

Ascent Solar Technologies, Inc.  
Form 10-K  
March 14, 2008

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**FORM 10-K**

(Mark One)

**ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2007

or

**TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Transition Period from \_\_\_\_\_ to \_\_\_\_\_  
Commission File No. 001-32919

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**Ascent Solar Technologies, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**20-3672603**  
(I.R.S. Employer  
Identification No.)

**8120 Shaffer Parkway**  
**Littleton, CO**  
(Address of principal executive offices)

**80127**  
(Zip Code)

Registrant's telephone number including area code: **303-285-9885**

Securities registered pursuant to Section 12(b) of the Act:

<b>Title of Each Class</b>	<b>Name of Each Exchange on Which Registered</b>
Common Stock, \$0.0001 par value per share Class A Warrants Class B Warrants	The Nasdaq Stock Market LLC

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Securities registered pursuant to Section 12(g) of the Act:

**None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark whether the issuer is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes  No

Indicate by check mark whether the issuer (1) filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the past 12 months (or for such shorter period that the registrant was required to file such report(s), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a  
smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

As of June 29, 2007, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates was \$53,089,697, based upon the last reported sale price of the registrant's common stock on that date as reported by Nasdaq.

As of February 29, 2008, there were 11,683,628 shares of our common stock issued and outstanding.

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**ASCENT SOLAR TECHNOLOGIES, INC.**  
**Form 10-K Annual Report**  
**for the Fiscal Year ended December 31, 2007**

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## FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes "forward-looking statements" that involve risks and uncertainties. Forward-looking statements include statements concerning our plans, objectives, goals, strategies, future events, future net sales or performance, capital expenditures, financing needs, plans or intentions relating to acquisitions, business trends and other information that is not historical information and, in particular, appear under headings including "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business." When used in this Annual Report, the words "estimates," "expects," "anticipates," "projects," "plans," "intends," "believes," "forecasts," "foresees," "likely," "may," "should," "goal," "target" and variations of such words or similar expressions are intended to identify forward-looking statements. All forward-looking statements are based upon information available to us on the date of this Annual Report.

These forward-looking statements are subject to risks, uncertainties and other factors, many of which are outside of our control, that could cause actual results to differ materially from the results discussed in the forward-looking statements, including, among other things, the matters discussed in this Annual Report in the sections captioned "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Factors you should consider that could cause these differences are:

Our limited operating history and lack of profitability;

Our ability to meet the cost and performance metrics that we have forecasted;

Our ability to develop demand for, and sales of, our photovoltaic modules and establish strategic relationships with key partners, including original equipment manufacturers, system integrators and distributors;

Our ability to obtain necessary or desired certifications for our photovoltaic modules;

Whether we receive timely delivery of production tools from our equipment suppliers;

Our ability to design, purchase, install, qualify and operate production tools pursuant to our business plan and within budgeted amounts;

The extent to which we are able to reduce the per watt manufacturing costs of our photovoltaic modules, and the extent to which our competitors are able to do the same with their photovoltaic modules;

Global demand for electricity and the market for renewable energy, including solar energy;

The cost-effectiveness of photovoltaic-generated energy relative not only to that generated from conventional sources such as fossil fuels, but also to that generated from other renewable sources such as wind, geothermal and tidal power;

The availability of, or changes to, government policies, subsidies and incentives that affect the use or cost of renewable energy;

The emergence of disruptive or competing technologies in the energy industry;

Our competitive position and that of our photovoltaic modules relative to others in the photovoltaic and thin-film markets;

The extent to which our interests align with or deviate from that of Norsk Hydro Produksjon AS, our largest stockholder, and its affiliates;

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Foreign currency exchange fluctuations, political instability in certain foreign markets or the general state of geopolitical affairs;

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The supply and price of equipment, components and raw materials;

The status of our relationship with ITN Energy Systems, Inc.;

Our ability to attract and retain key executives and employees;

Our continued investment in research and development, and our ability to remain competitive through development of new technologies;

The extent to which we are able to manage the expansion of our operations effectively, both domestically and abroad;

Commencement of legal proceedings against us or by us, including proceedings relating to environmental matters or intellectual property rights;

Our ability to expand and protect the intellectual property portfolio that relates to our photovoltaic modules and processes;

The extent to which we qualify to perform research and development under the federal government's Small Business Innovation Research program; and

General economic and business conditions.

There may be other factors that could cause our actual results to differ materially from the results referred to in the forward-looking statements. We undertake no obligation to publicly update or revise forward-looking statements to reflect subsequent events or circumstances after the date made or to reflect the occurrence of unanticipated events, except as required by law.

*References to "we," "us," "our," "Ascent," "Ascent Solar" or the "Company" in this Annual Report mean Ascent Solar Technologies, Inc.*

**PART I**

**Item 1. Business**

**Business Overview**

We are a development stage company formed in October 2005 to commercialize flexible photovoltaic (PV) modules using proprietary technology. Our technology was initially developed at ITN Energy Systems, Inc. (ITN) by our founder and core scientific team beginning in 1994 and subsequently assigned and licensed to us. Our proprietary manufacturing process deposits multiple layers of materials, including a thin film of highly efficient copper-indium-gallium-diselenide (CIGS) semiconductor material, on a flexible, lightweight, plastic substrate and then laser patterns the layers to create interconnected PV cells, or PV modules, in a process known as monolithic integration. We believe that our technology and manufacturing process provides us with significant advantages over both the crystalline silicon (c-Si) based PV manufacturers that currently dominate the PV market, as well as other thin-film PV manufacturers that use rigid and/or heavier substrate materials such as glass, stainless steel or other metals.

Because our thin-film PV modules require less than 1% of the semiconductor material to achieve the same power output as a c-Si-based PV device, we do not face the supply constraints and raw material costs that affect silicon-based PV manufacturers. Also, relative to our thin-film competitors, our use of CIGS on a flexible, lightweight, plastic substrate not only allows for integration of our PV modules into a variety of building materials and electronic products, but also should enable a reduction in the cost-per-watt ratios, and increases in the power-to-weight and power-to-area ratios, that our PV modules are able to achieve. These metrics will be critical as we position ourselves to compete in both the high value-added, integrated PV markets and the commodity solar panel market. We also believe that, when employed on a sufficiently large commercial scale, our large-format, roll-to-roll manufacturing process and proprietary monolithic integration techniques will allow us to achieve a per watt manufacturing cost lower than that of our competitors and ultimately to attain grid parity *i.e.*, the point at which the cost of our PV-generated power is equal to that of retail power distributed from the electric utility grid in certain geographic markets within five years. We currently are on schedule to begin limited commercial production of our PV modules in the second quarter of 2008 and plan to expand our rated production capacity to approximately 30 megawatts (MW) by the end of 2009. Thereafter, we intend to expand our rated production capacity incrementally as we install and qualify additional production tools, achieving approximately 60 MW of aggregate rated production capacity by the end of 2010 and approximately 110 MW of aggregate rated production capacity by the end of 2011. We believe that we are the only company focused on commercial scale production of PV modules using CIGS on a flexible, plastic substrate.

Our target markets include the building integrated PV (BIPV) market, in which solar modules are incorporated directly into building and construction materials, the electronic integrated PV (EIPV) market, in which solar modules are incorporated directly into portable electronic devices, and the commodity solar panel market. In the BIPV and EIPV markets, we intend to be the supplier of choice by offering high-performance, flexible PV modules that can be integrated directly into products such as roofing shingles, siding and facades, metal and composite panels and roofing membranes in the BIPV market, and electronic packages, casings, battery packs and portable power systems in the EIPV market. In the commodity solar panel market, we intend to leverage our low-cost manufacturing process to compete primarily on the basis of price.

Our marketing and distribution strategy is based on the formation of strategic relationships with key partners, including original equipment manufacturers (OEMs), system integrators and distributors, who deal directly with end-users in our target markets. In 2007, we entered into a strategic relationship with Norsk Hydro Produksjon AS (together with its affiliates, Norsk Hydro). Norsk Hydro is a major global supplier of aluminum-based building systems, and pursuant to our relationship, we intend to

integrate our flexible PV modules into building products produced and sold by Norsk Hydro, including sun-shading systems, wall systems and facades. Also, in February 2008, we announced the mutual pursuit of a series of strategic relationships with ITOCHU Corporation (ITOCHU) pursuant to which ITOCHU would, among other things, manage our OEM relationships in Japan and support distribution of our PV modules into markets in which ITOCHU is pursuing solar installations. We currently are in discussions with a number of other market participants to establish similar non-exclusive relationships in a variety of geographic markets worldwide.

While focused on speed to market, we believe that quality and consistency of product will be paramount to our success in the marketplace. Consequently, our path to commercialization is defined by a highly disciplined, staged progression based upon the achievement of key milestones and supported by over thirteen years of concerted research and development activity by our scientists. In keeping with this philosophy, we completed construction of a 1.5 MW production line in December 2007 after having consistently achieved PV cell conversion efficiencies of approximately 10% to 12%, and PV module conversion efficiencies of approximately 6% to 8%, and as high as 9.6%, in a pre-production prototyping and test facility that we have operated since the fourth quarter of 2006. Conversion efficiency is the percentage of energy from absorbed light that a device is able to convert into electrical energy. Over time and with further refinement of our existing processes, we believe that our PV modules should be able to achieve efficiencies of 10% to 12%, significantly greater than the 6% conversion efficiency threshold that we believe is necessary for our products to be commercially acceptable in the current marketplace. We are now testing and qualifying the 1.5 MW production line in anticipation of commencing limited commercial production during the second quarter of 2008 with an emphasis on module testing and further optimization of production yield. The 1.5 MW production line incorporates into an integrated process each of the discrete manufacturing steps that have been previously tested in our pre-production prototyping and test facility. We expect to manufacture approximately 2 MW of product on this production line between mid-2008 and the end of 2009 while concurrently working with Norsk Hydro, ITOCHU and other strategic partners to qualify products for sale to end-users. Our manufacturing expansion plan entails the design, installation, qualification, testing and operation of additional production tools to increase our rated production capacity. We plan to expand our rated production capacity to approximately 30 MW by the end of 2009, and thereafter we intend to expand our rated production capacity incrementally as we install and qualify additional production tools, achieving approximately 60 MW of aggregate rated production capacity by the end of 2010 and approximately 110 MW of aggregate rated production capacity by the end of 2011. However, the actual production levels that we are able to realize at any point during our planned expansion will depend on a variety of factors, including our ability to optimize our production process to achieve targeted production yields and module efficiencies.

#### **Commercialization and Manufacturing Expansion Plan**

We intend to be the first company to manufacture large, roll-format, PV modules in commercial quantities that use CIGS on a flexible, plastic substrate. Our manufacturing expansion plan entails the design, installation, qualification, testing and operation of additional production tools to increase our rated production capacity. We intend to incrementally expand our aggregate production capacity to 110 MW by attaining the following milestones within the time frames indicated:

Second quarter of 2008: commence limited commercial production on 1.5 MW production line.

Third quarter of 2008: begin certification and qualification of products through Underwriters Laboratory, Inc. (UL), International Electrotechnical Commission (IEC) and Technischer Überwachungs-Verein Rheinland (TÜV).

Third quarter of 2008: begin procuring production tools for the first 30 MW of incremental rated capacity.



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Fourth quarter of 2008: complete certification of products from 1.5 MW production line.

Third quarter of 2009: begin procuring production tools for the second 30 MW of incremental rated capacity.

Fourth quarter of 2009: complete qualification of production tools for the first 30 MW of incremental rated capacity and commence production at 30 MW of aggregate rated capacity.

Third quarter of 2010: begin procuring production tools for the final 50 MW of incremental rated capacity.

Fourth quarter of 2010: complete qualification of production tools for the second 30 MW of incremental rated capacity and commence production at 60 MW of aggregate rated capacity.

Fourth quarter of 2011: complete qualification of production tools for the final 50 MW of incremental rated capacity and commence production at 110 MW of aggregate rated capacity.

Although we currently plan to expand our production capacity in accordance with the timeline above, the actual timing and amount of production capacity that we install may significantly deviate from the above plan due to market conditions, availability of financing, timeliness of delivery of production tools, product performance and other factors described in this Annual Report.

### **Advantages of CIGS on a Flexible Plastic Substrate**

Thin-film PV solutions differ based on the type of semiconductor material chosen to act as a sunlight absorbing layer, and also on the type of substrate on which the sunlight absorbing layer is affixed. We believe that we are the only company currently focused on commercial scale production of PV modules using CIGS on a flexible, plastic substrate. We utilize CIGS as a semiconductor material because, at the laboratory level, it has a higher demonstrated cell conversion efficiency than amorphous silicon (a-Si) and cadmium telluride (CdTe). We also believe that CIGS offers other compelling advantages over both a-Si and CdTe, including:

*CIGS versus a-Si:* Although a-Si, like CIGS, can be deposited on a flexible substrate, its conversion efficiency, which already is generally much lower than that of CIGS, measurably degrades when it is exposed to ultraviolet light, including natural sunlight. To mitigate such degradation, manufacturers of a-Si solar cells are required to implement measures that add cost and complexity to their manufacturing processes.

*CIGS versus CdTe:* Although CdTe modules have achieved conversion efficiencies that are generally comparable to CIGS in production, we believe that CdTe has never been successfully applied to a flexible substrate on a commercial scale. We believe that the use of CdTe on a rigid, transparent substrate, such as glass, makes CdTe unsuitable for a number of the applications that we are targeting in the BIPV and EIPV markets.

Our choice of substrate material further differentiates us from other thin-film PV manufacturers. We believe that the use of a flexible, lightweight substrate provides clear advantages in the higher value-added BIPV and EIPV markets, where rigid substrates are unsuitable for many applications. We also believe that our use of a flexible, plastic substrate provides us significant cost advantages because it enables us to employ monolithic integration techniques that we believe are unavailable to manufacturers who use flexible, metal substrates. Accordingly, we are able to eliminate the need for costly back-end assembly of inter-cell connections. As the only company, to our knowledge, focused on the commercial production of PV modules using CIGS on a flexible, plastic substrate, we believe we have the opportunity both to penetrate the BIPV and EIPV markets with a high quality, value-added product and also to compete in the commodity solar panel market as a low-cost producer.

## Competitive Strengths

We believe we possess a number of competitive strengths that provide us with an advantage over our competitors.

***We are an early mover in CIGS technology with a proprietary, flexible, lightweight PV product that positions us to penetrate a wide range of attractive high value-added markets.*** By applying CIGS to a flexible, plastic substrate, we have developed a PV module that is efficient, lightweight and malleable, providing unique opportunities for integration into building material products (such as roofing shingles, siding and facades, metal and composite panels and roofing membranes) and electronic components (such as electronic packages, casings, battery packs and portable power systems). Relative to our competitors, we believe that our early mover advantage in CIGS technology has placed us on an accelerated path to commercialization with a superior product offering.

***We have the ability to manufacture PV modules for different markets and for customized applications without altering our production processes.*** Our ability to produce PV modules in customized shapes and sizes, or in a variety of shapes and sizes simultaneously, without interrupting our production flow provides us with flexibility in determining target markets and product applications, and allows us to respond quickly to changing market conditions. Many of our competitors are limited by their technology and/or their manufacturing processes to a more restricted set of product opportunities.

***Our integrated, roll-to-roll manufacturing process and proprietary monolithic integration techniques provide us a cost advantage over our competitors.*** Historically, manufacturers have formed PV modules by manufacturing individual solar cells and then interconnecting them. Our large-format, roll-to-roll manufacturing process allows for integrated production. In addition, our proprietary monolithic integration techniques allow us to utilize laser patterning to create interconnects, thereby creating PV modules at the same time we create PV cells. In so doing, we are able to eliminate an entire back-end processing step, saving time as well as labor and manufacturing costs relative to our competitors.

***Our strategic relationship with Norsk Hydro provides us with direct access to a large customer base in the global BIPV market.*** Norsk Hydro is a major global supplier of aluminum-based building systems, and our relationship provides us with a strong, established development and marketing partner for accessing the BIPV market in an accelerated manner. Together with Norsk Hydro, we are in the process of developing a product line that would incorporate our PV modules into various Norsk Hydro products such as sun-shading systems, wall systems and facades.

***Our proven research and development capabilities position us to continue the development of next-generation PV modules and technologies.*** Our ability to produce CIGS-based PV modules on a flexible plastic substrate is the result of a concerted research and development effort that began more than thirteen years ago. We continue to pursue research and development in an effort to drive efficiency improvements in our current PV modules and to work toward next-generation technologies and additional applications.

## Markets and Marketing Strategy

Our target markets include the BIPV market, in which solar modules are incorporated directly into building and construction materials, the EIPV market, in which solar modules are incorporated directly into portable electronic devices, and the commodity solar panel market. In the BIPV and EIPV markets, we intend to be the supplier of choice by offering high-performance, flexible PV modules that can be integrated directly into products such as roofing shingles, siding and facades, metal and composite panels and roofing membranes in the BIPV market, and electronic packages, casings, battery

packs and portable power systems in the EIPV market. In the commodity solar panel market, we intend to leverage our low-cost manufacturing process to compete primarily on the basis of price.

Our marketing and distribution strategy is based on the formation of strategic relationships with key partners, including OEMs, system integrators and distributors, who deal directly with end-users in our target markets. In 2007, we entered into a strategic relationship with Norsk Hydro, a major global supplier of aluminum-based building systems. Pursuant to that relationship, we are cooperating with Norsk Hydro to integrate our flexible PV modules into building products produced and sold by Norsk Hydro, including sun-shading systems, wall systems and facades. The first of these products is expected to be a line of BIPV louvered sun shading systems that will be marketed under the brand name "Brise Soleil." Norsk Hydro showcased the Brise Soleil product concept at the BATIMAT building exposition in Paris, France in November 2007. We expect product prototyping to continue through the second quarter of 2008 while our PV products are tested and certified. Also, in February 2008, we announced the mutual pursuit of a series of strategic relationships with ITOCHU pursuant to which ITOCHU would, among other things, manage our OEM relationships in Japan and support distribution of our PV modules into markets in which ITOCHU is pursuing solar installations. We currently are in discussions with a number of other market participants to establish similar non-exclusive relationships in a variety of geographic markets worldwide.

Until we commence production at approximately 30 MW of rated production capacity, which we currently expect will occur by the end of 2009, we intend to supply our strategic partners with PV module samples produced on our 1.5 MW production line to support our partners' development, testing and certification of new integrated products, which also should enable them to identify and cultivate promising market segments. By cooperating with our strategic partners in this way, we hope to create sufficient and consistent demand for our PV modules by the time we commence large scale commercial production of our PV modules using our planned production tools for approximately 30 MW of rated capacity. We also intend to initiate sales of PV modules to these partners from our 1.5 MW production line. With the exception of our planned "commodity modules" (described below), which we expect to sell through various distributors, we envision that we ultimately will serve as a provider of high value-added components to our strategic partners, who will be solely responsible for the marketing, sales and distribution of their integrated building and electronics products. In so doing, we intend to position ourselves as the leading manufacturer and supplier of value-added PV components to the BIPV and EIPV markets.

Based upon industry reports, we believe that the overwhelming majority of manufacturers in the commodity solar panel market are makers of rigid and relatively heavy glass-encased modules of fixed sizes and power ratings. In this type of commodity market, we believe that cost is one of the main competitive discriminators. We therefore intend to leverage our low-cost manufacturing process to compete primarily on the basis of price, and to develop our own line of standard "commodity modules." Also, by capitalizing on the lightweight features our PV products, we believe that we can reduce overall system installation costs, making our commodity modules more attractive to both installers and end-users.

Although the BIPV, EIPV and the commodity solar panel markets comprise our immediate target markets, in the longer term, we also intend to pursue opportunities in the space satellite and near-space markets. We expect the space satellite and the near-space markets to evolve more gradually than the terrestrial market principally due to the higher degree of product qualifications and flight testing that will be required. We anticipate that our pathway to the space and near-space markets will be through development of small mini-modules for experimental space qualification tests and then actual flight experiments with government customers, followed by full scale flight arrays on operational systems once the technology and arrays have been fully space qualified. We intend to pursue these opportunities in the longer term because we believe that the space and near-space markets place a premium on performance and offer a correspondingly high-value opportunity for our CIGS PV products.

## **Manufacturing and Manufacturing Strategy**

We manufacture our products by affixing a thin CIGS layer to a flexible, plastic substrate, and by using proprietary monolithic integration techniques that enable us to form complete PV modules without engaging in costly back-end assembly of inter-cell connections. Historically, PV manufacturers made PV modules by bonding or soldering discrete PV cells together. This manufacturing step typically increased manufacturing costs and at times proved detrimental to the overall yield and reliability of the finished product. By eliminating this added step using our proprietary monolithic integration techniques, we believe that we can achieve cost savings in, and increase the reliability of, our PV modules. We also use a large-format, roll-to-roll manufacturing process that permits us to fabricate our flexible PV modules in an integrated sequential operation.

While focused on speed to market, we believe that quality and consistency of product will be paramount to our success in the marketplace. Consequently, our path to commercialization is defined by a highly disciplined, staged progression based upon the achievement of key milestones and supported by over thirteen years of concerted research and development activity by our scientists. In keeping with this philosophy, we completed construction of a 1.5 MW production line in December 2007 after having consistently achieved PV cell conversion efficiencies of approximately 10% to 12%, and PV module conversion efficiencies of approximately 6% to 8%, and as high as 9.6%, in a pre-production prototyping and test facility that we have operated since the fourth quarter of 2006. Over time and with further refinement of our existing processes, we believe that our PV modules should be able to achieve efficiencies of 10% to 12%, significantly greater than the 6% conversion efficiency threshold that we believe is necessary for our products to be commercially acceptable in the current marketplace. We are now testing and qualifying our 1.5 MW production line in anticipation of commencing limited commercial production during the second quarter of 2008 with an emphasis on further optimization of production yield and module efficiencies.

Using our 1.5 MW production line as a model, we have commenced engineering and development of our planned production tools for approximately 30 MW of incremental rated capacity. In order to add approximately 30 MW of rated capacity by the end of 2009, we intend to purchase and install production tools that will process one-third meter wide plastic rolls identical to those used in our existing 1.5 MW production line. We expect that the production tools used for the next approximately 80 MW of rated capacity and for future expansions will be engineered to process larger one meter wide rolls, and we have initiated engineering and development of production tools to support our planned expansion to approximately 110 MW of rated capacity by the end of 2011.

We intend to continue refinement of our manufacturing process in order to enhance parameters such as throughput, efficiency and yield. We also intend to identify and evaluate suitable locations for new production lines, domestically and abroad, that we believe will best serve our target markets and customers.

## **Competition**

Today the market for PV products is dominated by large silicon cell and silicon module manufacturers. The largest silicon-based manufacturers include Motech Industries, Inc. (Taiwan), Q-cells (Germany), Sanyo Electric Co. Ltd. (Japan), Sharp (Japan) and Suntech Power Holdings Co., Ltd. (China). In all, there are over 20 manufacturers with annual production capacities in excess of 25 MW. We anticipate that while these leaders may continue to dominate the market with their silicon-based products for several years, thin-film manufacturers will begin to capture an increasingly larger share of the market.

The thin-film component of the industry is largely made up of a broad mix of technology platforms at various stages of development, and consists of a large and growing number of medium- and small-sized companies. Two of the largest thin-film PV manufacturers are First Solar, Inc. (USA) and United Solar Ovonic LLC (USA), each of whom has reported an installed capacity of 100 MW or greater. First

Solar manufactures PV modules by depositing CdTe onto rigid glass plates and uses monolithic integration techniques similar to ours in order to create modules. Relative to our lightweight, flexible plastic substrates, PV modules using glass substrates are rigid and heavy. First Solar therefore primarily serves the commodity markets for PV modules that include large scale, grid-connected solar power projects. United Solar Ovonic manufactures thin-film a-Si cells on flexible metal foil and then individually assembles the cells together into modules; we believe that the module integration technique used by United Solar Ovonic is similar to the way c-Si cells are individually assembled together in series and parallel to form an integrated module, adding weight and cost to the assembly. Competitors currently developing or selling CIGS-based PV modules include AVANCIS GmbH & Co. KG, Global Solar Energy, Inc., HelioVolt Corporation, Honda Soltec Co. Ltd., MiaSolé, NanoSolar, Inc., SoloPower, Inc. and Würth Solar GmbH & Co. We believe that a number of manufacturers that traditionally have manufactured and sold c-Si-based modules have entered, or in the future may enter, the market for thin-film PV modules and, potentially, CIGS-based PV modules.

