

Excerpts from The Solar Living Sourcebook, courtesy of John Schaeffer



Real Goods' Mission Statement

Through our products, publications, and educational demonstrations, Real Goods promotes and inspires an environmentally healthy and sustainable future.

Part I: Who We Are and How We Got Here

Who Put the “Real” in Real Goods

As did many of his contemporaries in the 1960s and early 1970s, John Schaeffer, founder of Real Goods, experimented with an alternative lifestyle. After protracted exposure to nearly every strand of the lunatic fringe, he graduated in Anthropology from U.C. Berkeley in 1971 and moved to an archetypical hippie commune called “Rainbow” in Mendocino County just outside of Boonville, California. There, in an isolated 290-acre mountain top community, John pursued a picturesque life of enlightened self-sufficiency.

Despite the idyllic surroundings of undeveloped gorgeous wilderness, John soon found that certain key elements of life were missing. After several years of reading bedtime stories to his children by the flickering light of a kerosene lamp, John began to squint. He grew tired of melted ice cream and lukewarm beer. He began to miss some of the creature comforts his family was lacking due to their “off-the-grid” lifestyle. He yearned for just a tiny amount of energy to strike a balance between the lifestyle he had grown up with and the relative deprivation of the commune. In other words, John came to the realization that self-sufficiency was more appealing as a concept than a reality.

Then one day he discovered 12-volt power. John hooked up an extra battery to his car that he charged while commuting to work in his Volkswagen bug with a redwood tree stump for a driver's seat (pre-seat belt era!), with just enough juice to power lights, a radio, and the occasional television broadcast. Despite his departure from a pure ascetic lifestyle, each and every time that Saturday Night Live aired, John's home became the most popular place on the commune., John took a job as a computer operator in Ukiah, some 35 twisty miles from Boonville, but ample charging time for his off-grid energy system, powered by a Volkswagen alternator in the days before photovoltaics were on the market.

Once the word got out that John would be making the trek over the mountain to the "big city" daily, he became a one-man pick-up and delivery service, procuring the wood stoves, fertilizer, chicken wire, bone meal, gardening seeds, tools, and supplies needed for the commune. As a conscientious and naturally frugal person, John spent hours scrutinizing the hardware stores and home centers of Ukiah, searching for the best deals on the real goods needed for the communards' close-to-the-earth lifestyle. One day, while driving his VW bug back to the commune after a particularly vexing shopping trip, a thought occurred to John. "Wouldn't it be great," he mused, "if there was one store that sold all the products needed for independent, off-the-grid living, and sold them at fair prices?" That day in 1977, the idea of Real Goods was born and remains today 37 years hence. The company thrived opening up retail stores and many minds and eventually morphed into a mail-order company through many iterations.

Real Goods in the New Millennium

From its humble beginnings in 1978, Real Goods became a Real Business, with Real Employees serving Real Customers. In the 1990s, Real Goods pioneered the "direct public offering" process, whereby it raised investment capital from its customers without the need for investment bankers or other financial middlemen. Before the Internet and cell phones had really caught on, Real Goods was selling stock electronically and allowing its customers to print virtual stock certificates in the privacy of their own homes. It was revolutionary. The company now can lay claim to the title of the Oldest and Largest catalog firm devoted to the sale and service of renewable energy products in the world. Real Goods (Nasdaq: RGSE), and its installation wing: RGS Energy, is still devoted to the same principles that guided its founding—quality, innovative, well-made products for fair prices, education and deep knowledge about the environment, and unsurpassed customer service with courtesy and dignity.

Early on, John managed to turn his personal commitment to right livelihood into company policy, pioneering the concept of a socially conscious and environmentally responsible business. The company consistently has been honored and awarded for its

ethical and environmental business standards. Plaudits include Corporate Conscience Awards (from the Council on Economic Priorities); inclusion in Inc. magazine's list of America's 500 Fastest-Growing Companies; three consecutive Robert Rodale Awards for Environmental Education; Northern California Small Business of the Year Winner; finalist for Entrepreneur of the year two years running; countless other awards, news coverage in Time, Fortune, The Wall Street Journal, and Mother Earth News; numerous TV appearances, countless Japanese magazines; and many thick scrapbooks full of press clippings.

Five Principles to Live By

Real Goods is considered newsworthy not because its methods reflect the latest trends in corporate or business-school thinking, but because it unwittingly has helped to birth an astonishingly healthy “baby”—an ethical corporate culture based on environmental and social responsibility. Led by a certain naiveté and affection for simplicity, Real Goods has discovered some simple principles that, by comparison to the “straight” business world, are wildly innovative. This has not been the work of commercial gurus or public relations mavens, but rather the result of realizing that business need not be so complicated that the average person cannot understand its workings. Real Goods is built around five core simple principles.

