



Seahorse Power Company

Innovations for a Cleaner Future

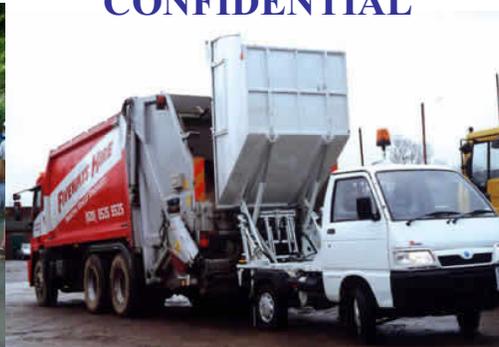
Business Summary

February 2004

In 2004, Seahorse Power nabbed top honors—and \$20,000—in Babson College's graduate business plan competition for its concept of selling a solar-powered trash compactor to businesses and governments. BusinessWeek.com's Kerry Miller checked in with founder James Poss three and a half years later to take a peek at his original business plan and see how it compares with Seahorse Power today—now 18 employees strong, with \$3 million in revenues. Poss also offered advice for how aspiring entrepreneurs can write a winning business plan of their own.

Flip through this PDF to see a complete annotated version of Seahorse Power's award-winning business plan.

CONFIDENTIAL



Disclaimer: This summary is not an offer to sell securities, nor a solicitation of an offer to buy securities.

Paying too much for
waste collection?

Want to reduce litter?

Pick up less,
Pay less.



Innovations for a Cleaner
Future

1-888-820-0300
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James Poss and his partner debated about whether to include this sample brochure in their business plan, deciding that it was a good way of easing the reader in. "You really have to value the time of your reader and get your point across as quickly as possible," Poss says. "You have to expect that even a diligent investor is not going to read your whole plan."



Unsightly garbage affects your business,
and extra collections waste money

Seahorse Power Company has developed a cordless, **solar-powered waste compactor** for ski resorts, parking lots, and retailers — anywhere the sun shines.

The **SunPack** stores solar energy to power high-strength compaction motors, eliminating 3 out of every 4 trips. The device can notify your waste hauler or employees when pickups are needed, eliminating unnecessary trips. In many locations, **SunPack** pays for itself in less than one year.

SunPack preserves the environment by reducing litter and diesel truck trips. It can vastly economize recycling efforts too, by reducing the volume of every bottle or can.



Give us a call and
stop throwing
money away!

**SunPack BigBelly, our
smallest solar-compactor**



"We were wrong on the target customers, by a long shot," Poss says. "We had made an assumption that municipalities would be slow and bureaucratic and that other places would be faster. The way it turned out, the private sector hasn't bought into the technology as much as municipalities."

Business Plan

Private and Confidential

Seahorse Power Company has a simple goal: to displace pollution, lots of it.

Our vehicle is innovation, and with it, we will introduce cost-saving environmental and a powerful message—that humans can live sustainable lives. And we will help them get there.

Executive Summary:

Seahorse Power Company (SPC) is a Massachusetts-based renewable energy technology company and the manufacturer of **SunPack, a solar-powered trash compactor.**

SunPack saves money and reduces fuel consumption by reducing trash and recycling collection frequency. *SunPack* streamlines operations in a \$20 billion collections industry in the U.S. Traditional AC-powered compactors, which now have applicable revenues of about \$1.2 billion in the U.S., are confined to areas where a fixed electricity supply is economically attractive—next to a building, for instance. Across a parking lot in a shopping center, in more remote areas like parks and beaches, or where transportable solutions are needed, *SunPack* is the only solution. *SunPacks* eliminate 3 of every 4 trips to collect waste, and they notify sanitation workers via wireless beeper when bins need servicing.

Target customers for our solar compactors are remote resorts and outdoor event management companies. We will also build early sales with side-panel advertising opportunities on devices donated to parks and beaches. Vail Resorts, Inc. was our first customer (delivered February 2004). Later customers will be condominiums, mini-malls, amusement parks, retailers and municipalities. This spring, SPC will deliver a dumpster-sized device to *The Tannery Shopping Center* in Newburyport, MA.

Patents are pending with the US Patent and Trademark Office (May 2003). We continue to generate and protect intellectual property and regard this as a key asset, especially in Japan and Europe. ABC Law, LLP, in Boston is handling our intellectual property protection. This barrier to competition is an important aspect of our business. We are the first in the world to make solar compactors, and many aspects of our design will be very difficult to circumvent without infringement.

Financing: SPC has received \$30K in funds from XYZ Capital LLC and “family and friend” type angel investors and another \$12K in grants. ABC Corporation, a 30-year veteran in solar manufacturing, has committed an additional \$50K, pending matching investment commitments from other parties. With this small amount of financing, SPC has solidified patents (pending), designed and delivered the first unit, and has poised itself to deliver small but profitable runs of *SunPack* machines.

We intend to deliver 20 profitable machines this spring to prove our economic benefits to a customer base that broadly represents our target markets. We expect that manufacturing partners and interested angels will engage in round A of financing this summer. We will seek an additional \$750K in equity financing, which will enable us to accomplish profitable manufacturing runs of 50 units or more. Dramatic manufacturing efficiencies can be subsequently undertaken with further investment in molds and other high-volume processes.

Team: SPC’s core team is made up of two Babson MBA’s and two F.W. Olin School of Engineering students. We have several tertiary members and several advisors who have helped guide our progress.

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Why the time is right for *SunPack*:

If writing this plan today, Poss says he'd pump up the references to global warming, and throw in buzzwords like "carbon footprint" that weren't as widely known in 2004.



