

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

Form N-30B-2

April 27, 2012

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Midstream/Energy Fund

KMF Quarterly Report

February 29, 2012

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

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

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

Our investment objective is to provide a high level of total return with an emphasis on making quarterly cash distributions to our stockholders. We seek to achieve that investment objective by investing at least 80% of our total assets in the securities of companies in the Midstream/Energy Sector, consisting of (a) Midstream MLPs, (b) Midstream Companies, (c) Other MLPs and (d) Other Energy Companies. We anticipate that the majority of our investments will consist of investments in Midstream MLPs and Midstream Companies. Please see the Glossary on page 29 for description of these investment categories.

As of February 29, 2012, we had total assets of \$873.1 million, net assets applicable to our common stock of \$634.9 million (net assets per share of \$29.18), and 21.8 million shares of common stock outstanding. As of February 29, 2012, we held \$722.1 million in equity investments and \$134.0 million in debt investments.

Recent Events

On March 22, 2012, we completed a private placement with institutional investors of \$50.0 million of senior unsecured notes and \$30.0 million of mandatory redeemable preferred stock. The net proceeds from the offerings were used to repay borrowings under our senior unsecured revolving credit facility (the Credit Facility). Remaining proceeds were used to make new portfolio investments and for general corporate purposes.

Our Top Ten Portfolio Investments as of February 29, 2012

Listed below are our top ten portfolio investments by issuer as of February 29, 2012.

Rank	Holding	Sector	Amount (\$ millions)	Percent of Long-Term Investments
1.	The Williams Companies, Inc.	Midstream Company	\$ 78.8	9.2%
2.	Kinder Morgan Management, LLC	MLP Affiliate	66.0	7.7
3.	Kinder Morgan, Inc.	Midstream Company	50.2	5.9
4.	El Paso Corporation	Midstream Company	43.8	5.1
5.	Enbridge Energy Management, L.L.C.	MLP Affiliate	33.7	3.9
6.	Buckeye Partners, L.P.	Midstream MLP	30.5	3.6
7.	Targa Resources Corp.	Midstream Company	25.7	3.0
8.	Spectra Energy Corp.	Midstream Company	25.7	3.0
9.	Golar LNG Partners LP	Midstream Company	23.9	2.8
10.	ONEOK, Inc.	Midstream Company	22.6	2.6
			\$ 400.9	46.8%

Results of Operations For the Three Months Ended February 29, 2012

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Investment Income. Investment income totaled \$6.0 million and consisted primarily of net dividends and distributions and interest income on our investments. Interest income was \$2.7 million, and we received \$7.1 million of cash dividends and distributions, of which \$3.8 million was treated as return of capital during the quarter. During the quarter, we received \$1.9 million of paid-in-kind dividends, which are not included in investment income, but are reflected as an unrealized gain.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

MANAGEMENT DISCUSSION

(UNAUDITED)

Operating Expenses. Operating expenses totaled \$5.1 million, including \$2.5 million of investment management fees, \$1.7 million of interest expense (including non-cash amortization of debt issuance costs of \$0.1 million), and \$0.4 million of other operating expenses. Management fees are calculated based on the average total assets under management. Preferred stock distributions for the quarter were \$0.5 million.

Net Investment Income. Our net investment income totaled \$0.9 million.

Net Realized Losses. We had net realized losses of \$4.4 million, which includes \$0.8 million of net realized gains from option activity.

Net Change in Unrealized Gains. We had a net change in unrealized gains of \$83.2 million. The net change consisted of \$83.1 million of unrealized gains from investments and \$0.1 million of net unrealized gains from option activity.

Net Increase in Net Assets Resulting from Operations. We had an increase in net assets resulting from operations of \$79.7 million. This increase was composed of net investment income of \$0.9 million; net realized losses of \$4.4 million; and net change in unrealized gains of \$83.2 million, as noted above.

Distribution to Common Stockholders

We pay quarterly distributions to our common stockholders, funded in part 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, (b) other expenses (mostly attributable to fees paid to other service providers) and (c) interest expense and preferred stock distributions.

