Sedona Pump Stations

Franklin Pierce University
Small Business Advisory Group
2012-2013
Team Members:

**Fall 2012**

**Chair:** Lindsey Black  
**Co-Chair:** Keri Marnane  
**Secretary:** Nicholas Fulciniti  
**Alternate Secretary:** Jeffrey Gloshinski  
**Faculty Advisor:** Jason Little

- Christopher Catan
- Sara Davis
- Courtney Weber
- Timothy Stille
- Christopher Giampietro
What is SBA?

The Small Business Advisory group is comprised of Franklin Pierce students who partner with the New Hampshire Small Business Development Center, in helping organizations and startup companies develop business initiatives.
Small Business Advisory Group
*Working with Sedona Pump Stations, LLC*

Has applied business skills and knowledge to a problem-based service learning situation for client *Sedona Pump Stations*

**Our Objectives:**

- Develop professional written and oral communication skills
- Develop team building skills
- Apply marketing and other business-related skills
- Develop problem-solving skills
- Deliver final products to the client
Meet our Client:

Jim McDerby - Inventor

- Jim has been in the solar industry for over a decade designing, selling, and installing systems.
- He has a reputable knowledge of temperature controls and energy management.
- Founded Sedona Pump Stations, LLC in 2012.
- Developed an innovative solar thermal pump station.
- Jim’s goal is to sell his pump station to distributors of solar system stores.
Client’s Mission Statement

Our mission at Sedona Pump Stations is to produce high-quality, cost-competitive products that compete head on in the solar thermal market place.
The Product

Solar thermal pump station
The Process

All components within the dashed rectangle make up the optional Heat Dump Loop

Normal Flow Direction
Selling Points

- Cost effective
- Works with existing hot water tank
- Easy to control/ install
- No proprietary parts – Off the shelf replacement parts
- Simplistic temperature controller – Preprogrammed right out of the box
- Energy cost savings
Selling Points..
Continued..

- Light weight - 40 lbs.
- 2 year warranty
- UL Listed components
- Capable of 117,000 BTU/hour
- It’s not Styrofoam pack like other pumps
- Solid product - Quality for the money
- Consists of a steel protective case
- 20 plate heat exchanger - Main competitor, Purist has a 15 plate heat exchanger
- Internal cooling fan - Keeps pumps cool and running efficiently while out of site
Marketing Deliverables

*Marketing Research and Market Communication*

1. Develop sales letter and brochure that will include key facts about product, key promise(s) made by business, and reason(s) why customers and distributors should buy.
2. Determine market size, market growth rate, market needs, and overall state of industry.
3. Competitive analysis.
4. Develop email marketing plan.
Deliverable #1: Objective of the Sales Letter

Our main goal was to compile a letter that can be sent out to distributors all across the U.S. explaining the product as well as making a compelling case as to how different the product is from its competitors. We did this by pinpointing the major differences and positive factors that the product has to offer compared to others.
Dear Distributor,

Solar thermal heating is one of the fastest growing renewable energy technology used in the United States. Consumers adopting solar thermal for their hot water needs are treated to a reliable, low-investment product that also benefits the environments.

My name is Jim McDerby. I have been designing, selling, and installing solar thermal systems for more than a decade. I created Sedona Pump Stations to offer a solar thermal pumping unit with the consumer in mind. Focusing on consumers and their needs is a top priority when developing and launching a new innovative product.

As a retailer/distributor your customers are looking for an aesthetically pleasing solar pump station without a lot of complicated wiring and controls to fuss with. This ready to use, right out of the box, active closed-loop Sedona Pump Station plugs into an ordinary wall socket, offering a user-friendly controller, and costs less than competitive systems. Control and service are quite simple, so the average, everyday plumber is able to install this system and walk away without hesitation.

This cost effective, solid product has a 20-plate heat exchanger capable of transferring over 110,000 BTU per hour. Competitive systems only achieve a fraction of this rate. This high efficiency allows for maximum heat transfer with minimal thermal loss. These are just some of the substantial differences that make this product stand out compared to competitors.

