

ACORN ENERGY, INC.  
Form S-8  
September 16, 2010

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

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FORM S-8  
REGISTRATION STATEMENT  
Under  
THE SECURITIES ACT OF 1933

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ACORN ENERGY, INC.  
(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction  
of incorporation or organization)

22-2786081  
(IRS Employer Identification  
Number)

4 West Rockland Road  
Montchanin, Delaware 19710  
(Address of Principal Executive Offices, Zip Code)

AMENDED AND RESTATED 2006 STOCK INCENTIVE PLAN  
(Full Title of Plan)

John A. Moore  
President and Chief Executive Officer  
Acorn Energy, Inc.  
4 West Rockland Road  
Montchanin, Delaware 19710  
(302) 656-1707  
(Name, address and telephone number of agent for service)

With a copy to:  
Sheldon Krause, Esq.  
Eilenberg & Krause LLP  
11 East 44th Street  
New York, New York 10017  
(212) 986-9700

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 the 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

CALCULATION OF REGISTRATION FEE

| Title of Securities to be registered     | Amount to be registered (1) | Proposed maximum offering price per share | Proposed maximum aggregate offering price | Amount of registration fee |
|--|-----------------------------|---|---|----------------------------|
| Common Stock, par value \$0.01 per share | 1,000,000(2)                | \$ 4.505(3)                               | \$ 4,505,000                              | \$ 322                     |
| Total                                    | 1,000,000                   |   | \$ 4,505,000                              | \$ 322                     |

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- (1) This Registration Statement shall also cover any additional shares of Common Stock which become issuable under the Registrant's Amended and Restated 2006 Stock Incentive Plan or Amended and Restated 2006 Stock Option Plan For Non-Employee Directors by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the Registrant's receipt of consideration which results in an increase in the number of outstanding shares of the Registrant's Common Stock.
- (2) Shares of Common Stock that may be issued pursuant to the exercise of options or other equity-based awards that may hereafter be granted under the Registrant's Amended and Restated 2006 Stock Incentive Plan.
- (3) Based on the average of the high and low price of the Registrant's Common Stock on September 14, 2010 as reported on the Nasdaq Stock Market, used solely for the purpose of calculating the registration fee pursuant to Rules 457(h) and (c) under the Securities Act of 1933.

As permitted by Rule 429 of the Securities Act of 1933, the prospectus contained in this registration statement shall serve as a combined prospectus that also relates to the registrant's registration statements on Form S-8 Nos. 33-88422, 333-82416, 333-82418, 33-99196, 333-158287 and 333-140539.

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EXPLANATORY NOTE

This Registration Statement registers shares of our common stock that may be issued pursuant to the exercise of options or other equity-based awards granted under our company's Amended and Restated 2006 Stock Incentive Plan.

As permitted by General Instruction E to Form S-8, this Registration Statement incorporates by reference the contents of our company's previously filed Registration Statements on Form S-8, Registration Nos. 333-140539 and 333-15828, which registered 400,000 shares and 265,000 shares, respectively, of our common stock that may be issued pursuant the exercise of options or other equity-based awards granted under the Amended and Restated 2006 Stock Incentive Plan.

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This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PROSPECTUS

1,310,166 SHARES OF COMMON STOCK

ACORN ENERGY, INC.

This prospectus relates to the offer and sale from time to time of up to 1,310,166 shares of our common stock by the selling security holders named in this prospectus. These shares include shares issuable upon the exercise of non-plan options, options under the 1991 Stock Option Plan, options under the 1994 Stock Incentive Plan, options under the 1994 Stock Option Plan for Outside Directors, options under the 1995 Stock Option Plan for Nonmanagement Employees, options under the Amended and Restated 2006 Stock Option Plan for Non-Employee Directors and options or pursuant to other stock-based awards under the Amended and Restated 2006 Stock Incentive Plan, all previously granted to the selling security holders.

Our common stock trades on the Nasdaq Global Market under the symbol "ACFN." On September 14, 2010, the closing sale price of the common stock was \$4.50 per share.