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

(amounts in millions, except for per share amounts)

	Three Months Ended February 29, 2012
Distributions and Other Income from Investments	
Dividends and Distributions	\$ 7.1
Paid-In-Kind Dividends and Distributions	1.9
Interest and Other Income	2.7
Net Premiums Received from Call Options Written	2.4
 Total Distributions and Other Income from Investments	 14.1
Expenses	
Investment Management Fee, net of Fee Waiver	(2.5)
Other Expenses	(0.4)
 Total Management Fee and Other Expenses	 (2.9)
Interest Expense	(1.6)
Preferred Stock Distributions	(0.5)
 Net Distributable Income (NDI)	 \$ 9.1
 Weighted Shares Outstanding	 21.7
NDI per Weighted Share Outstanding	\$ 0.42
 Distributions paid per Common Share⁽¹⁾	 \$ 0.425

(1) The distribution of \$0.425 per share for the first quarter of fiscal 2012 was paid to common stockholders on April 26, 2012. 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. In determining our quarterly distribution to common stockholders, our Board of Directors considers a number of factors that include, but are not limited to:

NDI generated in the current quarter;

Expected NDI over the next twelve months, and

Realized and unrealized gains generated by the portfolio.

On March 28, 2012, we declared our quarterly distribution of \$0.425 per common share for the fiscal first quarter for a total of \$9.2 million. The distribution was paid on April 26, 2012 to common stockholders of record on April 20, 2012.

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 dividends paid-in-kind, 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.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

MANAGEMENT DISCUSSION

(UNAUDITED)

Many 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 fee that we received, thereby generating a profit. The amount we received from selling call options, less the amount that we pay to repurchase such call option contracts, is included in NDI. For GAAP purposes, premiums received from call option contracts sold is 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 mandatory redeemable preferred stock for GAAP purposes, but is excluded from our calculation of NDI.

Liquidity and Capital Resources

Total leverage outstanding at February 29, 2012 of \$223.0 million was comprised of \$115.0 million of senior unsecured notes (the Senior Notes), \$35.0 million of mandatory redeemable preferred stock and \$73.0 million outstanding under our Credit Facility. Total leverage represented 26% of total assets at February 29, 2012. As of April, 25, 2012, we had \$42.0 million borrowed under our Credit Facility, and we had \$9.5 million of cash.

The Credit Facility has a \$100.0 million commitment maturing on January 20, 2014. The interest rate may vary between LIBOR plus 1.75% to LIBOR plus 2.25%, depending on our asset coverage ratios. Outstanding loan balances will accrue interest daily at a rate equal to one-month LIBOR plus 1.75%, based on current asset coverage ratios. We will pay a commitment fee of 0.35% per annum on any unused amounts of the Credit Facility. A full copy of the Credit Facility is available on our website www.kaynefunds.com.

At February 29, 2012, our asset coverage ratios under the Investment Company Act of 1940, as amended (the 1940 Act), were 456% and 385% for debt and total leverage (debt plus preferred stock), respectively. We currently target an asset coverage ratio with respect to our debt of 400%, but at times may be above or below our target depending on market conditions.

At February 29, 2012, we had \$115.0 million of Senior Notes outstanding, which mature in 2016 and 2018. As of the same date, we had \$35.0 million of mandatory redeemable preferred stock, which is subject to mandatory redemption in 2018. See Recent Events for an update on our leverage.

Our leverage, at February 29, 2012, consisted of both fixed rate (67%) and floating rate (33%) obligations. At such date, the weighted average interest rate on our leverage was 3.88%.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****SCHEDULE OF INVESTMENTS****FEBRUARY 29, 2012****(amounts in 000 s, except number of option contracts)****(UNAUDITED)**

