

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

Form N-CSRS

July 21, 2016

Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-CSR

CERTIFIED SHAREHOLDER REPORT OF REGISTERED

MANAGEMENT INVESTMENT COMPANIES

Investment Company Act file number 811-22467

Kayne Anderson Midstream/Energy Fund, Inc.

(Exact name of registrant as specified in charter)

811 Main Street, 14th Floor, Houston, Texas
(Address of principal executive offices)

77002
(Zip code)

David Shladovsky, Esq.

KA Fund Advisors, LLC, 811 Main Street, 14th Floor, Houston, Texas 77002

(Name and address of agent for service)

Registrant's telephone number, including area code: (713) 493-2020

Date of fiscal year end: November 30, 2016

Date of reporting period: May 31, 2016

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR unless the Form displays a currently valid Office

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

of Management and Budget (OMB) control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. § 3507.

Table of Contents

Item 1. Reports to Stockholders.

The report of Kayne Anderson Midstream/Energy Fund, Inc. (the Registrant) to stockholders for the semi-annual period ended May 31, 2016 is attached below.

Table of Contents

Midstream/Energy Fund

KMF Semi-Annual Report

May 31, 2016

Table of Contents**CONTENTS**

	Page
<u>Management Discussion</u>	1
<u>Portfolio Summary</u>	5
<u>Schedule of Investments</u>	6
<u>Statement of Assets and Liabilities</u>	11
<u>Statement of Operations</u>	12
<u>Statement of Changes in Net Assets Applicable to Common Stockholders</u>	13
<u>Statement of Cash Flows</u>	15
<u>Financial Highlights</u>	16
<u>Notes to Financial Statements</u>	20
<u>Glossary of Key Terms</u>	41
<u>Privacy Policy Notice</u>	42
<u>Dividend Reinvestment Plan</u>	44
<u>Investment Management Agreement Approval Disclosure</u>	47
<u>Proxy Voting and Portfolio Holdings Information</u>	50
<u>Repurchase Disclosure</u>	50
<u>Results of Annual Meeting of Stockholders</u>	51

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 May 31, 2016, we had total assets of \$456 million, net assets applicable to our common stock of \$319 million (net asset value of \$14.48 per share), and 22.0 million shares of common stock outstanding. As of May 31, 2016, we held \$377 million in equity investments, \$66 million in debt investments and \$4 million of cash and cash equivalents.

Recent Events

On July 19, 2016, we amended the terms of our unsecured revolving term loan (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. The interest rate for borrowings under the Term Loan was increased from LIBOR plus 1.30% to LIBOR plus 1.50% in conjunction with this amendment. 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.

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

Investment Income. Investment income totaled \$5.5 million for the quarter and consisted primarily of net dividends and distributions and interest income on our investments. We received \$7.0 million of dividends and distributions, of which \$3.2 million was treated as return of capital. Interest income was \$1.7 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 \$3.0 million, including \$1.2 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 \$2.5 million.

Net Realized Losses. We had net realized losses of \$13.4 million, which included less than \$0.1 million of net realized gains from option activity.

Net Change in Unrealized Losses. We had a net decrease in unrealized losses of \$127.0 million. The net decrease consisted of \$127.2 million of unrealized gains from investments and \$0.2 million of net unrealized losses from option activity.

Net Increase in Net Assets Resulting from Operations. We had an increase in net assets resulting from operations of \$116.1 million. This increase was comprised of net investment income of \$2.5 million, net realized losses of \$13.4 million and a net decrease in unrealized losses of \$127.0 million, as noted above.

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

Net Distributable Income (NDI)

(amounts in millions, except for per share amounts)

	Three Months Ended May 31, 2016
Distributions and Other Income from Investments	
Dividends ⁽¹⁾	\$ 7.0
Paid-In-Kind Dividends ⁽¹⁾	1.0
Interest Income	1.8
Net Premiums Received from Call Options Written	0.6
Total Distributions and Other Income from Investments	10.4
Expenses	
Investment Management Fee	(1.2)
Other Expenses	(0.4)
Interest Expense	(0.9)
Preferred Stock Distributions	(0.4)
Net Distributable Income (NDI)	\$ 7.5
Weighted Shares Outstanding	22.0
NDI per Weighted Share Outstanding	\$ 0.34
Adjusted NDI per Weighted Share Outstanding⁽²⁾⁽³⁾	\$ 0.34
Distributions paid per Common Share⁽⁴⁾	\$ 0.35

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

- (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.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

MANAGEMENT DISCUSSION

(UNAUDITED)

(3) Adjusted NDI excludes \$0.2 million distribution from Macquarie Infrastructure Company LLC with an ex-dividend date of March 1, 2016. This distribution was included in Adjusted NDI for the first quarter of fiscal 2016.

(4) The distribution of \$0.35 per share for the second quarter was paid on July 15, 2016. 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.

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.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

MANAGEMENT DISCUSSION

(UNAUDITED)

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 May 31, 2016, we had total leverage outstanding of \$126 million, which represented 28% of total assets and was comprised of \$91 million of Notes and \$35 million of MRP Shares. At May 31, 2016, we did not have any borrowings outstanding under our unsecured revolving credit facility (the Credit Facility) or our Term Loan, and we had \$4 million of cash and cash equivalents. As of July 15, 2016, we had \$6 million borrowed under our Credit Facility and we had \$1 million of cash and cash equivalents. As of such date, we did not have any borrowings outstanding under our Term Loan.

Our Credit Facility has a total commitment of \$105 million and matures on November 21, 2016. We 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 May 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 May 31, 2016, our asset coverage ratios under the Investment Company Act of 1940, as amended (the 1940 Act), were 489% for debt and 353% for total leverage (debt plus preferred stock). Following the significant downturn in the energy sector, we increased our target asset coverage ratio with respect to our debt from 400% to 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 May 31, 2016, our total leverage consisted of 100% fixed rate obligations. At such date, the weighted average interest/dividend rate on our total leverage was 3.99%.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****PORTFOLIO SUMMARY****(UNAUDITED)****Portfolio of Long-Term Investments by Category⁽¹⁾****May 31, 2016****November 30, 2015****Top 10 Holdings by Issuer**

 Holding	 Category⁽¹⁾	 Percent of Long Term Investments as of	
		 May 31, 2016	 November 30, 2015
1. ONEOK, Inc.	Midstream Company	9.8%	3.8%
2. Enbridge Energy Management, L.L.C.	Midstream MLP	8.5	8.9
3. Plains GP Holdings, L.P. ⁽²⁾⁽³⁾	Midstream Company	5.8	5.5
4. Targa Resources Corp. ⁽⁴⁾	Midstream Company	5.0	1.8
5. The Williams Companies, Inc.	Midstream Company	4.5	8.7
6. Spectra Energy Corp.	Midstream Company	4.3	2.8
7. Dynagas LNG Partners LP	Midstream Company	4.2	2.7
8. KNOT Offshore Partners LP	Midstream Company	3.4	2.2
9. Energy Transfer Partners, L.P.	Midstream MLP	3.0	4.2
10. Golar LNG Partners LP	Midstream Company	2.9	1.9

(1) See Glossary of Key Terms for definitions.

(2) We hold an interest in Plains AAP, L.P. ("PAA GP"), which controls the general partner of Plains All American Pipeline, L.P. ("PAA"). Plains GP Holdings, L.P. ("Plains GP" which trades on the NYSE under the ticker "PAGP") 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.

(3) On July 11, 2016, PAA announced it had entered into a definitive agreement with PAA GP, a controlled affiliate of Plains 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. Under the terms of the agreement, each unitholder of PAA GP will receive 0.3755 PAA common units for each PAA GP unit they own. As of May 31, 2016, and November 30, 2015, our investment in PAA, represented 1.2% and 1.0% of long-term investments, respectively.

(4) On February 17, 2016, Targa Resources Corp. ("TRGP") completed its acquisition of Targa Resources Partners LP ("NGLS"). As of November 30, 2015, our investment in NGLS and TRGP represented 2.8% of long-term investments.

