

Ascent Solar Technologies, Inc.

(ASTI:NASDAQ)

Outperform 2

Ascent Solar Technologies (www.ascentsolar.com) is a development-stage designer and manufacturer of photovoltaic (PV) modules. In contrast to conventional polysilicon-based PV, the company utilizes a thin film technology that employs copper indium gallium diselenide (CIGS).

ASTI: Equity Offering Secures Path Towards 30 MW of Capacity in 4Q09

- Last Friday, Ascent announced the pricing of its previously announced equity offering at \$14.00 per share, which represented a discount of 12% to Thursday's closing price. While the discount was somewhat wider than we had expected, spurring a 7% correction in the shares on Friday, we look at the 3.8 million share offering's completion positively, as the new capital provides significant visibility to the company's commercialization roadmap over the next 18 months.
- Together with the sale of shares to Norsk Hydro (NHYDY/\$16.70) earlier this year, raising \$28.4 million, the approximately \$48 million of proceeds from this follow-on offering should fund the vast majority of the capital needed for Ascent's first commercial-scale production line of 30 megawatts (MW). The line is expected to commence operations in 4Q09, and total spending (including installation) for the line is estimated at \$88 to \$93 million. The capacity ramp-up program targets further expansion to 60 MW by year-end 2010, rising to 110 MW by year-end 2011. This is a highly achievable roadmap, and as we noted before, we believe there may be room for acceleration, though of course equipment sourcing and financing naturally present some execution risks.
- As a development-stage company, Ascent is likely to have minimal revenue until 4Q09, and after tweaking our estimates for the slightly higher share count after the offering, we still project negative EPS until 4Q10 (shown below). Beyond that, the sizable gains in revenue should translate into rapid EPS growth. Though cognizant of the financing and execution risks ahead, we remain bullish on Ascent given its commercialization prospects and strategic partnerships. We reiterate our **Outperform** rating. Our \$22.50 target price is based on 30x multiple (consistent with our long-term growth rate assumptions) our 2012 EPS estimate of \$1.31, discounted back to 2009 at a 20% rate (conservative relative to the weighted average cost of capital of 10.3%).

Non-GAAP							GAAP EPS
FY=	EPS	Q1	Q2	Q3	Q4	Full	Full
	Dec	Mar	Jun	Sep	Dec	Year	Year
2007A	\$(0.24)	\$(0.19)	\$(0.19)	\$(0.12)	\$(0.70)	\$(0.70)	\$(0.70)
Old 2008E	(0.20)A	(0.16)	(0.17)	(0.19)	(0.71)	(0.71)	(0.71)
New 2008E	(0.20)A	(0.15)	(0.16)	(0.19)	(0.70)	(0.70)	(0.70)
Old 2009E	(0.21)	(0.23)	(0.19)	(0.11)	(0.72)	(0.72)	(0.72)
New 2009E	(0.21)	(0.22)	(0.19)	(0.10)	(0.70)	(0.70)	(0.70)
Old 2010E	(0.04)	(0.02)	(0.02)	0.08	0.00	0.00	0.00
New 2010E	(0.04)	(0.02)	(0.02)	0.08	0.00	0.00	0.00

Rows may not add due to rounding. Non-GAAP EPS excludes extraordinary items.

Please read disclosure/risk information on page 3 and Analyst Certification on page 5.

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EQUITY RESEARCH

May 19, 2008

Alternative Energy
Company Comment

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Current Price
(5/16/2008) \$14.72
Projected 12-Month Target Price:
\$22.50

52-Week Range \$28.35-\$6.50
Dividend/Yield \$0.00/0.0%
Book Value (03/08) \$6.49
Suitability Venture Risk

Shares Out. (mil.) 17.9
Market Cap. (mil.) \$263
Avg. Daily Vol. (10 day) 518,270

Proj. 3-Yr EPS Growth Rate NM
LT Debt (mil.)/% Cap. \$4/5%

P/E Ratios (Non-GAAP)
2008E NM
2009E NM
2010E NM

Revenues (mil.)

	Old	New
2007A	\$1	\$1
2008E	\$2	\$2
2009E	\$11	\$11
2010E	\$67	\$67

EBITDA (mil.)

