

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

Form N-30B-2

October 28, 2016

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Midstream/Energy Fund

KMF Quarterly Report

August 31, 2016

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS: This report of Kayne Anderson Midstream/Energy Fund, Inc. (the Fund) contains forward-looking statements as defined under the U.S. federal securities laws. Generally, the words believe, expect, intend, estimate, anticipate, project, will and similar expressions identify forward-looking statements, which generally are not historical in nature. Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to materially differ from the Fund's historical experience and its present expectations or projections indicated in any forward-looking statement. These risks include, but are not limited to, changes in economic and political conditions; regulatory and legal changes; MLP industry risk; leverage risk; valuation risk; interest rate risk; tax risk; and other risks discussed in the Fund's filings with the Securities and Exchange Commission (SEC). You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. The Fund undertakes no obligation to publicly update or revise any forward-looking statements made herein. There is no assurance that the Fund's investment objectives will be attained.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****MANAGEMENT DISCUSSION****(UNAUDITED)****Fund Overview**

Kayne Anderson Midstream/Energy Fund, Inc. is a non-diversified, closed-end fund. We commenced operations on November 24, 2010. Our shares of common stock are listed on the New York Stock Exchange under the symbol KMF.

Our investment objective is to provide a high level of total return with an emphasis on making quarterly cash distributions to our stockholders. We seek to achieve that investment objective by investing at least 80% of our total assets in the securities of companies in the Midstream/Energy Sector, consisting of (a) Midstream MLPs, (b) Midstream Companies, (c) Other MLPs and (d) Other Energy Companies. We anticipate that the majority of our investments will consist of investments in Midstream MLPs and Midstream Companies. Please see the Glossary of Key Terms for a description of these investment categories and for the meaning of capitalized terms not otherwise defined herein.

As of August 31, 2016, we had total assets of \$496 million, net assets applicable to our common stock of \$349 million (net asset value of \$15.86 per share), and 22.0 million shares of common stock outstanding. As of August 31, 2016, we held \$407 million in equity investments, \$72 million in debt investments and \$3 million of cash and cash equivalents (including short-term investments).

Our Top Ten Portfolio Investments

Listed below are our top ten portfolio investments by issuer as of August 31, 2016.

	Holding	Category⁽¹⁾	Amount (\$ millions)	Percent of Long-Term Investments
1.	Enbridge Energy Management, L.L.C.	Midstream MLP	\$ 39.4	8.2%
2.	Plains GP Holdings, L.P. ⁽²⁾⁽³⁾	Midstream Company	37.9	7.9
3.	ONEOK, Inc.	Midstream Company	33.1	6.9
4.	Targa Resources Corp.	Midstream Company	25.6	5.4
5.	Dynagas LNG Partners LP	Midstream Company	19.0	4.0
6.	KNOT Offshore Partners LP	Midstream Company	14.9	3.1
7.	Energy Transfer Partners, L.P.	Midstream MLP	14.9	3.1
8.	Golar LNG Partners LP	Midstream Company	14.6	3.0
9.	GasLog Partners LP	Midstream Company	14.5	3.0
10.	Spectra Energy Corp. ⁽⁴⁾	Midstream Company	14.5	3.0
			\$ 228.4	47.6%

(1) See Glossary of Key Terms for definitions.

(2) On July 11, 2016, Plains All American Pipeline, L.P. (PAA) announced it had entered into a definitive agreement with Plains AAP, L.P. (PAA GP) to permanently eliminate PAA s incentive distribution rights and the economic rights associated with PAA s 2% general partner

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interest in exchange for newly issued PAA common units and the assumption of all of PAA GP's outstanding debt. Under the terms of the agreement, PAA is issuing 245.5 million PAA common units to PAA GP.

- (3) We hold an interest in PAA GP, which controls the general partner of PAA. Plains GP Holdings, L.P. (Plains GP) also holds an equity interest in PAA GP. Our ownership of PAA GP is exchangeable into shares of Plains GP on a one-for-one basis at our option. The amounts shown in the table include our current holdings of Plains GP as well as our interest in PAA GP.
- (4) On September 6, 2016, Enbridge Inc. (ENB) and Spectra Energy Corp. (SE) announced an agreement to combine in a stock-for-stock merger transaction. Under the terms of the agreement, each holder of SE will receive 0.984 shares of ENB for each share of SE they own.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

MANAGEMENT DISCUSSION

(UNAUDITED)

Results of Operations For the Three Months Ended August 31, 2016

Investment Income. Investment income totaled \$5.4 million for the quarter and consisted primarily of net dividends and distributions and interest income on our investments. We received \$7.4 million of dividends and distributions, of which \$4.1 million was treated as return of capital. Interest income was \$2.1 million. We also received \$1.0 million of paid-in-kind dividends during the quarter, which are not included in investment income, but are reflected as an unrealized gain.

Operating Expenses. Operating expenses totaled \$3.3 million, including \$1.5 million of investment management fees, \$1.0 million of interest expense, \$0.4 million of preferred stock distributions and \$0.4 million of other operating expenses. Interest expense includes \$0.1 million of non-cash amortization of debt issuance costs. Preferred stock distributions include less than \$0.1 million of non-cash amortization of offering costs.

Net Investment Income. Our net investment income totaled \$2.1 million.

Net Realized Gains. We had net realized gains of \$6.5 million, which included \$0.3 million of net realized gains from option activity.

Net Change in Unrealized Losses. We had a net decrease in unrealized losses of \$29.5 million. The net decrease consisted of \$29.2 million of unrealized gains from investments and \$0.3 million of net unrealized gains from option activity.

Net Increase in Net Assets Resulting from Operations. We had an increase in net assets resulting from operations of \$38.1 million. This increase was comprised of net investment income of \$2.1 million, net realized gains of \$6.5 million and a net decrease in unrealized losses of \$29.5 million, as noted above.

Distributions to Common Stockholders

We pay quarterly distributions to our common stockholders, funded generally by net distributable income (*NDI*) generated from our portfolio investments. *NDI* is the amount of income received by us from our portfolio investments less operating expenses, subject to certain adjustments as described below. *NDI* is not a financial measure under the accounting principles generally accepted in the United States of America (*GAAP*). Refer to the *Reconciliation of NDI to GAAP* section below for a reconciliation of this measure to our results reported under *GAAP*.

Income from portfolio investments includes (a) cash dividends and distributions, (b) paid-in-kind dividends received (*i.e.*, stock dividends), (c) interest income from debt securities and commitment fees from private investments in public equity (*PIPE* investments) and (d) net premiums received from the sale of covered calls.

Operating expenses include (a) investment management fees paid to our investment adviser (*KAFA*), (b) other expenses (mostly comprised of fees paid to other service providers), (c) accrual for estimated excise taxes (if any) and (d) interest expense and preferred stock distributions.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****MANAGEMENT DISCUSSION****(UNAUDITED)****Net Distributable Income (NDI)**

(amounts in millions, except for per share amounts)

	Three Months Ended August 31, 2016
Distributions and Other Income from Investments	
Dividends ⁽¹⁾	\$ 7.4
Paid-In-Kind Dividends ⁽¹⁾	1.0
Interest Income	2.3
Net Premiums Received from Call Options Written	0.4
Total Distributions and Other Income from Investments	11.1
Expenses	
Investment Management Fee	(1.5)
Other Expenses	(0.4)
Interest Expense	(0.9)
Preferred Stock Distributions	(0.4)
Net Distributable Income (NDI)	\$ 7.9
Weighted Shares Outstanding	22.0
NDI per Weighted Share Outstanding	\$ 0.36
Adjusted NDI per Weighted Share Outstanding⁽²⁾	\$ 0.36
Distributions paid per Common Share⁽³⁾	\$ 0.35

(1) See Note 2 (Investment Income) to the Financial Statements for additional information regarding paid-in-kind and non-cash dividends and distributions.

(2) Adjusted NDI includes \$0.1 million of consideration received in the MarkWest Energy Partners, L.P. and MPLX LP merger that was intended to offset lower quarterly distributions as a result of the transaction. Because the acquiring entity has deemed part of the merger consideration to be compensation to help offset the lower quarterly distribution that unitholders of the acquired entity would receive after closing, we believe it to be appropriate to include this amount in Adjusted NDI. This merger consideration is not included in investment income for GAAP purposes, but rather is treated as additional consideration when calculating the realized or unrealized gain (loss) that results from the merger transaction.

(3) The distribution of \$0.35 per share for the third quarter was paid on October 14, 2016.

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Payment of future distributions is subject to Board of Directors approval, as well as meeting the covenants of our debt agreements and terms of our preferred stock. Because our quarterly distributions are funded primarily by NDI generated from our portfolio investments, the Board of Directors, in determining our quarterly distribution to common stockholders, gives a significant amount of consideration to the NDI and Adjusted NDI generated in the current quarter, as well as the NDI that our portfolio is expected to generate over the next twelve months. The Board of Directors also considers other factors, including but not limited to, realized and unrealized gains generated by the portfolio.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

MANAGEMENT DISCUSSION

(UNAUDITED)

Reconciliation of NDI to GAAP

The difference between distributions and other income from investments in the NDI calculation and total investment income as reported in our Statement of Operations is reconciled as follows:

GAAP recognizes that a significant portion of the cash distributions received from MLPs is characterized as a return of capital and therefore excluded from investment income, whereas the NDI calculation includes the return of capital portion of such distributions.

NDI includes the value of paid-in-kind dividends and distributions whereas such amounts are not included as investment income for GAAP purposes, but rather are recorded as unrealized gains upon receipt.

NDI includes commitment fees from PIPE investments, whereas such amounts are generally not included in investment income for GAAP purposes, but rather are recorded as a reduction to the cost of the investment.

Certain of our investments in debt securities were purchased at a discount or premium to the par value of such security. When making such investments, we consider the security's yield to maturity, which factors in the impact of such discount (or premium). Interest income reported under GAAP includes the non-cash accretion of the discount (or amortization of the premium) based on the effective interest method. When we calculate interest income for purposes of determining NDI, in order to better reflect the yield to maturity, the accretion of the discount (or amortization of the premium) is calculated on a straight-line basis to the earlier of the expected call date or the maturity date of the debt security.

We may sell covered call option contracts to generate income or to reduce our ownership of certain securities that we hold. In some cases, we are able to repurchase these call option contracts at a price less than the call premium that we received, thereby generating a profit. The premium we receive from selling call options, less (i) the amount that we pay to repurchase such call option contracts and (ii) the amount by which the market price of an underlying security is above the strike price at the time a new call option is written (if any), is included in NDI. For GAAP purposes, premiums received from call option contracts sold are not included in investment income. See Note 2 Significant Accounting Policies for a full discussion of the GAAP treatment of option contracts.

The treatment of expenses included in NDI also differs from what is reported in the Statement of Operations as follows:

The non-cash amortization or write-offs of capitalized debt issuance costs and preferred stock offering costs related to our financings is included in interest expense and distributions on preferred stock for GAAP purposes, but is excluded from our calculation of NDI.

NDI also includes recurring payments (or receipts) on interest rate swap contracts or the amortization of termination payments on interest rate swap contracts entered into in anticipation of an offering of unsecured notes (Notes) or mandatory redeemable preferred stock (MRP Shares). The termination payments on interest rate swap contracts are amortized over the term of the Notes or MRP Shares issued. For GAAP purposes, these amounts are included in the realized gains/losses section of the Statement of Operations.

Under GAAP, excise taxes are accrued when probable and estimable. For NDI, we exclude excise tax that is unrelated to the current fiscal period.

Liquidity and Capital Resources

At August 31, 2016, we had total leverage outstanding of \$143 million, which represented 29% of total assets and was comprised of \$91 million of Notes, \$17 million of borrowings outstanding under our unsecured

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

MANAGEMENT DISCUSSION

(UNAUDITED)

revolving credit facility (the Credit Facility) and \$35 million of MRP Shares. At August 31, 2016, we did not have any borrowings outstanding under our unsecured revolving term loan (the Term Loan), and we had \$3 million of cash and cash equivalents (including short-term investments). As of October 24, 2016, we had \$27 million borrowed under our Credit Facility, we had no borrowings outstanding under our Term Loan and we had \$2 million of cash and cash equivalents.

Our Credit Facility has a total commitment of \$105 million and matures on November 21, 2016. We are in active discussions with our lenders and expect to renew this facility prior to its maturity date. The interest rate on outstanding loan balances may vary between LIBOR plus 1.50% and LIBOR plus 2.15%, depending on our asset coverage ratios. We pay a fee of 0.25% per annum on any unused amounts of the Credit Facility.

On July 19, 2016, we amended the terms of our Term Loan, resetting the minimum net asset threshold to \$172 million, which is equal to 50% of our net asset value as of July 18, 2016 and reducing the commitment from \$50 million to \$35 million. In conjunction with this amendment, the interest rate for borrowings under the Term Loan was increased from LIBOR plus 1.30% to LIBOR plus 1.50%. As a result of this amendment, we are now able to borrow on the Term Loan because our net asset value is above the minimum net asset threshold. We pay a fee of 0.25% per annum on any unused amount of the Term Loan. The Term Loan is scheduled to mature on July 25, 2019.

At August 31, 2016, we had \$91 million of Notes outstanding that mature between 2021 and 2023 and we had \$35 million of MRP Shares outstanding that are subject to mandatory redemption in 2021.

At August 31, 2016, our asset coverage ratios under the Investment Company Act of 1940, as amended (the 1940 Act), were 456% for debt and 344% for total leverage (debt plus preferred stock). Our target asset coverage ratio with respect to our debt is 430%. At times we may be above or below our target depending on market conditions as well as certain other factors, including our target total leverage asset coverage ratio of 320% and the basic maintenance amount as stated in our rating agency guidelines.

