

Solar EnerTech Corporation:

Strategic Analysis and Recommendations for an Emerging Solar Cell Manufacturer

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MEMORANDUM

TO: Leo Shi Young, President and CEO Solar EnerTech Corporation
FROM: Ann McManaway, Market Consultant Silicon Solar Consulting
DATE: May 1, 2008
RE: Strategic Company Analysis and Recommendations

EXECUTIVE SUMMARY:

Solar EnerTech Corporation (the Company), a relatively new Photovoltaic (PV) solar cell manufacturer, has several strengths and challenges in the context of the current PV industry that may affect its ability to continue operations in the current economy. The following report contains four major sections, including a photovoltaic solar power market study, a Solar EnerTech Corporation strategic analysis report, a set of recommendations for the Company, and a set of appendices including the Company's financial statements, that collectively explore the challenges and opportunities facing Solar EnerTech Corporation as a start-up participant in the current PV solar industry.

The photovoltaic solar power market study includes both an overview of the global PV industry and a detailed discussion of the US and Californian PV markets. The global overview focuses on the current PV market structure, trends, opportunities, and threats as they might affect market participants. The discussion of the US and Californian PV markets highlights of the trends and recent Californian legislations that would make those markets potentially attractive for a PV solar cell manufacturing company such as Solar EnerTech Corporation.

The Solar EnerTech Corporation strategic analysis report includes a company overview for Solar EnerTech Corporation and an analysis of the Company's strategy, strengths, and challenges in the context of the PV industry. The discussion of strengths focuses on the Company's research and development (R&D) partnership, management resources and positioning, supply contracts, and revenue growth while the discussion of challenges highlights the Company's negative gross margin, large required cash flow for operations, position as a start-up company in a tough market, and international business concerns.

The report concludes with the four recommendations that Silicon Solar Consulting has determined, based on the analysis presented in this report, will be the most vital for the continued operations and success of the company. These recommendations include:

1. Increase the Company's focus on its Californian market to expand its customer base, attract venture capital, and recruit talented solar power experts from local universities and competitors.
2. Take the investment capital and increased sales revenue gained from recommendation 1 and invest it in the R&D initiative to develop a strong competitive advantage in the PV Industry.
3. Continue to expand production while investing in R&D and then shift excess capital to production upon development of competitive advantage to capture economies of scale.
4. Re-evaluate the Company's strategy, its resource positioning, and industry developments to determine whether the Company can eliminate any international business concerns or focus on additional markets.

I. PHOTOVOLTAIC SOLAR POWER MARKET STUDY

INTRODUCTION TO PHOTOVOLTAIC (PV) SOLAR POWER:

Photovoltaic solar power is a source of electricity that is generated through the conversion of the sun's light into energy. Photovoltaic solar power is generated by Photovoltaic (PV) cells, which use semiconductor materials to capture the electrons from the sun's light and create an electron flow to transfer them to power distribution mediums. These cells are typically grouped together to form PV modules, which are more commonly known as solar panels. In turn, PV modules can be connected to form PV solar systems of almost any shape and size.

The most common semiconductor material used in PV cells is silicon, which offers superior conduction properties and is readily available but must be heavily refined to remove impurities before it is useable. As such, silicon PV solar cells are among the most common methods of generating solar power, although they represent only one of a few technologies that is capable of doing so. Photovoltaic solar power can also be generated using other semiconductor materials and solar power in general can be created using solar-thermal power generation, which creates energy by converting the heat of the sun into energy. This method, however, is not as common as PV solar generation.

PV solar power cells, modules, and systems have several features that make this form of solar power a particularly viable and even advantageous global alternative energy source. First, PV solar systems can operate for more than 30 years without major maintenance because they have no moving parts. This means that after an initial investment, there are few operating costs for PV systems owners to offset the savings from their electricity generation. In addition, because PV

systems do not use fuel in the generation of electricity and the supply of their major input, sunlight, is predictable, PV systems can offer very reliable electricity at long-term, fixed prices (US SEC Solar EnerTech Corp Financial 10-K). Those prices are also likely to be consistent and reliable because PV systems generate the most electricity during maximum sunlight hours, which correspond to the highest demand periods, thus avoiding the need for the high-usage hours price peaks that are present in normal electricity pricing models.

Beyond characteristics of reliability, PV solar systems can offer convenient modularity, scalability, and location flexibility that make solar power an attractive alternative energy source for businesses and customers. More specifically, the size and generating capacity of a PV system is directly related to the number of PV modules installed as part of that system, so a system can be customized to meet the specific needs of customers. PV systems can also be placed in almost any location, including being used as the exterior surface of buildings, because they do not rely on moving parts, fuel, or other resources and do not generate significant waste. As such, solar power can be generated very close to where it needs to be used and customers can limit the expense and energy losses that are incurred with power transmission and distribution, making it a more efficient and environmentally friendly power source than traditional power plants.

PHOTOVOLTAIC (PV) INDUSTRY & MARKET OVERVIEW:

Given the characteristics discussed above, photovoltaic solar power systems have become enough of a main-stream alternative energy source to inspire the development of a PV industry dedicated to the manufacturing, development, and sale of PV solar power systems. This industry

consists primarily of silicon PV solar systems and as such the remaining discussion in this report will focus on the characteristics of the silicon PV solar industry and market.

Market Structure – The PV manufacturing and installation markets are still at a relatively early stage of development, with most advances having occurred in the last ten years, so the extent to which certain PV products will be widely adopted is still unknown. As a result, the structure of the market for PV solar systems and its trends are more difficult to discern than industries for which data has been gathered over longer periods of time. Nevertheless, the PV industry already includes thousands of companies worldwide, most of which sell or install solar systems.

