**Exhibit 10.20**

THIS WARRANT AND THE COMMON STOCK ISSUABLE UPON EXERCISE HEREOF HAVE NOT BEEN REGISTERED OR QUALIFIED FOR SALE UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY STATE SECURITIES LAWS AND MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR QUALIFICATION OR AN EXEMPTION THEREFROM UNDER SAID ACT AND ANY STATE SECURITIES LAWS WHICH MAY BE APPLICABLE. THE COMPANY MAY REQUIRE AN OPINION OF COUNSEL BEFORE IT EFFECTS ANY TRANSFER ON ITS BOOKS AND RECORDS OF THIS WARRANT OR THE COMMON STOCK ISSUABLE UPON EXERCISE HEREOF.

**WARRANT TO PURCHASE**

**SHARES OF COMMON STOCK**

**OF**

**AMERICAN DG ENERGY INC.**

Key Terms/Definitions:

|  |  |  |
| --- | --- | --- |
| “Company”: |  | American DG Energy Inc., a Delaware corporation |
| “Holder”: |  | Hayden IR |
| “Common Stock”: |  | Common Stock, $.001 par value per share of the Company |
| Number of shares of Common Stock issuable on exercise of Warrant  (subject to adjustment): |  | 12,000 shares |
| Price paid to purchase Warrant: |  | $0.00 |
| Exercise Price per share of Common Stock  (subject to adjustment): |  | $2.98 |
| Vesting Schedule: |  | 4,000 Shares vest (i.e., become exercisable) on October 1, 2009;  4,000 Shares vest on February 1, 2010;  4,000 Shares vest on June 1, 2010;  *provided that* at each such vesting date the Hayden IR agreement with the Company remains in effect and the Holder has complied fully with the terms thereof through the applicable vesting date. |
| Expiration Date: |  | May 30, 2013 |

THIS IS TO CERTIFY that, for value received and subject to the provisions hereinafter set forth, that the Holder, or permitted assigns, is entitled to purchase from the Company at any time on or after the date hereof and on or before the Expiration Date the number of shares of Common Stock set forth in the table above, subject to the terms, provisions and conditions hereinafter set forth, at the Exercise Price per share.

The Company shall give the Holder written notice of the pendency of the Expiration Date at least 10 days, but not more than 60 days, prior to the Expiration Date. If the Company fails to serve the Expiration Notice upon the Holder within the required time period, the Expiration Date shall be deemed to have been extended and this Warrant shall continue to be exercisable by the Holder until 10 days after the Company delivers a delinquent Expiration Notice to the Holder referencing the new, extended Expiration Date.

Tender of the price paid to purchase this Warrant shall be made by delivery of a personal or bank check payable to the Company or by wire transfer to the Company’s designated bank account, together with one executed copy of this Warrant.

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SECTION 1.       EXERCISE OF WARRANT

This Warrant may be exercised in whole or in part at any time by the surrender of this Warrant (with the subscription form at the end hereof duly completed and executed) at the principal office of the Company.

For an exercise for cash, the subscription form shall be accompanied by payment to the Company of the aggregate Exercise Price for the shares being purchased. Any such payment shall be by check payable to the order of the Company.

For a “cashless exercise,” the Holder shall notify the Company in its subscription form of its election to utilize cashless exercise, in which event the Company shall issue to the Holder a number of shares of Common Stock determined as follows:

X = Y [(A-B)/A]

where:

X = the number of shares of Common Stock to be issued to the Holder.

Y = the number of shares of Common Stock with respect to which this Warrant is being exercised.

A = the closing price of the Common Stock on its principal trading market on the trading day immediately prior to the exercise date.

B = the Exercise Price then in effect.

Notwithstanding any other provision hereof, if an exercise of any portion of this Warrant is to be made in connection with a public offering or sale of the Company, the exercise of any portion of this Warrant may, at the election of the Holder, be conditioned upon the consummation of the public offering or sale of the Company, in which case such exercise shall not be deemed to be effective concurrently with the consummation of such transaction.

If this Warrant is exercised in respect of less than all of the shares of Common Stock at the time purchasable hereunder, the Holder shall be entitled to receive a new Warrant of like tenor to this Warrant covering the number of shares in respect of which this Warrant shall not have been exercised.

The Common Stock issuable upon the exercise of this Warrant shall be deemed to have been issued to the Holder at the time of such exercise, and the Holder shall be deemed for all purposes to have become the record holder of the Common Stock at such time.  Certificates for shares of the Common Stock purchased upon exercise or partial exercise of this Warrant shall be delivered by the Company to Holder within five business days after the date of exercise.