Description	No. of Shares/Units	Value
Long-Term Investments 134.8%		
Equity Investments⁽¹⁾ 113.7%		
United States 111.2%		
Midstream Company⁽²⁾ 53.4%		
Capital Product Partners L.P. ⁽³⁾	1,354	\$ 10,115
CenterPoint Energy, Inc.	637	12,419
El Paso Corporation	1,576	43,829
Golar LNG Partners LP ⁽³⁾	641	23,860
Kinder Morgan, Inc.	1,425	50,213
Kirby Corporation	71	4,899
NiSource Inc.	125	3,000
ONEOK, Inc. ⁽⁴⁾	273	22,581
Spectra Energy Corp.	819	25,694
Sunoco, Inc. ⁽⁴⁾	414	16,000
Targa Resources Corp. ⁽⁴⁾	578	25,702
Teekay Offshore Partners L.P. ⁽³⁾	734	21,563
The Williams Companies, Inc. ⁽⁴⁾	2,639	78,846
		338,721
Midstream MLP⁽²⁾⁽⁵⁾⁽⁶⁾ 48.2%		
Buckeye Partners, L.P.	248	14,851
Buckeye Partners, L.P. Class B Units ⁽⁷⁾⁽⁸⁾	288	15,694
Chesapeake Midstream Partners, L.P.	222	6,326
Crestwood Midstream Partners LP	182	5,243
Crestwood Midstream Partners LP Class C Units ⁽⁷⁾⁽⁸⁾	175	4,614
DCP Midstream Partners, LP ⁽⁴⁾	165	8,030
Enbridge Energy Management, L.L.C. ⁽⁸⁾⁽⁹⁾	997	33,671
Energy Transfer Equity, L.P.	287	12,461
Energy Transfer Partners, L.P. ⁽⁴⁾	384	18,179
Enterprise Products Partners L.P. ⁽⁴⁾	61	3,186
Exterran Partners, L.P.	387	9,141
Global Partners LP	351	7,717
Inergy Midstream, L.P.	211	4,471
Kinder Morgan Management, LLC ⁽⁴⁾⁽⁸⁾⁽⁹⁾	823	66,018
MarkWest Energy Partners, L.P. ⁽⁴⁾	96	5,724
Niska Gas Storage Partners LLC	28	261
NuStar Energy L.P.	24	1,447
PAA Natural Gas Storage, L.P.	703	13,491
Penn Virginia Resource Partners, L.P.	387	9,663
Plains All American GP LLC Unregistered ⁽⁴⁾⁽⁹⁾⁽¹⁰⁾	7	13,635
Plains All American Pipeline, L.P. ⁽¹⁰⁾	198	16,371

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Regency Energy Partners L.P.	740	19,597
Targa Resources Partners L.P. ⁽⁴⁾	126	5,373
TC PipeLines, LP	77	3,582
Teekay LNG Partners L.P.	71	2,775
Tesoro Logistics LP	128	4,661

306,182

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****SCHEDULE OF INVESTMENTS****FEBRUARY 29, 2012****(amounts in 000 s, except number of option contracts)****(UNAUDITED)**

Description	No. of Shares/Units	Value
Other Energy 6.0%		
Chesapeake Granite Wash Trust ⁽¹¹⁾	9	\$ 247
Enduro Royalty Trust	2	50
OGE Energy Corp.	388	20,352
PPL Corporation 9.50% Preferred Shares ⁽²⁾	155	8,519
SandRidge Permian Trust ⁽¹¹⁾	278	6,736
SunCoke Energy, Inc. ⁽¹³⁾	63	905
The Southern Company	32	1,419
		38,228
Other 1.9%		
Navios Maritime Partners L.P. ⁽³⁾	538	8,616
Seaspan Corporation 9.50% Preferred Shares	134	3,646
		12,262
Other MLP⁽⁶⁾ 1.7%		
Alliance Holdings GP, L.P.	13	669
BreitBurn Energy Partners L.P.	197	3,719
Inergy, L.P.	362	6,324
		10,712
Total United States (Cost \$587,221)		706,105
Canada 2.5%		
Midstream Company⁽²⁾ 2.5%		
Keyera Corp.	59	2,508
Pembina Pipeline Corporation	223	6,312
Provident Energy Ltd.	253	7,180
Total Canada (Cost \$13,857)		16,000
Total Equity Investments (Cost \$601,078)		722,105
	Interest Rate	Maturity Date
Debt Instruments 21.1%		Principal Amount
United States 17.9%		
Upstream 7.8%		

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Antero Resources LLC	9.375%	12/1/17	\$ 250	276
Carrizo Oil & Gas, Inc.	8.625	10/15/18	14,835	15,503
Chaparral Energy, Inc.	9.875	10/1/20	5,500	6,215
Chaparral Energy, Inc.	8.250	9/1/21	500	558
Clayton Williams Energy Inc.	7.750	4/1/19	10,496	10,549
Comstock Resources, Inc.	7.750	4/1/19	5,000	4,650
Kodiak Oil & Gas Corp.	8.125	12/1/19	750	803
Laredo Petroleum, Inc.	9.500	2/15/19	1,500	1,661
Petroleum Development Corporation	12.000	2/15/18	8,750	9,581
				49,796