As of August 31, 2016, our total leverage consisted of both fixed rate (88%) and floating rate (12%) obligations. At such date, the weighted average interest/dividend rate on our total leverage was 3.67%.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****SCHEDULE OF INVESTMENTS****AUGUST 31, 2016****(amounts in 000 s, except number of option contracts)****(UNAUDITED)**

Description	No. of Shares/Units	Value
Long-Term Investments 137.1%		
Equity Investments⁽¹⁾ 116.4%		
United States 114.4%		
Midstream Company⁽²⁾ 64.9%		
Capital Product Partners L.P. Class B Units ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁶⁾	606	\$ 4,406
Dynagas LNG Partners LP ⁽³⁾	1,296	19,019
EnLink Midstream, LLC	5	85
GasLog Partners LP ⁽³⁾	730	14,483
Golar LNG Partners LP ⁽³⁾	752	14,594
Höegh LNG Partners LP ⁽³⁾	316	5,893
Kinder Morgan, Inc. ⁽⁷⁾	178	3,883
KNOT Offshore Partners LP ⁽³⁾	802	14,927
ONEOK, Inc. ⁽⁷⁾⁽⁸⁾	706	33,082
Plains GP Holdings, L.P. ⁽³⁾⁽⁸⁾⁽⁹⁾	1,493	16,995
Plains GP Holdings, L.P. Plains AAP, L.P. ⁽⁵⁾⁽⁸⁾⁽⁹⁾⁽¹⁰⁾	1,836	20,897
SemGroup Corporation	244	7,596
Spectra Energy Corp. ⁽¹¹⁾	406	14,465
Tallgrass Energy GP, LP ⁽³⁾	388	9,022
Targa Resources Corp. ⁽⁷⁾	588	25,639
The Williams Companies, Inc.	460	12,852
VTTI Energy Partners LP ⁽³⁾	471	9,064
		226,902
Midstream MLP⁽²⁾⁽¹²⁾ 44.9%		
Arc Logistics Partners LP	437	6,441
Buckeye Partners, L.P.	101	7,064
Crestwood Equity Partners LP	195	4,060
DCP Midstream Partners, LP ⁽⁷⁾	326	10,668
Enbridge Energy Management, L.L.C. ⁽¹³⁾⁽¹⁴⁾	1,729	39,355
Energy Transfer Partners, L.P.	373	14,880
EnLink Midstream Partners, LP	182	3,219
Enterprise Products Partners L.P.	309	8,146
EQT Midstream Partners, LP	34	2,673
Global Partners LP	240	3,640
Magellan Midstream Partners, L.P. ⁽⁷⁾	24	1,660
MPLX LP	237	7,858
NuStar Energy L.P.	40	1,920
ONEOK Partners, L.P. ⁽⁸⁾	277	10,749
PBF Logistics LP	27	548
Phillips 66 Partners LP	36	1,781
Spectra Energy Partners, LP	50	2,282

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Sunoco Logistics Partners L.P.	282	8,332
Sunoco LP	54	1,615
TC PipeLines, LP	2	121
Tesoro Logistics LP	140	6,710
Western Gas Partners, LP	113	5,709
Williams Partners L.P.	197	7,494
		156,925

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****SCHEDULE OF INVESTMENTS****AUGUST 31, 2016****(amounts in 000 s, except number of option contracts)****(UNAUDITED)**

Description	No. of Shares/Units	Value		
Other Energy Company 4.5%				
Anadarko Petroleum Corporation 7.50% Tangible Equity Units ⁽⁵⁾	145	\$ 5,554		
Macquarie Infrastructure Corporation ⁽⁷⁾	114	9,137		
NRG Yield, Inc. Class A	69	1,113		
		15,804		
Total United States (Cost \$379,566)		399,631		
Canada 2.0%				
Midstream Company⁽²⁾ 2.0%				
Enbridge Inc. ⁽¹¹⁾	60	2,369		
TransCanada Corporation	100	4,522		
Total Canada (Cost \$6,655)		6,891		
Total Equity Investments (Cost \$386,221)		406,522		
	Interest Rate	Maturity Date	Principal Amount	Value
Debt Instruments 20.7%				
United States 17.6%				
Upstream 15.3%				
California Resources Corporation ⁽⁵⁾⁽⁸⁾	8.000%	12/15/22	\$ 10,425	7,089
Canbriam Energy Inc. ⁽⁵⁾	9.750	11/15/19	9,390	9,836
Chief Oil & Gas LLC ⁽⁵⁾	⁽¹⁶⁾	8/8/21	9,609	8,648
Eclipse Resources Corporation	8.875	7/15/23	13,000	12,090
Energy & Exploration Partners, Inc. ⁽⁴⁾⁽⁵⁾⁽¹⁷⁾	⁽¹⁸⁾	5/31/22	52	34
Goodrich Petroleum Corporation ⁽⁵⁾⁽¹⁹⁾⁽²⁰⁾	8.875	3/15/18	1,777	257
Goodrich Petroleum Corporation ⁽¹⁹⁾⁽²⁰⁾	8.875	3/15/19	1,000	4
Jonah Energy LLC ⁽⁵⁾	⁽²¹⁾	5/29/21	3,000	2,610
Jones Energy, Inc.	9.250	3/15/23	5,000	4,450
Vantage Energy, LLC ⁽⁵⁾	⁽²²⁾	12/31/18	8,795	8,443
				53,461
Midstream Company⁽²⁾ 2.3%				
SemGroup Corporation	7.500	6/15/21	2,500	2,525
Teekay Offshore Partners L.P.	6.000	7/30/19	6,712	5,504
				8,029

Total United States (Cost \$66,013)				61,490
Canada 3.1%				
Upstream 3.1%				
Athabasca Oil Corporation ⁽⁵⁾	7.500	11/19/17	(23)	5,177
Jupiter Resources Inc. ⁽⁵⁾	8.500	10/1/22	7,250	5,764
Total Canada (Cost \$10,863)				10,941
Total Debt Investments (Cost \$76,876)				72,431
Total Long-Term Investments (Cost \$463,097)				478,953

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****SCHEDULE OF INVESTMENTS****AUGUST 31, 2016**

(amounts in 000 s, except number of option contracts)

(UNAUDITED)

Description	No. of Shares/Units	Value		
Short-Term Investment 0.1%				
Money Market Fund 0.1%				
JPMorgan 100% U.S. Treasury Securities Money Market Fund Capital Shares, 0.19% ⁽⁴⁾ (Cost \$517)	517	\$ 517		
Total Investments 137.2% (Cost \$463,614)		479,470		
	Strike Price	Expiration Date	No. of Contracts	Value
Liabilities				
Call Option Contracts Written⁽¹⁹⁾				
Midstream Company⁽²⁾				
Kinder Morgan, Inc.	\$ 22.00	10/21/16	150	(13)
Kinder Morgan, Inc.	23.00	9/16/16	100	(1)
ONEOK, Inc.	49.00	10/21/16	470	(54)
ONEOK, Inc.	50.00	10/21/16	470	(40)
Targa Resources Corp.	46.00	10/21/16	130	(17)
Targa Resources Corp.	47.00	10/21/16	130	(13)
				(138)
Midstream MLP⁽²⁾				
DCP Midstream Partners, LP	35.00	9/16/16	200	(6)
Magellan Midstream Partners, L.P.	72.50	10/21/16	10	(1)
				(7)
Other Energy Company				
Macquarie Infrastructure Corporation	80.00	10/21/16	260	(50)
Macquarie Infrastructure Corporation	85.00	10/21/16	260	(9)
				(59)
Total Call Option Contracts Written (Premiums Received \$219)				(204)
Debt				(108,000)
Mandatory Redeemable Preferred Stock at Liquidation Value				(35,000)
Other Assets in Excess of Other Liabilities				13,107
Net Assets Applicable to Common Stockholders				\$ 349,373

- (1) Unless otherwise noted, equity investments are common units/common shares.
- (2) Refer to the Glossary of Key Terms for the definitions of Midstream Companies and Midstream MLPs.
- (3) This company is structured like an MLP, but is not treated as a publicly-traded partnership for regulated investment company (RIC) qualification purposes.
- (4) Fair valued security. See Notes 2 and 3 in Notes to Financial Statements.
- (5) The Fund's ability to sell this security is subject to certain legal or contractual restrictions. As of August 31, 2016, the aggregate value of restricted securities held by the Fund was \$73,161 (14.7% of total assets). See Note 7 Restricted Securities.
- (6) Class B Units are convertible on a one-for-one basis into common units of Capital Product Partners L.P. (CPLP) and are senior to the common units in terms of liquidation preference and priority of distributions. The Class B Units pay quarterly cash distributions and are convertible at any time at the option of the holder. The Class B Units paid a distribution of \$0.21375 per unit for the third quarter.

See accompanying notes to financial statements.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

SCHEDULE OF INVESTMENTS

AUGUST 31, 2016

(amounts in 000 s, except number of option contracts)

(UNAUDITED)

- (7) Security or a portion thereof is segregated as collateral on option contracts written.
- (8) The Fund believes that it is an affiliate of Plains GP Holdings, L.P. (Plains GP). The Fund does not believe that it is an affiliate of ONEOK Partners, L.P., ONEOK, Inc. or California Resources Corporation. See Note 5 Agreements and Affiliations.
- (9) On July 11, 2016, Plains All American Pipeline, L.P. (PAA) announced it had entered into a definitive agreement with Plains AAP, L.P. (PAA GP) to permanently eliminate PAA s incentive distribution rights and the economic rights associated with PAA s 2% general partner interest in exchange for newly issued PAA common units and the assumption of all of PAA GP s outstanding debt.
- (10) The Fund holds an interest in PAA GP, which controls the general partner of PAA. Plains GP (which trades on the NYSE under the ticker PAGP) also holds an equity interest in PAA GP. The Fund s ownership of PAA GP is exchangeable into shares of Plains GP on a one-for-one basis at the Fund s option. See Notes 3 and 7 in Notes to Financial Statements.
- (11) On September 6, 2016, Enbridge Inc. (ENB) and Spectra Energy Corp. (SE) announced an agreement to combine in a stock-for-stock merger transaction. Under the terms of the agreement, each shareholder of SE will receive 0.984 shares of ENB for each share of SE they own.
- (12) Unless otherwise noted, securities are treated as a publicly-traded partnership for RIC qualification purposes. To qualify as a RIC for tax purposes, the Fund may directly invest up to 25% of its total assets in equity and debt securities of entities treated as publicly-traded partnerships. The Fund had 23.7% of its total assets invested in publicly-traded partnerships at August 31, 2016. It is the Fund s intention to be treated as a RIC for tax purposes.
- (13) Dividends are paid-in-kind.
- (14) Security is not treated as a publicly-traded partnership for RIC qualification purposes.
- (15) Security is comprised of a prepaid equity purchase contract and a senior amortizing note. Unless settled earlier, each prepaid equity purchase contract will settle on June 7, 2018 for between 0.7159 and 0.8591 Western Gas Equity Partners, LP (WGP) common units (subject to Anadarko Petroleum Corporation s (APC) right to deliver APC common stock in lieu of WGP common units). The Fund receives a quarterly payment of 7.50% per annum on the \$50 per unit stated amount of the security.

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- (16) Floating rate second lien secured term loan. Security pays interest at a rate of LIBOR + 650 basis points with a 1.00% LIBOR floor (7.50% as of August 31, 2016).
- (17) On May 13, 2016, Energy & Exploration Partners, Inc. emerged from a bankruptcy proceeding under Chapter 11 of the Bankruptcy Code. As a result of the reorganization, the Fund received a Senior Secured Second Lien Term Loan (principal amount of \$52) and an equity interest in the company.
- (18) Interest is paid in kind at a fixed rate per annum equal to 5.00%.
- (19) Security is non-income producing.
- (20) On April 15, 2016, Goodrich Petroleum Corporation (Goodrich) filed voluntary petitions in the United States Bankruptcy Court for the Southern District of Texas seeking relief under Chapter 11 of the Bankruptcy Code. As of August 31, 2016, the Fund held Goodrich second lien notes (maturing in 2018) and unsecured notes (maturing in 2019). During the first quarter of fiscal 2016, the Fund stopped accruing interest income related to its investments in Goodrich. On October 12, 2016, Goodrich announced that it has emerged from bankruptcy. Pursuant to the reorganization, Goodrich's existing common stock has been cancelled, and its new common stock will be issued to second lien noteholders, unsecured noteholders, general unsecured claim holders and management. Goodrich anticipates that its common stock will be traded on the over-the-counter (OTC) market and plans to list on a major exchange at a later date.

See accompanying notes to financial statements.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

SCHEDULE OF INVESTMENTS

AUGUST 31, 2016

(amounts in 000 s, except number of option contracts)

(UNAUDITED)

- (21) Floating rate second lien secured term loan. Security pays interest at a rate of LIBOR + 650 basis points with a 1.00% LIBOR floor (7.50% as of August 31, 2016).
- (22) Floating rate second lien secured term loan. Security pays interest at a rate of LIBOR + 750 basis points with a 1.00% LIBOR floor (8.50% as of August 31, 2016).
- (23) Principal amount is 6,850 Canadian dollars.
- (24) Rate indicated is the current yield as of August 31, 2016.

