

SPECIAL SECTION: SHOESTRING START-UPS

OREGON BUSINESS

JANUARY 1993

HELPING OREGON COMPANIES GROW

THREE DOLLARS

SHOESTRING START-UPS

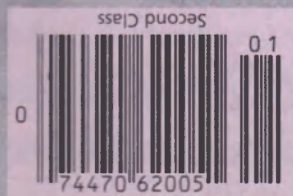
How they did it without
a million bucks

FINANCE:

So long to tax
increment financing?

ENTERPRISE:

The clouds **part over**
Sage Advance



GETTING SOME SAGE ADVICE

The Oregon Enterprise Forum offers its best to Eugene's Sage Advance Corp.

BY MARNIE MCPHEE

Sometimes you need to ignore omens.

It was a dark and stormy night in Eugene in the fall of 1985. The solar energy industry had hit a 20-year low, and the world energy market was flooded. That's when a couple of idealistic scientists took the first steps toward creating the Sage Advance Corp., makers of the Copper Cricket, the world's finest solar water heating system.

This was the "wise step forward" implied in the company's name?

You bet. Because Eldon Haines and Bob Block were sitting on the patents for what Block knew was "the first real innovation in solar water heating since the advent of glass."

The two had figured out how to heat water using solar energy and "geyser pumping" physics — the same process that percolates coffee. Their system solves all of solar's previous shortcomings. The Copper Cricket is freeze-proof, maintenance-free, efficient, attractive, and even

affordable. Plus, it uses no moving parts, and will last the life of a home.

But Haines, a gentle, precise, and conscientious nuclear chemist who's also helping NASA study Mars, and Block, a physicist who's searched for "the solar solution" to global crises since the early 1980s, were scientists who wanted to save the world, not start a business. However, they knew the import of their discovery and also understood their entrepreneurial limitations. So they tried to sell their idea to a manufacturer.

But solar was dead. No one

would buy.

So they held a summit around Block's dining room table and decided to go for it themselves. They drew in two partners who'd been in the solar trenches for more than a decade, including vice president Tom Scott, whose weathered face tells of the uphill solar battle. Their goal: to become the largest solar water heater manufacturer in the United States by 1995, and in the process, displace 10 nuclear power plants with solar energy.

Block took the job of president, because, he says, "I had the clearest

SAGE ADVANCE CORP., EUGENE

THE CONCEPT: Sage manufactures two solar water heaters: the Copper Cricket residential system and the Copper Dragon for industrial/commercial applications.

MANAGEMENT: Founder and president Bob Block is a physicist. Founder and vice president of R&D, Eldon Haines, is a nuclear chemist. Vice president Tom Scott, a civil engineer, has owned and managed solar design, manufacturing, and installation firms in Florida and Oregon. CFO Charles Dallas consults with emerging businesses based on innovative technologies. National sales manager Bill Kitzredge has marketed new computer technologies and is director of an electric utility board.

FINANCIAL BACKING: Sage Advance has raised \$459,000. Officers and directors own 44% of the stock.

CURRENT AND PROJECTED PERFORMANCE: Sage Advance has sold 1,000 systems since incorporating in 1987. Projections call for 1993 sales of 1,660 units totaling \$2.6 million, growing to 3,820 units and \$5.6 million in sales by 1997.

STRATEGIC CHALLENGES: Secure adequate funding for expanded marketing, production, and distribution. Ensure projected sales to energy-based utilities. Hire entrepreneurial staff.

vision...and no one else wanted the job," and he quickly charged over to the University of Oregon for an MBA.

The four pulled together \$10,000 from family, friends, and their own lean pockets. That funded a business plan and a very few basics. Another \$60,000 from friends financed the first prototype, a bare-bones office and factory, and evaluation by the nation's leading independent testing lab.

With gradual infusions, they bug-proofed the Copper Cricket and a larger industrial version, the Copper Dragon; developed a kit system to counter a minimal dealer network; and hustled a low-cost marketing campaign.