Production of solar cells is dominated by a few large companies, and then the number of market participants increases for each activity downstream along the value chain. In general, PV industry participants are one of three types: independent solar power specialists who focus on one aspect of the value chain, electronics companies and semiconductor manufacturers who act as suppliers and customers, and branches of conventional energy companies who participate in several aspects of the value chain (The U.S. Energy Market in a World Perspective).

As of December 31, 2008, the five largest consumer markets for PV solar systems in terms of their total capacity installed were those of Germany, Spain, Japan, the US, and Italy (Flower). In terms of market growth during 2008, Spain, Germany, the US, South Korea, and Italy installed the most new PV systems with approximately 2,511 megawatts (MW), 1500 MW, 342 MW, 274 MW, and 258MW installed respectively (Flower). These five markets constituted about 87 percent of the 5.95 gigawatt (GW) global market for PV installations in 2008, with European markets comprising about 82 percent of the total global market and the US market representing

about 6 percent (“Annual World Solar PV Market Report”). These figures are slightly skewed by the extraordinary number of installations that occurred in Spain during 2008, which will be capped to a mere 500 MW in 2009, but they still make it clear that even though the global market includes 81 nations, the majority of the available market share is currently concentrated in the five to ten nations with the largest markets.

Trends – Until late 2008, global PV manufacturing costs were heavily dictated by the limited availability and high price of silicon wafers, which are a key raw material for solar cell production. The supply of silicon wafers had been limited due to a combination of production bottlenecks caused by a limited number of suppliers and high demand for silicon from multiple industries. As a result of this limited supply, many solar companies had to negotiate extended supply contracts just to receive a steady supply of silicon wafers at fixed prices. This situation changed, however, in the fall of 2008 when improved processing methods and an increase in the number of suppliers caused the availability of silicon wafers to increase and the price to drop significantly over the span of a few months. This major material cost decrease, when combined with the improvements of several years of research and development (R&D) on solar cell design efficiency, reduced industry costs approximately 25 fold compared to 20 years ago (The U.S. Energy Market in a World Perspective).

As a result of this major production cost shift, PV solar power systems are currently priced in the range of 25¢ - 35¢ per kilowatt-hour (KWh), but that is still well above the conventional electricity rates of 8¢ - 12¢ per KWh (Solar EnerTech). To compensate for this price differential and promote alternative energy sources, many European governments, and recently the United

States, have offered incentive programs and tax credits to make installing solar power systems more attractive. Given existing market and R&D progress, and the increasing costs of conventional energy sources, most solar analysts predict that PV solar prices will equal conventional energy prices, a state known as grid parity, sometime between 2010 and 2015 (The U.S. Energy Market in a World Perspective).

Opportunities – The PV industry as a whole has been experiencing strong 20-25 percent annual growth rates in the last several years due, in part, to increasing awareness of the problems of global warming and the diminishing supply of fossil fuels. This awareness has prompted governments around the world to provide many different forms of incentives, including rebates and tax credits to end users, manufacturers, distributors, and other stakeholders in solar power products, so as to encourage the development of alternative energy sources within the existing electricity grid. These incentives, especially the feed-in tariffs through which utility companies are required by the government to pay PV system owners above-market rates for the electricity they produce, have created a customer base that would otherwise not be able to afford alternative energy products.

That customer base offers new potential revenue sources for PV companies and furthermore offers revenue sources that are likely to expand as the need for alternative energy sources increases. In fact, according to the U.S. Department of Energy, the demand for electricity is expected to rise from the current 14.3 billion megawatt (MW) hours to 26.0 billion MW hours by 2025 ("Solar EnerTech Corp. (SOEN.OB) is Soaking up Some Sun"). Such an increase could bring about the inability of non-renewable energy sources to meet the general demand for

electricity and necessitate the reliance upon alternative energy companies to provide the excess in just a few years (Solar EnerTech).

Given the impending need for additional energy sources, there is a great opportunity for PV manufacturers and retailers to attract new customers simply due to the beneficial characteristics of solar power systems compared with other alternative energy sources. Solar power systems, and particularly PV systems, are ideally suited to be a primary alternative energy source because solar modules have no moving parts, need little maintenance, are fully scalable and versatile in application, and do not generate significant emissions or wastes. They also capture the most energy during peak electricity demand times, can be placed in almost any location, and offer price stability due to the abundant and predictable availability of sunlight. As such, solar retail companies could provide power to practically any location, including those areas currently without access to electric power, giving their products an effectively unlimited market potential.

Threats – Because the price of solar power is significantly more per KWh than conventional electricity sources, the competitiveness of solar power products is strongly tied to the tax incentives, environmental regulations, and electricity pricing standards of a variety of foreign, federal, state, and local governments. These regulations are in turn dependent upon many political, economic, and human factors which are not under the control of the solar power companies. If a government eliminates its solar incentives or changes its alternative energy laws, the entire market for a solar company could disappear without the company making any mistakes. In addition, the success of other alternative energy sources may reduce incentive funding for or public interest in solar power.

Currently, R&D and production of solar systems also require significant capital expenditures to keep pace with the rapidly evolving solar product market. Such investments generally decrease during difficult economic periods such as the current one, making it more difficult for both new and established companies to secure funds with which to develop and maintain their businesses. In particular, the initial investment cost for both PV solar customers and PV solar manufacturers can be prohibitive for market entry, even if the technology will lead to future net savings. As such, many customers and small PV manufacturers can quickly become priced out of the market. In addition, even if a PV manufacturing company can secure the funds it needs, their capital investments in either R&D or production capabilities may not yield viably competitive products or intellectual property rights given the rapid rate at which other companies develop competing technology.

