

Ascent Solar Technologies, Inc.
Form DEFA14A
May 15, 2008

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A
(RULE 14a-101)
SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

ASCENT SOLAR TECHNOLOGIES, INC.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies:

 - (2) Aggregate number of securities to which transaction applies:

 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

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(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

o Fee paid previously with preliminary materials.

o Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

ASCENT SOLAR TECHNOLOGIES, INC.
**** IMPORTANT NOTICE ****
Regarding the Availability of Proxy Material

You are receiving this communication because you hold shares in the above company, and the material you should review before you cast your vote is now available.

This communication presents only an overview of the more complete proxy material that is available to you on the Internet. We encourage you to access and review all of the important information contained in the proxy material before voting.

**BROKER
LOGO
HERE**

Return Address Line 1
Return Address Line 2
Return Address Line 3
51 MERCEDES WAY
EDGEWOOD NY 11717

Investor Address Line 1
Investor Address Line 2
Investor Address Line 3
Investor Address Line 4
Investor Address Line 5
John Sample
1234 ANYWHERE STREET
ANY CITY, ON A1A 1A1

1 OF 2
12
15

Shareholder Meeting to be held on July 1, 2008

Proxy Material Available

1 Notice & Proxy Statement
2 Form 10-K

PROXY MATERIAL VIEW OR RECEIVE

You can choose to view the material online or receive a paper or e-mail copy. There is NO charge for requesting a copy. Requests, instructions and other inquiries will NOT be forwarded to your investment advisor.

To facilitate timely delivery please make the request as instructed below on or before June 18, 2008

HOW TO VIEW MATERIAL VIA THE INTERNET

Have the 12 Digit Control Number(s) available and visit: www.proxyvote.com

HOW TO REQUEST A COPY OF MATERIAL

- 1) BY INTERNET - www.proxyvote.com
- 2) BY TELEPHONE-1 - 800-579-1639
- 3) BY E-MAIL* - sendmaterial@proxyvote.com

*If requesting material by e-mail, please send a blank e-mail with the 12 Digit Control Number (located on the following page) in the subject line.

Broadridge Internal Use Only

Job #
Envelope #
Sequence #
of # Sequence

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See the Reverse Side for Meeting Information and Instructions on How to Vote

Meeting Information

Meeting Type: Annual Meeting
Meeting Date: July 01, 2008
Meeting Time: 9:00 AM MDT
For holders as of: May 02, 2008

Meeting Location:

Denver Marriott West
1717 West Blvd.
Golden, Colorado 80401

How To Vote

Vote In Person

Should you choose to vote these shares in person at the meeting you must request a "legal proxy". To request a legal proxy please follow the instructions at www.proxyvote.com or request a paper copy of the material. Many shareholder meetings have attendance requirements including, but not limited to, the possession of an attendance ticket issued by the entity holding the meeting. Please check the meeting material for any special requirements for meeting attendance.

Vote By Internet

To vote *now* by Internet, go to

WWW.PROXYVOTE.COM.

Please refer to the proposals and follow the instructions.

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of # Sequence

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Voting items

The Board of Directors recommends that you vote "For" the following.

1. Election of Directors

Nominees

01 Dr. Amit Kumar (2009) 02 Joel Porter (2009) 03 Einar Glomnes (2011) 04 Dr. Mohan Misra (2011)

The Board of Directors recommends you vote FOR the following proposal(s).

2. To approve the 2008 Restricted Stock Plan
3. To approve the Second Amended and Restated 2005 Stock Option Plan

NOTE: Such other business as may properly come before the meeting or any adjournment thereof.

CONTROL # 0000 0000 0000

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Voting Instructions

THIS SPACE RESERVED FOR LANGUAGE PERTAINING TO
BANKS AND BROKERS
AS REQUIRED BY THE NEW YORK STOCK EXCHANGE

THIS SPACE RESERVED FOR SIGNATURES IF APPLICABLE

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FOLD AND DETACH HERE

ASCENT SOLAR TECHNOLOGIES, INC. ANNUAL MEETING TO BE HELD ON
07/01/08 AT 09:00 A.M. MDT
FOR HOLDERS AS OF 05/02/08 *ISSUER CONFIRMATION COPY INFO
ONLY *

ASCENT SOLAR TECHNOLOGIES, INC.
07/01/08 AT 09:00 A.M. MDT

2 1-0001 THIS FORM IS PROVIDED FOR INFORMATIONAL
PURPOSES ONLY. PLEASE DO NOT USE IT FOR
VOTING PURPOSES.

2-I -S

043635101

DIRECTORS
1 (MARK "X" FOR ONLY ONE BOX)

DIRECTORS

DIRECTORS RECOMMEND: A VOTE FOR ELECTION OF THE FOLLOWING
NOMINEES 0010100
1 - 01-DR. AMIT KUMAR*, 02-JOEL PORTER*, 03-EINAR GLOMNES**, 04-DR.
MOHAN MISRA**

FOR ALL NOMINEES

WITHHOLD ALL NOMINEES

WITHHOLD AUTHORITY TO VOTE FOR
ANY INDIVIDUAL NOMINEE. WRITE
NUMBER(S) OF NOMINEE(S) BELOW.

