
Section 1: 10-Q (10-Q)

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2019

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 001-35877

**HANNON ARMSTRONG SUSTAINABLE INFRASTRUCTURE
CAPITAL, INC.**

(Exact name of registrant as specified in its charter)

Maryland

**(State or other jurisdiction of
incorporation or organization)**

46-1347456

**(I.R.S. Employer
Identification No.)**

1906 Towne Centre Blvd Suite 370

Annapolis, Maryland

(Address of principal executive offices)

21401

(Zip code)

(410) 571-9860

(Registrant's telephone number, including area code)

N/A

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Exchange Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 per value per share	HASI	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Indicate the number of shares outstanding of each of the issuer’s classes of common stock as of the latest practicable date: 65,688,376 shares of common stock, par value \$0.01 per share, outstanding as of October 28, 2019 (which includes 763,576 shares of unvested restricted common stock).

FORWARD-LOOKING STATEMENTS

We make forward-looking statements in this Quarterly Report on Form 10-Q (“Form 10-Q”) within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) that are subject to risks and uncertainties. For these statements, we claim the protections of the safe harbor for forward-looking statements contained in such Sections. These forward-looking statements include information about possible or assumed future results of our business, financial condition, liquidity, results of operations, plans and objectives. When we use the words “believe,” “expect,” “anticipate,” “estimate,” “plan,” “continue,” “intend,” “should,” “may” or similar expressions, we intend to identify forward-looking statements.

Forward-looking statements are subject to significant risks and uncertainties. Investors are cautioned against placing undue reliance on such statements. Actual results may differ materially from those set forth in the forward-looking statements. Factors that could cause actual results to differ materially from those described in the forward-looking statements are contained in our Annual Report on Form 10-K for the year ended December 31, 2018, as amended by our Amendment No. 1 to our Annual Report on Form 10-K for the year ended December 31, 2018 (collectively, our “2018 Form 10-K”) that was filed with the U.S. Securities and Exchange Commission (the “SEC”), and include risks discussed in the Management’s Discussion and Analysis of Financial Condition and Results of Operations of this Form 10-Q and in other periodic reports that we file with the SEC. Statements regarding the following subjects, among others, may be forward-looking:

- our expected returns and performance of our investments;
- the state of government legislation, regulation and policies that support or enhance the economic feasibility of sustainable infrastructure projects, including energy efficiency and renewable energy projects and the general market demands for such projects;
- market trends in our industry, energy markets, commodity prices, interest rates, the debt and lending markets or the general economy;
- our business and investment strategy;
- availability of opportunities to invest in projects that reduce carbon emissions or increase resilience to climate change including energy efficiency and renewable energy projects and our ability to complete potential new opportunities in our pipeline;
- our relationships with originators, investors, market intermediaries and professional advisers;
- competition from other providers of capital;
- our or any other companies’ projected operating results;
- actions and initiatives of the federal, state and local governments and changes to federal, state and local government policies, regulations, tax laws and rates and the execution and impact of these actions, initiatives and policies;
- the state of the U.S. economy generally or in specific geographic regions, states or municipalities, and economic trends;
- our ability to obtain and maintain financing arrangements on favorable terms, including securitizations;
- general volatility of the securities markets in which we participate;
- changes in the value of our assets, our portfolio of assets and our investment and underwriting process;
- the impact of weather conditions, natural disasters, accidents or equipment failures or other events that disrupt the operation of our investments or negatively impact the value our assets;
- rates of default or decreased recovery rates on our assets;
- interest rate and maturity mismatches between our assets and any borrowings used to fund such assets;
- changes in interest rates, including the flattening of the yield curve, and the market value of our assets and target assets;
- changes in commodity prices, including continued low natural gas prices;
- effects of hedging instruments on our assets or liabilities;
- the degree to which our hedging strategies may or may not protect us from risks, such as interest rate volatility;
- impact of and changes in accounting guidance;

- our ability to maintain our qualification as a real estate investment trust ("REIT") for U.S. federal income tax purposes;
- our ability to maintain our exemption from registration under the Investment Company Act of 1940, as amended (the "1940 Act");
- availability of and our ability to attract and retain qualified personnel;
- estimates relating to our ability to generate sufficient cash in the future to operate our business and to make distributions to our stockholders; and
- our understanding of our competition.

Forward-looking statements are based on beliefs, assumptions and expectations as of the date of this Form 10-Q. Any forward-looking statement speaks only as of the date on which it is made. New risks and uncertainties arise over time, and it is not possible for us to predict those events or how they may affect us. Except as required by law, we are not obligated to, and do not intend to, update or revise any forward-looking statements after the date of this Form 10-Q, whether as a result of new information, future events or otherwise.

The risks included here are not exhaustive. Other sections of this Form 10-Q or our 2018 Form 10-K may include additional factors that could adversely affect our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for management to predict all such risk factors, nor can it assess the impact of all such risk factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

HANNON ARMSTRONG SUSTAINABLE INFRASTRUCTURE CAPITAL, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(DOLLARS IN THOUSANDS, EXCEPT PER SHARE DATA)

	September 30, 2019 (unaudited)	December 31, 2018
Assets		
Equity method investments	\$ 449,304	\$ 471,044
Government receivables	299,877	497,464
Commercial receivables, net of allowance	674,728	447,196
Real estate	363,037	365,370
Investments	113,177	169,793
Cash and cash equivalents	186,152	21,418
Other assets	192,893	182,628
Total Assets	\$ 2,279,168	\$ 2,154,913
Liabilities and Stockholders' Equity		
Liabilities:		
Accounts payable, accrued expenses and other	\$ 39,851	\$ 36,509
Deferred funding obligations	1,073	72,100
Credit facilities	37,824	258,592
Non-recourse debt (secured by assets of \$887 million and \$1,105 million, respectively)	664,722	834,738
Senior unsecured notes	505,513	—
Convertible notes	147,642	148,451
Total Liabilities	1,396,625	1,350,390
Stockholders' Equity:		
Preferred stock, par value \$0.01 per share, 50,000,000 shares authorized, no shares issued and outstanding	—	—
Common stock, par value \$0.01 per share, 450,000,000 shares authorized, 64,924,800 and 60,510,086 shares issued and outstanding, respectively	649	605
Additional paid in capital	1,063,102	965,384
Accumulated deficit	(193,121)	(163,205)
Accumulated other comprehensive income (loss)	8,746	(1,684)
Non-controlling interest	3,167	3,423
Total Stockholders' Equity	882,543	804,523
Total Liabilities and Stockholders' Equity	\$ 2,279,168	\$ 2,154,913

See accompanying notes.

HANNON ARMSTRONG SUSTAINABLE INFRASTRUCTURE CAPITAL, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(DOLLARS IN THOUSANDS, EXCEPT PER SHARE DATA)

(UNAUDITED)

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
Revenue				
Interest income	\$ 19,322	\$ 16,771	\$ 54,270	\$ 46,098
Rental income	6,469	6,257	19,415	18,166
Gain on sale of receivables and investments	7,713	10,868	16,718	31,333
Fee income	5,338	1,487	12,850	4,114
Total revenue	38,842	35,383	103,253	99,711
Expenses				
Interest expense	16,561	19,681	46,861	57,424
Provision for loss on receivables	8,027	—	8,027	—
Compensation and benefits	7,193	6,309	21,281	17,966
General and administrative	3,737	3,551	10,818	10,481
Total expenses	35,518	29,541	86,987	85,871
Income before equity method investments	3,324	5,842	16,266	13,840
Income (loss) from equity method investments	5,984	11,671	18,114	19,969
Income (loss) before income taxes	9,308	17,513	34,380	33,809
Income tax (expense) benefit	(132)	(939)	1,298	(1,110)
Net income (loss)	\$ 9,176	\$ 16,574	\$ 35,678	\$ 32,699
Net income (loss) attributable to non-controlling interest holders	74	91	191	177
Net income (loss) attributable to controlling stockholders	\$ 9,102	\$ 16,483	\$ 35,487	\$ 32,522
Basic earnings (loss) per common share	\$ 0.14	\$ 0.30	\$ 0.55	\$ 0.60
Diluted earnings (loss) per common share	\$ 0.13	\$ 0.30	\$ 0.54	\$ 0.60
Weighted average common shares outstanding—basic	64,922,325	52,728,587	63,492,884	52,167,308
Weighted average common shares outstanding—diluted	65,630,711	52,728,587	64,147,835	52,167,308

See accompanying notes.

HANNON ARMSTRONG SUSTAINABLE INFRASTRUCTURE CAPITAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(DOLLARS IN THOUSANDS)
(UNAUDITED)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income (loss)	\$ 9,176	\$ 16,574	\$ 35,678	\$ 32,699
Unrealized gain (loss) on available-for-sale securities, net of tax benefit (provision) of \$0.1 million and \$0.2 million in each of the three and nine month periods ended 2019, and \$0.0 million in each of the three and nine month periods ended 2018	10,289	(970)	16,884	(4,002)
Unrealized gain (loss) on interest rate swaps, net of tax benefit (provision) of \$0.0 million in each of the three and nine month periods ended 2019 and \$(2.0) million in each of the three and nine months period ended 2018, respectively	(2,483)	136	(6,415)	8,115
Comprehensive income (loss)	16,982	15,740	46,147	36,812
Less: Comprehensive income (loss) attributable to non-controlling interest holders	101	86	230	199
Comprehensive income (loss) attributable to controlling stockholders	\$ 16,881	\$ 15,654	\$ 45,917	\$ 36,613

See accompanying notes.

HANNON ARMSTRONG SUSTAINABLE INFRASTRUCTURE CAPITAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(AMOUNTS IN THOUSANDS)
(UNAUDITED)

	<u>Common Stock</u>		<u>Additional Paid-in Capital</u>	<u>Accumulated Deficit</u>	<u>Accumulated Other Comprehensive Income (Loss)</u>	<u>Non- controlling interests</u>	<u>Total</u>
	<u>Shares</u>	<u>Amount</u>					
Balance at June 30, 2019	64,913	\$ 649	\$ 1,060,086	\$ (180,217)	\$ 968	\$ 3,258	\$ 884,744
Net income (loss)				9,102		74	9,176
Unrealized gain (loss) on available-for-sale securities					10,250	39	10,289
Unrealized gain (loss) on interest rate swaps					(2,472)	(11)	(2,483)
Issued shares of common stock			82				82
Equity-based compensation			3,023			13	3,036
Issuance (repurchase) of vested equity-based compensation shares	8		(28)				(28)
Redemption of OP Units	4		(61)			(43)	(104)
Dividends and distributions				(22,006)		(163)	(22,169)
Balance at September 30, 2019	64,925	\$ 649	\$ 1,063,102	\$ (193,121)	\$ 8,746	\$ 3,167	\$ 882,543
Balance at June 30, 2018	52,728	\$ 527	\$ 789,129	\$ (150,624)	\$ 3,855	\$ 3,509	\$ 646,396
Net income (loss)				16,483		91	16,574
Unrealized gain (loss) on available-for-sale securities					(965)	(5)	(970)
Unrealized gain (loss) on interest rate swaps					134	2	136
Issued shares of common stock			(6)				(6)
Equity-based compensation			2,269			11	2,280
Issuance (repurchase) of vested equity-based compensation shares	1		(9)				(9)
Dividends and distributions				(17,693)		(94)	(17,787)
Balance at September 30, 2018	52,729	\$ 527	\$ 791,383	\$ (151,834)	\$ 3,024	\$ 3,514	\$ 646,614

See accompanying notes.

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Non- controlling interests	Total
	Shares	Amount					
Balance at December 31, 2018	60,510	\$ 605	\$ 965,384	\$ (163,205)	\$ (1,684)	\$ 3,423	\$ 804,523
Net income (loss)				35,487		191	35,678
Unrealized gain (loss) on available- for-sale securities					16,817	67	16,884
Unrealized gain (loss) on interest rate swaps					(6,387)	(28)	(6,415)
Issued shares of common stock	3,994	40	97,226				97,266
Equity-based compensation			9,573			42	9,615
Issuance (repurchase) of vested equity-based compensation shares	417	4	(9,020)				(9,016)
Redemption of OP Units	4		(61)			(43)	(104)
Dividends and distributions				(65,403)		(485)	(65,888)
Balance at September 30, 2019	64,925	\$ 649	\$ 1,063,102	\$ (193,121)	\$ 8,746	\$ 3,167	\$ 882,543
Balance at December 31, 2017	51,665	\$ 517	\$ 770,983	\$ (131,251)	\$ (1,065)	\$ 3,597	\$ 642,781
Net income (loss)				32,522		177	32,699
Unrealized gain (loss) on available- for-sale securities					(3,981)	(21)	(4,002)
Unrealized gain (loss) on interest rate swaps					8,070	45	8,115
Issued shares of common stock	834	8	15,385				15,393
Equity-based compensation			8,086			42	8,128
Issuance (repurchase) of vested equity-based compensation shares	226	2	(3,051)				(3,049)
Redemption of OP Units	4		(20)			(47)	(67)
Dividends and distributions				(53,105)		(279)	(53,384)
Balance at September 30, 2018	52,729	\$ 527	\$ 791,383	\$ (151,834)	\$ 3,024	\$ 3,514	\$ 646,614

See accompanying notes.

HANNON ARMSTRONG SUSTAINABLE INFRASTRUCTURE CAPITAL, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(DOLLARS IN THOUSANDS)

(UNAUDITED)

	Nine Months Ended September 30,	
	2019	2018
Cash flows from operating activities		
Net income (loss)	\$ 35,678	\$ 32,699
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Provision for loss on receivables	8,027	—
Depreciation and amortization	2,693	3,561
Amortization of deferred financing costs	5,073	7,891
Equity-based compensation	10,385	7,881
Equity method investments	3,695	2,381
Non-cash gain on securitization	(18,575)	(22,349)
Gain on sale of receivables and investments	3,140	—
Changes in receivables held-for-sale	—	4,110
Changes in accounts payable and accrued expenses	(4,804)	2,421
Other	(13,726)	(8,800)
Net cash provided by (used in) operating activities	31,586	29,795
Cash flows from investing activities		
Equity method investments	(48,301)	(3,756)
Equity method investment distributions received	53,485	77,196
Proceeds from sales of equity method investments	8,433	12,433
Purchases of and investments in receivables	(274,472)	(114,276)
Principal collections from receivables	48,900	29,332
Proceeds from sales of receivables	134,932	—
Purchases of real estate	—	(23,178)
Purchases of investments	(22,242)	(19,127)
Principal collections from investments	5,432	3,750
Proceeds from sales of investments and securitization assets	90,993	—
Funding of escrow accounts	(28,672)	(28,759)
Withdrawal from escrow accounts	29,156	29,090
Other	2,891	(736)
Net cash provided by (used in) investing activities	535	(38,031)
Cash flows from financing activities		
Proceeds from credit facilities	101,500	158,938
Principal payments on credit facilities	(321,869)	(2,784)
Proceeds from issuance of non-recourse debt	34,988	51,934
Principal payments on non-recourse debt	(180,708)	(108,747)
Proceeds from issuance of senior unsecured notes	507,313	—
Payments on deferred funding obligations	(18,791)	(70,373)
Net proceeds of common stock issuances	96,648	15,326
Payments of dividends and distributions	(64,239)	(53,063)
Other	(17,319)	(4,232)
Net cash provided by (used in) financing activities	137,523	(13,001)
Increase (decrease) in cash, cash equivalents, and restricted cash	169,644	(21,237)
Cash, cash equivalents, and restricted cash at beginning of period	59,353	118,177
Cash, cash equivalents, and restricted cash at end of period	\$ 228,997	\$ 96,940
Interest paid	\$ 39,884	\$ 50,880
Non-cash changes in deferred funding obligations and non-recourse debt (financing activity)	(78,008)	843

Non-cash changes in receivables and investments (investing activity)	59,979	(248)
Non-cash changes in residual assets (investing activity)	(21,746)	(23,335)
Non-cash changes in escrow accounts (investing activity)	18,029	—

See accompanying notes.

HANNON ARMSTRONG SUSTAINABLE INFRASTRUCTURE CAPITAL, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(UNAUDITED)

September 30, 2019

1. The Company

Hannon Armstrong Sustainable Infrastructure Capital, Inc. (the “Company”) focuses on making investments in climate change solutions by providing capital to the leading companies in the energy efficiency, renewable energy and other sustainable infrastructure markets. Our goal is to generate attractive returns for our stockholders by investing in a diversified portfolio of investments that generate long-term, recurring and predictable cash flows from proven commercial technologies.

The Company and its subsidiaries are hereafter referred to as “we,” “us,” or “our.” Our investments take various forms, including equity, joint ventures, lending or other financing transactions, as well as real estate ownership and typically benefit from contractually committed high credit quality obligors. We also generate on-going fees through gain-on-sale securitization transactions, advisory services and asset management. We refer to the income producing assets that we hold on our balance sheet as our “Portfolio.” Our Portfolio may include:

- Equity in either preferred or common structures in unconsolidated entities;
- Government and commercial receivables, such as loans for renewable energy and energy efficiency projects;
- Real estate, such as land or other assets leased for use by sustainable infrastructure projects typically under long-term leases; and
- Investments in debt securities of renewable energy or energy efficiency projects.

We finance our business through cash on hand, borrowings under credit facilities and debt transactions, asset-backed securitization transactions and equity issuances. We also generate fee income through securitizations and syndications, by providing broker/dealer services and by managing and servicing assets owned by third parties. Some of our subsidiaries are special purpose entities that are formed for specific operations associated with investing in sustainable infrastructure receivables for specific long-term contracts.