This issue is particularly challenging for the PV industry because basic PV solar module technology is part of the public domain. This means that PV manufacturing companies cannot secure intellectual property rights for the primary product that they produce because solar module technology knowledge must be freely available to anyone who wants it. Accordingly, PV manufacturing companies can only seek intellectual property rights for specific design elements and technological improvements that they have made, which tend not to provide the same kind of revenue stream that having a company's entire product type protected would provide. This situation can be exasperated by the fact that the industry features many product warranties of 25 years or more, which exposes companies to extensive warranty claims years after they have shipped products, recognized revenue for them, and/or developed technology that makes them obsolete.

THE US & CALIFORNIA PHOTOVOLTAIC (PV) MARKET:

US PV Market Overview & Trends— The US PV market is generally considered the most underexploited PV solar market because of its disproportionately low cumulative number of PV installations compared to the country's size, population, resources, and level of technological development. The US PV market represented only 6 percent of the global PV market in 2008, despite the US's consumption of about 23 percent of the global demand for electricity ("Country Comparisons - Electricity - consumption"). The US market is less developed than many of its European counterparts due, in part, to previous limitations on the federal and state government incentives offered to subsidize the initial investment costs and price difference between solar power and conventional energy sources. Until late 2008, federal incentives were limited to a \$2,000 solar investment tax credit and only five states have offered some kind of tax support for solar energy systems. Of those five states, only the state of California has developed sophisticated feed-in tariffs similar to those now used in 18 European nations. The other four states—Maryland, Massachusetts, Missouri, and Ohio—began their tax programs in 2008.

Nevertheless, with the recent change in the US presidential administration and the ensuing national focus on alternative energy sources as both a solution for global warming and a matter of national security, the US PV market has solid potential for future growth. Even with a general lack of government incentives, the US PV market demonstrated growth rates of 85.7 percent from in 2006 (Solar E's website) and 31.5 percent in 2007 (Flower). Experts expect these growth rates to increase steadily in the next several years due to the effects of the two recently enacted pieces of federal legislation that include both tax incentives and funding for renewable energy projects. The first of these two acts, the *Energy Improvement and Extension Act* of 2008, features

an eight-year extension of the federal solar investment tax credit, allows utilities companies to take advantage of this credit, and removes the \$2,000 cap on the credit for residential solar system installations (Flower). The second act, the *American Recovery and Reinvestment Act* of 2009, includes a 30% tax credit for electricity generating PV system investments, a \$1.6 billion clean renewable energy bond program, a \$2.6 billion renewable energy research grant program, and a \$60 billion loan program for renewable energy projects (Flower). Both of these acts are designed to increase residential and corporate investment in PV solar systems and are expected to incite investment rates in the next several years similar to those experienced in the past few years by the larger European markets.

California PV Market— Within the US PV market, the Californian market is the most developed and has the most to offer PV companies by a significant margin. As of 2008, California's PV solar power market represented 70 percent of all PV installations in the United States. It has the most progressive state laws and incentives for alternative energy in the US and it has set aside more than \$3.2 billion in funding to support its policies (The U.S. Energy Market in a World Perspective). Even more importantly, Californians have recently shown great interest in the installation of PV systems, installing almost 28,000 grid connected PV systems in the past six years ("Bay Area Solar Installation Report"). These installations represent an 17 fold increase, with the number of installations having more than doubled from 2005 to 2008, and indicate a rapidly increasing demand for PV solar products.

Beyond the rapidly expanding customer market for PV solar systems, California also offers access to about 51 percent of the venture capital invested in the US, receiving \$14.4 billion of the

\$28.3 billion raised in venture capital in 2008 (Rosen). Of that total, \$11.0 billion was invested in Silicon Valley alone, representing the highest concentration of venture capital in any area in the US, which has the largest market for venture capital in the world. The exact proportion of this capital invested in solar power is unknown, however the focuses of solar investors' funds were in the areas of thin film PV research, concentrating photovoltaics systems, and traditional silicon PV production expansion projects (The U.S. Energy Market in a World Perspective).

California is also one of the only US states, and one of only a few governments around the world, that requires all new government construction to include solar power energy generation and offers public-sector financing projects for private residence PV solar system installations. Under this program, the local government pays for the installation with a municipal bond and then the homeowners repay the bond with a tax on their monthly electric bill, which is typically lower than their previous utility bill ("California Solar Legislation"). This program is just one of the many initiatives that the California state government has enacted in the last five years. Each of the four other major Californian initiatives are described below in the context of the effects on the California solar market. It should be noted that these initiatives are supplemented in many areas by hundreds of local rebate and incentive programs from local municipalities and utility companies; however, a discussion of these incentives is beyond the scope of this report.

- **California's Million Solar Roofs Bill** – This bill is the most important of all of California's legislation regarding solar power. The bill increased the maximum percentage of a utility's capacity that can be generated by solar power systems from 0.5% to 2.5%, which allowed approximately 500,000 new solar system owners to reduce their electricity bills by installing solar systems. The law also requires all municipal utilities to

create a solar rebate program, with a total of \$800 million in rebate funds available, to encourage taxpayers to install 3,000 MW of solar capacity over the next ten years ("California Solar Legislation").