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

Description	No. of Shares/Units	Value
Long-Term Investments 138.8%		
Equity Investments⁽¹⁾ 118.1%		
United States 114.6%		
Midstream Company⁽²⁾ 66.3%		
Capital Product Partners L.P. Class B Units ⁽³⁾⁽⁴⁾⁽⁵⁾	606	\$ 4,115
Dynagas LNG Partners LP ⁽³⁾	1,296	18,526
GasLog Partners LP ⁽³⁾	624	12,682
Golar LNG Partners LP ⁽³⁾	752	12,783
Höegh LNG Partners LP ⁽³⁾	316	5,653
Kinder Morgan, Inc.	250	4,520
KNOT Offshore Partners LP ⁽³⁾	802	14,847
ONEOK, Inc. ⁽⁶⁾⁽⁷⁾	999	43,199
Plains GP Holdings, L.P. ⁽³⁾⁽⁷⁾⁽⁹⁾	886	8,319
Plains GP Holdings, L.P. ⁽³⁾⁽⁷⁾⁽⁸⁾⁽⁹⁾	1,836	17,243
SemGroup Corporation ⁽⁶⁾	83	2,639
Spectra Energy Corp. ⁽⁶⁾	595	18,969
Tallgrass Energy GP, LP ⁽³⁾⁽⁶⁾	246	5,909
Targa Resources Corp. ⁽⁶⁾	516	22,110
VTTI Energy Partners LP ⁽³⁾	318	6,461
The Williams Companies, Inc.	614	13,595
		211,570
Midstream MLP⁽²⁾⁽¹⁰⁾ 42.1%		
Arc Logistics Partners LP	463	5,413
Buckeye Partners, L.P.	88	6,311
Crestwood Equity Partners LP ⁽⁶⁾	217	4,681
DCP Midstream Partners, LP ⁽⁶⁾	350	11,720
Enbridge Energy Management, L.L.C. ⁽¹¹⁾⁽¹²⁾	1,714	37,472
Energy Transfer Partners, L.P.	364	13,215
Enterprise Products Partners L.P. ⁽⁶⁾	311	8,630
EQT Midstream Partners, LP ⁽⁶⁾	34	2,563
Global Partners LP	74	982
Magellan Midstream Partners, L.P. ⁽⁶⁾	25	1,723
MPLX LP	210	6,708
ONEOK Partners, L.P. ⁽⁷⁾	272	10,322
Plains All American Pipeline, L.P. ⁽⁷⁾⁽⁹⁾	232	5,366
Sunoco Logistics Partners L.P.	104	2,852
Sunoco LP	88	2,910
Tallgrass Energy Partners, LP	16	738
TC PipeLines, LP	19	1,022
Western Gas Partners, LP	114	5,678
Williams Partners L.P.	183	5,844

134,150

Other Energy Company 6.2%			
Anadarko Petroleum Corporation	7.50% Tangible Equity Units ⁽⁴⁾	145	5,646
Macquarie Infrastructure Company LLC ⁽⁶⁾		154	11,050

See accompanying notes to financial statements.

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

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

(UNAUDITED)

Description	No. of Shares/Units	Value
Other Energy Company (continued)		
NRG Yield, Inc. Class A	75	\$ 1,090
Phillips 66	24	1,961
		19,747
Total United States (Cost \$364,615)		365,467
Canada 3.5%		
Midstream Company⁽²⁾ 3.5%		
Enbridge Inc. ⁽⁶⁾	121	4,827
TransCanada Corporation ⁽⁶⁾	153	6,322
Total Canada (Cost \$10,903)		11,149
Total Equity Investments (Cost \$375,518)		376,616

	Interest Rate	Maturity Date	Principal Amount	Value
Debt Instruments 20.7%				
United States 19.1%				
Upstream 17.0%				
American Eagle Energy Corporation ⁽¹⁴⁾⁽¹⁵⁾	11.000%	9/1/19	\$ 4,800	600
California Resources Corporation ⁽⁷⁾	5.000	1/15/20	734	398
California Resources Corporation ⁽⁷⁾	5.500	9/15/21	9,400	5,123
California Resources Corporation ⁽⁷⁾	6.000	11/15/24	8,100	4,404
Canbriam Energy Inc.	9.750	11/15/19	9,390	9,484
Chief Oil & Gas LLC	⁽¹⁶⁾	8/8/21	9,609	7,783
Eclipse Resources Corporation	8.875	7/15/23	10,000	7,950
Endeavor Energy Resources, L.P.	8.125	9/15/23	4,600	4,715
Energy & Exploration Partners, Inc. ⁽⁴⁾⁽¹⁷⁾	⁽¹⁸⁾	5/13/22	52	26
Goodrich Petroleum Corporation ⁽⁴⁾⁽¹⁴⁾⁽¹⁹⁾	8.875	3/15/18	2,677	284
Goodrich Petroleum Corporation ⁽¹⁴⁾⁽¹⁹⁾	8.875	3/15/19	1,000	
Jonah Energy LLC	⁽²⁰⁾	5/29/21	3,000	2,400
Jones Energy, Inc.	9.250	3/15/23	5,000	4,050
Vantage Energy, LLC	⁽²¹⁾	12/31/18	8,817	7,186
				54,403
Midstream Company⁽²⁾ 2.1%				
DCP Midstream LLC	9.750	3/15/19	500	534

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

The Williams Companies, Inc.	5.750	6/24/44	7,500	6,113
				6,647
Total United States (Cost \$75,336)				61,050
Canada 1.6%				
Upstream 1.6%				
Athabasca Oil Corporation (Cost \$5,252)	7.500	11/19/17	(22)	5,094
Total Debt Investments (Cost \$80,588)				66,144
Total Long-Term Investments (Cost \$456,106)				442,760

See accompanying notes to financial statements.

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

Description	No. of Shares/Units	Value
Short-Term Investment 0.7%		
Money Market Fund 0.7%		
JPMorgan 100% U.S. Treasury Securities Money Market Fund Capital Shares, 0.17% ⁽³⁾ (Cost \$2,285)	2,285	\$ 2,285
Total Investments 139.5% (Cost \$458,391)		445,045

	Strike Price	Expiration Date	No. of Contracts	Value
Liabilities				
Call Option Contracts Written⁽¹⁴⁾				
United States				
Midstream Company				
ONEOK, Inc.	\$ 37.50	6/17/16	330	(209)
ONEOK, Inc.	40.00	6/17/16	330	(134)
ONEOK, Inc.	42.50	6/17/16	1,230	(258)
ONEOK, Inc.	45.00	7/15/16	300	(37)
ONEOK, Inc.	47.50	7/15/16	300	(24)
SemGroup Corporation	35.00	7/15/16	250	(32)
Spectra Energy Corp.	32.00	6/17/16	700	(31)
Tallgrass Energy GP, LP	25.00	7/15/16	100	(10)
Tallgrass Energy GP, LP	30.00	7/15/16	100	(4)
Targa Resources Corp.	47.00	6/17/16	100	(7)
Targa Resources Corp.	48.00	6/17/16	100	(5)
Targa Resources Corp.	49.00	6/17/16	100	(4)
Targa Resources Corp.	50.00	6/17/16	100	(3)
				(758)
Midstream MLP				
Crestwood Equity Partners LP	22.50	7/15/16	250	(17)
DCP Midstream Partners, LP	35.00	6/17/16	110	(7)
Enterprise Products Partners L.P.	26.00	6/17/16	50	(9)
Enterprise Products Partners L.P.	27.00	6/17/16	50	(7)
EQT Midstream Partners, LP	80.00	6/17/16	30	(2)
Magellan Midstream Partners, L.P.	72.50	6/17/16	10	
Magellan Midstream Partners, L.P.	75.00	6/17/16	10	
				(42)
Other Energy Company				
Macquarie Infrastructure Company LLC	75.00	7/15/16	400	(12)

Total United States (Premiums Received \$510) (812)

Canadian

Midstream Company

Enbridge Inc.	40.00	6/17/16	200	(14)
TransCanada Corporation	40.00	6/17/16	150	(30)

Total Canadian (Premiums Received \$42) (44)

Total Call Option Contracts Written (Premiums Received \$552) (856)

See accompanying notes to financial statements.