Our common stock is listed on the New York Stock Exchange (“NYSE”) under the symbol “HASI.” We have qualified as a real estate investment trust (“REIT”) and also intend to continue to operate our business in a manner that will maintain our exemption from registration as an investment company under the 1940 Act, as amended. We operate our business through, and serve as the sole general partner of, our operating partnership subsidiary, Hannon Armstrong Sustainable Infrastructure, L.P., (the “Operating Partnership”), which was formed to acquire and directly or indirectly own our assets.

2. Summary of Significant Accounting Policies

Basis of Presentation

The preparation of financial statements in accordance with U.S. generally accepted accounting principles (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates and such differences could be material. These financial statements have been prepared in accordance with the instructions to Form 10-Q and should be read in conjunction with the consolidated financial statements and notes thereto included in our annual report on Form 10-K for the year ended December 31, 2018, as filed with the SEC. In the opinion of management, all adjustments necessary to present fairly our financial position, results of operations and cash flows have been included. Our results of operations for the quarterly and nine month periods ended September 30, 2019, are not necessarily indicative of the results to be expected for the full year or any other future period. Certain information and footnote disclosures normally included in our annual consolidated financial statements have been condensed or omitted. Certain amounts in the prior years have been reclassified to conform to the current year presentation.

The consolidated financial statements include our accounts and controlled subsidiaries, including the Operating Partnership. All material intercompany transactions and balances have been eliminated in consolidation.

Following the guidance for non-controlling interests in Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 810, *Consolidation* (“ASC 810”), references in this report to our earnings per share and our net

income and stockholders' equity attributable to common stockholders do not include amounts attributable to non-controlling interests.

Consolidation and Equity Method Investments

We account for our investments in entities that are considered voting interest entities or variable interest entities ("VIEs") under ASC 810 and assess whether we should consolidate these entities on an ongoing basis. We have established various special purpose entities or securitization trusts for the purpose of securitizing certain receivables or other debt investments which are not consolidated in our financial statements as described in Securitization of Receivables below.

We have assessed that we have power over and receive the benefits from those special purpose entities that are formed for the purpose of holding our government and commercial receivables and investments on our balance sheet; hence, we are the primary beneficiary and should consolidate these entities under the provisions of ASC 810.

We have made equity investments in various renewable energy projects. Our renewable energy project investments are typically owned in holding companies (using limited liability companies ("LLCs") taxed as partnerships) where we partner with either the operator of the project or other institutional investors. We share in the cash flows, income, and tax attributes according to a negotiated schedule (which typically does not correspond with our ownership percentages). Investors, if any, in a preferred return position typically receive a stated preferred return consisting of a priority distribution of all or a portion of the project's cash flows, and in some cases, tax attributes. Once the stated return, if applicable, is achieved, the partnership "flips" and the operator of the project along with any other common equity investors receive a larger portion of the cash flows, with the previously preferred investors retaining an on-going residual interest.

These equity investments in renewable energy projects are accounted for under the equity method of accounting. Certain of our equity method investments were determined to be VIEs in which we are not the primary beneficiary, as we do not direct the significant activities of those entities in which we invest. Our maximum exposure to loss associated with the continued operation of the underlying projects in our equity method investments is limited to our recorded value of our investments. Under the equity method of accounting, the carrying value of these equity method investments is determined based on amounts we invested, adjusted for the equity in earnings or losses of the investee allocated based on the LLC agreement, less distributions received. For the LLC agreements which contain preferences with regard to cash flows from operations, capital events and liquidation, we reflect our share of profits and losses by determining the difference between our claim on the investee's book value at the beginning and the end of the period, which is adjusted for distributions received and contributions made. This claim is calculated as the amount we would receive (or be obligated to pay) if the investee were to liquidate all of its assets at recorded amounts determined in accordance with GAAP and distribute the resulting cash to creditors and investors in accordance with their respective priorities. This method is commonly referred to as the hypothetical liquidation at book value method or ("HLBV"). Any difference between the amount of our investment and the amount of underlying equity in net assets is generally amortized over the life of the assets and liabilities to which the difference relates. Cash distributions received from these equity method investments are classified as operating activities to the extent of cumulative HLBV earnings in our consolidated statements of cash flows. Our initial investment and additional cash distributions beyond that which are classified as operating activities are classified as investing activities in our consolidated statements of cash flows. We have elected to recognize earnings from these investments one quarter in arrears to allow for the receipt of financial information.

We have also made an investment in a joint venture which holds land under solar projects that we have determined to be a voting interest entity. This investment entitles us to receive an equal percentage of both cash distributions and profit and loss under the terms of the LLC operating agreement. The investment is accounted for under the equity method of accounting with our portion of income being recognized in income (loss) from equity method investments in the period in which the income is earned. Cash distributions received from this equity method investment are classified as operating activities to the extent of cumulative earnings in our consolidated statements of cash flows. Our initial investment and additional cash distributions beyond that which are classified as operating activities are classified as investing activities in our consolidated statements of cash flows.

We evaluate on a quarterly basis whether our investments accounted for using the equity method have an other than temporary impairment ("OTTI"). An OTTI occurs when the estimated fair value of an investment is below the carrying value and the difference is determined to not be recoverable. This evaluation requires significant judgment regarding, but not limited to, the severity and duration of the impairment; the ability and intent to hold the securities until recovery; financial condition, liquidity, and near-term prospects of the issuer; specific events; and other factors.

Government and Commercial Receivables

Government and commercial receivables ("receivables"), include project loans and receivables. These receivables are separately presented in our balance sheet to illustrate the differing nature of the credit risk related to these assets. Unless otherwise noted, we generally have the ability and intent to hold our receivables for the foreseeable future and thus they are classified as held for investment. Our ability and intent to hold certain receivables may change from time to time depending on

a number of factors, including economic, liquidity and capital market conditions. At inception of the arrangement, the carrying value of receivables held for investment represents the present value of the note, lease or other payments, net of any unearned fee income, which is recognized as income over the term of the note or lease using the effective interest method. Receivables that are held for investment are carried, unless deemed impaired, at amortized cost, net of any unamortized acquisition premiums or discounts and include origination and acquisition costs, as applicable. Our initial investment and principal repayments of these receivables are classified as investing activities and the interest collected is classified as operating activities in our consolidated statements of cash flows. Receivables that we intend to sell in the short-term are classified as held-for-sale and are carried at the lower of amortized cost or fair value on our balance sheet. The purchases and proceeds from receivables that we intend to sell at origination are classified as operating activities in our consolidated statements of cash flows. Interest collected is classified as an operating activity in our consolidated statements of cash flows. Certain of our receivables may include the ability to defer required interest payments in exchange for increasing the receivable balance at the borrower's option. We generally accrue this paid-in-kind ("PIK") interest when collection is expected, and cease accruing PIK interest if there is insufficient value to support the accrual or we expect that any portion of the principal or interest due is not collectible.

We evaluate our receivables for potential delinquency or impairment on at least a quarterly basis and more frequently when economic or other conditions warrant such an evaluation. When a receivable becomes 90 days or more past due, and if we otherwise do not expect the debtor to be able to service all of its debt or other obligations, we will generally consider the receivable delinquent or impaired and place the receivable on non-accrual status and cease recognizing income from that receivable until the borrower has demonstrated the ability and intent to pay contractual amounts due. If a receivable's status significantly improves regarding the debtor's ability to service the debt or other obligations, we will remove it from non-accrual status.

A receivable is also considered impaired as of the date when, based on current information and events, it is determined that it is probable that we will be unable to collect all amounts due in accordance with the original contracted terms. Many of our receivables are secured by energy efficiency and renewable energy infrastructure projects. Accordingly, we regularly evaluate the extent and impact of any credit deterioration associated with the performance and value of the underlying project, as well as the financial and operating capability of the borrower, its sponsors or the obligor as well as any guarantors. We consider a number of qualitative and quantitative factors in our assessment, including, as appropriate, a project's operating results, loan-to-value ratio, any cash reserves, the ability of expected cash from operations to cover the cash flow requirements currently and into the future, key terms of the transaction, the ability of the borrower to refinance the transaction, other credit support from the sponsor or guarantor and the project's collateral value. In addition, we consider the overall economic environment, the sustainable infrastructure sector, the effect of local, industry, and broader economic factors, the impact of any variation in weather and the historical and anticipated trends in interest rates, defaults and loss severities for similar transactions.

If a receivable is impaired, we will determine if an allowance should be recorded. We will record an allowance if the present value of expected future cash flows discounted at the receivable's contractual effective rate is less than its carrying value. This estimate of cash flows may include the currently estimated fair market value of the collateral less estimated selling costs if repayment is expected from the collateral. We charge off receivables against the allowance, if any, when we determine the unpaid principal balance is uncollectible, net of recovered amounts.

Real Estate

Real estate consists of land or other real estate and its related lease intangibles, net of any amortization. Our real estate is generally leased to tenants on a triple net lease basis, whereby the tenant is responsible for all operating expenses relating to the property, generally including property taxes, insurance, maintenance, repairs and capital expenditures. Certain real estate transactions may be characterized as "failed sale-leaseback" transactions as defined under ASC Topic 842 ("Topic 842"), *Leases*, and thus are accounted for similar to our Commercial Receivables as described above in Government and Commercial Receivables.

For our other real estate lease transactions that are classified as operating leases, the scheduled rental revenue typically varies during the lease term and thus rental income is recognized on a straight-line basis, unless there is considerable risk as to collectability, so as to produce a constant periodic rent over the term of the lease. Accrued rental income is the aggregate difference between the scheduled rents which vary during the lease term and the income recognized on a straight-line basis and is recorded in other assets. Expenses, if any, related to the ongoing operation of leases where we are the lessor, are charged to operations as incurred. Our initial investment is classified as investing activities and income collected for rental income is classified as operating activities in our consolidated statements of cash flows.

When our real estate transactions are treated as an asset acquisition with an operating lease, we typically record our real estate purchases as asset acquisitions that are recorded at cost, including acquisition and closing costs, which is allocated to each tangible and intangible asset acquired on a relative fair value basis.

The fair value of the tangible assets of an acquired leased property is determined by valuing the property as if it were vacant, and the “as-if-vacant” value is then allocated to land, building and tenant improvements, if any, based on the determination of the fair values of these assets. The as-if-vacant fair value of a property is typically determined by management based on appraisals by a qualified appraiser. In determining the fair value of the identified intangibles of an acquired property, above-market and below-market in-place lease values are valued based on the present value (using an interest rate which reflects the risks associated with the leases acquired) of the difference between (i) the contractual amounts to be paid pursuant to the in-place leases, and (ii) management’s estimate of fair market lease rates for the corresponding in-place leases, measured over a period equal to the remaining term of the lease, including renewal periods reasonably certain of being exercised by the lessee.

The capitalized above-market lease values are amortized as a reduction of rental income and the capitalized below-market lease values are amortized as an increase to rental income, both of which are amortized over the term used to value the intangible. We also record, as appropriate, an intangible asset for in-place leases. The value of the leases in place at the time of the transaction is equal to the potential income lost if the leases were not in place. The amortization of this intangible occurs over the initial term unless management believes that it is reasonably certain that the tenant would exercise the renewal option, in which case the amortization would extend through the renewal period. If a lease were to be terminated, all unamortized amounts relating to that lease would be written off.

Investments

Investments are debt securities that meet the criteria of ASC 320, *Investments-Debt and Equity Securities*. We have designated our debt securities as available-for-sale and carry these securities at fair value on our balance sheet. Unrealized gains and losses, to the extent not considered to have an OTTI, on available-for-sale debt securities are recorded as a component of accumulated other comprehensive income (“AOCI”) in equity on our balance sheet. Our initial investment and principal repayments of these investments are classified as investing activities and the interest collected is classified as operating activities in our consolidated statements of cash flows.

We evaluate our investments for OTTI on at least a quarterly basis, and more frequently when economic or market conditions warrant such an evaluation. Our OTTI assessment is a subjective process requiring the use of judgments and assumptions. Accordingly, we regularly evaluate the extent and impact of any credit deterioration associated with the financial and operating performance and value of the underlying project. We consider several qualitative and quantitative factors in our assessment. We first consider the current fair value of the security and the duration of any unrealized loss. Other factors considered include changes in the credit rating, performance of the underlying project, key terms of the transaction, the value of any collateral and any support provided by the sponsor or guarantor.

To the extent that we have identified an OTTI for a security and intend to hold the investment to maturity and we do not expect that we will be required to sell the security prior to recovery of the amortized cost basis, we recognize only the credit component of the OTTI in earnings. We determine the credit component using the difference between the security’s amortized cost basis and the present value of its expected future cash flows, discounted using the effective interest method or its estimated collateral value. Any remaining unrealized loss due to factors other than credit is recorded in AOCI.

To the extent we hold investments with an OTTI and if we have made the decision to sell the security or it is more likely than not that we will be required to sell the security prior to recovery of its amortized cost basis, we recognize the entire portion of the impairment in earnings.

Premiums or discounts on investment securities are amortized or accreted into interest income using the effective interest method.

Securitization of Financial Assets

We have established various special purpose entities or securitization trusts for the purpose of securitizing certain financial assets. We determined that the trusts used in securitizations are VIEs, as defined in ASC 810. When we conclude that we are not the primary beneficiary of the trusts as we do not have power over the trusts’ significant activities, we do not consolidate the trust. We typically serve as primary or master servicer of these trusts; however, as the servicer, we do not have the power to make significant decisions impacting the performance of the trusts.

We account for transfers of financial assets to these securitization trusts as sales pursuant to ASC 860, *Transfers and Servicing* (“ASC 860”), when we have concluded the transferred assets have been isolated from the transferor (i.e., put presumptively beyond the reach of the transferor and its creditors, even in bankruptcy or other receivership) and we have surrendered control over the transferred assets. We treat those trusts where we are unable to conclude that we have been isolated from the securitized financial assets as secured borrowings, retaining the assets on our balance sheet and recording the amounts due to the trust investor as non-recourse debt.

For transfers treated as sales under ASC 860, we have received true-sale-at-law opinions for all of our securitization trust structures and non-consolidation legal opinions for all but one legacy securitization trust structure that support our conclusion regarding the transferred financial assets. When we sell financial assets in securitizations, we generally retain interests in the form of servicing rights and residual assets, which we refer to as securitization assets.

Gain or loss on the sale of financial assets is calculated based on the excess of the proceeds received from the securitization (less any transaction costs) plus any retained interests obtained over the cost basis of the assets sold. For retained interests, we generally estimate fair value based on the present value of future expected cash flows using our best estimates of the key assumptions of anticipated losses, prepayment rates, and current market discount rates commensurate with the risks involved. Cash flows related to our securitizations at origination are classified as operating activities in our consolidated statements of cash flows.

We initially account for all separately recognized servicing assets and servicing liabilities at fair value and subsequently measure such servicing assets and liabilities using the amortization method. Servicing assets and liabilities are amortized in proportion to, and over the period of, estimated net servicing income with servicing income recognized as earned. We assess servicing assets for impairment at each reporting date. If the amortized cost of servicing assets is greater than the estimated fair value, we will recognize an impairment in net income.

Our other retained interest in securitized assets, the residual assets, are accounted for as available-for-sale securities and carried at fair value on the consolidated balance sheets in other assets. We generally do not sell our residual assets. Our residual assets are evaluated for impairment on a quarterly basis. Interest income related to the residual assets is recognized using the effective interest rate method. If there is a change in the expected cash flows related to the residual assets, we will assess whether the asset is impaired and will calculate a new yield based on the current amortized cost of the residual assets and the revised expected cash flows. This yield is used prospectively to recognize interest income.

Cash and Cash Equivalents

Cash and cash equivalents include short-term government securities, certificates of deposit and money market funds, all of which had an original maturity of three months or less at the date of purchase. These securities are carried at their purchase price, which approximates fair value.

Restricted Cash

Restricted cash includes cash and cash equivalents set aside with certain lenders primarily to support deferred funding and other obligations outstanding as of the balance sheet dates. Restricted cash is reported as part of other assets in the consolidated balance sheets. Refer to Note 3 for disclosure of the balances of restricted cash included in other assets.

Convertible Notes

We have issued convertible senior notes that are accounted for in accordance with ASC 470-20, *Debt with Conversion and Other Options*, and ASC 815, *Derivatives and Hedging* ("ASC 815"). Under ASC 815, issuers of certain convertible debt instruments are generally required to separately account for the conversion option of the convertible debt instrument as either a derivative or equity, unless it meets the scope exemption for contracts indexed to, and settled in, an issuer's own equity. Since this conversion option is both indexed to our equity and can only be settled in our common stock, we have met the scope exemption, and therefore, we are not separately accounting for the embedded conversion option. The initial issuance and any principal repayments are classified as financing activities and interest payments are classified as operating activities in our consolidated statements of cash flows.

Income Taxes

We elected and qualified to be taxed as a REIT for U.S. federal income tax purposes, commencing with our taxable year ended December 31, 2013. We also have taxable REIT subsidiaries ("TRSs") which are taxed separately, and which will generally be subject to U.S. federal, state, and local income taxes as well as taxes of foreign jurisdictions, if any. To qualify as a REIT, we must meet on an ongoing basis several organizational and operational requirements, including a requirement that we currently distribute at least 90% of our REIT's net taxable income before dividends paid, excluding capital gains, to our stockholders. As a REIT, we are not subject to U.S. federal corporate income tax on that portion of net income that is currently distributed to our owners.

We account for income taxes under ASC 740, *Income Taxes* ("ASC 740") for our TRSs using the asset and liability method. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to the differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities from a change in tax rates is recognized in earnings in the period when the new rate is enacted. We evaluate any deferred tax assets for valuation allowances based on an assessment of available evidence including sources of taxable income, prior years taxable income, any existing

taxable temporary differences and our future investment and business plans that may give rise to taxable income. We treat any tax credits we receive from our equity investments in renewable energy projects as reductions of federal income taxes of the year in which the credit arises.

