

## Social Business Plan Competition Submission



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### **Social Problem Addressed-The Social Business Opportunity**

The current options for reliable and stable solar renewable energy options have yet to compete with traditional resource intensive fossil fuels and traditional solar electric (PV) struggles to meet the challenges of efficiency, low cost and intermittency. Commercial industries continue to consume dirty fuels from grid source power plants and natural gas without a clear alternative to business as usual. The implications of continuing business as usual are irreversible environmental impacts both from the extraction and consumption of fossil fuels while increasing global economic and political instability. Over the past several centuries human beings have witnessed several energy break points where natural resources become scarce or have adversely affected the sensitive ecological balance. Given the exponential curve of energy consumption today, considering the source is primarily finite resources, society cannot continue on the current trajectory. The largest economic and social barrier around the world is access to energy and energy is the most relevant economic force, dating back to the industrial revolution. What that means for Oregon and the greater developed and developing world is a tremendous need for clean low cost renewable energy to support future manufacturing jobs, environmental health and energy to keep the economy moving forward.

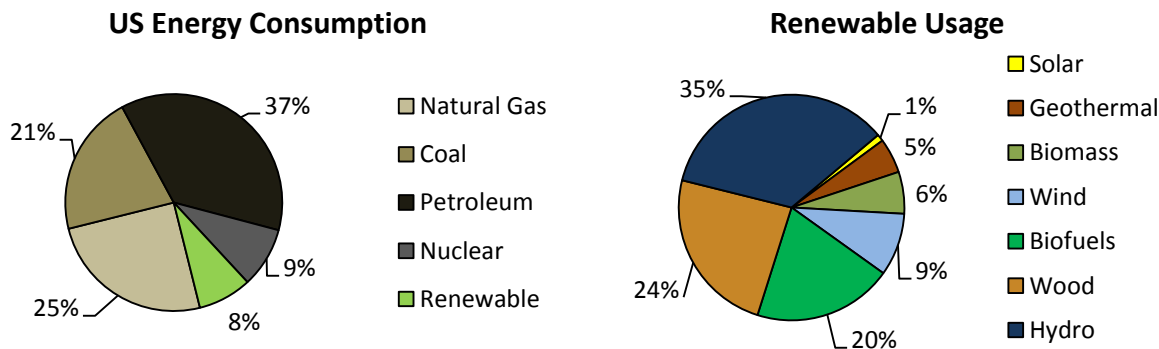


Figure 1 & 2: Data Source-US Energy Information Administration, Monthly Report, June 2011

### **Solution Proposed-Business Model, Product/Services/Programs**

SolenSphere is an energy, technology, engineering, manufacturing and service company with a conscience. Our product we have developed is a novel next generation fully integrated system that utilizes the sun's heat and light to produce clean energy up to 72% efficient. Our initial system addresses the current shortcomings of the solar industry by concentrating the light using a low cost design and by capturing the sun's heat for thermal energy applications. Using a low cost concentration system, we're able to reduce the size of the solar cell by a factor of 1000 thereby reducing the cost of high tech materials used in traditional PV. Additionally, by capturing the heat we are able to tailor the system configuration to offset thermal energy ranging from domestic hot water to thermal storage tanks intended to produce base load utility scale power. In using concentrated photovoltaic cells we've raised the average efficiency of electricity production to 40% effectively doubling current PV efficiencies and additional 32% efficiency by capturing thermal energy. Our system uses a proprietary low cost, recyclable concentration device that can optimize the latest in high efficient solar cell technology and thermal transmission fluids which isolates the company from external market forces as the market matures. Ongoing support will be provided to address all service, warranty and changes in client needs. Lastly, in order to educate the general population of the benefits our emerging technology offers, we will host energy efficiency and environmental conservation workshops allowing for a paradigm shift in the culture of energy usage.

## **Organizational Structure**

Using a basic corporate structure there will be the traditional executive oversight and a board of directors ranging from community interest representatives, partner investors and university faculty. In order to ensure the company employees value the same long term goals of sustainable business and community impact as the corporation, there will be a profit sharing benefit along with incentives for local volunteerism. Using a teamwork philosophy, the company will encourage reinvestment, product innovation and community connectivity for sustained growth.

## **Market Analysis and Strategy**

In order for SolenSphere to demonstrate the application flexibility and benefits, we've selected our initial markets to be the brewery and wine making industry with over 500 customers in the Oregon/Washington market and >6000 customers in the target US market. We've selected these industries because they rely on environmental health for their raw materials, are well funded, use massive thermal/electrical energy, underserved and possess an affinity for clean energy. Next, we'll target the demand for energy in the traditional commercial and utility scale energy production sectors which is projected to be over a hundred billion dollar per year industry and pursue jobs >1MW. Lastly, we have solutions for residential applications which is growing at >100% annually and consuming ~30% of domestic energy production.

## **Launch Strategy and Requirements**

We've currently raised seed capital totaling \$80,000 which will fund one preproduction run of the SolenSphere solar energy system including the thermal and electrical components as specified. Our timeframe for learning and optimizing the system is one year. After one year of intensive research and development using our pilot production system, SolenSphere will then take the learning outcomes to refine the production and installation processes to ensure the lowest cost and easily implemented solar energy device.

## **Financial Plan and Sustainability**

Following the seed phase, we've received commitment on projected A round funding needs. A round funding will allow for capital to begin installation of complete systems for early adopters we've already procured. Using a combination of self-performed engineering and technical support in collaboration with local partner contractors will allow for Central Oregon deployment and manufacturing assembly. We will use a hybrid sales channel approach using direct sales for regional markets and sales representatives for other domestic markets. Our product will be sold through local and international distributors within 3 years allowing for growth. As market reach increases, we will reinvest in additional self-performed manufacturing and ongoing R & D. Our R & D will allow us to remain on the leading edge of emerging markets, further streamlined production efficiency and optimization of system performance while keeping our prices competitive.

## **Impact Summer-Social Benefits**

The SolenSphere advantage for environmental impact reduction using thermal and electrical generation is 117 lbs. of CO<sub>2</sub> per million BTU's of natural gas divergence and 1.76 lbs. of CO<sub>2</sub> per kWh of electricity in Oregon (US EPA eGrid Version 2.1, April 2007). The benefits of environmental health translate into better social health including cleaner and more sustainable communities and industries by improving air quality and isolation from increasing energy costs. SolenSphere will create many good jobs in the renewable energy sector for rural Oregon as we are committed to Southern and Central Oregon for research, development and manufacturing. Growth projections could be as many as 300 local jobs by 2020 and hundreds more throughout the Southwest US and the world. Using the latest in clean and healthy office and manufacturing spaces, SolenSphere will employ diverse skill sets in a fun, productive and environmentally friendly atmosphere. Using our headquarters as an example and a focal point for community connectivity and outreach, we will host local educational workshops and clinics helping everyone from families to business owners change how they view their impact as an energy consumer. Our low cost renewable energy solutions will revolutionize the culture of energy usage and the greater manufacturing world.