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

Description	Value
Debt	\$ (91,000)
Mandatory Redeemable Preferred Stock at Liquidation Value	(35,000)
Other Assets in Excess of Other Liabilities	771
Net Assets Applicable to Common Stockholders	\$ 318,960

- (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, restricted from public sale. See Notes 2, 3 and 7 in Notes to Financial Statements.
- (5) 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 second quarter.
- (6) Security or a portion thereof is segregated as collateral on option contracts written.
- (7) The Fund believes that it is an affiliate of Plains All American Pipeline, L.P. (PAA) and 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](#).
- (8) The Fund holds an interest in Plains AAP, L.P. (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.
- (9)

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

On July 11, 2016, PAA announced it had entered into a definitive agreement with PAA GP, a controlled affiliate of Plains 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. Under the terms of the agreement, each unitholder of PAA GP will receive 0.3755 PAA common units for each PAA GP unit they own.

- (10) 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 21.2% of its total assets invested in publicly-traded partnerships at May 31, 2016. It is the Fund's intention to be treated as a RIC for tax purposes.
- (11) Dividends are paid-in-kind.
- (12) Security is not treated as a publicly-traded partnership for RIC qualification purposes.
- (13) 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.
- (14) Security is non-income producing.
- (15) On May 8, 2015, American Eagle Energy Corporation filed voluntary petitions in the United States Bankruptcy Court for the District of Colorado seeking relief under Chapter 11 of the Bankruptcy Code. During the second quarter of fiscal 2015, the Fund stopped accruing interest income on this security.

See accompanying notes to financial statements.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

SCHEDULE OF INVESTMENTS

MAY 31, 2016

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

(UNAUDITED)

- (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 May 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. The equity interest was sold as of May 31, 2016.

- (18) Interest is paid in kind at a fixed rate per annum equal to 5.00%.

- (19) 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 May 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.

- (20) 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 May 31, 2016).

- (21) 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 May 31, 2016).

- (22) Principal amount is 6,850 Canadian dollars.

- (23) Rate indicated is the current yield as of May 31, 2016.

See accompanying notes to financial statements.

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

Investments, at fair value:	
Non-affiliated (Cost \$427,259)	\$ 411,832
Affiliated (Cost \$28,847)	30,928
Short-term investments (Cost \$2,285)	2,285
Total investments (Cost \$458,391)	445,045
Cash	2,001
Deposits with brokers	250
Receivable for securities sold	5,761
Interest, dividends and distributions receivable	1,728
Deferred debt and preferred stock offering costs and other assets	1,641
Total Assets	456,426

LIABILITIES

Payable for securities purchased	8,492
Investment management fee payable	459
Call option contracts written (Premiums received \$552)	856
Accrued directors' fees and expenses	82
Accrued expenses and other liabilities	1,577
Notes	91,000
Mandatory redeemable preferred stock, \$25.00 liquidation value per share (1,400,000 shares issued and outstanding)	35,000
Total Liabilities	137,466

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS \$ 318,960**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 less distributions not treated as tax return of capital	(28,665)
Accumulated net realized losses less distributions not treated as tax return of capital	(114,353)
Net unrealized losses	(13,668)

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS \$ 318,960**NET ASSET VALUE PER COMMON SHARE** \$ 14.48

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 May 31, 2016	For the Six Months Ended May 31, 2016
INVESTMENT INCOME		
Income		
Dividends and distributions:		
Non-affiliated investments	\$ 6,261	\$ 13,107
Affiliated investments	789	1,583
Total dividends and distributions (after foreign taxes withheld of \$12)	7,050	14,690
Return of capital	(3,218)	(7,197)
Net dividends and distributions	3,832	7,493
Interest income	1,701	3,456
Total Investment Income	5,533	10,949
Expenses		
Investment management fees	1,237	2,622
Professional fees	105	214
Directors' fees and expenses	93	185
Administration fees	41	92
Reports to stockholders	43	90
Insurance	36	71
Custodian fees	13	13
Other expenses	43	74
Total Expenses before interest expense and preferred distributions	1,611	3,361
Interest expense and amortization of offering costs	1,034	7,140
Distributions on mandatory redeemable preferred stock and amortization of offering costs	372	2,055
Total Expenses	3,017	12,556
Net Investment Income (Loss)	2,516	(1,607)
REALIZED AND UNREALIZED GAINS (LOSSES)		
Net Realized Gains (Losses)		
Investments non-affiliated	(13,374)	(110,001)
Foreign currency transactions	5	4
Options	24	530
Net Realized Gains (Losses)	(13,345)	(109,467)
Net Change in Unrealized Gains (Losses)		

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

Investments non-affiliated	121,334	70,687
Investments affiliated	5,836	(7,061)
Foreign currency translations	5	7
Options	(216)	(302)
Net Change in Unrealized Gains (Losses)	126,959	63,331
Net Realized and Unrealized Gains (Losses)	113,614	(46,136)
NET INCREASE (DECREASE) IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS RESULTING FROM OPERATIONS	\$ 116,130	\$ (47,743)

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 Six Months Ended May 31, 2016 (Unaudited)	For the Fiscal Year Ended November 30, 2015
OPERATIONS		
Net investment income (loss) ⁽¹⁾	\$ (1,607)	\$ 6,534
Net realized gains (losses)	(109,467)	(26,681)
Net change in unrealized gains (losses)	63,331	(372,157)
Net Decrease in Net Assets Resulting from Operations	(47,743)	(392,304)
DIVIDENDS AND DISTRIBUTIONS TO COMMON STOCKHOLDERS ⁽¹⁾		
Dividends	(17,491) ⁽²⁾	(36,440) ⁽³⁾
Distributions net long-term capital gains	(2)	(46,239) ⁽³⁾
Dividends and Distributions to Common Stockholders	(17,491)	(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	(61,518)	(473,779)
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS		
Beginning of period	380,478	854,257
End of period	\$ 318,960	\$ 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 \$1,730 paid to holders of MRP Shares during the six months ended May 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)

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

Distributions paid to common stockholders for the six months ended May 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.

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)

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 SIX MONTHS ENDED MAY 31, 2016****(amounts in 000 s)****(UNAUDITED)**

CASH FLOWS FROM OPERATING ACTIVITIES	
Net decrease in net assets resulting from operations	\$ (47,743)
Adjustments to reconcile net decrease in net assets resulting from operations to net cash provided by operating activities:	
Return of capital distributions	7,197
Net realized losses (excluding foreign currency transactions)	109,471
Net change in unrealized losses (excluding foreign currency translations)	(63,324)
Accretion of bond discounts, net	(211)
Purchase of long-term investments	(85,801)
Proceeds from sale of long-term investments	193,730
Purchase of short-term investments, net	(2,285)
Decrease in deposits with brokers	11
Increase in receivable for securities sold	(4,334)
Decrease in interest, dividends and distributions receivable	880
Amortization of deferred debt offering costs	573
Amortization of mandatory redeemable preferred stock offering costs	325
Decrease in other assets	88
Increase in payable for securities purchased	8,492
Decrease in investment management fee payable	(250)
Decrease in premiums received on call option contracts written	(50)
Decrease in accrued directors' fees and expenses	(9)
Decrease in accrued expenses and other liabilities	(1,351)
Net Cash Provided by Operating Activities	115,409
CASH FLOWS FROM FINANCING ACTIVITIES	
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	(15,213)
Net Cash Used in Financing Activities	(142,775)
NET DECREASE IN CASH	(27,366)
CASH BEGINNING OF PERIOD	29,367
CASH END OF PERIOD	\$ 2,001

Supplemental disclosure of cash flow information:

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

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

During the six months ended May 31, 2016, interest paid related to debt obligations was \$7,578.