We apply ASC 740 with respect to how uncertain tax positions should be recognized, measured, presented, and disclosed in the financial statements. This guidance requires the accounting and disclosure of tax positions taken or expected to be taken in the course of preparing our tax returns to determine whether the tax positions are “more likely than not” to be sustained by the applicable tax authority. We are required to analyze all open tax years, as defined by the statute of limitations, for all major jurisdictions, which includes U.S. federal and certain states.

Equity-Based Compensation

In 2013, we adopted the 2013 Hannon Armstrong Sustainable Infrastructure Capital, Inc. Equity Incentive Plan (as amended, the “2013 Plan”), which provides for grants of stock options, stock appreciation rights, restricted stock units, shares of restricted common stock, phantom shares, dividend equivalent rights, long-term incentive-plan units (“LTIP units”) and other restricted limited partnership units issued by our Operating Partnership and other equity-based awards. From time to time, we may grant equity or equity-based awards as compensation to members of our senior management team, our independent directors, employees, advisors, consultants and other personnel under our 2013 Plan. Certain awards earned under the plan are based on achieving various performance targets, which are generally earned between 0% and 200% of the initial target, depending on the extent to which the performance target is met. In addition to performance targets, certain LTIP units issued by our Operating Partnership also require a certain level of appreciation of partnership interests to occur before parity is reached and LTIP units can be converted to limited partnership units.

We record compensation expense for grants made under the 2013 Plan in accordance with ASC 718, *Compensation-Stock Compensation*. We record compensation expense for unvested grants that vest solely based on service conditions on a straight-line basis over the vesting period of the entire award based upon the fair market value of the grant on the date of grant. Fair market value for restricted common stock is based on our share price on the date of grant. For awards where the vesting is contingent upon achievement of certain performance targets, compensation expense is measured based on the fair market value on the grant date and is recorded over the requisite service period (which includes the performance period). Actual performance results at the end of the performance period determines the number of shares that will ultimately be awarded. We have also issued awards where the vesting is contingent upon service being provided for a defined period and certain market conditions being met. The fair value of these awards, as measured at the grant date, is recognized over the requisite service period, even if the market conditions are not met. The grant date fair value of these awards was developed by an independent appraiser using a Monte Carlo simulation.

Earnings Per Share

We compute earnings per share of common stock in accordance with ASC 260, *Earnings Per Share*. Basic earnings per share is calculated by dividing net income attributable to controlling stockholders (after consideration of the earnings allocated to unvested grants under the 2013 Plan, if applicable) by the weighted-average number of shares of common stock outstanding during the period excluding the weighted average number of unvested grants under the 2013 Plan, if applicable (“participating securities” as defined in Note 12). Diluted earnings per share is calculated by dividing net income attributable to controlling stockholders (after consideration of the earnings allocated to unvested grants under the 2013 Plan, if applicable) by the weighted-average number of shares of common stock outstanding during the period plus other potential common stock instruments if they are dilutive. Other potentially dilutive common stock instruments include our unvested restricted stock, other equity-based awards, and convertible notes. The restricted stock and other equity-based awards are included if they are dilutive using the treasury stock method. The treasury stock method assumes that theoretical proceeds received for future service provided is used to purchase shares of treasury stock at the average market price per share of common stock, which is deducted from the total shares of potential common stock included in the calculation. When unvested grants are dilutive, the earnings allocated to these dilutive unvested grants are not deducted from the net income attributable to controlling stockholders when calculating diluted earnings per share. The convertible notes are included if they are dilutive using the if-converted method. The if-converted method removes interest expense related to the convertible notes from the net income attributable to controlling stockholders and includes the weighted average shares of potential common stock over the period issuable upon conversion of the note. No adjustment is made for shares of potential common stock that are anti-dilutive during a period.

Segment Reporting

We make equity and debt investments in the energy efficiency, renewable energy, and other sustainable infrastructure markets. We manage our business as a single portfolio and report all of our activities as one business segment.

Recently Issued Accounting Pronouncements

Leases

In February 2016, the FASB issued guidance codified in Topic 842, which amends the guidance in former ASC Topic 840, *Leases*. The main principle of Topic 842 requires lessees to recognize the assets and liabilities that arise from nearly all leases on the balance sheet. Lessor accounting remains relatively consistent with some changes to align Topic 842 with ASC Topic 606, *Revenue from Contracts with Customers*, including changes to the guidance on classification of real estate lease transactions. The standard is effective for interim and annual reporting periods beginning after December 15, 2018, with early adoption permitted. Topic 842 provides companies with a choice of transitioning to the new standard using one of two modified retrospective transition approaches; one that requires companies to adjust comparative periods upon adoption and another where the impact of adoption is reflected in retained earnings and comparative periods are not adjusted.

We have adopted Topic 842 effective January 1, 2019 and have elected to apply the new leases standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We have also elected the package of practical expedients which allowed us to not reassess (1) whether existing contracts contain leases, (2) the lease classification for existing leases, and (3) whether existing initial direct costs meet the new definition. The adoption of Topic 842 did not have a material impact on our financial statements. Subsequent to adoption of Topic 842, due to the changes in the lessor rules for classification of real estate leasing transactions, certain of our real estate leasing transactions may be accounted for as commercial receivables rather than being treated as real estate asset acquisitions with operating leases.

Credit Losses

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses—Measurement of Credit Losses on Financial Instruments* ("Topic 326"). Topic 326 significantly changes how entities will recognize and measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. Topic 326 will replace the "incurred loss" approach under existing guidance with an "expected loss" model for instruments measured at amortized cost and require entities to record allowances for expected losses from available-for-sale debt securities rather than reduce the amortized cost, as currently required. It also simplifies the accounting model for purchased credit-impaired debt securities and loans. Topic 326 is effective for fiscal years beginning after December 15, 2019 and is to be adopted through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. The Company plans to adopt the new standard on its effective date. While we are continuing to assess the impact Topic 326 will have on the consolidated financial statements, the measurement of expected credit losses under the current expected credit loss model will be based on relevant information including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amounts of the financial assets in scope of the model. We have pooled our assets by risk characteristics and determined a methodology for each pool. We expect any reserve related to our federal government receivables to be immaterial and are still evaluating the impact of our other receivables. We are still evaluating the appropriate internal controls and financial statement disclosures with regards to receivables and related lending commitments. Based on the amended guidance for available-for-sale debt securities, we do not expect a significant impact to our available-for-sale securities portfolio.

Other accounting standards updates issued before November 1, 2019, and effective after September 30, 2019, are not expected to have a material effect on our consolidated financial statements and related disclosures.

3. Fair Value Measurements

Fair value is defined as the price that would be received for an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date. The fair value accounting guidance provides a three-level hierarchy for classifying financial instruments. The levels of inputs used to determine the fair value of our financial assets and liabilities carried on the balance sheet at fair value and for those which only disclosure of fair value is required are characterized in accordance with the fair value hierarchy established by ASC 820, Fair Value Measurements. Where inputs for a financial asset or liability fall in more than one level in the fair value hierarchy, the financial asset or liability is classified in its entirety based on the lowest level input that is significant to the fair value measurement of that financial asset or liability. We use our judgment and consider factors specific to the financial assets and liabilities in determining the significance of an input to the fair value measurements. As of September 30, 2019 and December 31, 2018, only our residual assets related to our securitization trusts, interest rate swaps and investments, if any, were carried at fair value on the consolidated balance sheets on a recurring basis. The three levels of the fair value hierarchy are described below:

- Level 1 — Quoted prices (unadjusted) in active markets that are accessible at the measurement date.
- Level 2 — Observable prices that are based on inputs not quoted on active markets but corroborated by market data.
- Level 3 — Unobservable inputs are used when little or no market data is available.

The tables below illustrate the estimated fair value of our financial instruments on our balance sheet. Unless otherwise discussed below, fair value for our Level 2 and Level 3 measurements is measured using a discounted cash flow model, contractual terms and inputs which consist of base interest rates and spreads over base rates which are based upon market observation and recent comparable transactions. An increase in these inputs would result in a lower fair value and a decline would result in a higher fair value. Our senior unsecured notes and convertible notes are valued using a market based approach and observable prices. The receivables held-for-sale, if any, are carried at the lower of cost or fair value.

As of September 30, 2019				
	Fair Value	Carrying Value	Level	
<i>(in millions)</i>				
Assets				
Government receivables	\$ 318	\$ 300	Level 3	
Commercial receivables	692	675	Level 3	
Investments ⁽¹⁾	113	113	Level 3	
Securitization residual assets ⁽²⁾	84	84	Level 3	
Liabilities				
Credit facilities ⁽³⁾	\$ 38	\$ 38	Level 3	
Non-recourse debt ⁽³⁾	714	680	Level 3	
Senior unsecured notes ⁽³⁾	533	514	Level 2	
Convertible notes ⁽³⁾	168	151	Level 2	

(1) The amortized cost of our investments as of September 30, 2019, was \$109 million.

(2) Included in other assets on the consolidated balance sheet.

(3) Fair value and carrying value exclude unamortized debt issuance costs.

As of December 31, 2018				
	Fair Value	Carrying Value	Level	
<i>(in millions)</i>				
Assets				
Government receivables	\$ 487	\$ 497	Level 3	
Commercial receivables	443	447	Level 3	
Investments ⁽¹⁾	170	170	Level 3	
Securitization residual assets ⁽²⁾	71	71	Level 3	
Liabilities				
Credit facilities ⁽³⁾	\$ 259	\$ 259	Level 3	
Non-recourse debt ⁽³⁾	835	852	Level 3	
Convertible notes ⁽³⁾	139	152	Level 2	

(1) The amortized cost of our investments as of December 31, 2018, was \$173 million.

(2) Included in other assets on the consolidated balance sheet.

(3) Fair value and carrying value exclude unamortized debt issuance costs.

Investments

The following table reconciles the beginning and ending balances for our Level 3 investments that are carried at fair value on a recurring basis:

	For the three months ended September 30,		For the nine months ended September 30,	
	2019	2018	2019	2018
	<i>(in millions)</i>			
Balance, beginning of period	\$ 124	\$ 154	\$ 170	\$ 151
Purchases of investments	7	12	22	19
Payments on investments	(2)	(3)	(4)	(4)
Sale of investments	(20)	—	(85)	—
Realized gains on investments recorded in earnings	2	—	2	—
Unrealized gains (losses) on investments recorded in AOCI	2	(1)	8	(4)
Balance, end of period	\$ 113	\$ 162	\$ 113	\$ 162

The following table illustrates our investments in an unrealized loss position:

	Estimated Fair Value		Unrealized Losses ⁽¹⁾	
	Securities with a loss shorter than 12 months	Securities with a loss longer than 12 months	Securities with a loss shorter than 12 months	Securities with a loss longer than 12 months
	<i>(in millions)</i>			
September 30, 2019	\$ —	\$ 17	\$ —	\$ 1
December 31, 2018	82	67	1	3

(1) Loss position is due to interest rates movements. We have the intent and ability to hold these investments until a recovery of fair value.

In determining the fair value of our investments we used a market-based risk-free rate and a range of interest rate spreads of approximately 1% to 4% based upon transactions involving similar assets as of September 30, 2019 and December 31, 2018.

Non-recurring Fair Value Measurements

Our financial statements may include non-recurring fair value measurements related to acquisitions and non-monetary transactions, if any. Assets acquired in a business combination are recorded at their fair value. We may use third party valuation firms to assist us with developing our estimates of fair value.

Concentration of Credit Risk

Government and commercial receivables, real estate leases, and debt investments consist primarily of U.S. federal government-backed receivables, investment grade state and local government receivables and receivables from various sustainable infrastructure projects and do not, in our view, represent a significant concentration of credit risk. See Note 6 for an analysis by type of obligor and the method of rating. Additionally, our investments are collateralized by projects concentrated in certain geographic regions throughout the United States. We have structural credit protections to mitigate our risk exposure and, in most cases, the projects are insured for estimated physical loss which helps to mitigate the possible risk from these concentrations.

We had cash deposits that are subject to credit risk as shown below:

	September 30, 2019	December 31, 2018
	<i>(in millions)</i>	
Cash deposits	\$ 186	\$ 21
Restricted cash deposits (included in other assets)	43	38
Total cash deposits	\$ 229	\$ 59
Amount of cash deposits in excess of amounts federally insured	\$ 227	\$ 57

4. Non-Controlling Interest

Units of limited partnership interests in the Operating Partnership (“OP units”) that are owned by limited partners other than us are included in non-controlling interest on our consolidated balance sheets. The non-controlling interest holders are generally allocated their pro rata share of income, other comprehensive income and equity transactions.

The outstanding OP units held by outside limited partners represent less than 1% of our outstanding OP units and are redeemable by the limited partners for cash, or at our option, for a like number of shares of our common stock. Non-controlling interest holders exchanged 3,703 OP units for the same number of shares of common stock during both the nine months ended September 30, 2019 and 2018.

We have also granted to officers and directors LTIP Units pursuant to the 2013 plan. These LTIP Units are held by HASI Management HoldCo LLC. The LTIP Units are designed to qualify as profits interests in the Operating Partnership and initially will have a capital account balance of zero and, therefore, will not have full parity with OP units with respect to liquidating distributions or other rights. However, the amended and restated agreement of limited partnership of the Operating Partnership (the “OP Agreement”) provides that “book gains,” or economic appreciation, in the Operating Partnership will be allocated first to the LTIP Units until the capital account per LTIP Units is equal to the capital account per-unit of the OP units. Under the terms of the OP Agreement, the Operating Partnership will revalue its assets upon the occurrence of certain specified events, and any increase in valuation from the time of grant until such event will be allocated first to the holders of LTIP Units to equalize the capital accounts of such holders with the capital accounts of OP unit holders. Once this has occurred, the LTIP Units will achieve full parity with the OP units for all purposes, including with respect to liquidating distributions and redemption rights. In addition to these attributes, there are vesting and settlement conditions similar to our other equity-based awards as discussed in Notes 2 and 11.

5. Securitization of Financial Assets

The following summarizes certain transactions with our securitization trusts:

	As of and for the nine months ended September 30,	
	2019	2018
	<i>(in millions)</i>	
Gains on securitizations	\$ 16	\$ 31
Cost of financial assets securitized	560	595
Proceeds from securitizations	576	626
Residual and servicing assets included in other assets	85	69
Cash received from residual and servicing assets	7	3

In connection with securitization transactions, we typically retain servicing responsibilities and residual assets. In certain instances, we receive annual servicing fees of up to 0.20% of the outstanding balance. We may periodically make servicer advances, which are subject to credit risk. Included in other assets in our consolidated balance sheets are our servicing assets at amortized cost, our residual assets at fair value, and our servicing advances at cost, if any. Our residual assets are subordinate to investors’ interests, and their values are subject to credit, prepayment and interest rate risks on the transferred financial assets. The investors and the securitization trusts have no recourse to our other assets for failure of debtors to pay when due. In computing gains and losses on securitizations, we use the same discount rates we use for the fair value calculation of residual assets, which are determined based on a review of comparable market transactions including Level 3 unobservable inputs which consist of base interest rates and spreads over base rates. Depending on the nature of the transaction risks, the discount rate ranged from 3% to 7%, and reflect our expected prepayments.

As of September 30, 2019 and December 31, 2018, our managed assets totaled \$5.7 billion and \$5.3 billion, respectively, of which \$3.8 billion and \$3.3 billion, respectively, were securitized assets held in unconsolidated securitization trusts. There were no securitization credit losses in the nine months ended September 30, 2019 or 2018. As of September 30, 2019, there were less than \$1 million in payments from certain debtors to the securitization trusts that were greater than 90 days past due. The securitized assets generally consist of receivables from contracts for the installation of energy efficiency and other technologies in facilities owned by, or operated for or by, federal, state or local government entities where the ultimate obligor is the government. The contracts may have guarantees of energy savings from third party service providers, which typically are entities rated investment grade by an independent rating agency. Based on the nature of the assets and experience-to-date, we do not currently expect to incur any credit losses of our residual interests related to the assets sold.

6. Our Portfolio

As of September 30, 2019, our Portfolio included approximately \$1.9 billion of equity method investments, receivables, real estate and investments on our balance sheet. The equity method investments represent our non-controlling equity investments in renewable energy projects and land. The receivables and investments are typically collateralized by contractually committed debt obligations of government entities or private high credit quality obligors and are often supported by additional forms of credit enhancement, including security interests and supplier guaranties. The real estate is typically land and related lease intangibles for long-term leases to wind and solar projects.