### **Research and Development and Intellectual Property**

Our core group of scientists has worked together since 1993 in the research and development of CIGS and related PV technologies. We intend to continue to invest in research and development in order to identify next-generation technologies relevant to both our existing and potential new markets. For example, we are pursuing multi-junction CIGS designs that we believe, if successfully deployed, would significantly increase the conversion efficiencies of our existing PV modules. We also are engaged in research and development activities related to longer term opportunities in the evolving space satellite and near-space markets.

Our technology was initially developed at ITN by our founder and core scientific team beginning in 1994. In early 2006, ITN assigned to us its CIGS PV-specific technologies, and granted to us a perpetual, exclusive, royalty-free, worldwide license to use certain of ITN's existing and future proprietary process and control technologies that, although non-specific to CIGS PV, we believe will be useful in our production of PV modules for our target markets.

We protect our intellectual property through a combination of trade secrets and patent protections. We own the following patents and published patent applications:

"Apparatus and Method of Production of Thin Film Photovoltaic Module" (U.S. Patent No. 7,271,333) (issued September 18, 2007)

"Flexible High Voltage Photovoltaic Array With Integrated Wiring and Control Circuitry, and Associated Methods" (U.S. Provisional App. No. 60/853,609) (filed October 23, 2006)

"Flexible High Voltage Adaptable Current Photovoltaic Modules, and Associated Methods" (U.S. Provisional App. No. 60/853,610) (filed October 23, 2006)

In early April 2006, we entered into a non-exclusive patent license agreement with Midwest Research Institute (MRI). MRI manages and serves as operating contractor for the National Renewable Energy Laboratory (NREL) under a prime contract with the U.S. Department of Energy. Pursuant to the prime contract, MRI acquired the rights to license certain inventions developed at NREL. We have acquired a world-wide, non-exclusive commercial license to the following U.S. patents and their foreign counterparts: U.S. Patent Nos. 5,356,839, 5,441,897 and 5,436,204; European Patent No. EP0694209 and European patent application serial no. 95929367.1 (for the European Union, Belgium, France, United Kingdom, Germany and Netherlands); Japanese Patent Nos. 3130943 and 3258667 and Japanese patent application serial no. 8-508088. The license is effective so long as any claim of the licensed inventions is enforceable. We also have obtained a non-exclusive license from the University of Delaware's Institute of Energy Conversion for U.S. Patent Nos. 6,310,281, 6,372,538, 6,537,845 and 6,562,405, as well as U.S. patent application serial No. 60/620,352. These patents and patent applications relate to the fabrication of CIGS on flexible plastic substrates, the use of laser

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patterning and thin-film deposition during the fabrication of flexible monolithically-integrated CIGS PV devices and certain process steps that we may use during the manufacturing process.

### Suppliers

We rely on several unaffiliated companies to supply certain raw materials used during the fabrication of our PV modules. We acquire these materials on a purchase order basis and do not have long term contracts with the suppliers, although we may enter into such contracts in the future. We acquire all of our high-temperature plastic from Ube Industries, Ltd. (Japan), although alternative suppliers of similar materials exist. We purchase component molybdenum, copper, indium, gallium, selenium and indium tin oxides from a variety of suppliers. We also currently are in the process of identifying and negotiating arrangements with alternative suppliers of materials in the United States and Asia. We recently announced our intent to explore a strategic relationship with ITOCHU whereby, among other things, ITOCHU would help us source raw materials for our operations. The manufacturing equipment and tools used in our production process have been purchased from various suppliers in Europe, the United States and Asia. Although we have had good relations with our existing equipment and tools suppliers, we intend to monitor and explore opportunities for developing alternative sources.

### Employees

As of February 29, 2008, we had 35 employees (34 full-time), of which 7 were executive officers. We expect the number of employees to grow significantly as we install and increase manufacturing capacity.

### Company History

We were formed in October 2005 from the separation by ITN of its Advanced Photovoltaic Division and all of that division's key personnel and core technologies. ITN, a private company incorporated in 1994, is an incubator dedicated to the development of thin-film, PV, battery, fuel cell and nano technologies. Through its work on research and development contracts for private and government entities, ITN developed proprietary processing and manufacturing know-how applicable to PV products generally, and to CIGS PV products in particular. ITN formed us to commercialize its investment in CIGS PV technologies. In January 2006, ITN assigned to us all its CIGS PV technologies and trade secrets and granted to us a perpetual, exclusive, royalty-free worldwide license to use certain of ITN's proprietary process, control and design technologies in the production of CIGS PV modules. Upon receipt of the necessary government approvals in January 2007, ITN assigned government-funded research and development contracts to us and also transferred the key personnel working on the contracts to us. Today, ITN still provides to us, at cost, a variety of administrative and technical services such as facilities management, equipment maintenance, procurement, information technology and technical support services. ITN is wholly owned by Inica, Inc. (Inica). Dr. Mohan Misra, Chairman of our Board of Directors, and an immediate family member own all of the outstanding shares of Inica.

### Corporate Information

We are incorporated under the laws of Delaware, our principal business office is located at 8120 Shaffer Parkway, Littleton, Colorado, and our telephone number is (303) 285-9885. Our website address is [www.ascentsolar.com](http://www.ascentsolar.com). Information contained on our website or any other website does not constitute part of this annual report.

**Item 1A. Risk Factors**

*The risks included here are not exhaustive or exclusive. Other sections of this Annual Report may include additional factors which could adversely affect our business, results of operations and financial performance. We operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for management to predict all such risk factors, nor can it assess the impact of all such risk factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results.*

***We have a limited history of operations, have not generated any revenue from operations and have not commenced commercial production of our PV modules.***

We have a limited operating history and have not generated any revenue from operations. We have not completed testing and qualification of our 1.5 MW production line, and until testing and qualification of our 1.5 MW production line is complete, we will not be in a position to commence commercial production of our PV modules. Further, our plans call for expansion of production capacity, but we do not expect to achieve another approximately 30 MW of rated capacity until the end of 2009. Our ability to achieve our business, commercialization and expansion objectives will depend on a number of factors, including whether:

we successfully qualify our 1.5 MW production line within our planned time frame;

our products are successfully and timely certified for use in our target markets;

we successfully qualify production tools to achieve the efficiencies and yields necessary to reach our cost targets as we expand our rated capacity;

the cost models on which we intend to rely for the manufacture of our PV modules prove accurate;

we raise sufficient capital to expand our total rated capacity to approximately 110 MW, and whether such capacity will enable us to reach the economies of scale we believe necessary to achieve profitability;

we receive timely delivery of production tools from our equipment suppliers;

we effectively manage the planned expansion of our operations; and

we successfully develop and maintain strategic relationships with key partners, including OEMs, system integrators and distributors, who deal directly with end-users in our target markets.

Each of these factors is critical to our success, and accomplishing each of these tasks may take longer or cost more than expected, or may never be accomplished. It also is likely that problems that we cannot now anticipate will arise and require solution by us. If we do not, our business, results of operations and financial condition could be materially and adversely affected.

***We have to date incurred net losses and may be unable to generate sufficient sales in the future to become profitable.***

We incurred net losses of \$6.5 million in the fiscal year ended December 31, 2007 and reported an accumulated deficit of \$11.9 million as of December 31, 2007. We expect to incur net losses for the foreseeable future. Our ability to achieve profitability depends on a number of factors, including the growth rate of the solar energy industry, market acceptance of thin-film and other PV modules, the competitiveness of our PV modules and our ability to increase production volumes. If we are unable to generate sufficient revenue to achieve profitability and positive cash flows, we might be unable to satisfy our commitments and may have to discontinue operations. We cannot assure you that we will be successful in establishing ourselves as a profitable enterprise.

***Our business is based on a new and unproven technology, and if our PV modules or processes fail to achieve the performance and cost metrics that we expect, then we may be unable to develop demand for our PV modules and generate sufficient revenue to support our operations.***

Our CIGS on flexible plastic substrate technology is a new and unproven technology in commercial scale production. Our business plan and strategies assume that we will be able to achieve certain milestones and metrics in terms of throughput, uniformity of cell efficiencies, yield, encapsulation, packaging, cost and other production parameters. We cannot assure you that all of our technology will prove to be commercially viable in accordance with our plan and strategies. Further, we may experience operational problems with such technology after its commercial introduction that could delay or defeat the ability of such technology to generate revenue or operating profits. If we are unable to achieve our targets on time and within our planned budget, then we may not be able to develop adequate demand for our PV modules, and our business, results of operations and financial condition could be materially and adversely affected.

***We currently do not have certified PV modules and have recorded no sales of such products; further, we expect that significant PV module sales will not occur for some time.***

We have recorded no sales of PV modules and have no contracts for such sales. Because we do not plan to commence commercial production until the second quarter of 2008, and because we believe that our PV modules will need to be certified in order for them to be commercially viable, it will be several months before we record significant PV module sales, if ever. We expect that it will be some time before we can determine whether our expectations relating to our products and their target markets are justified. Further, because we will be required to invest substantial resources in pursuing our target markets in advance of any significant revenue stream that may result from such investments, an unanticipated or longer than expected delay of revenue ramp-up could put a strain on our resources, adversely affecting our business, results of operation and financial condition, and could require us to seek additional capital. See "Risk Factors Our planned expansion to approximately 110 MW of rated capacity will require additional capital which we may not be able to obtain on favorable terms, if at all, or without dilution to our stockholders."

***A failure or unanticipated delay in securing any necessary or desired certification for our PV modules from government or regulatory organizations could impair sales of our PV modules and materially and adversely affect our results of operations and financial condition.***

In order for our PV modules to be commercially sold for use in our target markets, they must first be certified by certain government or regulatory organizations, such as UL, IEC and TÜV. We believe that in some cases, these certifications would be sought by our customers and, in other cases, by us. A failure or unanticipated delay in securing any necessary or desired certification for our PV modules could impair sales of our PV modules and materially and adversely affect our business, results of operations and financial condition.

***Failure to receive timely delivery of production tools from our equipment suppliers could delay our planned expansion of manufacturing capacity and materially and adversely affect our results of operations and financial condition.***

Our planned expansion of manufacturing capacity and commercialization timeline depend on the timely delivery of production tools from our equipment suppliers. The relationships with our chosen equipment suppliers are relatively new, and at this point in time we cannot be certain that the equipment orders we place with these suppliers will be fulfilled as we expect or in a timely manner. If delivery of production tools is not made on schedule or at all, then we might be unable to carry out our commercialization and manufacturing expansion plans, produce PV modules in the volumes and at the times that we expect or generate sufficient revenue from operations, and our business, results of operations and financial condition could be materially and adversely affected.



***Failure to expand our manufacturing capacity successfully would adversely impact our ability to sell PV modules into our target markets and would materially and adversely affect our business, results of operations and financial condition.***

Our growth plan calls for the installation and operation of additional production tools to achieve the manufacturing capacities and cost efficiencies necessary to compete in our target markets. The successful completion and operation of future production tools will require substantial engineering resources and is subject to significant risks, including risks of cost overruns and delays, risks that we may not be able to successfully acquire, install, combine or operate the equipment needed, or the possibility that one or more of the production tools may never be qualified or become operational. Furthermore, we may never be able to operate our production processes in high volume, make planned process and equipment improvements, attain projected manufacturing yields or desired annual capacity, obtain timely delivery of production tools, obtain on reasonable terms adequate facilities in which to install the production tools, or hire and train the additional employees and management needed to operate and maintain the production tools. Failure to meet these objectives on time and within our planned budget could materially and adversely affect our business, results of operations and financial condition.

***Failure to consummate strategic relationships with key partners in the BIPV and EIPV markets, or with distributors in the commodity solar panel market, could adversely affect our projected sales, growth and revenues.***

We intend to sell thin-film PV modules for use in BIPV and EIPV products, such as roofing shingles, siding and facades, metal and composite panels, roofing membranes, electronic packages, casings, battery packs and portable power systems. We also intend to sell commodity modules for use in the commodity solar panel market. Our marketing and distribution strategy is to form strategic relationships with BIPV and EIPV suppliers to provide a foothold in these target markets. We also intend to form strategic relationships with distributors in the commodity solar panel market. If we are unable to successfully establish working relationships with such market participants, or if due to cost, technical or other factors, our PV modules prove unsuitable for use in such applications, our projected revenues and operating results could be adversely affected. Further, to the extent that we are able to establish strategic relationships with key partners and distributors, those relationships may be on a non-exclusive basis (for example, our strategic relationship with Norsk Hydro is non-exclusive), which means that our partners are not obligated to use us as their sole source of PV modules, and may instead choose to use the products of our competitors. Any such reduction in demand for our PV modules may have a material adverse effect on our revenues, results of operations and financial condition.

***Our planned expansion to approximately 110 MW of rated capacity will require additional capital which we may not be able to obtain on favorable terms, if at all, or without dilution to our stockholders.***

Our planned expansion to approximately 110 MW of total rated capacity will require additional capital. We currently are unable to determine what forms of financing, if any, will be available to us. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our existing stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. If we raise additional funds through debt financing, which may involve restrictive covenants, our ability to operate our business may be restricted. We cannot assure you that additional financing will be available on terms favorable to us, or at all. If adequate funds are not available or are not available on acceptable terms, if and when needed, our ability to fund our operations, take advantage of unanticipated opportunities, develop or enhance our products, expand capacity to approximately 110 MW of total rated capacity, or otherwise respond to competitive pressures could be significantly limited, and our business, results of operations and financial condition could be materially and adversely affected.

*We may be unable to manage the expansion of our operations effectively.*

We will need to significantly expand our operations in order to reduce the incremental manufacturing costs of our PV modules, secure contracts of commercially material amounts with reputable customers and capture a meaningful share of our target markets. To manage the rapid expansion of our operations, we will be required to improve our operational and financial systems, procedures and controls and expand, train and manage our growing employee base. Our management team will also be required to maintain and cultivate our relationships with customers, suppliers and other third parties and attract new customers and suppliers. In addition, our current and planned operations, personnel, facility size and configuration, systems and internal procedures and controls might be inadequate or insufficient to support our future growth. If we cannot manage our growth effectively, we may be unable to take advantage of market opportunities, execute our business strategies or respond to competitive pressures, resulting in a material and adverse effect to our business, results of operations and financial condition.

***As a public company we are subject to complex legal and accounting requirements that require us to incur substantial expenses, and our financial controls and procedures may not be sufficient to ensure timely and reliable reporting of financial information, which, as a public company, could materially harm our stock price and listing on the Nasdaq Global Market.***

As a public company, we are subject to numerous legal and accounting requirements that do not apply to private companies. The cost of compliance with many of these requirements is substantial, not only in absolute terms but, more importantly, in relation to the overall scope of the operations of a small company. Our relative inexperience with these requirements may increase the cost of compliance and may also increase the risk that we will fail to comply. Failure to comply with these requirements can have numerous adverse consequences including, but not limited to, our inability to file required periodic reports on a timely basis, loss of market confidence, delisting of our securities and/or governmental or private actions against us. We cannot assure you that we will be able to comply with all of these requirements or that the cost of such compliance will not prove to be a substantial competitive disadvantage vis-à-vis our privately held and larger public competitors.

The Sarbanes-Oxley Act of 2002 (Sarbanes-Oxley) requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of Sarbanes-Oxley. We currently expect that we will be required to comply with all the requirements of Section 404 beginning with our annual report on Form 10-K for the fiscal year ending December 31, 2008. Our compliance with Section 404 of Sarbanes-Oxley will require that we incur substantial accounting expense and expend significant management efforts.

The effectiveness of our controls and procedures may in the future be limited by a variety of factors, including:

faulty human judgment and simple errors, omissions or mistakes;

fraudulent action of an individual or collusion of two or more people;

inappropriate management override of procedures; and

the possibility that any enhancements to controls and procedures may still not be adequate to assure timely and accurate financial information.

If we are not able to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, we may be subject to Nasdaq delisting, investigations by the U.S. Securities and Exchange Commission (SEC) and civil or criminal sanctions.

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Our ability to successfully implement our business plan and comply with Section 404 requires us to be able to prepare timely and accurate financial statements. We expect that we will need to continue to improve existing, and implement new operational, financial and accounting systems, procedures and controls to manage our business effectively.

Any delay in the implementation of, or disruption in the transition to, new or enhanced systems, procedures or controls may cause our operations to suffer, and we may be unable to conclude that our internal control over financial reporting is effective and to obtain an unqualified report on internal controls from our auditors as required under Section 404 of Sarbanes-Oxley. If we are unable to complete the required Section 404 assessment as to the adequacy of our internal control over financial reporting, if we fail to maintain or implement adequate controls, or if our independent registered public accounting firm is unable to provide us with an unqualified report as to the effectiveness of our internal control over financial reporting as of the date of our first Form 10-K for which compliance is required, our ability to obtain additional financing could be impaired. In addition, investors could lose confidence in the reliability of our internal control over financial reporting and in the accuracy of our periodic reports filed under the Securities Exchange Act of 1934, as amended (Exchange Act). A lack of investor confidence in the reliability and accuracy of our public reporting could cause our stock price to decline.

***Our PV modules may never gain market acceptance, in which case we would be unable to sell our PV modules or achieve profitability.***

Demand for our PV modules may never develop, and our PV modules may never gain market acceptance, if we fail to produce PV modules that compete favorably against competing products on the basis of cost, quality, weight, efficiency and performance. Demand for our PV modules also will depend on our ability to develop and maintain successful relationships with key partners, including OEMs, system integrators and distributors. If our PV modules fail to gain market acceptance as quickly as we envision or at all, our business, results of operations and financial condition could be materially and adversely affected.

***If sufficient demand for PV solutions does not develop or takes longer to develop than we anticipate, we may be unable to grow our business, generate sufficient revenue to attain profitability or continue operations.***

The solar energy industry is at a relatively early stage of development, and the extent to which PV modules, including our own, will be widely adopted is uncertain. If PV technology proves unsuitable for widespread adoption or if demand for PV modules fails to develop sufficiently, we may be unable to grow our business, generate sufficient sales to attain profitability or continue operations. Many factors, many of which are outside of our control, may affect the viability of widespread adoption of PV technology and demand for PV modules, including:

the cost effectiveness of PV modules and installed PV systems relative to other renewable energy sources, such as wind, geothermal and tidal power;

the cost effectiveness of PV modules and installed PV systems relative to conventional carbon-based and other energy sources, such as coal, oil, natural gas and nuclear, and whether the levelized cost of PV can approach that of these conventional energy sources;

whether PV-generated power reaches grid parity in the geographic markets where our products will be used;

the availability and amount of government subsidies and incentives to support development of the solar energy industry;

the deregulation of the electric power industry and the broader energy industry;

the emergence of other disruptive technologies in the energy industry;

the ease with which PV solutions can penetrate and adapt to existing energy industry infrastructure;

the availability of raw materials used in the manufacture of PV products; and

availability of capital to fund development of technology in the solar energy market.

***If the supply of PV modules exceeds the demand for those modules, then we may be forced to reduce the price of our PV modules in order to compete effectively.***

Some industry reports forecast overcapacity in the PV module market in ensuing years. In an overcapacity scenario, the supply of PV modules by manufacturers outstrips demand for those products. If either the overall PV module market or our target markets encounter an overcapacity scenario, we may be forced to scale back production or reduce the price of our PV modules in order to generate sales. In either case, our business, results of operations and financial condition could be materially and adversely affected.

***Reduced growth in or the reduction, elimination, modification or expiration of government subsidies and economic incentives for solar electricity applications could reduce demand for our products.***

National, regional and local governmental bodies in many countries, most notably Germany, Italy, Spain, France, South Korea, Japan, Canada and the United States, have provided support in the form of feed-in tariffs, rebates, tax write-offs and other incentives to end-users, distributors, system integrators and manufacturers of PV products. If any of these subsidies or incentives is discontinued, reduced or substantially modified, if growth in any such subsidies or incentives is reduced, or if renewable portfolio standards or similar production requirements are changed or eliminated, demand for our PV modules in the affected country or countries could decline or never develop, and our results of operations and financial condition could be materially and adversely affected as a result.

***We face intense competition from manufacturers of c-Si-based PV modules, other manufacturers of thin-film PV modules and other companies in the solar energy industry.***

The solar energy and renewable energy industries are both highly competitive and continually evolving as participants strive to distinguish themselves within their markets and compete with the larger electric power industry. We believe that our main sources of competition are c-Si PV manufacturers, other thin-film PV manufacturers and companies developing other solar solutions, such as solar thermal and concentrated PV technologies.

The thin-film component of the industry is largely made up of a broad mix of technology platforms at various stages of development, and consists of a large and growing number of medium- and small-sized companies. Two of the largest thin-film PV manufacturers are First Solar, Inc. (USA) and United Solar Ovonic LLC (USA), each of which has reported an installed capacity of 100 MW or greater. First Solar manufactures PV modules using CdTe affixed to glass. United Solar Ovonic manufactures PV modules using a-Si affixed to flexible metal foil. Competitors currently developing or selling CIGS-based PV modules include AVANCIS GmbH & Co. KG, Global Solar Energy, Inc., HelioVolt Corporation, Honda Soltec Co. Ltd., MiaSolé, NanoSolar, Inc., SoloPower, Inc. and Würth Solar GmbH & Co. We believe that a number of manufacturers that traditionally have manufactured and sold c-Si-based modules have entered, or in the future may enter, the market for thin-film PV modules and, potentially, CIGS-based PV modules.

Many of our existing and potential competitors have substantially greater financial, technical, manufacturing and other resources than we do. A competitor's greater size provides them with a competitive advantage because they often can realize economies of scale and purchase certain raw materials at lower prices. Many of our competitors also have greater brand name recognition, established distribution networks and large customer bases. In addition, many of our competitors have

well-established relationships with our current and potential partners and distributors and have extensive knowledge of our target markets. As a result of their greater size, these competitors may be able to devote more resources to the research, development, promotion and sale of their products or respond more quickly to evolving industry standards and changes in market conditions than we can. Our failure to adapt to changing market conditions and to compete successfully with existing or future competitors could materially and adversely affect our business, results of operations and financial condition.

***A significant increase in the supply of silicon feedstock or a significant reduction in the manufacturing cost of c-Si-based PV modules could lead to pricing pressures on PV modules generally and force us to reduce the sales price of our PV modules.***

A significant increase in the supply of silicon feedstock or a significant reduction in the manufacturing cost of c-Si-based PV modules could lead to pricing pressures on PV modules generally. In the face of such downward pricing pressures, we might be forced to reduce the sales prices of our PV modules, which, absent a commensurate decrease in our manufacturing costs, could materially and adversely affect our results of operations and financial condition and prevent us from achieving profitability.

***The interests of our largest stockholder, Norsk Hydro, may conflict with our interests or your interests now or in the future.***

Norsk Hydro currently owns approximately 23% of all issued and outstanding shares of our common stock and has an option to acquire up to 35% of all issued and outstanding shares of our common stock. See "Certain Relationships and Related Transactions, and Director Independence Transactions Involving Norsk Hydro Produksjon AS." As a result, Norsk Hydro may have the ability to prevent any transaction that requires the approval of stockholders regardless of whether other stockholders believe that any such transaction is in their own best interests. Additionally, Norsk Hydro currently holds one seat on our Board of Directors, which affords Norsk Hydro greater control and influence over matters affecting our business.

Norsk Hydro may from time to time acquire and hold interests in businesses that compete directly or indirectly with us. Norsk Hydro also may pursue opportunities (including by acquisition) that may be adverse to, or be in direct or indirect competition with, us. Additionally, our potential customers may be competitors of Norsk Hydro and our interests in selling to those customers could be divergent from Norsk Hydro's competitive interests. So long as Norsk Hydro continues to own a significant amount of the outstanding shares of our common stock, Norsk Hydro may be able to strongly influence or effectively control our decisions.