Investing in our securities involves certain risks. You should consider the "Risk Factors" beginning on page 5 in deciding whether to buy any shares of our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is September 16, 2010

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The terms “ACFN,” the “Company,” “we,” “our” and “us” refer to Acorn Energy, Inc. and its subsidiaries unless the context suggests otherwise. The term “you” refers to a prospective purchaser of our common stock.

### SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

Certain statements contained in, or incorporated by reference in, this prospectus are forward-looking in nature. These statements can be identified by the use of forward-looking terminology such as “believes,” “expects,” “may,” “will,” “should,” “anticipates,” or the negatives thereof or comparable terminology, or by discussions of strategy. You are cautioned that our business and operations are subject to a variety of risks and uncertainties and, consequently, our actual results may materially differ from those projected by any forward-looking statements. Certain of these risks and uncertainties are discussed below under the heading “Risk Factors.” We make no commitment to revise or update any forward-looking statements in order to reflect events or circumstances after the date any such statement is made.

### RISK FACTORS

The information contained in Part I, Item 1A. Risk Factors, of our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 is incorporated herein by reference.

### USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares by the selling security holders. We will receive proceeds upon exercise of the options by the selling security holders. All proceeds received by us through option exercises will be used for working capital.

## SELLING SECURITY HOLDERS

The selling security holders may sell up to 1,310,166 shares of our common stock pursuant to this prospectus. These shares include shares issuable upon the exercise of non-plan options, options under the 1991 Stock Option Plan, options under the 1994 Stock Incentive Plan, options under the 1994 Stock Option Plan for Outside Directors, options under the 1995 Stock Option Plan for Nonmanagement Employees, options under the Amended and Restated 2006 Stock Option Plan for Non-Employee Directors and options or pursuant to other stock-based awards under the Amended and Restated 2006 Stock Incentive Plan, all previously granted to the selling security holders listed below. As permitted by Form S-8, as further selling security holders become known to the Company they will be added by prospectus supplement(s) pursuant to Rule 424(b) under the Securities Act of 1933.

The table below (1) identifies each selling security holder, (2) shows the number of shares beneficially owned by selling security holder prior to the offering, (3) shows the number of shares that the selling security holder may sell in this offering pursuant to this prospectus, and (4) shows the number and percentage of shares that the selling security holder will beneficially own upon completion of the offering.

| Selling Security Holder | No. of Shares<br>Beneficially<br>Owned Before<br>Offering (1) |      | No. of<br>Shares Being<br>Offered (1) | No. of Shares<br>Beneficially<br>Owned Upon<br>Completion<br>of Offering (1) | Percentage of<br>Shares<br>Beneficially<br>Owned After<br>Completion<br>of Offering(2) |
|-------------------------|---|------|---------------------------------------|--|--|
| John A. Moore           | 1,367,411   | (3)  | 685,000                               | 682,411  | 4.4%   |
| Michael Barth           | 135,434   | (4)  | 121,000                               | 14,434   | *  |
| Joe. B. Cogdell, Jr.    | 129,000   | (5)  | 120,000                               | 9,000  | *  |
| George Morgenstern      | 348,861   | (6)  | 247,500                               | 101,361  | *  |
| Richard Giacco          | 85,000  | (7)  | 65,000                                | 20,000   | *  |
| Joseph Musanti          | 59,200  | (8)  | 55,000                                | 4,200  | *  |
| Richard Rimer           | 155,000   | (9)  | 115,000                               | 40,000   | *  |
| Samuel Zentman          | 121,621   | (10) | 87,500                                | 34,121   | *  |
| Steven Ledger           | 75,000  | (11) | 25,000                                | 50,000   | *  |
| Benny Sela              | 20,000  | (12) | 20,000                                | 0  | —  |