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****SCHEDULE OF INVESTMENTS****FEBRUARY 29, 2012****(amounts in 000 s, except number of option contracts)****(UNAUDITED)**

Description	Interest Rate	Maturity Date	Principal Amount	Value
Other 4.0%				
Navios Maritime Holdings Inc.	8.125%	2/15/19	\$ 10,000	\$ 8,100
PBF Holding Company LLC	8.250	2/15/20	17,250	17,336
				25,436
Midstream⁽²⁾ 3.5%				
Crestwood Holdings Partners, LLC	(14)	10/1/16	5,951	6,070
Navios Maritime Acquisition Corporation	8.625	11/1/17	7,945	6,654
Teekay Corporation	8.500	1/15/20	9,325	9,581
				22,305
Coal 2.6%				
Foresight Energy LLC	9.625	8/15/17	15,233	16,299
Total United States (Cost \$115,446)				113,836
Canada 3.2%				
Upstream 3.2%				
Lone Pine Resources Inc.	10.375	2/15/17	750	788
Paramount Resources Ltd.	8.250	12/13/17	(15) ¹	7,620
Southern Pacific Resource Corp.	(16)	1/15/16	11,489	11,719
Total Canada (Cost \$19,293)				20,127
Total Debt Investments (Cost \$134,739)				133,963
Total Long-Term Investments (Cost \$735,817)				856,068
			No. of Contracts	
Liabilities				
Call Option Contracts Written⁽¹³⁾				
Midstream Company				
ONEOK, Inc., call options expiring 4/20/12 @ \$82.50			(1,000)	(222)
ONEOK, Inc., call options expiring 4/20/12 @ \$85.00			(450)	(47)
Sunoco, Inc., call options expiring 3/16/12 @ \$40.00			(650)	(18)
Targa Resources Corp., call options expiring 3/16/12 @ \$43.00			(400)	(74)
Targa Resources Corp., call options expiring 3/16/12 @ \$48.00			(50)	(3)
The Williams Companies, Inc., call options expiring 4/20/12 @ \$29.00			(2,800)	(370)

(734)

Midstream MLP

DCP Midstream Partners, LP, call options expiring 3/16/12 @ \$50.00	(200)	(4)
Energy Transfer Partners, L.P., call options expiring 3/16/12 @ \$47.50	(1,000)	(51)
Enterprise Products Partners L.P., call options expiring 3/16/12 @ \$50.00	(550)	(115)
Kinder Morgan Management, LLC, call options expiring 3/16/12 @ \$80.00	(520)	(29)
MarkWest Energy Partners, L.P., call options expiring 3/16/12 @ \$57.50	(250)	(68)
MarkWest Energy Partners, L.P., call options expiring 3/16/12 @ \$60.00	(250)	(16)
Targa Resources Partners L.P., call options expiring 3/16/12 @ \$41.00	(600)	(102)

(385)

Total Call Option Contracts Written (Premiums Received \$937)

(1,119)

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****SCHEDULE OF INVESTMENTS****FEBRUARY 29, 2012****(amounts in 000 s, except number of option contracts)****(UNAUDITED)**

Description	Value
Revolving Credit Facility	\$ (73,000)
Senior Unsecured Notes	(115,000)
Mandatory Redeemable Preferred Stock at Liquidation Value	(35,000)
Other Liabilities	(14,078)
Total Liabilities	(238,197)
Other Assets	17,036
Total Liabilities in Excess of Other Assets	(221,161)
Net Assets Applicable to Common Stockholders	\$ 634,907

- (1) Unless otherwise noted, equity investments are common units/common shares.
- (2) Securities are categorized as Midstream if they are Midstream Companies or Midstream MLPs as defined in the Glossary.
- (3) This company is structured like an MLP but is not treated as a publicly-traded partnership for RIC qualification purposes.
- (4) Security or a portion thereof is segregated as collateral on option contracts written.
- (5) Includes limited liability companies.
- (6) Unless otherwise noted, securities are treated as a publicly-traded partnership for regulated investment company (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 less than 25% of its total assets invested in publicly traded partnerships at February 29, 2012. It is the Fund's intention to be treated as a RIC for tax purposes.
- (7) Fair valued securities, restricted from public sale. See Notes 2, 3 and 7 in Notes to Financial Statements.
- (8) Distributions are paid-in-kind.