A common sight in NYC

- **Overall trash volume and cost have been increasing** in the U.S. over the past several decades. The U.S. EPA reported that in 2001, Americans disposed of 4.4 pounds of waste per person per day.¹ Most analysts calculate U.S. waste collection activities at over \$20 billion annually.
- **Trash hauling demands** in the U.S. have created an infrastructure of *179,000 diesel trucks that get only 2.8 miles per gallon, using one billion gallons of diesel every year in the U.S.*²
- **Commercial diesel pollution** has spurred some of the most hotly debated environmental legislation in government. Natural gas is often embraced because it is mostly domestic and is fairly clean, yet only 1% of the garbage trucks on the road use natural gas. Remaining trucks will cost about \$40,000 extra per vehicle to convert or replace, making progress from this angle difficult and expensive.
- **New wireless and solar technologies** are more cost-effective and durable than ever. Solar energy has become much cheaper in recent years (over 5X cost reduction over the last 10 years), and nanotechnologies are poised to reduce prices further (by an additional 10X), while increasing durability.³ Wireless communication platforms are cheap and low-power. All needed mechanisms are now mature, and ready for new applications. Solar cells for the *BigBelly* devices cost under \$200 and cells for the larger unit, the *Hippo*, will cost under \$350.
- ***SunPack* reduces financial costs and health problems.** Our product reduces collection cost, worker injuries, unsightly litter, pungent odors, heavy diesel pollution, traffic volume, roadway damage, and rodent, bird, and bee nuisances.
- ***SunPack* is a profitable product.** It provides an excellent launching pad for Seahorse Power Co. SPC believes that there are many opportunities in the environmental sector that meet its requirements of providing a cleaner and more cost-effective solution to environmental problems.

¹ Municipal garbage statistics: U.S. Environmental Protection Agency <http://www.epa.gov/epaoswer/non-hw/muncpl/facts.htm> ; BIOCYCLE journal on recycling (400M). <http://www.jgpress.com/>

² Two year study by *Inform*, a New York based consulting group. Waste age Wire, and online trade journal.

³ "Discovery may spur cheap solar power" Reuters, October 6th, 2003. www.solarbuzz.com, and other industry sources

Product description:

- Tough solar cell cover

"We ended up making a machine that was aesthetically unacceptable by our target client base," Poss says. "We were out there selling a boxy-looking, ugly machine for close to two years. I could have shown them a picture of this thing and said: "Hey, would you buy this?" and saved myself a lot of time and money."

- Photo-eye to gauge trash level
- Space for dual batteries
- Fully compatible for upgrades



SunPack is powerful, reliable and versatile. Compaction requires short bursts of energy throughout the day (cycles last 30-90 seconds). This is an ideal equation for a solar-battery system. The *SunPack* shown above needs only 50 Watts of solar cells (about 2.5 square feet). With such little power, the motor can compact trash with 2,800 lbs. force over 10 times a day. Collections are reduced by a factor of 4, reducing collection costs by 400%.

There are no cords, no installations, no permits, no digging... Customers need not sink capital into permanent wiring or pay high monthly fees for many collections. *SunPack* can compete in price with traditional compactors, but has versatility that others don't.

- **Interchangeable power modules** are optimized for desired price-performance ratios.
- **Wireless devices** can be installed to relay a "pick-up" message via beeper or e-mail, and will also allow sanitation managers to remotely change settings to intercept demand peaks and overflow.
- **Wheeled or sled-mounted "trains"** can add compaction to special events, from concerts to raceways to the Marathon. Dual compaction bins reduce weight of each load, and can aid in recycling. Vail will mount its *SunPack* on a sled to address the needs of its special events.

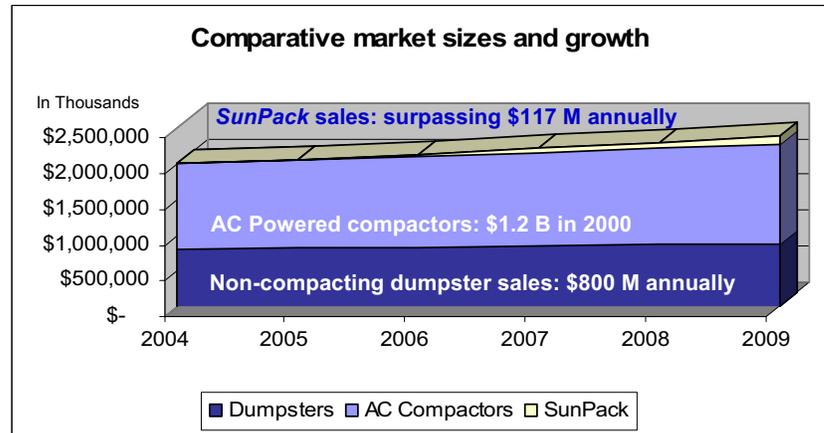
Break-even points are under one year for customers with remote locations, high trash demands and highly compactable waste. Other locations will have a 1-3 year payback. Currently, we are targeting only those customers who will benefit from 12-18 month paybacks, and who can also profit from other benefits like advertising on the *SunPack*, reduced litter, PR, or a keen interest in reducing diesel consumption.

Our two models include a stand alone device the size of a trash can (above, "BigBelly"), and a solar power-pack for large compactor retrofits—can power almost any compactor (see example to right, "Hippo" model).



"I almost have to laugh at our last line—'our bottom-up analysis'—because that's exactly what we didn't do," Poss says. "This is typical of something you'd write as an early-stage business school student—where you look at some huge number and say: 'We're going to get 1% of that and it'll still be a very big business.' If I were an investor reading this business plan, I would say: 'Come back to me when you really know Boston's finances—or New York's, or somebody's, and you can tell me all about their budget and decision-making cycles for all aspects of waste management.'"