\* Less than 1%

- (1) Beneficial ownership is determined in accordance with Rule 13d-3 under the Securities Exchange Act of 1934, except that all shares underlying issued options are shown as beneficially owned whether or not such options or warrants are vested or vest within sixty (60) days of the date of this prospectus. The number of shares being offered includes shares underlying options that have not yet vested as of the date of this prospectus.
- (2) Based upon 15,642,844 shares outstanding on August 24, 2010.
- (3) Mr. Moore is President and Chief Executive Officer, and a member of the board of directors of the Company. The number of shares shown as beneficially owned before offering include 667,411 shares in addition to the 685,000 shares being offered hereby which are issuable upon the exercise of options (which includes 87,500 shares underlying options that have not yet vested). The shares being offered by Mr. Moore consist of (i) shares issuable upon the exercise of an option to purchase 410,000 shares exercisable through March 31, 2011, (ii) shares issuable upon the exercise of an

option to purchase 200,000 shares exercisable through March 4, 2018 (of which options to purchase 87,500 shares have not yet vested) and (iii) shares issuable upon the exercise of an option to purchase 75,000 shares exercisable through February 20, 2014.

- (4) Mr. Barth is the Chief Financial Officer of both the Company and its majority-owned subsidiary DSIT Solutions Ltd. The number of shares shown as beneficially owned before offering include 12,789 shares and 1,645 shares issuable upon the exercise of warrants in addition to the 121,000 shares being offered hereby which are issuable upon the exercise of options (which includes 10,000 shares underlying options that have not yet vested). The shares being offered by Mr. Barth consist of (i) shares issuable upon the exercise of an option to purchase 56,000 shares exercisable through July 31, 2011, (ii) shares issuable upon the exercise of an option to purchase 30,000 shares exercisable through September 19, 2014 (of which options to purchase 10,000 shares have not yet vested) and (iii) shares issuable upon the exercise of an option to purchase 35,000 shares exercisable through February 20, 2014.
- (5) Mr. Cogdell is Vice President, General Counsel and Secretary of the Company. The number of shares shown as beneficially owned before offering include 9,000 shares and 120,000 shares issuable upon the exercise of options (which includes 75,000 shares underlying options that have not yet vested). The shares being offered by Mr. Cogdell consist of shares issuable upon the exercise of an option to purchase 120,000 shares exercisable through January 5, 2019 (of which options to purchase 75,000 shares have not yet vested).
- (6) Mr. Morgenstern is the Chairman of the board of directors of the Company. The number of shares shown as beneficially owned before offering include 51,922 shares owned by Mr. Morgenstern and 49,439 shares owned by Mr. Morgenstern's wife in addition to the 247,500 shares being offered hereby which are issuable upon the exercise of options (which includes 10,000 shares underlying options that have not yet vested). The shares being offered by Mr. Morgenstern consist of (i) shares issuable upon the exercise of an option to purchase 200,000 shares exercisable through September 30, 2012, (ii) shares issuable upon the exercise of an option to purchase 7,500 shares exercisable through October 3, 2013, (iii) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through December 5, 2014, (iv) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through November 3, 2015, (v) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through August 4, 2016 and (vi) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through June 10, 2017 (of which options to purchase 10,000 shares have not yet vested).
- (7) Mr. Giacco is a member of the board of directors of the Company. The number of shares shown as beneficially owned before offering include 20,000 shares in addition to the 65,000 shares being offered hereby which are issuable upon the exercise of options (which includes 10,000 shares underlying options that have not yet vested). The shares being offered by Mr. Giacco consist of (i) shares issuable upon the exercise of an option to purchase 25,000 shares exercisable through October 3, 2013, (ii) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through December 5, 2014 and (iii) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through November 3, 2015, (iv) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through August 4, 2016 and (v) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through June 10, 2017 (of which 10,000 shares have not yet vested).
- (8) Mr. Musanti is a member of the board of directors of the Company. The number of shares shown as beneficially owned before offering include 4,200 shares and 55,000 shares being offered hereby which are issuable upon the exercise of options (which includes 18,334 shares underlying options that have not yet vested). The shares being offered by Mr. Musanti consist of (i) shares issuable upon the exercise of an option to purchase 25,000 shares exercisable through

October 4, 2014 (of which 8,334 shares have not yet vested) , (ii) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through November 3, 2015, (iii) shares issuable upon the exercise of an option to purchase 10 ,000 shares exercisable through August 4, 2016 and (iv) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through June 10, 2017 (of which 10,000 shares have not yet vested).