Solar tax credit. The results? "We lucked out," Block admits. "The Oregon Department of Energy initiated a solar tax credit. We got 60 articles in all kinds of publications, including Popular Science. That alone gave us more than 1,200 sales leads and 6% of our actual sales."

And endorsements poured in, from world-renowned energy experts, trade publications — and Popular Science, which named the Copper Cricket one of the best new products of 1989.

They've now raised \$459,000 through stock sales, mostly to friends. The principals and directors own 44% of the stock; no one has a controlling interest.

With that, they've run lean and scrappy. A ping-pong table has tripled as a board meeting table, an outlet for exercise, and an argument settler. Even including computers and manufacturing equipment ("which looks like something the Vikings built," according to Block), fixed assets total just \$12,000.

But where are the sales for a product even their strongest competitor and the world's leader, Solarhart of Australia, conceded is the best on the market?

To date, they've sold about 1,000 systems, and aren't yet at break-even. "Our main obstacle was that the diffuse solar market was fluttering around like a butterfly and we couldn't net it,"

"You guys need a fired-up marketing approach."

Block recalls. Other U.S. manufacturers weren't faring much better, in part due to sales by Solarhart and NEG Systems, a Japanese firm, "whose product always will sell for \$100 less than ours, regardless of our price," according to Block.

So, about two years ago, lacking the capital to compete in a not-even-tepid mass market, Sage Advance got wise and identified a better sales opportunity: energy-based utilities.

For utilities, fuel and generation costs are on the rise. Concerns over the environmental impacts of fossil fuel exhaust and nuclear waste disposal are prompting utilities to take a look at the alternatives to merely selling generated power. Utilities are lining up natural gas and cost effective conser-

vation and renewable energy supplies, such as solar. The Copper Cricket's average \$2,000 installed cost and performance more than satisfies utilities' lifetime energy cost target.

The Copper Cricket gives utilities the reliable, economical, and durable renewable energy system they need, and utilities give Sage Advance the vast markets and credibility it needs.

To make it happen, CFO Charles Dallas and new national sales manager Bill Kittredge have secured Copper Cricket's positioning in pilot solar programs for PP&L, the Eugene Water & Electric Board, and the Sacramento Municipal Utility District (SMUD). The SMUD program alone could install 47,000 solar water heating systems by 1997. Sage Advance counts on at least 30% of those systems. The company plans to establish an installation company in that area,

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After the Oregon Enterprise Forum dinner, three experts reviewed Sage Advance. They gave three votes in favor. The panelists loved the product and saw terrific potential.

"The climate's positive," explained panelist Roby Roberts, policy analyst with the Northwest Power Planning Council. "And there's a 'renewables renaissance' in Europe. The foreign markets for solar water heaters are vast compared to the U.S."

But the panel also was unanimous on Sage Advance's weaknesses.

How's this little accidental manufacturer going to hit the big time in a still-cool solar market — and with managers the panelists described as "too nice," and who want to stay in Eugene?

Panelists zeroed in on the soft meat: marketing. "The bad news is that solar's got a really bad reputation, and it just isn't sexy,"

Roberts stated.

"You guys need a fired-up marketing approach," advised Mike Russo, assistant professor of management in the University of Oregon's College of Business Administration, who in the 1980s helped create Pacific Gas & Electric's innovative solar and wind energy program.

"But who cares?" added Dale Vogel, with U.S. Venture Partners in Bellingham. "How can you motivate a customer to install a solar water heating system where the payback isn't very obvious, or very quick? I think the best thing to do is save the expense of going to the customer with expensive marketing and distribution systems, and go with utilities."

Sage Advance came to that conclusion two years ago.

However, although the firm is progressing in that most promising
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Eldon Haines and Bob Block wait for the sun — and a renewed interest in solar energy — beside a Eugene rooftop's solar collector.

CHARLIE KLOPPENBURG

and in other key utility districts.

In some cases, the Copper Cricket is the only system to gain utility approval. Block projects that the programs will account for 47% of unit sales in 1993, and 60% by 1997. "This is no longer a fluttering butterfly, but a tiger we've got by the tail," Block spouts.