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****STATEMENT OF ASSETS AND LIABILITIES****AUGUST 31, 2016****(amounts in 000 s, except share and per share amounts)****(UNAUDITED)****ASSETS**

Investments, at fair value:	
Non-affiliated (Cost \$432,564)	\$ 441,061
Affiliated (Cost \$30,533)	37,892
Short-term investments (Cost \$517)	517
Total investments (Cost \$463,614)	479,470
Cash	2,000
Deposits with brokers	251
Receivable for securities sold	11,081
Interest, dividends and distributions receivable (Cost \$2,255)	2,254
Deferred debt and preferred stock offering costs and other assets	1,426
Total Assets	496,482

LIABILITIES

Payable for securities purchased	954
Investment management fee payable	514
Call option contracts written (Premiums received \$219)	204
Accrued directors' fees and expenses	84
Accrued expenses and other liabilities	2,353
Credit facility	17,000
Notes	91,000
Mandatory redeemable preferred stock, \$25.00 liquidation value per share (1,400,000 shares issued and outstanding)	35,000
Total Liabilities	147,109

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS \$ 349,373**NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS CONSIST OF**

Common stock, \$0.001 par value (22,277,499 shares issued, 22,034,170 shares outstanding and 198,600,000 shares authorized)	\$ 22
Paid-in capital	475,624
Accumulated net investment income (loss) less distributions not treated as tax return of capital	(34,259)
Accumulated net realized gains (losses) less distributions not treated as tax return of capital	(107,872)
Net unrealized gains (losses)	15,858

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS \$ 349,373**NET ASSET VALUE PER COMMON SHARE \$ 15.86**

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****STATEMENT OF OPERATIONS**

(amounts in 000 s)

(UNAUDITED)

	For the Three Months Ended August 31, 2016	For the Nine Months Ended August 31, 2016
INVESTMENT INCOME		
Income		
Dividends and distributions:		
Non-affiliated investments	\$ 6,655	\$ 19,762
Affiliated investments	771	2,354
Total dividends and distributions (after foreign taxes withheld of \$17 and \$29, respectively)	7,426	22,116
Return of capital	(4,080)	(11,277)
Net dividends and distributions	3,346	10,839
Interest income	2,049	5,505
Total Investment Income	5,395	16,344
Expenses		
Investment management fees	1,479	4,101
Professional fees	108	322
Directors' fees and expenses	84	269
Administration fees	50	142
Reports to stockholders	36	126
Insurance	35	106
Custodian fees	9	22
Other expenses	37	111
Total Expenses before interest expense and preferred distributions	1,838	5,199
Interest expense and amortization of offering costs	1,067	8,207
Distributions on mandatory redeemable preferred stock and amortization of offering costs	372	2,427
Total Expenses	3,277	15,833
Net Investment Income (Loss)	2,118	511
REALIZED AND UNREALIZED GAINS (LOSSES)		
Net Realized Gains (Losses)		
Investments non-affiliated	4,098	(105,903)
Investments affiliated	2,136	2,136
Foreign currency transactions	(4)	
Options	251	781
Net Realized Gains (Losses)	6,481	(102,986)

Net Change in Unrealized Gains (Losses)		
Investments non-affiliated	23,925	94,611
Investments affiliated	5,278	(1,782)
Foreign currency translations	3	10
Options	320	18
Net Change in Unrealized Gains (Losses)	29,526	92,857
Net Realized and Unrealized Gains (Losses)	36,007	(10,129)
NET DECREASE IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS RESULTING FROM OPERATIONS	\$ 38,125	\$ (9,618)

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****STATEMENT OF CHANGES IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS**

(amounts in 000 s, except share amounts)

	For the Nine Months Ended August 31, 2016 (Unaudited)	For the Fiscal Year Ended November 30, 2015
OPERATIONS		
Net investment income (loss) ⁽¹⁾	\$ 511	\$ 6,534
Net realized gains (losses)	(102,986)	(26,681)
Net change in unrealized gains (losses)	92,857	(372,157)
Net Decrease in Net Assets Resulting from Operations	(9,618)	(392,304)
DIVIDENDS AND DISTRIBUTIONS TO COMMON STOCKHOLDERS ⁽¹⁾		
Dividends	(25,203) ⁽²⁾	(36,440) ⁽³⁾
Distributions net long-term capital gains	(2)	(46,239) ⁽³⁾
Dividends and Distributions to Common Stockholders	(25,203)	(82,679)
CAPITAL STOCK TRANSACTIONS		
Issuance of 136,202 shares of common stock	1,438 ⁽⁴⁾	
Issuance of 234,832 and 41,203 shares of common stock from reinvestment of dividends and distributions, respectively	2,278	1,204
Net Increase in Net Assets Applicable to Common Stockholders from Capital Stock Transactions	3,716	1,204
Total Decrease in Net Assets Applicable to Common Stockholders	(31,105)	(473,779)
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS		
Beginning of period	380,478	854,257
End of period	\$ 349,373	\$ 380,478

(1) Distributions on the Fund's mandatory redeemable preferred stock (MRP Shares) are treated as an operating expense under GAAP and are included in the calculation of net investment income (loss). See Note 2 Significant Accounting Policies. Distributions in the amount of \$2,085 paid to holders of MRP Shares during the nine months ended August 31, 2016 are characterized as dividend income (a portion of which may be eligible to be treated as qualified dividend income) until after the end of the fiscal year when the Fund can determine its earnings and profits for the full fiscal year, which include gains and losses on the sale of securities for the remainder of the fiscal year. The final tax character may differ substantially from this preliminary information. Distributions in the amount of \$5,567 paid to holders of MRP Shares for the fiscal year ended November 30, 2015 were characterized as dividends (\$1,982) and as long-term capital gains (\$3,585). A portion of the distributions characterized as dividends for the fiscal year ended November 30, 2015 was eligible to be treated as qualified dividend income. This characterization is based on the Fund's earnings and profits.

(2)

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Distributions paid to common stockholders for the nine months ended August 31, 2016 are characterized as dividend income (a portion of which may be eligible to be treated as qualified dividend income) until after the end of the fiscal year when the Fund can determine its earnings and profits for the full fiscal year, which include gains and losses on the sale of securities for the remainder of the fiscal year. The Fund estimates that it will distribute more than its income and capital gains; therefore, a portion of distributions paid to common

See accompanying notes to financial statements.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

STATEMENT OF CHANGES IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS

(amounts in 000 s, except share amounts)

stockholders may be treated as return of capital. The final tax character may differ substantially from this preliminary information.

- (3) Distributions paid to common stockholders for the fiscal year ended November 30, 2015 were characterized as either dividends (a portion of which was eligible to be treated as qualified dividend income) or distributions (long-term capital gains or return of capital). This characterization is based on the Fund's earnings and profits.
- (4) On December 17, 2015, the Fund's investment advisor, KA Fund Advisors, LLC, purchased \$1,438 of newly issued shares funded in part with the after-tax management fees received during the fourth quarter of fiscal 2015. See Note 13 - Common Stock.

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****STATEMENT OF CASH FLOWS****FOR THE NINE MONTHS ENDED AUGUST 31, 2016****(amounts in 000 s)****(UNAUDITED)**

CASH FLOWS FROM OPERATING ACTIVITIES	
Net decrease in net assets resulting from operations	\$ (9,618)
Adjustments to reconcile net decrease in net assets resulting from operations to net cash provided by operating activities:	
Return of capital distributions	11,277
Net realized losses (excluding foreign currency transactions)	102,986
Net change in unrealized losses (excluding foreign currency translations)	(92,847)
Accretion of bond discounts, net	(546)
Purchase of long-term investments	(173,440)
Proceeds from sale of long-term investments	277,119
Purchase of short-term investments, net	(517)
Decrease in deposits with brokers	10
Increase in receivable for securities sold	(9,654)
Decrease in interest, dividends and distributions receivable	354
Amortization of deferred debt offering costs	699
Amortization of mandatory redeemable preferred stock offering costs	342
Decrease in other assets	160
Increase in payable for securities purchased	954
Decrease in investment management fee payable	(195)
Decrease in premiums received on call option contracts written	(383)
Decrease in accrued directors' fees and expenses	(7)
Decrease in accrued expenses and other liabilities	(574)
Net Cash Provided by Operating Activities	106,120
CASH FLOWS FROM FINANCING ACTIVITIES	
Increase in borrowings under credit facility	17,000
Redemption of notes	(94,000)
Redemption of mandatory redeemable preferred stock	(35,000)
Proceeds from issuance of common stock	1,438
Cash distributions paid to common stockholders	(22,925)
Net Cash Used in Financing Activities	(133,487)
NET DECREASE IN CASH	(27,367)
CASH BEGINNING OF PERIOD	29,367
CASH END OF PERIOD	\$ 2,000

Supplemental disclosure of cash flow information:

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Non-cash financing activities not included herein consisted of reinvestment of distributions of \$2,278 pursuant to the Fund's dividend reinvestment plan.

During the nine months ended August 31, 2016, interest paid related to debt obligations was \$7,713.

During the nine months ended August 31, 2016, the Fund received \$2,954 of paid-in-kind dividends. See Note 2 Significant Accounting Policies.

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****FINANCIAL HIGHLIGHTS**

(amounts in 000 s, except share and per share amounts)

	For the Nine Months Ended August 31, 2016 (Unaudited)	For the Fiscal Year Ended November 30,	
		2015	2014
Per Share of Common Stock⁽¹⁾			
Net asset value, beginning of period	\$ 17.56	\$ 39.51	\$ 35.75
Net investment income (loss) ⁽²⁾	0.02	0.30	(0.01)
Net realized and unrealized gains (losses)	(0.56)	(18.42)	5.61
Total income (loss) from operations	(0.54)	(18.12)	5.60
Common dividends – dividend income ⁽³⁾	(1.15)	(1.68)	(1.57)
Common distributions – long-term capital gain ⁽³⁾		(2.14)	(0.34)
Common distributions – return of capital ⁽⁴⁾			
Total dividends and distributions – common	(1.15)	(3.82) ⁽⁴⁾	(1.91)
Effect of shares issued in reinvestment of distributions	(0.01)	(0.01)	(0.02)
Effect of issuance of common stock			
Effect of common stock repurchased			0.09
Net asset value, end of period	\$ 15.86	\$ 17.56	\$ 39.51
Market value per share of common stock, end of period	\$ 14.40	\$ 15.46	\$ 35.82
Total investment return based on common stock market value ⁽⁵⁾	3.5% ⁽⁶⁾	(50.2)%	15.3%
Total investment return based on net asset value ⁽⁷⁾	0.3% ⁽⁶⁾	(48.7)%	16.4%
Supplemental Data and Ratios⁽⁸⁾			
Net assets applicable to common stockholders, end of period	\$ 349,373	\$ 380,478	\$ 854,257
Ratio of expenses to average net assets			
Management fees ⁽⁹⁾	1.8%	1.9%	1.7%
Other expenses	0.5	0.2	0.2
Subtotal	2.3	2.1	1.9
Interest expense and distributions on mandatory redeemable preferred stock ⁽²⁾	4.2 ⁽¹⁰⁾	2.5	1.7
Management fee waiver			
Excise taxes		0.4	
Total expenses	6.5%	5.0%	3.6%
Ratio of net investment income (loss) to average net assets ⁽²⁾	0.9% ⁽¹⁰⁾	1.0%	(0.0)%
Net increase (decrease) in net assets applicable to common stockholders resulting from operations to average net assets	(3.2)% ⁽⁶⁾	(58.3)%	14.0%
Portfolio turnover rate	40.7% ⁽⁶⁾	45.3%	45.3%
Average net assets	\$ 296,257	\$ 672,534	\$ 887,585
Notes outstanding, end of period	\$ 91,000	\$ 185,000	\$ 235,000
Credit facility outstanding, end of period	\$ 17,000	\$	\$

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Term loan outstanding, end of period	\$	\$	\$ 46,000
Mandatory redeemable preferred stock, end of period	\$ 35,000	\$ 70,000	\$ 105,000
Average shares of common stock outstanding	21,956,194	21,657,943	21,897,671
Asset coverage of total debt ⁽¹⁾	455.9%	343.5%	441.4%
Asset coverage of total leverage (debt and preferred stock) ⁽¹²⁾	344.3%	249.2%	321.3%
Average amount of borrowings per share of common stock during the period ⁽¹⁾	\$ 4.76	\$ 11.16	\$ 12.84

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****FINANCIAL HIGHLIGHTS**

(amounts in 000 s, except share and per share amounts)

	For the Fiscal Year Ended November 30,	
	2013	2012
Per Share of Common Stock⁽¹⁾		
Net asset value, beginning of period	\$ 29.01	\$ 25.94
Net investment income (loss) ⁽²⁾	(0.06)	0.17
Net realized and unrealized gains (losses)	8.61	4.64
Total income (loss) from operations	8.55	4.81
Common dividends – dividend income ⁽³⁾	(1.15)	(1.30)
Common distributions – long-term capital gains ⁽³⁾	(0.66)	(0.41)
Common distributions – return of capital ⁽³⁾		
Total dividends and distributions – common	(1.81)	(1.71)
Effect of shares issued in reinvestment of distributions		(0.03)
Effect of issuance of common stock		
Effect of common stock repurchased		
Net asset value, end of period	\$ 35.75	\$ 29.01
Market value per share of common stock, end of period	\$ 32.71	\$ 28.04
Total investment return based on common stock market value ⁽⁵⁾	23.5%	33.3%
Total investment return based on net asset value ⁽⁷⁾	30.5%	19.4%
Supplemental Data and Ratios⁽⁸⁾		
Net assets applicable to common stockholders, end of period	\$ 788,057	\$ 635,226
Ratio of expenses to average net assets		
Management fees ⁽⁹⁾	1.8%	1.7%
Other expenses	0.2	0.3
Subtotal	2.0	2.0
Interest expense and distributions on mandatory redeemable preferred stock ⁽²⁾	1.8	1.8
Management fee waiver		
Excise taxes	0.1	
Total expenses	3.9%	3.8%
Ratio of net investment income (loss) to average net assets ⁽²⁾	(0.2)%	0.6%
Net increase (decrease) in net assets applicable to common stockholders resulting from operations to average net assets	25.9%	16.8%
Portfolio turnover rate	49.1%	67.6%
Average net assets	\$ 726,248	\$ 620,902
Notes outstanding, end of period	\$ 205,000	\$ 165,000
Credit facility outstanding, end of period	\$ 50,000	\$ 48,000
Term loan outstanding, end of period	\$	\$

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Mandatory redeemable preferred stock, end of period	\$ 65,000	\$ 65,000
Average shares of common stock outstanding	21,969,288	21,794,596
Asset coverage of total debt ⁽¹⁾	434.5%	428.7%
Asset coverage of total leverage (debt and preferred stock) ⁽¹²⁾	346.3%	328.5%
Average amount of borrowings per share of common stock during the period ⁽¹⁾	\$ 10.51	\$ 8.85

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****FINANCIAL HIGHLIGHTS**

(amounts in 000 s, except share and per share amounts)