The following is an analysis of our Portfolio as of September 30, 2019:

	Investment Grade			Subtotal, Debt and Real Estate	Equity Method Investments	Total
	Government ⁽¹⁾	Commercial Investment Grade ⁽²⁾	Commercial Non- Investment Grade ⁽³⁾			
	<i>(dollars in millions)</i>					
Equity investments in renewable energy projects	\$ —	\$ —	\$ —	\$ —	\$ 427	\$ 427
Receivables ⁽⁴⁾	300	158	517	975	—	975
Real estate ⁽⁵⁾	—	363	—	363	22	385
Investments	34	79	—	113	—	113
Total	\$ 334	\$ 600	\$ 517	\$ 1,451	\$ 449	\$ 1,900
% of Debt and real estate portfolio	23%	41%	36%	100%	N/A	N/A
Average remaining balance ⁽⁶⁾	\$ 8	\$ 6	\$ 16	\$ 8	\$ 15	\$ 9

- Transactions where the ultimate obligor is the U.S. federal government or state or local governments where the obligors are rated investment grade (either by an independent rating agency or based upon our internal credit analysis). This amount includes \$223 million of U.S. federal government transactions and \$111 million of transactions where the ultimate obligors are state or local governments. Transactions may have guaranties of energy savings from third party service providers, which typically are entities rated investment grade by an independent rating agency.
- Transactions where the projects or the ultimate obligors are commercial entities that have been rated investment grade (either by an independent rating agency or based on our internal credit analysis). Of this total, \$8 million of the transactions have been rated investment grade by an independent rating agency.
- Transactions where the projects or the ultimate obligors are commercial entities that either have ratings below investment grade (either by an independent rating agency or using our internal credit analysis) or where the nature of the subordination in the asset causes it to be considered non-investment grade. This category of assets includes \$445 million of mezzanine loans made on a non-recourse basis to special purpose subsidiaries of residential solar companies where the nature of the subordination causes it to be considered non-investment grade. These loans are secured by residential solar assets and we rely on certain limited indemnities, warranties, and other obligations of the residential solar companies or their other subsidiaries. Approximately \$260 million of our non-investment grade loans were made to entities in which we also have non-controlling equity investments of approximately \$19 million. Commercial Non-Investment Grade receivables also includes \$72 million of transactions where the projects or the ultimate obligors are commercial entities that have ratings below investment grade using our internal credit analysis. \$8 million of loans are on non-accrual status and are fully reserved for loss. See Receivables and Investments below for further information.
- Total reconciles to the total of the government receivables and commercial receivables lines of the consolidated balance sheets.
- Includes the real estate and the lease intangible assets (including those held through equity method investments) from which we receive scheduled lease payments, typically under long-term triple net lease agreements.
- Excludes approximately 175 transactions each with outstanding balances that are less than \$1 million and that in the aggregate total \$60 million.

Equity Method Investments

We have made non-controlling equity investments in a number of renewable energy projects as well as in a joint venture that owns land with long-term triple net lease agreements to several solar projects that we account for as equity method investments. As of September 30, 2019, we held the following equity method investments:

Investment Date	Investee	Carrying Value
		<i>(in millions)</i>
Various	2007 Vento I, LLC	\$ 81
December 2015	Buckeye Wind Energy Class B Holdings, LLC	73
Various	Vivint Solar Asset 1 Class B, LLC	50
Various	Northern Frontier Wind, LLC	45
December 2018	3D Engie, LLC	39
October 2016	Invenenergy Gunsight Mountain Holdings, LLC	35
Various	Helix Fund I, LLC	26
Various	Other transactions	100
	Total equity method investments	<u>\$ 449</u>

An underlying solar project associated with one of our equity method investments located in the U.S. Virgin Islands was materially damaged in the 2017 hurricanes. In the first quarter of 2019, we collected insurance proceeds of approximately \$8 million. While there can be no assurance in this regard, we continue to believe that the project's other existing assets will be sufficient to recover our remaining carrying value of approximately \$2 million.

As of December 31, 2018, we held a \$14 million investment in a wind project that was purchased as part of a portfolio at a significant discount to the project's book value, in part, due to the lack of a power purchase agreement and some operational issues. As disclosed in our 2018 Form 10-K, in January 2019 the sponsor indicated it was evaluating this project for impairment due to these issues and recorded an impairment of approximately \$12 million in their financial statements as of and for the year ended December 31, 2018, which were issued to us in March 2019. Due to the fact that we account for this investment one quarter in arrears to allow for the receipt of financial information, we recognized our share of the operating results of the project, a loss of approximately \$8 million, in the quarter ended March 31, 2019.

Based on an evaluation of our equity method investments, inclusive of these projects, we determined that no OTTI had occurred as of September 30, 2019 or December 31, 2018.

Receivables and Investments

The following table provides a summary of our anticipated maturity dates of our receivables and investments and the weighted average yield for each range of maturities as of September 30, 2019:

	Total	Less than 1 year	1-5 years	5-10 years	More than 10 years
	<i>(dollars in millions)</i>				
Receivables					
Maturities by period	\$ 975	\$ 3	\$ 62	\$ 187	\$ 723
Weighted average yield by period	7.8%	4.8%	7.3%	7.5%	7.9%
Investments					
Maturities by period	\$ 113	\$ —	\$ —	\$ 12	\$ 101
Weighted average yield by period	4.6%	—%	—%	4.1%	4.7%

Included in our non-investment grade assets are two commercial receivables with a combined total carrying value of approximately \$8 million as of September 30, 2019 which we consider impaired and have held on non-accrual status since the second quarter of 2017. These receivables were acquired as part of a larger 2014 portfolio acquisition and represent assignments of land lease payments from two wind projects (the "Projects") that became past due in the second quarter of 2017. We have been informed by the owners of the Projects that the Projects are experiencing a decline in revenue. The owners of the Projects have terminated the leases. In July 2017, we filed a legal claim against the owners of the Projects in order to protect our interests in these Projects and the amounts due to us under the land lease assignments. In January 2018, we received a \$1.6 million payment from the Projects, but have received no payments since that date. In October 2019, we received a court decision indicating that the owners of the projects were within their rights under the contract terms to terminate the lease which impacts the land lease assignments to us. Accordingly, we recorded an allowance for the entire asset amounts as of September 30, 2019. We are reviewing the court's decision and expect to continue to pursue our legal claims by appealing that decision.

Other than the items discussed above, we had no receivables or investments that were impaired or on non-accrual status as of September 30, 2019 or December 31, 2018. There were no troubled debt restructurings as of September 30, 2019 or December 31, 2018, and no allowances other than discussed above.

Real Estate

Our real estate is leased to renewable energy projects, typically under long-term triple net leases with expiration dates that range between the years 2033 and 2057 under the initial terms and 2047 and 2080 if all renewals are exercised. The components of our real estate portfolio as of September 30, 2019 and December 31, 2018, were as follows:

	September 30, 2019	December 31, 2018
	<i>(in millions)</i>	
Real estate		
Land	\$ 269	\$ 269
Lease intangibles	104	104
Accumulated amortization of lease intangibles	(10)	(8)
Real estate	<u>\$ 363</u>	<u>\$ 365</u>

As of September 30, 2019, the future amortization expense of the intangible assets and the future minimum rental income payments under our land lease agreements are as follows:

	Future Amortization Expense	Minimum Rental Income Payments
	<i>(in millions)</i>	
From October 1, 2019 to December 31, 2019	\$ 1	\$ 5
2020	3	22
2021	3	22
2022	3	22
2023	3	23
2024	3	24
Thereafter	78	765
Total	<u>\$ 94</u>	<u>\$ 883</u>

Deferred Funding Obligations

In accordance with the terms of purchase agreements relating to certain equity method investments, receivables and investments, payments of the purchase price are scheduled to be made over time and as a result, we have recorded deferred funding obligations of \$1 million and \$72 million as of September 30, 2019 and December 31, 2018, respectively.

7. Credit facilities

Senior credit facilities

We have two senior revolving credit facilities, a representation-based loan agreement (the "Rep-Based Facility") and an approval-based loan agreement (the "Approval-Based Facility") with various lenders, which mature in July 2023. The Rep-Based Facility is a senior secured revolving limited-recourse credit facility with a maximum outstanding principal amount of \$250 million and the Approval-Based Facility is a senior secured revolving recourse credit facility with a maximum outstanding principal amount of \$200 million. The proceeds from these credit facilities were used to pay off our existing senior secured revolving credit facility, which was terminated upon repayment.

The following table provides additional detail on our senior credit facilities as of September 30, 2019:

	Rep-Based Facility	Approval-Based Facility
	<i>(dollars in millions)</i>	
Outstanding balance	\$ —	\$ 38
Value of collateral pledged to credit facility	115	199
Weighted average short-term borrowing rate	—%	3.56%

Loans under the Rep-Based Facility bear interest at a rate equal to one-month LIBOR plus 1.40% or 1.85% (depending on the type of collateral) or, in certain circumstances, the Federal Funds Rate plus 0.40% or 0.85% (depending on the type of collateral) and loans under the Approval-Based Facility bear interest at a rate equal to one-month LIBOR plus 1.50% or 2.00% (depending on the type of collateral) or, under certain circumstances, the Federal Funds Rate plus 0.50% or 1.00% (depending on the type of collateral).

Inclusion of any financings of the Company in the borrowing base as collateral under the Rep-Based Facility will be subject to the Company making certain agreed upon representations and warranties. We have provided a limited guaranty covering the accuracy of the representations and warranties, and the repayment by the borrowers of certain amounts relating to any such financing is the exclusive remedy with respect to any breach of such representations and warranties under the Rep-Based Facility. Inclusion of any financings of the Company in the borrowing base as collateral under the Approval-Based Facility will be subject to the approval of a super-majority of the lenders, and we have provided a guaranty of the Approval-Based Facility.

The amount eligible to be drawn under the facilities is based on a discount to the value of each included investment based upon the type of collateral or an applicable valuation percentage. The sum of included financings after taking into account the applicable valuation percentages and any changes in the valuation of the financings in accordance with the Loan Agreements determines the borrowing capacity, subject to the overall facility limits described above. Under the Rep-Based Facility, the applicable valuation percentage is 85% in the case of a land-lease obligor or a U.S. Federal Government obligor, 80% in the case of an institutional obligor or state and local obligor, and with respect to other obligors or in certain circumstances, such other percentage as the administrative agent may prescribe. Under the Approval-Based Facility, the applicable valuation percentage is 85% in the case of certain approved financings and 67% or such other percentage as the administrative agent may prescribe, including in the case of one asset, an agreed-upon amortization schedule. The stated minimum maturities to be paid under the amortization schedule to meet the required target loan balances as of September 30, 2019 are as follows:

	Future minimum maturities	
	<i>(in millions)</i>	
October 1, 2019 to December 31, 2019	\$	—
2020		7
2021		8
2022		8
2023		15
Total	\$	38

We have approximately \$7 million of remaining unamortized costs associated with the credit facilities that have been capitalized and included in other assets on our balance sheet and are being amortized on a straight-line basis over the term of the credit facilities. Administrative fees are payable annually to the administrative agent under each of the Loan Agreements and letter agreements with the administrative agent. Under the Rep-Based Facility, we pay to the administrative agent on each monthly payment date, for the benefit of the lenders, certain availability fees for the Rep-Based Facility equal to 0.60%, divided by 365 or 366, as applicable, multiplied by the excess of the available total commitments under the Rep-Based Loan Agreement over the actual amount borrowed under the Rep-Based Facility.

The credit facilities contain terms, conditions, covenants, and representations and warranties that are customary and typical for a transaction of this nature, including various affirmative and negative covenants, and limitations on the incurrence of liens and indebtedness, investments, fundamental organizational changes, dispositions, changes in the nature of business, transactions with affiliates, use of proceeds and stock repurchases. We were in compliance with our covenants as of September 30, 2019.

The credit facilities also include customary events of default, including the existence of a default in more than 50% of underlying financings. The occurrence of an event of default may result in termination of the credit facilities, acceleration of amounts due under the credit facilities, and accrual of default interest at a rate of LIBOR plus 2.00% in the case of both the Rep-Based Facility and the Approval-Based Facility.

8. Long-term Debt

Non-recourse debt

We have outstanding the following asset-backed non-recourse debt and bank loans:

	Outstanding Balance as of		Interest Rate	Maturity Date	Anticipated Balance at Maturity	Carrying Value of Assets Pledged as of		Description of Assets Pledged
	September 30, 2019	December 31, 2018				September 30, 2019	December 31, 2018	
<i>(dollars in millions)</i>								
HASI Sustainable Yield Bond 2013-1 ⁽¹⁾	\$ —	\$ 55	2.79%	December 2019	\$ —	\$ —	\$ 76	Receivables
HASI Sustainable Yield Bond 2015-1A	87	90	4.28%	October 2034	—	127	135	Receivables, real estate and real estate intangibles
HASI Sustainable Yield Bond 2015-1B Note	13	13	5.41%	October 2034	—	127	135	Class B Bond of HASI Sustainable Yield Bond 2015-1
2017 Credit Agreement	77	112	4.12%	January 2023	—	93	151	Equity interests in Strong Upwind Holdings I, II, III, and IV LLC, and Northern Frontier, LLC
HASI SYB Loan Agreement 2015-2	29	32	6.17% ⁽²⁾	December 2023	—	73	72	Equity interest in Buckeye Wind Energy Class B Holdings LLC, related interest rate swap
HASI SYB Trust 2016-2	76	77	4.35%	April 2037	—	77	81	Receivables
2017 Master Repurchase Agreement	—	56	—%	January 2020 ⁽³⁾	—	62	67	Receivables and investments
HASI ECON 101 Trust	129	133	3.57%	May 2041	—	134	137	Receivables and investments
HASI SYB Trust 2017-1	156	159	3.86%	March 2042	—	207	208	Receivables, real estate and real estate intangibles
Other non-recourse debt ⁽⁴⁾	113	125	3.15% - 7.45%	2019 to 2046	18	114	178	Receivables
Debt issuance costs	(15)	(17)						
Non-recourse debt ⁽⁵⁾	<u>\$ 665</u>	<u>\$ 835</u>						

(1) This bond was prepaid without penalty in the second quarter of 2019.

(2) Interest rate represents the current period's LIBOR based rate plus the spread. We have hedged the LIBOR rate exposure using interest rate swaps fixed at 2.55% for HASI SYB Loan Agreement 2015-2.

(3) We modified this agreement in the second quarter of 2019 to extend the maturity date to October 2019, and again in the fourth quarter of 2019 to extend the maturity to January 2020.

(4) Other non-recourse debt consists of various debt agreements used to finance certain of our receivables for their term. Debt service payment requirements, in a majority of cases, are equal to or less than the cash flows received from the underlying receivables.

(5) The total collateral pledged against our non-recourse debt was \$887 million and \$1,105 million as of September 30, 2019 and December 31, 2018, respectively. In addition, \$41 million and \$35 million of our restricted cash balance was pledged as collateral to various non-recourse loans as of September 30, 2019 and December 31, 2018, respectively.

We have pledged the financed assets, and typically our interests in one or more parents or subsidiaries of the borrower that are legally separate bankruptcy remote special purpose entities as security for the non-recourse debt. There is no recourse for repayment of these obligations other than to the applicable borrower and any collateral pledged as security for the obligations. Generally, the assets and credit of these entities are not available to satisfy any of our other debts and obligations. The creditors can only look to the borrower, the cash flows of the pledged assets and any other collateral pledged, to satisfy the debt and we are not otherwise liable for nonpayment of such cash flows. The debt agreements contain terms, conditions, covenants, and representations and warranties that are customary and typical for transactions of this nature, including limitations on the incurrence of liens and indebtedness, investments, fundamental organizational changes, dispositions, changes in the nature of business, transactions with affiliates, use of proceeds and stock repurchases. The agreements also include customary events of default, the occurrence of which may result in termination of the agreements, acceleration of amounts due, and accrual of default interest. We typically act as servicer for the debt transactions. We are in compliance with all covenants as of September 30, 2019 and December 31, 2018.

We have guaranteed the accuracy of certain of the representations and warranties and other obligations of certain of our subsidiaries under certain of the debt agreements and provided an indemnity against certain losses from “bad acts” of such subsidiaries including fraud, failure to disclose a material fact, theft, misappropriation, voluntary bankruptcy or unauthorized transfers. In the case of the debt secured by certain of our renewable energy equity interests, we have also guaranteed the compliance of our subsidiaries with certain tax matters and certain obligations if our joint venture partners exercise their right to withdraw from our partnerships.

The stated minimum maturities of non-recourse debt as of September 30, 2019, were as follows:

	Future minimum maturities	
	<i>(in millions)</i>	
October 1, 2019 to December 31, 2019	\$	12
2020		25
2021		26
2022		27
2023		126
2024		33
Thereafter		431
Total minimum maturities	\$	680
Deferred financing costs, net		(15)
Total non-recourse debt	\$	665

The stated minimum maturities of non-recourse debt above include only the mandatory minimum principal payments. To the extent there are additional cash flows received from our investments in renewable energy projects serving as collateral for certain of our non-recourse debt facilities, these additional cash flows are required to be used to make additional principal payments against the respective debt. Any additional principal payments made due to these provisions may impact the anticipated balance at maturity of these financings.

Senior Unsecured Notes

In July 2019, we issued \$350 million aggregate principal amount (\$344 million net of issuance costs) of 5.25% senior unsecured notes due July 15, 2024 (“2024 Notes”). In September 2019, we issued an additional \$150 million aggregate principal amount 2024 Notes for total proceeds of \$157 million (\$155 million net of issuance costs). The 2024 Notes were issued jointly by certain of our TRSs and are guaranteed by the Company and certain other subsidiaries. The 2024 Notes require interest payments semi-annually in cash in arrears on January 15 and July 15 of each year, commencing on January 15, 2020. The proceeds of the 2024 Notes are intended to be used to acquire or refinance, in whole or in part, eligible green projects, including assets which are neutral to negative on incremental carbon emissions.

The 2024 Notes are unsecured, are subject to covenants which may limit our ability to incur additional indebtedness, and require us to maintain unencumbered assets of not less than 120% of our unsecured debt. These covenants will terminate on any date at which the 2024 Notes have been rated investment grade by two of the three major credit rating agencies and no event of default has occurred. We are in compliance with all of our covenants as of September 30, 2019. The 2024 Notes impose certain requirements in the event that we merge with or sell substantially all of our assets to another entity.

Prior to July 15, 2021, we may redeem, at our option, some or all of the 2024 Notes for the outstanding principal amount plus the applicable “make-whole” premium as defined in the indenture governing the 2024 Notes and accrued and unpaid interest through the redemption date. In addition, prior to July 15, 2021, we may redeem up to 40% of the 2024 Notes using the proceeds of certain equity offerings at a price equal to 105.25% of the principal amount thereof, plus accrued but unpaid interest, if any, to, but excluding, the applicable redemption date. On, or subsequent to, July 15, 2021, we may redeem the senior unsecured notes in whole or in part at redemption prices defined in the indenture governing the senior unsecured notes, plus accrued and unpaid interest through the redemption date.