During the six months ended May 31, 2016, the Fund received \$1,942 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 Six Months Ended May 31, 2016	For the Fiscal Year Ended November 30,	
	(Unaudited)	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⁾	(0.07)	0.30	(0.01)
Net realized and unrealized gains (losses)	(2.20)	(18.42)	5.61
Total income (loss) from operations	(2.27)	(18.12)	5.60
Common dividends – dividend income ⁽³⁾	(0.80)	(1.68)	(1.57)
Common distributions – long-term capital gains ⁽³⁾		(2.14)	(0.34)
Common distributions – return of capital ⁽⁴⁾			
Total dividends and distributions – common	(0.80)	(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			0.09
Effect of common stock repurchased			0.09
Net asset value, end of period	\$ 14.48	\$ 17.56	\$ 39.51
Market value per share of common stock, end of period	\$ 13.39	\$ 15.46	\$ 35.82
Total investment return based on common stock market value ⁽⁵⁾	(6.1)% ⁽⁶⁾	(50.2)%	15.3%
Total investment return based on net asset value ⁽⁷⁾	(10.6)% ⁽⁶⁾	(48.7)%	16.4%
Supplemental Data and Ratios⁽⁸⁾			
Net assets applicable to common stockholders, end of period	\$ 318,960	\$ 380,478	\$ 854,257
Ratio of expenses to average net assets			
Management fees ⁽⁹⁾	1.9%	1.9%	1.7%
Other expenses	0.5	0.2	0.2
Subtotal	2.4	2.1	1.9
Interest expense and distributions on mandatory redeemable preferred stock ⁽²⁾	4.6 ⁽¹⁰⁾	2.5	1.7
Management fee waiver			
Excise taxes		0.4	
Total expenses	7.0%	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	(17.2)% ⁽⁶⁾	(58.3)%	14.0%
Portfolio turnover rate	21.1% ⁽⁶⁾	45.3%	45.3%
Average net assets	\$ 277,063	\$ 672,534	\$ 887,585
Notes outstanding, end of period	\$ 91,000	\$ 185,000	\$ 235,000

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

Credit facility outstanding, end of period	\$	\$	\$
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	21,916,993	21,657,943	21,897,671
Asset coverage of total debt ⁽¹⁾	489.0%	343.5%	441.4%
Asset coverage of total leverage (debt and preferred stock) ⁽¹²⁾	353.1%	249.2%	321.3%
Average amount of borrowings per share of common stock during the period ⁽¹⁾	\$ 4.86	\$ 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 gain ⁽³⁾	(0.66)	(0.41)
Common distributions – return of capital ⁽⁴⁾		
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	\$	\$

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

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 ⁽⁴⁾		
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

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

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.

Table of Contents

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 six months ended May 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.
- (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.

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

- (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.

Table of Contents

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.

Table of Contents

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 May 31, 2016, the Fund held 1.4% of its net assets applicable to common stockholders (1.0% 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 May 31, 2016 was \$4,425. 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 six months ended May 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

Table of Contents

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)

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 six months ended May 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 investments. If the Fund repurchases a written call option prior to its exercise, the difference between the

premium

Table of Contents

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)

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 six months ended May 31, 2016, the Fund estimated \$7,197 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.

Table of Contents**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)

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

	For the Three Months Ended May 31, 2016	For the Six Months Ended May 31, 2016
Dividends from investments	\$ 4,434	\$ 8,300
Distributions from investments	2,628	6,402
Total dividends and distributions from investments (before foreign taxes withheld of \$12)	\$ 7,062	\$ 14,702
Dividends % return of capital	23%	21%
Distributions % return of capital	84%	85%
Total dividends and distributions % return of capital	46%	49%
Return of capital attributable to net realized gains (losses)	\$ 37	\$ 1,136
Return of capital attributable to net change in unrealized gains (losses)	3,181	6,061
Total return of capital	\$ 3,218	\$ 7,197

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. During the first quarter, the Fund sold its holdings of Midstates Petroleum Company, Inc.

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 six months ended May 31, 2016, the Fund received \$973 and \$1,942, respectively, of paid-in-kind dividends from its investment in Enbridge Energy Management, L.L.C.

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

Table of Contents

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)

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 six months ended May 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 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.

Table of Contents

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)

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 2011 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 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.

Table of Contents

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)

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.

Table of Contents**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)

The following table presents the Fund's assets and liabilities measured at fair value on a recurring basis at May 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	\$ 376,616	\$ 355,258	\$ 17,243 ⁽¹⁾	\$ 4,115
Debt investments	66,144		65,834	310
Short-term investments	2,285	2,285		
Total assets at fair value	\$ 445,045	\$ 357,543	\$ 83,077	\$ 4,425
Liabilities at Fair Value				
Call option contracts written	\$ 856	\$	\$ 856	\$

(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 six months ended May 31, 2016, there were no transfers between Level 1 and Level 2.

As of May 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 May 31, 2016, the estimated fair values of these leverage instruments are as follows.

Security	Principal Amount/ Liquidation Value	Fair Value
Notes	\$ 91,000	\$ 93,000
MRP Shares	\$ 35,000	\$ 35,500

Table of Contents**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)

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 six months ended May 31, 2016.

Three Months Ended May 31, 2016		Equity	Debt	Total
Balance	February 29, 2016	\$ 5,787	\$ 241	6,028
Purchases				
Transfers in from Level 2			124	124
Transfers out to Level 1 and 2		(2,447)		(2,447)
Realized gains (losses)			(98)	(98)
Unrealized gains (losses), net		775	43	818
Balance	May 31, 2016	\$ 4,115	\$ 310	\$ 4,425

Six Months Ended May 31, 2016		Equity	Debt	Total
Balance	November 30, 2015	\$ 4,327	\$	\$ 4,327
Purchases				
Transfers in from Level 2			1,570	1,570
Transfers out to Level 1 and 2		(2,500)		(2,500)
Realized gains (losses)			(687)	(687)
Unrealized gains (losses), net		(212)	(573)	(785)
Balance	May 31, 2016	\$ 4,115	\$ 310	\$ 4,425

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

The \$124 transfer in from Level 2 for the three months ended May 31, 2016 relates to the Fund's investment in Energy & Exploration Partners, Inc. (ENXP) senior secured second lien term loan (ENXP Second Lien Term Loan). The \$1,570 of transfers in from Level 2 for the six months ended May 31, 2016 relate to the Fund's investment in the Goodrich Petroleum Corporation (Goodrich) 8.875% second lien senior secured notes due 2018 (the Goodrich Second Lien Notes) and the ENXP Second Lien Term Loan. The \$2,447 and \$2,500 of transfers out to Level 1 for the three and six months ended May 31, 2016, respectively, relate 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 \$98 and \$687 of realized losses for the three and six months ended May 31, 2016 relate to the Fund's investment in ENXP and were a result of ENXP completing its Chapter 11 restructuring.

The \$818 of unrealized gains and \$785 of unrealized losses for the three and six months ended May 31, 2016 relate to investments that were still held at May 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

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

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.

Table of Contents

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)

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 first quarter, the Fund determined that the price provided by an independent pricing service for its investment in the Goodrich Second Lien Notes was not representative of fair value and accordingly began categorizing the investment as a Level 3 investment (previously a Level 2 investment). On April 15, 2016, 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. In order to estimate the value of its investment in the Goodrich Second Lien Notes, the Fund uses a model to estimate the total value of Goodrich's assets. This estimated value is then used to determine the expected recovery amount on the Goodrich Second Lien Notes (the Recovery Analysis). The model is based on Goodrich's reserves, undeveloped acreage and expected production profile. The Fund performs a Recovery Analysis for comparable upstream companies with public debt securities and compares these estimated recovery values to the market prices for such company's debt securities. In general, the debt securities for comparable upstream companies trade at discounted values to their expected recovery amounts. Based on this information, the Fund selected a range of discounts to apply to the expected recovery amount to estimate the value of the Goodrich Second Lien Notes. The Fund also holds the Goodrich Unsecured Notes (a Level 2 investment), which are junior in the capital structure to the Second Lien Notes. The Fund values the Unsecured Notes based on a pricing service and such market price implies a minimal recovery on such Unsecured Notes (less than \$1 for every \$100 of principal amount held).

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.

Table of Contents**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)

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

Quantitative Table for Valuation Techniques

Assets at Fair Value	Fair Value	Valuation Technique	Unobservable Inputs	Range		
				Low	High	Average
Equity securities of public companies	\$ 4,115	- Convertible pricing model	- Credit spread - Volatility	8.8% 45.0%	9.3% 50.0%	9.0% 47.5%
valued based on pricing model			- Discount for marketability	10.0%	10.0%	10.0%
Debt securities of public companies	284	- Discount to expected recovery of comparable securities	- Expected recovery amount - Market discount to expected recovery	23.0% 45.0%	23.0% 45.0%	23.0% 45.0%
valued based on expected recovery						
Debt securities of private companies valued based on yield to worst	26	- Yield to worst of comparable securities	- Yield to worst - Liquidity discount	12.2% 15.0%	19.0% 15.0%	15.6% 15.0%
Total	\$ 4,425					

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 May 31, 2016, the Fund had the following investment concentrations:

Category	Percent of Long-Term Investments
Securities of Energy Companies ⁽¹⁾	100.0%

Equity securities	85.1%
Debt securities	14.9%
Securities of MLPs ⁽¹⁾	30.3%
Largest single issuer	9.8%
Restricted securities	15.2%

(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

Table of Contents

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)

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 six months ended May 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.