- (9) Mr. Rimer is a member of the board of directors of the Company. The number of shares shown as beneficially owned before offering include 40,000 shares in addition to the 115,000 shares being offered hereby which are issuable upon the exercise of options (which includes 10,000 shares underlying options that have not yet vested). The shares being offered by Mr. Rimer consist of (i) shares issuable upon the exercise of an option to purchase 25,000 shares exercisable through October 3, 2013, (ii) shares issuable upon the exercise of an option to purchase 50,000 shares exercisable through November 30, 2013, (iii) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through December 5, 2014 and (iv) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through November 3, 2015, (v) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through August 4, 2016 and (vi) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through June 10, 2017 (of which 10,000 shares have not yet vested).
- (10) Dr. Zentman is a member of the board of directors of the Company. The number of shares shown as beneficially owned before offering include 34,121 shares and 87,500 shares being offered hereby which are issuable upon the exercise of options (which includes 10,000 shares underlying options that have not yet vested). The shares being offered by Dr. Zentman consist of (i) shares issuable upon the exercise of an option to purchase 7,500 shares exercisable through October 3, 2013, (ii) shares issuable upon the exercise of an option to purchase 25,000 shares exercisable through March 30, 2011, (iii) shares issuable upon the exercise of an option to purchase 25,000 shares exercisable through November 30, 2013, (iv) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through December 5, 2014, (v) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through August 4, 2016 and (vi) shares issuable upon the exercise of an option to purchase 10,000 shares exercisable through June 10, 2017 (of which 10,000 shares have not yet vested).
- (11) Mr. Ledger is a member of the board of directors of the Company. The number of shares shown as beneficially owned before offering include 50,000 shares and 25,000 shares being offered hereby which are issuable upon the exercise of options (which includes 25,000 shares underlying options that have not yet vested). The shares being offered by Mr. Ledger consist of shares issuable upon the exercise of an option to purchase 25,000 shares exercisable through June 10, 2017 (of which 25,000 shares have not yet vested).
- (12) Mr. Sela is CEO of the Company's majority-owned subsidiary, DSIT Solutions Ltd. The number of shares shown as beneficially owned before offering include are the 20,000 shares being offered hereby which are issuable upon the exercise of options. The shares being offered by Mr. Sela consist of shares issuable upon the exercise of an option to purchase 20,000 shares exercisable through February 12, 2011.

## PLAN OF DISTRIBUTION

On and after the date of this prospectus, the selling security holders may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which shares of our common stock are traded or in private transactions. These sales may be at fixed or negotiated prices. The selling security holders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits a purchaser;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- broker-dealers may agree with the selling security holders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling security holders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling security holders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling security holders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The selling security holders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved.

The selling security holders and any broker-dealers or agents that are involved in selling the shares of our common stock may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares of our common stock purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. The selling security holders have informed us that it does not have any agreement or understanding, directly or indirectly, with any person to distribute our common stock.

The selling security holders may from time to time pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of the their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time under this prospectus, or under an amendment to this prospectus under Rule 424(b) or other applicable provision in or under the Securities Act of 1933 amending the list of selling security holders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus.

The selling security holders and any other person participating in the sale of common stock will be subject to the Securities Exchange Act of 1934. The Securities Exchange Act of 1934 rules include, without limitation, Regulation M, which may limit the timing of purchases and sales of any of the common stock by the selling security holders and any other such person. In addition, Regulation M may restrict the ability of any person engaged in the distribution of the common stock and the ability of any person or entity to engage in the market-making activities with respect to the common stock.