***Currency translation risk may negatively affect our net sales, cost of sales, gross margin or profitability and could result in exchange losses.***

Although our reporting currency is the U.S. dollar, we may conduct business and incur costs in the local currencies of other countries in which we operate, make sales or buy equipment or materials. As a result, we are subject to currency translation risk. For example, in 2007 we purchased equipment from suppliers in Japan, the United Kingdom and Germany, and our capital expenditures exceeded budgeted amounts due to the decline of the U.S. dollar versus the British pound and the euro. Until, and in some cases after, we place firm purchase orders for capital equipment with each of our suppliers, changes in currency exchange rates could significantly increase our capital expenditures beyond what we have budgeted. Further, changes in exchange rates between foreign currencies and the U.S. dollar could affect our net sales and cost of sales and could result in exchange losses. We cannot accurately predict future exchange rates or the overall impact of future exchange rate fluctuations on our business, results of operations and financial condition.

***We depend on a limited number of third-party suppliers for key raw materials, and their failure to perform could cause manufacturing delays and impair our ability to deliver PV modules to customers in the required quality and quantity and at a price that is profitable to us.***

Our failure to obtain raw materials and components that meet our quality, quantity and cost requirements in a timely manner could interrupt or impair our ability to manufacture our PV modules or increase our manufacturing cost. Most of our key raw materials are either sole-sourced or sourced by a limited number of third-party suppliers. As a result, the failure of any of our suppliers to perform could disrupt our supply chain and impair our operations. In addition, many of our suppliers are small companies that may be unable to supply our increasing demand for raw materials as we implement our planned expansion. We may be unable to identify new suppliers in a timely manner or on commercially reasonable terms. Raw materials from new suppliers may also be less suited for our technology and yield PV modules with lower conversion efficiencies, higher failure rates and higher rates of degradation than PV modules manufactured with the raw materials from our current suppliers.

***Any change to our relationship with ITN could disrupt certain aspects of our business operations, including our research and development activities.***

Pursuant to a Service Center Agreement in place until December 31, 2009, we have the right to use certain of ITN's laboratories, equipment and research and development tools on an as needed basis. Also, pursuant to an Administrative Services Agreement in place until December 31, 2008, ITN provides us with certain administrative services at cost, such as facilities management, equipment maintenance, procurement, information technology and technical support. See "Certain Relationships and Related Transactions, and Director Independence Transactions with ITN Energy Systems, Inc." We have relied on these arrangements to conduct a large portion of our research and development activities, including those related to development and improvements of new PV technologies that may affect the viability of our products in the future. We also have relied on these arrangements for back office support services at what we believe are competitive prices. Any change to our existing relationship with ITN, including the sale of ITN to a third party or termination or alteration of the Service Center Agreement or Administrative Services Agreement, could disrupt our research and development activities and other aspects of our business. Among other things, we may be forced to seek and obtain access to different sources of laboratory equipment and tools, or we may be forced to find alternative providers of affected administrative services, or to perform administrative services ourselves. We cannot guarantee that we would be able to do so on the same or as favorable terms than we currently have with ITN, or at all; and the increased costs of alternative arrangements may materially and adversely affect our business, results of operations and financial condition.

***Our future success depends on retaining our existing management team and hiring and assimilating new key employees, and our inability to attract or retain key personnel would materially harm our business and results of operations.***

Our success depends on the continuing efforts and abilities of our executive officers, including Matthew Foster, our President and Chief Executive Officer, Dr. Joseph Armstrong, our Chief Technology Officer, Dr. Prem Nath, our Vice President of Manufacturing, and Dr. Mohan Misra, our Chief Strategy Officer. Our future success also will depend on our ability to attract and retain highly skilled employees, including management, technical and sales personnel. In addition, none of our management or employees is subject to non-compete agreements. The loss of any of our key personnel, the inability to attract, retain or assimilate key personnel in the future, or delays in hiring required personnel could materially harm our business, results of operations and financial condition.

***Our search for and retention of a qualified Chief Financial Officer, or our inability to identify and retain a qualified Chief Financial Officer, could be disruptive to and harm our business.***

We currently do not have and have never had a Chief Financial Officer. If we fail to hire and retain a qualified person to fill that position we may not be able to satisfactorily manage our finances or address the complexities of being a public company. Although we currently are interviewing candidates for our Chief Financial Officer position, we cannot assure you that we will find someone suitable to fill this position. There also are no assurances that our Chief Financial Officer, once retained, will work well with our current management team or that his or her transition into the role will be efficient. Our inability to find and employ a qualified Chief Financial Officer or to facilitate his or her smooth transition into the role could have a material adverse effect on our business, results of operations and financial condition.

***Problems with product quality or performance may cause us to incur warranty expenses, damage our market reputation and prevent us from maintaining or increasing our market share.***

We do not have sufficient life cycle data for our thin-film PV modules to reliably predict their lifespans in the field. Pending collection of such data over time, we may not be able to offer customers warranty terms equivalent to those of our competitors, which may adversely impact sales or market acceptance of our PV modules. Further, even if we offer warranty terms equivalent to those of our competitors, at this time we cannot guarantee that our PV modules will perform as expected during the lifespans that our customers will expect. If our PV modules fail to perform as expected while under warranty, or if we are unable to support the warranties, sales of our PV modules may be adversely affected or our costs may increase, and our business, results of operations and financial condition could be materially and adversely affected.

***Our failure to further refine our technology and develop and introduce improved PV modules could render our PV modules uncompetitive or obsolete and adversely affect sales of our PV modules and our ability to be profitable.***

We will need to invest significant financial resources in research and development to keep pace with technological advances in the solar energy industry. However, research and development activities are inherently uncertain and we could encounter practical difficulties in commercializing our research results. Our expenditures on research and development may not produce corresponding benefits. Other companies are developing a variety of competing PV technologies and could produce PV modules that prove more cost-effective or have better performance or reliability than our PV modules. As a result, our PV modules may be rendered obsolete or unattractive by the technological advances of others, which could reduce sales of our PV modules and adversely affect our business, results of operations and financial condition.

***Our PV modules contain limited amounts of cadmium sulfide, and claims of human exposure or future regulations could have a material adverse effect on our business, results of operations and financial condition.***

Our PV modules contain limited amounts of cadmium sulfide, which is regulated as a hazardous material due to the adverse health effects that may arise from human exposure. We cannot assure you that human or environmental exposure to cadmium sulfide used in our PV modules will not occur. Any such exposure could result in third-party claims against us, damage to our reputation and heightened regulatory scrutiny of our PV modules. Future regulation relating to the use of cadmium in various products could impact the manufacture and sale of our PV modules and could require us to incur unforeseen environmental costs. The occurrence of future events such as these could limit our ability to sell and distribute our PV modules, and could have a material adverse effect on our business, results of operations and financial condition.

*Environmental obligations and liabilities could have a substantial negative impact on our financial condition, cash flows and profitability.*

We are subject to a variety of federal, state, local and foreign laws and regulations relating to the protection of the environment, including those governing the use, handling, generation, processing, storage, transportation and disposal of, or human exposure to, hazardous and toxic materials, the discharge of pollutants into the air and water, and occupational health and safety. We are also subject to environmental laws which allow regulatory authorities to compel, or seek reimbursement for, cleanup of environmental contamination at sites now or formerly owned or operated by us and at facilities where our waste is or has been disposed. We may incur significant costs and capital expenditures in complying with these laws and regulations. In addition, violations of, or liabilities under, environmental laws or permits may result in restrictions being imposed on our operating activities or in our being subjected to substantial fines, penalties, criminal proceedings, third party property damage or personal injury claims, cleanup costs or other costs. Also, future developments such as more aggressive enforcement policies, the implementation of new, more stringent laws and regulations, or the discovery of presently unknown environmental conditions or non-compliance may require expenditures that could have a material adverse effect on our business, results of operations and financial condition. Further, greenhouse gas emissions have increasingly become the subject of international, national, state and local attention. Although future regulations could potentially lead to an increased use of alternative energy, there can be no guarantee that such future regulations will encourage solar technology. Given our limited history of operations, it is difficult to predict future environmental expenses.

*Our intellectual property rights may be inadequate to protect our business, which may result in the unauthorized use of our products or reduced sales or otherwise reduce our ability to compete.*

Our business and competitive position depends upon our ability to protect our intellectual property rights and proprietary technology, including any PV modules that we develop. We attempt to protect our intellectual property rights, both in the United States and in foreign countries, through a combination of patent, trade secret and other intellectual property laws, as well as licensing agreements and third-party nondisclosure and assignment agreements. Because of the differences in foreign patent and other laws concerning intellectual property rights, our intellectual property rights may not receive the same degree of protection in foreign countries as they would in the United States. Our failure to obtain or maintain adequate protection of our intellectual property rights for any reason could have a material adverse effect on our business, results of operations and financial condition. Further, any patents issued in connection with our efforts to develop new technology for PV modules may not be broad enough to protect all of the potential uses of our technology.

We have applied for patent protection in the U.S. relating to certain existing and proposed technologies and processes and services. While we generally apply for patents in those countries where we intend to make, have made, use, or sell patented products, we may not accurately predict all of the countries where patent protection will ultimately be desirable. If we fail to timely file a patent application in any such country, we may be precluded from doing so at a later date. Furthermore, we cannot assure you that any of our patent applications will be approved. We also cannot assure you that the patents issued as a result of our foreign patent applications will have the same scope of coverage as our United States patents. The patents we own could be challenged, invalidated or circumvented by others and may not be of sufficient scope or strength to provide us with any meaningful protection or commercial advantage. Further, we cannot assure you that competitors will not infringe our patents, or that we will have adequate resources to enforce our patents.

Many patent applications in the U.S. are maintained in secrecy for a period of time after they are filed, and since publication of discoveries in the scientific or patent literature tends to lag behind actual discoveries by several months, we cannot be certain that we will be the first creator of inventions covered by any patent application we make or that we will be the first to file patent applications on



such inventions. Because some patent applications are maintained in secrecy for a period of time, there is also a risk that we could adopt a technology without knowledge of a pending patent application, which technology would infringe a third party patent once that patent is issued.

We also rely on unpatented proprietary technology. It is possible that others will independently develop the same or similar technology or otherwise obtain access to our unpatented technology. To protect our trade secrets and other proprietary information, we require our employees, consultants and advisors to execute proprietary information and invention assignment agreements when they begin working for us. We cannot assure you that these agreements will provide meaningful protection of our trade secrets, know-how or other proprietary information in the event of any unauthorized use, misappropriation or disclosure of any such trade secrets, know-how or other proprietary information. Despite our efforts to protect this information, unauthorized parties may attempt to obtain and use information that we regard as proprietary. If we are unable to maintain the proprietary nature of our technologies, we could be materially adversely affected.

Although we rely on copyright laws to protect the works of authorship created by us, we do not register the copyrights in all of our copyrightable works. Copyrights of U.S. origin must be registered before the copyright owner may bring an infringement suit in the United States. Furthermore, if a copyright of U.S. origin is not registered within three months of publication of the underlying work, the copyright owner is precluded from seeking statutory damages or attorneys' fees in any United States enforcement action, and is limited to seeking actual damages and lost profits. Accordingly, if one of our unregistered copyrights of U.S. origin is infringed by a third party, we will need to register the copyright before we can file an infringement suit in the United States, and our remedies in any such infringement suit may be limited.

In addition, when others control the prosecution, maintenance and enforcement of certain important intellectual property, such as technology licensed to us, the protection of the intellectual property rights may be outside of our control. If the entity that controls intellectual property rights that are licensed to us does not adequately protect those rights, our rights may be impaired, which may impact our ability to develop, market and commercialize our products. Further, if we breach the terms of any license agreement pursuant to which a third party licenses us intellectual property rights, our rights under that license may be affected and we may not be able to continue to use the licensed intellectual property rights, which could adversely affect our ability to develop, market and commercialize our products.

Further, some of our patents and related know how and other technology may cover inventions that were conceived or first reduced to practice under, or in connection with, U.S. government contracts or other federal funding agreements. Although we retain ownership of intellectual property developed during the performance of government contracts, the U.S. government may retain a nonexclusive, non-transferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the U.S. the invention throughout the world. Further, the federal government may retain the right to impose a compulsory license in certain circumstances through the exercise of "march-in" rights under which it can compel us to license the intellectual property. If the government were to exercise "march-in" rights, we could be forced to license intellectual property developed by us on terms unfavorable to us, and our business could be materially and adversely affected. Furthermore, our ability to exclusively license or assign the intellectual property developed under these federal funding agreements to third parties may be limited or subject to the U.S. government's approval or oversight. These limitations could have a significant impact on the commercial value of the developed intellectual property in the U.S., and similar rights may be present in other countries. If one or more governments should exercise such rights, our ability to achieve profitability could be compromised and our business prospects harmed.

Our means of protecting our intellectual property rights may not be adequate, and our competitors may: independently develop substantially equivalent proprietary information, products and techniques;

otherwise gain access to our proprietary information or design around our patents or other intellectual property, which could result in significant costs or substantial damages to our business and our inability to manufacture, market or sell our products.

***If third parties claim that we are infringing or misappropriating their intellectual property rights, we could be prohibited from selling our PV modules, be required to obtain licenses from third parties or be forced to develop non-infringing alternatives, and we could be subject to substantial monetary damages and injunctive relief.***

The PV industry is characterized by the existence of a large number of patents and frequent litigation based on allegations of patent infringement. We are aware of numerous issued patents and pending patent applications owned by third parties that may relate to current and future generations of solar energy. The owners of these patents may assert that the manufacture, use or sale of any of our products infringes one or more claims of their patents. Moreover, because patent applications can take many years to issue, there may be currently pending applications, unknown to us, which may later result in issued patents that materially and adversely affect our business. Third parties could also assert claims against us that we have infringed or misappropriated their intellectual property rights. Whether or not such claims are valid, we cannot be certain that we have not infringed the intellectual property rights of such third parties. Any infringement or misappropriation claim could result in significant costs or substantial damages to our business or an inability to manufacture, market or sell any of our PV modules that are found to infringe or misappropriate. Even if obtaining a license were feasible, it could be costly and time consuming. Even if we were to prevail in any such action, the litigation could result in substantial cost and diversion of resources that could materially and adversely affect our business. The large number of patents, the rapid rate of new patent issuances, the complexities of the technology involved and uncertainty of litigation increase the risk of business assets and management's attention being diverted to patent litigation.

***We currently anticipate having substantial international operations that will subject us to a number of risks, including potential unfavorable political, regulatory, labor and tax conditions in foreign countries.***

We expect to expand our operations abroad in the future and, as a result, we may be subject to the legal, political, social and regulatory requirements and economic conditions of foreign jurisdictions. Risks inherent to international operations, include, but are not limited to, the following:

difficulty in procuring supplies and supply contracts abroad;

difficulty in enforcing agreements in foreign legal systems;

foreign countries imposing additional withholding taxes or otherwise taxing our foreign income, imposing tariffs or adopting other restrictions on foreign trade and investment, including currency exchange controls;

inability to obtain, maintain or enforce intellectual property rights;

risk of nationalization;

changes in general economic and political conditions in the countries in which we may operate, including changes in the government incentives we might rely on;

unexpected adverse changes in foreign laws or regulatory requirements, including those with respect to environmental protection, export duties and quotas;

difficulty with staffing and managing widespread operations;

trade barriers such as export requirements, tariffs, taxes and other restrictions and expenses, which could increase the prices of our products and make us less competitive in some countries; and



difficulty of and costs relating to compliance with the different commercial and legal requirements of the international markets in which we plan to offer and sell our PV modules.

Our business in foreign markets will require us to respond to rapid changes in market conditions in these countries. Our overall success as an international business depends, in part, on our ability to succeed in differing legal, regulatory, economic, social and political conditions. If we are not be able to develop and implement policies and strategies that are effective in each location where we will do business, then our business, results of operations and financial condition could be materially and adversely affected.

*Our failure to secure proper sites and facilities in which to install manufacturing equipment could adversely affect our business and results of operations.*

We intend to install manufacturing equipment both domestically and abroad. Selecting suitable locations for this equipment requires consideration of a variety of factors, including availability of a skilled workforce, size and configuration of facilities, proximity to customers, transportation and infrastructure, cost of land and facilities, currency exchange rates and the prevailing political and regulatory environment. A variety of factors related to the location and selection of such sites and facilities could cause our operations to miss our expectations, and adversely affect our business, results of operations and financial condition.

*Our failure to qualify for Small Business Innovation Research funding could adversely impact our revenues from research and development contracts; further, upon the exercise of "march-in" rights by the federal government, we could be forced to license intellectual property developed by us on terms unfavorable to us.*

We currently receive funding for research and development under the Small Business Innovation Research (SBIR) program. In 2007, our revenues generated from performance of these contracts totaled approximately \$1.0 million. In order to continue to qualify for this funding, we must remain American-owned and independently operated and our size must remain under 500 employees. As a result of our relationship with Norsk Hydro and our planned expansion plans, we cannot guarantee that we will be able to continue to qualify for SBIR funding. If we fail to qualify for SBIR funding, our revenues from research and development could decline or cease, and our net income and financial condition could be materially and adversely affected.

#### **Item 1B. Unresolved Staff Comments**

None.

#### **Item 2. Properties**

Our facilities are located in Littleton, Colorado. We sublease approximately 14,200 square feet of office and manufacturing space at cost from ITN, which occupies space adjacent to ours. ITN leases the property from the Fontana Family Trust. The sublease expires in June 2010. In 2008, we expect to pay ITN approximately \$18,990 per month in rent, plus pass-through expenses such as taxes, insurance, water and utilities. We may sublease additional space from ITN as the need arises.

In February 2008, we acquired an approximately 120,000 square foot manufacturing and office facility in Thornton, Colorado. We intend eventually to use the facility to house expanded production capacity and as our corporate headquarters. The facility was purchased from JN Properties, LLC, an unaffiliated third party, for \$5.5 million. The building purchase price and improvements were financed by the Colorado Housing and Finance Authority (CHFA) with the assistance of the State of Colorado's Energy Office and Office of Economic Development.

#### **Item 3. Legal Proceedings**

None.

#### **Item 4. Submission of Matters to a Vote of Security Holders**

None.

## PART II

**Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities****Market Information**

Our Common Stock is traded on the Nasdaq Global Market under the symbol "ASTI." The following table sets forth the high and low sales price information per share for our Common Stock since its initial public offering in July 2006.

**Common Stock "ASTI"**

	<u>High</u>	<u>Low</u>
<b>Fiscal 2006</b>		
Third Quarter (since August 10, 2006)	\$ 3.50	\$ 2.01
Fourth Quarter	\$ 3.95	\$ 2.09
<b>Fiscal 2007</b>		
First Quarter	\$ 10.44	\$ 2.41
Second Quarter	\$ 11.34	\$ 6.99
Third Quarter	\$ 19.75	\$ 6.50
Fourth Quarter	\$ 28.35	\$ 13.17

 **Holders**

As of December 31, 2007, the number of record holders of our Common Stock was 51, and there were no holders of Preferred Stock. The vast majority of our publicly-traded shares are held in street name, and we believe that the number of beneficial owners of our stock was approximately 9,400 as of March 5, 2008.

**Dividends**

The holders of Common Stock are entitled to receive such dividends as may be declared by our Board of Directors. During the years ended December 31, 2007 and 2006, we did not pay any dividends, and we do not expect to declare or pay any dividends in the foreseeable future. Payment of future dividends will be within the discretion of our Board of Directors and will depend on, among other factors, our retained earnings, capital requirements, and operating and financial condition.

**Recent Sales of Unregistered Securities**

On March 13, 2007, we completed a private placement of securities whereby Norsk Hydro Produksjon AS, a subsidiary of Norsk Hydro ASA, purchased 1,600,000 shares of our common stock (representing 23% of our outstanding common stock post transaction) for an aggregate purchase price of approximately \$9.2 million. In connection with the private placement, Norsk Hydro was granted two options, which expire on June 15, 2009, to purchase additional shares and warrants.

On August 16, 2007 Norsk Hydro acquired an additional 934,462 restricted shares of our common stock and 1,965,690 Class B warrants upon the exercise of one of its options. Gross proceeds to us were approximately \$10.5 million, and reflected per share and per warrant purchase prices equal to the average of the closing bids of each security, as reported by Nasdaq, for the five consecutive trading days preceding exercise.

After acquiring these additional securities, Norsk Hydro held 23% of each of our total outstanding common shares and Class B warrants, after its ownership percentage had been diluted as the result of the exercise and redemption of Class A warrants. Pursuant to its other option, until June 15, 2009,

Norsk Hydro has the opportunity to purchase additional shares and Class B warrants, generally at prevailing market prices at the time of exercise, to enable it to hold up to 35% of each class of these securities. Securities were issued by us to Norsk Hydro, an accredited investor, pursuant to an exemption from registration under the Securities Act of 1933, as amended, pursuant to Rule 506 under Regulation D.

In the fiscal year ended December 31, 2007, we issued 46,998 unregistered shares of common stock upon exercise of stock options by our employees, directors, consultants and other service providers. The options were granted under our 2005 Stock Option Plan and pursuant to exemptions from registration under the Securities Act of 1933, as amended, available under Rule 701. The exercise price of the options exercised was \$0.10 per share.

#### Initial Public Offering Proceeds

Our initial public offering of units, each unit consisting of one share of common stock, \$0.0001 par value, one Class A redeemable warrant and two Class B non-redeemable warrants, was effected through a Registration Statement on Form SB-2 (File No. 333-131216) that was declared effective by the Securities and Exchange Commission on July 10, 2006. The Registration Statement covered the offer and sale of 3,000,000 units for an aggregate offering price of \$16,500,000. Our initial public offering resulted in aggregate net proceeds to us of approximately \$14 million, net of underwriting discounts, commissions and offering expenses. As of December 31, 2007, the entire net proceeds from the initial public offering were expended and applied approximately as follows:

	<u>Amount</u>
Design, building and testing of production line and other non-recurring engineering costs	\$ 10,251,000
Repayment of bridge loans	1,681,000
Business development and product qualifications	1,162,000
Research and technology development	197,000
General corporate purposes, net of interest income	709,000
<b>Total</b>	<b>\$ 14,000,000</b>

#### Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

#### Item 6. Selected Financial Data

Not required for smaller reporting companies.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

*The following discussion of our financial condition and results of operations should be read in conjunction with our audited financial statements and the notes to those financial statements appearing elsewhere in this Form 10-K. This discussion and analysis contains statements of a forward-looking nature relating to future events or our future financial performance. As a result of many factors, our actual results may differ materially from those anticipated in these forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements.*

### Overview

We are a development stage company formed to commercialize flexible PV modules using proprietary technology. For the year ended December 31, 2007, we generated approximately \$1.0 million in revenues, none of which came from our planned principal operations to commercialize flexible PV modules. As of December 31, 2007, we had an accumulated deficit of approximately \$11.9 million. Under our current business plan, we expect losses to continue through at least 2009. To date, we have financed our operations primarily through public and private equity financings.

Our path to commercialization is defined by a highly disciplined, staged progression based upon the achievement of key milestones. We completed construction of a 1.5 MW production line on schedule in December 2007 after having consistently achieved PV cell conversion efficiencies of approximately 10% to 12%, and PV module conversion efficiencies of approximately 6% to 8%, and as high as 9.6%, in a pre-production prototyping and test facility that we have operated since the fourth quarter of 2006. Conversion efficiency is the percentage of energy from absorbed light that a device is able to convert into electrical energy. Over time and with further refinement of our existing processes, we believe that our PV modules should be able to consistently achieve efficiencies of 10% to 12%. We are now testing and qualifying our 1.5 MW production line in anticipation of commencing limited commercial production during the second quarter of 2008 with an emphasis on module testing and further optimization of production yield. Our production line incorporates into an integrated process each of the discrete manufacturing steps that have been previously tested in our pre-production prototyping and test facility.

Our manufacturing expansion plan entails the design, installation, qualification, testing and operation of additional production tools to increase our rated production capacity, and contemplates the addition of approximately 30 MW of rated capacity by the end of 2009, another approximately 30 MW of rated capacity by the end of 2010 and another approximately 50 MW of rated capacity by the end of 2011. We therefore expect to have approximately 110 MW of rated production capacity in place by the end of 2011. Rated production capacity refers to our expected level of annual production upon optimizing our production process and is based on assumed production yields and module efficiencies. The actual production levels that we are able to realize at any point during our planned expansion will depend on a variety of factors, including our ability to optimize our production process to achieve targeted production yields and module efficiencies. See Risk Factors including "Risk Factors We have a limited history of operations, have not generated any revenue from operations and have not commenced commercial production of our PV modules."