- **California's AB 1714** – This initiative allows Californian residents with solar systems to delay switching to the “Time of Use” rate structure for electricity bills until after 2009. It also allows any customers who install solar systems by the end of 2009 to stay at their existing power rates rather than immediately facing the increased charges that the “Time of Use” rate structure will bring. Basically, this law extend the preferential rates that solar system owners receive on their utility bills and encourages other residents to install solar systems to capture these preferential rates ("California Solar Legislation").
- **California's AB 2723** – This initiative created the Low-Income Housing Development and Nonprofit Building loan program to help finance solar energy systems in eligible low-income housing and nonprofit buildings. The program offers affordable loans with attractive rates to low-income housing and nonprofit building owners for the purposes of installing solar systems and reducing electricity costs ("California Solar Legislation").
- **California's SB 107** – This legislation accelerated the date by which retail sellers of electricity must procure 20% of its electricity from eligible renewable energy sources from 2017 to December 31, 2010. As such, it forces utilities and other electricity providers to invest in at least some renewable energy sources by the end of 2010 (The U.S. Energy Market in a World Perspective). For many of those sellers, the renewable energy source will be solar power.

II. SOLAR ENERTECH CORPORATION STRATEGIC ANALYSIS REPORT

COMPANY OVERVIEW:

Solar EnerTech Corporation (the Company) began its current operations as a Photovoltaic (PV) solar energy cell manufacturer in March of 2006. It was considered a developmental stage company until the second quarter of 2007, at which time it became an operational solar company. The Company manufactures PV solar cells and designs and produces PV modules for a variety of applications including panels for solar power stations, roof panels, and modules that can be built directly into exterior walls. PV solar cells are the major element of solar modules, or more commonly solar panels, which convert sunlight to electricity through a process known as the photovoltaic effect.

The Company employs approximately 440 people and has a total of 63,000 square feet of manufacturing and research facilities with production lines capable of generating 50 megawatts (MW) of solar power capacity per year (US SEC Solar EnerTech Financial 10-K). The Company's headquarters, marketing, sales, and distribution divisions are based in Menlo Park, California, and its production and research facilities are located in the Jinqiao Modern Science and Technology Park in Shanghai, China. The Company is publically traded and, as of November 30, 2008, has over 112 million shares of \$0.001 par value common stock outstanding, which is owned by approximately 55 stockholders (Solar EnerTech). The Company also currently offers options to purchase shares of its common stock and restricted stock as part of its employee incentive plan.

In 2006, the Company committed \$3.9 million over three years to the *Joint Labs Initiative* with Shanghai University. This initiative, which provides instruction at the University and research experience at the Company's research and development (R&D) facilities for future professionals, is intended to promote the study of Photovoltaic theory and stimulate research on high efficiency PV cells, low cost manufacturing techniques, low cost PV materials, and third-generation PV cell technology. The Company is entitled to all intellectual property rights that are gained as a result of any research completed.

The Company's vision statement is "to capitalize on the great global demand for solar energy, to take full advantage of its new Shanghai production facility and state-of-the-art R&D center, and to become one of China's top solar cell producers" (Solar EnerTech). This statement guides all strategic decisions made by the Company's management and is indicative of its intended future direction.

CURRENT STRATEGY:

Solar EnerTech Corporation's official business strategy includes "the acquisition, manufacturing, and marketing of innovative PV Cells and modules in order to provide superior solutions to [our] customers. In so doing, we believe it will generate substantial value for [our] stockholders while contributing to energy security, and protection of ecosystems"(US SEC Solar EnerTech Financial 10-K). In accordance with this strategy, the Company aims to compete on the basis of the power efficiency, quality, performance, and appearance of its products, prices, supply chain, distribution network, after-sales service, and brand image.

For its sales strategy, the Company manufactures high-quality, high conversion-rate, low cost solar panels under the “SolarE” brand that can be sold at lower prices than many competitors. This is complemented by a marketing strategy in which the Company is primarily targeting the European market, where government incentives have stimulated strong demand for solar products. The Company has also begun to establish a secondary market in the United States by opening a marketing and sales office in Menlo Park, California (US SEC Solar EnerTech Financial 10-K).

CURRENT STRENGTHS:

Research and Development Partnership - The Company’s ongoing R&D partnership with Shanghai University, the *Joint Lab Initiative*, provides open channels for two vitally important aspects of the Company’s business and future potential growth. First, the *Joint Lab Initiative* provides a means for the extensive research and technological innovation required to be successful as a new company in the PV industry. Second, By offering future professionals further training and education in the PV field, the *Joint Lab Initiative* aids the recruitment and training of skilled scientists and technicians who can be developed into PV solar power specialists employed by the Company. Thus, through this partnership the Company has also secured a direct source for the acquisition of valuable human capital and intellectual property rights, including patents and copyrights, which could secure a lucrative competitive advantage in the future.

Management Resources and Positioning – The Company’s management team is comprised of four business professionals with extensive experience relevant to operating a solar power company and several scientists with proven academic credentials in PV technology fields. This

combination of both business and technically-oriented individuals making the major strategic decisions at the Company gives the Company an important balance of perspectives and ideas from the solar industry and technological research fields. Such a balance in perspective can help the Company avoid setting unrealistic production, marketing, sales, or R&D targets, since experts from both perspectives have an understanding of the Company's respective limitations. In turn, having a realistic and knowledge-based strategy may help the Company to take only those actions that will both maximize the value of the firm and be attainable given the Company's resources, thus avoiding many of the most common mistakes of management.

In addition to establishing a balance of perspective in management, the Company has positioned its other human resources, financial capital, and physical facilities to take advantage of a balance in cost savings and potential market share. As mentioned before, the Company has located its manufacturing facilities in China while placing its headquarters, marketing, sales, and distribution divisions in Menlo Park, California. This dual-location strategy gives the Company access to both the lower cost of labor in China and the potential market and distribution channels of California—a benefit of which most small companies cannot take advantage. Its effectiveness is further enhanced by the Company's current positive relationships with the governments of both regions, which has resulted in preferential treatment and support for the Company from these legislative bodies.