	Old	New
2007A	\$(7)	\$(7)
2008E	\$(11)	\$(11)
2009E	\$(13)	\$(13)
2010E	\$9	\$9

Cash Flow/Share

	Old	New
2007A	\$(0.51)	\$(0.51)
2008E	\$(0.56)	\$(0.55)
2009E	\$(0.49)	\$(0.48)
2010E	\$0.54	\$0.53

Out Year Non-GAAP EPS
2011E \$0.61
2012E \$1.31

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Ascent Solar Technologies
QUARTERLY INCOME AND CASH FLOW (MILLIONS)

Earnings & Cash Flow	2006 A	2007 A	Q1 A	Q2 E	Q3 E	Q4 E	2008 E	Q1 E	Q2 E	Q3 E	Q4 E	2009 E	Q1 E	Q2 E	Q3 E	Q4 E	2010 E
Product Revenue	\$0.0	\$0.0	\$0.0	\$0.5	\$0.7	\$0.9	\$2.1	\$0.9	\$0.8	\$0.8	\$0.5	\$11.0	\$13.3	\$15.7	\$15.4	\$23.0	\$67.4
Other	0.0	1.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Operating Revenues	\$0.0	\$1.0	\$0.3	\$0.5	\$0.7	\$0.9	\$2.4	\$0.9	\$0.8	\$0.8	\$0.5	\$11.0	\$13.3	\$15.7	\$15.4	\$23.0	\$67.4
Cost of Sales	0.0	0.0	0.0	0.4	0.6	0.6	1.5	0.6	0.6	0.6	5.1	6.8	7.9	9.3	9.0	11.5	37.7
Gross Margin (%)				20.0%	25.0%	30.0%	26.0%	30.5%	31.0%	31.5%	40.0%	37.9%	40.5%	41.0%	41.5%	50.0%	44.1%
Depreciation and Amortization	0.0	0.1	0.3	0.1	0.1	0.1	0.5	0.1	0.1	0.1	1.1	1.4	1.5	1.8	1.8	2.7	7.8
Research and Development	0.7	4.0	1.4	1.4	1.6	1.8	6.2	1.9	1.9	2.0	2.0	7.7	2.1	2.1	2.2	2.2	8.5
Sales, General and Administrative	2.7	4.9	1.3	1.7	1.9	2.1	7.0	2.3	2.5	2.7	2.9	10.4	3.1	3.2	3.3	3.4	13.0
Other Operating Expenses (Income)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating Income	(\$3.4)	(\$7.9)	(\$2.7)	(\$3.1)	(\$3.4)	(\$3.7)	(\$12.9)	(\$4.0)	(\$4.2)	(\$4.5)	(\$2.6)	(\$15.4)	(\$1.3)	(\$0.7)	(\$0.9)	\$3.2	\$0.4
Other Non-Operating Expenses (Income)	(0.3)	(1.4)	(0.4)	(0.6)	(0.5)	(0.4)	(1.9)	(0.3)	(0.3)	(0.3)	(0.3)	(1.1)	(0.3)	(0.3)	(0.3)	(0.3)	(1.0)
Interest Expense	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre-tax Extraordinary Items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income Tax Expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
Net Income Before After-tax Extra. Items	(4.2)	(6.5)	(2.4)	(2.5)	(2.9)	(3.3)	(11.1)	(3.7)	(4.0)	(4.2)	(2.4)	(14.3)	(1.0)	(0.4)	(0.6)	2.1	0.1
After-tax Extraordinary Items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minority Interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reported Net Income	(4.2)	(6.5)	(2.4)	(2.5)	(2.9)	(3.3)	(11.1)	(3.7)	(4.0)	(4.2)	(2.4)	(14.3)	(1.0)	(0.4)	(0.6)	2.1	0.1