USE NUMBER ONLY _____

**PROPOSAL(DIRECTORS
RECOMMEND**

| | | | FOR | AGAINST | ABSTAIN |
|---|----------------|---|------------|----------------|----------------|
| 2 *- TO APPROVE THE 2008 RESTRICTED STOCK PLAN--> | FOR--> 0029101 | 2 | o | o | o |

PLEASE INDICATE YOUR PROPOSAL
SELECTION BY
FIRMLY PLACING AN "X" IN THE
APPROPRIATE
NUMBERED BOX WITH BLUE OR
BLACK INK ý

SEE VOTING INSTRUCTION NO. 2 ON
REVERSE

A/C:

| | | | FOR | AGAINST | ABSTAIN |
|---|----------------|---|------------|----------------|----------------|
| 3 *- TO APPROVE THE SECOND AMENDED AND RESTATED 2005 STOCK OPTION PLAN--> | FOR--> 0029102 | 3 | o | o | o |

043635101
-->

PLACE "X" HERE IF YOU PLAN TO
ATTEND
AND VOTE YOUR SHARES AT THE
MEETING

NOTE SUCH OTHER
BUSINESS AS MAY
PROPERLY COME
BEFORE THE
MEETING OR ANY
ADJOURNMENT
THEREOF

* TERM EXPIRING IN
2009
** TERM EXPIRING IN
2011

51 MERCEDES WAY
EDGEWOOD NY 11717

MATERIALS ELECTION

**ASCENT SOLAR TECHNOLOGIES, INC.
ATTN: YVONNE REOPELLE
8120 SHAFFER PKWY
LITTLETON, CO 80127**

As of July 1, 2007, SEC rules permit companies to send you a Notice indicating that their proxy materials are available on the Internet and how you can request a mailed copy. Check the box to the right if you want to receive future proxy materials by mail at no cost to you. Even if you do not check the box, you will still have the right to request a free set of proxy materials upon receipt of a Notice.

<--
FOLD AND DETACH HERE

_____/_____/_____

Proxy Services
P.O. Box 9138
Farmingdale NY 11735-9585

WRONG WAY

P.O. Box 9138

Fold and Detach Here

Please ensure you fold then detach and retain this portion of the Voting
Instruction Form

Fold and Detach Here

VOTING INSTRUCTIONS

TO OUR CLIENTS:

WE HAVE BEEN REQUESTED TO FORWARD TO YOU THE ENCLOSED PROXY MATERIAL RELATIVE TO SECURITIES HELD BY US IN YOUR ACCOUNT BUT NOT REGISTERED IN YOUR NAME. ONLY WE AS THE HOLDER OF RECORD CAN VOTE SUCH SECURITIES. WE SHALL BE PLEASED TO VOTE YOUR SECURITIES IN ACCORDANCE WITH YOUR WISHES, IF YOU WILL EXECUTE THE FORM AND RETURN IT TO US PROMPTLY IN THE ENCLOSED BUSINESS REPLY ENVELOPE. IT IS UNDERSTOOD THAT IF YOU SIGN WITHOUT OTHERWISE MARKING THE FORM YOUR SECURITIES WILL BE VOTED AS RECOMMENDED BY THE BOARD OF DIRECTORS ON ALL MATTERS TO BE CONSIDERED AT THE MEETING.

FOR THIS MEETING, THE EXTENT OF OUR AUTHORITY TO VOTE YOUR SECURITIES IN THE ABSENCE OF YOUR INSTRUCTIONS CAN BE DETERMINED BY REFERRING TO THE APPLICABLE VOTING INSTRUCTION NUMBER INDICATED ON THE FACE OF YOUR FORM.

FOR MARGIN ACCOUNTS, IN THE EVENT YOUR SECURITIES HAVE BEEN LOANED OVER RECORD DATE, THE NUMBER OF SHARES WE VOTE ON YOUR BEHALF HAS BEEN OR CAN BE ADJUSTED DOWNWARD.