Market potential in U.S.



Market size sources: Dun and Bradstreet and The 2000 Report on Sanitary Supply. Distributor Sales, Research Department of Trade Press Publishing Corporation, SPC projections for direct and licensee sales.

Opportunity

Industry Summary:

The waste hauling industry is the major buyer/installer of compactors. It comprises three large companies (Waste Management, Allied Waste and Republic) that share half of the \$20 billion collections market, and “mom & pops” that compete for the other half. Since waste hauling contracts are won on price alone, and since the big three have clearly stated that their competitive advantage will come through operational streamlining, we expect waste haulers to use *SunPack* technologies as a tool for cutting costs and winning more business. Adopters of *SunPack* technology will out-compete rivals.

In addition to the commercial hauling industry, there are countless internal waste collection operations at resorts, amusement parks, city commons, etc. These markets are currently underserved by compaction devices. Most potential customers surveyed have been enthused by this concept.

The compactor industry is made up of dozens of companies that mainly manufacture large steel compactors for commercial sites (above 4 cubic yard volume). By comparison, there are only a handful of smaller products on the market (1/2 cubic yard or less). The largest manufacturers are Marathon, Wastequip and consolidated steel companies like Blue Tee and McClain Industries.

Dunn & Bradstreet reported sales in 2002 of compaction equipment at \$2.4 billion, half of which, or approximately \$1.2 billion, we estimate is applicable to *SunPack*, (100,000 units per year). Sales of applicable dumpsters were approximately \$800 million (1 million units) in the same year.

Only one-in-ten commercial trash bins can compact, and there is no other compactor available today that is aimed at replacing outdoor trash cans (our *BigBelly* model). Until the *SunPack*, compactors were confined by electricity. In remote locations, even across a parking lot, wiring hasn't made economic sense, and so compaction has not been feasible—until now.

Our bottom-up analyses project that annual *SunPack* revenues can exceed \$120 Million annually by 2010 in the U.S. SPC will capture a significant share of these revenues through direct sales and licensing. (This figure implies that the compactor industry will see a 10% increase in market share.)

Company strategy

We outsource many a
The SunPack

"Give yourself plenty of time to hit your goals," Poss advises aspiring entrepreneurs. "Try to be as noncommittal as possible about specific dates—you're going to miss them."

| Goals | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|--------------------------------|---|------|--|----------------------------------|-----------------------|------|
| Technology focus | Patents → Product development → Transition technologies | | Integration into manufacturer's lines | | | |
| Sales strategy | Sell small units → lease small and large units | | | Sales done by partners/licensees | | |
| Marketing focus | End users, advertisers → Commercial sites | | Small, then large waste management companies | | | |
| Manufacturing strategy | Contract Manufacturing | | | Manufacturing partners/licensees | | |
| Potential exit strategy | Sell long-term regional licenses | | | | Sell technologies off | |

Manufacturing:

SPC has commissioned XYZ Manufacturing multinational contract manufacturing company to construct several beta devices under our guidance. By early 2004, XYZ can manufacture 100 complete units, at a cost that will enable SPC to yield a substantial profit. By 2005, we aim to have both products available at attractive prices and margins. Our projected costs will drop significantly in 2006 as we transition to volume manufacturing techniques. Manufacturing and distribution will be outsourced to contractors in the near term, and ultimately will be handled exclusively by partners and licensees.

Marketing:

SPC aims to leverage the Vail pilot program into sales of stand-alone units to ski mountains in the 2004-2005 Season, and soon thereafter, to condominium units at each resort. Already, we are in discussions with Squaw Valley, Mammoth Mountain and Golf Resort, Breckenridge and Crested Butte. Marketing will stress cost-savings and environmental image improvement at resorts, and will highlight advertising opportunities (on each device). SPC will also target Central Park, NYC, AMC hiking lodges and State and National Parks, as well as corporate sponsors Patagonia, L.L. Bean, Timberland and Stonyfield Farms to build "sponsorship" sales. SPC will be the marketer of the SunPack, while manufacturing will be mainly outsourced.

Sales:

As our sales focus enlarges from end-users to include waste-haulers, SPC will migrate from manufacturing contractor to licensor and partner with existing compactor manufacturers, who will evolve as our sales representatives to the commercial waste hauling industry.

Technology:

Seahorse Power Company is a renewable energy technology company. We focus on useful, economical applications of energy technologies in markets where there is immediate opportunity. Our goal is to bring clean energy products to market now, to reduce emissions tomorrow.

Our approach to environmental improvement relies on simple economics. We believe that a market-based approach to environmentalism is the only way to effect significant change.