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.

Table of Contents

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)

(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 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. during December 2015. ONEOK, Inc. is the general partner of ONEOK Partners, L.P. Despite Mr. McCarthy's participation on the board of ONEOK, Inc., the Fund does not believe it is an affiliate of ONEOK, Inc. or ONEOK Partners, L.P. because the Fund's and other Kayne Anderson funds' aggregate ownership of each entity does not meet the criteria described above.

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.

As of May 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.

Table of Contents**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)

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.

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 May 31, 2016, the cost basis of investments for federal income tax purposes was \$472,508, and the premiums received on outstanding option contracts written were \$552. At May 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)	\$ 46,600
Gross unrealized depreciation of investments (including options)	(74,367)
Net unrealized depreciation of investments before foreign currency related translations	(27,767)
Unrealized depreciation on foreign currency related translations	(18)
Net unrealized depreciation of investments	\$ (27,785)

7. Restricted Securities

From time to time, certain of the Fund's investments may be restricted as to resale. 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.

Table of Contents**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)

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

Investment	Acquisition Date	Type of Restriction	Number of Units, Principal (\$) (in 000s)	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	\$ 5,451	\$ 17,243	\$ 9.39	5.4%	3.8%
Senior Notes and Secured Term Loans ⁽⁴⁾								
American Eagle Energy Corporation ⁽⁵⁾	8/13/14	(6)	\$ 4,800	4,759	600	n/a	0.2	0.1
Athabasca Oil Corporation	(2)	(6)	(7)	5,252	5,094	n/a	1.6	1.1
Canbriam Energy Inc.	(2)	(8)	9,390	9,464	9,484	n/a	3.0	2.1
Chief Oil & Gas LLC	(2)	(8)	9,609	9,269	7,783	n/a	2.4	1.7
DCP Midstream LLC	3/31/16	(8)	500	492	534	n/a	0.2	0.1
Eclipse Resources Corporation	(2)	(6)	10,000	9,672	7,950	n/a	2.5	1.8
Endeavor Energy Resources, L.P.	(2)	(8)	4,600	4,482	4,715	n/a	1.5	1.0
Jonah Energy LLC	5/8/14	(8)	3,000	2,968	2,400	n/a	0.7	0.5
Vantage Energy, LLC	(2)	(8)	8,817	8,782	7,186	n/a	2.2	1.6
Total				\$ 60,591	\$ 62,989		19.7%	13.8%
Level 3 Investments⁽⁹⁾								
Equity Investments								
Capital Product Partners L.P.								
Class B Units	(2)	(6)	606	3,783	4,115	6.79	1.3	0.9
Senior Notes								
Energy & Exploration Partners, Inc.	5/13/16	(8)	52	26	26	n/a		
Goodrich Petroleum Corporation ⁽⁵⁾	9/25/15	(6)	2,677	2,677	284	n/a	0.1	0.1
Total				\$ 6,486	\$ 4,425		1.4%	1.0%
Total of all restricted investments				\$ 67,077	\$ 67,414		21.1%	14.8%

(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.

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

- (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) Security has filed voluntary petitions in the United States Bankruptcy Court seeking relief under Chapter 11 of the Bankruptcy Code.
- (6) Unregistered or restricted security of a publicly-traded company.
- (7) Principal amount is 6,850 Canadian dollars.
- (8) Unregistered security of a private company.
- (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.

Table of Contents**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)

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.

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

Three Months Ended May 31, 2016	Number of Contracts	Premium
Call Options Written		
Options outstanding at February 29, 2016	2,150	\$ 200
Options written	6,450	678
Options subsequently repurchased ⁽¹⁾	(250)	(38)
Options exercised	(1,900)	(188)
Options expired	(1,150)	(100)
Options outstanding at May 31, 2016	5,300	\$ 552

(1) The price at which the Fund subsequently repurchased the options was \$115, which resulted in realized losses of \$77.

Six Months Ended May 31, 2016	Number of Contracts	Premium
Call Options Written		
Options outstanding at November 30, 2015	5,615	\$ 602
Options written	9,260	948
Options subsequently repurchased ⁽¹⁾	(2,065)	(269)
Options exercised	(2,300)	(248)
Options expired	(5,210)	(481)
Options outstanding at May 31, 2016 ⁽²⁾	5,300	\$ 552

(1) The price at which the Fund subsequently repurchased the options was \$221, which resulted in net realized gains of \$48.

(2) The percentage of total long-term investments subject to call options written was 4.9% at May 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

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

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 May 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 May 31, 2016
Call options written	Call option contracts written	\$ (856)

Table of Contents**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)

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 May 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	\$ 24	\$ (216)

Derivatives Not Accounted for as Hedging Instruments	Location of Gains/(Losses) on Derivatives Recognized in Income	For the Six Months Ended May 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	\$ 530	\$ (302)

9. Investment Transactions

For the six months ended May 31, 2016, the Fund purchased and sold securities in the amounts of \$85,801 and \$193,730 (excluding short-term investments and options).

10. Credit Facility and Term Loan

At May 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 six months ended May 31, 2016, the average amount outstanding under the Credit Facility was \$754 with a weighted average interest rate of 1.94%. As of May 31, 2016 the Fund did not have any borrowings outstanding under the Credit Facility. 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 May 31, 2016). As of May 31, 2016, the Fund was able to borrow under the Credit Facility because its net asset value was above the minimum net asset threshold.

At May 31, 2016, the Fund had a \$50,000 unsecured revolving term loan (Term Loan). The Term Loan has a five-year commitment maturing on July 25, 2019, and borrowings under the Term Loan accrue interest at a rate of LIBOR plus 1.30%. 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.

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

For the six months ended May 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 (\$488,050 as of May 31, 2016). As of May 31, 2016, the Fund was unable to borrow under the Term Loan because its net asset value was below the minimum net asset threshold. See Note 14 Subsequent Events for a discussion of the terms of the Fund's amended Term Loan, effective as of July 19, 2016.

As of May 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.

Table of Contents**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)

11. Notes

At May 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 May 31, 2016.

Series	Principal Outstanding November 30, 2015	Principal Redeemed	Principal Outstanding May 31, 2016	Estimated Fair Value May 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	22,100	4.00%	3/22/22
D	40,000		40,000	40,100	3.34%	5/1/23
E	30,000		30,000	30,800	3.46%	7/30/21
	\$ 185,000	\$ (94,000)	\$ 91,000	\$ 93,000		

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 May 31, 2016, the weighted average interest rate on the outstanding Notes was 3.53%.

As of May 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.

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

Edgar Filing: KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. - Form N-CSRS

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%.

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

Table of Contents**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)

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

12. Preferred Stock

At May 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 May 31, 2016.

Series	Liquidation Value November 30, 2015	Liquidation Value Redeemed	Liquidation Value May 31, 2016	Estimated Fair Value May 31, 2016	Rate	Mandatory Redemption Date
B	\$ 30,000	\$ (30,000)	\$ 35,000	\$ 35,500	4.50%	3/22/20
C	40,000	(5,000)	35,000	35,500	4.06%	7/30/21
	\$ 70,000	\$ (35,000)	\$ 35,000	\$ 35,500		

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.

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.

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

Table of Contents**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)**13. Common Stock**

At May 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 May 31, 2016, KACALP and KAFA owned 57,740 and 4,000 shares of the Fund, respectively. Transactions in common shares for the six months ended May 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 May 31, 2016	22,034,170

14. Subsequent Events

On June 23, 2016, the Fund declared its quarterly distribution of \$0.35 per common share for the second quarter. The total distribution of \$7,712 was paid July 15, 2016. Of this total, pursuant to the Fund's dividend reinvestment plan \$1,031 was reinvested into the Fund through open market purchases of common stock.