	For the Fiscal Year Ended November 30, 2011	For the Period November 24, 2010 ⁽¹³⁾ through November 30, 2010
Per Share of Common Stock⁽¹⁾		
Net asset value, beginning of period	\$ 23.80	\$ 23.83 ⁽¹⁴⁾
Net investment income (loss) ⁽²⁾	0.29	(0.02)
Net realized and unrealized gains (losses)	3.12	(0.01)
Total income (loss) from operations	3.41	(0.03)
Common dividends dividend income ⁽³⁾	(1.20)	
Common distributions long-term capital gains ⁽³⁾		
Common distributions return of capital ⁽³⁾		
Total dividends and distributions common	(1.20)	
Effect of shares issued in reinvestment of distributions	(0.04)	
Effect of issuance of common stock	(0.03)	
Effect of common stock repurchased		
Net asset value, end of period	\$ 25.94	\$ 23.80
Market value per share of common stock, end of period	\$ 22.46	\$ 25.00
Total investment return based on common stock market value ⁽⁵⁾	(5.5)%	0.0% ⁽⁶⁾
Total investment return based on net asset value ⁽⁷⁾	14.7%	(0.1)% ⁽⁶⁾
Supplemental Data and Ratios⁽⁸⁾		
Net assets applicable to common stockholders, end of period	\$ 562,044	\$ 452,283
Ratio of expenses to average net assets		
Management fees ⁽⁹⁾	1.6%	1.3%
Other expenses	0.3	0.3 ⁽¹⁵⁾
Subtotal	1.9	1.6
Interest expense and distributions on mandatory redeemable preferred stock ⁽²⁾	1.3	
Management fee waiver	(0.3)	(0.3)
Excise taxes		
Total expenses	2.9%	1.3%
Ratio of net investment income (loss) to average net assets ⁽²⁾	1.1%	(1.3)% ⁽¹⁵⁾
Net increase (decrease) in net assets applicable to common stockholders resulting from operations to average net assets	13.4%	(0.1)% ⁽⁶⁾
Portfolio turnover rate	74.1%	0.0% ⁽⁶⁾
Average net assets	\$ 537,044	\$ 452,775

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Notes outstanding, end of period	\$ 115,000	\$
Credit facility outstanding, end of period	\$ 45,000	\$
Term loan outstanding, end of period	\$	\$
Mandatory redeemable preferred stock, end of period	\$ 35,000	\$
Average shares of common stock outstanding	21,273,512	19,004,000
Asset coverage of total debt ⁽¹⁾	473.2%	
Asset coverage of total leverage (debt and preferred stock) ⁽¹²⁾	388.2%	
Average amount of borrowings per share of common stock during the period ⁽¹⁾	\$ 6.50	

See accompanying notes to financial statements.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

FINANCIAL HIGHLIGHTS

(amounts in 000 s, except share and per share amounts)

- (1) Based on average shares of common stock outstanding.
- (2) Distributions on the Fund's MRP Shares are treated as an operating expense under GAAP and are included in the calculation of net investment income (loss). See Note 2 Significant Accounting Policies.
- (3) The actual characterization of the distributions made during the nine months ended August 31, 2016 will not be determinable until after the end of the fiscal year when the Fund can determine its actual earnings and profits for the full fiscal year (which include gains and losses on the sale of securities for the remainder of the fiscal year) and may differ substantially from this preliminary information. The information presented for each of the other periods is a characterization of the total distributions paid to the common stockholders as either dividend income (a portion of which was eligible to be treated as qualified dividend income) or distributions (long-term capital gains or return of capital) and is based on the Fund's earnings and profits.
- (4) Includes special distribution of \$1.80 per share paid in July 2015.
- (5) Total investment return based on market value is calculated assuming a purchase of common stock at the market price on the first day and a sale at the current market price on the last day of the period reported. The calculation also assumes reinvestment of distributions at actual prices pursuant to the Fund's dividend reinvestment plan.
- (6) Not annualized.
- (7) Total investment return based on net asset value is calculated assuming a purchase of common stock at the net asset value on the first day and a sale at the net asset value on the last day of the period reported. The calculation also assumes reinvestment of distributions at actual prices pursuant to the Fund's dividend reinvestment plan.
- (8) Unless otherwise noted, ratios are annualized.
- (9) Ratio reflects total management fee before waiver, if any.
- (10) For the purpose of annualizing these ratios, make whole premiums, accelerated interest, and the write-off of issuance costs related to the redemptions of unsecured notes (Notes) and MRP Shares have not been annualized.

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- (11) Calculated pursuant to section 18(a)(1)(A) of the 1940 Act. Represents the value of total assets less all liabilities not represented by Notes or any other senior securities representing indebtedness and MRP Shares divided by the aggregate amount of Notes and any other senior securities representing indebtedness. Under the 1940 Act, the Fund may not declare or make any distribution on its common stock nor can it incur additional indebtedness if at the time of such declaration or incurrence its asset coverage with respect to senior securities representing indebtedness would be less than 300%. For purposes of this test, the Credit Facility and the Term Loan are considered senior securities representing indebtedness.
- (12) Calculated pursuant to section 18(a)(2)(A) of the 1940 Act. Represents the value of total assets less all liabilities not represented by Notes, any other senior securities representing indebtedness and MRP Shares divided by the aggregate amount of Notes, any other senior securities representing indebtedness and MRP Shares. Under the 1940 Act, the Fund may not declare or make any distribution on its common stock nor can it issue additional preferred stock if at the time of such declaration or issuance, its asset coverage with respect to all senior securities would be less than 200%. In addition to the limitations under the 1940 Act, the Fund, under the terms of its MRP Shares, would not be able to declare or pay any distributions on its common stock if such declaration would cause its asset coverage with respect to all senior securities to be less than 225%. For purposes of these asset coverage ratio tests, the Credit Facility and the Term Loan are considered senior securities representing indebtedness.
- (13) Commencement of operations.
- (14) Initial public offering price of \$25.00 per share less underwriting discounts of \$1.125 per share and offering costs of \$0.05 per share.
- (15) For purposes of annualizing other expenses of the Fund, professional fees and reports to stockholders are fees associated with the annual audit and annual report and therefore have not been annualized.

See accompanying notes to financial statements.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOTES TO FINANCIAL STATEMENTS

(amounts in 000 s, except number of option contracts, share and per share amounts)

(UNAUDITED)

1. Organization

Kayne Anderson Midstream/Energy Fund, Inc. (the Fund) was organized as a Maryland corporation on August 26, 2010 and commenced operations on November 24, 2010. The Fund is registered under the Investment Company Act of 1940, as amended (the 1940 Act), as a non-diversified, closed-end investment management company. The Fund's investment objective is to provide a high level of return with an emphasis on making quarterly cash distributions to its stockholders. The Fund seeks to achieve that investment objective by investing at least 80% of its total assets in the securities of companies in the Midstream/Energy Sector, consisting of (a) Midstream MLPs, (b) Midstream Companies, (c) Other MLPs and (d) Other Energy Companies. The Fund's shares of common stock are listed on the New York Stock Exchange, Inc. (NYSE) under the symbol KMF.

2. Significant Accounting Policies

The following is a summary of the significant accounting policies that the Fund uses to prepare its financial statements in accordance with accounting principles generally accepted in the United States of America (GAAP). The Fund is an investment company and follows accounting and reporting guidance of the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 946 Financial Services Investment Companies.

A. Use of Estimates The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of income and expenses during the period. Actual results could differ materially from those estimates.

B. Cash and Cash Equivalents Cash and cash equivalents include short-term, liquid investments with an original maturity of three months or less and include money market fund accounts.

C. Calculation of Net Asset Value The Fund determines its net asset value on a daily basis and reports its net asset value on its website. Net asset value is computed by dividing the value of the Fund's assets (including accrued interest and distributions), less all of its liabilities (including accrued expenses, distributions payable and any indebtedness) and the liquidation value of any outstanding preferred stock, by the total number of common shares outstanding.

D. Investment Valuation Readily marketable portfolio securities listed on any exchange other than the NASDAQ Stock Market, Inc. (NASDAQ) are valued, except as indicated below, at the last sale price on the business day as of which such value is being determined. If there has been no sale on such day, the securities are valued at the mean of the most recent bid and ask prices on such day. Securities admitted to trade on the NASDAQ are valued at the NASDAQ official closing price. Portfolio securities traded on more than one securities exchange are valued at the last sale price on the business day as of which such value is being determined at the close of the exchange representing the principal market for such securities.

Equity securities traded in the over-the-counter market, but excluding securities admitted to trading on the NASDAQ, are valued at the closing bid prices. Debt securities that are considered bonds are valued by using the mean of the bid and ask prices provided by an independent pricing service or, if such prices are not available or in the judgment of KA Fund Advisors, LLC (KAFA) such prices are stale or do not represent fair value, by an independent broker. For debt securities that are considered bank loans, the fair market value is determined by using the mean of the bid and ask prices provided by the agent or syndicate bank or principal market maker. When price quotes for securities are not available, or such prices are stale or do not represent fair value in the judgment of KAFA, fair market value will be determined using the Fund's valuation process for securities that are privately issued or otherwise restricted as to resale.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOTES TO FINANCIAL STATEMENTS

(amounts in 000 s, except number of option contracts, share and per share amounts)

(UNAUDITED)

Exchange-traded options and futures contracts are valued at the last sales price at the close of trading in the market where such contracts are principally traded or, if there was no sale on the applicable exchange on such day, at the mean between the quoted bid and ask price as of the close of such exchange.

The Fund holds securities that are privately issued or otherwise restricted as to resale. For these securities, as well as any security for which (a) reliable market quotations are not available in the judgment of KAFA, or (b) the independent pricing service or independent broker does not provide prices or provides a price that in the judgment of KAFA is stale or does not represent fair value, shall each be valued in a manner that most fairly reflects fair value of the security on the valuation date. Unless otherwise determined by the Board of Directors, the following valuation process is used for such securities:

Investment Team Valuation. The applicable investments are valued by senior professionals of KAFA who are responsible for the portfolio investments. The investments will be valued monthly, with new investments valued at the time such investment was made.

Investment Team Valuation Documentation. Preliminary valuation conclusions will be determined by senior management of KAFA. Such valuations and supporting documentation are submitted to the Valuation Committee (a committee of the Fund's Board of Directors) and the Board of Directors on a quarterly basis.

Valuation Committee. The Valuation Committee meets to consider the valuations submitted by KAFA at the end of each quarter. Between meetings of the Valuation Committee, a senior officer of KAFA is authorized to make valuation determinations. All valuation determinations of the Valuation Committee are subject to ratification by the Board of Directors at its next regular meeting.

Valuation Firm. Quarterly, a third-party valuation firm engaged by the Board of Directors reviews the valuation methodologies and calculations employed for these securities, unless the aggregate fair value of such security is less than 0.1% of total assets.

Board of Directors Determination. The Board of Directors meets quarterly to consider the valuations provided by KAFA and the Valuation Committee and ratify valuations for the applicable securities. The Board of Directors considers the report provided by the third-party valuation firm in reviewing and determining in good faith the fair value of the applicable portfolio securities.

As of August 31, 2016, the Fund held 1.3% of its net assets applicable to common stockholders (0.9% of total assets) in securities that were fair valued pursuant to the procedures adopted by the Board of Directors. The aggregate fair value of these securities at August 31, 2016 was \$4,440. See Note 3 Fair Value and Note 7 Restricted Securities.

E. Repurchase Agreements From time to time, the Fund has agreed to purchase securities from financial institutions subject to the seller's agreement to repurchase them at an agreed-upon time and price (repurchase agreements). The financial institutions with whom the Fund enters into repurchase agreements are banks and broker/dealers which KAFA considers creditworthy. The seller under a repurchase agreement is required to maintain the value of the securities as collateral, subject to the agreement, at not less than the repurchase price plus accrued interest. KAFA monitors daily the mark-to-market of the value of the collateral, and, if necessary, requires the seller to maintain additional securities, so that the value of the collateral is not less than the repurchase price. Default by or bankruptcy of the seller would, however, expose the Fund to possible loss because of adverse market action or delays in connection with the disposition of the underlying securities. During the nine months ended August 31, 2016, the Fund did not enter into any repurchase agreements.

F. *Short Sales* A short sale is a transaction in which the Fund sells securities it does not own (but has borrowed) in anticipation of or to hedge against a decline in the market price of the securities. To complete a short sale, the Fund may arrange through a broker to borrow the securities to be delivered to the buyer. The

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proceeds received by the Fund for the short sale are retained by the broker until the Fund replaces the borrowed securities. In borrowing the securities to be delivered to the buyer, the Fund becomes obligated to replace the securities borrowed at their market price at the time of replacement, whatever the price may be.

The Fund's short sales, if any, are fully collateralized. The Fund is required to maintain assets consisting of cash or liquid securities equal in amount to the liability created by the short sale. These assets are adjusted daily to reflect changes in the value of the securities sold short. The Fund is liable for any dividends or distributions paid on securities sold short.

The Fund may also sell short against the box (*i.e.*, the Fund enters into a short sale as described above while holding an offsetting long position in the security which it sold short). If the Fund enters into a short sale against the box, the Fund would segregate an equivalent amount of securities owned as collateral while the short sale is outstanding. During the nine months ended August 31, 2016, the Fund did not engage in any short sales.

G. Derivative Financial Instruments The Fund may utilize derivative financial instruments in its operations.

Interest rate swap contracts. The Fund may use hedging techniques such as interest rate swaps to mitigate potential interest rate risk on a portion of the Fund's leverage. Such interest rate swaps would principally be used to protect the Fund against higher costs on its leverage resulting from increases in interest rates. The Fund does not hedge any interest rate risk associated with portfolio holdings. Interest rate transactions the Fund uses for hedging purposes expose it to certain risks that differ from the risks associated with its portfolio holdings. A decline in interest rates may result in a decline in the value of the swap contracts, which, everything else being held constant, would result in a decline in the net assets of the Fund. In addition, if the counterparty to an interest rate swap defaults, the Fund would not be able to use the anticipated net receipts under the interest rate swap to offset its cost of financial leverage.

Interest rate swap contracts are recorded at fair value with changes in value during the reporting period, and amounts accrued under the agreements, included as unrealized gains or losses in the Statement of Operations. Monthly cash settlements under the terms of the interest rate swap agreements or termination payments are recorded as realized gains or losses in the Statement of Operations. The Fund generally values its interest rate swap contracts based on dealer quotations, if available, or by discounting the future cash flows from the stated terms of the interest rate swap agreement by using interest rates currently available in the market. See Note 8 Derivative Financial Instruments.