The following table presents a summary of the components of the 2024 Notes:

	September 30, 2019
	<i>(in millions)</i>
Principal	\$ 500
Accrued interest	7
Unamortized premium	7
Less: Unamortized financing costs	(8)
Carrying value of 2024 Notes	<u>\$ 506</u>

We recorded approximately \$5 million in interest expense related to the 2024 Notes in the three months ended September 30, 2019.

Convertible Senior Notes

We issued \$150 million aggregate principal amount (\$145 million net of issuance costs) of 4.125% convertible senior notes due September 1, 2022. Holders may convert any of their convertible notes into shares of our common stock at the applicable conversion rate at any time prior to the close of business on the second scheduled trading day immediately preceding the maturity date, unless the convertible notes have been previously redeemed or repurchased by us. Our board of directors approved a dividend of \$0.335 payable to stockholders of record on April 3, 2019, which results in a conversion rate after that date of 36.7179 for each \$1,000 principal amount of convertible notes with a conversion price of \$27.23. The conversion rate is subject to adjustment for dividends declared above \$0.335 per share per quarter and certain other events that may be dilutive to the holder.

Following the occurrence of a make-whole fundamental change, we will, in certain circumstances, increase the conversion rate for a holder that converts its convertible notes in connection with such make-whole fundamental change. There are no cash settlement provisions in the convertible notes and the conversion option can only be settled through physical delivery of our common stock. Additionally, upon the occurrence of certain fundamental changes involving us, holders of the convertible notes may require us to redeem all or a portion of their convertible notes for cash at a price of 100% of the principal amount outstanding, plus accrued and unpaid interest.

We have a redemption option to call the convertible notes prior to maturity (i) on or after March 1, 2022 and (ii) at any time if such a redemption is deemed reasonably necessary to preserve our qualification as a REIT. The redemption price will be equal to the principal of the notes being redeemed, plus accrued and unpaid interest. In the event of redemption after March 1, 2022, there will be an additional make-whole premium paid to the holder of the redeemed notes unless the redemption is deemed reasonably necessary to preserve our qualification as a REIT.

The following table presents a summary of the components of the convertible notes:

	September 30, 2019	December 31, 2018
	<i>(in millions)</i>	
Principal	\$ 150	\$ 150
Accrued interest	1	2
Less: Unamortized financing costs	(3)	(4)
Carrying value of convertible notes	<u>\$ 148</u>	<u>\$ 148</u>

We recorded approximately \$2 million in interest expense related to the convertible notes in the three months ended September 30, 2019 and 2018 and recorded approximately \$5 million in the nine months ended September 30, 2019 and 2018.

9. Commitments and Contingencies

Litigation

The nature of our operations exposes us to the risk of claims and litigation in the normal course of our business. We are not currently subject to any legal proceedings that are probable of having a material adverse effect on our financial position, results of operations or cash flows.

Guarantees to other transaction participants

In connection with some of our transactions, we have provided certain limited representations, warranties, covenants and/or provided an indemnity against certain losses resulting from our own actions, including related to certain investment tax credits. As of September 30, 2019, there have been no such actions resulting in claims against the Company.

10. Income Tax

We recorded an income tax expense of approximately \$0.1 million for the three months ended September 30, 2019, compared to \$0.9 million income tax expense in the three months ended September 30, 2018. For the nine months ended September 30, 2019, we recorded an income tax benefit of \$1.3 million, compared to an income tax expense of \$1.1 million for the nine months ended September 30, 2018. For the three and nine months ended September 30, 2019 and 2018, our income tax benefit/expense was determined using federal rates of 21%, and combined state rates, net of federal benefit, of approximately 3%.

11. Equity

Dividends and Distributions

Our board of directors declared the following dividends in 2018 and 2019:

Announced Date	Record Date	Pay Date	Amount per share
2/21/2018	4/4/2018	4/12/2018	\$ 0.330
5/31/2018	7/5/2018	7/12/2018	0.330
9/12/2018	10/3/2018	10/11/2018	0.330
12/12/2018	12/26/2018 ⁽¹⁾	1/10/2019	0.330
2/21/2019	4/3/2019	4/11/2019	0.335
6/6/2019	7/5/2019	7/12/2019	0.335
9/12/2019	10/3/2019	10/10/2019	0.335

(1) This dividend was treated as a distribution in 2019 for tax purposes.

Equity Offerings

We have an effective universal shelf registration statement registering the potential offer and sale, from time to time and in one or more offerings, of any combination of our common stock, preferred stock, depositary shares, debt securities, warrants and rights (collectively referred to as the “securities”). We may offer the securities directly, through agents, or to or through underwriters by means of ordinary brokers’ transactions on the NYSE or otherwise at market prices prevailing at the time of sale or at negotiated prices and may include “at the market” (“ATM”) offerings or sales “at the market,” to or through a market maker or into an existing trading market on an exchange or otherwise. We completed the following public offerings (including ATM issuances) of our common stock in 2018 and 2019:

Closing Date	Common Stock Offerings	Shares Issued ⁽¹⁾	Price Per Share	Net Proceeds ⁽²⁾
			<i>(amounts in millions, except per share amounts)</i>	
5/18/18 to 6/25/18	ATM	0.834	\$ 18.76 ⁽³⁾	\$ 15
11/15/18 to 12/11/18	ATM	2.777	23.37 ⁽³⁾	64
12/17/2018 and 1/3/2019	Public Offering	5.465	21.60 ⁽⁴⁾	117
1/23/19 to 3/21/19	ATM	1.603	23.39 ⁽³⁾	37
5/7/2019 to 6/7/2019	ATM	1.926	26.33 ⁽³⁾	50

(1) Includes shares issued in connection with the exercise of the underwriters’ option to purchase additional shares.

(2) Net proceeds from the offerings are shown after deducting underwriting discounts, commissions and other offering costs.

(3) Represents the average price per share at which investors in our ATM offerings purchased our shares.

(4) Represents the price per share at which the underwriters in our public offerings purchased our shares.

Equity-based Compensation Awards under our 2013 Plan

We have issued awards with service, performance and market conditions that vest from 2019 to 2023. During the nine months ended September 30, 2019, our board of directors awarded employees and directors 586,909 shares of restricted stock, restricted stock units and LTIP Units that vest from 2019 to 2022. As of September 30, 2019, as it relates to previously issued restricted stock awards with performance conditions, we have concluded that it is probable that the performance conditions will be met. Refer to Note 4 for background on the LTIP Units.

For the three and nine months ended September 30, 2019, we recorded \$3 million and \$10 million, respectively, of equity-based compensation expense as compared to \$3 million and \$8 million for the three and nine months ended September 30, 2018, respectively. The total unrecognized compensation expense related to awards of shares of restricted stock and restricted stock units was approximately \$17 million as of September 30, 2019. We expect to recognize compensation expense related to our equity awards over a weighted-average term of approximately 2 years. A summary of the unvested shares of restricted common stock that have been issued is as follows:

	Restricted Shares of Common Stock	Weighted Average Grant Date Fair Value	Value
		<i>(per share)</i>	<i>(in millions)</i>
Ending Balance — December 31, 2017	1,399,593	\$ 18.73	\$ 26.2
Granted	454,106	19.72	9.0
Vested	(370,072)	18.88	(7.0)
Forfeited	(96,871)	18.92	(1.8)
Ending Balance — December 31, 2018	1,386,756	\$ 19.00	\$ 26.4
Granted	150,493	23.99	3.6
Vested	(767,885)	18.90	(14.5)
Forfeited	(5,789)	20.62	(0.1)
Ending Balance — September 30, 2019	<u>763,575</u>	<u>\$ 20.07</u>	<u>\$ 15.4</u>

A summary of the unvested shares of restricted stock units that have market-based vesting conditions that have been issued is as follows:

	Restricted Stock Units ⁽¹⁾	Weighted Average Grant Date Fair Value	Value
		<i>(per share)</i>	<i>(in millions)</i>
Ending Balance — December 31, 2017	255,706	\$ 18.99	\$ 4.9
Granted	176,128	20.24	3.5
Vested	(20,368)	18.99	(0.4)
Forfeited	(18,318)	19.05	(0.3)
Ending Balance — December 31, 2018	393,148	\$ 19.55	\$ 7.7
Granted	46,586	25.10	1.2
Vested	(1,380)	21.68	—
Forfeited	(2,776)	22.23	(0.1)
Ending Balance — September 30, 2019	435,578	\$ 20.12	\$ 8.8

- (1) As discussed in Note 2, restricted stock units with market-based vesting conditions can vest between 0% and 200% subject to both the absolute performance of the Company's common stock as well as relative performance compared to a group of peers.

A summary of the unvested LTIP Units that have time-based vesting conditions that have been issued is as follows:

	LTIP Units ⁽¹⁾	Weighted Average Grant Date Fair Value	Value
		<i>(per share)</i>	<i>(in millions)</i>
Ending Balance — December 31, 2018	—	\$ —	\$ —
Granted	209,330	25.84	5.4
Vested	(8,020)	25.82	(0.2)
Forfeited	—	—	—
Ending Balance — September 30, 2019	201,310	\$ 25.84	\$ 5.2

- (1) See Note 4 for information on the vesting of LTIP Units.

A summary of the unvested LTIP Units that have market-based vesting conditions that have been issued is as follows:

	LTIP Units ⁽¹⁾	Weighted Average Grant Date Fair Value	Value
		<i>(per share)</i>	<i>(in millions)</i>
Ending Balance — December 31, 2018	—	\$ —	\$ —
Granted	180,500	26.70	4.8
Vested	—	—	—
Forfeited	—	—	—
Ending Balance — September 30, 2019	180,500	\$ 26.70	\$ 4.8

- (1) See Note 4 for information on the vesting of LTIP Units. LTIP Units with market-based vesting conditions can vest between 0% and 200% subject to both the absolute performance of the Company's common stock as well as relative performance compared to a group of peers.

12. Earnings per Share of Common Stock

Both the net income or loss attributable to the non-controlling OP units and the non-controlling limited partners' outstanding OP units have been excluded from the basic earnings per share and the diluted earnings per share calculations attributable to common stockholders. Unvested share-based payment awards that contain non-forfeitable rights to dividends or dividend equivalents (whether paid or unpaid) are participating securities and are included in the computation of earnings per share pursuant to the two-class method.

The computation of basic and diluted earnings per common share of common stock is as follows:

Numerator:	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	<i>(in thousands, except share and per share data)</i>			
Net income (loss) attributable to controlling stockholders and participating securities	\$ 9,102	\$ 16,483	\$ 35,487	\$ 32,522
Less: Dividends on participating securities	(300)	(433)	(900)	(1,342)
Undistributed earnings attributable to participating securities	—	—	—	—
Net income (loss) attributable to controlling stockholders	<u>\$ 8,802</u>	<u>\$ 16,050</u>	<u>\$ 34,587</u>	<u>\$ 31,180</u>
Denominator:				
Weighted-average number of common shares — basic	64,922,325	52,728,587	63,492,884	52,167,308
Weighted-average number of common shares — diluted	65,630,711	52,728,587	64,147,835	52,167,308
Basic earnings per common share	<u>\$ 0.14</u>	<u>\$ 0.30</u>	<u>\$ 0.55</u>	<u>\$ 0.60</u>
Diluted earnings per common share	<u>\$ 0.13</u>	<u>\$ 0.30</u>	<u>\$ 0.54</u>	<u>\$ 0.60</u>
Other Information:				
Weighted-average number of OP units	<u>279,415</u>	<u>281,289</u>	<u>278,202</u>	<u>282,171</u>
Unvested restricted common stock outstanding at period end (i.e., participating securities)			<u>763,575</u>	<u>1,310,796</u>

13. Equity Method Investments

We have non-controlling unconsolidated equity investments in renewable energy projects. We recognized income from our equity method investments of \$6 million and \$18 million during the three and nine months ended September 30, 2019, respectively, as compared to income of \$12 million and \$20 million during the three and nine months ended September 30, 2018, respectively. We describe our accounting for non-controlling equity investments in Note 2.

The following is a summary of the consolidated financial position and results of operations of the significant entities accounted for using the equity method.

	Buckeye Wind Energy Class B Holdings, LLC	Other Investments ⁽¹⁾	Total
	<i>(in millions)</i>		
Balance Sheet			
<i>As of June 30, 2019</i>			
Current assets	\$ 3	\$ 332	\$ 335
Total assets	271	4,085	4,356
Current liabilities	1	187	188
Total liabilities	12	1,416	1,428
Members' equity	259	2,669	2,928
<i>As of December 31, 2018</i>			
Current assets	4	228	232
Total assets	276	3,903	4,179
Current liabilities	1	163	164
Total liabilities	12	1,204	1,216
Members' equity	264	2,699	2,963
Income Statement			
<i>For the six months ended June 30, 2019</i>			
Revenue	7	179	186
Income from continuing operations	(2)	(18)	(20)
Net income	(2)	(18)	(20)
<i>For the six months ended June 30, 2018</i>			
Revenue	7	131	138
Income from continuing operations	(2)	32	30
Net income	(2)	32	30

(1) Represents aggregated financial statement information for investments not separately presented.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

In this Form 10-Q, unless specifically stated otherwise or the context otherwise indicates, references to "we," "our," "us," and "HASI" refer to Hannon Armstrong Sustainable Infrastructure Capital, Inc., a Maryland corporation, Hannon Armstrong Sustainable Infrastructure, L.P., and any of our other subsidiaries. Hannon Armstrong Sustainable Infrastructure, L.P. is a Delaware limited partnership of which we are the sole general partner and to which we refer in this Form 10-Q as our "Operating Partnership." Our business is focused on reducing greenhouse gases that have been scientifically linked to climate change. We refer to these gases, which are often for consistency expressed as carbon dioxide equivalents, as carbon emissions.

The following discussion is a supplement to and should be read in conjunction with the accompanying Condensed Consolidated Financial Statements and related notes and with our Annual Report on Form 10-K for the year ended December 31, 2018, as amended by our Amendment No. 1 to our Annual Report on Form 10-K for the year ended December 31, 2018, (collectively, our "2018 Form 10-K") that was filed with the SEC.

Our Business

We focus on making investments in climate change solutions by providing capital to the leading companies in the energy efficiency, renewable energy and other sustainable infrastructure markets. Our goal is to generate attractive returns for our stockholders by investing in a diversified portfolio of investments that generate long-term, recurring and predictable cash flows from proven commercial technologies.

We believe we were one of the first U.S. public companies solely dedicated to investments that reduce carbon emissions or increase resilience to climate change. Our investments, which typically benefit from contractually committed high credit quality obligors, have taken several forms including equity, joint ventures, real estate ownership, lending or other financing transactions. We also generate ongoing fees through gain-on-sale securitization transactions, services and asset management.

We are internally managed, and our management team has extensive relevant industry knowledge and experience, dating back more than 30 years. We have long-standing relationships with the leading energy service companies ("ESCOs"), manufacturers, project developers, utilities, owners and operators. Our origination strategy is to use these relationships to generate recurring, programmatic investment and fee generating opportunities. Additionally, we have relationships with leading banks, investment banks, and institutional investors from which we are referred additional investment and fee generating opportunities.

Our investments are focused on three areas:

- *Behind-The-Meter ("BTM")*: distributed building or facility projects, which reduce energy usage or cost through the use of solar generation and energy storage or energy efficiency improvements including heating, ventilation and air conditioning systems ("HVAC"), lighting, energy controls, roofs, windows, building shells, and/or combined heat and power systems;
- *Grid Connected ("GC")*: projects that deploy cleaner energy sources, such as solar and wind to generate power where the off-taker or counterparty is transacting in the wholesale electric power grid; and
- *Other Sustainable Infrastructure*: upgraded transmission or distribution systems, water and storm water infrastructure, seismic retrofits and other projects, that improve water or energy efficiency, increase resiliency, positively impact the environment or more efficiently use natural resources.

We prefer investments where the assets have a long-term, investment grade rated off-taker or counterparties. In the case of BTM, the off-taker or counterparty may be the building owner or occupant, and we may be secured by the installed improvements or other real estate rights. In the case of GC, the off-taker or counterparty may be a utility or electric user who has entered into a contractually committed agreement, such as a power purchase agreement (“PPA”), to purchase some, or all of, the power produced by a renewable energy project at a minimum price with potential price escalators for a portion of the project’s estimated life.

We make our investments utilizing a variety of structures including:

- Equity in either preferred or common structures in unconsolidated entities;
- Government and commercial receivables or securities, such as loans for renewable energy and energy efficiency projects; and
- Real estate, such as land or other assets leased for use by sustainable infrastructure projects typically under long-term leases.

Our equity investments in renewable energy projects are operated by various renewable energy companies or by joint ventures in which we participate. These transactions allow us to participate in the cash flows associated with these projects, typically on a priority basis. We make debt investments in energy efficiency projects, which reduce the amount or cost of energy usage, and may also make debt investments in various renewable energy or other sustainable infrastructure projects or portfolios of projects. We are usually assigned the payment stream and other contractual rights, often using our pre-existing master purchase agreements with the ESCOs. Our debt investments are generally also secured by the installed improvements or other real estate rights. We also own, directly or through equity investments, over 24,000 acres of land that are leased under long-term agreements to over 50 renewable energy projects, where our rental income is typically senior to most project costs, debt, and equity.

We focus on projects that use proven technology and that often have contractually committed agreements with an investment grade rated off-taker or counterparties. While we prefer investments in which we hold a senior or preferred position in a project, we also have invested, in mezzanine debt or common equity in projects where we are subordinated to project debt and/or preferred forms of equity. Investing greater than 15% of our assets in any individual project requires the approval of a majority of our independent directors. We may adjust the mix and duration of our assets over time in order to allow us to manage various aspects of our portfolio, including expected risk-adjusted returns, macroeconomic conditions, liquidity, availability of adequate financing for our assets, and to maintain our REIT qualification and our exemption from registration as an investment company under the 1940 Act.