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- (9) Security is not treated as a publicly-traded partnership for RIC qualification purposes.
- (10) The Fund believes that it is an affiliate of Plains All American GP LLC and Plains All American Pipeline, L.P. See Note 6 Agreements and Affiliations.
- (11) Security is treated as a publicly-traded partnership for RIC qualification purposes.
- (12) Security is mandatorily convertible to common shares of PPL Corporation and consists of a purchase contract for a beneficial ownership interest in PPL Capital Funding, Inc. s 4.625% junior subordinated notes and a quarterly payment of 4.875% per annum of the \$50 per share stated amount of the security.
- (13) Security is non-income producing.
- (14) Floating rate first lien senior secured term loan. Security pays interest at a rate of LIBOR + 850 basis points with a 2% LIBOR floor (10.50% as of February 29, 2012).
- (15) Principal amount is 7,250 Canadian dollars.
- (16) Floating rate second lien senior secured term loan. Security pays interest at base rate + 750 basis points (10.75% as of February 29, 2012).

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****STATEMENT OF ASSETS AND LIABILITIES****FEBRUARY 29, 2012****(amounts in 000 s, except share and per share amounts)****(UNAUDITED)****ASSETS**

Investments, at fair value:	
Non-affiliated (Cost \$714,166)	\$ 826,062
Affiliated (Cost \$21,651)	30,006
Total investments (Cost \$735,817)	856,068
Cash	11,151
Deposits with brokers	314
Receivable for securities sold	650
Interest, dividends and distributions receivable (Cost \$2,917)	2,920
Deferred debt issuance and preferred stock offering costs and other assets	2,001
Total Assets	873,104

LIABILITIES

Revolving credit facility	73,000
Payable for securities purchased	9,783
Investment management fee payable	829
Call option contracts written (Premiums received \$937)	1,119
Accrued directors' fees and expenses	48
Accrued expenses and other liabilities	3,418
Senior unsecured notes	115,000
Mandatory redeemable preferred stock, \$25.00 liquidation value per share (1,400,000 shares issued and outstanding)	35,000
Total Liabilities	238,197

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS \$ 634,907**NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS CONSIST OF**

Common stock, \$0.001 par value (21,755,773 shares issued and outstanding and 198,600,000 shares authorized)	\$ 22
Paid-in capital	508,800
Accumulated net investment income less distributions not treated as tax return of capital	4,163
Accumulated net realized gains	1,874
Net unrealized gains	120,048

NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS \$ 634,907**NET ASSET VALUE PER COMMON SHARE** \$ 29.18

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****STATEMENT OF OPERATIONS****FOR THE THREE MONTHS ENDED FEBRUARY 29, 2012****(amounts in 000 s)****(UNAUDITED)**

INVESTMENT INCOME	
Income	
Dividends and distributions:	
Non-affiliated investments	\$ 6,735
Affiliated investments	390
Total dividends and distributions (after foreign taxes withheld of \$13)	7,125
Return of capital	(3,862)
Net dividends and distributions	3,263
Interest and other income	2,725
Total investment income	5,988
Expenses	
Investment management fees	2,493
Professional fees	120
Administration fees	62
Directors' fees and expenses	51
Reports to stockholders	37
Custodian fees	27
Insurance	22
Other expenses	106
Total expenses before interest expense and preferred distributions	2,918
Interest expense and amortization of debt issuance costs	1,742
Distributions on mandatory redeemable preferred stock and amortization of offering costs	484
Total expenses	5,144
Net Investment Income	844
REALIZED AND UNREALIZED GAINS (LOSSES)	
Net Realized Gains (Losses)	
Investments non-affiliated	(5,127)
Foreign currency transactions	(5)
Options	764
Net Realized Loss	(4,368)
Net Change in Unrealized Gains (Losses)	
Investments non-affiliated	77,482
Investments affiliated	5,677

Foreign currency translations	(24)
Options	100
Net Change in Unrealized Gains	83,235
Net Realized and Unrealized Gains	78,867
NET INCREASE IN NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS RESULTING FROM OPERATIONS	\$ 79,711

See accompanying notes to financial statements.