By using a common industry-standard circulator pump, we ensure that your customer will never be stranded waiting for expensive, hard-to-find proprietary components. Customers enjoy years of maintenance-free hot water from a renewable resource—easy on their wallets and good for the environment.

With the amounts of people turning to renewable energy sources these days, now is the time to offer your customer’s an affordable, no-fuss, attractive home product that meets their solar thermal needs. Find out for yourself what makes our product the best solar pumping station on the market, at our website, SedonaPumpStations.com. Here you’ll find complete product specs and information about our 2-year warranty. Contact me with your questions at (603) 209-5941, or via email at Jim@SedonaPumpStations.com.

Yours,
Jim McDerby,

CEO and Founder of Sedona Pump Stations
79 Park Valley Drive, Spofford, NH 03462
Informative Materials

The Brochure (front)

The Model A-2-20 Pump Station Features:

* Closed loop design
* System differential controller for easy setup and low installation cost
* Specifically designed for pressurized closed loop glycol circuits.
* Dry weight of only 40 lbs.
* User-friendly interface designed with ease of use in mind

For More Information:
Please Contact:
Jim McDerby
Jim@SedonaPumpStations.com
www.sedonapumpstations.com
(603) – 209 - 5941

Our mission at Sedona Pump Stations is to produce high-quality, cost-competitive products that compete head on in the solar thermal market place.
Informative Materials

The Brochure (back)

SEDONA
PUMP STATIONS, LLC

Made In the USA

Features a 20 plate heat exchanger - Capable of producing 117,000 btu / hour

Low cost, high quality

Internal cooling fan to prevent internal components from overheating

User-friendly controller
  • No menu driven controller
  • Very easy to install

No exposed external wiring

Housed by a strong steel enclosure that is built to last

Chord for wall outlet

Founder of Sedona Pump Stations, LLC, Jim McDerby has over a decade of experience in the Solar Energy field. His previous work in the field includes:
  • Installation of systems
  • Sales of systems
  • Product Design
A Great Business to Be in!


Sedona Pump Stations, LLC

"THE ENVIRONMENTAL AND ENERGY STUDY INSTITUTE":
Assuming that 40 percent of existing homes in the United States have sufficient access to sunlight, 29 million solar water-heating systems could be installed. Solar water heaters can operate in any climate. Performance varies depending on how much solar energy is available at the site, as well as how cold the water coming into the system is. The colder the water, the more efficiently the system operates.

"ENERGY.GOV" ON SOLAR WATER HEATING SYSTEMS:
They can be used in any climate, and the fuel they use -- sunshine -- is free.

"RENEWABLE ENERGY WORLD" SAYS:
Solar water heating enjoyed a bubble of activity in the U.S. during the 1970s and 1980s. Inconsistent product quality, poorly designed policy mechanisms and dropping energy prices caused the market to collapse in the 1980s, leaving only a few based in North America.

FOR INFORMATION ABOUT STATE AND FEDERAL INCENTIVES:
www.dsireusa.org DSIRE (Database of State Incentives for Renewable & Efficient Energy)

What does this mean for the future?

GreenTech Media and the Solar Energy Industries Association estimate that solar water-heating installations increased by 6% in 2010, compared with 2009 (GTM/SEIA 2011).

The solar heating market has showed strong growth starting from 2006. The most growth was found within the past few years.

State incentives for solar water heating have also increased in numbers within the past few years. According from a study done in 2010, Arizona, California, Connecticut, Florida, Hawaii, Maryland, Oregon, Pennsylvania, and Vermont all offered rebates for over 100 systems in 2010 (Sherwood 2011).