PRINCIPLE #1: WE ARE A BUSINESS

A business is, first and foremost, a financial institution. You can have the most noble social mission on the planet, but if you can't maintain financial viability, you cease to exist. And so does your mission. The survival instinct is very strong at Real Goods, and that reality governs many decisions. To say it another way, you can't be truly sustainable if your business isn't economically sustainable (read profitable). To ensure the continued flourishing of our mission, we pursue profitability through our, retail store, webstore (www.realgoods.com) and our residential and commercial solar sales and installation business. We learned long ago that nonprofits aren't driven by profit. That's why we spun off the Solar Living Institute in 1998 to become a 501-c-3. The SLI furthers the original educational mission of Real Goods without the constraints of the profit motive. Both organizations have a symbiotic relationship and help each other out immensely but there are no financial or legal ties between them.

PRINCIPLE #2: KNOW YOUR STUFF

Knowledge seldom turns a profit, yet our social and environmental missions cannot be achieved without it. The independent lifestyle we advocate relies largely on technologies that often require a high degree of understanding, and a level of interaction that has been largely forgotten during our nation's nearly full century binge

on cheap power. We aren't interested in selling things to people that they aren't well-informed enough about to live comfortably and happily with. We want people to understand not only what we are selling and how it is used, but how a particular piece of hardware contributes to the larger goal of a sustainable lifestyle.

It goes against the grain of mainstream business to give anything away. Even a "loss leader" is designed to suck you into the store to buy other, higher-profit items. At Real Goods, knowledge is our most important product, yet we give it away daily, through our webstore (there's a lot in there to learn, even if you never buy a thing); through our Solar Living Center (free self-guided and group tours), now run by the nonprofit Solar Living Institute; through free workshops at our Hopland store, and through workshops we support through the SLI's annual SolFest renewable energy celebration. Our webstore acts as a launching pad for renewable energy research, leading you to fascinating information on sustainability topics of all kinds. We believe that as our collective knowledge of sustainability principles and renewable energy technology increases, the chance of achieving the Real Goods mission increases, too.

PRINCIPLE #3: GIVE FOLKS A WAY TO GET INVOLVED

Just about all of our employees are also our customers and a huge proportion of them live with solar—some, like our founder John Schaeffer live completely off-the-grid. Our Solar Living Center parking lot looks like an advertisement for biodiesel and electric vehicles with all the VW diesel vehicles and plug in Priuses driven by our employees. Real Goods has become a real community, acting in concert toward the common goal of a sustainable future. With the knowledge that the age of oil is likely soon coming to an end, it's comforting to know that we are all in this together.

PRINCIPLE #4: WALK THE WALK

At Real Goods, we conduct our business in a way that is consistent with our social and environmental mission. We use the renewable energy systems we sell, and we sell what works. Our merchandising team makes absolutely sure the merchandise we sell performs as expected, is safe and nontoxic when used as directed, and is made from the highest quality sustainable materials. In 1990, we challenged our customers to help us rid the atmosphere of one billion pounds of CO₂ by the year 2000, and we achieved our goal three years ahead of schedule. Again in 2007 we set an ambitious goal to offset the production of another one billion pounds of CO₂—this time even more quickly (in only two years!).. Real Goods was recognized by being awarded the Rodale Award, as the business making the most positive contribution to the environment in America, for three years running. We don't just talk the talk at Real Goods, we walk the walk. Come visit us at the Solar Living Center in Hopland, California, and see some of our innovative practices. Fill up your biodiesel vehicle on site, see water pumped from the sun, ride our bicycle generators and see how much human power it

takes to power the average American home, , and see 150kW of PV solar powering the site and much more. It's one of the top tourist attractions in Northern California and is now found in tour books and on maps and has had over 3 million visitors since opening in 1996.

PRINCIPLE #5: HAVE FUN!

We strongly support the best party of the year for thousands of our closest friends every summer in August or September on the grounds of our Solar Living Center in Hopland. We look forward to the Solar Living Institute's annual SolFest renewable energy celebration all year. If we've learned anything since 1978, it's that all work and no inspiration makes Jack and Jill a couple of burnt-out zombies. SolFest is our little reminder to take care of ourselves with some good, clean fun, so we'll be rejuvenated and reinvested in the hard work of creating a sustainable future. And we believe in taking time for our families and personal lives rather than fostering a work force of 80 hour per week workaholics.