Option contracts. The Fund is also exposed to financial market risks including changes in the valuations of its investment portfolio. The Fund may purchase or write (sell) call options. A call option on a security is a contract that gives the holder of the option, in return for a premium, the right to buy from the writer of the option the security underlying the option at a specified exercise price at any time during the term of the option.

The Fund would realize a gain on a purchased call option if, during the option period, the value of such securities exceeded the sum of the exercise price, the premium paid and transaction costs; otherwise the Fund would realize either no gain or a loss on the purchased call option. The Fund may also purchase put option contracts. If a purchased put option is exercised, the premium paid increases the cost basis of the securities sold by the Fund.

The Fund may also write (sell) call options with the purpose of generating realized gains or reducing its ownership of certain securities. If the Fund writes a call option on a security, the Fund has the obligation upon exercise of the option to deliver the underlying security upon payment of the exercise price. The Fund will only write call options on securities that the Fund holds in its portfolio (*i.e.*, covered calls).

When the Fund writes a call option, an amount equal to the premium received by the Fund is recorded as a liability and is subsequently adjusted to the current fair value of the option written. Premiums received from writing options that expire unexercised are treated by the Fund on the expiration date as realized gains from

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investments. If the Fund repurchases a written call option prior to its exercise, the difference between the premium received and the amount paid to repurchase the option is treated as a realized gain or loss. If a call option is exercised, the premium is added to the proceeds from the sale of the underlying security in determining whether the Fund has realized a gain or loss. The Fund, as the writer of an option, bears the market risk of an unfavorable change in the price of the security underlying the written option. See Note 8 Derivative Financial Instruments.

H. *Security Transactions* Security transactions are accounted for on the date the securities are purchased or sold (trade date). Realized gains and losses are calculated using the specific identification cost basis method for GAAP purposes. Since the Fund's inception, it had also utilized the specific identification cost basis method for tax purposes. On July 13, 2015, the Fund filed a request with the Internal Revenue Service to change the tax accounting method used to compute the adjusted tax cost basis of its MLP securities to the average cost method. On February 5, 2016, the Fund received notification that the IRS approved the tax accounting method change effective December 1, 2014. The tax accounting method change did not change the accounting method utilized for GAAP purposes. See Note 6 Taxes.

I. *Return of Capital Estimates* Dividends and distributions received from the Fund's investments are comprised of income and return of capital. Payments made by MLPs (and other entities treated as partnerships for federal income tax purposes) are categorized as distributions and payments made by corporations are categorized as dividends. At the time such dividends and distributions are received, the Fund estimates the amount of such payments that is considered investment income and the amount that is considered a return of capital. The Fund generally estimates that 90% of the distributions received from its MLPs will be treated as a return of capital. Such estimates for MLPs and other investments are based on historical information available from each investment and other industry sources. These estimates may subsequently be revised based on information received from investments after their tax reporting periods are concluded.

The return of capital portion of the distributions is a reduction to investment income, an equivalent reduction in the cost basis of the associated investments and an increase to net realized gains (losses) and net change in unrealized gains (losses). If the cash distributions received by the Fund exceed its cost basis (*i.e.* its cost basis has been reduced to zero), the distributions are treated as realized gains.

The Fund includes all cash distributions received on its Statement of Operations and reduces its investment income by (i) the estimated return of capital and (ii) the distributions in excess of cost basis (if any). For the nine months ended August 31, 2016, the Fund estimated \$11,277 of return of capital and there were no cash distributions that were in excess of cost basis.

In accordance with GAAP, the return of capital cost basis reductions for the Fund's MLP investments are limited to the total amount of the cash distributions received from such investments. For income tax purposes, the cost basis reductions for the Fund's MLP investments typically exceed cash distributions received from such investments due to allocated losses from these investments.

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The following table sets forth the Fund's estimated return of capital portion of the distributions received from its investments.

	For the Three Months Ended August 31, 2016	For the Nine Months Ended August 31, 2016
Dividends from investments	\$ 4,615	\$ 12,915
Distributions from investments	2,828	9,230
Total dividends and distributions from investments (before foreign taxes withheld of \$17 and 29, respectively)	\$ 7,443	\$ 22,145
Dividends % return of capital	38%	27%
Distributions % return of capital	82%	84%
Total dividends and distributions % return of capital	55%	51%
Return of capital attributable to net realized gains (losses)	\$ 638	\$ 1,774
Return of capital attributable to net change in unrealized gains (losses)	3,442	9,503
Total return of capital	\$ 4,080	\$ 11,277

J. Investment Income The Fund records dividends and distributions on the ex-dividend date. Interest income is recognized on the accrual basis, including amortization of premiums and accretion of discounts. When investing in securities with payment in-kind interest, the Fund will accrue interest income during the life of the security even though it will not be receiving cash as the interest is accrued. To the extent that interest income to be received is not expected to be realized, a reserve against income is established.

During the first quarter, the Fund established \$394 of reserves against interest income related to its investments in Energy & Exploration Partners, Inc. (\$24), Goodrich Petroleum Corporation (\$127) and Midstates Petroleum Company, Inc. (\$243). Once these reserves were established, the Fund stopped accruing interest income related to these investments.

Many of the debt securities that the Fund holds were purchased at a discount or premium to the par value of the security. The non-cash accretion of a discount to par value increases interest income while the non-cash amortization of a premium to par value decreases interest income. The accretion of a discount and amortization of a premium are based on the effective interest method. The amount of these non-cash adjustments can be found in the Fund's Statement of Cash Flows. The non-cash accretion of a discount increases the cost basis of the debt security, which results in an offsetting unrealized loss. The non-cash amortization of a premium decreases the cost basis of the debt security, which results in an offsetting unrealized gain. To the extent that par value is not expected to be realized, the Fund discontinues accruing the non-cash accretion of the discount to par value of the debt security.

The Fund may receive paid-in-kind and non-cash dividends and distributions in the form of additional units or shares from its investments. For paid-in-kind dividends, the additional units are not reflected in investment income during the period received, but are recorded as unrealized gains upon receipt. Non-cash distributions are reflected in investment income because the Fund has the option to receive its distribution in cash or in additional shares or units of the security. During the three and nine months ended August 31, 2016, the Fund received \$1,012 and \$2,954, respectively, of paid-in-kind dividends from its investment in Enbridge Energy Management, L.L.C.

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K. Distributions to Stockholders Distributions to common stockholders are recorded on the ex-dividend date. Distributions to holders of MRP Shares are accrued on a daily basis as described in Note 12 Preferred Stock. As required by the Distinguishing Liabilities from Equity topic of the FASB Accounting Standards Codification (ASC 480), the Fund includes the accrued distributions on its MRP Shares as an operating expense due to the fixed term of this obligation. For tax purposes the payments made to the holders of the Fund's MRP Shares are treated as dividends or distributions.

The characterization of the distributions paid to holders of MRP Shares and common stock for the nine months ended August 31, 2016 as either dividend income (eligible to be treated as qualified dividend income) or distributions (long-term capital gains or return of capital) will be determined after the end of the fiscal year based on the Fund's actual earnings and profits and, therefore, the characterization may differ from the preliminary estimates.

L. Partnership Accounting Policy The Fund records its pro-rata share of the income (loss) and capital gains (losses), to the extent of distributions it has received, allocated from the underlying partnerships and adjusts the cost basis of the underlying partnerships accordingly. These amounts are included in the Fund's Statement of Operations.

M. Taxes It is the Fund's intention to continue to be treated as and to qualify each year for special tax treatment afforded a regulated investment company (RIC) under Subchapter M of the Internal Revenue Code of 1986, as amended (the Code). As long as the Fund meets certain requirements that govern its sources of income, diversification of assets and timely distribution of earnings to stockholders, the Fund will not be subject to U.S. federal income tax.

The Fund must pay distributions equal to 90% of its investment company taxable income (ordinary income and short-term capital gains) to qualify as a RIC and it must distribute all of its taxable income (ordinary income, short-term capital gains and long-term capital gains) to avoid federal income taxes. The Fund will be subject to federal income tax on any undistributed portion of income. For purposes of the distribution test, the Fund may elect to treat as paid on the last day of its taxable year all or part of any distributions that are declared after the end of its taxable year if such distributions are declared before the due date of its tax return, including any extensions (August 15th). See Note 6 Taxes.

All RICs are subject to a non-deductible 4% excise tax on income that is not distributed on a timely basis in accordance with the calendar year distribution requirements. To avoid the tax, the Fund must distribute during each calendar year an amount at least equal to the sum of (i) 98% of its ordinary income for the calendar year, (ii) 98.2% of its net capital gains for the one-year period ending on November 30, the last day of our taxable year, and (iii) undistributed amounts from previous years on which the Fund paid no U.S. federal income tax. A distribution will be treated as paid during the calendar year if it is paid during the calendar year or declared by the Fund in October, November or December, payable to stockholders of record on a date during such months and paid by the Fund during January of the following year. Any such distributions paid during January of the following year will be deemed to be received by stockholders on December 31 of the year the distributions are declared, rather than when the distributions are actually received.

The Fund will be liable for the excise tax on the amount by which it does not meet the distribution requirement and will accrue an excise tax liability at the time that the liability is estimable and probable.

Dividend income received by the Fund from sources within Canada is subject to a 15% foreign withholding tax. Interest income on Canadian corporate debt obligations should generally be exempt from withholding tax on interest, with a few exceptions (e.g., a profit participating debt interest).

The Accounting for Uncertainty in Income Taxes Topic of the FASB Accounting Standards Codification (ASC 740) defines the threshold for recognizing the benefits of tax-return positions in the financial statements as

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more-likely-than-not to be sustained by the taxing authority and requires measurement of a tax position meeting the more-likely-than-not criterion, based on the largest benefit that is more than 50% likely to be realized.

Since the Fund's inception, it had utilized the specific identification tax accounting method to compute the adjusted tax cost basis of its MLP securities and for selection of lots to be sold. On July 13, 2015, the Fund filed a request with the Internal Revenue Service to change the tax accounting method used to compute the adjusted tax cost basis of its MLP securities to the average cost method. On February 5, 2016, the Fund received notification that the IRS approved the tax accounting method change effective December 1, 2014. See Note 6 Taxes.

The Fund's policy is to classify interest and penalties associated with underpayment of federal and state income taxes, if any, as income tax expense on its Statement of Operations. Tax years subsequent to fiscal year 2012 remain open and subject to examination by federal and state tax authorities.

N. Foreign Currency Translations The books and records of the Fund are maintained in U.S. dollars. Foreign currency amounts are translated into U.S. dollars on the following basis: (i) market value of investment securities, assets and liabilities at the rate of exchange as of the valuation date; and (ii) purchases and sales of investment securities, income and expenses at the relevant rates of exchange prevailing on the respective dates of such transactions.

The Fund does not isolate that portion of gains and losses on investments in equity and debt securities which is due to changes in the foreign exchange rates from that which is due to changes in market prices of equity and debt securities. Accordingly, realized and unrealized foreign currency gains and losses with respect to such securities are included in the reported net realized and unrealized gains and losses on investment transactions balances.

Net realized foreign exchange gains or losses represent gains and losses from transactions in foreign currencies and foreign currency contracts, foreign exchange gains or losses realized between the trade date and settlement date on security transactions, and the difference between the amounts of interest and dividends recorded on the Fund's books and the U.S. dollar equivalent of such amounts on the payment date.

Net unrealized foreign exchange gains or losses represent the difference between the cost of assets and liabilities (other than investments) recorded on the Fund's books from the value of the assets and liabilities (other than investments) on the valuation date.

O. Indemnifications Under the Fund's organizational documents, its officers and directors are indemnified against certain liabilities arising out of the performance of their duties to the Fund. In addition, in the normal course of business, the Fund enters into contracts that provide general indemnification to other parties. The Fund's maximum exposure under these arrangements is unknown, as this would involve future claims that may be made against the Fund that have not yet occurred, and may not occur. However, the Fund has not had prior claims or losses pursuant to these contracts and expects the risk of loss to be remote.

P. Offering and Debt Issuance Costs Offering costs incurred by the Fund related to the issuance of its common stock reduce additional paid-in-capital when the stock is issued. Costs incurred by the Fund related to the issuance of its debt (revolving credit facility, term loan or senior notes) or its preferred stock are capitalized and amortized over the period the debt or preferred stock is outstanding.

In April 2015, the FASB issued Accounting Standards Update (ASU) No. 2015-03 Interest Imputation of Interest (Subtopic 835-30), Simplifying the Presentation of Debt Issuance Costs. ASU No. 2015-03 requires that all costs incurred to issue debt be presented in the balance sheet as a direct deduction from the carrying value of the debt. In August 2015, the FASB issued ASU No. 2015-15 Interest Imputation of Interest (Subtopic 835-30), Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements. ASU No. 2015-15 states that the SEC staff will not object to an entity presenting the cost of securing a revolving line of credit as an asset, regardless of whether a balance is outstanding. ASU

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No. 2015-03 and ASU No. 2015-15 are effective for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years, and should be applied retrospectively. The Fund will adopt these changes in fiscal 2017 when they become effective.

3. Fair Value

The Fair Value Measurement Topic of the FASB Accounting Standards Codification (ASC 820) defines fair value as the price at which an orderly transaction to sell an asset or to transfer a liability would take place between market participants under current market conditions at the measurement date. As required by ASC 820, the Fund has performed an analysis of all assets and liabilities measured at fair value to determine the significance and character of all inputs to their fair value determination. Inputs are the assumptions, along with considerations of risk, that a market participant would use to value an asset or a liability. In general, observable inputs are based on market data that is readily available, regularly distributed and verifiable that the Fund obtains from independent, third-party sources. Unobservable inputs are developed by the Fund based on its own assumptions of how market participants would value an asset or a liability.

Accounting Standards Update (ASU) No. 2011-04 Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs amends ASC 820. The amended guidance clarifies the wording used to describe many requirements in accounting literature for fair value measurement and disclosure to establish consistency between U.S. GAAP and International Financial Reporting Standards (IFRSs).

ASU No. 2011-04 requires the inclusion of additional disclosures on assumptions used by the Fund to determine fair value. Specifically, for assets measured at fair value using significant unobservable inputs (Level 3), ASU No. 2011-04 requires that the Fund (i) describe the valuation process, (ii) disclose quantitative information about unobservable inputs and (iii) provide a qualitative discussion about the sensitivity of the fair value measurement to changes in the unobservable inputs and inter-relationships between the inputs.