On July 19, 2016, the Fund amended the terms of its Term Loan, resetting the minimum net asset threshold to \$172,276, which is equal to 50% of net assets at July 18, 2016 and reducing the commitment from \$50,000 to \$35,000. The interest rate for borrowings under the Term Loan was increased from LIBOR plus 1.30% to LIBOR plus 1.50% in conjunction with this amendment. As a result of this amendment, the Fund is now able to borrow on the Term Loan because its net asset value is above the minimum net asset threshold.

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.

Table of Contents

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.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

PRIVACY POLICY NOTICE

(UNAUDITED)

Rev. 01/2011

FACTS

WHAT DOES KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. (KMF) DO WITH YOUR PERSONAL INFORMATION?

Why?

Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.

What?

The types of personal information we collect and share depend on the product or service you have with us. This information can include:

- n Social Security number and account balances

- n Payment history and transaction history

- n Account transactions and wire transfer instructions

When you are *no longer* our customer, we continue to share your information as described in this notice.

How?

All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons KMF chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	Does KMF share?	Can you limit this sharing?
For our everyday business purposes such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes to offer our products and services to you	No	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes information about your transactions and experiences	No	We don't share
	No	We don't share

For our affiliates everyday business purposes
information about your creditworthiness

For nonaffiliates to market to you

No

We don't share

Questions?

Call 877-657-3863 or go to <http://www.kaynefunds.com>

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

PRIVACY POLICY NOTICE

(UNAUDITED)

Who we are

Who is providing this notice?

KMF

What we do

How does KMF protect my personal information?

To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings.

How does KMF collect my personal information?

Access to your personal information is on a need-to-know basis. KMF has adopted internal policies to protect your non-public personal information. We collect your personal information, for example, when you

- n Open an account or provide account information

- n Buy securities from us or make a wire transfer

- n Give us your contact information

Why can't I limit all sharing?

We also collect your personal information from other companies. Federal law gives you the right to limit only

- n sharing for affiliates everyday business purposes information about your creditworthiness

- n affiliates from using your information to market to you

- n sharing for nonaffiliates to market to you

State laws and individual companies may give you additional rights to limit sharing.

Definitions

Affiliates

Companies related by common ownership or control. They can be financial and nonfinancial companies.

Nonaffiliates

n KMF does not share with our affiliates.

Companies not related by common ownership or control. They can be financial and nonfinancial companies.

Joint marketing

n KMF does not share with nonaffiliates so they can market to you.

A formal agreement between nonaffiliated financial companies that together market financial products or services to you.

n KMF doesn't jointly market.

Other important information

None.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

DIVIDEND REINVESTMENT PLAN

(UNAUDITED)

Kayne Anderson Midstream/Energy Fund, Inc., a Maryland corporation (the Fund), has adopted the following plan (the Plan) with respect to distributions declared by its Board of Directors (the Board) on shares of its Common Stock:

1. Unless a stockholder specifically elects to receive cash as set forth below, all distributions hereafter declared by the Board shall be payable in shares of the Common Stock of the Fund, and no action shall be required on such stockholder's part to receive a distribution in stock.
2. Such distributions shall be payable on such date or dates as may be fixed from time to time by the Board to stockholders of record at the close of business on the record date(s) established by the Board for the distribution involved.
3. The Fund may use newly-issued shares of its Common Stock or purchase shares in the open market in connection with the implementation of the plan. The number of shares to be issued to a stockholder shall be based on share price equal to 95% of the closing price of the Fund's Common Stock one day prior to the dividend payment date.
4. The Board may, in its sole discretion, instruct the Fund to purchase shares of its Common Stock in the open market in connection with the implementation of the Plan as follows: If the Fund's Common Stock is trading below net asset value at the time of valuation, upon notice from the Fund, the Plan Administrator (as defined below) will receive the dividend or distribution in cash and will purchase Common Stock in the open market, on the New York Stock Exchange or elsewhere, for the Participants' accounts, except that the Plan Administrator will endeavor to terminate purchases in the open market and cause the Fund to issue the remaining shares if, following the commencement of the purchases, the market value of the shares, including brokerage commissions, exceeds the net asset value at the time of valuation. These remaining shares will be issued by the Fund at a price equal to the greater of (i) the net asset value at the time of valuation or (ii) 95% of the then current market price.
5. In a case where the Plan Administrator has terminated open market purchases and caused the issuance of remaining shares by the Fund, the number of shares received by the participant in respect of the cash dividend or distribution will be based on the weighted average of prices paid for shares purchased in the open market, including brokerage commissions, and the price at which the Fund issues remaining shares. To the extent that the Plan Administrator is unable to terminate purchases in the open market before the Plan Administrator has completed its purchases, or remaining shares cannot be issued by the Fund because the Fund declared a dividend or distribution payable only in cash, and the market price exceeds the net asset value of the shares, the average share purchase price paid by the Plan Administrator may exceed the net asset value of the shares, resulting in the acquisition of fewer shares than if the dividend or distribution had been paid in shares issued by the Fund.
6. A stockholder may, however, elect to receive his or its distributions in cash. To exercise this option, such stockholder shall notify American Stock Transfer & Trust Company, the plan administrator and the Fund's transfer agent and registrar (collectively the Plan Administrator), in writing so that such notice is received by the Plan Administrator no later than the record date fixed by the Board for the distribution involved.
7. The Plan Administrator will set up an account for shares acquired pursuant to the Plan for each stockholder who has not so elected to receive dividends and distributions in cash (each, a Participant). The Plan Administrator may hold each Participant's shares, together with the shares of other Participants, in non-certificated form in the Plan Administrator's name or that of its nominee. Upon request by a Participant, received no later than three (3) days prior to the payable date, the Plan Administrator will, instead of crediting shares to and/or carrying shares in a Participant's account, issue, without charge to the Participant, a certificate registered in the Participant's name for the number of whole shares payable to the Participant and a check for any fractional share less a broker commission on the sale of such fractional shares. If a

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

DIVIDEND REINVESTMENT PLAN

(UNAUDITED)

request to terminate a Participant's participation in the Plan is received less than three (3) days before the payable date, dividends and distributions for that payable date will be reinvested. However, subsequent dividends and distributions will be paid to the Participant in cash.

8. The Plan Administrator will confirm to each Participant each acquisition made pursuant to the Plan as soon as practicable but not later than ten (10) business days after the date thereof. Although each Participant may from time to time have an undivided fractional interest (computed to three decimal places) in a share of Common Stock of the Fund, no certificates for a fractional share will be issued. However, dividends and distributions on fractional shares will be credited to each Participant's account. In the event of termination of a Participant's account under the Plan, the Plan Administrator will adjust for any such undivided fractional interest in cash at the market value of the Fund's shares at the time of termination.

9. The Plan Administrator will forward to each Participant any Fund related proxy solicitation materials and each Corporation report or other communication to stockholders, and will vote any shares held by it under the Plan in accordance with the instructions set forth on proxies returned by Participants to the Fund.

10. In the event that the Fund makes available to its stockholders rights to purchase additional shares or other securities, the shares held by the Plan Administrator for each Participant under the Plan will be added to any other shares held by the Participant in certificated form in calculating the number of rights to be issued to the Participant.

11. The Plan Administrator's service fee, if any, and expenses for administering the Plan will be paid for by the Fund.

12. Each Participant may terminate his or its account under the Plan by so notifying the Plan Administrator via the Plan Administrator's website at www.amstock.com, by filling out the transaction request form located at the bottom of the Participant's Statement and sending it to American Stock Transfer and Trust Company, P.O. Box 922, Wall Street Station, New York, NY 10269-0560 or by calling the Plan Administrator at (888) 888-0317. Such termination will be effective immediately. The Plan may be terminated by the Fund upon notice in writing mailed to each Participant at least 30 days prior to any record date for the payment of any dividend or distribution by the Fund. Upon any termination, the Plan Administrator will cause a certificate or certificates to be issued for the full shares held for the Participant under the Plan and a cash adjustment for any fractional share to be delivered to the Participant without charge to the Participant. If a Participant elects by his or its written notice to the Plan Administrator in advance of termination to have the Plan Administrator sell part or all of his or its shares and remit the proceeds to the Participant, the Plan Administrator is authorized to deduct a \$15.00 transaction fee plus a \$0.10 per share brokerage commission from the proceeds.