Financial summary:

"The hardest thing to get right is the finances," Poss says. "We were a whole year off. Everything just took longer [than we anticipated.]"

| Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|
| BigBelly (small) units | 175 | 570 | 1,293 | 1,876 | 2,171 | 2,606 |
| BigBelly average price | \$3,800 | \$2,950 | \$2,750 | \$2,350 | \$2,150 | \$1,950 |
| BigBelly average COGS | \$1,695 | \$1,500 | \$1,183 | \$723 | \$723 | \$723 |
| Hippo (large) units | 27 | 285 | 663 | 942 | 1227 | 1592 |
| Hippo average price | \$4,500 | \$3,900 | \$3,400 | \$2,900 | \$2,650 | \$2,250 |
| Hippo average COGS | \$3,180 | \$3,180 | \$2,210 | \$1,710 | \$1,505 | \$1,160 |
| Total direct sales rev's | \$ 786,500 | \$2,791,422 | \$5,809,618 | \$7,138,861 | \$ 7,920,163 | \$ 8,664,398 |
| BigBelly license revenues | \$ 9,450 | \$ 45,749 | \$ 361,927 | \$ 1,223,951 | \$ 1,615,375 | \$ 2,129,655 |
| Hippo license revenues | \$ 6,660 | \$ 48,235 | \$ 339,222 | \$ 1,024,997 | \$ 1,528,664 | \$ 2,117,487 |
| Total gross revenues | \$ 802,610 | \$2,885,406 | \$6,510,767 | \$ 9,387,809 | \$11,064,202 | \$12,911,541 |
| Expenses: | | | | | | |
| R&D, Product development | \$ 153,745 | \$ 411,441 | \$ 635,511 | \$ 706,504 | \$ 914,514 | 1,627,576 |
| Sales & marketing | \$ 72,900 | \$ 428,895 | \$ 761,332 | \$ 997,487 | \$ 1,113,467 | \$ 1,245,191 |
| General and Administration | \$ 244,100 | \$ 363,975 | \$ 477,229 | \$ 506,842 | \$ 539,397 | \$ 574,850 |
| Total average COGS | \$ 382,485 | \$1,760,249 | \$2,995,137 | \$ 2,966,367 | \$ 3,416,715 | \$ 3,731,099 |
| Other expenses/adjustments | \$ 57,590 | \$ 60,094 | \$ 45,298 | \$ 9,064 | \$ 17,196 | \$ 26,323 |
| EBITDA | (\$108,211) | (\$139,248) | \$1,596,259 | \$ 4,201,544 | \$ 5,062,913 | \$ 5,706,502 |
| Funding needs (equity/debt) | \$ 800,000 | \$1,000,000 | | | | |
| Potential acquisition value | \$3,500,000 | \$4,328,110 | \$9,766,150 | \$16,428,666 | \$22,128,405 | \$25,823,082 |

Financing needs are as summarized, right:

| | | |
|---------|--------------|----------------------------------|
| 2003-4: | \$ 125,000 | (seed, seeking additional \$75K) |
| 2004: | \$ 800,000 | (equity round A, debt, grant) |
| 2005: | \$ 1,000,000 | (debt, grant, equity if needed) |

Financing has been in the form of convertible debt in the seed stages of the company's development. Round A will be an equity round, and financiers will be angels and industry—namely the waste management and solar industries. Growth can be largely debt-driven moving forward, as the devices are hard assets that can be financed. Additional revenues may stem from overseas licensing. A potential exit strategy is to license and eventually sell the SunPack business segment.

* COGS in the summary financials above do not exactly match COGS in the income statement because in the simplified summary shown above, COGS includes a buffer for customer service parts, which is included in other line items of the more detailed financial projections.

Annual financial projections

| Income statement | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------------------------------|-------------|-------------|-------------|-------------|---------------|
| Net sales | \$ 791,210 | \$2,885,406 | \$6,476,766 | \$9,387,809 | \$ 11,064,202 |
| Cost of goods sold | \$ 389,495 | \$1,667,910 | \$2,876,982 | \$2,448,487 | \$ 2,993,331 |
| Gross Profit | \$ 401,715 | \$1,217,496 | \$3,599,784 | \$6,939,321 | \$ 8,070,872 |
| Operating expenses: | | | | | |
| Selling, general and admin | \$ 316,500 | \$ 792,871 | \$1,238,561 | \$1,504,329 | \$ 1,652,864 |
| Research and development | \$ 177,745 | \$ 459,441 | \$ 635,511 | \$ 706,504 | \$ 914,514 |
| Depreciation and amortization | \$ 15,180 | \$ 12,094 | \$ 26,053 | \$ 9,064 | \$ 17,196 |
| Total operating expenses | \$ 509,425 | \$1,264,406 | \$1,900,125 | \$2,219,897 | \$ 2,584,575 |
| Operating income | \$(107,711) | \$ (46,910) | \$1,699,659 | \$4,719,424 | \$ 5,486,297 |
| Income before income tax expense | \$(107,711) | \$ (46,910) | \$1,699,659 | \$4,719,424 | \$ 5,486,297 |
| Income taxes less accrued benefit | \$ - | \$ - | \$ - | \$1,887,770 | \$ 2,194,519 |
| Net Income | \$(107,711) | \$ (46,910) | \$1,699,659 | \$2,831,654 | \$ 3,291,778 |

