

Hannon Armstrong

Expanding pipeline worth watching, but opaque outlook post-'24 keeps us Neutral

Reiterate Rating: NEUTRAL | PO: 24.00 USD | Price: 23.53 USD

Despite tailwinds, still awaiting guidance for '25+

We reiterate Neutral on Hannon Armstrong (HASI) while lowering our PO to \$24 (from \$29) as potential acceleration in EPS remains opaque post earlier Analyst Day. HASI is a clean tech investment firm with over \$10Bn in assets under management and a pipeline of potential opportunities exceeding \$5Bn. Still, mgmt's lack of clarity on the outlook post-'24 (despite opportunities to extend the 10-13% EPS growth guidance particularly given intimations of originations trending sizably higher under IRA) keeps us on the sidelines. We are incrementally more constructive on shares into eventual reveal of the outlook post- '24.

Equity needs to subside, but at the expense of DPS growth

By 2030, HASI plans to fund the equity portion of investments with internal cash. To achieve this, dividend per share (DPS) growth (mgmt. targets 5-8% annually) will need to lag EPS growth. Conversely, peers have signaled a limited need to issue equity to fund growth while simultaneously growing dividends faster (CWEN growing at the upper-end of the 6-8% range, NEP at/near the lower-end of the 12-15% range).

FTN shows promise, but still too early in the effort

HASI's push into untapped asset classes through the Fuels, Transport, and Nature (FTN) segment could indeed be a meaningful growth driver with nascent markets like renewable natural gas (RNG) and fleet decarbonization driving near-term expansion. Still, we note only ~12% of the current pipeline is tied to this segment. Further, while returns may be higher than traditional asset classes, earlier-stage nature adds risk to portfolio.

REIT status (and tax structure) remains a question mark

We continue to monitor HASI's status as Real Estate Investment Trust (REIT) and believe decision on the go-forward structure is imminent. Mgmt. has indicated the REIT structure has no meaningful impact on the business, but we note the tax-advantaged nature of the election is critical element to the story. Updates likely in 2H for '24 tax yr.

Moving PO to \$24 on steeper discounts to peers

We adjust our PO to \$24 from \$29 following our latest mark-to-market (MtM) and model refresh. Given the uncertainty beyond 2024 and slower DPS growth profile vs. peers, we increase the discounts applied to our methodologies (33/33/33 DDM/DCF/PE).

Estimates (Dec) (US\$)	2021A	2022A	2023E	2024E	2025E
EPS	1.88	2.08	2.28	2.48	2.58
GAAP EPS	1.44	0.46	0.55	0.85	0.94
EPS Change (YoY)	22.1%	10.6%	9.6%	8.8%	4.0%
Consensus EPS (Bloomberg)			2.22	2.41	2.58
DPS	1.40	1.50	1.60	1.70	1.79
Valuation (Dec)					
P/E	12.5x	11.3x	10.3x	9.5x	9.1x
GAAP P/E	16.3x	51.2x	42.8x	27.7x	25.0x
Dividend Yield	5.9%	6.4%	6.8%	7.2%	7.6%
EV / EBITDA*	294.9x	298.7x	132.2x	59.7x	45.1x
Free Cash Flow Yield*	0.5%	0%	16.1%	20.3%	24.6%

* For full definitions of *iQmethod*SM measures, see page 11.

01 June 2023

Equity

Key Changes

(US\$)	Previous	Current
Price Obj.	29.00	24.00
2023E Rev (m)	312.2	316.0
2024E Rev (m)	402.0	426.6
2025E Rev (m)	498.5	528.6
2024E EPS	2.40	2.48
2025E EPS	2.53	2.58

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Stock Data

Price	23.53 USD
Price Objective	24.00 USD
Date Established	1-Jun-2023
Investment Opinion	C-2-7
52-Week Range	21.56 USD - 46.24 USD
Mrkt Val (mn) / Shares Out (mn)	2,516 USD / 106.9
Average Daily Value (mn)	25.67 USD
BofA Ticker / Exchange	HASI / NYS
Bloomberg / Reuters	HASI US / HASI.N
ROE (2023E)	10.7%
Net Dbt to Eqty (Dec-2022A)	169.4%
ESGMeter TM	High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to ["BofA ESGMeter Methodology"](#).

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Timestamp: 01 June 2023 06:30AM EDT

iQprofileSM Hannon Armstrong

iQmethodSM – Bus Performance*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Return on Capital Employed	0.4%	0.3%	0.7%	1.3%	1.5%
Return on Equity	11.4%	11.5%	10.7%	10.7%	11.1%
Operating Margin	13.6%	11.2%	18.6%	31.5%	31.2%
Free Cash Flow	13	0	405	512	619

iQmethodSM – Quality of Earnings*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash Realization Ratio	0.1x	0x	1.8x	1.8x	1.8x
Asset Replacement Ratio	0x	0x	0x	0x	0x
Tax Rate	11.9%	15.0%	15.0%	15.0%	15.0%
Net Debt-to-Equity Ratio	144.7%	169.4%	109.7%	124.9%	117.2%
Interest Cover	NA	NA	NA	NA	NA

Income Statement Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Sales	133	161	219	287	382
% Change	9.4%	21.2%	36.3%	31.0%	33.1%
Gross Profit	91	111	137	230	266
% Change	7.5%	22.4%	23.4%	67.1%	15.7%
EBITDA	18	18	41	90	120
% Change	-43.2%	-1.3%	125.9%	121.6%	32.2%
Net Interest & Other Income	126	31	34	36	40
Net Income (Adjusted)	159	186	223	283	335
% Change	35.1%	17.1%	20.1%	27.0%	18.2%