Adjustments for Non-recurring Items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Net Income	(\$4.2)	(\$6.5)	(\$2.4)	(\$2.5)	(\$2.9)	(\$3.3)	(\$11.1)	(\$3.7)	(\$4.0)	(\$4.2)	(\$2.4)	(\$14.3)	(\$1.0)	(\$0.4)	(\$0.6)	\$2.1	\$0.1
Reported Fully Diluted EPS	(\$1.45)	(\$0.70)	(\$0.20)	(\$0.15)	(\$0.16)	(\$0.19)	(\$0.70)	(\$0.21)	(\$0.22)	(\$0.19)	(\$0.10)	(\$0.70)	(\$0.04)	(\$0.02)	(\$0.02)	\$0.08	\$0.00
Adjusted Fully Diluted EPS	(\$1.45)	(\$0.70)	(\$0.20)	(\$0.15)	(\$0.16)	(\$0.19)	(\$0.70)	(\$0.21)	(\$0.22)	(\$0.19)	(\$0.10)	(\$0.70)	(\$0.04)	(\$0.02)	(\$0.02)	\$0.08	\$0.00
Primary Shares Outstanding, Mil.	2.9	9.2	11.8	16.0	17.9	17.9	15.9	17.9	17.9	22.9	22.9	20.4	22.9	22.9	26.9	26.9	24.9
Fully Diluted Shares Outstanding, Mil.	2.9	9.2	11.8	16.0	17.9	17.9	15.9	17.9	17.9	22.9	22.9	20.4	22.9	22.9	26.9	26.9	24.9
Cash Flow	2006 A	2007 A	Q1 A	Q2 E	Q3 E	Q4 E	2008 E	Q1 E	Q2 E	Q3 E	Q4 E	2009 E	Q1 E	Q2 E	Q3 E	Q4 E	2010 E
Net Income	(\$4.2)	(\$6.5)	(\$2.4)	(\$2.5)	(\$2.9)	(\$3.3)	(\$11.1)	(\$3.7)	(\$4.0)	(\$4.2)	(\$2.4)	(\$14.3)	(\$1.0)	(\$0.4)	(\$0.6)	\$2.1	\$0.1
Depreciation and Amortization	0.0	0.1	0.3	0.1	0.1	0.1	0.5	0.1	0.1	0.1	1.1	1.4	1.5	1.8	1.8	2.7	7.8
Deferred Income Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
Other Non-Cash & Adjustments	1.3	1.7	0.2	0.5	0.6	0.6	1.9	0.7	0.8	0.8	0.9	3.1	0.9	1.0	1.0	1.0	3.9
Cash Flow	(\$2.8)	(\$4.7)	(\$2.0)	(\$1.9)	(\$2.2)	(\$2.6)	(\$8.7)	(\$2.9)	(\$3.1)	(\$3.3)	(\$0.4)	(\$9.8)	\$1.4	\$2.3	\$2.2	\$7.2	\$13.1
Fully Diluted Cash Flow/Share	(\$0.98)	(\$0.51)	(\$0.17)	(\$0.12)	(\$0.13)	(\$0.15)	(\$0.55)	(\$0.16)	(\$0.17)	(\$0.15)	(\$0.02)	(\$0.48)	\$0.06	\$0.10	\$0.08	\$0.27	\$0.53
Stock Options Expense, Pre-Tax	\$1.0	\$1.0	\$0.3	\$0.3	\$0.3	\$0.3	\$1.0	\$0.3	\$0.3	\$0.3	\$0.3	\$1.0	\$0.3	\$0.3	\$0.3	\$0.3	\$1.0
Options Expense/Dil. Share, After-Tax	\$0.35	\$0.11	\$0.02	\$0.02	\$0.01	\$0.01	\$0.06	\$0.01	\$0.01	\$0.01	\$0.01	\$0.05	\$0.01	\$0.01	\$0.01	\$0.01	\$0.00
FD Adj. EPS Adding Back Options	(\$1.10)	(\$0.60)	(\$0.18)	(\$0.14)	(\$0.15)	(\$0.17)	(\$0.63)	(\$0.19)	(\$0.21)	(\$0.17)	(\$0.09)	(\$0.65)	(\$0.03)	(\$0.01)	(\$0.01)	\$0.08	\$0.01

