Making Patient Capital Pay Off

What transforms a craze into sustained growth? Trust.

by Art Kleiner

From a purely technological standpoint, this should be a great time to be an entrepreneur. Computers are more and more powerful. Many scientific and technological fields — basic physics, biotech, materials science, military technology, and, most important, energy — are poised for breakthrough innovation. As futurist Peter Schwartz writes in his new book, *Inevitable Surprises: Thinking Ahead in a Time of Turbulence* (Penguin, Gotham Books, 2003), the predominant fuel for automobiles in 2025 is currently a toss-up: It could remain gasoline, or that could be replaced by hydrogen (through fuel cells), natural gas (through turbines), electricity, or some hybrid. Companies that provide the winning fuel sources could end up dominating the next industrial infrastructure for decades. The last time such promise and uncertainty existed was the turn of the 20th century, when nobody knew for sure whether steam, gasoline, or electricity would become the fuel of choice for horseless carriages.

Illustration by Lars Leetaru

Yet, in this jittery postbubble economy, the capital necessary to fund the next wave of technology is a lot harder to raise than it was a few years ago. It's not that capital is in short supply. Nor is there any shortage of places to invest it. A friend of mine, plugged into venture capital circles, says he is continually approached by entrepreneurs asking if he can put them in touch with potential angels. "I know lots of people with money," he tells them. "But they're not interested in talking to you, or anyone else, right now."

Traditionally, the kind of investment that supports long-term innovation is known as patient capital. When patient capital is scarce, its champions, such as Harvard University strategist Michael Porter and former Secretary of Labor Robert Reich, tend to blame tax and fiduciary laws, which promote short-term investments. But the real shortage is trust.

How are the potential leaders of the next industrial revolution supposed to finance themselves? In January, that question led me to visit Plug Power Inc., a small (320 employees) company based near Albany, N.Y., where trust and patience are being explicitly invoked

as the foundation for the company's success.

Turnaround Artist

As one of the first independent commercial producers of hydrogen fuel cells, Plug Power has depended on the confidence of investors since its inception. Founded in 1997 as an offshoot of Mechanical Technology Inc., itself an offshoot of a General Electric Company technology lab venture composed mostly of former GE engineers and scientists, Plug Power rode the roller-coaster of the dot-com boom from $15 per share at its IPO to a peak of $157 in February 2000 and then back down below $7, where it has stayed ever since. On the way down, the company went through a crisis: Founder and former CEO Gary Mittleman abruptly resigned in mid-2000, and a series of lawsuits followed.

The current CEO, Roger Saillant, was recruited in December 2000, by which time the share price had fallen below $20 and was still going south. An unlikely choice to lead the troubled company, Dr. Saillant was a first-time CEO, and neither an energy expert nor an experienced entrepreneur. He was a 55-year-old car guy from Detroit, a production-executive-cum-troubleshooter who had risen through the engineering and manufacturing ranks at Ford Motor Company.

I met Dr. Saillant when he was at Ford; we both traveled in organizational learning circles. He looks like a stereotypical Marine sergeant: He has close-cropped gray hair, rugged features, and the wrestlerlike build of someone who got into a lot of impulsive fistfights in his youth. But behind this he has both a gentle manner and an assertive edge, which comes through in his thoughtful outspokenness. Dr. Saillant argues, for instance, that CEOs should be fired or financially penalized when layoffs occur on their watch. He says they should have seen the problems brewing in time to forestall job losses.

At Ford, he built his career by getting startup operations off the ground in Mexico, Hungary, Thailand, and India and by rescuing troubled component-production plants in the United States, China, and Northern Ireland and making them profitable. Typically, he did this by talking with local employees until he understood their fundamental aspirations. In the high-unemployment environment of Belfast, Ireland, this meant job security for local children. Although the plant was on the verge of being closed, Dr. Saillant set up 22 apprenticeship slots for local young people; that spurred a renewed sense of trust. The plant turned around and began to thrive.

At Plug Power, Dr. Saillant is facing a different set of troubles, among them the tension between rapidly dwindling cash flow and a slow development time frame for Plug's main products. Fuel cells are batterylike capsules that use chemical reactions to produce electricity,

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with natural gas or pure hydrogen as the raw material. The devices can be small enough to fit inside cell phones, or large enough to power automobiles and buildings. Compared with conventional internal combustion engines, fuel cells are not just cleaner (they emit pure water as waste), but also more versatile (they combine easily with other technologies), quieter (they run silently), and more efficient. But most energy experts say it will take another five to 15 years before the devices are cheap enough to become widespread in homes, vehicles, or elsewhere.

Hence the dilemma facing the company. Plug Power can survive only if its employees and investors take on a seventh-generation ethic, caring more about the long-range impact of their product, over the next 150 years or more, than about (say) cashing in their stock. At the same time, the company has only enough cash, with its current burn rate, to last into 2005. Dr. Saillant, with his background in organizational learning, has chosen to square the circle by talking openly about the dilemma — not just with employees, but with shareholders.