Part II: Living the Dream: The Real Goods Solar Living Center

Imagine a destination where ethical business is conducted daily amidst a diverse and bountiful landscape, where the gurgle of water flowing through its naturally revitalizing cycle heightens your perception of these ponds, these gardens, these living sculptures. You follow the sensuous curve of the hill and lazy meanders of the watercourse to a structure of sweeping beauty, where floor-to-ceiling windows and soaring architecture clearly proclaim this building's purpose—to take every advantage of the power of the sun throughout its seasonal phases. A few more steps and the spidery legs of a water-pumping windmill come into view, and the top of a tree that looks as though it might be planted in the rusted shell of a vintage Cadillac. An awesome sense of place begins to reveal itself to you. Inside the building, sunlight and rainbows play across the walls and floors of a 5,000-square-foot showroom built of over 600 rice straw bales, and you begin to understand that all of this, even the offices and cash registers, are powered by the energy of the sun. Welcome to the Solar Living Center in Hopland, California, the crowning achievement of the Real Goods mission.

Our Solar Living Center began as the vision of Real Goods founder and board member, John Schaeffer. His dream was to create an oasis of biodiversity, where the company could demonstrate the culture and technology of solar living, where the grounds and structures were designed to embody the sustainable living philosophy of Real Goods' business. With the opening of the Solar Living Center in April 1996,

John's vision is now a reality. As of mid-2014, over three million people have visited the center, and have left this place with an overwhelming sense of inspiration and possibility. As the sign on the gate upon leaving the Solar Living Center states "Turn Inspiration into Action" and take your new found knowledge back to your communities.

In 1998, the Real Goods Solar Living Institute split off from its parent Real Goods Trading Corporation and became a legal 501(c)(3) non-profit called the Solar Living Institute (SLI). Since then the SLI has nurtured and developed the 12-acre permaculture site that has flourished with fecundity.

Form and Function United: Designing for the Here and Now

If the "weird restrooms" sign doesn't grab them first, the 40,000 daily passersby on busy Highway 101 are bound to notice the striking appearance of the company showroom. This does not look like business as usual! The building design and the construction materials were selected with an eye toward merging efficiency of function, educational value, and stunning beauty.

The architect chosen to design the building was Sim Van der Ryn of the Ecological Design Institute of Sausalito, California. His associate, David Arkin, served as project architect, and Jeff Oldham of Real Goods managed the building of the project. Their creation is a tall and gracefully curving single-story building that is so adept in its capture of the varying hourly and seasonal angles of the sun that additional heat and light are virtually unnecessary. A wood-burning stove provides back-up heating for the coldest winter mornings and solar-powered fluorescent lighting is available, but is rarely used. Through a combination of overhangs and manually controlled hemp awnings, excess insolation during the hot-weather months has been avoided. Solar-powered evaporative coolers provide a low-energy alternative to air conditioning, and are also used to flush the building with cool night air, storing "coolth" in the 600 tons of thermal mass of the building's walls, columns, and floor. Grape arbors and a central fountain with a "drip ring" for evaporative cooling are positioned along the southern exposure of the building to serve as a first line of defense against the many over-one-hundred-degree days that occur during the summer in this part of California.

Many of the materials used in the construction of the building were donated by companies and providers with a commitment similar to Real Goods'. As an example, the walls of the SLC were built with more than 600 rice straw bales donated by the California Rice Industries Association. Previously, rice straw has been disposed of by open burning, a practice that contributes to the production of carbon dioxide, the so-called "greenhouse gas" that is the leading cause of global warming. By using this agricultural by-product as a building material, everyone benefits. The farmers receive

income for their straw bales, no carbon dioxide is produced, and the builder benefits from a low-cost, highly efficient building material that minimizes energy consumption.

At the SLC, visitors experience the practicality of applied solar power technology, including the generation of electricity and solar water pumping. The electrical system for the facility comprises nearly 150 kilowatts of photovoltaic power. Through an intertie with the Pacific Gas and Electric Company, the SLI sells the excess power it generates to the electric company, making the SLC 100% independent from the grid. Once again, like-minded companies have shared in the costs of developing the Solar Living Center as a demonstration site. Siemens Solar (now Solar World) donated more than 10 kilowatts of the latest state-of-the-art photovoltaic modules to the center, and has periodically used the SLC as a test site for new modules. Trace Engineering (now Schneider Electric) contributed four intertie inverters, which are on display behind the glass window of the SLC's "engine room" so that visitors can see the inner workings of the electrical system.

In November 1999, a partnership between GPU, Astropower, Real Goods, and the Solar Living Institute installed a 132-kilowatt PV array on campus, one of the largest in power-hungry Northern California. This direct-intertie array delivers 163,000 kWh of power annually, enough to power fifty average California homes. On tours, either self-guided or with Solar Living Institute tour guides, visitors learn about the guiding principles of sustainable living, and are offered a chance to appreciate the beauty that lies in the details of the project. The site also provides a wonderful space for presentations by guest speakers and special events, and serves as the main campus and classroom for the workshop series staged by the Solar Living Institute, a nonprofit dedicated to education and inspiration toward sustainable living.