Free Cash Flow Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Net Income from Cont Operations (GAAP)	127	42	223	283	334
Depreciation & Amortization	0	0	0	0	0
Change in Working Capital	NA	NA	NA	NA	NA
Deferred Taxation Charge	NA	NA	NA	NA	NA
Other Adjustments, Net	(113)	(41)	182	229	285
Capital Expenditure	0	0	0	0	0
Free Cash Flow	13	0	405	512	619
% Change	-81.8%	-98.3%	NM	26.3%	21.0%

Balance Sheet Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash & Equivalents	226	156	156	156	156
Trade Receivables	NA	NA	NA	NA	NA
Other Current Assets	22	85	0	0	0
Property, Plant & Equipment	NA	NA	NA	NA	NA
Other Non-Current Assets	3,900	4,519	5,399	6,368	7,136
Total Assets	4,148	4,760	5,554	6,524	7,292
Short-Term Debt	0	0	0	0	0
Other Current Liabilities	0	0	0	0	0
Long-Term Debt	2,493	2,975	2,917	3,626	3,941
Other Non-Current Liabilities	89	120	120	120	120
Total Liabilities	2,582	3,095	3,037	3,746	4,061
Total Equity	1,567	1,665	2,517	2,778	3,230
Total Equity & Liabilities	4,148	4,760	5,554	6,524	7,292

* For full definitions of iQmethodSM measures, see page 11.

Company Sector

Alternative Energy

Company Description

Hannon Armstrong (HASI) is a specialty finance company based in MD that provides capital and advisory services to companies in the renewable energy (wind/solar), energy efficiency, and sustainable infra markets. The company's \$3bn portfolio of 200+ transactions includes 50% behind-the-meter assets such as energy efficiency, distributed solar, and storage, 45% of GC (grid-connected) assets such as wind and solar, and 5% of other sustainable infrastructure investments.

Investment Rationale

We expect a growing bias toward higher-yielding equity interests coupled with accelerating origination growth as supporting of higher earned returns. Expanding partnerships and IRA benefits may foster pipeline growth and ensure sourcing of future deals. We see interest rate risk as a continued concern as higher cost of debt erodes interest margins on the fixed income portion of the portfolio.

Stock Data

Average Daily Volume 1,152,687

Quarterly Earnings Estimates

	2022	2023
Q1	0.52A	0.53E
Q2	0.52A	0.55E
Q3	0.49A	0.49E
Q4	0.56A	0.61E

More Positive but Opaque Outlook

A confluence of opacity post-'24, below-peer DPS growth, and sizable equity issuance needs amid tight financial conditions keeps us cautious on HASI shares for now. We are incrementally constructive on shares following the latest de-rating. We have seen numerous cautious datapoints payout for shares over the last few years but admittedly we see a muted set of challenges ahead.

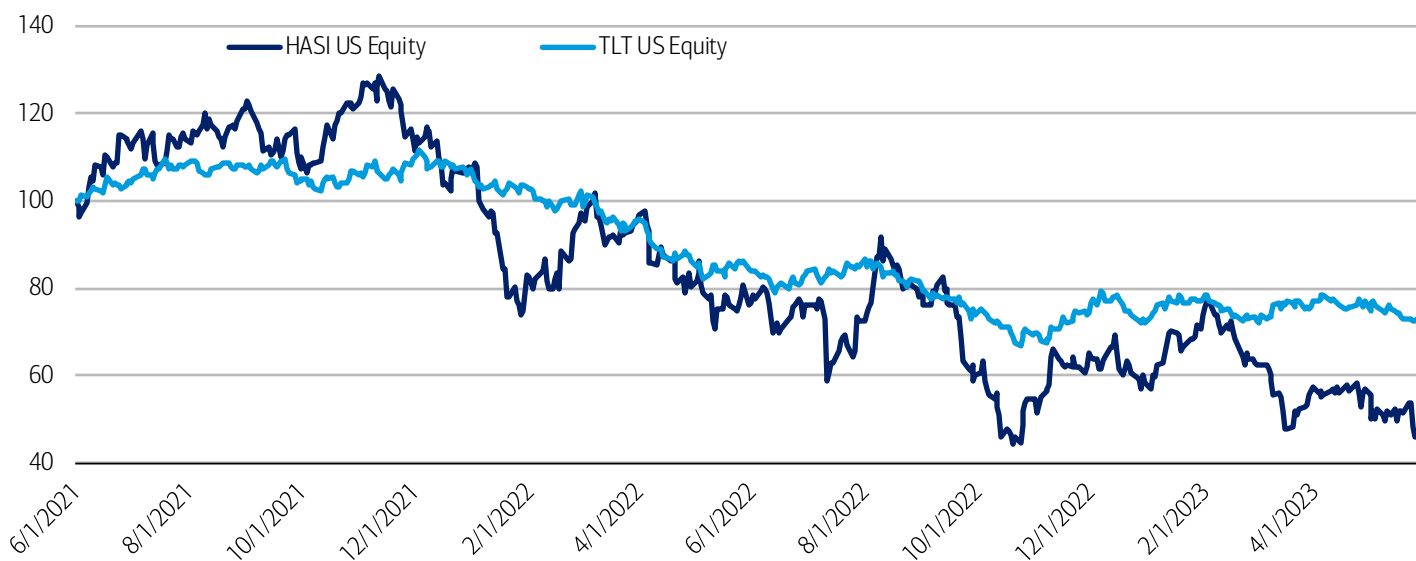
In terms of headwinds: uncertainty on the Company's REIT status adds another layer of complexity to the story and mgmt. has offered few clues on which direction it will take going forward. We still expect a pivot away from a REIT in 2H – likely derating at first given the historical ownership but anticipate re-rating over time as a net positive. Pivot to non-REIT should enable the EPS and P/E comparisons mgmt. has been so keen to re-rate vs peers.