YOY Change in Revenue

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137.6%

361.7%

512.8%

YOY Change in EPS

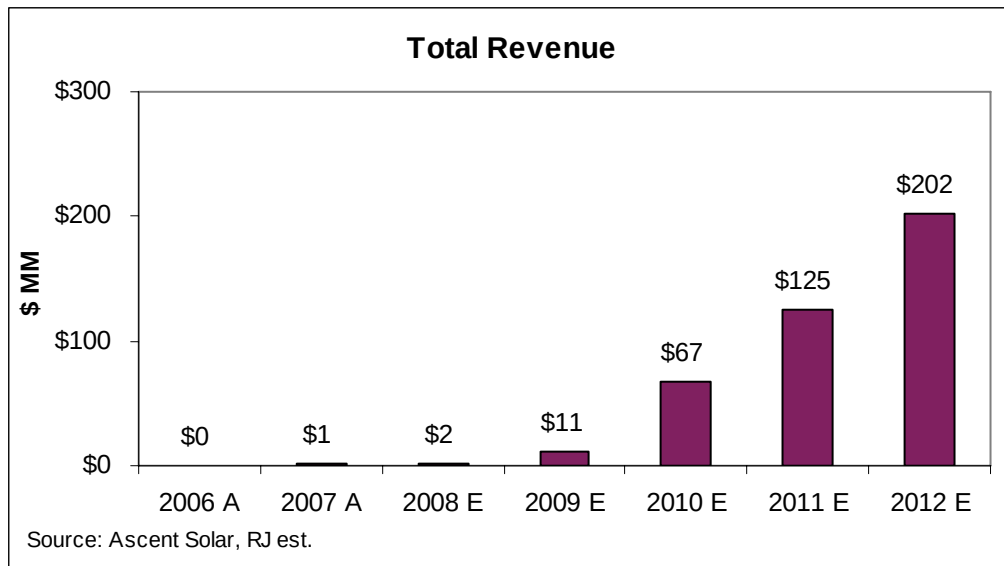
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The common stock of Ascent Solar Technologies, Inc. currently has an **Outperform** rating within our four-tiered rating system. Definitions of our ratings follow:

- Strong Buy (SB1)** Expected to appreciate and produce a total return of at least 15% and outperform the S&P 500 over the next six months. For higher yielding and more conservative equities, such as REITs and certain MLPs, a total return of at least 15% is expected to be realized over the next 12 months.
- Outperform (MO2)** Expected to appreciate and outperform the S&P 500 over the next 12 months. For higher yielding and more conservative equities, such as REITs and certain MLPs, an Outperform rating is used for securities where we are comfortable with the relative safety of the dividend and expect a total return modestly exceeding the dividend yield over the next 12 months.
- Market Perform (MP3)** Expected to perform generally in line with the S&P 500 over the next 12 months and is potentially a source of funds for more highly rated securities.
- Underperform (MU4)** Expected to underperform the S&P 500 or its sector over the next six to 12 months and should be sold.

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Suitability Categories (SR)

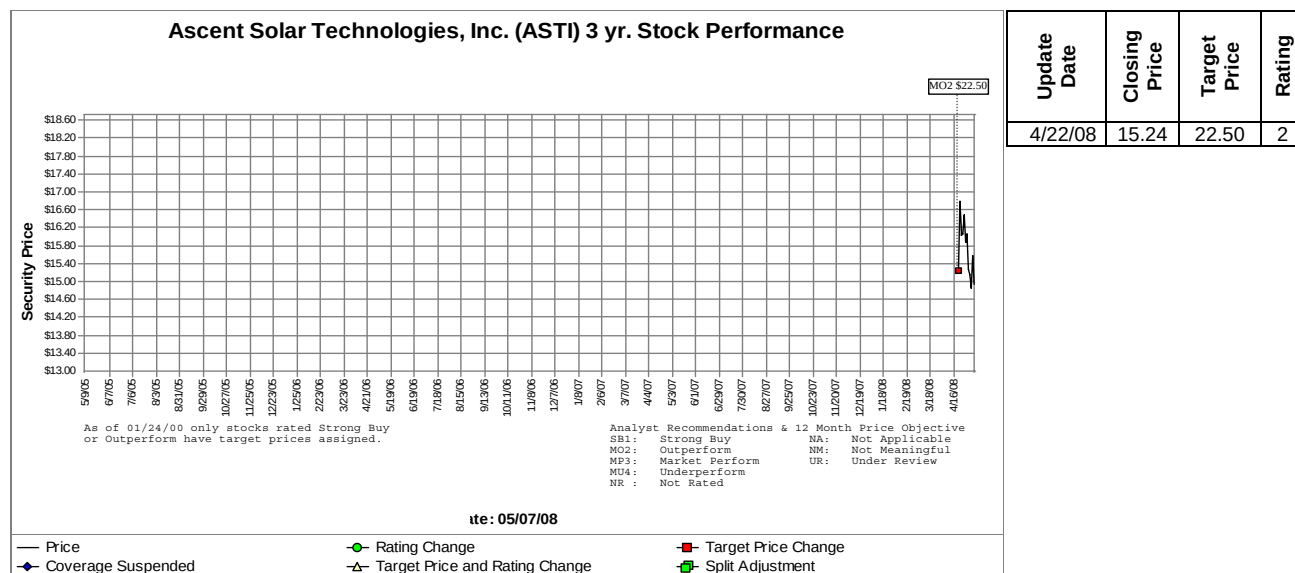
- Total Return (TR)** Lower risk equities possessing dividend yields above that of the S&P 500 and greater stability of principal.
- Growth (G)** Low to average risk equities with sound financials, more consistent earnings growth, possibly a small dividend, and the potential for long-term price appreciation.
- Aggressive Growth (AG)** Medium or higher risk equities of companies in fast growing and competitive industries, with less predictable earnings and acceptable, but possibly more leveraged balance sheets.
- High Risk (HR)** Companies with less predictable earnings (or losses), rapidly changing market dynamics, financial and competitive issues, higher price volatility (beta), and risk of principal.
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Company Name	Disclosure
Ascent Solar Technologies, Inc.	Raymond James & Associates makes a NASDAQ market in shares of ASTI.