| Balance Sheet | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|-------------------|--------------------|--------------------|--------------------|---------------------|
| Assets | | | | | |
| Current Assets: | | | | | |
| Cash and cash equivalents | \$(107,195) | \$ 134,693 | \$2,639,194 | \$4,379,565 | \$7,304,547 |
| Trade accounts receivable | \$ 62,638 | \$ 397,542 | \$ 950,664 | \$3,755,124 | \$4,425,681 |
| Inventories | \$ 533,265 | \$1,093,956 | \$ 42,086 | \$ 374 | \$ 24,443 |
| Total current assets | \$ 488,709 | \$1,626,190 | \$3,631,944 | \$8,135,063 | \$11,754,672 |
| Property and equipment, net | \$ 18,280 | \$ 51,032 | \$ 90,639 | \$ 171,962 | \$ 263,230 |
| Total assets | \$ 506,989 | \$1,677,223 | \$3,722,583 | \$8,307,025 | \$12,017,901 |
| Liabilities and Stockholders' Equity | | | | | |
| Current liabilities: | \$ - | \$ - | \$ - | \$ - | \$ - |
| Accounts payable | \$ 31,319 | \$ 198,771 | \$ 475,332 | \$1,877,562 | \$ 2,212,840 |
| Income taxes payable | \$ - | \$ - | \$ - | \$ - | \$ - |
| Accrued liabilities and other | \$ - | \$ 49,693 | \$ 118,833 | \$ 469,390 | \$ 553,210 |
| Total current liabilities | \$ 31,319 | \$ 248,464 | \$ 594,165 | \$2,346,952 | \$ 2,766,051 |
| Stockholders' equity: | | | | | |
| Common Stock | \$ 615,250 | \$1,615,250 | \$1,615,250 | \$1,615,250 | \$ 1,615,250 |
| Additional paid-in capital | \$ - | \$ - | \$ - | \$ - | \$ - |
| Retained earnings | \$(139,581) | \$(186,491) | \$1,513,168 | \$4,344,823 | \$ 7,636,601 |
| Stockholders' equity | \$ 475,669 | \$1,428,759 | \$3,128,418 | \$5,960,073 | \$ 9,251,851 |
| Total liabilities & stockholder equity | \$ 506,989 | \$1,677,223 | \$3,722,583 | \$8,307,025 | \$12,017,901 |

* Inventory in the balance sheet is shown at fiscal year end, and thus it appears to fluctuate widely from year to year since we are assuming a batch manufacturing strategy. In 2007, for example, inventory levels are low because we project a batch order in early 2008.

| Statement of Cash Flows | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|--------------|--------------|--------------|----------------|--------------|
| Cash flows from operating activities: | | | | | |
| Net income | \$ (107,711) | \$ (46,910) | \$ 1,699,659 | \$ 2,831,654 | \$ 3,291,778 |
| Non-cash elements included in net income: | | | | | |
| Depreciation and amortization | \$ 15,180 | \$ 12,094 | \$ 26,053 | \$ 9,064 | \$ 17,196 |
| Changes in assets and liabilities: | | | | | |
| Trade accounts receivable | \$ (56,938) | \$ (334,903) | \$ (553,122) | \$ (2,804,460) | \$ (670,557) |
| Inventories | \$ (539,435) | \$ (560,691) | \$ 1,051,870 | \$ 41,712 | \$ (24,069) |
| Accounts payable | \$ 31,319 | \$ 167,452 | \$ 276,561 | \$ 1,402,230 | \$ 335,279 |
| Accruals and long-term liabilities | \$ - | \$ 49,693 | \$ 69,140 | \$ 350,557 | \$ 83,820 |
| Net cash from operating activities | \$ (657,585) | \$ (713,266) | \$ 2,570,161 | \$ 1,830,758 | \$ 3,033,446 |
| Cash flows used in investing activities: | | | | | |
| Purchase of PP&E | \$ (23,210) | \$ (44,846) | \$ (65,659) | \$ (90,387) | \$ (108,464) |
| Net cash used in investing activities | \$ (23,210) | \$ (44,846) | \$ (65,659) | \$ (90,387) | \$ (108,464) |
| Cash flows (used in) provided by financing: | | | | | |
| Issuance (Redemption) of stock | \$ 587,500 | \$ 1,000,000 | \$ - | \$ - | \$ - |
| Net cash provided by financing | \$ 587,500 | \$ 1,000,000 | \$ - | \$ - | \$ - |
| Change in cash and cash equivalents: | | | | | |
| Net increase in cash and equiv. | \$ (93,295) | \$ 241,888 | \$ 2,504,501 | \$ 1,740,371 | \$ 2,924,982 |
| Cash & equivalents at begin of period | \$ (13,900) | \$ (107,195) | \$ 134,693 | \$ 2,639,194 | \$ 4,379,565 |
| Cash & equivalents, end of period | \$ (107,195) | \$ 134,693 | \$ 2,639,194 | \$ 4,379,565 | \$ 7,304,547 |

* We are very well aware of a cash shortage at end of 2004 of \$107,000. As most of our costs are variable in nature, we will not be forced accrue deficits unless we can provide the financing needed. We have begun structuring a round of financing for \$800K, which would close this gap immediately. But we believe that we will be able to attract grants and/or debt financing to get us through this period, and will resolve the financing gap before taking on commitments that could jeopardize our financial standing. However, we have not assumed that this financing is guaranteed, so we have indicated the situation as a short-term cash shortage until we have more information upon which to base our financial strategy in late 2004.

In sum, this is a business with limited financing needs, and to the degree that we can bootstrap our way to profitability and self-financed growth, we will be rewarded with a more commanding share of ownership in the venture and a higher payoff for employee-owners and investors upon the sale of the SunPack business segment.

Competitive strategy

Poss calls the strategy laid out here a little naive. "There's just not even real field experience that went into this," he says. "Before you lay out a strategy, you've got to make more than one phone call to assess whether you're truly going to be able to sell to this type of target—especially if you're going to be naming specific clients in your business plan."

With the first solar-powered trash compactors in the world, Seahorse Power Company is in a strong position to lock up essential patents and offer attractive deals to large partners.

Competition



Competitive Advantage

- Pending patent for critical elements
- Existing prototypes and development head start
- Partnerships with solar, electrical and compactor professionals

Competitive threat

- Design around our patents
- Blatant patent infringement

SolarCan Response

- Moderate licensing fee and good IP protection will avoid incentive for patent infringement

Competition and Complements

The large waste management companies like Waste Management Inc., Republic and Allied have clearly indicated in their annual statements that their strategy going forward is to reduce operating costs. Yet, they have not significantly changed their usage of compactors because traditional units don't make sense in most locations. Since waste haulers do not make equipment themselves, we are in a position to sell to them, not compete with them. With haulers like Waste Management, Inc, we will share mutual benefits.