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(amounts in 000 s, except share amounts)

	For the Three Months Ended February 29, 2012 (Unaudited)	For the Fiscal Year Ended November 30, 2011
OPERATIONS		
Net investment income	\$ 844	\$ 6,076
Net realized gains (losses)	(4,368)	29,038
Net change in unrealized gains	83,235	37,032
Net Increase in Net Assets Resulting from Operations	79,711	72,146
DIVIDENDS AND DISTRIBUTIONS TO COMMON STOCKHOLDERS⁽¹⁾		
Dividends	⁽²⁾	(25,608) ⁽³⁾
Distributions return of capital	(9,045) ⁽²⁾	⁽³⁾
Dividends and Distributions to Common Stockholders	(9,045)	(25,608)
CAPITAL STOCK TRANSACTIONS		
Proceeds from issuance of 2,300,000 shares of common stock in connection with exercise of over-allotment option		57,500
Underwriting discounts and offering expenses associated with the issuance of common stock		(2,703)
Issuance of 91,796 and 359,977 shares of common stock from reinvestment of dividends and distributions, respectively	2,197	8,426
Net Increase in Net Assets Applicable to Common Stockholders from Capital Stock Transactions	2,197	63,223
Total Increase in Net Assets Applicable to Common Stockholders	72,863	109,761
NET ASSETS APPLICABLE TO COMMON STOCKHOLDERS		
Beginning of period	562,044	452,283
End of period	\$ 634,907	\$ 562,044

(1) Distributions on the Fund's mandatory redeemable preferred stock are treated as an operating expense under GAAP and are included in the calculation of net investment income. See Note 2 Significant Accounting Policies. The Fund estimates that the distribution in the amount of \$466 paid to mandatory redeemable preferred stockholders during the three months ended February 29, 2012 will be a dividend (ordinary income). This estimate is based solely on the Fund's operating results during the period and does not reflect the expected result during the fiscal year. The actual characterization of the mandatory redeemable preferred stock distributions made during the period will not be determinable until after the end of the fiscal year when the Fund can determine earnings and profits. Therefore, the characterization may differ from the preliminary estimates. Distributions in the amount of \$1,397 paid to mandatory redeemable preferred stockholders for the fiscal year ended November 30, 2011 were characterized as dividend income. This characterization is based on the Fund's earnings and profits.

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- (2) This is an estimate of the characterization of the distributions paid to common stockholders for the three months ended February 29, 2012 as either a dividend (ordinary income) or distribution (return of capital). This estimate is based solely on the Fund's operating results during the period and does not reflect the expected result during the fiscal year. The actual characterization of the common stock distributions made during the current year will not be determinable until after the end of the fiscal year when the Fund can determine earnings and profits. Therefore, the characterization may differ from the preliminary estimates.

- (3) Distributions paid to common stockholders for the fiscal year ended November 30, 2011 are characterized as dividend income for such holders. This characterization is based on the Fund's earnings and profits.

See accompanying notes to financial statements.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****STATEMENT OF CASH FLOWS****FOR THE THREE MONTHS ENDED FEBRUARY 29, 2012**

(amounts in 000 s)

(UNAUDITED)

CASH FLOWS FROM OPERATING ACTIVITIES	
Net increase in net assets resulting from operations	\$ 79,711
Adjustments to reconcile net increase in net assets resulting from operations to net cash used in operating activities:	
Return of capital distributions	3,862
Net realized losses (excluding foreign currency transactions)	4,363
Net unrealized gains (excluding impact on cash of foreign currency translations)	(83,259)
Amortization of bond premiums, net	25
Purchase of long-term investments	(180,066)
Proceeds from sale of long-term investments	153,920
Increase in deposits with brokers	(64)
Decrease in receivable for securities sold	3,665
Decrease in interest, dividends and distributions receivable	259
Decrease in other assets, net	20
Amortization of deferred debt issuance costs	130
Amortization of mandatory redeemable preferred stock offering costs	18
Increase in payable for securities purchased	2,376
Increase in investment management fee payable	173
Increase in call option contracts written, net	158
Increase in accrued directors' fees and expenses	3
Increase in accrued expenses and other liabilities	1,175
Net Cash Used in Operating Activities	(13,531)
CASH FLOWS FROM FINANCING ACTIVITIES	
Proceeds from revolving credit facility	28,000
Cash distributions paid to common stockholders	(6,848)
Net Cash Provided by Financing Activities	21,152
NET INCREASE IN CASH	7,621
CASH BEGINNING OF PERIOD	3,530
CASH END OF PERIOD	\$ 11,151