**1.5 MW Production Line Status**

The major modifications to our building and facilities in Littleton, Colorado to accommodate the new 1.5 MW production line were completed, and all the requisite production tools and support equipment were delivered and installed, by the fourth quarter 2007. We are currently qualifying the production tools for the following manufacturing processes:

Manufacturing Process	Manufacturing Tool
Thin-film vacuum coating of molybdenum back contact	Roll-to-roll tool for sputtering
Thin-film vacuum coating of copper, indium, gallium, selenium	Roll-to-roll tool for thermal evaporation
Chemical spray coating of deionized water and cadmium sulfide	Roll-to-roll tool for chemical treatment
Thin-film vacuum coating of transparent conductive oxide (TCO)	Roll-to-roll tool for sputtering
Laser patterning and ink printing of modules	Roll-to-roll monolithic integration tool

The following diagram is a general illustration of our manufacturing process:

Other tools, including laminators, solar simulators and environmental testing chambers, and characterization and quality control equipment have been installed and qualified and comprise the remainder of the major equipment for our 1.5 MW production line.

Each tool on the production line must be individually qualified, and operators must be trained to operate each tool within designed control limits that we believe are necessary to ensure production of quality products. When each tool is operating properly and within set standards, we intend to commence operation of the entire 1.5 MW production line as an integrated process and to begin manufacturing modules in order to achieve an initial operating capability (IOC). Our goal is to achieve IOC by the end of the first quarter in 2008, by which time we expect to understand better any operational performance issues with the production tools, quality issues and initial product performance and efficiency levels. During the second quarter of 2008, we intend to focus on manufacturing optimization to achieve desired initial production yields of 65% or greater and module efficiencies of 7% to 8%. In order to achieve these objectives, we must successfully transition the manufacturing



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processes and performance levels achieved with our prototyping tools to the 1.5 MW production line throughout the first and second quarters of 2008.

Our principal activities during 2008 will be to qualify our production tools and manufacturing processes, and to produce product for the following purposes: internal product development; testing and qualification; and external product testing to gain UL, IEC and TÜV certifications, one or more of which is necessary for some product and customer applications. Other product uses include demonstrations, joint product development, limited sales and further market development with new strategic partners and customers. Successful accomplishment of our objectives in these areas is necessary to support the commencement of full-scale manufacturing at the 1.5 MW level and to make progress consistent with our current commercialization and manufacturing expansion plan.

### **Commercialization and Manufacturing Expansion Plan**

We intend to be the first company to manufacture large, roll-format, PV modules in commercial quantities that use CIGS on a flexible, plastic substrate. Our manufacturing expansion plan entails the design, installation, qualification, testing and operation of additional production tools to increase our rated production capacity. We intend to incrementally expand our aggregate production capacity to 110 MW by attaining the following milestones within the time frames indicated:

Second quarter of 2008: commence limited commercial production on 1.5 MW production line.

Third quarter of 2008: begin certification and qualification of products through UL, IEC and TÜV.

Third quarter of 2008: begin procuring production tools for the first 30 MW of incremental rated capacity.

Fourth quarter of 2008: complete certification of products from 1.5 MW production line.

Third quarter of 2009: begin procuring production tools for the second 30 MW of incremental rated capacity.

Fourth quarter of 2009: complete qualification of production tools for the first 30 MW of incremental rated capacity and commence production at 30 MW of aggregate rated capacity.

Third quarter of 2010: begin procuring production tools for the final 50 MW of incremental rated capacity.

Fourth quarter of 2010: complete qualification of production tools for the second 30 MW of incremental rated capacity and commence production at 60 MW of aggregate rated capacity.

Fourth quarter of 2011: complete qualification of production tools for the final 50 MW of incremental rated capacity and commence production at 110 MW of aggregate rated capacity.

Although we currently plan to expand our production capacity in accordance with the timeline above, the actual timing and amount of production capacity that we install may significantly deviate from the above plan due to market conditions, availability of financing, timeliness of delivery of production tools, product performance and other factors described in this Annual Report. See "Significant Trends, Uncertainties and Challenges" below, and Risk Factors including "Risk Factors We have a limited history of operations, have not generated any revenue from operations and have not commenced commercial production of our PV modules."

Although we do not expect that minor delays in product certifications would significantly affect our ability to continue developing product applications with our customers, delays that extend significantly into 2009 likely would impact our ability to develop demand for our PV modules, and would affect our planned sales and results of operations in 2010, when we expect to have commenced production using our planned production tools for approximately 30 MW of rated capacity.



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Using our 1.5 MW production line as a model, we have commenced engineering and development of our planned production tools for approximately 30 MW of rated capacity. We plan to procure these production tools by the third quarter of 2008, and to complete installation of the production tools by the end of the second quarter of 2009. Allowing six months to qualify the tools and achieve IOC, we plan to commence production at 30 MW of rated capacity by the end of 2009. In order to qualify approximately 30 MW of rated capacity by the end of 2009, we intend to purchase and install production tools that will process one-third meter wide plastic rolls identical to those used in our existing 1.5 MW production line. Significant delays in the qualification of the 1.5 MW production line and/or delays in the delivery, installation and qualification of additional production tools may impact our real and projected product sales in 2010. Further, satisfactory performance of our 1.5 MW production line is a precursor to achieving our commercial production targets.

We expect that the production tools used for the next approximately 80 MW of rated capacity and for future capacity expansions will be engineered to process larger one meter wide rolls, and we have initiated engineering and development of production tools to support our planned expansion to 110 MW of rated capacity. Successfully transitioning to one meter wide rolls should significantly increase our throughput, thereby reducing the number of manufacturing tools and, hence, the amount of capital expenditures required for equipment and facilities. Generally speaking, we believe that all other process variables, such as speed, thickness and composition, should remain unchanged. Based upon discussions with our equipment suppliers, we have identified deposition of the CIGS layer in the one meter wide format as the most challenging aspect of transitioning to one meter wide rolls; consequently, we have initiated the development of a one meter wide prototype CIGS production tool to enable us to begin evaluating and testing one meter wide area deposition sources and process control systems. This prototype production tool is scheduled for delivery in the third quarter of 2008, which under our current schedule allows for nine months of testing and evaluation prior to committing the capital in 2009 to procure the one meter format production tools to support further expansion to approximately 110 MW of rated capacity. In addition, we anticipate that our planned expansion to approximately 110 MW of total rated capacity will require additional capital. See "Risk Factors Our planned expansion to approximately 110 MW of rated capacity will require additional capital which we may not be able to obtain on favorable terms, if at all, or without dilution to our stockholders."

In February 2008, we acquired an approximately 120,000 square foot manufacturing and office facility in Thornton, Colorado, for approximately \$5.5 million. The purchase was financed in part by a promissory note, deed of trust and construction loan agreement with CHFA, which provide us borrowing availability of up to \$7.5 million for the building and building improvements. We paid approximately \$1.3 million in cash and were advanced approximately \$4.2 million from CHFA to fund the initial acquisition of the property. The construction loan terms are to pay interest at 6.6% on only the drawn principal amount until January 1, 2009, at which time the construction loan will be refinanced by a permanent loan. The permanent loan will have an interest rate of 6.6% and the principal will be amortized over a period of approximately 19 years and 2 months consistent with a maturity date 20 years after the incurrence of the construction loan on February 8, 2008. The terms of the permanent loan are specified in a CHFA Construction and Permanent Loan Commitment dated January 16, 2008. In 2008, we intend to draw down the available remaining balance of the construction loan, approximately \$3.3 million, to pay for building improvements.

### **Capital Equipment Expenditures and Manufacturing Costs**

Since our formation in October 2005, most of our cash outlays have gone toward the investment in capital equipment necessary to develop our manufacturing capabilities for producing the commercial products we envision. We expect this trend to continue into the foreseeable future as we expand to approximately 110 MW of rated capacity by the end of 2011. We will require additional capital and additional facilities to achieve our manufacturing expansion plans. If we are unable to secure the

necessary capital or to manage the disbursement of capital taking into consideration any unforeseen factors, such as cost increases from our equipment suppliers and the potential continued devaluation of the U.S. dollar against foreign currencies, our ability to expand our manufacturing capacity as planned, as well as our financial performance and results of operations, may be adversely affected.

Our major equipment suppliers are located in Japan, the United Kingdom and Germany. The recent downward trend of the U.S. dollar against the yen, the British pound and the euro has resulted in an increase in our estimated and projected capital expenditure requirements. Although the devaluation of the dollar directly affects our capital outlays, it generally strengthens the value of our products relative to those of many of our foreign competitors to the extent that our production costs are incurred in U.S. dollars. We currently expect the capital expenditures needed to support the first 30 MW of rated capacity to be approximately \$80 million to \$85 million for property, plant and equipment and approximately \$8 million for installation, qualification and other associated pre-operating expenses. In order to install the next 80 MW of rated capacity, we expect that we will require another approximately \$170 million to \$180 million for property, plant and equipment and approximately \$15 million for installation, qualification and other associated pre-operating expenses. Assuming optimized run rate production yields and module efficiencies, we expect our PV module manufacturing cash costs to be approximately \$1.00 per watt when operating at 30 MW of rated capacity and approximately \$0.90 per watt when operating at 110 MW of rated capacity.

To manage the uncertainties related to the procurement of capital equipment, we have continued to work closely with our equipment suppliers to complete the engineering of our new tools and refine the estimates of our planned capital outlays. The production tool costs are subject to change until we place firm procurement orders with our suppliers, which we expect will occur beginning the third quarter of 2008. To manage the fluctuations of foreign exchange rates, we procure equipment from Japan under contract terms based upon U.S. dollars at the time of contract. For equipment procured in Europe, we intend to negotiate with our suppliers to achieve similar terms. Although we do not currently engage in any foreign currency hedging activities, we intend to consider the merits of using financial instruments to hedge against such uncertainties in the future.

#### **Significant Trends, Uncertainties and Challenges**

We believe that the significant trends, uncertainties and challenges that directly or indirectly affect our financial performance and results of operations are:

Our ability to successfully qualify our 1.5 MW production line and obtain necessary or desired certifications for our PV modules;

Our ability to expand production in accordance with our plans set forth above under "Commercialization and Manufacturing Expansion Plan" to add approximately 30 MW of rated capacity by the end of 2009, another approximately 30 MW of rated capacity by the end of 2010 and another approximately 50 MW of rated capacity by the end of 2011, and to achieve certifications of our planned PV modules;

Our ability to achieve projected operational performance and cost metrics;

Our ability to consummate strategic relationships with key partners, including OEMs, system integrators and distributors who deal directly with end-users in the BIPV, EIPV and commodity solar panel markets;

The effect that currency fluctuations may have on our capital equipment purchases, manufacturing costs and the price of our planned PV modules; and

Our ability to manage the planned expansion of our manufacturing facilities, operations and personnel.

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Other trends, uncertainties and challenges may exist and are discussed elsewhere in this Annual Report, including under the heading "Risk Factors."

### Critical Accounting Policies and Estimates

The preparation of our financial statements requires us to make certain estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosures. A summary of accounting policies that have been applied to the financial statements presented can be found in the notes thereto. We consider certain of these accounting policies to be critical as they are both important to the portrayal of our financial condition and results of operations and require judgments on the part of management about matters that are uncertain. We have identified the following accounting policies that are important to the presentation of the financial information:

**Basis of Presentation:** Our activities to date have substantially consisted of raising capital, research and development, and the development of a 1.5 MW production line. Revenues to date have been generated from our government research and development (R&D) contracts and have not been significant. Our planned principal operations to commercialize flexible PV modules have not yet commenced. Accordingly, we are considered to be in the development stage, as defined in Statement of Financial Accounting Standards No. 7 (SFAS No. 7), "*Accounting and Reporting by Development Stage Enterprises*."

**Short Term Investments:** Our short term investments, which are classified as available-for-sale securities, are invested in high-grade variable rate demand notes, which have a final maturity date of up to 30 years but whose interest rates are reset at varying intervals typically between 1 and 7 days. Unlike auction rate securities, variable rate demand notes can be readily liquidated at any interest rate reset date, either by putting them back to the original issuer or by putting them to a third-party re-marketer as generally provided in the original prospectus. To date, we have always been able to redeem our holdings of these securities in accordance with their terms, and we believe that the risk of non-redemption is minimal. Consequently, these securities are available for use to support the current cash needs of our operations, and in accordance with Accounting Research Bulletin 43, they are classified as short term investments.

**Revenue Recognition:** Revenue to date is from our government research and development contracts under terms that are cost plus fee or firm fixed price. Revenue from cost plus fee contracts is recognized as costs are incurred on the basis of direct costs plus allowable indirect costs and an allocable portion of the firm fixed fee. Revenue from firm fixed price contracts is recognized under the percentage-of-completion method of accounting, with costs and estimated profits included in contract revenue as work is performed. If actual and estimated costs to complete a contract indicate a loss, provision is made currently for the loss anticipated on the contract.

**Income Taxes:** In July 2006, the FASB (Financial Accounting Standards Board) issued FASB Interpretation (FIN) No. 48, "*Accounting for Uncertainty in Income Taxes*." We adopted the provisions of FIN No. 48 on January 1, 2007. Deferred income taxes are determined using the liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carry-forwards and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of the changes in tax laws and rates from the date of enactment.

**Stock-based Compensation:** Our accounts for share-based payments under the provisions of Statement of Financial Accounting Standards No. 123 (revised 2004), "*Share-Based Payment*,"

(SFAS 123(R)) which requires the measurement and recognition of compensation expense for all share-based payment awards made to employees, officers and directors, and consultants, including employee stock options based on estimated fair values. SFAS 123(R) requires companies to estimate the fair value of share-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service period in our Statements of Operations. Stock-based compensation is based on awards ultimately expected to vest and is reduced for estimated forfeitures. SFAS 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

For purposes of determining estimated fair value of share-based payment awards on the date of grant under SFAS 123(R), we used the Black-Scholes option-pricing model (Black-Scholes Model). The Black-Scholes Model requires the input of highly subjective assumptions. Because our employee stock options may have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models may not provide a reliable single measure of the fair value of our employee stock options. Management will continue to assess the assumptions and methodologies used to calculate estimated fair value of share-based compensation. Circumstances may change and additional data may become available over time, which result in changes to these assumptions and methodologies, which could materially impact our fair value determination.

The guidance in SFAS 123(R) is relatively new, and best practices are not well established. The application of these principles may be subject to further interpretation and refinement over time. There are significant differences among option valuation models, and this may result in a lack of comparability with other companies that use different models, methods and assumptions. If factors change and we employ different assumptions in the application of SFAS 123(R) in future periods, or if we decide to use a different valuation model, the compensation expense that we record in the future under SFAS 123(R) may differ significantly from what we have recorded in the current period and could materially affect our loss from operations, net loss and net loss per share.

## Results of Operations

### Comparison of the Years Ended December 31, 2007 and 2006

Certain reclassifications have been made to the 2006 financial information to conform to the 2007 presentation. Such reclassifications had no effect on net loss and are related to reclassifying costs between R&D expenses and general and administrative expenses in the Statement of Operations for the year ended December 31, 2006. Our activities to date have substantially consisted of raising capital, business and product development, research and development and the development of our 1.5 MW production line.

*Research and Development Contract Revenues.* Our R&D contract revenues were \$1,002,674 for the year ended December 31, 2007. There were no R&D contract revenues for the year ended December 31, 2006. A majority of our revenues during the year ended December 31, 2007 were revenues earned on our government R&D contracts novated January 1, 2007 from ITN and new government R&D contracts awarded to us in 2007.

*Research and Development Expenses.* R&D expenses were \$3,975,079 for the year ended December 31, 2007 compared to \$690,964 for the year ended December 31, 2006, an increase of \$3,284,115. The increase is comprised of \$2,562,213 related to personnel, materials and facilities required to optimize our manufacturing processes in advance of commencing full-scale production on our 1.5 MW production line and \$721,902 of direct costs and related overhead on our government R&D contracts that began on January 1, 2007.

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*General and Administrative Expenses.* General and administrative expenses (G&A) were \$4,953,910 for the year ended December 31, 2007 compared to \$2,684,340 for the year ended December 31, 2006, an increase of \$2,269,570. The increase of \$2,269,570 is comprised of two components, an increase in corporate G&A expenses of \$883,635 and an increase in non-cash stock-based compensation expense of \$1,385,935. The increase in corporate G&A expenses corresponds with our increase in headcount and increases in corporate activity such as legal, SEC reporting, stock and corporate registration fees, travel and insurance during the year ended December 31, 2007 as compared to the year ended December 31, 2006. Non-cash stock-based compensation for the years ended December 31, 2007 and 2006 was \$1,734,879 and \$348,944, respectively. The significant increase in stock compensation expense for the year ended December 31, 2007 is primarily due to the requirements of SFAS 123(R) and EITF 96-18 to generally measure stock-based compensation to non-employees as vesting occurs and for unvested shares at the balance sheet date. Since our stock price as of December 31, 2007 was significantly higher than as of December 31, 2006, this requirement resulted in an increased fair value calculation related to stock-based payments to non-employees. Additional grants of our stock options during 2007 also contributed to the increase.

*Interest Expense.* Interest expense was \$424 for the year ended December 31, 2007 compared to \$1,080,691 for the year ended December 31, 2006, a decrease of \$1,080,267. Interest expense in 2006 resulted from interest on the bridge loan notes and related bridge rights and financing transactions of which \$800,000 was non-cash related to the valuation and subsequent amortization of the bridge loan rights. In July 2006, the bridge loan was repaid in full with the proceeds from our initial public offering (IPO).

*Interest Income.* Interest income was \$1,423,320 for the year ended December 31, 2007 compared to \$275,083 for the year ended December 31, 2006, an increase of \$1,148,237. Interest income represents interest on cash and short term investments. Our short term investments, which are classified as available-for-sale securities, are invested in high-grade variable rate demand notes, which have a final maturity date of up to 30 years but whose interest rates are reset at varying intervals typically between 1 and 7 days.

*Net Loss.* Our net loss was \$6,503,419 for the year ended December 31, 2007 compared to a net loss of \$4,180,912 for the year ended December 31, 2006, an increase in net loss of \$2,322,507. This increase can be summarized in variances in significant account activity as follows:

	<b>Increase (decrease) to net loss For the year ended December 31, 2007</b>
R&D Contract Revenues	\$ (1,002,674)
R&D Expenses	
Manufacturing R&D	2,562,213
Government R&D	721,902
G&A Expenses	
Corporate G&A	883,635
Non-Cash Stock-Based Compensation	1,385,935
Interest Expense	(1,080,267)
Interest Income	(1,148,237)
Increase to Net Loss	\$ 2,322,507

## Liquidity and Capital Resources

On July 10, 2006, we completed our IPO of 3,000,000 units; each unit consisted of one share of our common stock, one redeemable Class A warrant, with an expiration date of July 10, 2011 and an exercise price of \$6.60 per share, and two non-redeemable Class B warrants, each with an expiration date of July 10, 2011 and an exercise price of \$11.00 per share. The initial public offering price was \$5.50 per unit. Our net proceeds from the offering were approximately \$14 million.

In the fiscal year ended December 31, 2007, we completed the following financing transactions:

On March 13, 2007, we completed a private placement of securities whereby Norsk Hydro purchased 1,600,000 shares of our common stock for an aggregate purchase price of approximately \$9.2 million, for a 23% interest in us. In connection with the private placement, Norsk Hydro was granted two options, which expire on June 15, 2009, to purchase additional shares and warrants.

On May 24, 2007, we publicly announced our intention to redeem our outstanding Class A warrants at \$0.25 per warrant. The exercise period ended June 22, 2007. During the exercise period, 3,098,382 of our Class A warrants (94.2% of the total outstanding) were exercised for an equal number of shares of common stock, and we received approximately \$20.5 million in proceeds. All outstanding Class A warrants that were not exercised before June 22, 2007 were or may be redeemed by us at \$0.25 per warrant for a total cost of approximately \$48,000.

On August 16, 2007, Norsk Hydro acquired an additional 934,462 restricted shares of our common stock and 1,965,690 Class B warrants upon exercise of one of the options granted to Norsk Hydro on March 13, 2007. Gross proceeds to us were approximately \$10.5 million, and reflected per share and per warrant purchase prices equal to the average of the closing bids of each security, as reported by Nasdaq, for the five consecutive trading days preceding exercise. After acquiring these additional shares, Norsk Hydro again held 23% of each of our total outstanding common shares and Class B warrants, after its ownership percentage had been diluted as the result of the exercise and redemption of Class A warrants subsequent to March 13, 2007. Pursuant to its other option, until June 15, 2009, Norsk Hydro has the opportunity to purchase additional shares and Class B warrants, generally at prevailing market prices at the time of exercise, to enable it to hold up to 35% of each class of security. After expiration of this option, Norsk Hydro will no longer be restricted to a 35% maximum holding in the Company and may purchase our securities in the open market.

In June and September 2007, a total of 11,000 Class B public warrants were exercised resulting in proceeds to us of \$121,000.

In September, October and November 2007, warrants that had been issued to the representative of the underwriters in our IPO, were exercised resulting in the issuance of 300,000 shares of common stock and 600,000 Class B warrants for total proceeds to us of approximately \$2.0 million.

In January 2007, approximately \$3.5 million of existing government-funded R&D contracts were novated from ITN to us together with the transfer of related personnel. The transferred contracts had remaining future revenues of approximately \$1.6 million. During 2007, we were awarded approximately \$1.7 million of additional contracts under new R&D government-funded contract awards or modifications to existing R&D contracts. As of December 31, 2007, we had a backlog of approximately \$2.4 million in revenues on our existing R&D contracts, which revenues are expected to be recognized during the contracts' periods of performance in 2008 and 2009.

For the year ended December 31, 2007, our cash used in operations was approximately \$4.3 million compared to approximately \$2.8 million for the year ended December 31, 2006. As of December 31,



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2007, approximately \$10.9 million had been expended in capital for our 1.5 MW production line, facility modifications, and office and research and development equipment. As of December 31, 2007, we had approximately \$37.7 million in cash and investments, approximately \$1.1 million of which will be used for final progress payments to our equipment suppliers on our 1.5 MW production line and approximately \$2.3 million of which is committed for a manufacturing research and development tool in conjunction with production tools to support approximately 30 MW of incremental rated production capacity.

During 2007, the use of cash for operational expenses averaged approximately \$358,000 per month and related to pre-manufacturing activities, research and technology development, business development and general corporate expenses. We expect these operational expenses to increase in 2008 as we commence commercial production and increase the size of our workforce. Average monthly operational expense for 2007 of approximately \$358,000 is net of average monthly R&D revenues from our government contracts of approximately \$84,000 and average monthly interest income of approximately \$119,000. Without the offset of interest income, actual monthly operational costs were higher than in 2006 and higher than previously anticipated due to the acceleration of our plans to scale up manufacturing. A significant component of our costs related to the development and production of product prototypes utilizing existing research and development process tools to help us solidify process techniques and qualify product performance in advance of the build out of the 1.5 MW production line. We also incurred additional costs for investor relations, business development and marketing communications support to strengthen our shareholder relations, support our anticipated government program activities, and support implementing our market strategies. We anticipate that our operational expenditures will continue to increase throughout 2008 and 2009 due to the planned hiring of additional personnel to help our 1.5 MW production line reach its operating potential and in connection with our planned expansion of manufacturing capacity. As of February 29, 2008, we had 34 full-time employees of which 18 were manufacturing personnel. We plan to increase our staff in 2008 to approximately 50 to 60 people, principally in manufacturing, business development and sales and marketing.

We have acquired all of the capital equipment required for the 1.5 MW production line and expect to make final payments in the first quarter of 2008. The capital outlays shown below represent estimated and actual costs in connection with our 1.5 MW production line and production facility modifications:

Stage of Development	Completion	Estimated Future Capital Outlay	Actual Capital Outlay
Completion of engineering specifications	3 <sup>rd</sup> QTR 2006	\$	\$ 220,000
Facility and equipment construction:			
Progress payments	4 <sup>th</sup> QTR 2006		370,000
Progress payments	1 <sup>st</sup> QTR 2007		1,400,000
Progress payments	2 <sup>nd</sup> QTR 2007		2,300,000
Progress payments	3 <sup>rd</sup> QTR 2007		2,400,000
Progress and final payments	4 <sup>th</sup> QTR 2007		4,200,000
Progress and final payments	1 <sup>st</sup> QTR 2008 (est)	1,110,000	
Qualification and IOC	1 <sup>st</sup> QTR 2008 (est)		
Limited production capability	2 <sup>nd</sup> QTR 2008 (est)		
Total		\$ 1,110,000	\$ 10,890,000

We expect to commence limited commercial production on our 1.5 MW production line in the second quarter of 2008. We do not expect that our sales revenue from the 1.5 MW production line will be sufficient to support our operations and cash requirements, and it is unlikely that our sales revenue

will support our operating cash requirements unless we achieve actual production capacity of at least 30 MW per year. We intend to use our existing cash to build our operational infrastructure and to begin development of manufacturing capacity necessary to produce PV modules for sale into our target markets. We expect our current cash balance to be sufficient to cover our operational expenditures through 2009 based on currently known factors, although we will need to raise capital in 2008 in order to purchase the production tools necessary to achieve approximately 30 MW of rated capacity by the end of 2009.