This Warrant and all rights and options hereunder shall expire on the Expiration Date (as the same may be modified as provided herein), and shall be wholly null and void to the extent this Warrant is not exercised before it expires.

SECTION 2.       RESERVATION

The Company will at all times prior to the Expiration Date reserve and keep available such number of authorized shares of its Common Stock solely for the purpose of issuance upon the exercise of the rights represented by this Warrant as herein provided for, as may at any time be issuable upon the exercise of this Warrant.

SECTION 3.          VESTING

The Holder may exercise this Warrant on or after the date of this Warrant grant for the number of vested shares of Common Stock set forth on the cover page hereof, but only in accordance with the Vesting Schedule also set forth on the cover page. The foregoing rights are cumulative and may be exercised only before the Expiration Date. If at any time the Hayden IR agreement with the Company terminates, no additional shares shall vest.

SECTION 4.          STOCK DIVIDENDS, ETC.

The per share Exercise Price and the number of shares deliverable hereunder shall be adjusted as hereinafter set forth:

Section 4.1. Stock Dividends, Subdivisions and Combinations.  In case after the date hereof the Company shall:

(a)           take a record of the holders of its Common Stock for the purpose of entitling them to receive a dividend payable in, or other distribution of, Common Stock, or

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(b)           subdivide its outstanding shares of Common Stock into a larger number of shares of Common Stock, or

(c)           combine its outstanding shares of Common Stock into a smaller number of shares of Common Stock,

then the per share Exercise Price shall be adjusted, for the purpose of preserving the economic value of this Warrant, to the price determined by multiplying the per share Exercise Price in effect immediately prior to such subdivision or combination or the taking of a record of holders in respect of such payment or distribution, as the case may be (each, a “Triggering Event”) by a fraction (i) the numerator of which shall be the total number of outstanding shares of Common Stock of the Company immediately prior to such Triggering Event, and (ii) the denominator of which shall be the total number of outstanding shares of Common Stock of the Company immediately after such Triggering Event.

Section 4.2.           Adjustment of Number of Shares Purchasable.  Upon each adjustment of the per share Exercise Price, the number of shares of Common Stock subsequently purchasable hereunder shall be an amount equal to the quotient derived by dividing the aggregate Exercise Price in effect immediately before such adjustment by the per share Exercise Price in effect immediately following such adjustment or readjustment.

Section 4.3.           Notice of Adjustments.  Whenever the per share Exercise Price or number of shares deliverable upon exercise of this Warrant shall be adjusted pursuant to this Section 4, the Company shall promptly prepare a certificate signed by the President or a Vice President and by the Treasurer or an Assistant Treasurer of the Company setting forth, in reasonable detail, the event requiring the adjustment, the amount of the adjustment, the method by which such adjustment was calculated (including a description of the basis on which the Board of Directors of the Company made any determination hereunder), and shall promptly cause copies of such certificate to be mailed (by first class mail, postage prepaid) to the Holder.

SECTION 5.          MERGERS, CONSOLIDATIONS, SALES

In the case of any consolidation or merger of the Company with another entity (regardless of whether the Company is the surviving entity), or the sale of all or substantially all of its assets to another entity, or any reorganization or reclassification of the Common Stock or other equity securities of the Company, then, as a condition of such consolidation, merger, sale, reorganization or reclassification, lawful and adequate provision shall be made whereby the Holder shall thereafter have the right to receive upon the basis and upon the terms and conditions specified herein and in lieu of the shares of Common Stock immediately theretofore purchasable hereunder, such shares of stock, securities or assets (including, without limitation, cash), if any, as may (by virtue of such consolidation, merger, sale, reorganization or reclassification) be issued or payable with respect to or in exchange for a number of outstanding shares of Common Stock equal to the number of shares of Common Stock immediately theretofore so purchasable hereunder had such consolidation, merger, sale, reorganization or reclassification not taken place, and in any such case appropriate provisions shall be made with respect to the rights and interests of the Holder to the end that the provisions hereof shall thereafter be applicable, as nearly as may be, in relation to any shares of stock, securities or assets thereafter deliverable upon exercise of this Warrant.  The Company shall not effect any such consolidation, merger or sale unless (a) the Company provides the holder hereof with not less than 10 days prior written notice of such consolidation, merger or sale (provided that the failure to give such notice shall not affect the validity of such corporate event), and (b) prior to the consummation thereof, the successor entity (if other than the Company) resulting from consolidation or merger or the entity purchasing such assets assumes, by written instrument, the obligation to deliver to each such holder such shares of stock, securities or assets as, in accordance with the foregoing provisions, such holder may be entitled to acquire.