The other critical point of concern for us remains the awkward fact pattern around its latest Analyst Day and the decision not to yet roll forward its EPS guidance nor reveal its REIT status (alongside complementary financing details). When coupled with liability management ahead given sizable maturities it is the fact pattern around guide that is the most cautious to us: we reflect higher interest expense and still see an argument for EPS to accelerate considering the level of origination growth contemplated (this has never been achieved but appears conceivable under the IRA now). HASI's pipeline of investment opportunities continues to expand (currently >\$5Bn), suggesting origination is around the corner.

Bottom line – see reasons for shares to improve off latest lows but hold off on getting more constructive pending some degree of guidance clarity. We stress with duration mismatch a clear challenge in the inverted yield curve environment we appreciate the pressure on shares but suspect this has largely run its course. Moreover, we stress that equity needs remain an ongoing fact of life for shares. Reiterate Neutral.

Exhibit 1: HASI relative performance vs. 20-year Treasuries

Shares have underperformed of late on what we perceive to be consternation on the forward outlook despite favorable macro trends



Source: Bloomberg, BofA Global Research

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Expanding pipeline drives estimates higher in '24/'25

We reiterate our Neutral rating while adjusting our estimates higher in 2024/2025 after HASI announced its pipeline of investment opportunities had expanded to >\$5Bn (up from >\$4.5Bn as of the previous quarter). Mgmt. has indicated that ~50% of the pipeline at any point in time can be expected to be close in the next twelve months, and we model accordingly.



While our updated estimates bring up slightly above/in line with Consensus in 2024/2025, we note we are below Consensus for 2026+ as we believe further equity issuances and tight financial conditions may limit EPS accretion from future acquisitions. We do model modest expansion of asset yields going forward, which in turn helps driver average interest spread to 5% in 2028. That said, without clear guidance on future equity needs (outside of commentary indicating limited needs by 2030), we are cautious on the overall dilutive impact from future issuances.

Exhibit 2: HASI estimate dashboard

We adjust our estimates to reflect an updated view on originations following the recent pipeline increase to >\$5Bn from >\$4.5 Bn

\$000s	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E
Core earnings	158,723	185,791	223,049	283,216	334,821	388,992	437,865	496,646
Consensus Core earnings - VA	158,651	185,791	213,870	246,565	271,297	310,480	414,922	
EPS - Diluted	\$1.88	\$2.08	\$2.28	\$2.48	\$2.58	\$2.70	\$2.80	\$2.94
y/y % chg		10.6%	9.7%	8.8%	3.9%	4.8%	3.5%	5.1%
BofAe EPS CAGR from 2021		10.6%	10.2%	9.7%	8.2%	7.5%	6.9%	7.7%
Prior EPS			\$2.28	\$2.40	\$2.53	\$2.68	\$2.78	\$2.93
% chg vs. prior			0.1%	3.4%	1.9%	1.0%	0.8%	0.5%
EPS Guidance - 10-13%								
Low		\$1.88	\$2.06	\$2.27	\$2.50	\$2.75	\$3.02	\$3.32
Midpoint		\$1.93	\$2.15	\$2.40	\$2.68	\$2.99	\$3.33	\$3.72
High		\$1.98	\$2.24	\$2.53	\$2.86	\$3.23	\$3.65	\$4.12
Consensus EPS (Diluted) - VA			\$2.19	\$2.35	\$2.39	\$2.61	\$2.85	
Consensus EPS (Diluted) - Bloomberg			\$2.22	\$2.41	\$2.58	\$2.91		
Consensus EPS CAGR from 2021 - Bloomberg			8.7%	8.6%	8.2%	9.1%		
BofA vs. Consensus - Bloomberg			\$0.06	\$0.08	(\$0.00)	(\$0.21)		
Dividend per Share	\$1.40	\$1.50	\$1.60	\$1.70	\$1.79	\$1.88	\$1.97	\$2.07
DPS Growth	2.2%	7.1%	6.5%	6.5%	5.0%	5.0%	5.0%	5.0%
Consensus - DPS (VA)	\$1.41	\$1.50	\$1.59	\$1.70	\$1.62	\$1.76	\$2.37	
DPS Growth	2.2%	6.9%	6.0%	6.7%	(4.5%)	8.5%	34.6%	

Source: Company filings, Visible Alpha, Bloomberg, BofA Global Research

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Below we show our forecasts for originations, income, and implied spread. As discussed above, we reflect ~50% of the >\$5Bn pipeline in our originations forecast for 2024, an continue to grow this modestly through 2030. We also show overall portfolio yield trending up to nearly 9% by 2030, though note this is partly offset as interest expense rises alongside to yield an average interest spread at 5% in 2028 (still up from ~4% currently).

Exhibit 3: HASI originations and yield forecasts – look at the sizable step-up in originations we now reflect.. raising our EPS outlook in tandem.

Our updated forecasts contemplates ~50% of the >\$5Bn pipeline gets realized in 2024 and we expect a gradual increase in portfolio yield

\$000s	2021	2022	2023	2024	2025	2026	2027	2028
Originations for Portfolio	890,000	1,300,000	1,257,750	1,509,300	1,584,765	1,664,003	1,747,203	1,834,564
Originations for Securitization	810,000	500,000	677,250	812,700	853,335	896,002	940,802	987,842
Total Originations (\$K)	1,700,000	1,800,000	1,935,000	2,322,000	2,438,100	2,560,005	2,688,005	2,822,406
Chg in originations per yr	(200,000)	100,000	135,000	387,000	116,100	121,905	128,000	134,400
Origination Growth	(10.5%)	5.9%	7.5%	20.0%	5.0%	5.0%	5.0%	5.0%
Portfolio Retention (% of Orig.)	52%	72%	65%	65%	65%	65%	65%	65%
Securitization Volume(% of Orig.)	48%	28%	35%	35%	35%	35%	35%	35%
Net interest income	132,794	160,901	219,263	287,263	382,356	448,945	531,716	601,757
Equity method investments	103,707	131,762	169,323	176,922	202,592	218,360	239,478	281,966
Total loan portfolio, net	1,797,723	2,353,194	3,024,315	3,830,167	4,634,614	5,441,757	6,255,483	7,079,497
Interest income yield	7.4%	6.8%	7.3%	7.5%	8.3%	8.3%	8.5%	8.5%
Overall portfolio yield	6.6%	6.9%	7.7%	7.7%	8.3%	8.3%	8.6%	8.9%
Interest expense	5.6%	4.6%	6.0%	6.8%	7.3%	7.3%	7.3%	7.3%
Average interest spread	3.2%	4.2%	4.2%	4.4%	4.6%	4.8%	4.8%	5.0%
Consensus - Interest spread (VA)	2.8%	3.2%	3.3%	3.6%	2.9%	3.3%		