Existing compactor manufacturers show no signs of developing a solar powered trash compactor in the near future, although the three manufacturers that we interviewed said that they would be interested in selling such devices to their customers. Since the development of this technology would be a departure from the normal business of these companies, SPC is in a position to leverage their customers and manufacturing capabilities for shared revenues. Existing compactor manufacturers like Marathon Equipment Company may be our future partners, but are unlikely to compete. SPC will remain a marketer of solar-compactors or just as a licensor of the technology, depending on future circumstances.

Solar energy equipment suppliers like BP Solar, Astropower, Siemens and Sharp have not indicated a shift in strategy from providing solar modules for applications to developing their own applications. We see potential in a partnership with a supplier like BP Solar, a powerful company looking to increase solar cell sales via new applications. We hope to attract financing for growth from a supplier such as BP Solar.

Our competitive strategy includes building our own patent portfolio and manufacturing specifications, and using that to leverage mutually-beneficial partnerships with the various stakeholders. As these stakeholders become partners, the coalition will be difficult to replicate.

Critical risks—and our contingency strategies

What if things do not work out as planned? As with any business, through some of these risks and have devised contingency plans. approaches to some potential problems:

Operational risks:

- ✓ **Delayed beta product development could hurt timeliness of product**
- ✓ **Suppliers can not deliver quality product on time**
- ✓ **We can not raise projected capital in a timely manner**

We are investigating several suppliers, seeking to diversify supply. We are working with our customers to manage expectations regarding timing and technology performance. If we find out any bugs, we will be able to provide better quality and timing assurance. We are guaranteed in this market, so we have leveraged many contracted and fixed costs to keep price low and development timeline fast. If capital is slow, we hope to mitigate risk through customer down payments, supplier payment delays and bank loans. We plan to do some of this anyway.

Technology risks:

- ✓ **Machines don't work as planned**
- ✓ **What about heavy bags, leaking liquids, smell and inclement weather**

Our core technologies are based on proven concepts. Solar energy, battery storage, compaction mechanisms...they are all well tested. To ensure good design, we have contracted experienced engineers. Unforeseeable problems will be mitigated through the careful management of customer expectations.

Waste liquids have been shown by compactor manufacturers to be absorbed in discarded paper products in most cases. Heavy bags will be removed using wheeled carts, smell is low because air and waste will not mix much (air aids decomposition). Non-toxic deodorizers will be used if necessary. Inclement weather will be microprocessor-managed. We will do our best to manage customer expectations and work with them to provide good service and good feedback, so we can continue to improve the machines.

Intellectual property risks:

- ✓ **Lack of recourse against larger company who wants to infringe on our patent (can be addressed by having reasonable licensing fees and a good law firm)**

There are always risks when dealing with technology and intellectual property. We will start our defense with strong patent protection. Since our goal is to license, we believe that offering reasonable licensing fees to big companies will provide the best defense against potential competition.

Opposition groups:

- ✓ **Labor union opposition (although many labor unions, like the International Brotherhood of Electrical Workers (IBEW) see important benefits to solar technologies)**
- ✓ **Waste hauling companies oppose because it cuts their revenues, which are largely based on collection frequency**

Opposition groups may provide some friction in the long term. Initially, we will avoid this problem by selling to groups that do not have these opposition groups. In the longer-term, we will work with the waste haulers to provide them savings, which they may pass on to their labor force as part of a diplomatic solution. We will start with small, local haulers looking to increase profit margins and reach. Ultimately, we believe that large waste haulers will see the value and share in the benefits of efficiency, provided by *SunPack*.

Poss considers this section about critical risks and contingency strategies one of the most important pages in the business plan. "Just having this section basically ensures that I'm not going to get asked one of these questions by the judge in the business plan competition, because I've already answered it," Poss says. In discussions with investors, this section signals that "you've thought through these things"—even if the solutions themselves are off the mark.

"We have not sold to a single ski mountain since," Poss says.
"We found it to be not a very good market."

Vail Resorts, Inc. became our first customer in February 2004.

So far, they love the product. They have begun giving us input to help improve our product line for next season.



Vail is an ideal early customer. They have many high-volume locations that are bathed in 300 days of sunlight every year (Colorado is the sunniest state in the nation). They also have strong environmental initiatives and are enthusiastic about adopting new renewable energy technologies, especially those with a reasonable breakeven. Some sites at Vail could pay off in less than one ski season.

The ski mountain has **over 25 trash-generating sites** without electricity that require frequent collections, and some of them are a two-hour round trip snow-cat ride from their destination. *SunPack* can help them relieve an enormous burden on their Snow-cats, which burn 5-6 gallons of diesel every hour, and their lifts, which are often constrained by the 9 tons of trash that is hauled down the mountain on a busy day.

The valley is filled with **hundreds of condominium complexes**, the vast majority of which do not have compacting dumpsters situated outside in the sun. We see the rollout of devices onto the mountain, then into the valley, as a crucial opportunity.

Our value proposition to Vail and other ski resorts is very strong. There is high waste volume, environmental sensitivity and money available to invest in cost-saving technologies. Vail is currently using a SunPack BigBelly machine that they purchased for the 2004 season.



Installation at Vail: February 2, 2004
(Currently located at Eagles Nest Lodge)

Company bios

"If I had it to do again, I'd make sure to include someone who knew something about the [waste management] industry," Poss says.