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Disappearing Wealth

Gaining commitment from both groups has been a challenge. When Dr. Saillant arrived at Plug Power he found a work force composed mostly of people in their 20s and 30s who, just a year earlier, were paper millionaires. They assumed they would change the world *and* grow rich. But all that wealth had been snatched away. As Dr. Saillant put it (in a talk to a class taught by MIT management lecturer William Isaacs): "They were angry, frustrated, and expressing that frustration in all directions."

They also had reason to wonder if the company would survive. One bearish investor's newsletter (*Grant's Investor*, a spin-off from the better-known *Grant's Interest Rate Observer*) had singled out Plug Power in February 2001 as a doomed example of high-flying technological optimism. Even if the company met production goals, wrote newsletter editor Eric Fry, the basic business proposition was dubious: "The U.S. Energy Department is only expecting, at best, 100,000 households to be using fuel cell technology in the U.S. by 2020. Which, if we assume Plug Power sells 100 percent of all units, would translate to an average annual sales rate of 5,000 units, well below the rate needed to justify [Plug Power's current] $750 million market cap."

Just to keep going, Dr. Saillant (the man who would penalize leaders who can't avoid layoffs) had to cut about 160 people. Employees, fearing the worst, took their fear and mistrust underground, letting it seep out in small but telling ways. Dr. Saillant got an anonymous note under his door saying, "You obviously have no commitment to the company. You haven't even switched your address here from Michigan." The note writer had noticed that Dr. Saillant was still driving to work in a Ford pickup truck with Michigan license plates: "a gas guzzler, no less."

Dr. Saillant posted the note on the company bulletin board, along with a long, handwritten reply. The truck was a Ford company car on a long-term lease, which he hadn't yet had time to return. Dr. Saillant switched shortly after the incident to a hybrid-electric Honda with New York plates.

Then, *before* making the staff cuts, he asked everyone at the company to participate in a three-day course on learning organization principles. This included such organizational-learning mainstays as the "ladder of inference" — a training tool that shows people how easy it is to jump to erroneous conclusions. The course also discussed the idea of sustainability, a management philosophy spawned by the environmental movement that encourages businesses to protect the world's assets for future generations. (Surprisingly enough, most of the people at Plug Power had never heard the term sustainability, even though their product would be marketed largely on environmental grounds.) Such values were now considered a key source of competitive strength for Plug Power; "cultural suitability" was one consideration in determining who would stay, says Dr. Saillant.

When a company makes values explicit that way and uses them (in effect) as a litmus test, there's enormous pressure on the CEO and other executives to walk the talk. Dr. Saillant responded to that pressure by giving more responsibility to

more people. By the time I visited Plug Power this year, the company had generated a management structure resembling a set of concentric circles. Semiformal groups of executives and selected high performers met regularly to establish long-term goals and priorities. One group of individuals, the (self-named) "Spark Plugs," had generated a set of strategic plans, including a values statement for the company that said: "Our future children will know our company was one steward of the energy transformation." It was apropos: Children rank high in the Plug Power cultural consciousness. The company invites employees' family members to picnics, holiday parties, and other company events and publishes a calendar featuring drawings by employees' children. The most prominent feature of Dr. Saillant's office are pictures of children — his own grandchildren and other kids. All these kids represent, among other things, a reminder that people stay at Plug Power for reasons that transcend money.

"I got here when the stock was on its way back down," says Spark Plug Koren Hart, "and it was *still* a lot more exciting than many other places. A lot of the drive comes from helping to create something that's going to be around a long time. People are not stifled here when they have an idea. Sometimes they're told, 'We can't afford to focus on that now. But you can work on it on your own time.' And that's a nice freedom to have."

You can imagine *Grant's Investor* being skeptical about children's calendars and talk of value that transcends money — particularly from a company with Plug Power's history. The fact remains that Plug Power is struggling to find the cash it needs. Revenues have nearly doubled in the last year, from $6 million to $12 million, but $12 million is still far less than the company demands. In March 2003, the company closed on an acquisition of a cash-rich fuel cell manufacturer called H Power — in effect, a move to bring in cash by paying for it with stock. Wall Street is still, at best, neutral: RBC Investors (part of the Royal Bank of Canada) downgraded its rating on February 26 from "hold" to "underperform." The industry analyst there, Jarett Carson, credited Dr. Saillant with "excellent progress in cutting expenses and [bringing] the company back from the brink." Nonetheless, he noted a Catch-22: If the stock price goes up, there's increasing incentive for the original investors to sell their shares — particularly some of the GE investors who have their own labs to fund in a difficult economy.

Stoic Pessimism

Dr. Saillant's approach for the last two years has been to show up before investors with stoic pessimism about his own company's prospects. The 2002 annual report, instead of burying the notice of risk as most companies do, spent eight pages listing all the things that could go wrong — everything from faulty technologies to accidents to natural gas shortages to problems with distributors to the worst possibility of all, that the people of Plug Power won't be capable enough to fulfill their aspirations and promises. Dr. Saillant was so deliberately downbeat at the 2002 annual meeting that a shareholder admonished him: "I'm a little disturbed. Everything [you say] is negative, almost doom and gloom."