Source: Company filings, Visible Alpha, BofA Global Research

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PO down on MtM, higher discounts to peers

We reduce our PO to \$24 from \$29 as shown below. We continue to apply a 33/33/33 weighting across our three methodologies: DDM, DCF, and P/E. Our DDM valuation is \$20/sh, our DCF valuation is \$24/sh, and our P/E valuation is \$28/sh. Layering in a ~6.8% current dividend yield (2023E), our \$24 PO implies 8.5% total potential return.

Exhibit 4: HASI valuation summary

Our PO moves to \$24 from \$29

	Value/Sh	Weight	Weighted Value
Dividend Discount Model	\$20.00	33%	\$6.67
DCF Methodology	\$24.00	33%	\$8.00
P/E Methodology	\$28.00	33%	\$9.33
HASI Value/Sh			\$24.00
Share Price (As of 05/30/23)			\$23.59
Premium (Discount) to Share Price			2%
2023E Dividend Yield			6.8%
Total Potential Return			8.5%

Source: Company filings, Bloomberg, BofA Global Research

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DDM methodology adjusted to align with peers; raising discounts

Below we show our updated DDM for HASI. To better align methodologies across the peer group, we cut off our analysis at 2028 (cuts \$1 from the valuation) while rolling forward to a 2024 starting point (adds \$3 to the valuation). We continue to grow DPS at 6.5% in 2023/2024 and 5.0% thereafter (mgmt. guidance is for 5-8% through 2024). In addition to marking our discount rate to market (detailed further below), which cuts \$4 from the valuation, we now apply 250bps to our terminal required yield (vs. 100bps previously) to reflect increased uncertainty on the go-forward outlook, which cuts \$1 from the valuation. We also reduce our terminal value growth rate to 1.5% from 3.0% in reflection of this uncertainty, which cuts \$3 from the valuation. Net, our DDM valuation moves from \$26 to \$20.

Exhibit 5: HASI DDM valuation

Our DDM valuation is \$20

	2022E	2023E	2024E	2025E	2026E	2027E	2028E
DPS Growth		6.5%	6.5%	5.0%	5.0%	5.0%	5.0%
DPS	\$1.50	\$1.60	\$1.70	\$1.79	\$1.88	\$1.97	\$2.07
DPS Guidance (5-8% CAGR)		\$1.57-1.71					
Terminal Value							\$18.17
<u>Discounted Cash Flows</u>							
Discount Factor			1.00	0.91	0.82	0.74	0.67
Discounted Cash Flows			\$1.70	\$1.62	\$1.54	\$1.46	\$13.64
Value/Unit							\$20.00
Premium (Discount) to Share Price (As of 05/30/23)							-15%
<u>Memo:</u>							
Terminal Value (2030 Required Yield)			12.9%				
Terminal Value Growth Rate			1.5%				
Discount Rate			10.4%				
Share Price (As of 05/30/23)			\$23.59				

Source: Company filings, Bloomberg, BofA Global Research

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DCF changes reflect higher discount rate and share count

Our DCF valuation is shown below. In addition to marking our discount rate to market (detailed further below) we also adjust our share count to reflect the Company's recent equity issuance. The higher discount rate cuts \$3 from the valuation, while the higher share count cuts \$4 from the valuation. We also update the pipeline to reflect mgmt.'s update of >\$5Gn. Net, our DCF valuation moves to \$24 from \$31.

Exhibit 6: HASI DCF valuation

Our DCF valuation is \$24

Part I: Static DCF of Portfolio as of 2023

Yield Disclosed by Mgmt on Portfolio	7.5%
Cost of debt	6.9%
Portfolio Amortization	18
Equity Amortization	100

Cumulative Gross CF	9,641
Cost of equity	10.4%
NPV (\$mn)	\$1,811
Shares outstanding (mn)	106.1
NPV per share on core portfolio	\$17.00
Part II of DCF: Valuing the Securitization Biz + Corporate Overhang	
Latest Disclosed Pipeline (\$Bn) - Latest Slides	\$5,000
Pipeline Realization	50%
Percent Securitization (linked to I/S)	35%
Securitization Amount (\$Bn)	\$875
Implied Yield (Below Against Assumption)	5.8%
Linked to I/S...	
SG&A (annual est.)	(72.5)
Origination on Portion Sold Down (Gain on Sales Est for '23)	50.8
Assume ALL of the Business is Securitized (eg: this is growth)	145.1
Annual net gain on sale (\$mn), net of SG&A	72.6
P/E multiple - BDC/Commercial Mortgage REITS peer group - '25	7.2x
Prem to peer group	3.0x
P/E multiple - HASI Securitization Biz	10.2x
Net equity value (\$mn)	\$740.8
Shares outstanding (mn)	106.1
Value of origination business per share	\$7.00
Total implied equity value	\$24.00

Source: Company filings, Bloomberg, BofA Global Research

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Raising P/E discount to peers on reduced clarity on the outlook

Our P/E valuation is shown below. The peer group multiple moves to 12.9x (from 13.4x), which cuts \$1 from the valuation. Conversely, our 2025 EPS estimate of \$2.58 is up from \$2.53 previously, which adds \$1 to the valuation. Finally, as we have stated, given the uncertainty on the forward outlook, we increase the relative discount to peers to 2.0x (from 1.0x), which cuts \$3 from the valuation. Net, our P/E valuation moves to \$28 from \$31.