The increase in solar water heating can be expected to continue to grow. With more states setting up incentives for residential use, the prospect of switching to a solar water heating system has never looked more attractive to homeowners.
Deliverable #2: Overall Market and Industry Analysis
Internal Attributes of the Organisation

HELPFUL to Achieving the Organisation’s Objective

Strengths

Opportunities

External Attributes of the Environment

Weaknesses

Threats

HARMFUL to the Achieving the Organisation’s Objective
SWOT Analysis

**Strengths**

- Proven Experience
- Product that is simple to use
- Easy to install
- Cost of install
- Made in America
SWOT Analysis

Weaknesses

- New to market
- Sole proprietor
- Not UL listed
- Wearing many hats
SWOT Analysis

Opportunities

- The solar thermal market will grow and expand with the **Green** movement
- An opportunity for a new easy to use and cost effected product that eliminates consumer concern with installation and cost will emerge
- Federal and state tax rebates may be available, in some states up to a 30% rebate
- The Solar Thermal Water Heating Industry has seen steady growth over the past few years
- 1994-2010, nearly 247,000 solar water heaters installed
- In 2010 alone, over 124,000 solar installations completed, an overall 22% increase
- 84% of systems installed in 2010 were residential
- Industry Value – added (IVA) expected to increase annually at 17.5% until 2016
The threats identified in the SWOT analysis include:

- An editor for OneEarth, a quarterly journal of the Natural Resources Defense Council, noted that “green is the new black” and that the “eco-narcissism” trend would fade out.
- Recently found domestic natural gas sources are driving conventional energy costs down.
- Going Green may be just a trend waiting to fade out and will hinder the solar thermal industry.
- Cheap natural gas is a threat to the solar industry and all other renewables.
- 74% of people surveyed were interested in the system but concerned with the cost and maintenance that may come with it.
RULES, REGULATIONS & POLICIES FOR RENEWABLE ENERGY

- Massachusetts prohibits local governments from enacting local zoning laws that prohibit or “unreasonably regulate” solar energy systems.

- New Hampshire legislation has enacted laws that allow property owners to create solar easements and provide the right to unobstructed access to solar energy.

- **The Residential Energy Conservation Subsidy Exclusion (Personal)** is a federal policy for owners of solar water heat, solar space heat, or photovoltaic, to receive tax credits based on installations or modifications designed to reduce consumption of electricity or gas.

- **The Residential Renewable Energy Tax Credit** is a federal tax credit for residential energy systems.
NH Incentives

- New Hampshire
  - Property Tax Credit- varies (local option)
  - Residential Rebate Program
    - 50% of cost, up to $1,000

- Utilities
  - New Hampshire Electric Co-Op
    - $750 rebate
MA Incentives

- Massachusetts
  - Personal Income Tax Credit - 15% of system cost and installation expenses, can be used to offset buyers state income tax. Up to $1,000
  - Property Tax Credit - Any residential solar wind or energy devices that are used to heat/cool a building, provide heat or create electricity are 100% exempt from local property taxes
  - Sales Tax Credit - All geothermal, solar energy and wind equipment is exempt from state sales taxes
  - Residential Rebate Program
    - $45 per BTU, up to $3,500 per building
Federal Incentives