James Poss: founder of Seahorse Power Company and the inventor of SunPack. *Poss is the CEO of Seahorse Power and will be engaged mainly in fundraising and product development in the near term.*

Poss' design work in renewable energy technology began with an ocean-powered generator, supported with a grant from the Pew Foundation in 1995. Poss was a sales engineer at Solectria Corporation, working with battery-electric drive systems for cars, buses and specialty vehicles. Since then, he has worked as a contract manufacturing coordinator as Director of Operations at a sailboat manufacturing company, and was a business analyst for top management at Spire Corporation in their world-renowned solar energy business. Poss brings the *SunPack* invention and several other renewable energy concepts to Seahorse Power Company. He holds a BA degree in Environmental Science and Policy and Geology from Duke University, and a Masters in Business Administration from **Babson College**.

Alexander Perera: renewable energy and finance professional. *Perera will mainly be engaged in sales to resorts and in building relationships through our growing list of contacts in New York City.*

Perera is a **Babson MBA** candidate and an environmental industry professional with experience in renewable energy use and energy efficiency measures. As an analyst at Natural Resources Defense Council (NRDC), Perera advised Governor Pataki's Greenhouse Gas Task Force and served on the Partnership for Clean Air Community (PCAC) Steering Committee. The PCAC evaluated and funded \$5 million in projects that reduced air pollution in New York City, ranging from powering a large community center with solar energy to reducing diesel fumes from idling trucks at one of the busiest distribution centers in the Northeast by using high-tech parking spaces. Prior to working at NRDC, Perera was a financial analyst at Bear Stearns & Co. in New York, where he structured the \$1.1 billion Atlanta Water & Wastewater transaction, one of the largest financings in the municipal industry for 1999. Perera was Program Director in 1996-7 for the New York Energy Efficiency Council, Inc. He has a BA degree in Environmental Science from Boston University.

Jeffrey Satwicz: F.W. Olin School of Engineering student and Seahorse Power Engineer.

Satwicz is an undergraduate engineering student with experience in product testing for Department of Defense projects on remote vehicles. He spent September 2001 to May 2002 as an Olin Partner, helping professors design and test curriculum for Olin College. In addition to rigorous study in math, science, and engineering, the innovative curriculum emphasizes hands-on projects, teamwork, entrepreneurship, and the arts and humanities. His competencies include: SolidWorks 3D Modeling, ProDesktop 3D Modeling, PSpice Circuit Design, MATLAB Modeling. Satwicz has been working with SPC since May of 2003.

Bret Richmond: F.W. Olin School of Engineering student and Seahorse Power Engineer.

Richmond is also an undergraduate engineering student with a long record of innovative success, including: Franklin W. Olin College of Engineering Partner Year Scholarship, Columbia Engineering School Alumni Association Award for Creative and Innovative Achievement in Engineering, 47th Annual Arkansas State Science Fair, First Place, Engineering Category, Arkansas State Science Fair, the Herbert Hoover Young Engineer Award at Arkansas State Science Fair, the Top Ten Award, 2000 Invitational Academic Workshop, United States Military Academy, and First Place, Entrepreneurship Category, Future Business Leaders of America, Arkansas State Leadership Conference.

Student-interns Jeff Satwicz and Bret Richmond have helped SPC develop prototypes at a low cost to the company, and will continue to assist in the fabrication and quality control of our devices.

Company bios (cont)

Poss says the advisers listed here were mostly contacts who agreed to let him use their names; he didn't end up tapping them for advice very often.

Richard Kennelly: renewable energy technology and policy expert. *Kennelly is Vice President of Sales & Marketing and will be engaged mainly in building sales with municipalities, fundraising and grants.*

From 1996 until 2002, Kennelly was a Staff Attorney at Conservation Law Foundation, where he served as Director of CLF's Energy Project. At CLF, Richard concentrated on electric utility deregulation, renewable energy, energy efficiency, air quality, and global warming. He worked extensively with electric utilities in the six-state region on the development of large-scale renewable energy commercialization and energy efficiency programs. Kennelly brings to SPC numerous influential contacts and experiences with clean energy development at many levels. He holds a BA with honors in English and American Literature from Harvard University, a JD from the University of Virginia School of Law, and a Master of Environmental Planning from the University of Virginia School of Architecture.

Engineering assistance and guidance: Solectria Corporation, Spire Corporation, Boston Engineering, Inc. and Bodkin Design and Engineering, Inc. have been helpful in our development efforts. They have given valuable advice ranging from overall mechanical design to electrical systems and component design.

ADVISORS: *Includes seasoned professionals from the energy and waste management industries.*

- Norman: Former V.P. of Marketing at Pacific Gas & Electric and founder of Energy Information Technologies, Inc.
- Robert: Former Director of the Electric Vehicle Assoc. of the Americas and the Renewable Energy Institute.
- Gary: Director of Transportation, US National Parks.
- Roger: Founder and CEO of X Corporation with 30 years of experience in the solar energy industry
- James: Founder and CEO of X Corporation, with over 20 years of experience designing and manufacturing electric drive systems for buses, cars, trucks and specialty vehicles.
- Two commercial waste hauling executives have also advised the company in developing our commercial strategy.

Case Studies (*Smartmeter*)



The “SmartMeter” is a solar-powered parking meter which has many similarities to our SunPack. It serves as an example of how to penetrate markets with an innovative solar product.

