SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No.)*

Hannon Armstrong Sustainable Infrastructure Capital, Inc.

(Name of Issuer)

Common Stock, par value \$0.01 per share

(Title of Class of Securities)

41068X100

(CUSIP Number)

May 20, 2013

(Date of Event Which Requires Filing of This Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

 \Box Rule 13d-1(b)

Rule 13d-1(c)

 \square Rule 13d-1(d)

(Page 1 of 15 Pages)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

| 1 | NAME OF REPORTING PERSON Ardsley Partners Fund II, L.P. | | |
|---|--|--|----------------|
| 2 | | | (a) 🔀 (b) 🗖 |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | | |
| | 5 | SOLE VOTING POWER 0 | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY | 6 | SHARED VOTING POWER 277,400 shares of Common Stock | |
| EACH REPORTING PERSON WITH: | 7 | SOLE DISPOSITIVE POWER 0 | |
| PERSON WITH. | 8 | SHARED DISPOSITIVE POWER 277,400 shares of Common Stock | |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 277,400 shares of Common Stock | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 1.7% | | |
| 12 | TYPE OF REPORTING PERSON PN | | |

| 1 | NAME OF REPORTING PERSON Ardsley Partners Institutional Fund, L.P. | | |
|---|--|--|----------------|
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) (b) (b) | | (a) 🔀 (b) 🗖 |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | | |
| | 5 | SOLE VOTING POWER 0 | |
| NUMBER OF SHARES BENEFICIALLY | 6 | SHARED VOTING POWER 222,600 shares of Common Stock | |
| OWNED BY EACH REPORTING PERSON WITH: | 7 | SOLE DISPOSITIVE POWER 0 | |
| | 8 | SHARED DISPOSITIVE POWER 222,600 shares of Common Stock | |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 222,600 shares of Common Stock | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 1.3% | | |
| 12 | TYPE OF REPORTING PERSON PN | | |

| 1 | NAME OF REPORTING PERSON Ardsley Partners Renewable Energy Fund, L.P. | | |
|---|--|--|----------------|
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) (b) (b) | | (a) 🔀 (b) 🗖 |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | | |
| | 5 | SOLE VOTING POWER 0 | |
| NUMBER OF SHARES BENEFICIALLY | 6 | SHARED VOTING POWER 275,000 shares of Common Stock | |
| OWNED BY EACH REPORTING PERSON WITH: | 7 | SOLE DISPOSITIVE POWER 0 | |
| | 8 | SHARED DISPOSITIVE POWER 275,000 shares of Common Stock | |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 275,000 shares of Common Stock | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 1.7% | | |
| 12 | TYPE OF REPORTING PERSON PN | | |

| 1 | NAME OF REPORTING PERSON Ardsley Advisory Partners | | |
|---|--|--|----------------|
| 2 | | | (a) 🔀 (b) 🗆 |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION New York | | |
| | 5 | SOLE VOTING POWER 0 | |
| NUMBER OF SHARES BENEFICIALLY | 6 | SHARED VOTING POWER 775,000 shares of Common Stock | |
| OWNED BY EACH REPORTING PERSON WITH: | 7 | SOLE DISPOSITIVE POWER 0 | |
| | 8 | SHARED DISPOSITIVE POWER 775,000 shares of Common Stock | |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 775,000 shares of Common Stock | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 4.7% | | |
| 12 | TYPE OF REPORTING PERSON PN; IA | | |

| 1 | NAME OF REPORTING PERSON Ardsley Partners I | | |
|---|--|--|----------------|
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) (b) (b) | | (a) 🔀 (b) 🗖 |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION New York | | |
| | 5 | SOLE VOTING POWER 0 | |
| NUMBER OF SHARES BENEFICIALLY | 6 | SHARED VOTING POWER 775,000 shares of Common Stock | |
| OWNED BY EACH REPORTING PERSON WITH: | 7 | SOLE DISPOSITIVE POWER 0 | |
| TERSON WITH. | 8 | SHARED DISPOSITIVE POWER 775,000 shares of Common Stock | |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 775,000 shares of Common Stock | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 4.7% | | |
| 12 | TYPE OF REPORTING PERSON PN | | |

| 1 | NAME OF REPORTING PERSON Philip J. Hempleman | | |
|---|--|--|----------------|
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP | | (a) 🔀 (b) 🗖 |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | | |
| | 5 | SOLE VOTING POWER 0 | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY | 6 | SHARED VOTING POWER 900,000 shares of Common Stock | |
| EACH REPORTING PERSON WITH: | 7 | SOLE DISPOSITIVE POWER 0 | |
| | 8 | SHARED DISPOSITIVE POWER 900,000 shares of Common Stock | |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 900,000 shares of Common Stock | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.4% | | |
| 12 | TYPE OF REPORTING PERSON IN | | |