Exhibit 7: HASI P/E valuation

Our P/Evaluation is \$28

HASI Valuation

2025 P/E Multiple - Peer Group	12.9x
Plus: Prem/(Disc) to Peer Group	(2.0x)
P/E Multiple - HASI	10.9x
HASI 2025E EPS	\$2.58
HASI Valuation (\$/sh)	\$28.00
Prem/(Disc) to Share Price	18.7%
Share Price	\$23.59

Source: Company filings, Bloomberg, BofA Global Research

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Below we show the full peer group used in our analysis...

Exhibit 8: HASI peer groups

We take a cross-sector approach that includes commercial mortgage REITs, business development companies, environmental services/equipment, & industrials

	Ticker	Market Cap. (\$B)	Stock Price	Consensus Estimates				P/E				Estimated Div Yield
				2022E	2023E	2024E	2025E	2022E	2023E	2024E	2025E	
Starwood Property Trust Inc	STWD	\$5.5	\$17.64	\$2.28	\$1.86	\$2.00	\$2.25	7.7x	9.5x	8.8x	7.8x	10.9%
Ladder Capital Corp	LADR	\$1.2	\$9.64	\$1.12	\$1.32	\$1.25	\$1.31	8.6x	7.3x	7.7x	7.4x	9.5%
Blackstone Mortgage Trust Inc	BXMT	\$3.2	\$18.29	\$2.72	\$2.76	\$2.64	\$2.54	6.7x	6.6x	6.9x	7.2x	13.6%
Apollo Commercial Real Estate Finance Inc	ARI	\$1.4	\$10.23	\$1.48	\$1.61	\$1.51	\$1.37	6.9x	6.3x	6.8x	7.5x	13.7%
Ares Commercial Real Estate Corp	ACRE	\$0.5	\$9.35	\$1.47	\$1.23	\$1.36		6.4x	7.6x	6.9x	NA	14.6%
Commercial Mortgage REITs		\$11.8						7.3x	7.5x	7.4x	7.5x	12.5%
	Ticker	Market Cap. (\$B)	Stock Price	Consensus Estimates				P/E				Estimated Div Yield
				2022E	2023E	2024E	2025E	2022E	2023E	2024E	2025E	
Business Development Companies												
Ares Capital Corp	ARCC	\$10.3	\$18.85	\$1.96	\$2.29	\$2.23	\$2.11	9.6x	8.2x	8.5x	8.9x	10.2%
Main Street Capital Corp	MAIN	\$3.2	\$39.76	\$3.14	\$3.92	\$3.78	\$3.81	12.7x	10.1x	10.5x	10.4x	8.1%
Hercules Capital Inc	HTGC	\$2.1	\$14.72	\$1.44	\$1.95	\$1.88	\$1.89	10.2x	7.5x	7.8x	7.8x	12.0%
Sixth Street Specialty Lending Inc	TSIX	\$1.6	\$18.28	\$1.89	\$2.20	\$2.10		9.7x	8.3x	8.7x	NA	11.0%
SLR Investment Corp	SLRC	\$0.8	\$14.16	\$1.47	\$1.54	\$1.67		9.6x	9.2x	8.5x	NA	11.6%
New Mountain Finance Corp	NMFC	\$1.2	\$12.06	\$1.12	\$1.48	\$1.42		10.8x	8.2x	8.5x	NA	10.9%
Golub Capital BDC Inc	GBDC	\$2.3	\$13.25		\$1.51	\$1.59		NA	8.7x	8.3x	NA	10.1%
PennantPark Investment Corp	PNNT	\$0.4	\$5.51	\$0.69	\$0.75	\$0.85		8.0x	7.3x	6.5x	NA	13.6%
BlackRock TCP Capital Corp	TCPC	\$0.6	\$10.34	\$1.46	\$1.71	\$1.62		7.1x	6.1x	6.4x	NA	13.1%
BlackRock Capital Investment Corp	BKCC	\$0.2	\$3.18	\$0.39	\$0.46	\$0.43		8.3x	6.9x	7.5x	NA	12.6%
Goldman Sachs BDC Inc	GSBD	\$1.4	\$13.11	\$1.99	\$2.10	\$2.09	\$1.85	6.6x	6.2x	6.3x	7.1x	13.7%
Business Development Companies		\$24.0						9.2x	7.9x	7.9x	8.6x	11.5%
	Ticker	Market Cap. (\$B)	Stock Price	Consensus Estimates				P/E				Estimated Div Yield
				2022E	2023E	2024E	2025E	2022E	2023E	2024E	2025E	
Environmental Services & Equipment												
Trane Technologies PLC	TT	\$38.0	\$166.68	\$7.19	\$8.46	\$9.24	\$10.15	23.2x	19.7x	18.0x	16.4x	1.7%
Tetra Tech Inc	TTEK	\$7.3	\$137.62	\$4.40	\$5.14	\$5.87	\$6.63	31.3x	26.8x	23.4x	20.8x	0.7%
Environmental Services & Equipment		\$45.3						27.2x	23.2x	20.7x	18.6x	1.2%
	Ticker	Market Cap. (\$B)	Stock Price	Consensus Estimates				P/E				Estimated Div Yield
				2022E	2023E	2024E	2025E	2022E	2023E	2024E	2025E	
Industrial Products & Services												
Honeywell International Inc	HON	\$129.4	\$194.33	\$8.75	\$9.16	\$10.08	\$10.96	22.2x	21.2x	19.3x	17.7x	2.1%
3M Co	MMM	\$52.8	\$95.74	\$10.18	\$8.58	\$9.53	\$10.27	9.4x	11.2x	10.0x	9.3x	6.4%
Eaton Corp PLC	ETN	\$72.5	\$181.79	\$7.55	\$8.44	\$9.28	\$10.08	24.1x	21.5x	19.6x	18.0x	1.9%
Emerson Electric Co	EMR	\$44.8	\$78.41	\$5.11	\$4.15	\$4.49	\$4.95	15.3x	18.9x	17.5x	15.9x	2.7%
Carrier Global Corp	CARR	\$34.6	\$41.42	\$2.34	\$2.57	\$2.79	\$3.08	17.7x	16.1x	14.8x	13.5x	1.8%
Parker-Hannifin Corp	PH	\$42.5	\$331.57	\$17.98	\$20.80	\$22.03	\$24.14	18.4x	15.9x	15.1x	13.7x	1.6%
Rockwell Automation Inc	ROK	\$32.8	\$285.78	\$9.44	\$12.00	\$13.03	\$14.15	30.3x	23.8x	21.9x	20.2x	1.6%
Dover Corp	DOV	\$19.2	\$137.18	\$8.44	\$8.99	\$9.83	\$10.68	16.2x	15.3x	14.0x	12.9x	1.5%
Fortive Corp	FTV	\$23.9	\$67.60	\$3.12	\$3.36	\$3.64	\$3.98	21.7x	20.1x	18.6x	17.0x	0.4%
A O Smith Corp	AOS	\$10.0	\$66.78	\$3.07	\$3.46	\$3.68	\$3.97	21.8x	19.3x	18.2x	16.8x	1.8%
ITT Inc	ITT	\$6.5	\$79.37	\$4.38	\$4.86	\$5.44	\$6.02	18.1x	16.3x	14.6x	13.2x	1.5%
John Bean Technologies Corp	JBT	\$3.5	\$109.24	\$4.72	\$5.36	\$6.21	\$7.69	23.2x	20.4x	17.6x	14.2x	0.4%
Flowserve Corp	FLS	\$4.5	\$34.03	\$1.02	\$1.81	\$2.23	\$2.54	33.5x	18.8x	15.3x	13.4x	2.4%
Industrial Products & Services		\$477.0						20.9x	18.4x	16.6x	15.1x	2.0%
AVERAGE - ALL PEER GROUPS								15.2x	13.2x	12.3x	12.9x	7.0%
Hannon Armstrong - BofAe	HASI	\$2.5	\$23.35	\$2.08	\$2.28	\$2.48	\$2.58	11.2x	10.2x	9.4x	9.1x	6.8%
Hannon Armstrong - Consensus	HASI	\$2.5	\$23.35	\$2.09	\$2.22	\$2.41	\$2.58	11.2x	10.5x	9.7x	9.1x	6.8%

