricity.

By contrast, most of the Jacobs' customers today have access to high-power lines operated by utility companies, but choose not to use them for financial reasons.

Marcellus Jacobs predicted that "as energy costs increase, more and more people will want to use the free energy in their back yards rather than pay for it."

Jacobs and his brother, Joseph, built their first windmill in 1922. They wanted to listen to the radio, and their ranch had no power source.

The brothers connected the rear end of a Ford automobile to three propellers attached to the



Star Photo by Steve Schluter

Marcellus Jacobs talked with shop supervisor Doug Hendricks

top of a tower. They stored the energy created by the spinning propellers in a battery, and used it to operate lights, motors, radios and other appliances.

The device was so popular among their neighbors that the Jacobs moved to Minneapolis and set up a wind electric plant factory.

During the next 30 years they built wind plants by the thou-

sands, and earned a worldwide reputation. Their windmills churned out power for hotels in the Arctic Circle, gold mines in Alaska, a mission in Ethiopia, and the scientific station established by Adm. Richard Byrd at the South Pole.

The Jacobs also manufactured freezers, refrigerators and other appliances designed to run on the voltage produced by their wind-

mills.

"That was the only way they could get fresh meat back in those days," Marcellus Jacobs recalled. "I developed a freezer you could unplug for five days and the ice cream won't unfreeze."

Their biggest competitor proved to be the federal government. The Rural Electrification Administration, set up in the 1940s, began providing inexpen-

sive electrical power to farmers and ranchers. The wind plant business floundered.

The Jacobs brothers closed their factory in 1960. They moved to Florida, and Joseph Jacobs died a short while later.

The energy crisis of the 1970s

Wind

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Jacobs family still banking on wind power

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convinced Marcellus Jacobs that windmills would once again be in demand. He teamed up with Paul, who had been working as a real estate appraiser in Florida, and they received financial backing from Control Data Corp. to resume production.

After seven years of research, the factory on Fernbrook Lane in Plymouth opened in June 1980.

Sitting in the his office last week, the 78-year-old Jacobs looked like the successful business executive that he is. He cut a smart figure in a three-piece suit, as he spoke breezily of investing \$1 million in the company.

But when he described his invention, Jacobs' face lit up with passion. He told proudly of the Elk River farmer who bought a Jacobs windmill 45 years ago, and "he's never been out of lights." The farmer recently bought a new windmill to heat

his house.

"We originated the three-propeller," Jacobs said. "And we're still building practically the same. Strange as it seems, we had a very efficient plant 50 years ago.... The basic principle of a revolving propeller moving wind to make energy is the same."

As he speaks, Jacobs' fingers twirl around like the propellers on his wind plant, and his mind spins restlessly, still searching for the perfect design. After all these years, he still wakes up at 2 in the morning and jots down ideas to improve the wind plant.

Paul Jacobs, 35, inherited the inventor's itch. While living in Florida, he helped his father design a system to keep canals free of weeds. The system works by the action of the tides and costs nothing to operate.

Before starting the Plymouth factory, the two Jacobs traveled 150,000 miles in a motor home to research wind plants. They found

many of the original Jacobs generators, and brought them back to Florida to study.

While the early models produced about 2.5 kilowatts per month, the Jacobs designed a new wind plant that can generate 10 kilowatts. In some locations, the plant produces enough electricity to heat a home as well as operate the appliances.

During the first full year of production, the Plymouth-based company sold "several hundred" plants in 38 states, according to Marcellus Jacobs. They now have many competitors in the field, but he dismisses the other firms as "imitations" and "Johnny-come-latelys."

Farmers and ranchers still buy a large number of the wind plants. But the new Jacobs plants also generate power for a car dealership, other small businesses, a state of Texas information booth and suburban homeowners.

Although a wind plant requires a tower at least 80 feet tall, Marcellus Jacobs insists that anyone should be able to install one in his back yard. He bristles when asked about local zoning restrictions proposed in some cities that would prohibit wind towers.

"Anyone who makes objections, in our opinion, is working for Iran," he said. "They're OPEC agents. They're anti-American."

"If NSP [Northern States Power Co.] can put a 140- to 150- foot tower through my property, by God, I can put up a wind tower, can't I?"

The price of a wind electric plant has risen from \$1,025 in the 1940s to \$20,000 or more today. But Jacobs pointed out that elec-



Marcellus Jacobs

tricity costs have also skyrocketed, from two or three cents a kilowatt to as much as 60 cents a kilowatt in Alaska.

He estimated that most wind plants will pay for themselves within six or seven years.

The Jacobs have one, 80-foot wind plant at their factory where they test models. The Plymouth City Council recently approved



Paul Jacobs

plans for the company to install another plant, 120 feet tall.

Does the elder Jacobs still climb the towers?, a visitor asked.

"What do you mean, still climb?" he snapped, smiling impishly. "Why should I quit now?"

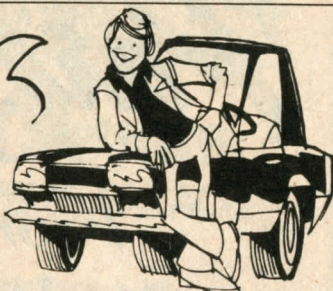


Planet alignment will be discussed

A new planetarium show, "The Jupiter Effect" will be presented at 11 a.m., 1, 2 and 3 p.m. Saturdays and at 2 and 3 p.m. Sundays Jan. 9-March 6 at the Children's Center and Planetarium, at the Minneapolis downtown library, 300 Nicollet Mall.

The Jupiter Effect is a theory that suggests that a rare alignment of planets in 1982 may have disastrous consequences for the Earth. Admission is \$2 for adults, \$1.50 for senior citizens and children 12 and under. Call 372-6543.

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