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into the following three broad categories.

Level 1 Valuations based on quoted unadjusted prices for identical instruments in active markets traded on a national exchange to which the Fund has access at the date of measurement.

Level 2 Valuations based on quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets. Level 2 inputs are those in markets for which there are few transactions, the prices are not current, little public information exists or instances where prices vary substantially over time or among brokered market makers.

Level 3 Model derived valuations in which one or more significant inputs or significant value drivers are unobservable. Unobservable inputs are those inputs that reflect the Fund's own assumptions that market participants would use to price the asset or liability based on the best available information.

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The following table presents the Fund's assets and liabilities measured at fair value on a recurring basis at August 31, 2016, and the Fund presents these assets and liabilities by security type and description on its Schedule of Investments or on its Statement of Assets and Liabilities. Note that the valuation levels below are not necessarily an indication of the risk or liquidity associated with the underlying investment.

	Total	Quoted Prices in Active Markets (Level 1)	Prices with Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Assets at Fair Value				
Equity investments	\$ 406,522	\$ 381,219	\$ 20,897 ⁽¹⁾	\$ 4,406
Debt investments	72,431		72,397	34
Short-term investments	517	517		
Total assets at fair value	\$ 479,470	\$ 381,736	\$ 93,294	\$ 4,440
Liabilities at Fair Value				
Call option contracts written	\$ 204	\$	\$ 204	\$

(1) The Fund's investment in Plains AAP, L.P. (PAA GP) is exchangeable into shares of Plains GP Holdings, L.P. (Plains GP) on a one-for-one basis at the Fund's option. Plains GP trades on the NYSE under the ticker PAGP. The Fund values its investment in PAA GP on an as-exchanged basis based on the public market value of Plains GP and categorizes its investment as a Level 2 security for fair value reporting purposes.

For the nine months ended August 31, 2016, there were no transfers between Level 1 and Level 2.

As of August 31, 2016, the Fund had Notes outstanding with aggregate principal amount of \$91,000 and 1,400,000 shares of MRP Shares outstanding with a total liquidation value of \$35,000. The Notes and MRP Shares were issued in private placements to institutional investors and are not listed on any exchange or automated quotation system. See Note 11 Notes and Note 12 Preferred Stock. As a result, the Fund categorizes the Notes and MRP Shares as Level 3 securities and determines the fair value of these instruments based on estimated market yields and credit spreads for comparable instruments with similar maturity, terms and structure.

The Fund records the Notes and MRP Shares on its Statement of Assets and Liabilities at principal amount or liquidation value. As of August 31, 2016, the estimated fair values of these leverage instruments are as follows.

Security	Principal Amount/ Liquidation Value	Fair Value
Notes	\$ 91,000	\$ 95,700
MRP Shares	\$ 35,000	\$ 35,900

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The following tables present the Fund's assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) for the three and nine months ended August 31, 2016.

Three Months Ended August 31, 2016		Equity	Debt	Total
Balance	May 31, 2016	\$ 4,115	\$ 310	\$ 4,425
Purchases				
Transfers in from Level 2				
Transfers out to Level 1 and 2				
Realized gains (losses)				
Unrealized gains (losses), net				
Balance	August 31, 2016	\$ 4,406	\$ 34	\$ 4,440

Nine Months Ended August 31, 2016		Equity	Debt	Total
Balance	November 30, 2015	\$ 4,327	\$	\$ 4,327
Purchases				
Transfers in from Level 2				
Transfers out to Level 1 and 2				
Realized gains (losses)				
Unrealized gains (losses), net				
Balance	August 31, 2016	\$ 4,406	\$ 34	\$ 4,440

The purchase of \$2,500 for the nine months ended August 31, 2016 relates to the Fund's investment in Sunoco LP that was made in December 2015.

The \$1,570 of transfers in from Level 2 for the nine months ended August 31, 2016 relate to the Fund's investments in the Goodrich Petroleum Corporation (Goodrich) 8.875% second lien senior secured notes due 2018 (the Goodrich Second Lien Notes) and Energy & Exploration Partners, Inc. (ENXP) senior secured second lien term loan (ENXP Second Lien Term Loan). The \$284 and \$857 of transfers out to Level 2 for the three and nine months ended August 31, 2016, respectively, relate to the Goodrich Second Lien Notes, as trading activity during the third quarter supported a Level 2 valuation for this security. The \$2,500 transfer out to Level 1 for the nine months ended August 31, 2016 relates to the Fund's investment in Sunoco LP that became marketable during the second quarter of 2016. The Fund utilizes the beginning of reporting period method for determining transfers between levels.

The \$687 of realized losses for the nine months ended August 31, 2016 relate to the Fund's investment in ENXP and were a result of ENXP completing its Chapter 11 restructuring.

The \$299 and \$87 of unrealized gains for the three and nine months ended August 31, 2016, respectively, relate to investments that were still held at August 31, 2016, and the Fund includes these unrealized gains (losses) on the Statement of Operations Net Change in Unrealized Gains (Losses).

Valuation Techniques and Unobservable Inputs

Unless otherwise determined by the Board of Directors, the Fund values its private investments in public equity (PIPE) investments that are convertible into or otherwise will become publicly-tradeable (e.g., through subsequent registration or expiration of a restriction on trading) based on the market value of the publicly-traded security less a discount. This discount is initially equal to the discount negotiated at the time the Fund agrees to a purchase price. To the extent that such securities are convertible or otherwise become publicly traded within a time frame that may be reasonably determined, this discount will be amortized on a straight line basis over such estimated time frame.

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The Fund owns Class B Units of Capital Product Partners L.P. (CPLP) that were issued in a private placement. The Class B Units are convertible on a one-for-one basis into common units and are senior to CPLP's common units in terms of liquidation preference and priority of distributions. The Fund's Board of Directors has determined that it is appropriate to value the Class B Units using a convertible pricing model. This model takes into account the attributes of the Class B Units, including the preferred dividend, conversion ratio and call features, to determine the estimated value of such units. In using this model, the Fund estimates (i) the credit spread for CPLP's Class B Units, which is based on credit spreads for companies in a similar line of business as CPLP and (ii) the expected volatility for CPLP's common units, which is based on CPLP's historical volatility. The Fund applies a discount to the value derived from the convertible pricing model to account for an expected discount in market prices for convertible securities relative to the values calculated using pricing models. If this resulting price per Class B Unit is less than the public market price for CPLP's common units at such time, the public market price for CPLP's common unit will be used for the Class B Units.

During the second quarter, the Fund determined that the price provided by an agent bank for its investment in the ENXP Second Lien Term Loan was not representative of fair value and accordingly began categorizing the investment as a Level 3 investment (previously a Level 2 investment). On May 13, 2016, ENXP emerged from a bankruptcy proceeding under Chapter 11 of the Bankruptcy Code. As a result of the reorganization, the Fund received a Second Lien Term Loan. To estimate the value of its investment in the ENXP Second Lien Term Loan (security received as part of the reorganization), the Fund calculates an average yield to worst for comparable companies with second lien debt. Using the average yield, the Fund calculates an approximate value for the ENXP Second Lien Term Loan. Given the small size and limited liquidity of the issuance, the Fund selected a further discount to apply to the calculated value in determining the fair value of the ENXP Second Lien Term Loan. The Fund believes this valuation methodology is the most appropriate given ENXP's reorganized capital structure which is expected to result in a full recovery for the holders of the Second Lien Term Loan.

Due to the inherent uncertainty of determining the fair value of investments that do not have a readily available market value, the fair value of the Fund's investments may fluctuate from period to period. Additionally, the fair value of the Fund's investments may differ from the values that would have been used had a ready market existed for such investments and may differ materially from the values that the Fund may ultimately realize.

The following table summarizes the significant unobservable inputs that the Fund used to value its portfolio investments categorized as Level 3 as of August 31, 2016:

Quantitative Table for Valuation Techniques

Assets at Fair Value	Fair Value	Valuation Technique	Unobservable Inputs	Range		
				Low	High	Average
CPLP valued based on pricing model	\$ 4,406	- Convertible pricing model	- Credit spread	8.0%	8.8%	8.4%
			- Volatility	45.0%	50.0%	47.5%
			- Discount for marketability	10.0%	10.0%	10.0%
ENXP valued based on yield to worst	34	- Yield to worst of comparable securities	- Yield to worst	9.9%	11.0%	10.4%
			- Liquidity discount	15.0%	15.0%	15.0%

Total \$ 4,440

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4. Concentration of Risk

The Fund's investments are concentrated in the energy sector. The focus of the Fund's portfolio within the energy sector may present more risks than if the Fund's portfolio were broadly diversified across numerous sectors of the economy. A downturn in the energy sector would have a larger impact on the Fund than on an investment company that does not focus on the energy sector. The performance of securities in the energy sector may lag the performance of other industries or the broader market as a whole. Additionally, to the extent that the Fund invests a relatively high percentage of its assets in the securities of a limited number of issuers, the Fund may be more susceptible than a more widely diversified investment company to any single economic, political or regulatory occurrence. At August 31, 2016, the Fund had the following investment concentrations:

Category	Percent of Long-Term Investments
Securities of Energy Companies ⁽¹⁾	100.0%
Equity securities	84.9%
Debt securities	15.1%
Securities of MLPs ⁽¹⁾	32.8%
Largest single issuer	8.2%
Restricted securities	15.3%

(1) Refer to the Glossary of Key Terms for the definitions of Energy Companies and MLPs.

5. Agreements and Affiliations

A. Administration Agreement The Fund has an administration and accounting agreement with Ultimus Fund Solutions, LLC (Ultimus) that may be amended from time to time. Pursuant to the agreement, Ultimus will provide certain administrative and accounting services for the Fund. The agreement has automatic one-year renewals unless earlier terminated by either party as provided under the terms of the agreement.

B. Investment Management Agreement The Fund has entered into an investment management agreement with KA Fund Advisors, LLC (Kafa) under which Kafa, subject to the overall supervision of the Fund's Board of Directors, manages the day-to-day operations of, and provides investment advisory services to, the Fund. On March 30, 2016, the Fund renewed its investment management agreement with Kafa for a period of one year. The investment management agreement will expire on March 31, 2017 and may be renewed annually thereafter upon approval of the Fund's Board of Directors (including a majority of the Fund's directors who are not interested persons of the Fund, as such term is defined in the 1940 Act). For providing these services, Kafa receives an investment management fee from the Fund. For the nine months ended August 31, 2016, the Fund paid management fees at an annual rate of 1.25% of the average monthly total assets of the Fund.

For purposes of calculating the management fee, the average total assets for each monthly period are determined by averaging the total assets at the last business day of that month with the total assets at the last business day of the prior month. The total assets of the Fund shall be equal to its average monthly gross asset value (which includes assets attributable to the Fund's use of debt and preferred stock), minus the sum of the Fund's accrued and unpaid dividends and distributions on any outstanding common stock and accrued and unpaid dividends and distributions on any outstanding preferred stock and accrued liabilities (other than liabilities associated with borrowing or leverage by the Fund). Liabilities

associated with borrowing or leverage include the principal amount of any debt issued by the Fund, the liquidation preference of any outstanding preferred stock, and other liabilities from other forms of borrowing or leverage such as short positions and put or call options held or written by the Fund.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

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C. Portfolio Companies From time to time, the Fund may control or may be an affiliate of one or more of its portfolio companies, as each of these terms is defined in the 1940 Act. In general, under the 1940 Act, the Fund would be presumed to control a portfolio company if the Fund and its affiliates owned 25% or more of its outstanding voting securities and would be an affiliate of a portfolio company if the Fund and its affiliates owned 5% or more of its outstanding voting securities. The 1940 Act contains prohibitions and restrictions relating to transactions between investment companies and their affiliates (including the Fund's investment adviser), principal underwriters and affiliates of those affiliates or underwriters.

The Fund believes that there are several factors that determine whether or not a security should be considered a voting security in complex structures such as limited partnerships of the kind in which the Fund invests. The Fund also notes that the Securities and Exchange Commission (the SEC) staff has issued guidance on the circumstances under which it would consider a limited partnership interest to constitute a voting security. Under most partnership agreements, the management of the partnership is vested in the general partner, and the limited partners, individually or collectively, have no rights to manage or influence management of the partnership through such activities as participating in the selection of the managers or the board of the limited partnership or the general partner. As a result, the Fund believes that many of the limited partnership interests in which it invests should not be considered voting securities. However, it is possible that the SEC staff may consider the limited partner interests the Fund holds in certain limited partnerships to be voting securities. If such a determination were made, the Fund may be regarded as a person affiliated with and controlling the issuer(s) of those securities for purposes of Section 17 of the 1940 Act.

In making such a determination as to whether to treat any class of limited partnership interests the Fund holds as a voting security, the Fund considers, among other factors, whether or not the holders of such limited partnership interests have the right to elect the board of directors of the limited partnership or the general partner. If the holders of such limited partnership interests do not have the right to elect the board of directors, the Fund generally has not treated such security as a voting security. In other circumstances, based on the facts and circumstances of those partnership agreements, including the right to elect the directors of the general partner, the Fund has treated those securities as voting securities. If the Fund does not consider the security to be a voting security, it will not consider such partnership to be an affiliate unless the Fund and its affiliates own more than 25% of the outstanding securities of such partnership. Additionally, certain partnership agreements give common unitholders the right to elect the partnership's board of directors, but limit the amount of voting securities any limited partner can hold to no more than 4.9% of the partnership's outstanding voting securities (*i.e.*, any amounts held in excess of such limit by a limited partner do not have voting rights). In such instances, the Fund does not consider itself to be an affiliate if it owns more than 5% of such partnership's common units.