To boost their customers' interest, utilities' marketing groups will offer rebates, no-interest loans, or buy, install, and maintain the systems themselves and rate-base the program costs.

Simultaneously, Sage Advance is managing a highly-targeted mass marketing campaign in a single magazine, displaying in six trade shows annually, expanding its national dealer network in obvious solar markets and those with high electric rates, and gearing up on-site and subcontracted production capacity to make up to 2,600 systems per month. They've also added some more aggressive staff, like Kittredge, whom Block characterizes as "about as good a marketer as we could stand."

The omens are on their side this time. The election of Bill Clinton and Al Gore promises R&D and tax code boosts for renewable energies, including solar. Energy shortages loom, as coal and nuclear plants shut down. Domestic and global markets are greening. The Copper Cricket is the acknowledged standard.

The firm's U.S. patents are strong until 2003, and they're planning international patents. They've secured manufacturing capacity to supply their projected unit sales. Their R&D program promises other significant breakthroughs. And, according to Block, their investors see "five years of no profit but say, 'We don't care; we know the market is expanding. Go out and get it.'"

That's the challenge. "We need to get our (system) costs down," Block explains, "to get to the magic number utilities have for additions to their resource stack. But solar collectors have

positive advantages for utilities, and so they may hedge on their numbers because of this positive difference."

Success in those pilot programs would surpass the firm's fairly conservative projections. "Current fundraising should create \$5.5 million in sales by 1997 and realign production and distribution to meet the demand of utility programs," according to Block. "And once we're in, the rest of the utilities whose programs are in the developmental stage will open to us. We could become a \$20 million company."

Energy shortages loom, as coal and nuclear plants shut down.

market, it has far from clinched it.

As Russo knows too well, and as he cautioned Block, "There's a 'risk of romance' with utilities. Yes, they're opening to new technologies, and will buy power from outside sources, and they take a long-term perspective, and give you legitimacy. However, working with them is like prodding an elephant with a chopstick. I'm a little nervous about your projections. What if utility unit sales don't bump until 1995, instead of 1993?"

Roberts and Russo also cautioned against partnership with utilities, due to regulatory challenges, and utilities' notorious 'smothering' effect.

There were some other concerns as well. Vogel wondered "how much manufacturing and operations experience there is in the company."

Patents on the critical "geyser pumping" technologies, held by Block and Haines, also drew the eagle eye. "Project the power of that patent forward and defend against competitors' challenges, including from Japanese firms and Daimler-Benz," Russo directed. "Another problem is that you haven't patented in either Japan or Europe."

That would also make Sage Advance the largest solar water heater manufacturer in the U.S., just as its founders envisioned over coffee in Block's dining room back in 1985.

At that point, Sage Advance gains venture capital appeal, to expand internationally. Block and Haines have known from those early dinner table summits that they likely won't be at the helm at that point, but they plan to stay involved.

"We're still interested in displacing as many nuclear power plants as possible," Block repeats. "There's a residential market for 30 million solar water heaters. That's the equivalent of about 30 nuclear power plants. We'd be happy with 10." ■

EXPERT ADVICE

Vogel was more blunt: "Any institutional investor will say you have to throw (the patents) in with the company."

And what are Sage Advance's investment possibilities? No real answers here from the panelists. Given the firm's conservative projections and under-defined capital requirements, Vogel ruled out interest from venture capitalists, but indicated that "the best place to go for a partner is a utility."

Here Russo and Roberts applied the brake. "Your sales projections take off in the next two years," Russo noted. "It would be a mistake to bring in a lot of equity and sell yourselves short. Utilities aren't OK for strategic alliances. But you could find a corporation with some interest, including — who knows? — an oil company, to use you as a hedge."

Panelists gave two final suggestions. First: Move. "Get out of Eugene," Roberts advised. "Go to the Southwest or East Coast, where electricity prices can support solar water heating."

Second: Play with a harder ball. "You aren't sharks enough," Roberts noted. Russo added, "Bring in a person or two to energize this and really get it moving." ■