SECTION 6.          DISSOLUTION OR LIQUIDATION

If the Company declares or pays a dividend upon the Common Stock payable otherwise than in cash out of earnings or earned surplus (determined in accordance with generally accepted accounting principles, consistently applied) except for a stock dividend payable in shares of Common Stock (a “Liquidating Dividend”), then the Company shall pay to the Holder at the time of payment thereof the Liquidating Dividend which would have been paid to such holder on the Common Stock had this Warrant been fully exercised immediately prior to the date on which a record is taken for such Liquidating Dividend, or, if no record is taken, the date as of which the record holders of Common Stock entitled to such dividends are to be determined.

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SECTION 7.          NOTICE OF DIVIDENDS; PAYMENTS

If the Board of Directors of the Company shall declare any dividend or other distribution on any class of its Common Stock except by way of a stock dividend payable in Common Stock on its Common Stock, the Company shall mail notice thereof to the Holder not less than 10 days prior to the record date fixed for determining shareholders entitled to participate in such dividend or other distribution, and the Holder shall be entitled to receive, as a consent fee, cash or other property from the Company in an amount and of the same type (cash or property) equal to that which the holder would have been entitled to receive if the unexercised portion hereof had been exercised as of the record date of such dividend or distribution.

SECTION 8.          NO FRACTIONAL SHARES

No fractional shares shall be issued upon the exercise of this Warrant under any circumstances.

SECTION 9.          FULLY PAID STOCK

The Company covenants and agrees to take all such actions necessary to ensure that the shares of stock represented by each and every certificate for its Common Stock to be delivered on the exercise of the purchase rights herein provided for shall, at the time of such delivery, be validly issued and outstanding and be fully paid and nonassessable.  In addition, the Company shall take all such actions as may be necessary to ensure that all such shares of Common Stock may be so issued without violation of any applicable law or governmental regulation or any requirements of any trading market or securities exchange upon which shares of Common Stock may be listed.

SECTION 10.        CLOSING OF TRANSFER BOOKS

The right to exercise this Warrant shall not be suspended during any period that the stock transfer books of the Company for its Common Stock may be closed.  The Company shall not be required, however, to deliver certificates of its Common Stock upon such exercise while such books are duly closed for any purpose, but the Company may postpone the delivery of the certificates for the Common Stock until the opening of such books, and they shall, in such case, be delivered forthwith upon the opening thereof, or as soon as practicable thereafter.

SECTION 11.      RESTRICTIONS ON TRANSFERABILITY OF WARRANTS AND SHARES; COMPLIANCE WITH LAWS

Notwithstanding anything contained in this Warrant to the contrary, the terms and provisions of this Section 11 of this Warrant remain in full force and effect at all times and shall survive the Expiration Date.

Section 11.1.           In General.  This Warrant and the shares of Common Stock issued upon the exercise hereof shall not be transferable except upon the conditions hereinafter referred to, which conditions are intended to ensure compliance with the provisions of the Securities Act of 1933, as amended (or any similar Federal statute at the time in effect) (the “Securities Act”), and any applicable state securities laws in respect of the transfer of this Warrant or any such shares.  Any attempt to transfer such Warrant or such shares except in accordance with the terms hereof shall, to the extent legally enforceable, be void.

Section 11.2.           Restrictive Legends.  Each Warrant and each certificate for shares of Common Stock issued upon the exercise of any Warrant shall bear a customary restrictive legend relating to securities laws compliance until counsel for the Company determines that such legend is no longer legally required.  This Warrant and any shares of Common Stock issuable upon exercise hereof may be transferred only in accordance with the provisions of such legend, including the legend set forth on the first page hereof.

Section 11.3.           Accredited Investor.  The initial Holder of this Warrant represents that he is an a “accredited investor” as defined in the rules and regulations under the Securities Act.