There is no assurance that the SEC staff will not consider that other limited partnership securities that the Fund owns and does not treat as voting securities are, in fact, voting securities for the purposes of Section 17 of the 1940 Act. If such determination were made, the Fund will be required to abide by the restrictions on control or affiliate transactions as proscribed in the 1940 Act. The Fund or any portfolio company that it controls, and its affiliates, may from time to time engage in certain of such joint transactions, purchases, sales and loans in reliance upon and in compliance with the conditions of certain exemptive rules promulgated by the SEC. The Fund cannot make assurances, however, that it would be able to satisfy the conditions of these rules with respect to any particular eligible transaction, or even if the Fund were allowed to engage in such a transaction, that the terms would be more or as favorable to the Fund or any company that it controls as those that could be obtained in an arm's length transaction. As a result of these prohibitions, restrictions may be imposed on the size of positions that may be taken for the Fund or on the type of investments that it could make.

Plains GP Holdings, L.P., Plains AAP, L.P. and Plains All American Pipeline, L.P. Robert V. Sinnott is Co-Chairman of Kayne Anderson Capital Advisors, L.P. (KACALP), the managing member of KAFA. Mr. Sinnott also serves as a director of (i) PAA GP Holdings LLC, which is the general partner of Plains GP Holdings, L.P. (Plains GP) and (ii) Plains All American GP LLC (Plains All American GP), which controls

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the general partner of Plains All American Pipeline, L.P. (PAA). Members of senior management of KACALP and KAFA and various affiliated funds managed by KACALP, including the Fund, own shares of Plains GP, PAA and interests in Plains AAP, L.P. (PAA GP) (which are exchangeable into shares of Plains GP as described in Note 3 Fair Value). The Fund believes that it is an affiliate of Plains GP and PAA under the 1940 Act by virtue of (i) the Fund s and other affiliated Kayne Anderson funds ownership interest in Plains GP and PAA GP and (ii) Mr. Sinnott s participation on the boards of Plains GP and Plains All American GP.

California Resources Corporation Mr. Sinnott serves as a director of California Resources Corporation (CRC). The Fund s investment in CRC is not a voting security, and as such, the Fund does not believe that it is an affiliate of CRC.

ONEOK, Inc. and ONEOK Partners, L.P. Kevin S. McCarthy, the Chief Executive Officer of the Fund, began serving as a director of ONEOK, Inc. (OKE) during December 2015. OKE is the general partner of ONEOK Partners, L.P. (OKS). Despite Mr. McCarthy s participation on the board of OKE, the Fund does not believe it is an affiliate of OKE or OKS because the Fund s and other Kayne Anderson funds aggregate ownership of each entity does not meet the criteria described above.

The following table summarizes the Fund s investments in affiliates as of August 31, 2016:

Investment	No. of Shares/Units in 000 s	Dividends and Distributions Received During the:		Value
		Three Months Ended August 31, 2016	Nine Months Ended August 31, 2016	
Plains All American Pipeline, L.P.		\$ 9	\$ 334	\$
Plains GP Holdings, L.P.	1,493	426	1,274	16,995
Plains GP Holdings, L.P. Plains AAP, L.P. ⁽¹⁾	1,836	336	746	20,897
Total		\$ 771	\$ 2,354	\$ 37,892

- (1) The Fund holds an interest in PAA GP, which controls the general partner of PAA. Plains GP (which trades on the NYSE under the ticker PAGP) also holds an equity interest in PAA GP. The Fund s ownership of PAA GP is exchangeable into shares of Plains GP on a one-for-one basis at the Fund s option. See Notes 3 and 7 in Notes to Financial Statements.

6. Taxes

It is the Fund s intention to continue to be treated as and to qualify as a RIC under Subchapter M of the Code and distribute all of its taxable income. Accordingly, no provision for federal income taxes is required in the financial statements. See Note 2 Significant Accounting Policies.

Income and capital gain distributions made by RICs often differ from GAAP basis net investment income (loss) and net realized gains (losses). For the Fund, the principal reason for these differences is the return of capital treatment of dividends and distributions from MLPs and certain other of its investments. Net investment income and net realized gains for GAAP purposes may differ from taxable income for federal income tax purposes.

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As of August 31, 2016, the principal temporary differences between income for GAAP purposes and taxable income were (a) realized losses that were recognized for GAAP purposes, but disallowed for tax purposes due to wash sale rules; (b) disallowed partnership losses related to the Fund's MLP investments; and (c) other basis adjustments in the Fund's MLPs and other investments.

For the fiscal year ended November 30, 2015, the tax character of the total \$82,679 distributions paid to common stock holders was \$36,440 of dividend income and \$46,239 of long-term capital gains, and the tax character of the total \$5,567 distributions paid to holders of MRP Shares was \$1,982 of dividend income and \$3,585 of long-term capital gains.

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For purposes of determining the tax character of the dividends/distributions to investors, the amounts in excess of the Fund's earnings and profits for federal income tax purposes are treated as a return of capital. Earnings and profits differ from taxable income due principally to adjustments related to the Fund's investments in MLPs.

Under the Regulated Investment Company Modernization Act of 2010, any net capital losses recognized after December 31, 2010 may be carried forward indefinitely, and their character is retained as short-term and/or long-term losses.

On July 13, 2015, the Fund filed a request with the Internal Revenue Service (the "IRS") to change the tax accounting method used to compute the adjusted tax cost basis of its MLP securities to the average cost method. The two tax accounting methods that are generally used by owners of MLP securities are the average cost method and specific identification method. Since the Fund's inception, based on the advice of its tax adviser, it had utilized the specific identification tax accounting method to compute the adjusted tax cost basis of its MLP securities and for selection of lots to be sold. Although there is varied industry practice and no direct, clear guidance regarding the correct tax accounting method, the Fund has come to the conclusion that the average cost method is a more certain tax position.

On February 5, 2016, the Fund received notification that the IRS approved the tax accounting method change effective December 1, 2014. The tax accounting method change did not change the Fund's net asset value and the difference between the two methods (\$20,943) reduced fiscal 2015 taxable income. See Note 2 Significant Accounting Policies.

At August 31, 2016, the cost basis of investments for federal income tax purposes was \$477,210, and the premiums received on outstanding option contracts written were \$219. At August 31, 2016, gross unrealized appreciation and depreciation of investments and options for federal income tax purposes were as follows:

Gross unrealized appreciation of investments (including options)	\$ 53,336
Gross unrealized depreciation of investments (including options)	(51,060)
Net unrealized appreciation of investments before foreign currency related translations	2,276
Unrealized depreciation on foreign currency related translations	(16)
Net unrealized appreciation of investments	\$ 2,260

7. Restricted Securities

From time to time, the Fund's ability to sell certain of its investments is subject to certain legal or contractual restrictions. For instance, private investments that are not registered under the Securities Act of 1933, as amended (the "Securities Act"), cannot be offered for public sale in a non-exempt transaction without first being registered. In other cases, certain of the Fund's investments have restrictions such as lock-up agreements that preclude the Fund from offering these securities for public sale.

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At August 31, 2016, the Fund held the following restricted investments:

Investment	Acquisition Date	Type of Restriction	Number of Units, Principal (\$ (in 000 s)	Cost Basis (GAAP)	Fair Value	Fair Value Per Unit	Percent of Net Assets	Percent of Total Assets
Level 2 Investments								
Equity Investments								
Plains GP Holdings, L.P. ⁽¹⁾	(2)	(3)	1,836	\$ 5,298	\$ 20,897	\$ 11.38	6.0%	4.2%
Senior Notes and Secured Term Loans ⁽⁴⁾								
Athabasca Oil Corporation	(2)	(5)	(6)	5,306	5,177	n/a	1.5	1.0
California Resources Corporation	(2)	(5)	\$ 10,425	6,909	7,089	n/a	2.0	1.4
Canbriam Energy Inc.	(2)	(7)	9,390	9,457	9,836	n/a	2.8	2.0
Chief Oil & Gas LLC	(2)	(7)	9,609	9,284	8,648	n/a	2.5	1.7
Goodrich Petroleum Corporation ⁽⁸⁾	9/25/15	(5)	1,777	1,777	257	n/a	0.1	0.1
Jonah Energy LLC	5/8/14	(7)	3,000	2,969	2,610	n/a	0.7	0.5
Jupiter Resources Inc.	(2)	(7)	7,250	5,556	5,764	n/a	1.6	1.2
Vantage Energy, LLC	(2)	(7)	8,795	8,763	8,443	n/a	2.4	1.7
Total				\$ 55,319	\$ 68,721		19.6%	13.8%
Level 3 Investments⁽⁹⁾								
Equity Investments								
Capital Product Partners L.P.								
Class B Units	(2)	(5)	606	3,689	4,406	7.27	1.3	0.9
Senior Notes								
Energy & Exploration Partners, Inc.	5/13/16	(7)	\$ 52	26	34	n/a		
Total				\$ 3,715	\$ 4,440		1.3%	0.9%
Total of all restricted investments				\$ 59,034	\$ 73,161		20.9%	14.7%

(1) The Fund values its investment in Plains AAP, L.P. (PAA GP) on an as exchanged basis based on the public market value of Plains GP Holdings, L.P. (Plains GP). See Note 3 Fair Value.

(2) Security was acquired at various dates during prior fiscal years.

(3) The Fund's investment in PAA GP is exchangeable into shares of Plains GP on a one-for-one basis at the Fund's option. Upon exchange, the shares of Plains GP will be free of any restriction.

- (4) These securities have a fair market value determined by the mean of the bid and ask prices provided by an agent or a syndicate bank, a principal market maker, an independent pricing service or an independent broker as more fully described in Note 2 Significant Accounting Policies. These securities have limited trading volume and are not listed on a national exchange.
- (5) Unregistered or restricted security of a publicly-traded company.
- (6) Principal amount is 6,850 Canadian dollars.
- (7) Unregistered security of a private company.
- (8) Security has filed voluntary petitions in the United States Bankruptcy Court seeking relief under Chapter 11 of the Bankruptcy Code. See Schedule of Investments.
- (9) Securities are valued using inputs reflecting the Fund's own assumptions as more fully described in Note 2 Significant Accounting Policies and Note 3 Fair Value.

8. Derivative Financial Instruments

As required by the Derivatives and Hedging Topic of the FASB Accounting Standards Codification (ASC 815), the following are the derivative instruments and hedging activities of the Fund. See Note 2 Significant Accounting Policies.

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Option Contracts Transactions in option contracts for the three and nine months ended August 31, 2016 were as follows:

Three Months Ended August 31, 2016	Number of Contracts	Premium
Call Options Written		
Options outstanding at May 31, 2016	5,300	\$ 552
Options written	4,280	393
Options subsequently repurchased ⁽¹⁾	(2,640)	(229)
Options exercised	(4,200)	(432)
Options expired	(560)	(65)
Options outstanding at August 31, 2016	2,180	\$ 219

(1) The price at which the Fund subsequently repurchased the options was \$43, which resulted in realized gains of \$186.

Nine Months Ended August 31, 2016	Number of Contracts	Premium
Call Options Written		
Options outstanding at November 30, 2015	5,615	\$ 602
Options written	13,540	1,341
Options subsequently repurchased ⁽¹⁾	(4,705)	(498)
Options exercised	(6,500)	(680)
Options expired	(5,770)	(546)
Options outstanding at August 31, 2016 ⁽²⁾	2,180	\$ 219

(1) The price at which the Fund subsequently repurchased the options was \$264, which resulted in net realized gains of \$234.

(2) The percentage of total long-term investments subject to call options written was 2.3% at August 31, 2016.

Interest Rate Swap Contracts The Fund may enter into interest rate swap contracts to partially hedge itself from increasing expense on its leverage resulting from increasing interest rates. At the time the interest rate swap contracts reach their scheduled termination, there is a risk that the Fund would not be able to obtain a replacement transaction or that the terms of the replacement transaction would not be as favorable as on the expiring transaction. In addition, if the Fund is required to terminate any swap contract early, then the Fund could be required to make a termination payment. As of August 31, 2016, the Fund did not have any interest rate swap contracts outstanding.

The following table sets forth the fair value of the Fund's derivative instruments on the Statement of Assets and Liabilities:

Derivatives Not Accounted for as Hedging Instruments	Statement of Assets and Liabilities Location	Fair Value as of August 31, 2016
Call options written	Call option contracts written	\$ (204)

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The following tables set forth the effect of the Fund's derivative instruments on the Statement of Operations:

Derivatives Not Accounted for as Hedging Instruments	Location of Gains/(Losses) on Derivatives Recognized in Income	For the Three Months Ended August 31, 2016	
		Net Realized Gains/(Losses) on Derivatives Recognized in Income	Change in Unrealized Gains/(Losses) on Derivatives Recognized in Income
Call options written	Options	\$ 251	\$ 320

Derivatives Not Accounted for as Hedging Instruments	Location of Gains/(Losses) on Derivatives Recognized in Income	For the Nine Months Ended August 31, 2016	
		Net Realized Gains/(Losses) on Derivatives Recognized in Income	Change in Unrealized Gains/(Losses) on Derivatives Recognized in Income
Call options written	Options	\$ 781	\$ 18

9. Investment Transactions

For the nine months ended August 31, 2016, the Fund purchased and sold securities in the amounts of \$173,440 and \$277,119 (excluding short-term investments and options).

10. Credit Facility and Term Loan

At August 31, 2016, the Fund had a \$105,000 unsecured revolving credit facility (the Credit Facility) with a syndicate of lenders. The Credit Facility has a three-year term, maturing on November 21, 2016. The interest rate on outstanding loan balances may vary between LIBOR plus 1.50% and LIBOR plus 2.15%, depending on the Fund's asset coverage ratios. The Fund pays a fee of 0.25% per annum on any unused amounts of the Credit Facility.

For the nine months ended August 31, 2016, the average amount outstanding under the Credit Facility was \$3,633 with a weighted average interest rate of 2.11%. As of August 31, 2016 the Fund had \$17,000 of borrowings outstanding under the Credit Facility at a weighted average interest rate of 2.02%.

Under the terms of the Credit Facility the Fund is unable to borrow unless its net assets exceed a minimum net asset threshold (\$267,573 as of August 31, 2016). As of August 31, 2016, the Fund was able to borrow under the Credit Facility because its net asset value was above the minimum net asset threshold.

On July 19, 2016, the Fund amended the terms of its unsecured revolving term loan (Term Loan), resetting the minimum net asset threshold and reducing the commitment from \$50,000 to \$35,000. The interest rate for borrowings under the Term Loan was increased from LIBOR plus

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1.30% to LIBOR plus 1.50% in conjunction with this amendment. The Term Loan has a five year commitment maturing on July 25, 2019, and the Fund pays a fee of 0.25% per annum on any unused amount of the Term Loan. Amounts borrowed under the Term Loan may be repaid and subsequently reborrowed.