We completed approximately \$287 million and \$810 million of transactions during the three and nine months ended September 30, 2019, compared to approximately \$553 million and \$861 million during the same periods in 2018. As of September 30, 2019, pursuant to our strategy of holding transactions on our balance sheet, we held approximately \$1.9 billion of transactions on our balance sheet, which we refer to as our “Portfolio.” As of September 30, 2019, our Portfolio consisted of over 195 assets and we seek to manage the diversity of our Portfolio by, among other factors, project type, project operator, type of investment, type of technology, transaction size, geography, obligor and maturity.

We have available to us a broad range of financing sources that allow us to use borrowings as part of our financing strategy to increase potential returns to our stockholders. We may finance our investments using non-recourse or recourse debt and equity. We have worked to expand our liquidity and access to the debt and bank loan markets and have recently completed our first issuance of senior unsecured notes. We may also decide to finance transactions through the use of off-balance sheet securitization structures where we transfer all or a portion of the economics of the transaction, typically using securitization trusts, to institutional investors in exchange for a gain on the transfer and in some cases, ongoing fees. As of September 30, 2019, we managed approximately \$3.8 billion in assets in these securitization trusts or vehicles that are not consolidated on our balance sheet. When combined with our Portfolio, as of September 30, 2019, we manage approximately \$5.7 billion of assets which we refer to as our managed assets.

We have a large and active pipeline of potential new opportunities that are in various stages of our underwriting process. We refer to potential opportunities as being part of our pipeline if we have determined that the project fits within our investment strategy and exhibits the appropriate risk and reward characteristics through an initial credit analysis, including a quantitative and qualitative assessment of the opportunity, as well as research on the market and sponsor. Our pipeline of transactions that could potentially close in the next 12 months consists of opportunities in which we will be the lead originator as well as opportunities in which we may participate with other institutional investors. As of September 30, 2019, our pipeline consisted of more than \$2.5 billion in new equity, debt and real estate opportunities. Of our pipeline, 76% is related to BTM assets and 11% is related to GC assets, with the remainder related to other sustainable infrastructure. There can, however, be no assurance with regard to any specific terms of such pipeline transactions or that any or all of the transactions in our pipeline will be completed.

As part of our investment process, we calculate the ratio of the estimated first year of metric tons of carbon emissions avoided by our investments divided by the capital invested to understand the impact our investments are having on climate change. In this calculation, which we refer to as CarbonCount®, we use emissions factor data, expressed on a CO² equivalent basis, from the U.S. Government or the International Energy Administration to an estimate of a project's energy production or savings to compute an estimate of metric tons of carbon emissions avoided. In addition to carbon emissions, we also consider other environmental attributes, such as water use reduction, stormwater remediation benefits or stream restoration benefits.

We elected and qualified to be taxed as a REIT for U.S. federal income tax purposes, commencing with our taxable year ended December 31, 2013 and operate our business in a manner that will permit us to continue to maintain our exemption from registration as an investment company under the 1940 Act.

Factors Impacting our Operating Results

We expect that our results of operations will be affected by a number of factors and will primarily depend on the size of our Portfolio, including the mix of transactions which we hold in our Portfolio, the income we receive from securitizations, syndications and other services, our Portfolio's credit risk profile, changes in market interest rates, commodity prices, changes in climate, federal, state and/or municipal governmental policies, general market conditions in local, regional and national economies, our ability to qualify as a REIT and maintain our exemption from registration as an investment company under the 1940 Act, and the impacts of climate change. We provide a summary of the factors impacting our operating results in our 2018 Form 10-K under MD&A – Factors Impacting our Operating Results.

Critical Accounting Policies and Use of Estimates

Our financial statements are prepared in accordance with GAAP, which requires the use of estimates and assumptions that involve the exercise of judgment and use of assumptions as to future uncertainties. Understanding our accounting policies and the extent to which we make judgments and estimates in applying these policies is integral to understanding our financial statements.

We have identified the following accounting policies as critical because they require significant judgments and assumptions about highly complex and inherently uncertain matters and the use of reasonably different estimates and assumptions could have a material impact on our reported results of operations or financial condition. These critical accounting policies govern Consolidation and Equity Method Investments, Impairment of our Portfolio, and Securitization of Receivables. We evaluate our critical accounting estimates and judgments on an ongoing basis and update them, as necessary, based on changing conditions. We provide additional information on our critical accounting policies and use of estimates under Item 7. MD&A—Critical Accounting Policies and Use of Estimates in our 2018 Form 10-K and under Note 2 of this Form 10-Q.

Financial Condition and Results of Operations

Our Portfolio

Our Portfolio totaled approximately \$1.9 billion as of September 30, 2019 and included approximately \$1.0 billion of behind-the-meter assets, approximately \$0.8 billion of grid-connected assets and approximately \$0.1 billion of other sustainable infrastructure investments. Approximately 23% of our Portfolio consisted of unconsolidated equity investments in renewable energy related projects and approximately 20% of our Portfolio was real estate used in renewable energy projects. The remainder consisted of fixed-rate government and commercial receivables and debt securities which we generally refer to as debt investments. Our Portfolio consisted of approximately 195 transactions with an average size of \$9 million and the weighted average remaining life of our Portfolio (excluding match-funded transactions) of approximately 14 years as of September 30, 2019.

Our Portfolio included the following as of September 30, 2019:

- Equity investments in either preferred or common structures in unconsolidated entities;
- Government and commercial receivables, such as loans for renewable energy and energy efficiency projects;
- Real estate, such as land or other assets leased for use by sustainable infrastructure projects typically under long-term leases; and
- Investments in debt securities of renewable energy or energy efficiency projects.

The table below provides details on the interest rate and maturity of our debt investments as of September 30, 2019:

	Balance	Maturity
	<i>(in millions)</i>	
Fixed-rate receivables, interest rates less than 5.00% per annum	\$ 280	2020 to 2046
Fixed-rate receivables, interest rates from 5.00% to 6.50% per annum	69	2020 to 2054
Fixed-rate receivables, interest rates greater than 6.50% per annum	634	2019 to 2069
Receivables	983	
Allowance for loss on receivables	(8)	
Receivables, net of allowance	975	
Fixed-rate investments, interest rates less than 5.00% per annum	68	2025 to 2045
Fixed-rate investments, interest rates from 5.00% to 6.50% per annum	45	2028 to 2051
Total receivables and investments	\$ 1,088	

The table below presents, for each major category of our Portfolio and the related interest-bearing liabilities, the average outstanding balances, income earned, the interest expense incurred, and average yield or cost. Our earnings from our equity method investments are not included in total revenue and thus we have excluded the income and related interest expense for our equity method investments from this analysis. Our net investment margin represents the difference between the interest and rental income generated by our Portfolio and the interest expense, divided by our average Portfolio balance.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	<i>(dollars in millions)</i>			
Interest income, receivables	\$ 17	\$ 15	\$ 48	\$ 40
Average monthly balance of receivables	\$ 906	\$ 1,041	\$ 901	\$ 1,004
Average interest rate of receivables	7.5%	5.6%	7.1%	5.3%
Interest income, investments	\$ 1	\$ 2	\$ 5	\$ 5
Average monthly balance of investments	\$ 126	\$ 166	\$ 160	\$ 160
Average interest rate of investments	4.5%	4.1%	4.3%	4.0%
Rental income	\$ 7	\$ 6	\$ 19	\$ 18
Average monthly balance of real estate	\$ 363	\$ 355	\$ 364	\$ 345
Average yield on real estate	7.1%	7.0%	7.1%	7.0%
Average monthly balance of receivables, investments, and real estate	\$ 1,395	\$ 1,562	\$ 1,425	\$ 1,509
Average yield from receivables, investments, and real estate	7.2%	5.8%	6.8%	5.6%
Interest expense ⁽¹⁾	\$ 14	\$ 16	\$ 40	\$ 46
Average monthly balance of debt ⁽¹⁾	\$ 1,102	\$ 1,349	\$ 1,106	\$ 1,272
Average interest rate of debt ⁽¹⁾	5.2%	4.8%	4.8%	4.8%
Average interest spread ⁽¹⁾	2.0%	1.0%	2.0%	0.8%
Net investment margin ⁽¹⁾	3.1%	1.6%	3.1%	1.6%

(1) Excludes amounts related to the non-recourse debt used to finance the equity method investments in the renewable energy projects because our earnings from these equity investments are not included in total revenue.

The following table provides a summary of our anticipated principal repayments for our receivables and investments as of September 30, 2019:

	Payment due by Period				
	Total	Less than 1 year	1-5 years	5-10 years	More than 10 years
	<i>(in millions)</i>				
Receivables	\$ 975	\$ 60	\$ 136	\$ 127	\$ 652
Investments	113	4	18	25	66

See Note 6 to our financial statements in this Form 10-Q for information on:

- the anticipated maturity dates of our receivables and investments and the weighted average yield for each range of maturities as of September 30, 2019,
- the term of our leases and a schedule of our future minimum rental income under our land lease agreements as of September 30, 2019,
- the credit quality of our Portfolio, and
- the receivables on non-accrual status.

For information on our residual assets relating to our securitization trusts, see Note 5 to our financial statements in this Form 10-Q. The residual assets do not have a contractual maturity date and the underlying securitized assets have contractual maturity dates until 2055.

Results of Operations

Comparison of the Three Months Ended September 30, 2019 vs. Three Months Ended September 30, 2018

	Three Months Ended September 30,		\$ Change	% Change
	2019	2018		
	<i>(dollars in millions)</i>			
Revenue				
Interest income	\$ 19	\$ 17	\$ 2	12 %
Rental income	7	6	1	17 %
Gain on sale of receivables and investments	8	11	(3)	(27)%
Fee income	5	1	4	400 %
Total revenue	39	35	4	11 %
Expenses				
Interest expense	17	20	(3)	(15)%
Provision for loss on receivables	8	—	8	NM
Compensation and benefits	7	6	1	17 %
General and administrative	4	3	1	33 %
Total expenses	36	29	7	24 %
Income before equity method investments	3	6	(3)	(50)%
Income (loss) from equity method investments	6	12	(6)	(50)%
Income (loss) before income taxes	9	18	(9)	(50)%
Income tax (expense) benefit	—	(1)	1	(100)%
Net income (loss)	\$ 9	\$ 17	\$ (8)	(47)%

NM—Percentage change is not meaningful.

- Net income decreased by \$8 million primarily due to a recent court ruling resulting in a provision for loss on receivables that were previously placed on non-accrual status in 2017. A \$4 million increase in total revenue and a \$3 million decrease in interest expense were offset by a \$6 million decrease in income from equity method investments and a \$1 million net increase in compensation and benefits and general and administrative expenses and taxes. These results do not reflect the non-GAAP core earnings adjustment applied to our equity method investments, which is discussed in the non-GAAP financial measures section below. See Note 6 to our financial statements for a further discussion of our allowance for loss on receivables.

- Total revenue increased by \$4 million due to a \$3 million increase in interest and rental income resulting from higher yielding assets in the portfolio and a \$1 million increase in gain on sale and fee income.
- Interest expense decreased by \$3 million primarily due to lower average outstanding borrowings.
- Income from equity method investments decreased by \$6 million, primarily due to a project company's negotiated settlement of a power purchase agreement with one of our investee's off-takers in the same period last year.

Comparison of the Nine Months Ended September 30, 2019 vs. Nine Months Ended September 30, 2018

	Nine Months Ended September 30,			
	2019	2018	\$ Change	% Change
	<i>(dollars in millions)</i>			
Revenue				
Interest income	\$ 54	\$ 46	\$ 8	17 %
Rental income	19	18	1	6 %
Gain on sale of receivables and investments	17	31	(14)	(45)%
Fee income	13	5	8	160 %
Total revenue	103	100	3	3 %
Expenses				
Interest expense	47	57	(10)	(18)%
Provision for loss on receivables	8	—	8	NM
Compensation and benefits	21	18	3	17 %
General and administrative	11	11	—	— %
Total expenses	87	86	1	1 %
Income before equity method investments	16	14	2	14 %
Income (loss) from equity method investments	18	20	(2)	(10)%
Income (loss) before income taxes	34	34	—	— %
Income tax (expense) benefit	1	(1)	2	(200)%
Net income (loss)	\$ 35	\$ 33	\$ 2	6 %

NM—Percentage change is not meaningful.

- Net income increased by approximately \$2 million as a result of a \$3 million increase in total revenue and a \$10 million decrease in interest expense which was offset by the \$8 million provision described above and a \$3 million increase in compensation and benefits and general and administrative expenses. A decrease in income from equity method investments offset an increase in income tax (expense) benefit. These results do not reflect the non-GAAP core earnings adjustment applied to our equity method investments, which is discussed in the non-GAAP financial measures section below.
- Total revenue increased by \$3 million when compared to the same period in 2018. Higher interest income and rental income of \$9 million resulting from higher yielding assets in the portfolio offset the decline in the combination of gain on sale of receivables and investments and fee income of \$6 million primarily due to the mix of our securitization activity including the rotation of lower yielding assets off of our balance sheet in 2019.
- Interest expense decreased by \$10 million primarily due to lower average outstanding borrowings. Provision for loss on receivables grew by \$8 million due to a recent court ruling resulting in a provision for loss on receivables that were previously placed on non-accrual status in 2017. See Note 6 to our financial statements for a further discussion of our allowance for loss on receivables.
- Compensation and benefits increased by \$3 million due to an increase in equity-based compensation expense resulting from the timing of vesting and higher award valuations.
- Income from equity method investments decreased by \$2 million during the nine months ended September 30, 2019 when compared to the same period in 2018, primarily due to a project company's negotiated settlement of a power purchase agreement with one of our investee's off-takers in the same period last year. This decline was offset by a \$2 million increase in income tax benefit as compared to 2018.

Non-GAAP Financial Measures

We consider the following non-GAAP financial measures useful to investors as key supplemental measures of our performance: (1) core earnings and (2) managed assets. These non-GAAP financial measures should be considered along with, but not as alternatives to, net income or loss as measures of our operating performance. These non-GAAP financial measures, as calculated by us, may not be comparable to similarly named financial measures as reported by other companies that do not define such terms exactly as we define such terms.

Core Earnings

We calculate core earnings as GAAP net income (loss) excluding non-cash equity compensation expense, non-cash provision for loss on receivables, amortization of intangibles, any one-time acquisition related costs or non-cash tax charges and the earnings attributable to our non-controlling interest of our Operating Partnership. We also make an adjustment to our equity method investments in the renewable energy projects as described below. In the future, core earnings may also exclude one-time events pursuant to changes in GAAP and certain other non-cash charges as approved by a majority of our independent directors.

Certain of our equity method investments in renewable energy projects are structured using typical partnership “flip” structures where the investors with cash distribution preferences receive a pre-negotiated return consisting of priority distributions from the project cash flows, in many cases, along with tax attributes. Once this preferred return is achieved, the partnership “flips” and the common equity investor, often the operator or sponsor of the project, receives more of the cash flows through its equity interests while the previously preferred investors retain an ongoing residual interest. We have made investments in both the preferred and common equity of these structures. Regardless of the nature of our equity interest, we typically negotiate the purchase prices of our equity investments, which have a finite expected life, based on our assessment of the expected cash flows we will receive from these projects discounted back to the net present value, based on a target investment rate, with the expected cash flows to be received in the future reflecting both a return on the capital (at the investment rate) and a return of the capital we have committed to the project. We use a similar approach in the underwriting of our receivables.

Under GAAP, we account for these equity method investments utilizing the HLBV method. Under this method, we recognize income or loss based on the change in the amount each partner would receive, typically based on the negotiated profit and loss allocation, if the assets were liquidated at book value, after adjusting for any distributions or contributions made during such quarter. The HLBV allocations of income or loss may be impacted by the receipt of tax attributes, as tax equity investors are allocated losses in proportion to the tax benefits received, while the sponsors of the project are allocated gains of a similar amount. In addition, the agreed upon allocations of the project’s cash flows may differ materially from the profit and loss allocation used for the HLBV calculations.

The cash distributions for our equity method investments are segregated into a return on and return of capital on our cash flow statement based on the cumulative income (loss) that has been allocated using the HLBV method. However, as a result of the application of the HLBV method, including the impact of tax allocations, the high levels of depreciation and other non-cash expenses that are common to renewable energy projects and the differences between the agreed upon profit and loss and the cash flow allocations, the distributions and thus the economic returns (i.e. return on capital) achieved from the investment are often significantly different from the income or loss that is allocated to us under the HLBV method. Thus, in calculating core earnings, we further adjust GAAP net income (loss) to take into account our calculation of the return on capital (based upon the investment rate) from our renewable energy equity method investments, as adjusted to reflect the performance of the project and the cash distributed. We believe this core equity method investment adjustment to our GAAP net income (loss) in calculating our core earnings measure is an important supplement to the HLBV income allocations determined under GAAP for an investor to understand the economic performance of these investments.

For the three and nine months ended September 30, 2019, we recognized income of \$6 million and \$18 million, respectively under GAAP for our equity investments in renewable energy projects. We reversed the GAAP income and recorded \$10 million and \$29 million for core earnings as discussed above, to reflect our return on capital from these investments for the three and nine months ended September 30, 2019. This compares to the collected cash distributions from these equity method investments of approximately \$21 million and \$75 million for the three and nine months ended September 30, 2019, with the difference between core earnings and cash collected representing a return of capital.

We believe that core earnings provides an additional measure of our core operating performance by eliminating the impact of certain non-cash expenses and facilitating a comparison of our financial results to those of other comparable companies with fewer or no non-cash charges and comparison of our own operating results from period to period. Our management uses core earnings in this way. We believe that our investors also use core earnings, or a comparable supplemental performance measure, to evaluate and compare our performance to that of our peers, and as such, we believe that the disclosure of core earnings is useful to our investors.