Exhibit 8: HASI peer groups

We take a cross-sector approach that includes commercial mortgage REITs, business development companies, environmental services/equipment, & industrials

Source: Company filings, Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Discount rate elevated on MtM, higher relative discount to peers

Finally, we show our discount rate build below. Our MtM to treasuries moves to 3.63% (from 3.52%) and our equity risk premium and peer group adj. Beta are unchanged at 5.0% and 0.94, respectively. We raise the relative discount to peers to 200bps (from 100bps previously), again on uncertainty on the forward outlook. Peers used in this analysis include Clearway Energy (CWEN), NextEra Energy Partners (NEP), Atlantica (AY), Ormat (ORA), and ReNew Energy (RNW). Net, our discount rate moves to 10.32% from 9.21%.

Exhibit 9: HASI discount rate build

Our discount rate for HASI is 10.32%

Discount Rate	
10-yr Treasury	3.63%
ERP	5.0%
Adj. Beta	0.94
Discount Rate	8.32%
Add. Prem/(Disc)	2.0%
Cost of Equity	10.32%

Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH



Price objective basis & risk

Hannon Armstrong (HASI)

Our valuation with \$24/share price objective uses 33/33/33 DDM/DCF/PE methodology, with \$20 DDM valuation, \$24 DCF valuation, \$28 relative P/E valuation.

For the DCF, we apply a cost of equity of 10.4% with 3.63% 10-year Treasury, 0.94 adj. beta, a 200bps discount to the peer overall group, and a 3x premium to peer group of commercial mortgage REITs and business development companies (BDCs) to value the existing portfolio and growth prospects.

For the DDM, we assume 6.5% annual DPS growth for 2023-2024, 5.0% growth for 2025-2030, and 1.5% terminal growth, vs. near-term guidance for 5-8% DPS growth and 10-13% EPS growth.

Our assumptions for 7.5% yield and 6.9% cost of debt arise from analysis of historical and projected portfolio composition (and associated yields by asset class) and expectations for fixed vs. floating-rate debt.

For the PE valuation, we apply a 2x discount to the '25E peer P/E multiple of 12.9x. Our peer group includes CM REITs, BDCs, environmental service companies, industrials.

Upside risks: 1) Origination growth above expectations, 2) acceleration in securitization transactions, 3) dividend growth faster than expected, 4) SG&A costs below expectations, 5) faster-than-expected yield expansion.

Downside risks: 1) Origination growth below expectations, 2) slowdown in securitization transactions, 3) shift toward greater proportion of BTM vs. GC assets resulting in drag on portfolio's yield, 4) rapid rise in interest rates, 5) slowing dividend growth

Analyst Certification

I, Julien Dumoulin-Smith, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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BofA Securities is currently acting as financial advisor to National Instruments Inc in connection with its proposed sale to Emerson Electric Co, which was announced on April 12, 2023.