For the nine months ended August 31, 2016, the Fund had no borrowings under the Term Loan. Under the terms of the Term Loan the Fund is unable to borrow unless its net assets exceed a minimum net asset threshold (\$172,276 as of August 31, 2016). As of August 31, 2016, the Fund was able to borrow under the Term Loan because its net asset value was above the minimum net asset threshold.

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As of August 31, 2016, the Fund was in compliance with all financial and operational covenants required by the Credit Facility and Term Loan. See Financial Highlights for the Fund's asset coverage ratios under the 1940 Act.

11. Notes

At August 31, 2016, the Fund had \$91,000 aggregate principal amount of Notes outstanding. During the first quarter, the Fund redeemed \$94,000 of Notes. The table below sets forth a summary of those redemptions.

Date of Redemption	Series	Principal Redeemed	Redemption Price
12/7/15	A	\$ 5,000	100.6%
12/7/15	B	15,000	106.7
12/14/15	B	20,000	106.5
12/14/15	C	20,000	102.0
1/12/16	B	19,000	106.7
2/18/16	B	6,000	102.0
2/18/16	C	9,000	102.0
		\$ 94,000	

The table below sets forth the key terms of each series of Notes outstanding at August 31, 2016.

Series	Principal Outstanding November 30, 2015	Principal Redeemed	Principal Outstanding August 31, 2016	Estimated Fair Value August 31, 2016	Fixed Interest Rate	Maturity
A	\$ 5,000	\$ (5,000)	\$	\$	3.93%	3/3/16
B	60,000	(60,000)			4.62%	3/3/18
C	50,000	(29,000)	21,000	22,700	4.00%	3/22/22
D	40,000		40,000	41,500	3.34%	5/1/23
E	30,000		30,000	31,500	3.46%	7/30/21
	\$ 185,000	\$ (94,000)	\$ 91,000	\$ 95,700		

Holders of the Notes are entitled to receive cash interest payments semi-annually (on September 3 and March 3) at the fixed rate. As of August 31, 2016, the weighted average interest rate on the outstanding Notes was 3.53%.

As of August 31, 2016, each series of Notes was rated AAA by FitchRatings. In the event the credit rating on any series of Notes falls below A-, the interest rate on such series will increase by 1% during the period of time such series is rated below A-. The Fund is required to maintain a current rating from one rating agency with respect to each series of Notes.

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The Notes were issued in private placement offerings to institutional investors and are not listed on any exchange or automated quotation system. The Notes contain various covenants related to other indebtedness, liens and limits on the Fund's overall leverage. Under the 1940 Act and the terms of the Notes, the Fund may not declare dividends or make other distributions on shares of its common stock or make purchases of such shares if, at any time of the declaration, distribution or purchase, asset coverage with respect to the outstanding Notes would be less than 300%.

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The Notes are redeemable in certain circumstances at the option of the Fund. The Notes are also subject to a mandatory redemption to the extent needed to satisfy certain requirements if the Fund fails to meet an asset coverage ratio required by law and is not able to cure the coverage deficiency by the applicable deadline, or fails to cure a deficiency as stated in the Fund's rating agency guidelines in a timely manner.

The Notes are unsecured obligations of the Fund and, upon liquidation, dissolution or winding up of the Fund, will rank: (1) senior to all of the Fund's outstanding preferred shares; (2) senior to all of the Fund's outstanding common shares; (3) on a parity with any unsecured creditors of the Fund and any unsecured senior securities representing indebtedness of the Fund; and (4) junior to any secured creditors of the Fund.

At August 31, 2016, the Fund was in compliance with all covenants under the agreements of the Notes.

12. Preferred Stock

At August 31, 2016, the Fund had 1,400,000 shares of MRP Shares outstanding, with a total liquidation value of \$35,000 (\$25.00 per share). During the first quarter, the Fund redeemed all 1,200,000 shares of its Series B MRP Shares and 200,000 shares of its Series C MRP Shares. Both series were redeemed at 102.0% of liquidation value plus accumulated unpaid dividends. The table below sets forth the key terms of each series of MRP Shares outstanding at August 31, 2016.

Series	Liquidation Value November 30, 2015	Liquidation Value Redeemed	Liquidation Value August 31, 2016	Estimated Fair Value August 31, 2016	Rate	Mandatory Redemption Date
B	\$ 30,000	\$ (30,000)	\$	\$	4.50%	3/22/20
C	40,000	(5,000)	35,000	35,900	4.06%	7/30/21
	\$ 70,000	\$ (35,000)	\$ 35,000	\$ 35,900		

Holders of the MRP Shares are entitled to receive cumulative cash dividend payments on the first business day following each quarterly period (February 28, May 31, August 31 and November 30).

On December 16, 2015, FitchRatings downgraded the rating on the Fund's MRP Shares to A from AA. The dividend rate on the Fund's MRP Shares will increase between 0.5% and 4.0% if the credit rating is downgraded below A by FitchRatings. Further, the annual dividend rate for all series of MRP Shares will increase by 4.0% if no ratings are maintained, and the annual dividend rate will increase by 5.0% if the Fund fails to make quarterly dividend or certain other payments. The Fund is required to maintain a current rating from one rating agency with respect to each series of MRP Shares.

The MRP Shares rank senior to all of the Fund's outstanding common shares and on parity with any other preferred stock. The MRP Shares are redeemable in certain circumstances at the option of the Fund and are also subject to a mandatory redemption if the Fund fails to meet a total leverage (debt and preferred stock) asset coverage ratio of 225% or fails to maintain its basic maintenance amount as stated in the Fund's rating agency guidelines.

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Under the terms of the MRP Shares, the Fund may not declare dividends or make other distributions on shares of its common stock or make purchases of such shares if, at any time of the declaration, distribution or purchase, asset coverage with respect to total leverage would be less than 225% or the Fund would fail to maintain its basic maintenance amount as stated in the Fund's rating agency guidelines.

The holders of the MRP Shares have one vote per share and will vote together with the holders of common stock as a single class except on matters affecting only the holders of MRP Shares or the holders of common stock. The holders of the MRP Shares, voting separately as a single class, have the right to elect at least two directors of the Fund.

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At August 31, 2016, the Fund was in compliance with the asset coverage and basic maintenance requirements of its MRP Shares.

13. Common Stock

At August 31, 2016, the Fund had 198,600,000 shares of common stock authorized and 22,034,170 shares outstanding. On December 17, 2015, KAFA agreed to purchase \$1,438 of newly issued shares funded in part with the after-tax management fees received during the fourth quarter of fiscal 2015. The new shares were purchased at the net asset value as of the close of business on December 18, 2015 (\$10.56 per share) which represents a 2.9% premium to the closing market price. The 136,202 shares issued in connection with this purchase were distributed amongst the principals of KAFA, including KACALP, the managing member of KAFA. As of August 31, 2016, KACALP and KAFA owned 57,740 and 4,000 shares of the Fund, respectively. Transactions in common shares for the nine months ended August 31, 2016 were as follows:

Shares outstanding at November 30, 2015	21,663,136
Shares issued in connection with purchase by investment advisor	136,202
Shares issued through reinvestment of distributions	234,832
Shares outstanding at August 31, 2016	22,034,170

14. Subsequent Events

On September 29, 2016, the Fund declared its quarterly distribution of \$0.35 per common share for the third quarter. The total distribution of \$7,712 was paid October 14, 2016. Of this total, pursuant to the Fund's dividend reinvestment plan \$930 was reinvested into the Fund through open market purchases of common stock.

The Fund has performed an evaluation of subsequent events through the date the financial statements were issued and has determined that no additional items require recognition or disclosure.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

GLOSSARY OF KEY TERMS

(UNAUDITED)

This glossary contains definitions of certain key terms, as they are used in our investment objective and policies and as described in this report. These definitions may not correspond to standard sector definitions.

Energy Assets means assets that are used in the energy sector, including assets used in exploring, developing, producing, generating, transporting, transmitting, storing, gathering, processing, refining, distributing, mining or marketing of natural gas, natural gas liquids, crude oil, refined products, coal or electricity.

Energy Companies means companies that own and operate Energy Assets or provide energy-related services. For purposes of this definition, this includes companies that (i) derive at least 50% of their revenues or operating income from operating Energy Assets or providing services for the operation of such Energy Assets or (ii) have Energy Assets that represent the majority of their assets.

General Partner MLPs means Master Limited Partnerships whose assets consist of ownership interests of an affiliated Master Limited Partnership (which may include general partnership interests, incentive distribution rights, common units and subordinated units).

Master Limited Partnerships means limited partnerships and limited liability companies that are publicly traded and are treated as partnerships for federal income tax purposes.

Midstream Assets means assets used in energy logistics, including, but not limited to, assets used in transporting, storing, gathering, processing, distributing, or marketing of natural gas, natural gas liquids, crude oil or refined products.

Midstream Companies means companies, other than Midstream MLPs, that own and operate Midstream Assets and are taxed as corporations for federal income tax purposes. This includes companies structured like MLPs, but not treated as a publicly-traded partnership for RIC qualification purposes. For purposes of this definition, this includes companies that (i) derive at least 50% of their revenue or operating income from operating Midstream Assets or (ii) have Midstream Assets that represent the majority of their assets.

Midstream/Energy Sector consists of (a) Midstream MLPs, (b) Midstream Companies, (c) Other MLPs and (d) Other Energy Companies.

Midstream Sector consists of (a) Midstream MLPs and (b) Midstream Companies.

Midstream MLPs means MLPs that principally own and operate Midstream Assets. Midstream MLPs also include (a) MLPs that provide transportation and distribution services of energy related products through the ownership of marine transportation vessels, (b) General Partner MLPs whose assets consist of ownership interests of an affiliated Midstream MLP and (c) MLP Affiliates of Midstream MLPs.

MLPs means entities that are structured as Master Limited Partnerships and their affiliates and includes Midstream MLPs, Other MLPs and MLP Affiliates.

MLP Affiliates means affiliates of Master Limited Partnerships, substantially all of whose assets consist of i-units. MLP Affiliates are not treated as partnerships for federal income tax purposes.

Other Energy Companies means Energy Companies, excluding MLPs and Midstream Companies.

Other MLPs consists of (a) upstream MLPs, (b) coal MLPs, (c) propane MLPs and (d) MLPs that operate other energy assets or provide energy-related services.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

INFORMATION REGARDING CHANGES AND CLARIFICATIONS TO INVESTMENT POLICY

(UNAUDITED)

On September 29, 2016, the Fund's Board of Directors approved the following change to its non-fundamental investment policy related to debt securities.

The prior policy allowed 10% of the Fund's total assets to be invested in unrated debt securities or debt securities that are rated less than B- (or an equivalent rating) by a nationally recognized ratings agency (a Ratings Agency) of public or private companies. The revised policy allows the Fund to exclude unrated debt securities from the 10% limitation if those securities are determined by KA Fund Advisors, LLC (the Advisor or KAFA) to be of comparable or better credit quality to a B- rated security based on a Ratings Agency's corporate ratings of the issuers of such securities or the ratings of other securities issued by the same issuers.

The revised policy related to debt securities will be effective January 1, 2017, as follows:

The Fund may invest up to but not more than 30% of its total assets in debt securities of Energy Companies, including below-investment-grade debt securities (commonly referred to as junk bonds or high yield bonds). Up to but not more than 10% of the Fund's total assets may be invested in unrated debt securities or below-investment-grade debt securities that are rated less than B- (or an equivalent rating) by a nationally recognized ratings agency (a Ratings Agency). The balance of such debt investments may be invested in securities which are rated at least B- (or an equivalent rating) by a Ratings Agency or, if such securities are unrated, are determined by the Advisor to be of comparable quality based on a Ratings Agency's corporate ratings for the issuers of such securities or ratings of other securities issued by such issuers. For the purposes of determining if an investment satisfies this test, the Fund will look to the highest credit rating on such debt investment. The debt securities in which the Fund invests may have varying maturities which will generally not exceed 30 years.

On September 29, 2016, the Fund's Board of Directors also approved the following clarifications to its non-fundamental investment policy related to (i) investments in equity and debt securities of Master Limited Partnerships (the 25% MLP test) and (ii) debt securities.

These clarification were effective upon approval by the Fund's Board of Directors and are provided below:

The Fund may directly invest up to 25% (or such higher amount as permitted by any applicable tax diversification rules) of its total assets in equity or debt securities of Master Limited Partnerships (the 25% MLP test). This limit does not apply to securities issued by MLP Affiliates, which are not treated as publicly traded partnerships for federal income tax purposes. The Fund may exceed the 25% MLP test one or more days during a fiscal quarter but will meet such test at fiscal quarter end.

Unless otherwise stated, all investment restrictions apply at the time of purchase and the Fund will not be required to reduce a position due solely to market value fluctuations or a change in a security's credit rating.

REPURCHASE DISCLOSURE

(UNAUDITED)

Notice is hereby given in accordance with Section 23(c) of the 1940 Act, that the Fund may from time to time purchase shares of its common and preferred stock and its Notes in the open market or in a privately negotiated transactions.

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Directors and Corporate Officers

Kevin S. McCarthy	Chairman of the Board of Directors and Chief Executive Officer
William R. Cordes	Director
Barry R. Pearl	Director
Albert L. Richey	Director
William L. Thacker	Director
James C. Baker	President
Terry A. Hart	Chief Financial Officer and Treasurer
David J. Shladovsky	Secretary
Michael J. O Neil	Chief Compliance Officer
J.C. Frey	Executive Vice President, Assistant Secretary and Assistant Treasurer
Ron M. Logan, Jr.	Senior Vice President
Jody C. Meraz	Vice President

Investment Adviser

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Please visit us on the web at <http://www.kaynefunds.com> or call us toll-free at 1-877-657-3863.

This report, including the financial statements herein, is made available to stockholders of the Fund for their information. It is not a prospectus, circular or representation intended for use in the purchase or sale of shares of the Fund or of any securities mentioned in this report.