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General Risk Factors: Following are some general risk factors that pertain to the projected 12-month target prices included on our research for stocks rated Strong Buy or Outperform: (1) Industry fundamentals with respect to customer demand or product / service pricing could change and adversely impact expected revenues and earnings; (2) Issues relating to major competitors or market shares or new product expectations could change investor attitudes toward the sector or this stock; (3) Unforeseen developments with respect to the management, financial condition or accounting policies or practices could alter the prospective valuation; or (4) External factors that affect the U.S. economy, interest rates, the U.S. dollar or major segments of the economy could alter investor confidence and investment prospects.

Specific Investment Risks Related to the Industry or Issuer

Conventional Energy Price Risk

Alternative energy competes with conventional energy sources, the most important of which are crude oil, natural gas, and coal. Declines in the price of conventional energy can make alternative energy less competitive, and in some cases make it economically unviable. Consumers are less likely to view alternative energy as a practical option if conventional energy is relatively more attractive from an economic standpoint.

Commerciality and Technology Risk

Not all types of alternative energy are currently commercial, and some may never reach full commercial viability. There is no guarantee that future technological developments will be favorable to alternative energy, and in fact, some developments could render some types of alternative energy obsolete or unattractive.

Public Policy Risk

Many types of alternative energy currently benefit from favorable government policies, including tax incentives for producers and/or consumers, direct and indirect subsidies, and mandatory use requirements. These policies are subject to change and may become less favorable in the future.

Regulatory Risk

Like all subsectors of energy, alternative energy is subject to many government regulations at various levels, including environmental and land use regulations. These rules can reduce the profitability of alternative energy and could potentially result in delay or loss of commerciality.

Risk Factors for Ascent Solar Technologies, Inc.

Lack of Near-Term Profitability

We do not believe that Ascent will achieve profitability until 2010-11. Similarly, the company's currently negative cash flow from operations represents another financial challenge and may necessitate outside financing in the future.

Competitive Market Environment

The photovoltaic (PV) market is highly competitive. Production capacity is increasing among both established producers and new entrants. Once polysilicon supply ramps up sufficiently, there will be the possibility of PV oversupply in the market, and average selling prices (ASPs) of PV products may decline quickly.

Product Quality and Performance Risk

Solar cells are complex and must meet stringent quality requirements. Products as complex as these may contain undetected errors or defects. For example, solar cells and solar panels may contain defects that are not noticed until after they are shipped or installed. Such defects could lead to re-engineering expenses and costs due to warranty provisions. They could also adversely affect customer relations and business reputation.

Government Policy Risk

Many national and local policy measures benefit the solar power industry, including tax incentives and contract opportunities. Any of these measures can be amended, suspended, or repealed, and such action could reduce demand for solar power equipment. This would negatively impact the revenue of companies in the industry.

Significant Ownership by Norsk Hydro

Norsk Hydro (NHYDY/\$16.70) owns approximately 30% of Ascent's common stock. As a result, Norsk Hydro has the ability to exert a high degree of influence on all matters requiring stockholder approval. In particular, Norsk Hydro is able to influence decisions on such issues as Ascent's board composition, capital markets activity, and acquisitions or divestitures.

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