The Company's current positive relationship with these two governments was developed through the Company's participation in and active support of the 2006 Energy Round Table in Beijing, which centered around meetings between Chinese government officials, California Governor

Arnold Schwarzenegger, and solar energy experts to discuss the future of solar power. During the conference, the Company's management were among key contributors who worked to ensure open communication between the two governments and put together a mutual understanding regarding the future of solar energy. They also firmly committed to helping Governor Schwarzenegger win support for the Million Solar Roofs Bill in California, which would become California's most important legislative initiative for the expansion of the California solar energy market. As such, the Company's management gained a reputation with both governments as trusted facilitators for interactions between the two nations related to solar power and has since been awarded permits and government contracts in both locations that might have otherwise been very difficult to obtain.

Supply Agreements and Revenue Growth - In August of 2008, the Company entered into an equity purchase agreement with 21-Century Silicon Inc., a silicon manufacturer based in Dallas, Texas that specializes in low cost production of silicon wafers. This agreement included a four-year supply framework agreement for silicon wafers in exchange for the purchase of 7.8 percent of 21-Century Silicon's common stock (US SEC [Solar EnerTech Financial 10-K](#)). The agreement effectively guarantees that the Company will have a supply of silicon while not tying it to an exact price—an advantage in a market where silicon prices are falling rapidly and other solar manufacturers are locked into fixed price agreements. The agreement will also contribute to the Company's net income growth by potentially reducing or at least stabilizing raw materials costs, which in turn can reduce manufacturing costs and allow for a higher gross margin.

In 2008, the Company also experienced an increase of \$23.8 million in total revenue that corresponded with the doubling of its production capacity and the resale of some over-stocked raw materials, including silicon wafers. This increase in revenue represents a 427.8 percent growth in total revenue compared to 2007, although this rate is artificially inflated because 2007 was the Company's first complete year of operations (US SEC Solar EnerTech Financial 10-K). This revenue increase is also indicative of the Company's increasing customer and sales base, although it did not yet result in a positive gross margin for FYE 2008. Thus, while such impressive growth rates are likely indicative of the future profitable direction and product strength of this very young company, a few more years of data may be necessary to be certain of the company's long-term viability and success.

CURRENT CHALLENGES:

Negative Gross Margin – The Company has had a negative gross margin, and consequentially a net operating loss, for every period since its inception except FYE 2008, which had a negative gross margin but a positive net income. This continual negative gross margin is the result of the high manufacturing costs and inefficiencies associated with the Company's low production volume and the high raw material cost of silicon wafers purchased on the spot market prior to the fourth quarter of 2008. Even in the fourth quarter of 2008 when the spot price for silicon wafers decreased, the Company had to write down its existing inventories of silicon wafers by \$1,000,000 to reflect the market value of its raw materials, which hurt its gross margin (Solar EnerTech). The Company will likely have a negative gross margin until it can achieve economies of scale in its production of solar cells and secure lower priced silicon wafers from a source other than the spot market.

Large Required Cash Flow for Operations – The Company requires a significant amount of cash to fund its operations, including payments to suppliers for silicon wafers, costs of compliance with Sarbanes-Oxley regulations for financial reporting and internal controls, and employee wages. Due to the high manufacturing costs of solar cells and its relatively short earnings history, the Company has limited cash reserves and working capital and is thus partially tied to the capital and credit markets to provide the cash to fund its operations. As such, the continued operations of the company may be at risk if the current global financial crisis intensifies and/or continues in the long-term. The technological innovations, political benefits, and viability of PV solar systems as an alternative energy source will not be able to ensure the Company's survival if it cannot maintain enough capital or liquidity to meet its obligations or invest in its future.

Start-Up Company in a Difficult Market – As a relatively new enterprise, the Company also requires capital to make necessary investments in R&D and the *Joint Lab Initiative*, expand production capacity, and develop enough resources to secure a customer base and competitive advantage in its target markets. At the same time, because the Company is a relatively new enterprise, it does not have a large customer base, hold patents or trademarks, or have a steady or significant stock price to help the Company attract the capital it needs to grow and obtain a competitive advantage in its industry. This situation makes it very difficult for the Company to make necessary expansions to keep pace with its competition, attract new customers, and attract additional human capital. It also means that the Company's future viability relies heavily upon its existing customer base and management team, so the loss of any major member of either of these groups would make it difficult for the Company to continue operations or succeed. The

situation is exacerbated by the current global financial crisis and the general unavailability of market capital, which could prevent the Company from continuing its business, even if it has several competitive advantages compared to its competition.

The Company's general lack of working capital has also prevented it from obtaining product liability insurance and business interruption insurance, which leave the Company vulnerable to excessive claims should any customer ever bring a case against it. While PV solar systems are not considered to be particularly dangerous devices, they involve electric currents and apparatus that could result in harm to a customer. Should a claim against the company occur, particularly from one of the few large customers upon which 10% or more of the Company's revenues rely, the damages done to the Company's financial resources could result in its liquidation.

International Business Concerns – As discussed above, the Company benefits heavily from having its production facilities in China and its sales focused in other regions of the world; however, this strategy also leaves the Company subject a number of risks because much of its business is done through its Chinese subsidiary in Shanghai. For one thing, this subsidiary is generally subject to laws and regulations applicable to foreign investment in China, including foreign capital investment controls, so the ability of the Company to fund its operations is partially dependent on the economic, political, and legal developments in China. The subsidiary is also subject to un-hedged currency fluctuations, compliance issues with different commercial and legal requirements, enforcement problems for international intellectual property rights, and trade barriers that could detract from its ability to do business.