#### **Off Balance Sheet Transactions**

We have no off balance sheet transactions and had none in 2007.

#### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

Not required for smaller reporting companies.

#### **Item 8. Financial Statements and Supplementary Data**

Please refer to our Financial Statements below, beginning on page F-1 which are incorporated herein by reference.

#### **Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

There has been no change of accountants nor any disagreement with accountants on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure required to be reported under this Item.

#### **Item 9A. Controls and Procedures**

##### **Evaluation of Disclosure Controls and Procedures**

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Security Exchange Act of 1934, as amended (Exchange Act) is recorded, processed, summarized and reported within the time periods specified in Security and Exchange Commission (SEC) rules and forms. Our disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosures. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives, and management necessarily is required to use its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our management conducted an evaluation required by Rules 13a-15 and 15d-15 under the Exchange Act of the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15 and 15d-15 under the Exchange Act as of December 31, 2007. Based on this evaluation, our management concluded that as of December 31, 2007, the design and operation of our disclosure controls and procedures were effective.

##### **Management's Report on Internal Control over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our system of internal control over financial reporting is designed to provide reasonable assurance regarding the

reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America and includes those policies and procedures that:

pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;

provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Our management conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2007, based on the framework in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2007. Our management reviewed the results of their assessment with the Audit Committee.

This annual report does not include an attestation report of the Company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the Company's registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this annual report.

#### **Changes in Internal Control over Financial Reporting**

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended December 31, 2007 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

#### **Item 9B. Other Information**

None.

## PART III

## Item 10. Directors, Executive Officers and Corporate Governance

Our executive officers and directors and their ages and positions with the Company as of February 29, 2008, are as follows:

Name	Age	Position
Matthew Foster	50	President and Chief Executive Officer
Janet Casteel	47	Chief Accounting Officer and Treasurer
Prem Nath, Ph.D.	59	Senior Vice President of Manufacturing
Ashutosh Misra	42	Senior Vice President of Operations and Corporate Affairs
Joseph Armstrong, Ph.D.	50	Vice President and Chief Technology Officer
Joseph C. McCabe	47	Vice President of Business Development
Mohan S. Misra, Ph.D.	63	Chief Strategy Officer and Chairman of the Board
Stanley A. Gallery	50	Director
Einar Glomnes	38	Director
Amit Kumar, Ph.D.	43	Director
Joel S. Porter	60	Director
T.W. Fraser Russell, Ph.D.	73	Director
Richard J. Swanson	72	Director

*Matthew Foster* has served as our President and Chief Executive Officer since October 2005. From March 2004 until Ascent's formation in October 2005, Mr. Foster served as Executive Vice President of ITN Energy Systems, Inc., where he developed and implemented plans to commercialize other ITN technologies such as thin-film battery systems and microsatellites, which developed into companies Infinite Power Solutions, Inc. and MicroSat Systems, Inc., respectively. From January 2001 until March 2004, he served as President and Chief Executive Officer of Infinite Power Solutions. Mr. Foster has over 25 years of experience in the aerospace industry and previously served as Vice President of Business Development and Advanced Programs at the Lockheed Martin Corporation. Mr. Foster holds a B.S. degree from Rensselaer Polytechnic Institute.

*Janet Casteel* has served as our Chief Accounting Officer and Treasurer since February 2006. She served on a part-time basis as our Treasurer and Controller between October 2005 and February 2006, during which time she also served as the part-time business manager of ITN. From 1996 until February 2006, Ms. Casteel served in the capacity of controller and business manager of ITN. At ITN, she supervised the financial and accounting staffs and was responsible for negotiation and administration of ITN's government and commercial contracts, as well as its agreements with subcontractors. She is a member of the American Institute of Certified Public Accountants and is a CPA (inactive) in Colorado. Ms. Casteel holds an Associate Degree in Business Administration from Nebraska College of Business and a B.S. degree in Accounting from Metropolitan State College in Denver.

*Prem Nath, Ph.D.* has served as our Senior Vice President of Manufacturing since July 2006. From 1998 until July 2006, he served as Vice President of Product Manufacturing and Development at United Solar Ovonic (Uni-Solar) and as Chief Operating Officer of Uni-Solar's Mexican subsidiary. Dr. Nath has over 25 years of professional experience in the development, testing and manufacture of thin-film PV technology and is a named inventor on over 50 U.S. patents covering processes, products and materials. Dr. Nath holds a M.S. degree in Physics from Punjab University in India, a Master of Technology degree in Solid State Physics from the Indian Institute of Technology (IIT) and a Ph.D. in Materials Science from IIT. Dr. Nath also worked as a post-doctoral fellow at the University of California at Los Angeles.

*Ashutosh Misra* has served as our Senior Vice President of Operations and Corporate Affairs since April 2007. Until that time, Mr. Misra served as a member of our Board of Directors from our inception in October 2005 and participated actively as corporate advisor in guiding the management team with day-

to-day operations. Mr. Misra also served as Executive Vice President at ITN, where he was responsible for day to day business operations. From November 2002 until March 2005, Mr. Misra served as the president and chief executive officer of Data Access America, a wholly owned subsidiary of Data Access India, Limited, a telecommunications carrier based in India. Prior to joining ITN in 1998 Mr. Misra worked for MTI International for over 8 years as Operations Manager and was responsible for setting up electronic manufacturing and related facilities in the United States, Mexico, Singapore, Indonesia, and India. Mr. Misra holds a Bachelor of Engineering Degree in Electronics and Telecommunications from Bangalore University in India, and a M.S. degree in Electrical Engineering from the University of Wisconsin, Milwaukee. Mr. Misra is the nephew of Dr. Mohan Misra, our Chairman.

*Joseph Armstrong, Ph.D.* has served as our Vice President and Chief Technology Officer since October 2005. Dr. Armstrong worked at ITN beginning in 1995, and served as the Manager of ITN's Advanced PV Division from 1995 until joining Ascent in October 2005. While at ITN, Dr. Armstrong led its advancement into thin-film flexible PV products for space and near-space applications and started its development of thin-film battery technologies, a complement to Ascent's thin-film PV technology. Prior to joining ITN, Dr. Armstrong was employed for 10 years by Martin Marietta Corporation, where he managed PV research projects. He is a named inventor on four U.S. patents in areas including shape memory alloys, thin-film PV technology and electronic circuit assembly. Dr. Armstrong holds a B.S. degree in Physics from Lewis University in Illinois and a M.S. degree and Ph.D. in Solid State Physics from the University of Denver.

*Joseph C. McCabe* has served as our Vice President of Business Development since January 2007. From 1985 until November 2006, Mr. McCabe was the owner and principal of an energy technology consulting firm. In that capacity, he served as a consultant or contractor on projects for the California Energy Commission, the Sacramento Municipal Utility District, Shell Oil and various architecture and engineering firms, and he possesses experience in the area of BIPV products and technologies. Mr. McCabe is a licensed professional engineer and holds a B.S. degree in Mechanical Engineering degree from the University of Dayton, an M.S. degree in Nuclear and Energy Engineering from the University of Arizona, and an M.B.A. from Regis University in Denver, Colorado.

*Mohan S. Misra, Ph.D.* has served as Chairman of our Board of Directors since October 2005, and as our Chief Strategy Officer since April 2007. He founded and has served as chief executive officer of ITN since 1994. Before founding ITN, Dr. Misra spent 19 years with Martin Marietta Corporation (now Lockheed Martin Corporation) in the areas of material research, development and manufacturing. While at Martin Marietta, Dr. Misra worked first as manager of Research and Technology, and then led the company's development of long term technology strategies. Dr. Misra has helped develop and implement several key technologies for aerospace applications including thin-film PV products, smart materials, advanced composites and lightweight structures. Dr. Misra holds a B.S. degree in Metallurgical Engineering from Benaras Hindu University in India, an M.S. degree in Metallurgical Engineering from the University of Washington and a Ph.D. in Metallurgical Engineering from the Colorado School of Mines. Dr. Misra is the uncle of Ashutosh Misra, our Senior Vice President of Operations and Corporate Affairs.

*Stanley A. Gallery* has served on our Board of Directors since October 2005. Since 1984, Mr. Gallery has been the chief executive officer of Carts of Colorado, Inc., a provider of mobile merchandising for the food service industry. He also has served as the managing partner of G3 Holdings LLC since 1997, which makes real estate and other investments. He also is a co-founder of Bluegate Creek JV and Bluegate Creek II, which are oil and gas ventures in Wyoming. Prior to joining Ascent, Mr. Gallery served on the board of directors of ITN from 2001 until joining our Board in October 2005.

*Einar Glomnes* has served on our Board of Directors since March 2007. Since April 2007, Mr. Glomnes has served as the head of Hydro Solar, a division of Norsk Hydro ASA. Norsk Hydro Produksjon AS, a subsidiary of Norsk Hydro ASA, is our largest shareholder. Prior to heading Hydro

Solar, Mr. Glomnes served as a Vice President in the business development arm of Norsk Hydro Oil & Energy from 2006 until 2007, and as a lawyer in the legal department of Norsk Hydro ASA from 2004 to 2006. From 2001 until 2004, Mr. Glomnes served as a lawyer with the Schjødt Law Firm in Norway. Since 2004, Mr. Glomnes also has served as a member of the board of directors of Norson AS, a PV ingot and wafer company based in Norway, and as the chairman of Verdane Capital, a private equity investment firm. Mr. Glomnes holds a law degree from the University of Oslo, and an L.L.M. degree from Columbia University School of Law.

*Amit Kumar, Ph.D.* has served on our Board of Directors since March 2007. Dr. Kumar has served as the President and Chief Executive Officer of CombiMatrix Corporation, a developer of DNA microarrays, since September 2001. He also serves on the board of directors of Aeolus Pharmaceuticals, Inc. Dr. Kumar holds a B.S. degree in Chemistry from Occidental College. After joint studies at Stanford University and the California Institute of Technology (Caltech), he received his Ph.D. from Caltech before completing a post-doctoral fellowship at Harvard University.

*Joel S. Porter* has served on our Board of Directors since June 2007. Mr. Porter is the President of Centennial Consulting Services, Inc., a consulting firm created after Mr. Porter's retirement from Lockheed Martin in the spring of 2004 as Vice President for International Program Development and Systems Analysis. Mr. Porter had served for approximately 28 years at Lockheed Martin in a variety of management roles. He holds a Bachelor of Aerospace Engineering degree and an M.S. degree in Industrial Management from the Georgia Institute of Technology. He also is a graduate of the Program for Management Development at the Harvard Business School.

*T.W. Fraser Russell, Ph.D.* has served on our Board of Directors since October 2005. Dr. Russell has served as the Allan P. Colburn Professor in the Department of Chemical Engineering at the University of Delaware since 1981. Dr. Russell is a member of the National Academy of Engineering, a fellow of the American Institute of Chemical Engineers and a registered professional engineer in the State of Delaware. He is the co-inventor of four U.S. patents for the continuous deposition of PV material on moving substrates and is the author of over 100 engineering and scientific papers. He has an industrial background in process design, and he has served as a consultant to a number of firms in the chemical processing industries. Dr. Russell holds a B.Sc. degree and an M.Sc. degree from the University of Alberta in Canada and a Ph.D. from the University of Delaware.

*Richard J. Swanson* has served on our Board of Directors since January 2007. Since 1991, Mr. Swanson has been a consultant with Vistage International, Inc. (formerly TEC), which focuses on strategic coaching for chief executive officers of public and private companies. Since 1980, he has served as the founder and president of Investment Partners, Inc., which engages in the restructuring and recapitalization of troubled companies, and of Real Estate Associates, Inc., which focuses on real estate acquisition and development. He served as a director and chair of the audit committee of AHPC Holdings, Inc., a publicly-traded Illinois-based company in the health care supply field from 1998 until 2007, and serves as a director and chair of the audit committee of ADA-ES, LLC, a publicly-traded industrial technology company in Colorado. Mr. Swanson holds a B.A. in History from the University of Colorado and an M.B.A. from the Harvard Business School.

## **Board of Directors**

Our Bylaws provide that the size of our Board of Directors is to be determined from time to time by resolution of the Board of Directors, but shall consist of at least two and no more than eight members. Our Board of Directors currently consists of seven members, five of whom are independent under the rules of the Nasdaq Global Market. Our Certificate of Incorporation provides that the Board of Directors will be divided into three classes as nearly equal in number of directors as possible. Our Class 1 directors are Dr. Amit Kumar, Joel Porter and Richard Swanson. Our Class 2 directors are Stanley Gallery and Dr. T.W. Fraser Russell. Our Class 3 directors are Einar Glomnes and Dr. Mohan Misra. The term of our Class 3 directors expires at our 2008 annual meeting of stockholders. Since our

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annual report for the fiscal year ended December 31, 2006, there have been no material changes to the procedures by which stockholders may recommend nominees to our Board of Directors.

Our Board of Directors has three standing committees: an Audit Committee, a Compensation Committee and a Nominating and Governance Committee. Each committee operates pursuant to a charter than can be found at our website [www.ascentsolar.com](http://www.ascentsolar.com).

### **Code of Ethics**

We have adopted a code of ethics that applies to our principal executive officer, principal financial officer, principal accounting officer and other senior finance and accounting staff. The code is designed to, among other things, deter wrongdoing and to promote the honest and ethical conduct of our officers and employees. The text of our code of ethics can be found on our Internet website at [www.ascentsolar.com](http://www.ascentsolar.com). If we effect an amendment to, or waiver from, a provision of our code of ethics, we intend to satisfy our disclosure requirements by posting a description of such amendment or waiver on that Internet website or via a Form 8-K current report. The information contained on our website is not part of this Annual Report.

### **Audit Committee of the Board of Directors**

*Audit Committee.* Our Audit Committee oversees our accounting and financial reporting processes, internal systems of accounting and financial controls, relationships with independent auditors, and audits of financial statements. Specific responsibilities include the following:

selecting, hiring and terminating our independent auditors;

evaluating the qualifications, independence and performance of our independent auditors;

approving the audit and non-audit services to be performed by our independent auditors;

reviewing the design, implementation, adequacy and effectiveness of our internal controls and critical accounting policies;

overseeing and monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to financial statements or accounting matters;

reviewing, with management and our independent auditors, any earnings announcements and other public announcements regarding our results of operations; and

preparing the report that the Securities and Exchange Commission requires in our annual proxy statement.

Our Audit Committee is comprised of Mr. Gallery, Dr. Kumar and Mr. Swanson. Mr. Swanson serves as Chairman of the Audit Committee. The Board has determined that all members of the Audit Committee are independent under the rules of the Nasdaq Global Market, and that Mr. Swanson qualifies as an "audit committee financial expert," as defined by the rules of the Securities and Exchange Commission.

### **Section 16(a) Beneficial Ownership Reporting Compliance**

Section 16(a) of the Exchange Act requires our directors, officers, and persons that own more than 10 percent of a registered class of our equity securities to file reports of ownership and changes in ownership with the SEC. Officers, directors, and greater than 10 percent stockholders are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file.

Based solely upon our review of the copies of such forms received by us during the fiscal year ended December 31, 2007, we believe that each person who, at any time during such fiscal year, was a director, officer, or beneficial owner of more than 10 percent of our common stock complied with all





Section 16(a) filing requirements during such fiscal year, except that Matthew Foster filed one late Form 4 describing a change in ownership of our securities.

**Item 11. Executive Compensation**

**Compensation Philosophy and Processes**

We seek to provide a level of compensation for our executive officers that is competitive with publicly-traded companies similar in both size and industry. We hope to attract, retain, and reward executive officers who contribute to our success, to align executive officer compensation with our performance, and to motivate executive officers to achieve our business objectives. We compensate our senior management through a mix of base salary, bonus and equity compensation.

Our Compensation Committee determines and recommends to our Board of Directors the compensation of our executive officers. The Compensation Committee also administers our stock option plan. The Compensation Committee reviews base salary levels for our executive officers at the end of each fiscal year and recommends raises and bonuses based upon our achievements, individual performance, and competitive and market conditions. The Compensation Committee may delegate certain of its responsibilities, as it deems appropriate, to other committees or to our officers, but it has not elected to do so. The Compensation Committee has engaged management consultants to provide a market analysis of cash, equity and short term incentives for comparisons to our current compensation package and based on that analysis provide recommendations of compensation adjustments and overall compensation philosophy to the Compensation Committee.

**Executive Officer Compensation**

The following Summary Compensation Table sets forth certain information regarding the compensation of our principal executive officer and the two other most highly compensated executive officers (together, the "named executive officers") at the end of our last fiscal year for services rendered in all capacities to us during the years ended December 31, 2007 and 2006.

**Summary Compensation Table**

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Option Awards (\$)(1)	All Other Comp. (\$)(2)	Total (\$)
Matthew Foster President & CEO	2007	180,891	67,922	118,170		366,983
	2006	175,238	21,000	213,000		409,238
Ashutosh Misra Senior VP Operations <sup>(3)</sup>	2007	104,611	28,800	128,289	34,750	296,450
	2006					
Prem Nath Senior VP Manufacturing	2007	162,274	48,710	157,560	51,408	419,952
	2006	64,741	20,160	210,000	24,489	319,390

(1) Represents fair market value of options granted during the year ended December 31, 2007 and 2006, calculated using the Black-Scholes option pricing model and related assumptions as disclosed in Note 9, "Stock Based Compensation," of our financial statements attached hereto.

(2) All other compensation for 2007 and 2006 consists of relocation costs for Prem Nath and consulting fees of \$21,250 and director fees of \$13,500 for Ashutosh Misra prior to his employment by us.

(3) Ashutosh Misra began employment with us on April 30, 2007. Salary represents eight months of annual salary for 2007. All other compensation represents approximately \$21,250 in consulting fees

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paid to Mr. Misra in 2007 prior to his employment on April 30, 2007, and approximately \$13,500 in fees paid in connection with his service on the Board of Directors prior to April 30, 2007.

### Executive Employment Agreements

We have executive employment agreements with Matthew Foster, our Chief Executive Officer, Janet Casteel, our Chief Accounting Officer and Treasurer, Prem Nath, our Senior Vice President of Manufacturing, Joseph Armstrong, our Vice President and Chief Technology Officer, Joseph McCabe, our Vice President of Business Development, Mohan Misra, our Chief Strategy Officer, and Ashutosh Misra, our Senior Vice President of Operations and Corporate Affairs.

Each executive employment agreement has a term of three years and expires: in December 2008 in the cases of Mr. Foster and Dr. Armstrong; in February 2009 in the case of Ms. Casteel; in July 2009 in the case of Dr. Nath; in January 2010 in the case of Mr. McCabe; and in April 2010 in the cases of Dr. M. Misra and Mr. A. Misra. Under the terms of each agreement, in addition to each of their base salaries: Mr. Foster may receive a discretionary bonus of up to 50% based upon his individual performance and our performance as a company; Ms. Casteel may receive a discretionary bonus of up to 15% of that base salary based upon her individual performance and our performance as a company; Dr. Armstrong may receive a discretionary bonus of up to 15% of that base salary based upon his individual performance and our performance as a company; Dr. Nath may receive a discretionary bonus of up to 50% of that base salary based upon his individual performance; Mr. McCabe may receive a discretionary bonus of up to 15% of that base salary based upon his individual performance; Dr. M. Misra who works on a part-time basis may receive a discretionary bonus of up to 50% of that base salary based upon his individual performance and our overall performance as a company; and Mr. A. Misra may receive a discretionary bonus of up to 30% of that base salary based upon his individual performance and our overall performance as a company. Base salary is subject to increase from time to time in the normal course of business. Bonuses are not ensured and are awarded at the discretion of the Board. Each agreement may be terminated without notice if for cause, but 30 days' advance notice is required for termination without cause. Further, if either Mr. Foster, Dr. Nath, Dr. M. Misra or Mr. A. Misra is terminated without cause during the term of his employment agreement, he will be entitled to receive his base salary for a period of twelve months after termination. If either Dr. Armstrong, Mr. McCabe or Ms. Casteel is terminated without cause during the term of his or her agreement, he or she will be entitled to receive his or her base salary for a period of six months after termination. In the event of a merger of the Company with or into another corporation, or the sale of substantially all of the assets of the Company, pursuant to the Company's Amended and Restated 2005 Stock Option Plan, all outstanding unvested options shall become exercisable in full, unless assumed or substituted for by the successor corporation or a parent or subsidiary of the corporation.

### Consulting Agreement

On February 19, 2007, we entered into a consulting agreement with Ashutosh Misra. Pursuant to the terms of the agreement, Mr. Misra was to expend a minimum of twenty hours per week assisting us with financial matters, financial and business strategies and investor and investment banking relations. In consideration for these services, we had agreed to pay Mr. Misra a monthly consulting fee of \$8,500. The agreement terminated on April 30, 2007.

### Option Awards

Option awards are granted pursuant to our Amended and Restated 2005 Stock Option Plan, as amended (the Option Plan). The term of incentive stock options granted under the Option Plan may not exceed ten years, or five years for options granted to an optionee owning more than 10% of our voting stock. Generally speaking, options granted vest in equal amounts over a three to four year period. The exercise price of an incentive stock option granted under the Option Plan must be equal to

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or greater than the fair market value of the shares of our common stock on the date the option is granted. The exercise price of a non-qualified option granted under the Option Plan must be equal to or greater than 85% of the fair market value of the shares of our common stock on the date the option is granted. An incentive stock option granted to an optionee owning more than 10% of our voting stock must have an exercise price equal to or greater than 110% of the fair market value of our common stock on the date the option is granted.

The following table sets forth information concerning the outstanding equity awards granted to the named executive officers as of December 31, 2007.

### Outstanding Equity Awards at Fiscal Year-End

Name	Option Awards			
	Number of Securities Underlying Unexercised Options(#)		Option Exercise Price(\$/sh)	Option Expiration Date
	Exercisable	Unexercisable		
Matthew Foster <sup>(1)</sup>	10,000	10,000	\$ 0.10	11/18/2015
	42,144	42,856	\$ 4.25	02/27/2016
		9,000	\$ 17.75	12/03/2017
	52,144	61,856		
Ashutosh Misra <sup>(2)</sup>	5,000	5,000	\$ 0.10	11/18/2015
	20,000		\$ 8.33	07/30/2017
		9,000	\$ 17.75	12/03/2017
	25,000	14,000		
Prem Nath <sup>(3)</sup>	3,333	66,667	\$ 2.73	07/31/2016
		12,000	\$ 17.75	12/03/2017
	3,333	78,667		

#### Vesting dates of securities underlying unexercised options as of December 31, 2007:

- (1) \$ .10 options 10,000 vest 12/31/08; \$4.25 options 14,286 vest 3/31/08, 14,286 vest 9/30/08, 14,284 vest 3/31/09; \$17.75 options 4,500 vest 12/03/08, 4,500 vest 12/03/09
- (2) \$ .10 options 5,000 vest 12/31/08; \$17.75 options 4,500 vest 12/03/08, 4,500 vest 12/03/09
- (3) \$2.73 options 33,333 vest 7/31/08, 33,334 vest 7/31/09; \$17.75 options 6,000 vest 12/03/08, 6,000 vest 12/03/09

#### Director Compensation

In 2007, each of our directors each received an annual fee of \$5,000 for his or her service on our Board of Directors, plus \$1,000 for each meeting of our Board of Directors that the director attended in person and \$250 for each meeting attended by telephone or videoconference. In addition, directors serving on a Committee of the Board of Directors received \$500 for each meeting that the director attended in person and \$250 for each meeting attended by telephone or videoconference. Each non-employee director also received reimbursement of travel and other expenses incurred to attend a meeting in person. In November 2005, each of our directors serving at the time was granted an option to purchase 20,000 shares of our common stock as compensation for service on our Board of Directors, and each of our non-employee directors received an additional option to purchase 12,000 shares for service on the committees of our Board of Directors. Each option vests annually in four co-equal parts beginning December 31, 2005. Board of Directors members appointed or elected after November 2005 generally received options to

purchase a lesser and proportionate number of shares.