However, core earnings does not represent cash generated from operating activities in accordance with GAAP and should not be considered as an alternative to net income (loss) (determined in accordance with GAAP), or an indication of our cash flow from operating activities (determined in accordance with GAAP), or a measure of our liquidity, or an indication of funds available to fund our cash needs, including our ability to make cash distributions. In addition, our methodology for calculating core earnings may differ from the methodologies employed by other companies to calculate the same or similar supplemental performance measures, and accordingly, our reported core earnings may not be comparable to similar metrics reported by other companies.

The table below provides a reconciliation of our GAAP net income (loss) to core earnings for the three and nine months ended September 30, 2019 and 2018.

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2019		2018		2019		2018	
	\$	Per Share	\$	Per Share	\$	Per Share	\$	Per Share
<i>(dollars in thousands, except per share amounts)</i>								
Net income (loss) attributable to controlling stockholders ⁽¹⁾	\$ 9,102	\$ 0.13	\$ 16,483	\$ 0.30	\$ 35,487	\$ 0.54	\$ 32,522	\$ 0.60
Core earnings adjustments:								
Reverse GAAP (income) loss from equity method investments	(5,984)		(11,671)		(18,114)		(19,969)	
Add back core equity method investments earnings	9,715		10,306		28,857		30,810	
Non-cash equity-based compensation charges	3,395		2,657		10,384		7,881	
Non-cash provision for loss on receivables	8,027		—		8,027		—	
Amortization of intangibles	823		812		2,462		2,380	
Non-cash provision (benefit) for income taxes	132		932		(1,304)		932	
Current year earnings attributable to non-controlling interest	74		91		191		177	
Core earnings ⁽²⁾	\$ 25,284	\$ 0.38	\$ 19,610	\$ 0.36	\$ 65,990	\$ 1.01	\$ 54,733	\$ 1.01

(1) This is the GAAP diluted earnings per share and is the most comparable GAAP measure to our core earnings per share.

(2) Core earnings per share is based on 66,785,779 shares and 65,425,114 shares for the three and nine months ended September 30, 2019 and 54,711,488 shares and 54,116,864 shares for the three and nine months ended September 30, 2018, which represents the weighted average number of fully-diluted shares outstanding including our restricted stock awards and restricted stock units and the non-controlling interest in our Operating Partnership. We include any potential common stock issuance in this calculation related to our convertible notes using the treasury stock method.

Managed Assets

As we both consolidate assets on our balance sheet and securitize assets off-balance sheet, certain of our receivables and other assets are not reflected on our balance sheet where we may have a residual interest in the performance of the investment, such as servicing rights or a retained interest in cash flows. Thus, we present our investments on a non-GAAP “Managed Assets” basis, which assumes that securitized receivables are not sold. We believe that our Managed Asset information is useful to investors because it portrays the amount of both on- and off-balance sheet receivables that we manage, which enables investors to understand and evaluate the credit performance associated with our portfolio of receivables, investments and residual assets in off-balance sheet securitized receivables. Our non-GAAP Managed Assets measure may not be comparable to similarly titled measures used by other companies.

The following is a reconciliation of our GAAP Portfolio to our Managed Assets:

	As of	
	September 30, 2019	December 31, 2018
	<i>(dollars in millions)</i>	
Equity method investments	\$ 449	\$ 471
Government receivables	300	497
Commercial receivables	675	447
Real estate	363	365
Investments	113	170
Assets held in securitization trusts	3,768	3,334
Managed Assets	\$ 5,668	\$ 5,284
Losses on receivables as a percentage of assets under management	0.1%	0.0%

Other Metrics

Portfolio Yield

We calculate portfolio yield as the weighted average underwritten yield of the investments in our Portfolio as of the end of the period. Underwritten yield is the rate at which we discount the expected cash flows from the assets in our Portfolio to determine our purchase price. In calculating underwritten yield, we make certain assumptions, including the timing and amounts of cash flows generated by our investments, which may differ from actual results, and may update this yield to reflect our most current estimates of project performance. We believe that portfolio yield provides an additional metric to understand certain characteristics of our Portfolio as of a point in time. Our management uses portfolio yield this way and we believe that our investors use it in a similar fashion to evaluate certain characteristics of our Portfolio compared to our peers, and as such, we believe that the disclosure of portfolio yield is useful to our investors.

Our Portfolio totaled approximately \$1.9 billion with an unlevered portfolio yield of 7.7% and 6.8% as of September 30, 2019 and December 31, 2018, respectively. See Note 6 to our financial statements and MD&A - Our Business in this Form 10-Q for additional discussion of the characteristics of our portfolio as of September 30, 2019.

Environmental Metrics

As part of our investment process, we calculate the ratio of the estimated first year of metric tons of carbon emissions avoided by our investments divided by the capital invested to understand the impact our investments are having on climate change. In this calculation, which we refer to as CarbonCount®, we apply emissions factor data from the U.S. Government or the International Energy Administration to an estimate of a project's energy production or savings to compute an estimate of metric tons of carbon emissions avoided. We estimate that our investments originated in the quarter ended September 30, 2019, will reduce annual carbon emissions by approximately 96 thousand metric tons.

Liquidity and Capital Resources

Liquidity is a measure of our ability to meet potential short-term (within one year) and long-term cash requirements, including ongoing commitments to repay borrowings, fund and maintain our current and future assets, make distributions to our stockholders and other general business needs. We will use significant cash to make investments in sustainable infrastructure, repay principal and interest on our borrowings, make distributions to our stockholders and fund our operations. We use borrowings as part of our financing strategy to increase potential returns to our stockholders and have available to us a broad range of financing sources. We finance our investments using non-recourse or recourse debt, equity and through the use of off-balance sheet securitization structures.

In December 2018, we entered into two senior secured revolving credit facilities ("Rep-Based Facility" and "Approval-Based Facility") with several lenders with a combined maximum outstanding balance of \$450 million, to repay and replace our pre-existing credit facility. For additional information on our credit facilities, see Note 7 to our financial statements on this Form 10-Q.

As of September 30, 2019, we had approximately \$665 million of non-recourse borrowings, \$500 million of senior unsecured notes, and \$150 million in outstanding convertible senior notes. We also continue to utilize off-balance sheet securitization transactions, where we transfer the loans or other assets we originate to securitization trusts or other bankruptcy remote special purpose funding vehicles that are not consolidated on our balance sheet. In the quarter ended June 30, 2019, we were able to repay \$113 million of on-balance sheet debt by selling lower yielding, highly leveraged assets to institutional investors using such trusts. As of September 30, 2019, the outstanding principal balance of our assets financed using these off-balance sheet transactions was approximately \$3.8 billion.

Large institutional investors, primarily insurance companies and commercial banks, have provided the financing for these non-recourse and off-balance sheet financings. We have worked to expand our liquidity and access to the debt and bank loan markets and have entered into transactions with several new institutional investors in the last year. For further information on the credit facilities, asset backed non-recourse debt, convertible notes, and securitizations, see Notes 5, 7 and 8 to our financial statements of this Form 10-Q.

In July of 2019, we issued \$350 million principal amount of senior unsecured notes which bear interest at a rate of 5.25%. In September of 2019, we issued follow-on notes with a principal amount of \$150 million, priced at 104.875% of the principal amount resulting in a yield to maturity for this offering of 4.13%.

During the nine months ended September 30, 2019, we raised approximately \$98 million through the issuance of equity, including approximately \$10 million through the exercise of the underwriter's option of common equity from our December 2018 public offering, and approximately \$88 million under our "at-the-market" equity distribution program, or our ATM program, pursuant to which we can offer to sell, from time to time, up to an aggregate amount of \$250 million of our common stock. For additional information related to our equity raises see Note 11 to our financial statements of this Form 10-Q.

We plan to raise additional equity capital and continue to use fixed and floating rate borrowings which may be in the form of additional bank credit facilities (including term loans and revolving facilities), warehouse facilities, repurchase agreements and public and private equity and debt issuances as a means of financing our business. We also expect to use both on-balance sheet and off-balance sheet securitizations and also believe we will be able to customize securitized tranches to meet investment preferences of different investors. We may also consider the use of separately funded special purpose entities or funds to allow us to expand the investments that we make or to manage the Portfolio diversification.

The decision on how we finance specific assets or groups of assets is largely driven by capital allocations and risk and portfolio and financial management considerations, including the potential for gain on sale or fee income, as well as the overall interest rate environment, prevailing credit spreads and the terms of available financing and market conditions. Over time, as market conditions change, we may use other forms of debt and equity in addition to these financing arrangements.

The amount of leverage we may deploy for particular assets will depend upon the availability of particular types of financing and our assessment of the credit, liquidity, price volatility and other risks of those assets, the interest rate environment and the credit quality of our financing counterparties. As shown in the table below, our debt to equity ratio was approximately 1.5 to 1 as of September 30, 2019, below our target limit of 2.5 to 1. Our percentage of fixed rate debt was approximately 97% as of September 30, 2019, which is within our targeted fixed rate debt percentage range of 60% to 85%.

The calculation of our fixed-rate debt and leverage is shown in the chart below:

	September 30, 2019	% of Total	December 31, 2018	% of Total
	<i>(dollars in millions)</i>		<i>(dollars in millions)</i>	
Floating-rate borrowings	\$ 38	3%	\$ 317	26%
Fixed-rate debt	1,318	97%	925	74%
Total debt ⁽¹⁾	\$ 1,356	100%	\$ 1,242	100%
Equity	\$ 883		\$ 805	
Leverage	1.5 to 1		1.5 to 1	

- (1) Floating-rate borrowings include borrowings under our floating-rate credit facilities, and approximately \$58 million of non-recourse debt with floating rate exposure as of December 31, 2018, respectively. Fixed-rate debt also includes the present notional value of non-recourse debt that is hedged using interest rate swaps. Debt excludes securitizations that are not consolidated on our balance sheet.

We intend to use leverage for the primary purpose of financing our Portfolio and business activities and not for the purpose of speculating on changes in interest rates. While we may temporarily exceed the leverage or fixed rate debt targets, if our board of directors approves a material change to these targets, we anticipate advising our stockholders of this change through disclosure in our periodic reports and other filings under the Exchange Act.

While we generally intend to hold our target assets that we do not securitize upon acquisition as long-term investments, certain of our investments may be sold in order to manage our interest rate risk and liquidity needs, to meet other operating objectives and to adapt to market conditions. The timing and impact of future sales of receivables and investments, if any, cannot be predicted with any certainty. Since we expect that our assets will generally be financed with debt, we expect that a significant portion of the proceeds from sales of our assets (if any), prepayments and scheduled amortization will be used to repay balances under our debt financing sources.

We believe these identified sources of liquidity in addition to our cash on hand will be adequate for purposes of meeting our short-term and long-term liquidity needs, which include funding future investments, operating costs and distributions to our stockholders. To qualify as a REIT, we must distribute annually at least 90% of our REIT's taxable income without regard to the deduction for dividends paid and excluding net capital gains. These dividend requirements limit our ability to retain earnings and thereby replenish or increase capital for growth and our operations.

Sources and Uses of Cash

We had approximately \$229 million and \$59 million of unrestricted cash, cash equivalents, and restricted cash as of September 30, 2019 and December 31, 2018, respectively.

Cash flows relating to operating activities

Net cash provided by operating activities was approximately \$32 million for the nine months ended September 30, 2019, driven primarily by net income of \$36 million, offset by adjustments for non-cash and other items of \$4 million. The non-cash and other adjustments consisted of increases of \$8 million related to provision for loss on receivables, \$4 million related to equity method investments, \$3 million of depreciation and amortization, \$5 million of amortization of deferred financing costs, and \$10 million related to equity-based compensation. These were offset by \$15 million related to gains on securitizations and \$19 million related to changes in accounts payable and accrued expenses and other items.

Net cash provided by operating activities was approximately \$30 million for the nine months ended September 30, 2018, driven primarily by net income of \$33 million, offset by adjustments for non-cash and other items of \$3 million. The non-cash and other adjustments consisted of increases of \$2 million related to equity method investments, \$8 million of amortization of deferred financing costs, \$4 million of depreciation and amortization, \$4 million related to receivables held-for-sale, \$8 million related to equity-based compensation, and \$2 million related to accounts payable and accrued expenses. These were offset by \$22 million related to gains on securitizations and \$9 million related to other items.

Cash flows relating to investing activities

Net cash provided by investing activities was approximately \$1 million for the nine months ended September 30, 2019. We made \$296 million of investments in receivables and fixed rate debt-securities, funded escrow accounts for \$29 million, and made \$48 million of equity method investments. We collected \$53 million from equity method investments representing the return of capital determined under GAAP, \$54 million from receivables and fixed rate debt-securities, \$226 million from the sales of financial assets, \$8 million from the sale of equity method investments, and received \$32 million from escrow accounts and other items.

Net cash used in investing activities was approximately \$38 million for nine months ended September 30, 2018. We made \$133 million of investments in receivables and fixed rate debt-securities, made \$23 million of investments in real estate, made \$4 million of equity method investments, and funded escrow accounts for \$29 million. We collected \$77 million from equity method investments representing the return of capital determined under GAAP, \$33 million from receivables and fixed rate debt securities, withdrew \$29 million from escrow accounts, and received \$12 million from the sale of an equity method investment

Cash flows relating to financing activities

Net cash provided by financing activities was approximately \$138 million for the nine months ended September 30, 2019. We had non-recourse debt borrowings of \$35 million, borrowings from our credit facilities of \$102 million, issued \$507 million of senior unsecured notes, and received \$97 million of net proceeds from the issuance of common stock. We made \$181 million of principal payments on non-recourse debt, \$322 million of principal payments on credit facilities, and \$19 million of payments on deferred funding obligations and paid \$81 million of dividends, distributions and other.

Net cash used in financing activities was approximately \$13 million for the nine months ended September 30, 2018. We had non-recourse debt borrowings of \$52 million, borrowings from our credit facilities of \$159 million, and received \$15 million of net proceeds from the issuance of common stock. We made \$109 million of principal payments on non-recourse debt, \$3 million of principal payments on credit facilities, and \$70 million of payments on deferred funding obligations and paid \$57 million of dividends, distributions and other.

Off-Balance Sheet Arrangements

We have relationships with non-consolidated entities or financial partnerships, such as entities often referred to as structured investment vehicles, or special purpose or variable interest entities, established to facilitate the sale of securitized assets. Other than our securitization assets (including any outstanding servicer advances) of approximately \$85 million as of September 30, 2019, that may be at risk in the event of defaults or prepayments in our securitization trusts and as discussed below, we have not guaranteed any obligations of non-consolidated entities or entered into any commitment or intent to provide additional funding to any such entities. A more detailed description of our relations with non-consolidated entities can be found in Note 2 of our financial statements included in this Form 10-Q.

In connection with some of our transactions, we have provided certain limited guaranties to other transaction participants covering the accuracy of certain limited representations, warranties or covenants and provided an indemnity against certain losses from "bad acts" including fraud, failure to disclose a material fact, theft, misappropriation, voluntary bankruptcy or unauthorized transfers. We have also guaranteed our compliance with certain tax matters, such as negatively impacting the investment tax credit and certain other obligations in the event of a change in ownership or our exercising certain protective rights.

Dividends

U.S. federal income tax law generally requires that a REIT distribute annually at least 90% of its REIT taxable income, without regard to the deduction for dividends paid and excluding net capital gains, and that it pays tax at regular corporate rates to the extent that it annually distributes less than 100% of its REIT taxable income. Our current policy is to pay quarterly distributions, which on an annual basis will equal or exceed substantially all of our REIT taxable income. Any distributions we make will be at the discretion of our board of directors and will depend upon, among other things, our actual results of operations. These results and our ability to pay distributions will be affected by various factors, including the net interest and other income from our portfolio, our operating expenses and any other expenditures. In the event that our board of directors determines to make distributions in excess of the income or cash flow generated from our assets, we may make such distributions from the proceeds of future offerings of equity or debt securities or other forms of debt financing or the sale of assets. To the extent that in respect of any calendar year, cash available for distribution is less than our taxable income, or our declared distribution we could be required to sell assets, borrow funds, or raise additional capital to make cash distributions or make a portion of the required distribution in the form of a taxable stock distribution or distribution of debt securities. We will generally not be required to make distributions with respect to activities conducted through our domestic TRSs.

To the extent that we generate taxable income, distributions to our stockholders generally will be taxable as ordinary income, although all or a portion of such distributions may be designated by us as a qualified dividend or capital gain. For taxable years ending in 2018 through 2025, a deduction is permitted for certain pass-through business income, including "qualified REIT dividends" (generally, dividends received by a REIT stockholder that are not designated as capital gain dividends or qualified dividend income), which will allow U.S. individuals, trusts, and estates to deduct up to 20% of such amounts, subject to certain limitations, resulting in an effective maximum U.S. federal income tax rate of 29.6% on such qualified REIT dividends. In the event we make distributions to our stockholders in excess of our taxable income, the excess will constitute a return of capital. In addition, a portion of such distributions may be taxable stock dividends payable in our shares. We will furnish annually to each of our stockholders a statement setting forth distributions paid during the preceding year and their characterization as ordinary income, return of capital, qualified dividend income or capital gain.

The dividends declared in 2018 and 2019 are described under Note 11 to our financial statements in this Form 10-Q.