13. These terms and conditions may be amended or supplemented by the Fund at any time but, except when necessary or appropriate to comply with applicable law or the rules or policies of the Securities and Exchange Commission or any other regulatory authority, only by mailing to each Participant appropriate written notice at least 30 days prior to the effective date thereof. The amendment or supplement shall be deemed to be accepted by each Participant unless, prior to the effective date thereof, the Plan Administrator receives written notice of the termination of his or its account under the Plan. Any such amendment may include an appointment by the Plan Administrator in its place and stead of a successor agent under these terms and conditions, with full power and authority to perform all or any of the acts to be performed by the Plan Administrator under these terms and conditions. Upon any such appointment of any agent for the purpose of receiving dividends and distributions, the Fund will be authorized to pay to such successor agent, for each Participant's account, all dividends and distributions payable on shares of the Fund held in the Participant's name or under the Plan for retention or application by such successor agent as provided in these terms and conditions.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

DIVIDEND REINVESTMENT PLAN

(UNAUDITED)

14. The Plan Administrator will at all times act in good faith and use its best efforts within reasonable limits to ensure its full and timely performance of all services to be performed by it under this Plan and to comply with applicable law, but assumes no responsibility and shall not be liable for loss or damage due to errors unless such error is caused by the Plan Administrator's negligence, bad faith, or willful misconduct or that of its employees or agents.

15. These terms and conditions shall be governed by the laws of the State of Maryland.

Adopted: November 18, 2010

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

INVESTMENT MANAGEMENT AGREEMENT APPROVAL DISCLOSURE

(UNAUDITED)

The Fund's Board of Directors (the Board) on March 30, 2016 approved the continuation of the Fund's Investment Management Agreement (the Agreement) with KA Fund Advisors, LLC (the Adviser) through March 31, 2017.

During the course of each year and in connection with their consideration of the continuation of the Agreement, the Board received various materials from the Adviser, including (i) information on the advisory personnel of the Adviser; (ii) information on the internal compliance procedures of the Adviser; (iii) comparative information showing how the Fund's fees and expenses compare to other registered investment companies that follow investment strategies similar to those of the Fund; (iv) information regarding brokerage and portfolio transactions; (v) comparative information showing how the Fund's performance compares to other registered investment companies that follow investment strategies similar to those of the Fund; and (vi) information on any material legal proceedings or regulatory audits or investigations affecting the Fund or the Adviser.

After receiving and reviewing these materials, the Board, at an in-person meeting called for such purpose (the Meeting), discussed the terms of the Agreement. Representatives from the Adviser attended the Meeting and presented additional oral and written information to the Board to assist in its considerations. The Directors who are not parties to the Agreement or interested persons (as defined in the Investment Company Act of 1940, as amended) of any such party (the Independent Directors) also met in executive session to further discuss the terms of the Agreement and the information provided by the Adviser.

Discussed below are certain of the factors considered by the Board in continuing the Agreement. This discussion is not intended to be all-inclusive. The Board, including the Independent Directors, reviewed a variety of factors and considered a significant amount of information, including information received on an ongoing basis at Board and committee meetings and in various discussions with senior management of the Adviser relating specifically to the Adviser and the Agreement. The approval determination was made on the basis of each Director's business judgment after consideration of all the information taken as a whole. Individual Directors may have given different weight to certain factors and assigned various degrees of materiality to information received in connection with the contract review process.

Taking all of the information and deliberations into account, the Independent Directors reviewed various factors presented to them, the detailed information provided by the Adviser at the Meeting and at other times throughout the year, and other relevant information and the following factors, none of which was dispositive in their decision whether to approve the Agreement:

The nature, extent, and quality of the services to be provided by the Adviser

The Board, including the Independent Directors, considered the scope and quality of services that have been provided by the Adviser under the Agreement. The Board, including the Independent Directors, considered the quality of the investment research capabilities of the Adviser and the other resources the Adviser has dedicated to performing services for the Fund, including the high caliber of portfolio managers and research analysts involved, the large and experienced team of investment, accounting, legal, trading and compliance professionals at the Adviser dedicated to the Fund, and the continued maintenance of such team despite the recent decline in the energy sector and an associated reduction in management fees received by the Adviser. The Board, including the Independent Directors, also considered the quality of other services, including the Adviser's assistance in the coordination of the activities of some of the Fund's other service providers, the provision of certain administrative, compliance, reporting and financial services by the Adviser, the prudent use of call options and the responsible handling of the Fund's leverage ratios and distribution determinations during declining and volatile energy markets. The Board, including the Independent Directors, took note of the Adviser's excellent track records in identifying and executing on key investment themes and in sourcing and negotiating private investments for the Fund as well as the Fund's access to investments and capital markets due in part to the Adviser's credibility with institutional investors. The Board, including the Independent Directors, also

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

INVESTMENT MANAGEMENT AGREEMENT APPROVAL DISCLOSURE

(UNAUDITED)

considered the nature and quality of the services provided by the Adviser to the Fund in light of their experience as Directors of the Fund, their confidence in the Adviser's integrity and competence gained from that experience and the Adviser's responsiveness to questions, concerns or requests for information raised or made by them in the past. The Board, including the Independent Directors, noted the high quality of services provided by the Adviser during periods when the market faces significant turmoil, including various current market challenges as well as the Adviser's efforts to maximize returns and its leadership position in the markets in which it invests. The Board, including the Independent Directors, discussed the scope of responsibilities of, and resources expected to be available to, the key investment management and other personnel of the Adviser. Based on information provided by the Adviser, the Independent Directors concluded that the Adviser has the quality and depth of personnel and investment methods essential to performing its duties under the Agreement, and should be able to sustain that quality and depth, and that the nature and the proposed cost of such advisory services would be fair and reasonable in light of the services expected to be provided.

The Fund's performance under the management of the Adviser

The Independent Directors reviewed information pertaining to the performance of the Fund. These data compared the Fund's performance to the performance of certain other registered investment companies that follow investment strategies similar to those of the Fund as well as its benchmark. The comparative information showed that the performance of the Fund is satisfactory on an overall basis compared to other similar closed-end funds for various periods despite certain periods of lower relative performance against applicable peer groups. Based upon their review and consideration of applicable securities price indices, the Independent Directors concluded that the Fund's investment performance over time has been satisfactory compared to other closed-end funds that focus on investments in energy-related master limited partnerships (MLPs) and other energy companies, as applicable, and that the Fund has generated strong returns for investors over various periods. The Independent Directors noted that in addition to the information received for the Meeting, the Independent Directors also receive detailed performance information for the Fund at each regular meeting of the Board during the year. The Independent Directors considered the investment performance of other closed-end investment companies managed by the Adviser, but noted that they are not directly comparable. The Independent Directors did not consider the performance of other accounts of the Adviser because there were no accounts similar enough to be relevant for performance purposes.

The reasonability of the management fee and fall-out benefits

The Independent Directors considered the Fund's management fee under the Agreement in comparison to the management fees of funds within the Fund's peer group. The Independent Directors also considered the greater risks and burdens associated with managing the Fund compared to private funds and separate accounts. The Adviser's successful handling of past and recent market downturns and related leverage challenges, the administrative burden resulting from the Fund's tax complexities, the Fund's lower level of operating expenses (other than management fees), the Fund's participation in private investments, particularly PIPE transactions, the Adviser's long standing relationships with management teams in the energy space, and the Adviser's track record for successful pricing and timing strategies related to capital raising for the Fund were also noted by the Independent Directors as relevant considerations in evaluating the reasonableness of the management fee rate. The Independent Directors also discussed and are comfortable with the different contractual fee rates for the Fund and other closed-end companies managed by the Adviser given differences in strategies and investments, and the relatively stronger and deeper management expertise and resources of the Adviser. Based on those comparisons, the Independent Directors concluded that the management fee for the Fund remains reasonable.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

INVESTMENT MANAGEMENT AGREEMENT APPROVAL DISCLOSURE

(UNAUDITED)

The extent to which economies of scale would be realized as the Fund grows and whether fee levels reflect these economies of scale for the benefit of stockholders

The Independent Directors considered economies of scale that are being enjoyed by stockholders of the Fund. In this regard, they noted the extent to which operating expenses declined over the past several years and noted that the Adviser added professionals to its already robust and high-quality team, both of which represented a sharing of those economies of scale. The Independent Directors also considered further possible economies of scale that the Adviser could achieve in its management of the Fund. They considered the information provided by the Adviser relating to the Fund's operating expenses and information comparing the fee rate charged by the Adviser with fee rates charged by other unaffiliated investment advisers to their investment company clients. The Independent Directors also considered the Adviser's commitment to retaining its current professional staff in a competitive environment for investment and compliance professionals, and in light of reduced management revenues from weaker energy markets. The Independent Directors concluded that the fee structure for the Fund is reasonable in view of the information provided by the Adviser. The Independent Directors then noted that they would continue to monitor and review further growth of the Fund in order to remain comfortable with the fee structure after any applicable future economies of scale.