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SECTION 12.        PARTIAL EXERCISE AND PARTIAL ASSIGNMENT

If this Warrant is exercised in part only, the holder hereof shall be entitled to receive a new Warrant covering the number of shares in respect of which this Warrant shall not have been exercised as provided in Section 1.  If this Warrant is partially assigned, this Warrant shall be surrendered at the principal office of the Company (with the partial assignment form at the end hereof duly executed), and thereupon a new Warrant shall be issued to the Holder covering the number of shares not assigned and setting forth the proportionate aggregate Exercise Price applicable to such shares not assigned.  The assignee of such partial assignment of this Warrant shall also be entitled to receive a new Warrant of like tenor to this Warrant covering the number of shares so assigned and setting forth the proportionate aggregate Exercise Price applicable to such assigned shares. If this Warrant is assigned in full, this Warrant shall be surrendered at the principal office of the Company (with the full assignment form at the end hereof duly executed), and thereupon a new Warrant of like tenor to this Warrant shall be issued to the assignee covering the number of shares of Common Stock then issuable upon exercise of this Warrant.

SECTION 13.        WARRANT DENOMINATIONS

Warrants are issuable or transferable in the denomination of 1,000 shares or any integral multiple thereof (as nearly as may be practicable and subject to required adjustments hereunder), and the Warrants of each denomination are interchangeable upon surrender thereof at the office of the Company for Warrants of other denominations, but aggregating the same number of shares as the Warrants so surrendered.  All Warrants will be dated the same date as this Warrant.

SECTION 14.        LOST, STOLEN WARRANTS, ETC.

In case this Warrant shall be mutilated, lost, stolen or destroyed, the Company may issue a new Warrant of like date, tenor and denomination and deliver the same in exchange and substitution for and upon surrender and cancellation of the mutilated Warrant, or in lieu of the Warrant lost, stolen or destroyed, upon receipt of evidence satisfactory to the Company of the loss, theft or destruction of such Warrant, and upon receipt of indemnity satisfactory to the Company. All warrants hereafter issued in exchange or substitution for this Warrant shall be substantially in the form hereof.

SECTION 15.        WARRANT HOLDER RIGHTS

This Warrant does not confer upon the holder hereof any right to vote or to consent or to receive notice as a shareholder of the Company, as such, in respect of any matters whatsoever, or any other rights or liabilities as a shareholder, prior to the exercise hereof as hereinbefore provided.

SECTION 16.        SEVERABILITY

Should any part of this Warrant for any reason be declared invalid, such decision shall not affect the validity of any remaining portion, which remaining portion shall remain in force and effect as if this Warrant had been executed with the invalid portion thereof eliminated, and it is hereby declared the intention of the parties hereto that they would have executed and accepted the remaining portion of this Warrant without including therein any such part, parts or portion which may, for any reason, be hereafter declared invalid.

SECTION 17.        GOVERNING LAW

This Warrant shall be governed by the laws of the State of Delaware.

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by a duly authorized officer.

Dated: October 1, 2009

|  |  |
| --- | --- |
| **AMERICAN DG ENERGY INC.** | |
|  | |
| By: |  |
| John N. Hatsopoulos | |
| Chief Executive Officer | |

The initial Warrant Holder hereby confirms

the representations and covenants contained

in Section 11:

|  |
| --- |
|  |
| Hayden IR |

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**SUBSCRIPTION**

(1)           The Holder hereby elects to exercise the above-referenced Warrant with respect to the following number of shares of Common Stock:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(2)           The Holder intends that payment of the Exercise Price shall be made as (check one):

o            Cash exercise

o            Cashless exercise

(3)           If the Holder has elected a cash exercise, the Holder shall pay the sum of $ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

(4)           Pursuant to this subscription, the Company shall deliver to the Holder the number of shares of Common Stock determined in accordance with the terms of the Warrant.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dated: |  |  | HOLDER: | |
|  | |  |  | |
|  | |  |  | |
|  | |  | Print name ↑ | |
|  | |  |  | |
|  | |  | By: |  |
|  | |  |  |  |
|  | |  | Title: |  |
|  | |  |  |  |

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**FULL ASSIGNMENT**

FOR VALUE RECEIVED, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hereby sells, assigns and transfers unto\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the within Warrant and all rights evidenced thereby and does irrevocably constitute and appoint \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, attorney, to transfer the said Warrant on the books of the within-named Company.

|  |
| --- |
|  |
| Assignor |
|  |
| Dated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**PARTIAL ASSIGNMENT**

FOR VALUE RECEIVED \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hereby sells, assigns and transfers unto that portion of the within Warrant and the rights evidenced thereby which will on the date hereof entitle the holder to purchase shares of Common Stock of American DG Energy Inc. and irrevocably constitutes and appoints attorney, to transfer that part of the said Warrant on the books of the within-named Company.

|  |
| --- |
|  |
| Assignor |
|  |
| Dated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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