Market Competition – Given the prevalence of the government incentives and concerns over global warming discussed in previous sections of this report, the PV manufacturing market is intensely competitive and evolving rapidly. As such, the Company has many competitors ranging from the PV manufacturing divisions of large conglomerates such as BP, Royal Dutch Shell, and Sharp Corporation to small specialized cell and module manufacturers such as Q-Cells. Many of these competitors have more established market positions, technological innovations, and customer bases than the Company, which gives them a more secure revenue stream in the current economy than the Company. Some of these competitors are also participants in the semiconductor industry, which gives them higher bargaining power for the purchase of silicon and the ability to achieve economy of scale in the production of silicon products. Both of these are issues that the Company still needs to overcome without the extensive resources and recognizable brand image of some of its competitors.

III. RECOMMENDATIONS

Given the photovoltaic solar power market analysis and Solar EnerTech Corporation strategic analysis report presented above, Silicon Solar Consulting would like to offer four strategic recommendations to the Solar EnerTech Corporation regarding the future direction and activities of the company. These recommendations are presented in the chronological order that the firm believes they should be pursued over a multi-year extended timeline.

It should be noted that these recommendations do not represent an exhaustive list of every action that Solar Silicon Consulting believes the Company could take to improve its future business, but rather they are the four actions that Solar Silicon Consulting believes are most essential to the survival and success of the Company in the next five years. As such, the scope of these recommendations is generally limited to address the Company's current status as a small start-up company with short immediate issues that need to be resolved. They do not include suggestions for distant-future sales strategies, potential supplier and/or customer partnerships, or methods for creating competitive advantages through the Company's long-term business practices because the economic and business context for such actions cannot be known until the Company resolves some of its current issues. In the future, Solar Silicon Consulting would be happy to provide updated and additional long-term recommendations for the Company after it has had the opportunity to pursue the recommendations discussed in this report and re-evaluate its strategy and business activities accordingly.

CURRENT RECOMMENDATIONS

- 1. Increase the Company's focus on its Californian market to expand its customer base, attract venture capital, and recruit talented solar power experts from local universities and competitors.*

As the Company has already recognized with the investment in its Menlo Park location, the Californian PV solar market has much to offer PV manufacturing companies, including steady government support, an expanding customer base, and access to one of the world's largest concentrations of venture capital. All of these factors, especially when paired with the new federal initiatives in the US to promote alternative energy sources, would make the Californian market an ideal location for the Company to expand its customer base. In particular, given the recent addition of federal tax incentives and multiple levels of government support for alternative energy sources, if the Company were to increase its activity in this market, the Company could expand its customer base just as the national market is being primed for rapid expansion by legislative actions—creating more opportunity than ever before for sales to PV solar retailers, distributors, and utilities who will be trying to capitalize on increased end-user demand.

In this sense, since the US market is currently so proportionally underdeveloped and is rapidly passing legislation to increase the installation of alternative energy sources, more opportunity exists for the Company to capture significant market share than in markets where the industry is more established and other competitors have already taken hold of key contracts and customers. By taking the action to expand in the California market specifically, the Company would have the opportunity to gain market share in an area that represents 70% of the existing US market and has already proven to be receptive to PV solar installations. The Company could expand into

that market and then use the capital, profits, and knowledge it gains as a base upon which to expand to the rest of the US market as it develops. This strategy would allow the company to expand proportionately to its currently limited resources, which could be more plausible for the company given its current size than trying to expand market share into multiple areas of the United States at once.

In addition to a rapidly expanding customer base, the Company should expand its activities in the Californian market because that market offers access to 51 percent of the venture capital in the United States and trends that indicate that investments were still being made throughout 2007 for traditional silicon PV production expansion and research (Solar EnerTech). This consolidated access to capital, particularly in the Silicon Valley region where Menlo Park is located and 11 of the 14.4 billion dollars of venture capital in California in 2008 were invested, would provide increased opportunity for the Company to build its cash reserves and get the capital it needs for operations and R&D investment. It may be more difficult to obtain this investment given the current market conditions, but at least by pursuing the option in a market where more capital is invested than any other, the Company will be increasing the pool of resources from which it is trying to attract funding to improve its financial position and ensure its continued operations and success.

Finally, the Company should increase its investment and activities in the Californian market because it already has resources invested in Menlo Park, California, that can be better utilized to recruit talented employees for both the Company and the *Joint Labs Initiative*. The Company has already expressed its commitment to R&D and the betterment of its employees through this

initiative, but with the resources and universities near its Menlo Park location, the Company could attract top students and professionals from Berkley University, Stanford University, and other firms located in the Silicon Valley region. These individuals could bring new ideas and research experience to the growth of the Company as it seeks to establish itself beyond its first several years of operations.

It should be noted in the context of this discussion that this recommendation is not intended to reduce or divert investment from the company's current focus on its European market, which still offers the most reliable and established demand for PV solar systems. Instead, this recommendation is intended to suggest an increase in the company's investment in the Californian market as funds become available to supplement the sales in its European market with the imminent growth potential of the US and California market. The Company's management should carefully consider any decision to reallocate funds from its European market to the US market.