SchlumbergerSema (business segment of Schlumberger Ltd)

- ✓ Wireless solar-powered multi-space parking meter
- ✓ Used in Aspen, CO; Berkeley, CA; Houston, TX; Mesa, AZ; New York City, Toronto and Calgary, and extensively in Europe.
- ✓ Portland, OR recently signed a contract for 900 units



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Related Technology case study

A SmartMeter is a solar-powered, multi-space parking meter. It operates on solar energy and replaces a block of single-space meters, which require time-consuming collections. It works well even on rainy, gray days in Portland, OR, and has a two-way communicator that alerts the City of a technical problem immediately. It features an electronic display that provides the user with transaction information, an electronic clock that shows the time of day, user instructions, and a button operated credit card transaction feature. It has a printer that produces a receipt for display in the vehicle.

SchlumbergerSema, the manufacturer, has installed SmartMeters in Aspen, CO; Berkeley, CA; Houston, TX; Mesa, AZ; New York City, Toronto and Calgary, and extensively in Europe.

This is a good example of a problem solved by solar energy and wireless communications technology. The developers of this machine could have easily used traditional power sources to achieve the same goal. Their proven use of solar power validates our proposition that solar energy can be used for new applications, including appliances and wireless data transfer.

Moreover, the support they received from the town of Portland for the implementation of 900 SmartMeters proves that some cities are ready to improve their operations with new solar technologies.

Case Studies



Our experience at Yale serves as an example of the SunPack's versatility and Seahorse Power Company's commitment to serving unique customers' needs.

Yale University

- Over 20 high traffic areas where garbage overflow is a concern
- Outdoor events such as sports games, concerts and rallies cause temporary spikes in waste collection that create litter on campus
- Actively seeking ways to reduce litter

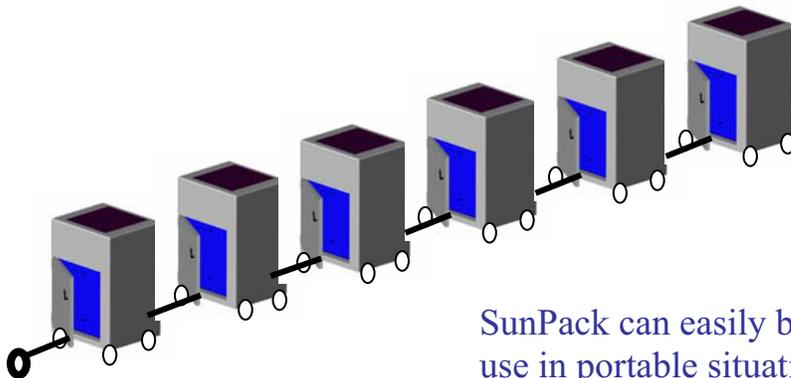


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Customers

Roberto X, Director of Facilities of Yale University, did not see any immediate economic value of the SunPack for his operation since he had a full-time maintenance staff that would take time to streamline. However, he became excited at the prospect of reducing peak loads...litter. What would be extremely valuable, he said, was something portable for special events. This fit into our strategy well, and we are designing a modification for the *SunPack* so it can tow like a train, enabling it to be towed by any utility cart or pickup.

We hope to sell a pilot system of movable devices to Yale in the coming year, and will continue to market the *SunPack* train to other local universities. Based in Boston, MA, SPC is well poised to provide *SunPack* locally to a dense population of universities. Follow on markets for the portable cans include stadiums and stadium parking lots, where waste hauling during events is done on a massive scale.



SunPack can easily be converted for use in portable situations: parties, graduation, *Head of the Charles*, etc.

Quotes from some of our target audiences:

Aides to the mayor are to testify today before the City Council on the garbage problem and announce their proposal to seek additional ideas...Early in his administration, Mr. Bloomberg made finding a new way to handle the city's trash one of his top priorities..."We are not going to continue to give your kids lung disease, no matter what the cost is," the mayor said at City Hall in July 2002, when he unveiled his long-term solution. "That's the bottom line."

ERIC LIPTON *City Seeks Ideas as Trash Costs Dwarf Estimate*, New York Times, Dec 2, '03

CHICAGO -- Union garbage collectors voted overwhelmingly Thursday to end a nine-day strike that left stinking piles of trash around the Chicago area...During the strike, trash collection stopped for about 200 of Chicago's 600 public schools. Most of the 200 have trash compactors, but garbage was piled high for the 82 that do not.

By Brandon Loomis Associated Press, October 10, 2003

"A lot of businesses really aren't aware of how (waste removal) works," says Marc Fournier, director of WasteCap of Massachusetts Inc. in Cambridge. "In some companies, as long as it goes away, it's OK."

According to WasteCap, a nonprofit that helps businesses start recycling programs, Massachusetts businesses produce 4.9 million tons of garbage annually, slightly more than half of all trash produced in the Bay State. Taking out the garbage can cost even a small business thousands of dollars a year.

Trash collection is not exactly a dynamic business. Haulers can't really offer any "new and improved" method of picking up the garbage, so they mostly compete on price. Earnings come from developing compact, customer-rich routes. Profit margins are low, innovations few.

From the December 5, 2003 print edition of the [Boston Business Journal](#). Talking trash: **Disposal leads to thriving market niche**. Experts say dealing with garbage can be a pricey, dicey topic for the unwary Matt Kelly, Special to the Journal

Annual generation of municipal solid wastes in China is estimated to have risen to around 0.12–0.14 billion tons by the end of the year 2000. About 60% of this total derives from 52 key cities with over 500,000 inhabitants each. The municipal solid waste from 11 super-large cities accounts for 19.4% of China's total, with Beijing the largest contributor at 4.12%...

Yongfeng Nie, Jinhui Li, Dongjie Niu, Qingzhong Bai and Hongtao Wang, WasteAge Magazine

Everyone has trash. SunPack can help.