The proposed transaction is subject to approval by shareholders of National Instruments Inc.

This research report is not intended to provide voting advice, serve as an endorsement of the proposed transaction, or result in the procurement, withholding or revocation of a proxy

North America - Utilities and Alt Energy Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY	AES	AES	AES US	Julien Dumoulin-Smith



North America - Utilities and Alt Energy Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Ameren Corporation	AEE	AEE US	Julien Dumoulin-Smith
	Ameresco	AMRC	AMRC US	Julien Dumoulin-Smith
	Array Technologies	ARRY	ARRY US	Julien Dumoulin-Smith
	Atlantica Sustainable Infrastructure	AY	AY US	Julien Dumoulin-Smith
	Atmos Energy Corporation	ATO	ATO US	Julien Dumoulin-Smith
	Bloom Energy	BE	BE US	Julien Dumoulin-Smith
	CenterPoint Energy	CNP	CNP US	Julien Dumoulin-Smith
	ChargePoint Holdings	CHPT	CHPT US	Alex Vrabel
	Cheniere Energy Inc	LNG	LNG US	Julien Dumoulin-Smith
	CMS Energy	CMS	CMS US	Julien Dumoulin-Smith
	DTE Energy	DTE	DTE US	Julien Dumoulin-Smith
	Duke Energy	DUK	DUK US	Julien Dumoulin-Smith
	Enlight Renewable Energy Ltd	ENLT	ENLT US	Julien Dumoulin-Smith
	Enlight Renewable Energy Ltd	XENLF	ENLT IT	Julien Dumoulin-Smith
	Exelon	EXC	EXC US	Paul Zimbardo
	FREYR Battery	FREY	FREY US	Julien Dumoulin-Smith
	FTC Solar	FTCI	FTCI US	Julien Dumoulin-Smith
	Hydro One	YH	H CN	Dariusz Lozny, CFA
	Maxeon Solar Technologies	MAXN	MAXN US	Julien Dumoulin-Smith
	New Fortress Energy	NFE	NFE US	Cameron Lochridge
	Nextracker Inc	NXT	NXT US	Julien Dumoulin-Smith
	NiSource Inc	NI	NI US	Julien Dumoulin-Smith
	NorthWestern Corporation	NWE	NWE US	Julien Dumoulin-Smith
	NRG Energy	NRG	NRG US	Julien Dumoulin-Smith
	PG&E Corporation	PCG	PCG US	Julien Dumoulin-Smith
	PNM Resources Inc.	PNM	PNM US	Julien Dumoulin-Smith
	Portland General Electric Company	POR	POR US	Julien Dumoulin-Smith
	PPL Corporation	PPL	PPL US	Paul Zimbardo
	Public Service Enterprise Group	PEG	PEG US	Julien Dumoulin-Smith
	ReNew Power	RNW	RNW US	Julien Dumoulin-Smith
	Sempra Energy	SRE	SRE US	Julien Dumoulin-Smith
	SolarEdge Technologies	SEDG	SEDG US	Julien Dumoulin-Smith
	Sunnova Energy	NOVA	NOVA US	Julien Dumoulin-Smith
	SunRun	RUN	RUN US	Julien Dumoulin-Smith
	TPI Composites	TPIC	TPIC US	Julien Dumoulin-Smith
	Vistra Energy	VST	VST US	Julien Dumoulin-Smith
	WEC Energy Group Inc	WEC	WEC US	Julien Dumoulin-Smith
	Xcel Energy Inc	XEL	XEL US	Julien Dumoulin-Smith

NEUTRAL				
	Algonquin Power & Utilities Corp	AQN	AQN US	Dariusz Lozny, CFA
	Algonquin Power & Utilities Corp	YAQN	AQN CN	Dariusz Lozny, CFA
	Allete Inc	ALE	ALE US	Julien Dumoulin-Smith
	Alliant Energy Corporation	LNT	LNT US	Julien Dumoulin-Smith
	AltaGas	YALA	ALA CN	Dariusz Lozny, CFA
	American Electric Power	AEP	AEP US	Julien Dumoulin-Smith
	Clearway Energy	CWENA	CWEN/A US	Julien Dumoulin-Smith
	Clearway Energy	CWEN	CWEN US	Julien Dumoulin-Smith
	Consolidated Edison	ED	ED US	Julien Dumoulin-Smith
	Constellation Energy Corp	CEG	CEG US	Paul Zimbardo
	Emera Inc	YEMA	EMA CN	Dariusz Lozny, CFA
	Entergy	ETR	ETR US	Paul Zimbardo
	Essential Utilities	WTRG	WTRG US	Julien Dumoulin-Smith
	First Solar, Inc.	FSLR	FSLR US	Julien Dumoulin-Smith
	Fluence Energy	FLNC	FLNC US	Julien Dumoulin-Smith
	Hannon Armstrong	HASI	HASI US	Julien Dumoulin-Smith
	Idacorp	IDA	IDA US	Paul Zimbardo
	NextEra Energy	NEE	NEE US	Julien Dumoulin-Smith
	Northwest Natural Holdings	NWN	NWN US	Julien Dumoulin-Smith
	OGE Energy Corp	OGE	OGE US	Julien Dumoulin-Smith
	ONE Gas, Inc.	OGS	OGS US	Julien Dumoulin-Smith
	Ormat Technologies	ORA	ORA US	Julien Dumoulin-Smith
	Pinnacle West	PNW	PNW US	Julien Dumoulin-Smith
	Southwest Gas Holdings	SWX	SWX US	Julien Dumoulin-Smith
	SunPower Corp.	SPWR	SPWR US	Julien Dumoulin-Smith
	TransAlta Corp	TAC	TAC US	Dariusz Lozny, CFA