2. *Take the investment capital and increased sales revenue gained from recommendation 1 and invest it in the R&D initiative to develop a competitive advantage in the PV Industry.*

This recommendation is more self explanatory, as the Company needs to establish a long-term competitive advantage in the PV Industry in order to be able to continue its operations and have valuable products with which it is able to expand its market share. The Company has already recognized this need in its establishment of the *Joint Labs Initiative*, where it seeks to develop a competitive advantage in the knowledge of its employees. Silicon Solar Consulting would

simply like to reiterate the importance of technological advances for a company in the PV industry and the potential profits that such a commitment can bring.

As such, Silicon Solar Consulting would like to encourage the Company to allocate as much funding as possible to this pursuit and use as much of the investment capital that the Company may be able to secure to continue it. Without a breakthrough in R&D and the resulting intellectual property rights, it will be significantly more difficult for the Company to continue its operations or be successful in the PV solar industry. It will also be difficult for any of the other recommendations presented here to be useful if the Company does not develop a strong technological competitive advantage with which it can compete against its more established competitors to gain market share and sales. The Company could simply try to capitalize on the increasing demand trends in the US for its sales, but its long-term sustainability will be based up developing a competitive advantage that adds unique value to the market and attracts customers.

3. *Continue to expand production while investing in R&D and then shift excess capital to production upon development of competitive advantage to capture economies of scale.*

One of the Company's most evident problems is its current negative gross operating margin, which results from the high price of its raw materials and the inefficiencies of low-volume production. While the prices of raw materials are decreasing and the company has secured a supply agreement to control them, these improvements will not improve the Company's gross operating margin if it does not increase production to an extent where it can take advantage of these savings. As such, the logical action for the Company to take would be to continually use a limited amount of its current and any attracted investment capital to expand production capacity

while following recommendation 2 and researching for a competitive advantage. Then, once the Company has developed at least one solid competitive advantage, it can pursue larger scale production expansion to be able to sell more of its unique products to the market.

This strategy will launch the Company into a much larger customer base and market share in the markets it is pursuing once it has a competitive advantage. It is important to have a competitive advantage before launching into a full-scale pursuit of economies of scale because of the heavy presence of competition and the push for innovation in all traditional PV markets and because of the potential complications of expanding rapidly without a clear product or advantage to contribute value to the market. The Company will not likely be able to capture much of the market or many additional customers with products that are technologically inferior to those already offered by competitors, so it should not waste its limited investment capital creating economies of scale for those products. If the Company were to dramatically expand its production before developing a technological competitive advantage, it might be more difficult to alter production methods when new products with a competitive advantage are developed, since there will be more production resources to adjust. The Company does not have funds to waste on such extra expenses and thus should be sure to pursue the recommendations in the correct order.

4. *Re-evaluate strategy, industry developments, and resource positioning to determine whether the Company can eliminate any international business concerns or focus on additional markets.*

If, after several years, the Company manages to complete the first three recommendations discussed in this report despite the current economic uncertainties in the global financial markets, this final recommendation should be pursued to address some of the less critical issues that the company currently faces and to plan a future strategy based upon current market and company conditions. This step could not likely be pursued for at least 5 years, even with the rapid growth of the PV markets, because of the time required to properly research and implement new technologies and production expansion. Nevertheless, once the Company has resolved some of its current issues using the discussion and recommendations presented in this report, there are many avenues for revenue expansion and business process revision that could help advance the company from a start-up to a well-established participant in the PV solar market. Solar Silicon Consulting would be happy to provide updated and additional long-term recommendations for the Company after it has had the opportunity to pursue the recommendations discussed in this report and re-evaluate its strategy and business activities accordingly.

IV. APPENDICES

1. SOLAR ENERTECH 2008 FINANCIAL STATEMENTS

Solar EnerTech Corp.
Consolidated Balance Sheets

	September 30,	
	2008	2007
Assets:		
Current assets:		
Cash and cash equivalents	\$3,238,000	\$3,908,000
Accounts receivable, net of allowance for doubtful account of \$21,000 and \$0 at September 30, 2008 and 2007, respectively	1,875,000	913,000
Advance payments and other	3,175,000	6,500,000
Inventories, net	4,886,000	5,708,000
VAT receivable	2,436,000	480,000
Other receivable	730,000	110,000
Total current assets	16,340,000	17,619,000
Property and equipment, net	12,934,000	3,215,000
Investment	1,000,000	-
Deferred financing costs, net of accumulated amortization	1,812,000	2,540,000
Deposits	701,000	1,741,000
Total assets	\$32,787,000	\$25,115,000
Liabilities:		
Current liabilities:		
Accounts payable	\$1,771,000	\$2,891,000
Customer advance payment	96,000	1,603,000
Accrued interest expense	-	615,000
Accrued expenses	910,000	507,000
Accounts payable and accrued liabilities, related parties	5,450,000	3,969,000
Demand note payable to a related party	-	450,000
Demand notes payable	-	700,000
Derivative liabilities	980,000	16,800,000
Warrant liabilities	3,412,000	17,390,000
Total current liabilities	12,619,000	44,925,000
Convertible notes, net of discount	85,000	7,000
Total liabilities	12,704,000	44,932,000
Stockholder's Equity (Deficit):		
Common stock - 400,000,000 shares authorized at \$0.001 par value 112,052,012 & 78,827,012 shares issued & outstanding at 9/30/08 & 9/30/07, respectively	112,000	79,000
Additional paid in capital	71,627,000	39,192,000
Other comprehensive income	2,485,000	592,000
Accumulated deficit	(54,141,000)	(59,680,000)
Total stockholders' equity (deficit)	20,083,000	(19,817,000)
Total liabilities and stockholders' equity (deficit)	\$32,787,000	\$25,115,000