- Personal Tax Credit\(^{104}\)
  - 30% of cost and installation
    - Solar water heaters placed in service before 1/1/2009: up to $2,000
    - Solar water heaters placed in service after 12/31/2008: no maximum
Deliverable #3: Competitive Analysis
<table>
<thead>
<tr>
<th>Brand</th>
<th>Sedona</th>
<th>TACO</th>
<th>Purist</th>
<th>Heliodyne</th>
<th>Paw</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>A-2-20 Pump</td>
<td>Solar X-Pump Block</td>
<td>SPS-2-AC</td>
<td>HPAK 024 000</td>
<td>SE Solex DWHX</td>
</tr>
<tr>
<td>Price</td>
<td>$1,280.95</td>
<td>$1,400</td>
<td>$1,866.71</td>
<td>$3,360</td>
<td></td>
</tr>
<tr>
<td>Made</td>
<td>USA</td>
<td>USA</td>
<td>USA</td>
<td>USA</td>
<td>Germany</td>
</tr>
<tr>
<td>Housing</td>
<td>Steel</td>
<td>Molded Styrofoam</td>
<td>Steel</td>
<td>Plastic</td>
<td>Molded Styrofoam</td>
</tr>
<tr>
<td>Maximum Continuous Fluid Temperature</td>
<td>200F</td>
<td>180F</td>
<td>180F</td>
<td>250F</td>
<td>248F</td>
</tr>
<tr>
<td>Maximum Working Pressure</td>
<td>75 psi</td>
<td>125psi</td>
<td>45psi</td>
<td>150psi</td>
<td>87psi</td>
</tr>
<tr>
<td>UL Rating</td>
<td>Most Components</td>
<td>Some Components</td>
<td>Some Components</td>
<td>Some Components</td>
<td>UL Certified</td>
</tr>
<tr>
<td>Standard Heat Exchanger</td>
<td>Stainless Steel Single Wall Design</td>
<td>Stainless Steel Single Wall Design</td>
<td>Stainless Steel Single Wall Design</td>
<td>Tubular heat exchanger</td>
<td>double wall heat exchanger</td>
</tr>
<tr>
<td>Plates</td>
<td>20 Plate</td>
<td>15 Plate</td>
<td>15 Plate</td>
<td>16 Plate</td>
<td></td>
</tr>
<tr>
<td>Heat Exchanger</td>
<td>117,000 BTU/hr</td>
<td>6600 BTU/hr</td>
<td>24,000 BTU/hr</td>
<td>51,182 BTU/hr</td>
<td></td>
</tr>
</tbody>
</table>
Purist

- 15 plate heat exchanger
- 2 pumps
- Pressure/Temperature Gauge
- Fill/Drain Valves
- Made in The USA
- Durable Enclosure-Clean Appearance
- Small size 8.5” x 14” x 5”
- 6600 BTU/hour
Taco Solar Pump Station

- Pre-wired
- Easy to install
- Controller with graphics/digital display & data storage
- 2 storage tanks
- Warranty = 1 year from initial start-up
- 240,000 BTU
- $2,824.70
Heliodyne HPAK

- Trouble-free experience
- Between 55-90 lbs.
- 1 year warranty
- Mounts to existing tank
- 16,000 BTU
- Adjustable setting on controller
Deliverable #4: Email Marketing Tactics
Mail Chimp

Fewer than 2,000 subscribers

12,000 emails per month

No credit card

Build a list

Create a template

Send your campaign

Track your results
When & How Often?

- Minimum of once per month
- Maximum of once per week
- “We’ve found midweek is always a great time to send campaigns” – reference
- Tuesdays 10:30 am
- Wednesdays 2:00 pm
- Thursdays 3:00 pm
10 Tips

To Avoid The Spam Folder

1) Be compliant with the CAN-SPAM Act
2) Avoid spam trigger words
3) Include a text version of E-mail if using HTML
4) Use permission marketing techniques
5) Use spam checkers before sending
10 Tips

To Avoid The Spam Folder

Continued..

6) Get off blacklists
7) Maintain a good text to image ratio
8) Avoid spam traps
9) Avoid large attachments and types
10) Make sure your sender-ID and domain keys are set up correctly
How To Unsubscribe To Mailing List

- Sending a blank e-mail to the unsubscribe address
- Address is the same as the list address with “-unsubscribe” placed between the list name and the “@” symbol
- Example: `blankname@blankhost.com` – to unsubscribe is: `blankname-unsubscribe@blankhost.com`
Thank you for your time
Resources

101- http://www.nrdc.org/onearth/07spr/openspace.asp
102- http://www.dsireusa.org/incentives/index.cfm?re=0&ee=0&spv=0&st=0&srp=1&state=NH
103- http://www.dsireusa.org/incentives/index.cfm?re=0&ee=0&spv=0&st=0&srp=1&state=MA
104- http://www.dsireusa.org/incentives/index.cfm?State=US&ee=0&re=0