North America - Utilities and Alt Energy Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	TransAlta Corporation	YTA	TA CN	Dariusz Lozny, CFA
	TransAlta Renewables Inc.	YRNW	RNW CN	Dariusz Lozny, CFA

UNDERPERFORM

	American Water Works	AWK	AWK US	Julien Dumoulin-Smith
	Avangrid	AGR	AGR US	Paul Zimbardo
	Avista	AVA	AVA US	Julien Dumoulin-Smith
	Black Hills Corporation	BKH	BKH US	Julien Dumoulin-Smith
	Dominion Energy	D	D US	Paul Zimbardo
	Edison International	EIX	EIX US	Paul Zimbardo
	Enphase Energy	ENPH	ENPH US	Julien Dumoulin-Smith
	Eergy, Inc.	EVRG	EVRG US	Julien Dumoulin-Smith
	Eversource Energy	ES	ES US	Paul Zimbardo
	EVgo Inc.	EVGO	EVGO US	Alex Vrabel
	FirstEnergy	FE	FE US	Julien Dumoulin-Smith
	Fortis	YFTS	FTS CN	Dariusz Lozny, CFA
	Fortis Inc.	FTS	FTS US	Dariusz Lozny, CFA
	Generac Holdings Inc.	GNRC	GNRC US	Julien Dumoulin-Smith
	Hawaiian Electric Industries	HE	HE US	Julien Dumoulin-Smith
	MDU Resources Group, Inc.	MDU	MDU US	Dariusz Lozny, CFA
	MGE Energy	MGEE	MGEE US	Julien Dumoulin-Smith
	New Jersey Resources Corp	NJR	NJR US	Julien Dumoulin-Smith
	NextEra Energy Partners	NEP	NEP US	Julien Dumoulin-Smith
	Southern Company	SO	SO US	Julien Dumoulin-Smith
	Spire	SR	SR US	Julien Dumoulin-Smith
	Stem, Inc.	STEM	STEM US	Julien Dumoulin-Smith
	Tellurian Inc	TELL	TELL US	Julien Dumoulin-Smith
	UGI Corp.	UGI	UGI US	Julien Dumoulin-Smith
	Unitil Corporation	UTL	UTL US	Julien Dumoulin-Smith

iQmethodSM Measures Definitions

Business Performance

Return On Capital Employed

Return On Equity

Operating Margin

Earnings Growth

Free Cash Flow

Numerator

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income

Operating Profit

Expected 5 Year CAGR From Latest Actual

Cash Flow From Operations – Total Capex

Denominator

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization

Shareholders' Equity

Sales

N/A

N/A

Quality of Earnings

Cash Realization Ratio

Asset Replacement Ratio

Tax Rate

Net Debt-To-Equity Ratio

Interest Cover

Numerator

Cash Flow From Operations

Capex

Tax Charge

Net Debt = Total Debt – Cash & Equivalents

EBIT

Denominator

Net Income

Depreciation

Pre-Tax Income

Total Equity

Interest Expense

Valuation Toolkit

Price / Earnings Ratio

Price / Book Value

Dividend Yield

Free Cash Flow Yield

Enterprise Value / Sales

Numerator

Current Share Price

Current Share Price

Annualised Declared Cash Dividend

Cash Flow From Operations – Total Capex

EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities

Enterprise Value

Denominator

Diluted Earnings Per Share (Basis As Specified)

Shareholders' Equity / Current Basic Shares

Current Share Price

Market Cap = Current Share Price × Current Basic Shares

Sales

Basic EBIT + Depreciation + Amortization

EV / EBITDA

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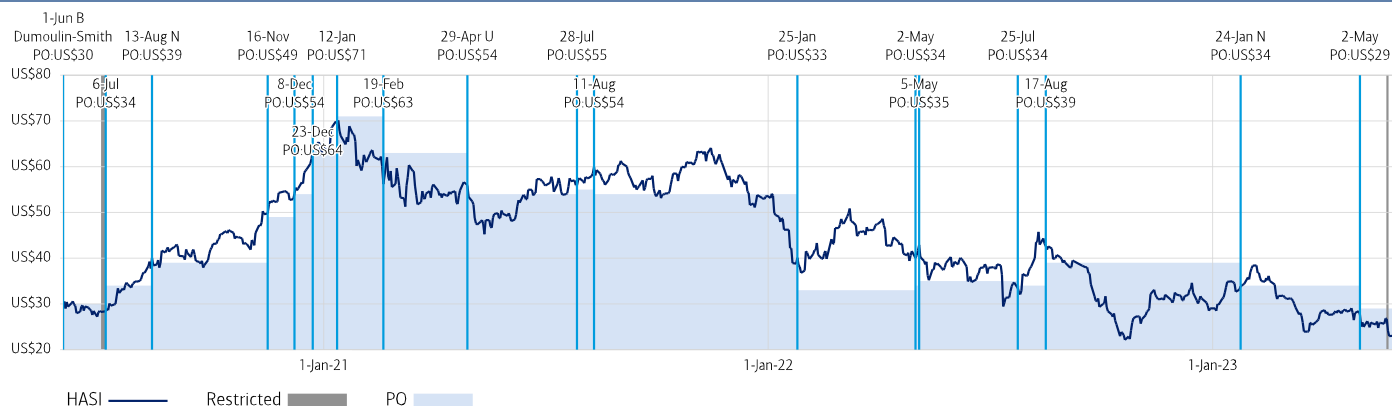
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Disclosures

Important Disclosures

Hannon Armstrong (HASI) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Alternative Energy Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	11	64.71%	Buy	10	90.91%
Hold	4	23.53%	Hold	2	50.00%
Sell	2	11.76%	Sell	2	100.00%

Equity Investment Rating Distribution: Global Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1869	53.01%	Buy	1030	55.11%
Hold	827	23.45%	Hold	476	57.56%
Sell	830	23.54%	Sell	389	46.87%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R2} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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