The Natural World Reclaimed: The Grounds and Gardens

Learning potential is intrinsic to the award-winning landscape, designed by Chris and Stephanie Tebbutt of Land and Place in Boonville, California. For this project, the design of the grounds, gardens, and waterworks was the first phase of construction and contributed much to establishing the character of the site. This is a radically different approach than most commercial building projects, where the landscaping appears to be a cosmetic afterthought. At the SLC, the gardens are a synthesis of the practical and the profound. Most of the plantings produce edible and/or useful crops, and the vegetation is utilized to maximize the site's energy efficiency while portraying the dramatic aspects of the solar year. Plantings and natural stone markers follow the lines of sunrise and sunset for each equinox and solstice, emanating from a sundial at the exact center of the oasis. More sundials and unique solar calendars scattered throughout the site encourage visitors to establish a feeling for the relationship between this specific location and the Sun. Those of us who work and play here daily have discovered an

almost organic connection with the seasonal shifts of the solar year and the natural rhythms of the Earth.

The gardens themselves follow the sun's journey through the seasons, with zones planted to represent the ecosystems of different latitudes. Woodland, Wetland, Grassland and Dryland zones are manifested through plantings moving from north to south, with the availability of water the definitive element. Trees are planted to indicate the four cardinal directions. The fruit garden, perennial beds, herbs, and grasses reflect the abundance and fertility of a home-based garden economy. Visitors discover aesthetic statements in design and landscape tucked into nooks and crannies all over the grounds, and unexpected simple pleasures, too, like shallow water channels for cooling aching feet, and perfect hidden spots for picnics and conversation.

Unique to these gardens are the "Living Structures," which reveal their architectural nature according to the turn of the seasons. Through annual pruning, plants are coaxed into various dynamic forms, such as a willow dome, a hops tipi, and a pyramid of timber bamboo. These living structures grow, quite literally, out of the garden itself. Visitors unaccustomed to the heat of a Hopland summer find relief inside the "agave cooling tower," where the turn of the dial releases a gentle mist into the welcome shade of vines and agave plants. By the time visitors leave the center, they've begun to understand the subtle humor of the "memorial car grove," where the rusting hulks of '50s and '60s "gas hog muscle" cars have been turned into planter boxes for trees. These "grow-through" cars make a fascinating juxtaposition to the famous Northern California "drive-through" redwood trees!

A Place to Play

In case this all sounds awfully serious, it should be pointed out that the SLC is a wonderful place to play! Upon entering the showroom, one is greeted by a delightful rainbow spectrum created by a large prism mounted in the roof of the building. Visitors need not understand on a conscious level that this rainbow functions throughout the year as a "solar calendar," or that the prism's bright hues mark the daily "solar noon"—this is a deeper learning that ignites the place where inspiration happens, not a raw scientific dissertation. Outside, interactive games and play areas tempt the young at heart to forget about the theory and enjoy the pleasure of pure exploration. A six-station bicycle "generator" allows riders to see how much energy humans are capable of generating compared to the average American home's energy needs. It doesn't take long for riders to really feel how much energy is required to create the tiniest bit of energy; almost everyone takes the time to compare the aching results of muscle power to the ease with which the same amount of energy is harvested from the sun with a solar panel.

The hands-down favorite for kids is the sand and water area. A solar-powered pump provides a water source that can then be channeled, diverted, dammed, and flooded through whatever sandy topography emerges from the maker's imagination. A shadow across the solar panel stops the flow of water, and it doesn't take long for kids to become immersed in starting and stopping the flow at will. Without even realizing it, these little scientists are learning about engineering, hydrology, erosion, and renewable energy theory!

These are only a very few of the dozens of hands-on interactive displays available to the public at the Solar Living Center.

Where to Find the Solar Living Center

The Real Goods Solar Living Center is located 94 miles north of San Francisco on Highway 101 and is open every day except Thanksgiving and Christmas. There is no admission charge (although donations to the Solar Living Institute are strongly encouraged!) for regularly scheduled or self-guided tours, and picnicking is strongly encouraged.

Customized group tours for students of all ages, architects, gardeners, or others with special interests are available on a fee basis by advanced reservation, through the nonprofit Solar Living Institute. The Institute also offers a variety of structured learning opportunities, including intensive, hands-on, one-day to one-week seminars on a variety of renewable energy, sustainable living, and permaculture gardening topics. Please call the Institute at 707-472.2450 for more information, or visit its website at www.solarliving.org for a complete syllabus of current workshop and class offerings.



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