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The following Director Compensation Table summarizes the compensation of our directors for services rendered to Ascent Solar during the year ended December 31, 2007:

**Director Compensation Table**

Name	Fees Earned or Paid in Cash	Option Awards(1)	Total	Options Outstanding
Mohan S. Misra	\$ 16,500		\$ 16,500	50,000
Stanley A. Gallery	\$ 20,500		\$ 20,500	32,000
Ashutosh Misra	\$ 13,500		\$ 13,500	
T.W. Fraser Russell	\$ 18,750		\$ 18,750	16,000
Richard J. Swanson	\$ 13,750	\$ 35,237	\$ 48,987	16,000
Amit Kumar	\$ 6,250	\$ 48,666	\$ 54,916	8,000
Joel S. Porter	\$ 5,000	\$ 33,959	\$ 38,959	5,000
Einar Glomnes	\$ 4,750		\$ 4,750	

(1)

Represents fair market value of options granted during the year ended December 31, 2007, calculated using the Black-Scholes option pricing model and related assumptions as disclosed in Note 9, "Stock Based Compensation," of our financial statements attached hereto.

In addition to the fees listed above, we reimburse the directors for their travel expenses incurred in attending meetings of the Board or its committees. The directors did not receive any other compensation or personal benefits.

### 2005 Stock Option Plan

Our Option Plan provides for the grant of incentive or non-statutory stock options to our employees, directors and consultants. A total of 1,000,000 shares of common stock are reserved for issuance under the Option Plan. The Board of Directors and our stockholders approved the plan and its amendments.

The Option Plan is administered by the Compensation Committee of our Board of Directors. Subject to the provisions of the Option Plan, the Committee determines who will receive the options, the number of options granted, the manner of exercise and the exercise price of the options. The term of incentive stock options granted under the Option Plan may not exceed ten years, or five years for options granted to an optionee owning more than 10% of our voting stock. The exercise price of an incentive stock option granted under the Option Plan must be equal to or greater than the fair market value of the shares of our common stock on the date the option is granted. The exercise price of a non-qualified option granted under the Option Plan must be equal to or greater than 85% of the fair market value of the shares of our common stock on the date the option is granted. An incentive stock option granted to an optionee owning more than 10% of our voting stock must have an exercise price equal to or greater than 110% of the fair market value of our common stock on the date the option is granted.

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As of December 31, 2007, there were outstanding options to purchase 686,837 shares of common stock under the Option Plan. The following table sets forth information as of December 31, 2007 relating to all of our equity compensation plans:

	Number of securities to be issued upon exercise of outstanding options, warrants and rights		Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plan approved by security holders	686,837	\$	5.07	112,000
Equity compensation plans not approved by security holders				
<b>TOTAL:</b>	<b>686,837</b>	<b>\$</b>	<b>5.07</b>	<b>112,000</b>

### Compensation Committee Interlocks and Insider Participation

None of the members of our Compensation Committee is an officer or employee of the Company. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our Board of Directors or Compensation Committee.

### REPORT OF THE COMPENSATION COMMITTEE OF THE BOARD OF DIRECTORS

The Compensation Committee has reviewed and discussed with management the Compensation Disclosure included in this 10-K and, based on such review and discussions, the Compensation Committee recommended to the Board that the Compensation Disclosure be included in this 10-K.

Respectfully submitted,

COMPENSATION COMMITTEE

Stanley Gallery, Chairman  
T.W. Fraser Russell  
Richard Swanson

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**

The following table shows information regarding the beneficial ownership of our common stock as of February 29, 2008.

Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission and generally includes any shares over which a person exercises sole or shared voting or investment power. Shares of common stock subject to options or warrants that are currently exercisable or exercisable within 60 days of the February 29, 2008 are considered outstanding and beneficially owned by the person holding the options for the purpose of computing the percentage ownership of that person but are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

Unless otherwise indicated, each of the stockholders listed below has sole voting and investment power with respect to the shares beneficially owned. The address for each director or named executive officer is c/o Ascent Solar Technologies, Inc., 8120 Shaffer Parkway, Littleton, Colorado 80127.

This table assumes 11,683,628 shares of common stock outstanding as of February 29, 2008, assuming no exercise of outstanding options.

Name of Beneficial Owner	No. of Shares Beneficially Owned	Percentage
<b>Officers and Directors</b>		
Matthew Foster <sup>(1)</sup>	162,090	1.4%
Janet Casteel <sup>(2)</sup>	33,430	*
Prem Nath, Ph.D.	0	*
Ashutosh Misra <sup>(3)</sup>	60,000	*
Joseph Armstrong, Ph.D. <sup>(4)</sup>	60,691	*
Joseph C. McCabe <sup>(5)</sup>	7,700	*
Mohan S. Misra, Ph.D. <sup>(6)</sup>	1,233,000	10.6%
Stanley A. Gallery <sup>(7)</sup>	106,900	*
Einar Glomnes <sup>(8)</sup>	0	*
Amit Kumar, Ph.D.	0	*
Joel S. Porter	0	*
T.W. Fraser Russell, Ph.D. <sup>(9)</sup>	16,000	*
Richard J. Swanson <sup>(10)</sup>	8,000	*
<i>All directors and executive officers as a group (13 persons)</i>	1,687,811	14.4%
<b>5% Stockholders<sup>(11)</sup></b>		
ITN Energy Systems, Inc. <sup>(12)</sup>	818,000	7.0%
Norsk Hydro Produksjon AS <sup>(13)</sup>	4,926,474	35.0%
Quercus Trust <sup>(14)</sup>	1,705,293	14.6%
Paulson Capital Corporation <sup>(15)</sup>	735,000	6.0%

\*

Less than 1.0%.

(1)

Includes 105,015 shares of common stock and options to purchase 56,430 shares of common stock that are vested within 60 days of February 29, 2008. Also includes 215 shares of common stock that are held by Mr. Foster's spouse, and 430 Class B warrants that are held by Mr. Foster's spouse and are immediately exercisable.

(2)

Includes 17,000 shares of common stock and options to purchase 16,430 shares of common stock that are vested within 60 days of February 29, 2008.

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- (3) Includes 36,000 shares of common stock and options to purchase 20,000 shares of common stock that are vested within 60 days of February 29, 2008, and 4,000 Class B warrants that are immediately exercisable.
- (4) Includes 49,333 shares of common stock and options to purchase 11,358 shares of common stock that are vested within 60 days of February 29, 2008.
- (5) Includes 7,700 shares of common stock.
- (6) Includes options to purchase 25,000 shares of common stock that are vested within 60 days of February 29, 2008. Also includes 818,000 shares of common stock that are held by ITN because ITN is wholly-owned by Inica, Inc., which is owned by Dr. Misra and an immediate family member. Also includes 390,000 shares over which Dr. Misra has sole voting and dispositive power.
- (7) Includes 82,900 shares of common stock and options to purchase 24,000 shares of common stock that are vested within 60 days of February 29, 2008.
- (8) Does not include securities held by Norsk Hydro Produksjon AS, our largest stockholder. Mr. Glomnes is the head of Hydro Solar, an affiliate of Norsk Hydro Produksjon AS, and disclaims beneficial ownership of our securities held by Norsk Hydro Produksjon AS.
- (9) Includes 16,000 shares of common stock.
- (10) Includes options to purchase 8,000 shares of common stock that are vested within 60 days of February 29, 2008.
- (11) Information regarding these stockholders is based solely upon filings made by them with the Securities and Exchange Commission.
- (12) The reported address of ITN Energy Systems, Inc. is 8130 Shaffer Parkway, Littleton, Colorado 80127. ITN is wholly-owned by Inica, Inc. Dr. Mohan Misra, Chairman of our Board of Directors, and an immediate family member of his own all of the outstanding shares of Inica, Inc. This information is pursuant to a Schedule 13G filed by ITN, Inica, Inc. and Dr. Misra on February 14, 2008 and a Form 4 filed by ITN on February 21, 2008.
- (13) The reported address of Norsk Hydro Produksjon AS is Drammensveien 264, N-0240, Oslo, Norway. Assumes the exercise by Norsk Hydro Produksjon AS of its entire Tranche 2 Option to acquire 2,392,012 shares of common stock and 1,722,226 Class B warrants in addition to the 2,534,462 shares of common stock and 1,965,690 Class B warrants it currently holds. Until June 2009, Norsk Hydro Produksjon AS may only exercise that number of Class B warrants necessary to maintain ownership of 23% of our outstanding common stock (before its Tranche 2 Option is exercised) or of 35% of our outstanding common stock (after its entire Tranche 2 Option has been exercised). This table assumes exercise by Norsk Hydro Produksjon AS of its Tranche 2 Option in order to obtain ownership of 35% of our common stock.
- (14) The reported address of Quercus Trust is 2309 Santiago Drive, Newport Beach, California 92660. This information is pursuant to a Schedule 13D filed by Quercus Trust, David Gelbaum (trustee) and Monica Chavez Gelbaum (trustee) on October 1, 2007 and a Form 4 filed by Quercus Trust, David Gelbaum (trustee) and Monica Chavez Gelbaum (trustee) on February 26, 2008.
- (15) The address of Paulson Capital Corporation is 811 SW Naito Parkway, Portland, Oregon 97204. Includes 150,000 unexercised representative's warrants (each to purchase one share of common stock, one Class A warrant and two Class B warrants) and 67,500 unexercised Class B warrants, and assumes the exercise of all of those warrants. These securities are held by Paulson Investment Company, a subsidiary of Paulson Capital Corporation, which is controlled by Chester L.F. Paulson and Jacqueline M. Paulson (together, the Paulsons). This information is pursuant to a Schedule 13G filed by the Paulsons, Paulson Capital Corporation and Paulson Investment Company, Inc. on February 11, 2008.





**Item 13. Certain Relationships and Related Transactions, and Director Independence**

**Transactions Involving ITN Energy Systems, Inc.**

We were formed in October 2005 to commercialize certain technologies developed by ITN. ITN is wholly owned by Inica, Inc., a Colorado corporation (Inica). Dr. Mohan Misra, Chairman of our Board of Directors, and an immediate family member of his own all of the outstanding shares of Inica.

*Sublease Agreement.* In 2006, we subleased approximately 9,500 square feet of office and manufacturing space at cost from ITN. As of January 1, 2007, we increased our sublease to approximately 14,200 square feet of office and manufacturing space at cost from ITN. The sublease expires in June 2010. In 2007, we paid \$17,211 per month of rent through June 30, 2007, and \$18,991 per month from July 1, 2007 through December 31, 2007, plus pass-through expenses such as taxes, insurance, water and utilities. Total costs incurred under the Sublease Agreement for the year ended December 31, 2007 were approximately \$291,000. In 2008, we expect to pay \$18,991 per month in rent to ITN, plus pass-through expenses.

*Administrative Services Agreement.* ITN has agreed to perform administrative services for us at cost, including services such as facilities management, equipment maintenance, procurement, information technology and technical support. The cost for those services in 2007 was approximately \$1,200,000. Although we expect to pay ITN approximately the same amount for those services in 2008, the costs may increase due to commencement of commercial operations and our planned expansion.

*Service Center Agreement.* From time to time, we may find our own facilities inadequate or unsuitable to handle specific or special tasks or processes, but discover that ITN has such capability. Under a Service Center Agreement, we have the right to use, on an as needed and as available basis, certain of ITN's laboratories, equipment and research and development tools. When we have made periodic use of the laboratories, equipment and tools, we have paid ITN in accordance with ITN's costs. Although the Service Center Agreement expires in December 2009, it is automatically renewable on a month-to-month basis. In 2007, we paid ITN approximately \$443,000 under the Service Center Agreement. Although we expect to pay ITN approximately the same amount under the Service Center Agreement in 2008, the costs may increase if we more actively pursue R&D activities.

*License Agreement.* ITN has granted us a perpetual, royalty-free, worldwide license to use certain trade secrets and other patents, inventions, and trade secrets that ITN may develop or have the right to license that are necessary for use in our PV business. This license is exclusive to us for use in the PV business. The license is perpetual and may only be terminated by ITN in the event of a material breach by us that we fail to cure within thirty days notice of such breach.

Also in 2007, we issued a purchase order to ITN for \$1.5 million to develop the CIGS deposition and source box that is located inside the CIGS vacuum chamber of our 1.5 MW production line. Costs billed to us for this work in 2007 were approximately \$1.2 million. We expect ITN to complete its work on this purchase order in the first quarter of 2008.

In connection with our formation, in early 2006, ITN assigned to us its CIGS PV-specific technologies, and granted to us a perpetual, exclusive, royalty-free, worldwide license to use certain of ITN's existing and future proprietary process and control technologies that, although non-specific to CIGS PV, we believe will be useful in our production of PV modules for our target markets. See "Business Research and Development and Intellectual Property." After obtaining necessary approvals and pursuant to a novation, ITN also transferred several government-sponsored CIGS PV research and development contracts to us. At the time the contracts were transferred to us in early 2007, the contracts had a remaining contract value of approximately \$1.6 million.

### **Transactions Involving Norsk Hydro Produksjon AS**

In March 2007, we sold 1,600,000 shares of our restricted common stock to Norsk Hydro Produksjon AS in a private placement pursuant to Rule 506 of Regulation D and Section 4(2) of the Securities Act. We also granted two options to Norsk Hydro:

An option (the Initial Warrants Option) to purchase restricted Class A warrants (or if the Class A warrants are redeemed, common stock) and restricted Class B warrants that are otherwise identical to the Class A warrants formerly traded, and Class B warrants currently traded, on Nasdaq under the symbols ASTIW and ASTIZ, respectively. Norsk Hydro exercised this option in August 2007 to purchase 934,462 additional shares of common stock and 1,965,690 Class B warrants.

An option (the Tranche 2 Option) to purchase additional shares of restricted common stock, Class A warrants (or if the Class A warrants are redeemed, common stock) and Class B warrants that would result in Norsk Hydro owning up to 35.0% of our issued and outstanding common stock, Class A warrants and Class B warrants. This option became exercisable on December 13, 2007 and expires on June 15, 2009. This option has not yet been exercised. Upon exercise of the Tranche 2 Option, the purchase price of each security obtained will be equal to the average of the closing bids of security in the five consecutive trading days ending on and including the trading day that is one day prior to the date of exercise, as reported by Nasdaq.

In connection with the sale of these securities, Norsk Hydro received: piggyback registration rights that enable them to require us to register for resale the shares held by them if we engage in a registered public offering; and demand registration rights that become effective in March 2008. Norsk Hydro also holds pre-emptive rights with respect to certain equity issuances by us (on terms no less favorable than any such issuance) in order to maintain its percentage ownership in our common stock, but the pre-emptive rights do not apply to bona fide underwritten public offerings by us.

### **Future Transactions**

Future transactions with our officers, directors or greater than five percent stockholders will be on terms no less favorable to us than could be obtained from independent third parties, and all such transactions will be reviewed and subject to approval by members of our Audit Committee, which will have access, at our expense, to our or independent legal counsel.

### **Director Independence**

The Board of Directors has determined that the following directors are "independent" as required by applicable laws and regulations, by the listing standards of The Nasdaq Stock Market and by our corporate governance guidelines: Stanley Gallery, Dr. Amit Kumar, Joel Porter, Dr. T.W. Fraser Russell and Richard Swanson. The board of directors has also concluded that the members of each of the audit and compensation committees are "independent" in accordance with these same standards.

**Item 14. Principal Accountant Fees and Services****Principal Accountant Fees and Services**

Fees for audit and related services by our accounting firm, Hein & Associates LLP, for the years ended December 31, 2007 and 2006 were as follows:

	2007	2006
Audit fees	\$ 98,000	\$ 63,000
Audit related fees	14,000	104,000
<b>Total audit and audit related fees</b>	<b>\$ 112,000</b>	<b>\$ 167,000</b>
Tax fees		
All other fees		
<b>Total Fees</b>	<b>\$ 112,000</b>	<b>\$ 167,000</b>

Audit fees of Hein & Associates LLP for fiscal 2007 and 2006 were incurred during the examination of the financial statements and for interim reviews of the quarterly financial statements. Audit related fees were incurred in connection with our initial public offering in 2006 and other SEC filings in 2007.

**Audit Committee Pre-Approval Policies and Procedures**

The Audit Committee charter provides that the Audit Committee will pre-approve all audit services and non-audit services to be provided by our independent auditors before the accountant is engaged to render these services. The Audit Committee may consult with management in the decision-making process, but may not delegate this authority to management. The Audit Committee may delegate its authority to pre-approve services to one or more committee members, provided that the designees present the pre-approvals to the full committee at the next committee meeting. All audit and non-audit services performed by our independent accountants have been pre-approved by our Audit Committee to assure that such services do not impair the auditors' independence from us.

**Attendance at Annual Meeting**

Representatives of Hein & Associates LLP are expected to be present at the annual meeting, will have the opportunity to make a statement if they desire to do so, and are expected to be available to respond to appropriate questions.

**REPORT OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS**

The Audit Committee has reviewed and discussed the audited financial statements with management. The Audit Committee has discussed with the independent accountants the matters required to be discussed by Statement on Accounting Standards No. 61. The Audit Committee also has received the written disclosures and the letter from the independent accountants required by Independence Standards Board Standard No. 1 and has discussed with the independent accountants the accountants' independence. Based on the reviews and discussions referred to above, the Audit

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Committee recommended to the Company's Board of Directors that the audited financial statements be included in the Company's Annual Report on Form 10-K for the year ended December 31, 2007.

Respectfully submitted,

AUDIT COMMITTEE

Richard Swanson, Chairman  
Stanley Gallery  
Amit Kumar

## PART IV

## Item 15. Exhibits and Financial Statement Schedules

a.

The following exhibits are filed as part of, or are incorporated by reference into, this report:

Exhibit No.	Description
3.1	Registrant's Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.2 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
3.2	Registrant's Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 to our current report on Form 8-K filed April 17, 2007)
4.1	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
4.2	Form of Class A Warrant (incorporated by reference to Exhibit 4.2 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No.333-131216), as amended)
4.3	Form of Class B Warrant (incorporated by reference to Exhibit 4.3 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
4.4	Form of Unit Certificate (incorporated by reference to Exhibit 4.4 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
4.5	Form of Warrant Agreement between the Registrant and Computershare Trust Company, Inc. (incorporated by reference to Exhibit 4.5 to our Registration Statement on Form SB-2 filed July 10, 2006 (Reg. No. 333-131216), as amended)
4.6	Form of Representative's Purchase Warrant (incorporated by reference to Exhibit 4.6 to our Registration Statement on Form SB-2 filed July 10, 2006 (Reg. No 333-131216), as amended)
10.1	Amended and Restated 2005 Stock Option Plan and Form of Stock Option Agreement (Approved by Board of Directors on April 16,2007; Adopted by Stockholders on June 15, 2007) (incorporated by reference to Exhibit 10.1 to our June 30, 2007 Quarterly Report on Form 10-QSB filed July 31, 2007)
10.2	Employment Agreement with Matthew Foster (incorporated by reference to Exhibit 10.9 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
10.3	Employment Agreement with Dr. Joseph Armstrong (incorporated by reference to Exhibit 10.10 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
10.4	Employment Agreement with Janet Casteel (incorporated by reference to Exhibit 10.14 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
10.5	Employment Agreement with Dr. Prem Nath (incorporated by reference to Exhibit 10.4 to our Annual Report on Form 10-KSB filed March 30, 2007)
10.6	Employment Agreement with Joseph McCabe (incorporated by reference to Exhibit 10.5 to our Annual Report on Form 10-KSB filed March 30, 2007)



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- 10.7 Employment Agreement with Mohan S. Misra (incorporated by reference to Exhibit 10.1 to our current report on Form 8-K filed April 27, 2007)
- 10.8 Employment Agreement with Ashutosh Misra (incorporated by reference to Exhibit 10.2 to our current report on Form 8-K filed April 27, 2007)
- 10.9 Amendment to Employment Agreement with Prem Nath (incorporated by reference to Exhibit 10.1 to our current report on Form 8-K filed January 11, 2008)
- 10.10 Amendment to Employment Agreement with Matthew Foster (incorporated by reference to Exhibit 10.1 to our current report on 8-K filed December 14, 2007)
- 10.11 Securities Purchase Agreement by and between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.1 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)<sup>CTR</sup>
- 10.12 Invention and Trade Secret Assignment Agreement and between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.2 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)<sup>CTR</sup>
- 10.13 Patent Application Assignment Agreement by and between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.3 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.14 License Agreement by and between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.4 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)<sup>CTR</sup>
- 10.15 Sublease Agreement (incorporated by reference to Exhibit 10.5 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.16 Service Center Agreement by and between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.6 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.17 Manufacturing Line Agreement by and between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.7 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.18 Amendment No. 1 to Manufacturing Line Agreement between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.7A to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.19 Administrative Services Agreement by and between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.8 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.20 Amendment No. 1 to Administrative Services Agreement between the Registrant and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.8A to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.21 2005 Stock Option Plan and Form of Stock Option Agreement (incorporated by reference to Exhibit 10.11 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)



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- 10.22 Bridge Unit Purchase and Investor Subscription agreement with forms of promissory note and bridge right (incorporated by reference to Exhibit 10.12 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.23 Amendment No. 1 to Bridge Unit Purchase and Investor Subscription Agreement (incorporated by reference to Exhibit 10.13 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.24 Amendment to Annex B to Bridge to Bridge Unit Purchase and Investor Subscription Agreement (incorporated by reference to Exhibit 10.13A to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.25 Non-Exclusive Patent License Agreement with Midwest Research Institute (incorporated by reference to Exhibit 10.15 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.26 Letter Agreement with the University of Delaware (incorporated by reference to Exhibit 10.16 to our Registration Statement on Form SB-2 filed January 23, 2006 (Reg. No. 333-131216), as amended)
- 10.27 License Agreement between UD Technology Corporation and Ascent Solar Technologies, Inc. (incorporated by reference to Exhibit 10.1 to our current report on Form 8-K filed November 29, 2007)<sup>CTR</sup>
- 10.28 Novation Agreement with ITN Energy Systems, Inc. and the United States Government (incorporated by reference to Exhibit 10.23 to our Annual Report on Form 10-KSB filed March 30, 2007)
- 10.29 Amendment to Service Center Agreement with ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.24 to our Annual Report on Form 10-KSB filed March 30, 2007)
- 10.30 Amendment to Sublease Agreement with ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.25 to our Annual Report on Form 10-KSB filed March 30, 2007)
- 10.31 Securities Purchase Agreement with Norsk Hydro Produksjon AS (incorporated by reference to Exhibit 99.1 to our current report on form 8-K filed March 13, 2007)
- 10.32 Stockholders' Agreement with Norsk Hydro Produksjon AS (incorporated by reference to Exhibit 99.2 to our current report on form 8-K filed March 13, 2007)
- 10.33 Registration Rights Agreement with Norsk Hydro Produksjon AS (incorporated by reference to Exhibit 99.3 to our current report on form 8-K filed March 13, 2007)
- 10.34 Voting Agreement with Norsk Hydro Produksjon AS (incorporated by reference to Exhibit 99.4 to our current report on form 8-K filed March 13, 2007)
- 10.35 Consulting Agreement with Ashutosh Misra (incorporated by reference to Exhibit 10.30 to our Annual Report on Form 10-KSB filed March 30, 2007)
- 10.36 Contract to Buy and Sell Real Estate and Closing Statement with JN Properties\*
- 10.37 Construction Loan Agreement with Colorado Housing and Finance Authority\*
- 10.38 Promissory Note with Colorado Housing and Finance Authority\*
- 10.39 Construction and Permanent Loan Commitment with Colorado Housing and Finance Authority\*

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- 10.40 Norsk Hydro Cooperation Agreement (incorporated by reference to Exhibit 10.1 to our current report on form 8-K filed December 19, 2007)
  - 10.41 Amendment No. 1 to Securities Purchase Agreement with Norsk Hydro Produksjon AS\*
  - 14.1 Code of Ethics (incorporated by reference to Exhibit 10.30 to our Annual Report on Form 10-KSB filed March 30, 2007)
  - 31.1 Chief Executive Officer Certification pursuant to section 302 of the Sarbanes-Oxley Act of 2002\*
  - 31.2 Chief Accounting Officer Certification pursuant to section 302 of the Sarbanes-Oxley Act of 2002\*
  - 32.1 Chief Executive Officer Certification pursuant to section 906 of the Sarbanes-Oxley Act of 2002\*
  - 32.2 Chief Accounting Officer Certification pursuant to section 906 of the Sarbanes-Oxley Act of 2002\*
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\*

Filed herewith

CTR

Portions of this exhibit have been omitted pursuant to a request for confidential treatment.