We have agreed to pay substantially all expense incidental to the registration, offering and sale of the common stock offered pursuant to this prospectus to the public, other than commissions, fees and discounts of underwriters, brokers, dealers and agents.

## LEGAL MATTERS

The validity of the shares of Common Stock which may be offered pursuant to this prospectus has been passed upon by Eilenberg & Krause LLP, counsel to the Company.

## EXPERTS

The financial statements incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2009 of Acorn Energy, Inc. have been so incorporated in reliance on the report of Kesselman & Kesselman, a member of PricewaterhouseCoopers International Limited, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The financial statements of Decision Dynamics Technology Ltd. incorporated in this prospectus by reference to Amendment No. 1 on Form 8-K/A filed on July 15, 2010 to our Current Report on Form 8-K ("Amendment No. 1") have been so incorporated in reliance on the report of KPMG LLP, independent registered public accounting firm, included in Amendment No. 1, and upon the authority of said firm as experts in accounting and auditing.

## INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we have filed with the SEC. This means that we can disclose important information by referring you to those documents. All documents that we subsequently file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the termination of this offering, will be deemed to be incorporated by reference into this prospectus and to be a part hereof from the date of filing of such documents. Unless expressly incorporated into this prospectus, a Current Report (or portion thereof) furnished, but not filed, on Form 8-K shall not be incorporated by reference into this prospectus. Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We incorporate by reference the following documents that we have filed with the SEC and any filings that we will make with the SEC in the future under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until this offering is terminated:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2009 filed on March 22, 2010;
- Current Report on Form 8-K filed on February 24, 2010 (except as to Item 7.01 thereof which is not incorporated by reference herein)
- Current Report on Form 8-K filed on March 4, 2010 (except as to Item 7.01 thereof which is not incorporated by reference herein);
  - Current Report on Form 8-K filed on March 9, 2010;
  - Current Report on Form 8-K filed on April 9, 2010;
- Current Report on Form 8-K filed on May 4, 2010 (except as to Item 7.01 thereof which is not incorporated by reference herein) and amended on Form 8-K/A filed on May 5, 2010 and amended on Form 8-K/A filed on July 15, 2010;

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- Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2010 filed on May 13, 2010;
- Current Report on Form 8-K filed on May 13, 2010 (except as to Item 7.01 thereof which is not incorporated by reference herein) and amended on Form 8-K/A filed on June 17, 2010;
  - Current Report on Form 8-K filed on June 16, 2010;
  - Current Report on Form 8-K filed July 27, 2010;
- Current Report on Form 8-K filed July 30, 2010 and amended on Form 8-K/A filed on July 30, 2010;

- Current Report on Form 8-K filed August 12, 2010;
- Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2010 filed on August 12, 2010;
- The description of our Common Stock contained in our Form 8-A filed December 13, 2007; and
- All documents filed by us with the SEC pursuant to the Exchange Act after the date of the initial filing of the registration statement of which this prospectus is a part and prior to the effectiveness thereof.

Copies of these filings are available free of charge by writing to Acorn Energy, Inc., 4 West Rockland Road, Montchanin, Delaware 19710, Attention: Joe B. Cogdell, Jr., Secretary, or by telephoning us at (302) 656-1707. We will also provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in the prospectus but not delivered with the prospectus. See “Where You Can Find More Information.”

Any statement made in this prospectus concerning the contents of any contract, agreement or other document is only a summary of the actual document. You may obtain a copy of any document summarized in this prospectus at no cost by writing to or telephoning us at the address and telephone number given above. Each statement regarding a contract, agreement or other document is qualified in its entirety by reference to the actual document.

#### WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934. Accordingly, we file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document that we file with the SEC at the SEC’s public reference room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. Our SEC filings are also available to you free of charge at the SEC’s web site at <http://www.sec.gov>.

You can read and print press releases, financial statements, our most recent annual and quarterly reports and additional information about us, free of charge, at our web site at <http://www.acornenergy.com>.