The accompanying notes are an integral part of these consolidated financial statements

Solar EnerTech Corp.
Consolidated Statements of Operations

	Year Ended September 30,	
	2008	2007
Net sales	\$29,412,000	\$5,573,000
Cost of sales	(33,104,000)	(5,934,000)
Gross loss	(3,692,000)	(361,000)
Operating expenses:		
Selling, general & administrative	11,778,000	11,865,000
Research & development	702,000	198,000
Loss on debt extinguishment	4,240,000	-
Total operating expenses	16,720,000	12,063,000
Operating loss	(20,412,000)	(12,424,000)
Other income (expense):		
Interest income	87,000	62,000
Interest expense	(1,035,000)	(1,086,000)
Loss on issuance of convertible notes	-	(15,209,000)
Gain (loss) on change in fair market value of compound embedded derivative	13,767,000	(200,000)
Gain (loss) on change in fair market value of warrant liability	13,978,000	(290,000)
Other expense	(846,000)	(285,000)
Net income (loss)	\$5,539,000	\$(29,432,000)
Net income (loss) per share - basic	\$0.07	\$(0.38)
Net income (loss) per share - diluted	\$(0.18)	\$(0.38)
Weighted average shares outstanding - basic	75,944,461	78,396,108
Weighted average shares outstanding - diluted	98,124,574	78,396,108

The accompanying notes are an integral part of these consolidated financial statements.

Solar EnerTech Corp.
Consolidated Statements of Stockholders' Equity

	Common Stock Number	Common Stock Amount	Additional Paid In Capital	Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
Balances, September 30, 2006 (Restated)	76,307,012	\$76,000	\$28,764,000	\$(4,000)	\$(30,248,000)	\$(1,412,000)
Issue of stock and warrant, net of offering costs	2,500,000	3,000	1,087,000	-	-	1,090,000
Exercise of warrants	20,000	-	20,000			20,000
Stock-based compensation	-	-	9,321,000	-	-	9,321,000
Currency translation adjustment	-	-	-	596,000	-	596,000
Net loss for the year ended September 30, 2007	-	-	-	-	(29,432,000)	(29,432,000)
Balances, September 30, 2007	78,827,012	79,000	39,192,000	592,000	(59,680,000)	(19,817,000)
Issue of stock to settle outstanding notes	1,038,000	1,000	871,000	-	-	872,000
Issue of stock and warrants for cash	24,318,000	24,000	19,863,000	-	-	19,887,000
Stock-based compensation	-	-	5,619,000	-	-	5,619,000
Reversal of interest related to related party loan	-	-	83,000	-	-	83,000
Issue of stock for convertible notes	7,869,000	8,000	5,999,000	-	-	6,007,000
Currency translation adjustment	-	-	-	1,893,000	-	1,893,000
Net income for the year ended September 30, 2008	-	-	-	-	5,539,000	5,539,000
Balance, September 30, 2008	<u>112,052,012</u>	<u>\$112,000</u>	<u>\$71,627,000</u>	<u>\$2,485,000</u>	<u>\$(54,141,000)</u>	<u>\$20,083,000</u>

The accompanying notes are an integral part of these consolidated financial statements.

Solar EnerTech Corp.
Consolidated Statements of Stockholders' Equity

	Year Ended September 30,	
	2008	2007
Cash flows from operating activities:		
Net income (loss)	\$5,539,000	\$(29,432,000)
Adjustments to reconcile net income (loss) to net cash used in operating activities:		
Depreciation of fixed assets	1,359,000	344,000
Stock-based compensation	5,619,000	9,321,000
Loss on issuance of convertible notes	-	15,210,000
Loss on debt extinguishment	4,240,000	-
Amortization of note discount and deferred financing cost	144,000	7,000
(Gain) loss on change in fair market value of compound embedded derivative	(13,767,000)	200,000
(Gain) loss on change in fair market value of warrant liability	(13,978,000)	290,000
Changes in operating assets and liabilities:		
Accounts receivable, net	(724,000)	(913,000)
Advance payments and other	3,981,000	(6,459,000)
Inventories, net	1,379,000	(5,708,000)
VAT receivable	(1,850,000)	-
Other receivable	(549,000)	(596,000)
Accounts payable, accrued liabilities and customer advance payment	(3,055,000)	5,551,000
Accounts payable and accrued liabilities, related parties	1,481,000	(549,000)
Net cash used in operating activities	(10,181,000)	(12,734,000)
Cash flows from investing activities:		
Acquisition of property and equipment	(10,539,000)	(2,750,000)
Investment	(1,000,000)	-
Deposits on property and equipment	1,040,000	(1,163,000)
Net cash used in investing activities	(10,499,000)	(3,913,000)
Cash flows from financing activities:		
Proceeds from issuance of common stock, net of offering cost	19,887,000	1,110,000
Proceeds from note payable	-	100,000
Proceeds from issuance of convertible notes, net of offering cost	-	15,950,000
Net cash provided by financing activities	19,887,000	17,160,000
Effect of exchange rate on cash and cash equivalents	123,000	596,000
Net increase (decrease) in cash and cash equivalents	(670,000)	1,109,000
Cash and cash equivalents, beginning of period	3,908,000	2,799,000
Cash and cash equivalents, end of period	\$3,238,000	\$3,908,000
Cash paid:		
Interest	\$1,138,000	\$274,000
Non-cash investing and financing activities:		
Warrants issued to placement agent in connection with convertible notes	\$1,006,080	\$1,190,000
Warrants issued to note holders	\$19,563,167	\$15,909,000

The accompanying notes are an integral part of these consolidated financial statements.

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