**Index to Financial Statements**

**Report of Independent Registered Public Accounting Firm**

**Financial Statements**

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors  
Ascent Solar Technologies, Inc.  
Littleton, Colorado

We have audited the balance sheets of Ascent Solar Technologies, Inc. (a Development Stage Company as defined by SFAS No. 7) as of December 31, 2007 and 2006, and the related statements of operations, shareholder's equity and cash flows for the years ended December 31, 2007 and 2006 and for the period from inception (October 18, 2005) through December 31, 2007. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Ascent Solar Technologies, Inc. as of December 31, 2007 and 2006, and the results of its operations and its cash flows for the years ended December 31, 2007 and 2006 and for the period from inception (October 18, 2005) through December 31, 2007 in conformity with U.S. generally accepted accounting principles.

We were not engaged to examine Management's assertion about the effectiveness of Ascent Solar Technologies, Inc.'s internal control over financial reporting as of December 31, 2007 included in the accompanying Management's Report on Internal Control over Financial Reporting and, accordingly, we do not express an opinion thereon.

*HEIN & ASSOCIATES LLP*

Denver, Colorado  
March 13, 2008

## ASCENT SOLAR TECHNOLOGIES, INC.

(A Development Stage Company as Defined by SFAS No. 7)

## BALANCE SHEETS

	December 31, 2007	December 31, 2006
<b>ASSETS</b>		
<b>Current Assets:</b>		
Cash and cash equivalents	\$ 580,746	\$ 786,357
Short term investments	37,120,000	9,885,000
Accounts receivable Contracts	204,351	
Related party receivable		4,440
Other current assets	349,062	115,222
	<u>38,254,159</u>	<u>10,791,019</u>
Total current assets	38,254,159	10,791,019
<b>Property &amp; Equipment</b> , net of depreciation and amortization of \$115,051 and \$12,635 at December 31, 2007 and 2006, respectively	1,651,243	91,008
	<u>1,651,243</u>	<u>91,008</u>
<b>Other Assets</b>		
Deposits on manufacturing equipment	9,720,309	370,000
Patents, net of amortization of \$1,279 and \$0 at December 31, 2007 and 2006, respectively.	91,215	37,568
Other non-current assets	100,000	
	<u>9,911,524</u>	<u>407,568</u>
	9,911,524	407,568
<b>Total Assets</b>	<u>\$ 49,816,926</u>	<u>\$ 11,289,595</u>
	\$ 49,816,926	\$ 11,289,595
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>Current Liabilities:</b>		
Accounts payable	\$ 257,529	\$ 73,043
Related party payable	264,797	183,954
Accrued expenses	652,524	121,636
	<u>1,174,850</u>	<u>378,633</u>
Total current liabilities	1,174,850	378,633
<b>Deferred Rent</b>	20,021	9,912
<b>Commitments and Contingencies (Notes 6, 12 and 14)</b>		
<b>Stockholders' Equity:</b>		
Preferred Stock, \$0.0001 par value, 25,000,000 shares authorized, no shares outstanding		
Common Stock, \$0.0001 par value, 75,000,000 shares authorized; 11,435,901 and 5,322,094 shares issued and outstanding at December 31, 2007 and December 31, 2006, respectively	1,144	532
Additional Paid in Capital	60,512,476	16,288,664
Deficit accumulated during the development stage	(11,891,565)	(5,388,146)
	<u>48,622,055</u>	<u>10,901,050</u>
Total Stockholders' Equity	48,622,055	10,901,050
<b>Total Liabilities and Stockholders' Equity</b>	<u>\$ 49,816,926</u>	<u>\$ 11,289,595</u>
	\$ 49,816,926	\$ 11,289,595

See accompanying notes to financial statements.

## ASCENT SOLAR TECHNOLOGIES, INC.

(A Development Stage Company as Defined by SFAS No. 7)

## STATEMENTS OF OPERATIONS

	For the Years Ended December 31,		For the Period from inception (October 18, 2005) through December 31, 2007
	2007	2006	
<b>Research &amp; Development Revenues</b>	\$ 1,002,674	\$	\$ 1,002,674
<b>Costs and Expenses</b>			
Research & Development	3,975,079	690,964	4,666,043
General and Administrative	4,953,910	2,684,340	8,842,744
<b>Total Costs and Expenses</b>	8,928,989	3,375,304	13,508,787
<b>Loss from Operations</b>	(7,926,315)	(3,375,304)	(12,506,113)
<b>Other Income/(Expense)</b>			
Interest Expense	(424)	(1,080,691)	(1,083,855)
Interest Income	1,423,320	275,083	1,698,403
	1,422,896	(805,608)	614,548
<b>Net Loss</b>	\$ (6,503,419)	\$ (4,180,912)	\$ (11,891,565)
<b>Net Loss Per Share</b>			
(Basic and diluted)	\$ (0.70)	\$ (1.45)	
<b>Weighted Average Common Shares Outstanding</b>			
(Basic and diluted)	9,237,252	2,881,639	

See accompanying notes to financial statements.

## ASCENT SOLAR TECHNOLOGIES, INC.

(Development Stage Company as Defined by SFAS No. 7)

## STATEMENTS OF STOCKHOLDERS' EQUITY

For the Period from inception (October 18, 2005) through December 31, 2007

	Common Stock		Preferred Stock		Additional Paid-In	Accumulated	Total Stockholders'
	Shares	Amount	Shares	Amount	Capital	Deficit	Equity
<b>Balance at inception, October 18, 2005</b>							
Proceeds from sale of common stock (11/05 @ \$.04 per share)	972,000	\$ 97			\$ 38,783	\$	\$ 38,880
Stock Based Compensation:							
Founders Stock					933,120		933,120
Stock Options					26,004		26,004
Net loss						(1,207,234)	(1,207,234)
<b>Balance, December 31, 2005</b>	<b>972,000</b>	<b>\$ 97</b>			<b>\$ 997,907</b>	<b>\$ (1,207,234)</b>	<b>\$ (209,230)</b>
Transfer of assets at historical cost (1/06 @ \$0.03 per share)	1,028,000	103			31,097		31,200
Proceeds From IPO (7/06 @ \$5.50 per unit)	3,000,000	300			16,499,700		16,500,000
IPO Costs					(2,392,071)		(2,392,071)
Stock issued to Bridge Loan Lenders (7/06 @ \$2.75 per share)	290,894	29			799,971		800,000
Exercise of Stock Options (9/06 & 12/06 @ \$0.10 per share)	31,200	3			3,117		3,120
Stock Based Compensation- Stock options					348,943		348,943
Net loss						(4,180,912)	(4,180,912)
<b>Balance, December 31, 2006</b>	<b>5,322,094</b>	<b>\$ 532</b>			<b>\$ 16,288,664</b>	<b>\$ (5,388,146)</b>	<b>\$ 10,901,050</b>
Exercise of Stock Options (1/07-12/07 @ \$.10) (7/07-12/07 @ \$4.25) (9/07-12/07 @ \$2.51-\$2.76)	169,963	17			346,417		346,434
Conversion of Class A Public Warrants at \$6.60	3,098,382	310			20,449,011		20,449,321
Redemption of Class A Public Warrants at \$0.25 per share					(48,128)		(48,128)
Conversion of Class B Public Warrants at \$11.00 per share	11,000	1			120,999		121,000
Stock Based Compensation- Stock options					1,734,879		1,734,879
Proceeds from Private Placement:							
Common Stock (3/07 @ \$5.77 and 8/07 @ \$7.198)	2,534,462	254			15,962,003		15,962,257
Class B Public Warrants (8/07 @ \$1.91)					3,754,468		3,754,468
Private Placement Costs					(75,807)		(75,807)



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	Common Stock	Preferred Stock	Additional Paid-In	Accumulated	Total Stockholders'
Exercise of Representative's Warrants (9/07-11/07 @ \$6.60 per unit)	300,000	30	1,979,970		1,980,000
Net loss				(6,503,419)	(6,503,419)
<b>Balance, December 31, 2007</b>	11,435,901	\$ 1,144	\$ 60,512,476	\$ (11,891,565)	\$ 48,622,055

See accompanying notes to financial statements.

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## ASCENT SOLAR TECHNOLOGIES, INC.

(A Development Stage Company as Defined by SFAS No. 7)

## STATEMENTS OF CASH FLOWS

	For the years Ended December 31,		For the Period from
	2007	2006	inception (October 18, 2005) through December 31, 2007
<b>Operating Activities:</b>			
Net loss	\$ (6,503,419)	\$ (4,180,912)	\$ (11,891,565)
Adjustments to reconcile net loss to cash used in operating activities:			
Depreciation and amortization	102,416	12,635	115,051
Stock based compensation	1,734,879	348,943	3,042,946
Charge off of deferred financing costs to interest expense		198,565	198,565
Charge off of bridge loan discount to interest expense		800,000	800,000
Changes in operating assets and liabilities:			
Accounts receivable	(204,351)		(204,351)
Related party receivables	4,440	(4,440)	
Other current assets	(233,840)	(115,222)	(349,062)
Accounts payable	184,486	30,070	257,529
Related party payable	80,843	135,076	264,797
Deferred rent	10,109	9,912	20,021
Accrued expenses	530,887	8,026	652,525
Net cash used in operating activities	(4,293,550)	(2,757,347)	(7,093,544)
<b>Investing Activities:</b>			
Purchases of available-for-sale-securities	(97,116,344)	(46,244,450)	(143,360,794)
Maturities and sales of available for-sale securities	69,881,344	36,359,450	106,240,794
Purchase of equipment	(1,662,650)	(97,399)	(1,760,050)
Deposits on manufacturing equipment	(9,350,309)	(370,000)	(9,720,309)
Patent activity costs	(53,647)	(12,611)	(66,258)
Deposit on Building	(100,000)		(100,000)
Net cash used in investing activities	(38,401,606)	(10,365,010)	(48,766,617)
<b>Financing Activities:</b>			
Proceeds from bridge loan financing		1,600,000	1,600,000
Repayment of bridge loan financing		(1,600,000)	(1,600,000)
Payment of financing costs		(171,401)	(198,565)
Payment of IPO & private placement costs	(75,807)	(2,251,064)	(2,467,880)
Proceeds from note			200,000
Repayment of note		(200,000)	(200,000)
Proceeds from sale of stock, class A & B warrants, representative warrants, & exercise of options	42,613,480	16,503,120	59,155,480
Redemption of class A warrants	(48,128)		(48,128)
Net cash provided by financing activities	42,489,545	13,880,655	56,440,907
<b>Net change in cash and cash equivalents</b>	<b>(205,611)</b>	<b>758,298</b>	<b>580,746</b>
<b>Cash and cash equivalents at beginning of period</b>	<b>786,357</b>	<b>28,059</b>	<b></b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 580,746</b>	<b>\$ 786,357</b>	<b>\$ 580,746</b>

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			<b>For the Period from inception (October 18, 2005) through December 31, 2007</b>
<b>Supplemental Cash Flow Information:</b>			
Cash paid for interest	\$ 424	\$ 84,819	<del>\$ 85,243</del>
Cash paid for income taxes	\$	\$	\$
<b>Non-Cash Transactions:</b>			
ITN initial contribution of assets for equity	\$	\$ 31,200	\$ 31,200

See accompanying notes to financial statements.

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS

(A Development Stage Company as Defined by SFAS No. 7)

**NOTE 1. ORGANIZATION**

Ascent Solar Technologies, Inc. (Ascent or the Company) was incorporated on October 18, 2005 from the separation by ITN Energy, Inc. (ITN) of its Advanced Photovoltaic Division and all of that division's key personnel and core technologies. ITN, a private company incorporated in 1994, is an incubator dedicated to the development of thin-film, photovoltaic (PV) battery, fuel cell and nano technologies. Through its work on research and development contracts for private and government entities, ITN developed proprietary processing and manufacturing know-how applicable to PV products generally, and to Copper-Indium-Gallium-diSelenide (CIGS) PV products in particular. ITN formed Ascent to commercialize its investment in CIGS PV technologies. In January 2006, in exchange for 1,028,000 shares of common stock of Ascent, ITN assigned to Ascent all ITN's CIGS PV technologies and trade secrets and granted to Ascent a perpetual, exclusive, royalty-free worldwide license to use ITN's proprietary process, control and design technologies in the production of CIGS PV modules. Upon receipt of the necessary government approvals in January 2007, ITN assigned government-funded research and development contracts to Ascent and also transferred the key personnel working on the contracts to Ascent. Today, ITN still provides Ascent, at cost, a variety of administrative and technical services such as facilities management, equipment maintenance, procurement, information technology and technical support services.

**NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Basis of Presentation:** The Company's activities to date have substantially consisted of raising capital, research and development, and the development of a 1.5 MW production plant. Revenues to date have been generated from the Company's government research and development (R&D) contracts and have not been significant. The Company's planned principal operations to commercialize flexible PV modules has not yet commenced. Accordingly, the Company is considered to be in the development stage, as defined in Statement of Financial Accounting Standards No. 7 (SFAS No. 7), *Accounting and Reporting by Development Stage Enterprises*.

**Short Term Investments:** The Company's short term investments, which are classified as available-for-sale securities, are invested in high-grade variable rate demand notes, which have a final maturity date of up to 30 years but whose interest rates are reset at varying intervals typically between 1 and 7 days. Unlike auction rate securities, variable rate demand notes can be readily liquidated at any interest rate reset date, either by putting them back to the original issuer or by putting them to a third-party remarketer as generally provided in the original prospectus. To date, the Company has always been able to redeem its holdings of these securities in accordance with their terms, and the Company believes that the risk of non-redemption is minimal. Consequently, these securities are available for use to support the current cash needs of the Company's operations, and in accordance with Accounting Research Bulletin 43, they are classified as short term investments.

**Cash Equivalents:** The Company considers all highly liquid debt securities purchased with an original maturity of three months or less to be cash equivalents. The Company maintains cash balances which may exceed federally insured limits. The Company does not believe that this results in any significant credit risk.

**Revenue Recognition:** Revenue to date is from government research and development contracts under terms that are cost plus fee or firm fixed price. Revenue from cost plus fee contracts is

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

**NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

recognized as costs are incurred on the basis of direct costs plus allowable indirect costs and an allocable portion of the firm fixed fee. Revenue from firm fixed price contracts is recognized under the percentage-of-completion method of accounting, with costs and estimated profits included in contract revenue as work is performed. If actual and estimated costs to complete a contract indicate a loss, provision is made currently for the loss anticipated on the contract.

**Patents:** To the extent the Company obtains or is awarded patents, patent costs will be amortized on a straight line basis over the legal life, or over their estimated useful lives, whichever is shorter. As of December 31, 2007, the Company had \$91,215 of patent costs of which \$35,812 represent costs incurred for an awarded patent, and the remaining \$55,403 represent costs on patents in process. Amortization expense for the years ended December 31, 2007 and 2006 were \$1,279 and \$0, respectively.

**Property and Equipment:** Property and equipment are recorded at the original cost to the Company. Assets are being depreciated over estimated useful lives of one to seven years using the straight-line method. Leasehold improvements are depreciated over the shorter of the remainder of the lease's term or the life of the improvements. Upon retirement or disposal, the cost of the asset disposed of and the related accumulated depreciation are removed from the accounts and any gain or loss is reflected in income. Expenditures for repairs and maintenance are expensed as incurred.

**Risks and uncertainties:** The Company's operations are subject to certain risks and uncertainties, including those associated with: the ability to meet obligations; continuing losses; fluctuation in operating results; funding expansions; strategic alliances; financing arrangement terms that may restrict operations; regulatory issues; and competition. Additionally, U.S. government contracts may be terminated prior to completion of full funding by the U.S. government.

**Net loss per common share:** Statement of Financial Accounting Standards No. 128, "*Earnings Per Share*," provides for the calculation of "Basic" and "Diluted" earnings per share. Basic earnings per share include no dilution and are computed by dividing income available to common stockholders by the weighted-average number of shares outstanding during the period. Diluted earnings per share reflect the potential of securities that could share in the earnings of the Company, similar to fully diluted earnings per share. Common stock equivalents consisting of Class B Warrants, IPO Warrants (representative warrants), and stock options outstanding as of December 31, 2007 of approximately 10 million shares, have been omitted from loss per share because they are anti-dilutive. Basic and diluted loss per share was the same in each of the years ended December 31, 2007 and 2006.

**Research and development costs:** Research and development costs are expensed as incurred.

**Incomes Taxes:** In July 2006, the FASB issued FASB Interpretation (FIN) No. 48, *Accounting for Uncertainty in Income Taxes*. The Company adopted the provisions of FIN No. 48 on January 1, 2007. Deferred income taxes are provided using the liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carry forwards and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of the changes in tax laws and rates of the date of enactment.

In July 2006, the Financial Accounting Standards Board issued FIN 48, which clarifies the accounting and disclosure for uncertainty in tax positions, as defined. FIN 48 seeks to reduce the diversity in practice associated with certain aspects of the recognition and measurement related to accounting for income taxes. The Company is subject to the provisions of FIN 48 as of January 1, 2007, and has analyzed filing positions in all of the federal and state jurisdictions where it is required to file income tax returns, as well as all open tax years in these jurisdictions. The Company has identified its federal tax return and its Colorado tax return as "major" tax jurisdictions, as defined. The periods subject to examination for the Company's federal and state tax returns are tax years 2005 through 2006. The Company believes that its income tax filing positions and deductions will be sustained on audit and does not anticipate any adjustments that will result in a material adverse effect on the Company's financial condition, results of operations, or cash flow. Therefore, no reserves for uncertain income tax positions have been recorded pursuant to FIN 48. In addition, the Company did not record a cumulative effect adjustment related to the adoption of FIN 48.

**Stock-based Compensation:** The Company accounts for share-based payments under the provisions of Statement of Financial Accounting Standards No. 123 (revised 2004), "*Share-Based Payment*," (SFAS 123(R)) which requires the measurement and recognition of compensation expense for all share-based payment awards made to employees, officers and directors, and consultants, including employee stock options based on estimated fair values. SFAS 123(R) requires companies to estimate the fair value of share-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service period in the Company's Statements of Operations. Stock-based compensation is based on awards ultimately expected to vest and is reduced for estimated forfeitures. SFAS 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

For purposes of determining estimated fair value of share-based payment awards on the date of grant under SFAS 123(R), the Company used the Black-Scholes option-pricing model (Black-Scholes Model). The Black-Scholes Model requires the input of highly subjective assumptions. Because the Company's employee stock options may have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models may not provide a reliable single measure of the fair value of the Company's employee stock options. Management will continue to assess the assumptions and methodologies used to calculate estimated fair value of share-based compensation. Circumstances may change and additional data may become available over time, which result in changes to these assumptions and methodologies, which could materially impact the Company's fair value determination.

The guidance in SFAS 123(R) is relatively new, and best practices are not well established. The application of these principles may be subject to further interpretation and refinement over time. There are significant differences among option valuation models, and this may result in a lack of comparability with other companies that use different models, methods and assumptions. If factors change and the Company employs different assumptions in the application of SFAS 123(R) in future

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

periods, or if the Company decides to use a different valuation model, the compensation expense that the Company records in the future under SFAS 123(R) may differ significantly from what it has recorded in the current period and could materially affect its loss from operations, net loss and net loss per share.

**Reclassifications:** Certain reclassifications have been made to the 2006 financial statements to conform to the 2007 presentation. Such reclassifications had no effect on net loss.

**Use of estimates:** The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Recent accounting pronouncements:** In September 2006, the FASB issued FASB Statement No. 157, Fair Value Measurements (SFAS No. 157). SFAS No. 157 provides enhanced guidance for using fair value to measure assets and liabilities. SFAS No. 157 clarifies the principle that fair value should be based on the assumptions market participants would use when pricing the assets or liabilities and establishes a hierarchy that prioritizes the information used to develop those assumptions. SFAS No. 157 applies whenever other standards require (or permit) assets or liabilities to be measured at fair value. SFAS No. 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007. Therefore, the Company is required to adopt SFAS 157 by the first quarter of 2008. The adoption of SFAS No. 157 is not expected to have a material impact on the Company's financial position, results of operations or cash flows.

In February 2007, the FASB issued FASB Statement 159, The Fair Value Option for Financial Assets and Financial Liabilities (SFAS 159). SFAS 159 allows the Company to choose to measure many financial assets and financial liabilities at fair value. Unrealized gains and losses on items for which the fair value option has been elected are reported in earnings. SFAS 159 is effective for fiscal years beginning after November 15, 2007. Therefore, the Company is required to adopt SFAS 159 by the first quarter of 2008. The adoption of SFAS No. 159 is not expected to have a material impact on the Company's financial position, results of operations or cash flows.

In December 2007, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 141 (revised 2007), *Business Combinations* (SFAS No. 141R). SFAS No. 141(R), among other things, establishes principles and requirements for how the acquirer in a business combination (i) recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquired business, (ii) recognizes and measures the goodwill acquired in the business combination or a gain from a bargain purchase, and (iii) determines what information to disclose to enable users of the financial statements to evaluate the nature and financial effects of the business combination. SFAS No. 141R is effective for fiscal years beginning on or after December 15, 2008, with early adoption prohibited. The Company is required to adopt SFAS No. 141(R) for all business combinations for which the acquisition date is on or after January 1, 2009. Earlier adoption is prohibited. This standard will change the Company's accounting treatment for business combinations on a prospective basis.

## ASCENT SOLAR TECHNOLOGIES, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## (A Development Stage Company as Defined by SFAS No. 7)

**NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

In December 2007, the FASB issued Statement of Financial Accounting Standards No. 160, *Noncontrolling Interests in Consolidated Financial Statements, an Amendment of ARB No. 51* (SFAS No. 160). SFAS No. 160 establishes accounting and reporting standards for noncontrolling interests in a subsidiary and for the deconsolidation of a subsidiary. Minority interests will be recharacterized as noncontrolling interests and classified as a component of equity. It also establishes a single method of accounting for changes in a parent's ownership interest in a subsidiary and requires expanded disclosures. This statement is effective for fiscal years beginning on or after December 15, 2008, with early adoption prohibited. The Company does not expect the adoption of this Statement will have a material impact on its financial position or results of operations.

**NOTE 3. LIQUIDITY AND CONTINUED OPERATIONS**

As discussed in Note 1, the Company is in the development stage and is currently incurring significant losses from operations. As of December 31, 2007, the Company had \$37.7 million cash and investments of which approximately \$1.1 million of this cash will be used for final progress payments to its equipment suppliers on its 1.5 MW line and another \$2.3 million is committed for a manufacturing research and development tool in conjunction with planned expansion to approximately 30 MW of rated capacity.

The Company expects to commence limited commercial production on its 1.5 MW production line in the second quarter of 2008. The Company expects its current cash balance to be sufficient to cover its operational expenditures through 2009 based on currently known factors, although it expects that it will need to raise capital in 2008 in order to purchase the production tools necessary to achieve approximately 30 MW of rated capacity by the end of 2009.

**NOTE 4. ACCOUNTS RECEIVABLE CONTRACTS**

Effective January 1, 2007, the Company completed the novation, or transfer, of approximately \$3.5 million in government funded research and development contracts ("R&D Contracts") from ITN. The various contracts are being performed for U.S. government customers that include the Air Force Research Laboratory and the National Aeronautics and Space Administration. In addition to approximately \$1.6 million in future revenues to be provided under the transferred contracts, the key scientists, engineers, and process technicians responsible for performing under the transferred contracts were also transferred from ITN to become full-time Ascent employees. In 2007, R&D Contracts of approximately \$1.7 million in potential revenue were awarded directly to the Company.

Accounts receivable consists mainly of billed and unbilled amounts under these R&D Contracts. Management deems all accounts receivable to be collectible.