Book Value Considerations

As of September 30, 2019, we carried only our investments, interest rate swaps, and residual assets in securitized receivables (included in other assets) at fair value on our balance sheet. As a result, in reviewing our book value, there are several important factors and limitations to consider. Other than our investments, interest rate swaps, and the residual assets in securitized financial assets that are carried on our balance sheet at fair value as of September 30, 2019, the carrying value of our remaining assets and liabilities are calculated as of a particular point in time, which is largely determined at the time such assets and liabilities were added to our balance sheet using a cost basis in accordance with GAAP. As such, our remaining assets and liabilities do not incorporate other factors that may have a significant impact on their value, most notably any impact of business activities, changes in estimates, or changes in general economic conditions, interest rates or commodity prices since the dates the assets or liabilities were initially recorded. Accordingly, our book value for these remaining assets and liabilities does not necessarily represent an estimate of our net realizable value, liquidation value or our market value.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We anticipate that our primary market risks will be related to the credit quality of our counterparties and project companies, market interest rates, the liquidity of our assets, and commodity prices. We will seek to manage these risks while, at the same time, seeking to provide an opportunity to stockholders to realize attractive returns through ownership of our common stock.

Credit Risks

We source and identify quality opportunities within our broad areas of expertise and apply our rigorous underwriting processes to our transactions, which, we believe, will generally enable us to minimize our credit losses and keep financing costs low. While we do not anticipate facing significant credit risk in our assets related to government energy efficiency projects, we are subject to varying degrees of credit risk in these projects in relation to guarantees provided by ESCOs where payments under energy savings performance contracts are contingent upon achieving pre-determined levels of energy savings. We are also exposed to credit risk in our other projects that do not benefit from governments as the obligor such as on-balance sheet financing of projects undertaken by universities, schools and hospitals, as well as privately owned commercial projects. In the case of various renewable energy and other sustainable infrastructure projects, we will also be exposed to the credit risk of the obligor of the project's PPA or other long-term contractual revenue commitments, as well as to the credit risk of certain suppliers and project operators. Our level of credit risk has increased, and is expected to continue to increase, as our strategy increasingly includes mezzanine debt, real estate and equity investments. We seek to manage credit risk through due diligence and underwriting processes, strong structural protections in our transaction agreements with customers and continual, active asset management and portfolio monitoring. Nevertheless, unanticipated credit losses could occur and during periods of economic downturn in the global economy, our exposure to credit risks from obligors increases, and our efforts to monitor and mitigate the associated risks may not be effective in reducing our credit risks.

We utilize a risk rating system to evaluate projects that we target. We first evaluate the credit rating of the obligors involved in the project using an average of the external credit ratings for an obligor, if available, or an estimated internal rating based on a third-party credit scoring system. We then evaluate the probability of default and estimated recovery rate based on the obligors' credit ratings and the terms of the contract. We also review the performance of each investment, including through, as appropriate, a review of project performance, monthly payment activity and active compliance monitoring, regular communications with project management and, as applicable, its obligors, sponsors and owners, monitoring the financial performance of the collateral, periodic property visits and monitoring cash management and reserve accounts. The results of our reviews are used to update the project's risk rating as necessary. Additional detail of the credit risks surrounding our Portfolio can be found in Note 6 of our financial statements included in this Form 10-Q.

Interest Rate and Borrowing Risks

Interest rate risk is highly sensitive to many factors, including governmental monetary and tax policies, domestic and international economic and political considerations and other factors beyond our control.

We are subject to interest rate risk in connection with new asset originations and our borrowings, including our credit facilities, and in the future, any new floating rate assets, credit facilities or other borrowings. Because short-term borrowings are generally short-term commitments of capital, lenders may respond to market conditions, making it more difficult for us to secure continued financing. If we are not able to renew our then existing borrowings or arrange for new financing on terms acceptable to us, or if we default on our covenants or are otherwise unable to access funds under any of these borrowings, we may have to curtail our origination of new assets and/or dispose of assets. We face particular risk in this regard given that we expect many of our borrowings will have a shorter duration than the assets they finance. Increasing interest rates may reduce the demand for our investments while declining interest rates may increase the demand. Both our current and future credit facilities and other borrowings may be of limited duration and are periodically refinanced at then current market rates. We attempt to reduce interest rate risks and to minimize exposure to interest rate fluctuations through the use of fixed rate financing structures, when appropriate, whereby we seek to (1) match the maturities of our debt obligations with the maturities of our assets, (2) borrow at fixed rates for a period of time, like in our asset backed securitizations, or (3) match the interest rates on our assets with like-kind debt (i.e., we may finance floating rate assets with floating rate debt and fixed-rate assets with fixed-rate debt), directly or through the use of interest rate swap agreements, interest rate cap agreements or other financial instruments, or through a combination of these strategies. We expect these instruments will allow us to minimize, but not eliminate, the risk that we must refinance our liabilities before the maturities of our assets and to reduce the impact of changing interest rates on our earnings. In addition to the use of traditional derivative instruments, we also seek to mitigate interest rate risk by using securitizations, syndications and other techniques to construct a portfolio with a staggered maturity profile. We monitor the impact of interest rate changes on the market for new originations and often have the flexibility to negotiate the term of our investments to offset interest rate increases.

Typically, our long-term debt is at fixed rates or we have used interest rate hedges that convert most of the floating rate debt to fixed rate. If interest rates rise, and our fixed rate debt balance remains constant, we expect the fair value of our fixed rate debt to decrease and the value of our hedges on floating rate debt to increase. See Note 3 to our financial statements in this Form 10-Q for the estimated fair value of our fixed rate long-term debt, which is based on having the same debt service requirements that could have been borrowed at the date presented, at prevailing current market interest rates.

Our credit facilities contain variable rate loans with approximately \$38 million outstanding as of September 30, 2019. Significant increases in interest rates would result in higher interest expense while decreases in interest rates would result in lower interest expense. As described above, we may use various financing techniques including interest rate swap agreements, interest rate cap agreements or other financial instruments, or a combination of these strategies to mitigate the variable interest nature of these facilities. A 50 basis point increase in LIBOR would increase the quarterly interest expense related to the \$38 million in variable rate borrowings by \$0.1 million. Such hypothetical impact of interest rates on our variable rate borrowings does not consider the effect of any change in overall economic activity that could occur in a rising interest rate environment. Further, in the event of such a change in interest rates, we may take actions to further mitigate our exposure to such a change. However, due to the uncertainty of the specific actions that would be taken and their possible effects, the analysis assumes no changes in our financial structure.

We record certain of our assets at fair value in our financial statements and any changes in the discount rate would impact the value of these assets. See Note 3 of the financial statements in this Form 10-Q.

Liquidity and Concentration Risk

The assets that comprise our asset portfolio are not and will not be publicly traded. A portion of these assets may be subject to legal and other restrictions on resale or will otherwise be less liquid than publicly-traded securities. The illiquidity of our assets may make it difficult for us to sell such assets if the need or desire arises, including in response to changes in economic and other conditions. Many of the projects in which we invest have one obligor and thus we are subject to concentration risk for these investments and could incur significant losses if any of these projects perform poorly or if we are required to write down the value of any of these projects. Many of our assets, or the collateral supporting those assets, are concentrated in certain geographic areas, which may make those assets or the related collateral more susceptible to natural disasters or other events. See also "Credit Risks" above.

Commodity Price Risk

When we make equity or debt investments for a renewable energy project that acts as a substitute for an underlying commodity, we may be exposed to volatility in prices for that commodity. The performance of renewable energy projects that produce electricity can be impacted by volatility in the market prices of various forms of energy, including electricity, coal and natural gas. This is especially true for utility scale projects that sell power on a wholesale basis such as many of our wind projects as opposed to distributed renewable projects or energy efficiency projects which compete against the retail or delivered costs of electricity which includes the cost of transmitting and distributing the electricity to the end user.

Although we generally focus on renewable energy projects that have the majority of their operating cash flow supported by long-term PPAs, to the extent that the projects have shorter term contracts (which may have the potential of producing higher current returns) or sell their power in the open market on a merchant basis, the cash flows of such projects, and thus the repayment of, or the returns available for, our assets, are subject to risk if energy prices change. We also attempt to mitigate our exposure through structural protections. These structural protections, which are typically in the form of a preferred return mechanism, are designed to allow recovery of our capital and an acceptable return over time. When structuring and underwriting these transactions, we evaluate these transactions using a variety of scenarios, including natural gas prices remaining low for an extended period of time. Despite these protections, as low natural gas prices continue or PPAs expire, the cash flows from certain of our projects are exposed to these market conditions and we work with the projects sponsors to minimize any impact as part of our ongoing active asset management and portfolio monitoring. In the case of utility scale solar projects, we focus on owning the land under the project where our rent is paid out of project operational costs before the debt or equity in the project receives any payments.

We believe the current low prices in natural gas will increase demand for some types of our projects, such as combined heat and power, but may reduce the demand for other projects such as renewable energy that may be a substitute for natural gas. We seek to structure our energy efficiency investments so that we typically avoid exposure to commodity price risk. However, volatility in energy prices may cause building owners and other parties to be reluctant to commit to projects for which repayment is based upon a fixed monetary value for energy savings that would not decline if the price of energy declines.

Risk Management

Our ongoing active asset management and portfolio monitoring processes provide investment oversight and valuable insight into our origination, underwriting and structuring processes. These processes create value through active monitoring of the state of our markets, enforcement of existing contracts and receivables management. As described above, we engage in a variety of interest rate management techniques that seek to mitigate the economic effect of interest rate changes on the values of, and returns on, some of our assets. While there has only been two credit losses, amounting to approximately \$19 million (net of recoveries) on the approximately \$6 billion of transactions we originated since 2012, which represents an aggregate loss of approximately 0.3% on cumulative transactions originated over this time period, there can be no assurance that we will continue to be as successful, particularly as we invest in more credit sensitive assets or more equity positions and engage in transactions with obligors other than U.S. federal government agencies. We seek to manage credit risk using thorough due diligence and underwriting processes, strong structural protections in our loan agreements with customers and continual, active asset management and portfolio monitoring. Additionally, we have established a Finance and Risk Committee of our board of directors which discusses and reviews policies and guidelines with respect to our risk assessment and risk management for various risks, including, but not limited to, our interest rate, counter-party, credit, capital availability and refinancing risks.

Item 4. Controls and Procedures

The Company's Chief Executive Officer and Chief Financial Officer, based on their evaluation of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) required by paragraph (b) of Rule 13a-15 or Rule 15d-15, have concluded that as of September 30, 2019, the Company's disclosure controls and procedures were effective to give reasonable assurances to the timely collection, evaluation and disclosure of information relating to the Company that would potentially be subject to disclosure under the Exchange Act and the rules and regulations promulgated thereunder.

Notwithstanding the foregoing, a control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that it will detect or uncover failures within the Company to disclose material information otherwise required to be set forth in our periodic reports.

Changes in Internal Controls over Financial Reporting

There have been no changes in the Company's "internal control over financial reporting" (as defined in Rule 13a-15(f) of the Exchange Act) that occurred during the three month period ended September 30, 2019, that have materially affected, or was reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may be involved in various claims and legal actions in the ordinary course of business. As of September 30, 2019, we are not currently subject to any legal proceedings that are likely to have a material adverse effect on our financial position, results of operations or cash flows.

Item 1A. Risk Factors

For a discussion of our potential risks and uncertainties, see the information in Item 1A. "Risk Factors" of our 2018 Form 10-K, filed with the SEC, which is accessible on the SEC's website at www.sec.gov.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

During the nine months ended September 30, 2019, certain of our employees surrendered common stock owned by them to satisfy their federal and state tax obligations associated with the vesting of their restricted stock awards.

The table below summarizes our repurchases of common stock during 2019. These repurchases are related to the surrender of common stock by certain of our employees to satisfy their tax and other compensation related withholdings associated with the vesting of restricted stock. The price paid per share is based on the closing price of our common stock as of

the date of the withholding.

Period	Total number of shares purchased	Average price per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum number of shares that may yet be purchased under the plans or programs
March 2019	253,743	25.31	N/A	N/A
May 2019	97,343	26.36	N/A	N/A
July 2019	885	28.06	N/A	N/A
August 2019	91	26.83	N/A	N/A

We exchanged 3,703 OP units held by our non-controlling interest holders for shares of our common stock during the nine months ended September 30, 2019.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

<u>Exhibit number</u>	<u>Exhibit description</u>
3.1	Articles of Amendment and Restatement of Hannon Armstrong Sustainable Infrastructure Capital, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Form 10-Q for the quarter ended June 30, 2013 (No. 001-35877), filed on August 9, 2013)
3.2	Bylaws of Hannon Armstrong Sustainable Infrastructure Capital, Inc. (incorporated by reference to Exhibit 3.2 to the Registrant's Form 10-Q for the quarter ended June 30, 2013 (No. 001-35877), filed on August 9, 2013)
3.3	Amended and Restated Agreement of Limited Partnership of Hannon Armstrong Sustainable Infrastructure, L.P. (incorporated by reference to Exhibit 3.3 to the Registrant's Form 10-Q for the quarter ended June 30, 2013 (No. 001-35877), filed on August 9, 2013)
4.1	Specimen Common Stock Certificate of Hannon Armstrong Sustainable Infrastructure Capital, Inc. (incorporated by reference to Exhibit 4.1 to the Registrant's Form S-11 (No. 333-186711), filed on April 12, 2013)
4.2	Indenture, dated as of August 22, 2017, between Hannon Armstrong Sustainable Infrastructure Capital, Inc. and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K (No. 001-35877), filed on August 22, 2017)
4.3	First Supplemental Indenture, dated as of August 22, 2017, between Hannon Armstrong Sustainable Infrastructure Capital, Inc. and U.S. Bank National Association, as Trustee (including the form of 4.125% Convertible Senior Note due 2022) (incorporated by reference to Exhibit 4.2 to the Registrant's Form 8-K (No. 001-35877), filed on August 22, 2017)
4.4	Indenture, dated as of July 2, 2019, between HAT Holdings I LLC and HAT Holdings II LLC, as issuers, and Hannon Armstrong Sustainable Infrastructure Capital, Inc., Hannon Armstrong Sustainable Infrastructure, L.P., and Hannon Armstrong Capital, LLC, as guarantors, and U.S. Bank National Association, as trustee (including the form of HAT Holdings I LLC and HAT Holdings II LLC's 5.25% Senior Notes due 2024). (incorporated by reference to Exhibit 4.1 to the Registrant's Form 8-K (No. 001-35877), filed on July 2, 2019)
31.1*	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification of Chief Executive Officer pursuant to section 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes—Oxley Act of 2002
32.2**	Certification of Chief Financial Officer pursuant to section 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes—Oxley Act of 2002
101.SCH*	Inline XBRL Taxonomy Extension Schema
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase
104	Cover Page Interactive Data File Included as Exhibit 101 (embedded within the Inline XBRL document)

* Filed herewith.

** Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

**HANNON ARMSTRONG SUSTAINABLE
INFRASTRUCTURE CAPITAL, INC.**
(Registrant)

Date: November 1, 2019

/s/ Jeffrey W. Eckel

Jeffrey W. Eckel

Chairman, Chief Executive Officer and President

Date: November 1, 2019

/s/ Charles W. Melko

Charles W. Melko

Chief Accounting Officer and Senior Vice President

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Section 2: EX-31.1 (EXHIBIT 31.1)

EXHIBIT 31.1 CERTIFICATIONS

I, Jeffrey W. Eckel, certify that:

I have reviewed this Quarterly Report on Form 10-Q of Hannon Armstrong Sustainable Infrastructure Capital, Inc. (the “registrant”);

1. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
2. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
3. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a–15(e) and 15d–15(e)) and internal controls over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

4. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 1, 2019

By: /s/ Jeffrey W. Eckel
Name: Jeffrey W. Eckel
Title: Chairman, Chief Executive Officer and President

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Section 3: EX-31.2 (EXHIBIT 31.2)

EXHIBIT 31.2 CERTIFICATIONS

I, Jeffrey A. Lipson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Hannon Armstrong Sustainable Infrastructure Capital, Inc. (the "registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal controls over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 1, 2019

By: /s/ Jeffrey A. Lipson
Name: Jeffrey A. Lipson
Title: Chief Financial Officer and Executive Vice President

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Section 4: EX-32.1 (EXHIBIT 32.1)

EXHIBIT 32.1

CERTIFICATION PURSUANT TO SECTION 906

OF THE SARBANES-OXLEY ACT OF 2002, 10 U.S.C. SECTION 1350

In connection with the Quarterly Report on Form 10-Q of Hannon Armstrong Sustainable Infrastructure Capital, Inc. (the "Company") for the period ended September 30, 2019, to be filed with the Securities and Exchange Commission on or about the date hereof (the "report"), I, Jeffrey W. Eckel, Chief Executive Officer and President of the Company, certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

1. The report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the report fairly presents, in all material respects, the financial condition and results of operations of the Company.

It is not intended that this statement be deemed to be filed for purposes of the Securities Exchange Act of 1934.

Date: November 1, 2019

By: /s/ Jeffrey W. Eckel
Name: Jeffrey W. Eckel
Title: Chairman, Chief Executive Officer and President

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Section 5: EX-32.2 (EXHIBIT 32.2)

EXHIBIT 32.2

CERTIFICATION PURSUANT TO SECTION 906

OF THE SARBANES-OXLEY ACT OF 2002, 10 U.S.C. SECTION 1350

In connection with the Quarterly Report on Form 10-Q of Hannon Armstrong Sustainable Infrastructure Capital, Inc. (the "Company") for the period ended September 30, 2019, to be filed with the Securities and Exchange Commission on or about the date hereof (the "report"), I, Jeffrey A. Lipson, Chief Financial Officer of the Company, certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

1. The report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the report fairly presents, in all material respects, the financial condition and results of operations of the Company.

It is not intended that this statement be deemed to be filed for purposes of the Securities Exchange Act of 1934.

Date: November 1, 2019

By: /s/ Jeffrey A. Lipson
Name: Jeffrey A. Lipson
Title: Chief Financial Officer and Executive Vice
President

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