INSTRUCTION 1

IF YOUR SECURITIES ARE HELD BY A BROKER WHO IS A MEMBER OF THE NEW YORK STOCK EXCHANGE (NYSE), THE RULES OF THE NYSE WILL GUIDE THE VOTING PROCEDURES. THESE RULES PROVIDE THAT IF INSTRUCTIONS ARE NOT RECEIVED FROM YOU PRIOR TO THE ISSUANCE OF THE FIRST VOTE, THE PROXY MAY BE GIVEN AT DISCRETION OF YOUR BROKER (ON THE TENTH DAY, IF THE MATERIAL WAS MAILED AT LEAST 15 DAYS PRIOR TO THE MEETING DATE; ON THE FIFTEENTH DAY IF THE PROXY MATERIAL WAS MAILED 25 DAYS OR MORE PRIOR TO THE MEETING DATE). IN ORDER FOR YOUR BROKER TO EXERCISE THIS DISCRETIONARY AUTHORITY, PROXY MATERIAL WOULD NEED TO HAVE BEEN MAILED AT LEAST 15 DAYS PRIOR TO THE MEETING DATE, AND THE MATTER(S) BEFORE THE MEETING MUST BE DEEMED "ROUTINE" IN NATURE ACCORDING TO NYSE GUIDELINES. IF THESE TWO REQUIREMENTS ARE MET, AND YOU HAVE NOT COMMUNICATED TO US PRIOR TO THE FIRST VOTE BEING ISSUED, WE MAY VOTE YOUR SECURITIES AT OUR DISCRETION ON THESE MATTER(S). WE WILL NEVERTHELESS FOLLOW YOUR INSTRUCTIONS, EVEN IF OUR DISCRETIONARY VOTE HAS ALREADY BEEN GIVEN, PROVIDED YOUR INSTRUCTIONS ARE RECEIVED PRIOR TO THE MEETING DATE.

IF YOUR SECURITIES ARE HELD BY A BANK, YOUR SHARES CANNOT BE VOTED WITHOUT YOUR SPECIFIC INSTRUCTIONS.

INSTRUCTION 2

IF YOUR SECURITIES ARE HELD BY A BROKER WHO IS A MEMBER OF THE NEW YORK STOCK EXCHANGE (NYSE), THE RULES OF THE NYSE WILL GUIDE THE VOTING PROCEDURES. WE WISH TO CALL YOUR ATTENTION TO THE FACT THAT FOR THIS MEETING UNDER THE RULES OF THE NYSE, WE CANNOT VOTE YOUR SECURITIES ON ONE OR MORE OF THE MATTERS TO BE ACTED UPON AT THE MEETING WITHOUT YOUR SPECIFIC INSTRUCTIONS. THESE RULES PROVIDE THAT IF INSTRUCTIONS ARE NOT RECEIVED FROM YOU PRIOR TO THE ISSUANCE OF THE FIRST VOTE, THE PROXY FOR ONE OR MORE OF THE MATTERS MAY BE GIVEN AT THE DISCRETION OF YOUR BROKER (ON THE TENTH DAY, IF THE MATERIAL WAS MAILED AT LEAST 15 DAYS PRIOR TO THE MEETING, ON THE FIFTEENTH DAY IF THE PROXY MATERIAL WAS MAILED 25 DAYS OR MORE PRIOR TO THE MEETING DATE). IN ORDER FOR YOUR BROKER TO EXERCISE THIS DISCRETIONARY AUTHORITY FOR ONE OR MORE OF THE MATTERS, PROXY MATERIAL WOULD NEED TO HAVE BEEN MAILED AT LEAST 15 DAYS PRIOR TO THE MEETING DATE, AND THE MATTER(S) BEFORE THE MEETING MUST BE DEEMED "ROUTINE" IN NATURE ACCORDING TO NYSE GUIDELINES. IF THESE TWO REQUIREMENTS ARE MET, AND YOU

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HAVE NOT COMMUNICATED TO US PRIOR TO THE FIRST VOTE BEING ISSUED, WE MAY VOTE YOUR SECURITIES AT OUR DISCRETION ON ONE OR MORE OF THE MATTERS TO BE ACTED UPON AT THE MEETING. WE WILL NEVERTHELESS FOLLOW YOUR INSTRUCTIONS. EVEN IF OUR DISCRETIONARY VOTE HAS ALREADY BEEN GIVEN ON THOSE MATTERS, PROVIDED YOUR INSTRUCTIONS ARE RECEIVED PRIOR TO THE MEETING DATE.

IF YOUR SECURITIES ARE HELD IN THE NAME OF A BANK, WE REQUIRE YOUR INSTRUCTIONS ON ALL MATTERS TO BE VOTED ON AT THE MEETING.

INSTRUCTION 3

IN ORDER FOR YOUR SECURITIES TO BE REPRESENTED AT THE MEETING, IT WILL BE NECESSARY FOR US TO HAVE YOUR SPECIFIC VOTING INSTRUCTIONS. PLEASE DATE, SIGN AND RETURN YOUR VOTING INSTRUCTIONS TO US PROMPTLY IN THE RETURN ENVELOPE PROVIDED.

INSTRUCTION 4

WE HAVE PREVIOUSLY SENT YOU PROXY SOLICITING MATERIAL PERTAINING TO THE MEETING OF SHAREHOLDERS OF THE COMPANY INDICATED.

ACCORDING TO OUR LATEST RECORDS, WE HAVE NOT AS OF YET RECEIVED YOUR VOTING INSTRUCTION ON THE MATTER(S) TO BE CONSIDERED AT THIS MEETING AND THE COMPANY HAS REQUESTED US TO COMMUNICATE WITH YOU IN AN ENDEAVOR TO HAVE YOUR SECURITIES VOTED.

QuickLinks

VOTING INSTRUCTIONS