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|---------------------|---|--|--|
| Item 1(a). | NAME OF ISSUER | | |
| | The nam | ne of the issuer is Hannon Armstrong Sustainable Infrastructure Capital, Inc. (the | "Company"). |
| Item 1(b). | ADDRES | SS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES | |
| | The Cor | npany's principal executive offices are located at 1906 Towne Centre Blvd, Suite | 370, Annapolis, Maryland 21401. |
| Item 2(a). | NAME OF PERSON FILING | | |
| | This statement is filed by: | | |
| | (i) | Ardsley Partners Fund II, L.P., a Delaware limited partnership ("AP II"), with par value \$0.01 per share ("Common Stock") directly owned by it; | respect to the shares of common stock, |
| | (ii) | Ardsley Partners Institutional Fund, L.P., a Delaware limited partnership ("Ar shares of Common Stock directly owned by it; | dsley Institutional"), with respect to the |
| | (iii) | Ardsley Partners Renewable Energy Fund, L.P., a Delaware limited partnersh the shares of Common Stock directly owned by it; | hip ("Ardsley Energy"), with respect to |
| | (iv) | Ardsley Advisory Partners, a New York general partnership ("Ardsley") which Ardsley Institutional and Ardsley Energy, with respect to the shares of Con Ardsley Institutional and Ardsley Energy; | |
| | (v) | Ardsley Partners I, a New York general partnership ("Ardsley Partners") wh Ardsley Institutional and Ardsley Energy, with respect to the shares of Cor Institutional and Ardsley Energy; and | |
| | (vi) | Philip J. Hempleman ("Mr. Hempleman"), the Managing Partner of Ardsley a shares of Common Stock owned by AP II, Ardsley Institutional, Ardsley En Stock owned by certain accounts managed by him directly. | |
| | The foregoing persons are hereinafter sometimes collectively referred to as the "Reporting Persons." A with respect to persons other than the Reporting Persons are made on information and belief after 1 appropriate party. The filing of this statement should not be construed as an admission that any of the Re the purposes of Section 13G of the Act, the beneficial owner of the Common Stock reported herein. | | |
| Item 2(b). | ADDRES | SS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE | |

The address of the business office of each of the Reporting Persons is 262 Harbor Drive, Stamford, Connecticut 06902.

the

Item 2(c). CITIZENSHIP

AP II, Ardsley Institutional and Ardsley Energy are Delaware limited partnerships. Ardsley and Ardsley Partners are New York general partnerships. Mr. Hempleman is a United States citizen.

Item 2(d). TITLE OF CLASS OF SECURITIES

Common Stock, par value \$0.01 per share.

Item 2(e). CUSIP NUMBER

41068X100

Item 3. IF THIS STATEMENT IS FILED PURSUANT TO Rules 13d-1(b), OR 13d-2(b) OR (c), CHECK WHETHER THE PERSON FILING IS A:

- (a) \square Broker or dealer registered under Section 15 of the Act;
- (b) \square Bank as defined in Section 3(a)(6) of the Act;
- (c) \Box Insurance company as defined in Section 3(a)(19) of the Act;
- (d) Investment company registered under Section 8 of the Investment Company Act of 1940;
- (e) \Box An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E);
- (f) \Box An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F);
- (g) \Box A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G);
- (h) A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act;
- (i) \Box A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act;
- (j) \Box A non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J);
- (k) \Box Group, in accordance with Rule 13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J), please specify the type of institution:

| Item 4. | OWNERSHIP |
|---------|---|
| | The information required by Items $4(a) - (c)$ is set forth in Rows 5-11 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each Reporting Person. |
| | The percentages used in this Schedule 13G are calculated based upon 16,529,881 shares of Common Stock reported to be outstanding in the Company's Form 10-Q filed on May 23, 2013. The percentages used herein and in the rest of the Schedule 13G are based upon such number of shares of Common Stock outstanding. |
| Item 5. | OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS |
| | Not applicable. |
| Item 6. | OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON |
| | Ardsley, the Investment Adviser of AP II, Ardsley Institutional and Ardsley Energy, has the power to vote and direct the disposition of the proceeds from the sale of the shares of Common Stock owned by AP II, Ardsley Institutional and Ardsley Energy, and accordingly may be considered to be the direct "beneficial owner" of such shares of Common Stock. |
| | Ardsley Partners, the General Partner of AP II, Ardsley Institutional and Ardsley Energy, shares the power to vote and direct the disposition of the shares of Common Stock owned by AP II, Ardsley Institutional and Ardsley Energy, and accordingly, may be considered to be the direct "beneficial owner" of such shares of Common Stock. |
| | Mr. Hempleman is the Managing Partner of Ardsley and Ardsley Partners and in that capacity directs their operations and therefore may be considered to be the indirect "beneficial owner" of the shares of Common Stock owned by AP II, Ardsley Institutional, Ardsley Energy and certain accounts managed by him directly. Mr. Hempleman disclaims beneficial ownership of all of the shares of Common Stock reported in this 13G. |
| Item 7. | IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY OR CONTROL PERSON |
| | Not applicable. |
| Item 8. | IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP |
| | Not applicable. |

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Item 9. NOTICE OF DISSOLUTION OF GROUP

Not applicable.

Item 10. CERTIFICATION

Each of the Reporting Persons hereby makes the following certification:

By signing below each Reporting Person certifies that, to the best of his or its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURES

After reasonable inquiry and to the best of his or its knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

DATE: May 28, 2013

ARDSLEY PARTNERS FUND II, L.P. BY: ARDSLEY PARTNERS I,

- : ARDSLEY PARTNERS I, GENERAL PARTNER
- BY /s/ Steve Napoli Steve Napoli General Partner

ARDSLEY PARTNERS INSTITUTIONAL FUND, L.P. BY: ARDSLEY PARTNERS I, GENERAL PARTNER

BY: /s/ Steve Napoli Steve Napoli General Partner

ARDSLEY PARTNERS RENEWABLE ENERGY FUND, L.P. BY: ARDSLEY PARTNERS I, GENERAL PARTNER

BY: /s/ Steve Napoli Steve Napoli General Partner

ARDSLEY ADVISORY PARTNERS

BY: /s/ Steve Napoli Steve Napoli Partner

ARDSLEY PARTNERS I

BY: /s/ Steve Napoli Steve Napoli General Partner

PHILIP J. HEMPLEMAN, INDIVIDUALLY

BY: /s/ Steve Napoli* Steve Napoli As attorney in fact for Philip J. Hempleman

* Evidence of Power of Attorney was filed with the Schedule 13G/A filed on February 15, 2006 (Acc-no: 0000902664-06-000895) and is incorporated by reference into this filing.

EXHIBIT 1

JOINT FILING AGREEMENT PURSUANT TO RULE 13d-1(k)

The undersigned acknowledge and agree that the foregoing statement on Schedule 13G is filed on behalf of each of the undersigned and that all subsequent amendments to this statement on Schedule 13G shall be filed on behalf of each of the undersigned without the necessity of filing additional joint filing agreements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning him or it contained herein and therein, but shall not be responsible for the completeness and accuracy of the information concerning the others, except to the extent that he or it knows or has reason to believe that such information is inaccurate.

DATE: May 28, 2013

ARDSLEY PARTNERS FUND II, L.P. BY: ARDSLEY PARTNERS I, GENERAL PARTNER

BY /s/ Steve Napoli Steve Napoli General Partner

ARDSLEY PARTNERS INSTITUTIONAL FUND, L.P. BY: ARDSLEY PARTNERS I, GENERAL PARTNER

BY: /s/ Steve Napoli Steve Napoli General Partner

ARDSLEY PARTNERS RENEWABLE ENERGY FUND, L.P. BY: ARDSLEY PARTNERS I, GENERAL PARTNER

BY: /s/ Steve Napoli Steve Napoli General Partner

ARDSLEY ADVISORY PARTNERS

BY: /s/ Steve Napoli Steve Napoli Partner

ARDSLEY PARTNERS I

BY: /s/ Steve Napoli Steve Napoli General Partner

PHILIP J. HEMPLEMAN, INDIVIDUALLY

- BY: /s/ Steve Napoli* Steve Napoli As attorney in fact for Philip J. Hempleman
- * Evidence of Power of Attorney was filed with the Schedule 13G/A filed on February 15, 2006 (Acc-no: 0000902664-06-000895) and is incorporated by reference into this filing.