This prospectus is a part of a registration statement on Form S-8 filed by us with the SEC under the Securities Act of 1933. This prospectus does not contain all of the information set forth in the registration statement, certain parts of which are omitted in accordance with the rules and regulations of the SEC. For further information with respect to us and the shares of our common stock offered hereby, please refer to the registration statement. The registration statement may be inspected at the public reference facilities maintained by the SEC at the addresses set forth above. Statements in this prospectus about any document filed as an exhibit are not necessarily complete and, in each instance, you should refer to the copy of such document filed with the SEC. Each such statement is qualified in its entirety by such reference.

Item 8. Exhibits.

Exhibit  
No.

- 4.1 Certificate of Incorporation of the Registrant, with amendments thereto (incorporated herein by reference to Exhibit 3.1 to the Registrant's Registration Statement on Form S 1 (File No. 33- 70482).
- 4.2 Certificate of Ownership and Merger dated September 15, 2006 effecting the name change to Acorn Factor, Inc. (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed September 21, 2006)
- 4.3 Certificate of Ownership and Merger dated December 21, 2007 effecting the name change to Acorn Energy, Inc. (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed January 3, 2008).
- 4.4 Certificate of Amendment to the Certificate of Incorporation, filed with the Secretary of State of the State of Delaware on June 15, 2010 (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed June 16, 2010).
- 4.5 By-laws of the Registrant (incorporated herein by reference to Exhibit 3.2 to the Registrant's Registration Statement on Form S-1; File No. 33-44027).
- 4.6 Amendment to the By-laws of the Registrant (incorporated herein by reference to Exhibit 3.3 to the Registrant's Current Report on Form 8-K dated January 10, 1995)
- 4.7 Amended and Restated 2006 Stock Option Plan For Non-Employee Directors (incorporated herein by reference to Appendix B to the Registrant's Definitive Proxy Statement on Schedule 14A filed on October 8, 2008)
- 4.8 Acorn Energy 2006 Stock Incentive Plan (as amended and restated effective June 10, 2010) (incorporated herein by reference to the Registrant's Definitive Proxy Statement on Schedule 14A filed on April 28, 2010)
- 5.1 Opinion of Eilenberg & Krause LLP.\*
- 23.1 Consent of Kesselman & Kesselman.\*
- 23.2 Consent of KPMG.\*
- 23.3 Consent of Eilenberg & Krause LLP (included in Exhibit 5.1).
- 24.1 Power of Attorney (included on the signature page to this registration statement).

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\*Filed herewith

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Montchanin, Delaware, on this 16th day of September, 2010.

ACORN ENERGY, INC.

By: /s/ John A. Moore  
John A. Moore  
Chairman of the Board,  
President and Chief Executive  
Officer

POWER OF ATTORNEY

Each person whose signature appears below hereby constitutes and appoints John A. Moore as his true and lawful attorney-in-fact and agent, with full power of substitution and revocation, to sign on his behalf, individually and in each capacity stated below, all amendments and post-effective amendments to this Registration Statement on Form S-8 and to file the same, with all exhibits thereto and any other documents in connection therewith, with the Securities and Exchange Commission under the Securities Act of 1933, granting unto each such attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming each act that said attorney-in-fact and agent may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities indicated on September 16, 2010.

| Signature                                    | Title   |
|--|---|
| /s/ John A. Moore<br>John A. Moore           | Chairman of the Board, President and Chief<br>Executive Officer (Principal Executive Officer) |
| /s/ Michael Barth<br>Michael Barth           | Chief Financial Officer (Principal Financial<br>Officer<br>and Principal Accounting Officer)  |
| /s/ George Morgenstern<br>George Morgenstern | Director  |
| /s/ Richard Rimer<br>Richard Rimer           | Director  |
| /s/ Richard J. Giacco<br>Richard J. Giacco   | Director  |
| /s/ Samuel Zentman<br>Samuel Zentman         | Director  |

Joseph Musanti

Director

Steven Ledger

Director

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