Conclusion

Based on the review by the Board, including its consideration of each of the factors discussed above and the materials requested from and provided by the Adviser, the Board concluded, in agreement with the recommendation of the Independent Directors, that the Fund and its stockholders received reasonable value in return for the management fees and other amounts paid to the Adviser by the Fund under the Agreement, that stockholders could expect to receive reasonable value in return for the management fees and other amounts proposed to be paid to the Adviser by the Fund under the Agreement and that the approval of the continuation of the Agreement was in the best interests of stockholders of the Fund.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

PROXY VOTING AND PORTFOLIO HOLDINGS INFORMATION

(UNAUDITED)

The policies and procedures that the Fund uses to determine how to vote proxies relating to its portfolio securities are available:

without charge, upon request, by calling (877) 657-3863/MLP-FUND;

on the Fund's website, <http://www.kaynefunds.com>; and

on the SEC's website, <http://www.sec.gov>.

Information regarding how the Fund voted proxies relating to portfolio securities during the most recent 12-month period ended June 30 is available without charge, upon request, by calling (877) 657-3863/MLP-FUND, and on the SEC's website at <http://www.sec.gov> (see Form N-PX).

The Fund files a complete schedule of its portfolio holdings for the first and third quarters of each of its fiscal years with the SEC on Form N-Q and Form N-30B-2. The Fund's Form N-Q and Form N-30B-2 are available on the SEC's website at <http://www.sec.gov> and may be reviewed and copied at the SEC's Public Reference Room in Washington, DC. Information on the operation of the SEC's Public Reference Room may be obtained by calling 1-800-SEC-0330. The Fund also makes its Form N-Q and Form N-30B-2 available on its website at <http://www.kaynefunds.com>.

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.

Table of Contents

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

RESULTS OF ANNUAL MEETING OF STOCKHOLDERS

(UNAUDITED)

On June 23, 2016, the Fund held its annual meeting of stockholders where the following matters were approved by stockholders. As of the record date of May 6, 2016 (the Record Date), the Fund had 22,034,170 outstanding shares of common stock and 1,400,000 outstanding shares of mandatory redeemable preferred stock, each of which was entitled to cast one vote. Represented in person or by proxy at this meeting were a total of 21,084,824 shares of common stock and mandatory redeemable preferred stock, constituting a quorum.

- (i) The election of William R. Cordes and Albert L. Richey as directors, each to serve for a term of three years until the Fund's 2019 annual meeting of stockholders and until his or her successor is duly elected and qualified.
 - (a) The election of Mr. Cordes required the affirmative vote of the holders of a majority of the Fund's common stock and mandatory redeemable preferred stock outstanding as of the Record Date, voting together as a single class. On this matter, 20,418,918 shares were cast in favor, 487,929 shares were cast against, and 177,975 withheld authority in the election of Mr. Cordes.
 - (b) The election of Mr. Richey required the affirmative vote of the holders of a majority of the Fund's mandatory redeemable preferred stock outstanding as of the Record Date. On this matter, 1,050,000 shares were cast in favor, no shares were cast against, and no shares withheld authority in the election of Mr. Richey.

As a result of the vote on this matter, Mr. Cordes and Mr. Richey were each elected to serve as director of the Fund for a three-year term.

- (ii) The ratification of PricewaterhouseCoopers LLP as the Fund's independent registered public accounting firm for the fiscal year ending November 30, 2016.

The approval of this proposal required the affirmative vote of a majority of the votes cast by the holders of the Fund's common stock and mandatory redeemable preferred stock outstanding as of the Record Date, voting together as a single class. For purposes of the vote on this proposal, abstentions and broker non-votes will not be counted as votes cast and will have no effect on the result of the vote.

On this matter, 20,819,145 shares were cast in favor, 166,103 shares were cast against, 99,576 shares abstained, and there were no broker non-votes.

As a result of the vote on this matter, the proposal was approved.

Table of Contents

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

KA Fund Advisors, LLC
811 Main Street, 14th Floor
Houston, TX 77002

1800 Avenue of the Stars, Third Floor
Los Angeles, CA 90067

Administrator

Ultimus Fund Solutions, LLC
225 Pictoria Drive, Suite 450
Cincinnati, OH 45246

Stock Transfer Agent and Registrar

American Stock Transfer & Trust Company, LLC
6201 15th Avenue
Brooklyn, NY 11219

(888) 888-0317

Custodian

JPMorgan Chase Bank, N.A.
14201 North Dallas Parkway, Second Floor
Dallas, TX 75254

Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP
601 S. Figueroa Street, Suite 900
Los Angeles, CA 90017

Legal Counsel

Paul Hastings LLP
55 Second Street, 24th Floor
San Francisco, CA 94105

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.

Table of Contents

Item 2. Code of Ethics.

Not applicable.

Item 3. Audit Committee Financial Expert.

Not applicable.

Item 4. Principal Accountant Fees and Services.

Not applicable.

Item 5. Audit Committee of Listed Registrants.

Not applicable.

Item 6. Investments.

(a) Please see the schedule of investments contained in the KMF Semi-Annual Report for the six months ended May 31, 2016 included under Item 1 of this Form N-CSR.

(b) Not applicable.

Item 7. Disclosure of Proxy Voting Policies and Procedures for Closed-End Management Investment Companies.

Not applicable.

Item 8. Portfolio Managers of Closed-End Management Investment Companies.

Not applicable.

Item 9. Purchases of Equity Securities by Closed-End Management Investment Company and Affiliated Purchasers.

None.

Item 10. Submission of Matters to a Vote of Security Holders.

None.

Item 11. Controls and Procedures.

(a) The Registrant's principal executive officer and principal financial officer have evaluated the Registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the "1940 Act")), as of a date within 90 days of the filing date of this report and have concluded that the Registrant's disclosure controls and procedures are effective, as of such date, based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13a-15(b) or 15d-15(b) under the Securities Exchange Act of 1934, as amended.

(b) There were no changes in the Registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act) that occurred during the second fiscal quarter of the period covered by this report that have materially affected, or are reasonably likely to materially affect, the Registrant's internal control over financial reporting.

Table of Contents

Item 12. Exhibits.

(a)(1) Not applicable to semi-annual reports.

(a)(2) Separate certifications of Principal Executive Officer and Principal Financial Officer of the Registrant pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 attached hereto as EX-99.CERT.

(b) Certification of Principal Executive Officer and Principal Financial Officer of the Registrant pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 attached hereto as EX-99.906 CERT.

Table of Contents

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

KAYNE ANDERSON MIDSTREAM/ENERGY
FUND, INC.

Date: July 20, 2016

By: /s/ KEVIN S. McCARTHY
Kevin S. McCarthy
Chairman of the Board of Directors
and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Date: July 20, 2016

By: /s/ KEVIN S. McCARTHY
Kevin S. McCarthy
Chairman of the Board of Directors
and Chief Executive Officer

Date: July 20, 2016

By: /s/ TERRY A. HART
Terry A. Hart
Chief Financial Officer and Treasurer

Table of Contents

Exhibit Index

(a)(1) Not applicable to semi-annual reports.

(a)(2) Separate certifications of Principal Executive Officer and Principal Financial Officer of the Registrant pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 attached hereto as EX-99.CERT.

(b) Certification of Principal Executive Officer and Principal Financial Officer of the Registrant pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 attached hereto as EX-99.906 CERT.