"It disturbs me too," Dr. Saillant replied. "Sorry to make it hurtful." As the local magazine *Business Review* reported, Dr. Saillant then went on to say, "People invest for a variety of reasons. Only people who have the will to invest in this kind of investment should do that, and you should do that consciously."

At the end of the meeting, the shareholders enthusiastically applauded him. Even the skeptical shareholder told *Business Review*, "He's an honest individual. I'm going to stay with [Plug Power]." At last May's annual meeting, although the revenues and prospects had improved somewhat, low expectations continued. Dr. Saillant, who assumes a Mel Brooks–like cheerfulness about dim prospects ("hope for the best; expect the worst"), is still trying to establish a leadership style very different from the boosterism of his predecessor.

"Today's investment capital," says Dr. Saillant, "recognizes that it's not knowledgeable enough to place a single bet on any one company. If they knew that they would get a certain return after five years, that's one thing. But there are a lot of promises out there. Now, investors realize that all bets are not equal. My job, in this context, is to provide enough intelligence so that investors have enough comfort to separate themselves from their fear."

Since my visit to Plug Power, I've been trying to figure out whether the capital that Dr. Saillant is seeking actually exists, in a quantity large enough to make a difference. Some writers, like the British academics Daniel Ben-Ami, author of *Cowardly Capitalism: The Myth of the Global Financial Casino* (John Wiley & Sons, 2001), and Benjamin Hunt, author of *The Timid*

Corporation: Why Business Is Terrified of Taking Risk (Halstead Press, 2003), argue that capital is gone for good — a consequence of the ever-more-ingrained risk aversion that has become endemic to mainstream business.

"The drying up of capital is making it difficult for companies to take chances," says Mr. Hunt. "Corporate executives are returning millions of dollars to investors in stock buybacks, rather than taking it on themselves to explore new things. On the investment side, the same risk aversion shows up in the rise of index tracking funds: investors herding together to avoid losses. With the result that the whole system is far less dynamic and innovative than it needs to be."

But at least one observer draws a very different conclusion. The Venezuelan economic historian Carlota Perez published a book last year, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages* (Edward Elgar, 2002), that has been extravagantly praised by such economic luminaries as the economist W. Brian Arthur and William Janeway, a Warburg Pincus executive. Ms. Perez's book maintains that there have been five great surges of industrial development since the industrial revolution began in the late 1700s. Each of the five cycles followed the same pattern: a bold new technological "big bang," a highly speculative period of enthusiasm (which she calls "frenzy") leading to an economic crisis; then a more fundamentally solid growth surge (which she calls "synergy") maturing into slow lethargy. Each cycle represents an entire re-creation of industrial infrastructure; the cycle starting in 1908 transformed a steam-driven society into one suffused with electricity and petroleum.

In Search of Patient Capital

In all five cycles, the key driver is conflict between two types of capital: financial capital drawn from investors, and more patient production capital, which comes increasingly from profits as upstart companies become viable and venerable.

Consider, for instance, the surge we're in right now, which, according to Ms. Perez, began with the expanded commercial development of the semiconductor around 1971. For the first 30 years, financial capital and short-term returns dominate the system. The crisis (which just passed) always involves overreaching, bubbles bursting, and evidence of chicanery coming to light. If this cycle follows the patterns of the past four, production capital — innately more patient — will emerge in a host of places. Investors, picking up on this, will put their money into the long-term fundamentals.

One might conclude, then, that companies such as Plug Power (if they're right about their technology) need only wait to become the leaders of the new industry they're building. But it's not quite so simple. Ms. Perez notes that in the synergy phase of the cycle, "short-term financial criteria, apart from the risk of stimulating dishonesty, can no longer serve to guide investment and technology decisions directed to the steady expansion of production and markets." Trust, in other words, becomes a core component of transforming crazes into sustainable growth.

If Carlota Perez is right, then the highest-leverage move an entrepreneur/CEO like Roger Saillant can make is to build trust — not in his products so much as in himself and in the people of his company. At this moment in the cycle, any innovative company, if it really wants patient capital, can't attract that capital through a formula. It can do it only by developing an inclusive, creative, and truthful strategy that unites the interests of employees and investors. There's always a leap of faith when people start a business; but now we're at a point in the cycle where all the players, especially employees and investors, have to jump together. This in turn requires a different kind of CEO; rather than an all-powerful commander, it requires someone (like Dr. Saillant) who knows how to convene employees and investors and keep them focused on a common dream.

Is it too daunting to bet all this on the turn of a cycle? Neither the employees of Plug Power, nor the CEO, nor (in the end) investors who want to win the next round have much choice. +

There's always a leap of faith when people start a business. Today, all the players must jump together.

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