The components of accounts receivable as of December 31, 2007 are:

	<b>December 31, 2007</b>
Billed receivables	\$ 176,168
Unbilled receivables	28,183
<b>Total</b>	<b>\$ 204,351</b>



## ASCENT SOLAR TECHNOLOGIES, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

**NOTE 4. ACCOUNTS RECEIVABLE CONTRACTS (Continued)**

Unbilled receivables represent costs incurred but not yet billed, including retainage amounts by the Government on contracts that have not been closed out at the end of the year.

*Provisional Indirect Cost Rates* In 2007, the Company billed the government under cost-based R&D Contracts at provisional billing rates which permit the recovery of indirect costs. These rates are subject to audit on an annual basis by the government agencies' cognizant audit agency. The cost audit will result in the negotiation and determination of the final indirect cost rates. The Company has not been audited and has not received final rate determinations for the year ended December 31, 2007. The final rates, if different from the actual, may create an additional receivable or liability.

In the opinion of management, re-determination of any cost-based contracts for 2007 will not have a material effect on the Company's financial position or results of operation.

*Contract Status* The Company has authorized but not completed contracts on which work is in process at December 31, 2007 as follows:

Total Contract price of initial contract awards, including exercised options and approved change orders (modifications)	\$ 5,228,023
Completed to date(1)	(2,828,453)
	<hr/>
Authorized backlog	2,399,570
	<hr/>

(1) Includes work performed by ITN prior to January 1, 2007.

**NOTE 5. PROPERTY AND EQUIPMENT**

Property and equipment consisted of the following at December 31, 2007 and 2006:

	December 31, 2007	December 31, 2006
	<hr/>	<hr/>
Computer Equipment	\$ 147,943	\$ 47,771
Furniture and Fixtures	2,027	2,716
R&D Equipment	150,993	53,156
Shop/Facility Equipment	12,253	
Leasehold Improvements	724,907	
Manufacturing Equipment	728,171	
	<hr/>	<hr/>
	1,766,294	103,643
Less: Accumulated depreciation and amortization	(115,051)	(12,635)
	<hr/>	<hr/>
Property and equipment, net	\$ 1,651,243	\$ 91,008
	<hr/>	<hr/>

Depreciation and amortization expense for the years ended December 31, 2007 and 2006 was \$102,416 and \$12,635, respectively.

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

**NOTE 6. DEPOSITS ON MANUFACTURING EQUIPMENT**

As of December 31, 2007, the Company had entered into approximately \$12.0 million of manufacturing equipment purchase agreements and a construction contractor agreement (1.5 MW Purchase Agreements) to complete its 1.5 MW production line and to make facility modifications. Included in the \$12.0 million Purchase Agreements is a purchase order to ITN for \$1.5 million to develop the CIGS deposition and source box that is located inside the CIGS vacuum chamber. As of December 31, 2007 and 2006, the Company had made deposits on the 1.5 MW Purchase Agreements of approximately \$9.7 million and \$370,000, respectively, which have been reflected on the Balance Sheet as Deposits on manufacturing equipment in Other Assets. As of December 31, 2007, \$1.2 million has been capitalized in Property & Equipment on the Balance Sheet and \$1.1 million remains as commitments under the 1.5 MW Purchase Agreements. Additional purchase agreements of approximately \$2.3 million have been entered into in 2007 for a manufacturing research and development tool for the Company's planned expansion to approximately 30 MW of rated capacity. As of December 31, 2007, the Company had made down payments on these additional purchase agreements of approximately \$400,000, which have also been reflected on the Balance Sheet as Deposits on manufacturing equipment in Other Assets. The remaining commitments as of December 31, 2007 on these additional purchase agreements total approximately \$1.9 million.

A majority of the 1.5 MW Purchase Agreements terms is based on set milestone deliverables, such as the Company's acceptance of design requirements and successful installation and commissioning of the equipment. Approximately \$3.7 million of the 1.5 MW Purchase Agreements are denominated in euros and pounds sterling. The Company records a liability equal to the payment milestone at the time each of these milestones is reached and records a gain or loss resulting from the foreign currency translations (transactions denominated in a currency other than the functional currency of the Company) based on the currency fluctuation from the date the milestone is reached to the date the actual milestone payment is made. For the years ended December 31, 2007 and 2006 there were no gains or losses on foreign currency recorded as the currency fluctuation from the dates the milestones were reached and the dates the actual milestone payments were made were immaterial.

Delivery and installation of the 1.5 MW manufacturing equipment began in the fourth quarter 2007, and the Company anticipates completion by the end of March 2008.

**NOTE 7. DEBT**

In January 2006, the Company completed a \$1.6 million bridge loan (Bridge Financing) from lenders (Bridge Noteholders) to help meet the Company's working capital needs. The loans (Bridge Loans) accrued interest at an annual rate of 10% and were due and payable on the earlier of January 2007 or the completion of Ascent's public offering of equity securities with gross proceeds of at least \$5,000,000 (Qualified Public Offering). In July 2006, with the proceeds from a Qualified Public Offering (*i.e.*, the Company's initial public offering or IPO), the Company repaid the Bridge Loans including accrued interest.

In connection with the Bridge Loans, the Company issued rights (Bridge Rights) to the Bridge Noteholders. One Bridge Right was issued for every \$25,000 loaned. In July 2006, upon completion of the IPO, the holders of Bridge Rights received restricted units. The holder of each Bridge Right received that number of units equal to \$25,000 divided by the IPO price of the units of \$5.50 for a total of 290,894 units. The units are identical to those offered in Ascent's IPO and consisted of one share of

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

**NOTE 7. DEBT (Continued)**

common stock, one redeemable Class A public warrant and two non-redeemable Class B warrants. In September 2006, the SEC declared effective the Company's Registration Statement on Form SB-2 (Reg. No. 333-137008) for the shares and warrants underlying the 290,894 units issued in connection with the Bridge Rights. The Registration Statement on Form SB-2 subsequently was converted to a Registration Statement on Form S-3.

Paulson Investment Company, Inc. acted as the placement agent for the Bridge Financing. The Company paid Paulson Investment Company, Inc. a commission equal to 10% of the gross proceeds from the Bridge Financing, plus reasonable out-of-pocket expenses. The Bridge Loans and the Bridge Rights were allocated for accounting purposes based on the relative fair values of the Bridge Loans without the Bridge Rights and the Bridge Rights themselves at the time of issuance. The actual value of the Bridge Loans and the Bridge Rights was computed at \$1,600,000 each for a total value of \$3,200,000. Since they were each of equal value, the \$1,600,000 of proceeds was allocated 50% to the Bridge Loans and 50% to the Bridge Rights (*i.e.*, \$800,000 each). The Bridge Rights of \$800,000 were accounted for as paid-in capital.

The discount for the commission (\$160,000) and the Bridge Rights (\$800,000) were amortized into interest expense over the life of the loans. In July 2006 with the repayment of the Bridge Loans, the remaining unamortized balance of the discount for commission and Bridge Rights was recognized as interest expense in the Statements of Operations. For the year ended December 31, 2006 and the period from inception (October 18, 2005) through December 31, 2007, the Company recorded \$960,000 in interest expense related to these discounts.

**NOTE 8. STOCKHOLDERS' EQUITY**

The Company authorized capital stock consists of 75,000,000 shares of common stock, \$0.0001 par value, and 25,000,000 shares of preferred stock, \$0.0001 par value. In November 2005, the Company issued 972,000 shares of common stock at a price of \$0.04 per share. The Company has recorded for financial statement purposes the 972,000 shares at a fair value of \$1.00 per share. The Statements of Stockholders' Equity reflect compensation expense of \$933,120 related to the recording of this stock transaction. In January 2006, in consideration of certain asset transfers, licenses and service agreements (see Note 1), the Company issued 1,028,000 shares of common stock to ITN Energy Systems, Inc.

Preferred stock, \$0.0001 par value per share, may be issued in classes or series. Designations, powers, preferences, rights, qualifications, limitations and restrictions are determined by the Company's Board of Directors.

**Initial Public Offering:** On July 10, 2006, the SEC declared effective the Company's Registration Statement on Form SB-2 (Reg. No. 333-131216), and the Company completed its IPO of 3,000,000 units on July 14, 2006. Each unit consisted of one share of common stock, one redeemable Class A warrant and two non-redeemable Class B warrants. The managing underwriter of the IPO was Paulson Investment Company, Inc. The IPO price was \$5.50 per unit. The gross proceeds of the offering were \$16,500,000. Ascent's net proceeds from the offering, after deducting the underwriter's discount of \$1,097,250 and other fees and expenses, aggregated approximately \$14,000,000.

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

**NOTE 8. STOCKHOLDERS' EQUITY (Continued)**

The common stock and Class A and Class B warrants traded only as a unit through August 9, 2006, after which the common stock, the Class A warrants and the Class B warrants began trading separately.

*Class A warrants.* On May 24, 2007, the Company publicly announced that it intended to redeem its outstanding Class A warrants. The Class A warrants became eligible for redemption by the Company at \$0.25 per warrant on April 16, 2007, when the last reported sale price of the Company's common stock had equaled or exceeded \$9.35 for five consecutive trading days. There were 3,290,894 Class A warrants issued in connection with the Company's initial public offering, including the warrants issued to the Bridge Noteholders. The Class A warrants were exercisable at a price of \$6.60 per share.

The exercise period ended June 22, 2007. During the exercise period, 3,098,382 Class A warrants (94.1% of The total outstanding) were exercised for an equal number of shares of common stock, and the Company received \$20,449,321 in proceeds from the warrant exercises. At the end of the exercise period, 192,512 Class A warrants remained outstanding. The Company has set aside funds with its warrant transfer agent to redeem the outstanding warrants for \$0.25 per warrant, or a total cost of \$48,128. As of December 31, 2007, 9,090 Class A warrants remain unredeemed.

*Class B warrants.* The Class B warrants included in the units became exercisable on August 10, 2006. The exercise price of a Class B public warrant is \$11.00. The Class B warrants expire on July 10, 2011. The Company does not have the right to redeem the Class B warrants. During the year ended December 31, 2007, 11,000 Class B warrants were exercised resulting in proceeds to the Company of \$121,000. As of December 31, 2007, 8,836,478 Class B warrants were outstanding.

*IPO warrants.* Warrants to purchase 300,000 units at \$6.60 were issued to underwriters of the Company's initial public offering in July 2006 (representative's warrants). A unit consists of one share of common stock, one Class A redeemable warrant and two Class B non-redeemable warrants. The warrants expire on July 10, 2011. Upon exercise of the representative's warrants, holders will be forced to choose whether to exercise the underlying Class A warrants or hold them for redemption. As noted above, on June 25, 2007, any Class A warrants then outstanding expired and became redeemable.

Representative's warrants to purchase 150,000 units have been exercised as of December 31, 2007, as have the 150,000 underlying Class A warrants resulting in an issuance of 300,000 shares of common stock and 600,000 Class B warrants for total proceeds to the Company of \$1.98 million. To the extent that holders of representative's warrants are entitled to receive Class A warrants upon exercise of the representative's warrants, those warrants will be immediately subject to call for redemption at \$0.25 per warrant. The holders will then have to decide whether to exercise their Class A warrants or hold them for redemption. As of December 31, 2007, 150,000 representative's warrants remained unexercised.

**Private Placement of Securities:** The Company completed a private placement of securities with Norsk Hydro Produksjon AS (Hydro) in March 2007. Hydro is a subsidiary of Norsk Hydro ASA. Hydro purchased 1,600,000 shares of the Company's common stock (representing 23% of the Company's outstanding common stock post transaction) for an aggregate purchase price of \$9,236,000. The Company recorded \$75,807 of costs associated with the private placement as a reduction to Additional Paid in Capital on the Company's Balance Sheet as of December 31, 2007. In connection with the private placement, Hydro was granted options to purchase additional shares and warrants.

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

**NOTE 8. STOCKHOLDERS' EQUITY (Continued)**

In August 2007, Hydro acquired an additional 934,462 shares of the Company's common stock and 1,965,690 Class B warrants through the exercise of an option previously granted to Hydro and approved by Ascent's stockholders in June 2007. Gross proceeds to the Company were \$10.48 million, and reflected per share and per warrant purchase prices were equal to the average of the closing bids of each security, as reported by Nasdaq, for the five consecutive trading days preceding exercise.

After acquiring these additional shares, Hydro again held 23% of the total outstanding common shares, after its holdings were diluted as the result of the redemption of Class A warrants and now owns 23% of total outstanding Class B warrants. Pursuant to another option that was approved by Ascent's stockholders, beginning December 13, 2007, Hydro has the opportunity to purchase additional shares and Class B warrants so that it will hold up to 35% of each class of security.

As of December 31, 2007, the Company had 11,435,901 shares of common stock and no shares of preferred stock outstanding.

**NOTE 9. STOCK BASED COMPENSATION**

**Stock Option Plan:** The Company's 2005 Stock Option Plan, as amended (Option Plan) provides for the grant of incentive or non-statutory stock options to the Company's employees, directors and consultants. A total of 1,000,000 shares of common stock is reserved for issuance under the Option Plan. The Board of Directors and the Company's stockholders approved the Option Plan and its amendments.

The Option Plan is administered by the Compensation Committee of the Board of Directors, which determines the terms of the options, including the exercise price (equal to or greater than fair market value), expiration date, vesting schedule and number of shares. The term of any incentive stock option granted under the Option Plan may not exceed ten years, or five years for options granted to an optionee owning more than 10% of the Company's voting stock. The exercise price of an incentive stock option granted under the Option Plan must be equal to or greater than the fair market value of the shares of the Company's common stock on the date the option is granted. An incentive stock option granted to an optionee owning more than 10% of the Company's voting stock must have an exercise price equal to or greater than 110% of the fair market value of the Company's common stock on the date the option is granted. The exercise price of a non-statutory option granted under the Option Plan must be equal to or greater than 85% of the fair market value of the shares of the Company's common stock on the date the option is granted.

**Stock Based Compensation:** The Company accounts for share-based payments under the provisions of Statement of Financial Accounting Standards No. 123 (revised 2004), "*Share-Based Payment*," ("SFAS 123(R)") which requires the measurement and recognition of compensation expense for all share-based payment awards made to employees, officers and directors and consultants, including employee stock options based on estimated fair values. Stock-based compensation expense recognized in the Statements of Operations for the year ended December 31, 2007 and 2006 and for the period from inception (October 18, 2005) through December 31, 2007 is based on awards ultimately expected to vest and it has been reduced for estimated forfeitures.

## ASCENT SOLAR TECHNOLOGIES, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

## NOTE 9. STOCK BASED COMPENSATION (Continued)

The weighted average estimated fair value of employee stock options granted for the years ended December 31, 2007 and 2006 were \$9.90 and \$2.07 per share, respectively. Fair value was calculated using the Black-Scholes Model with the following weighted average assumptions:

	For the Years Ended December 31,	
	2007	2006
Expected volatility	83.7%	90.2%
Risk free interest rate	3.3 - 3.6%	4.62%
Expected dividends		
Expected life (in years)	6.41	6.1

The Company based its estimate of expected volatility on disclosures made by peers. The expected option term was calculated using the "simplified" method permitted by Staff Accounting Bulletin (SAB) 107. Forfeitures were estimated based on historical employee retention experience among staff of similar position to those granted options in the plan. Stock-based compensation expense recognized for the years ended December 31, 2007 and 2006 were as follows:

	For the Years Ended December 31,	
	2007	2006
Officers, directors & employees	\$ 461,432	\$ 159,098
Outside providers	1,273,447	189,845
	<u>\$ 1,734,879</u>	<u>\$ 348,943</u>

Stock-based compensation expense is calculated on a straight-line basis over the vesting periods of the related options. In future periods, the compensation expense that the Company records under SFAS 123(R) may differ significantly from what the Company recorded in the current period, as the Company builds company-specific performance history.

As of December 31, 2007, the Company had approximately \$3,414,000 of total compensation cost (\$1,723,000 to officers, directors and employees, and \$1,691,000 to outside providers) related to non-vested awards not yet recognized and expects to recognize these costs over a weighted average period of approximately 3 years.

## ASCENT SOLAR TECHNOLOGIES, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

(A Development Stage Company as Defined by SFAS No. 7)

## NOTE 9. STOCK BASED COMPENSATION (Continued)

The following schedule summarizes activity in its stock-option plan (shares in thousands):

	Stock Option Shares	Stock Options Weighted Average Exercise Price	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value
<b>OUTSTANDING AT OCTOBER 18, 2005</b>		\$		
Granted	408	0.10		
<b>OUTSTANDING AT DECEMBER 31, 2005</b>	408	\$ 0.10		
Granted	336	3.64		
Exercised	(31)	(.10)		
Canceled	(75)	(1.26)		
<b>OUTSTANDING AT DECEMBER 31, 2006</b>	638	\$ 1.83		
Granted	232	11.52		
Exercised	(170)	(2.04)		
Canceled	(13)	(1.03)		
<b>OUTSTANDING AT DECEMBER 31, 2007</b>	687	\$ 5.07	4.82	\$ 13,595,562
<b>EXERCISABLE AT DECEMBER 31, 2007</b>	237	\$ 2.10	2.40	\$ 5,403,718

The total intrinsic value, or the difference between the exercise price and the market price on the date of exercise of all options exercised during the years ended December 31, 2007 and 2006 was \$1,882,882 and \$56,180, respectively. As of December 31, 2007, approximately 400,000 shares were expected to vest in the future at a weighted average exercise price of \$2.10. As of December 31, 2007, approximately 112,000 shares remained available for future grants under the Option Plan.

The following table contains details of the Company's outstanding stock options as of December 31, 2007:

Range of Exercise Prices	Options Outstanding		Options Exercisable	
	Number Outstanding	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
	(In Thousands)		(In Thousands)	
\$0.10	243	\$ 0.10	137	\$ 0.10
\$2.51 - \$4.25	286	\$ 3.46	80	\$ 3.98
\$7.90 - \$8.82	33	\$ 8.30	20	\$ 8.33
\$17.15 - \$18.35	125	\$ 17.55	0	\$

## NOTE 10: INCOME TAXES

The Company records taxes using the liability method. Under this method, deferred tax assets and liabilities are computed for the expected future impact of temporary differences between the financial statement and income tax bases of assets and liabilities using current income tax

rates and for the expected future tax benefit to be derived from tax loss and tax credit carry-forwards.

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## ASCENT SOLAR TECHNOLOGIES, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## (A Development Stage Company as Defined by SFAS No. 7)

## NOTE 10: INCOME TAXES (Continued)

At December 31, 2007, the Company has approximately \$4,100,000 in net operating loss carry-forwards that will expire beginning in 2025. Approximately \$1,500,000 of the net operating loss carryover is not included in the calculation of the deferred tax asset since it is related to excess tax deductions from the exercise of stock options. Under the Internal Revenue Code, the future utilization of net operating losses may be limited in certain circumstances where there is a significant ownership change. As a result of the initial public offering, and the 2007 private placement significant ownership changes may have occurred.

Deferred income taxes represent an estimate of the income tax that will be due in future periods from the cumulative temporary differences recognized for financial reporting purposes from that recognized for income tax reporting purposes. At December 31, 2007 and 2006, the components of these temporary differences and the deferred tax asset were as follows:

Deferred Tax Asset	2007	2006
<b>Non-current:</b>		
Stock Based Compensation-Stock Options	\$ 550,000	\$ 64,000
Tax effect of NOL carry forward	1,000,000	131,000
Depreciation	25,000	
Start-up costs	890,000	1,025,000
Capitalized manufacturing costs	1,285,000	
	<u>3,750,000</u>	<u>1,220,000</u>
Net deferred tax asset	3,750,000	1,220,000
Less valuation allowance	(3,750,000)	(1,220,000)
	<u>\$</u>	<u>\$</u>
Net deferred tax asset	<u>\$</u>	<u>\$</u>

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will be realized. Based upon the level of historical losses and projections of future taxable income over the periods in which the deferred tax assets are deductible, a full valuation allowance has been provided due to the uncertainty surrounding the timing and the amount of future revenues. The Company's deferred tax valuation allowance of \$3,750,000 reflected above is an increase of \$2,530,000 from the valuation allowance reflected as of December 31, 2006 of \$1,220,000. The Company's effective tax rate differs from the statutory rate due to the following (expressed as a percentage of pre-tax income):

	2007	2006
Federal statutory rate	(35)%	(35)%
State statutory rate	(3)%	(3)%
Permanent tax differences	2%	8%
Other	1%	1%
Increase in valuation allowance	35%	29%
	<u>0%</u>	<u>0%</u>

## ASCENT SOLAR TECHNOLOGIES, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

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**NOTE 11. RELATED PARTY TRANSACTIONS**

Included in General and Administrative Expenses for the years ended December 31, 2007 and 2006 are \$937,212, and \$1,170,226, respectively, of costs to ITN for facility sublease costs and administrative support expenses. Included in Research and Development Expenses for the years ended December 31, 2007 and 2006 are \$908,005, and \$302,744, respectively, of costs to ITN for research and development and manufacturing activity. Related party payable of \$264,797 as of December 31, 2007 represents costs remaining to be paid to ITN for these expenditures and amounts payable to officers and directors for Board of Directors fees and reimbursement of travel expenditures.

Included in Research and Development Revenues on the Statement of Operations for the year ended December 31, 2007 is \$27,519 for labor charged by the Company to ITN for research and development activities.

Included in Property and Equipment and Deposits on Equipment as of December 31, 2007 is \$1,221,261 of costs to ITN for the construction of manufacturing and research and development equipment

**NOTE 12. COMMITMENTS**

**Sublease Agreement:** On November 1, 2005, the Company entered into a sublease agreement with ITN, a greater than five percent stockholder of the Company, to lease office space in Littleton, Colorado. In 2005 and 2006, two Board members of Ascent were partial owners of the company that leased this office space to ITN. As of January 1, 2007, they no longer have an investment in the building the Company is subleasing from ITN. Future minimum payments due under the sublease as of January 1, 2008 are as follows:

**Year ending December 31:**

2008	\$ 227,896
2009	\$ 227,896
2010	\$ 113,948

The Company is also responsible for payment of pass-through expenses such as property taxes, insurance, water and utilities. Rent expense for the years ended December 31, 2007 and 2006 was \$217,214 and \$150,245, respectively.

**Patent License Agreements:** In 2006, the Company entered into two non-exclusive patent license agreements. In consideration for the right to license certain inventions, the Company is required to pay annual royalty payments based on net sales of products manufactured using the licensed technology. If there are no net sales of products manufactured using the licensed technology, then a minimum royalty payment is required. The Company has made payments for the annual minimum royalties due associated with these patent license agreements.

**NOTE 13. RETIREMENT PLAN**

On July 1, 2006, the Company adopted a qualified 401(k) plan which provides retirement benefits for all of its eligible employees. Under the plan, employees become eligible to participate at the first entry date, provided that they are at least 21 years of age. The participants may elect through salary

ASCENT SOLAR TECHNOLOGIES, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

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**NOTE 13. RETIREMENT PLAN (Continued)**

reduction to contribute up to ceilings established in the Internal Revenue Code. The Company will match 100% of the first six percent of employee contributions. In addition, the Company may make discretionary contributions to the Plan as determined by the Board of Directors. Employees are immediately vested in all salary reduction contributions. Rights to benefits provided by the Company's discretionary and matching contributions vest 100% after the first year of service.

**NOTE 14. SUBSEQUENT EVENTS**

**Acquisition of Manufacturing Facility:** On February 8, 2008, the Company acquired an approximately 120,000 square foot manufacturing and office facility in Thornton, Colorado, for approximately \$5.5 million. The purchase was financed by a promissory note, deed of trust and construction loan agreement with the Colorado Housing and Finance Authority (CHFA), which provide the Company borrowing availability of up to \$7.5 million for the building and building improvements. The Company paid approximately \$1.3 million in cash and was advanced approximately \$4.2 million from CHFA to fund the initial acquisition of the property. The construction loan terms are to pay interest at 6.6% on only the drawn principal amount until January 1, 2009, at which time the construction loan will be refinanced by a permanent loan. The permanent loan will have an interest rate of 6.6% and the principal will be amortized over a period of approximately 19 years and 2 months consistent with a maturity date 20 years after the incurrence of the construction loan on February 8, 2008. The terms of the permanent loan are specified in a CHFA Construction and Permanent Loan Commitment dated January 16, 2008. In December 2007 a deposit of \$100,000 was paid for the facility and is reflected in Other non-current assets on the Balance Sheet as of December 31, 2007.