Supplemental disclosure of cash flow information:

Non-cash financing activities not included herein consist of reinvestment of distributions of \$2,197 pursuant to the Fund's dividend reinvestment plan.

During the three months ended February 29, 2012, interest paid was \$346 and there were no income taxes paid.

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During the three months ended February 29, 2012, the Fund received \$1,948 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 Three Months Ended February 29, 2012 (Unaudited)	For the Fiscal Year Ended November 30, 2011	For the Period November 24, 2010 ⁽¹⁾ Through November 30, 2010
Per Share of Common Stock⁽²⁾			
Net asset value, beginning of period	\$ 25.94	\$ 23.80	\$ 23.83 ⁽³⁾
Net investment income (loss) ⁽⁴⁾	0.04	0.29	(0.02)
Net realized and unrealized gains (losses)	3.63	3.12	(0.01)
Total income (loss) from operations	3.67	3.41	(0.03)
Common dividends ⁽⁵⁾		(1.20)	
Common distributions – return of capital ⁽⁶⁾	(0.42)		
Total dividends and distributions – common	(0.42)	(1.20)	
Effect of shares issued in reinvestment of dividends	(0.01)	(0.04)	
Effect of issuance of common stock		(0.03)	
Net asset value, end of period	\$ 29.18	\$ 25.94	\$ 23.80
Per share market value, end of period	\$ 26.74	\$ 22.46	\$ 25.00
Total investment return based on common stock market value ⁽⁶⁾	21.1% ⁽⁷⁾	(5.5)%	0.0% ⁽⁷⁾
Supplemental Data and Ratios⁽⁸⁾			
Net assets applicable to common stockholders, end of period	\$ 643,952	\$ 562,044	\$ 452,283
Ratio of expenses to average net assets			
Management fees ⁽⁹⁾	1.7%	1.6%	1.3%
Other expenses	0.3	0.3	0.3 ⁽¹⁰⁾
Subtotal	2.0	1.9	1.6
Interest expense and distributions on mandatory redeemable preferred stock ⁽⁴⁾	1.5	1.3	
Management fee waiver		(0.3)	(0.3)
Total expenses	3.5%	2.9%	1.3%
Ratio of net investment income (loss) to average net assets ⁽⁴⁾	0.6%	1.1%	(1.3)% ⁽¹⁰⁾
Net increase (decrease) in net assets applicable to common stockholders resulting from operations to average net assets	13.6% ⁽⁷⁾	13.4%	(0.1)% ⁽⁷⁾
Portfolio turnover rate	19.1% ⁽⁷⁾	74.1%	0.0% ⁽⁷⁾
Average net assets	\$ 584,384	\$ 537,044	\$ 452,775
Senior unsecured notes outstanding, end of period	115,000	115,000	
Revolving credit facility outstanding, end of period	73,000	45,000	
Mandatory redeemable preferred stock, end of period	35,000	35,000	
Average shares of common stock outstanding	21,711,389	21,273,512	19,004,000
Asset coverage of total debt ⁽¹¹⁾	456.3%	473.2%	

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Asset coverage of total leverage (debt and preferred stock) ⁽¹²⁾	384.7%	388.2%
Average amount of borrowings per share of common stock during the period ⁽²⁾	\$ 7.97	\$ 6.50

See accompanying notes to financial statements.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

FINANCIAL HIGHLIGHTS

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

- (1) Commencement of operations.
- (2) Based on average shares of common stock outstanding.
- (3) 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.
- (4) Distributions on the Fund's mandatory redeemable preferred stock are treated as an operating expense under GAAP and are included in the calculation of net investment income. See Note 2 Significant Accounting Policies.
- (5) The information presented for the three months ended February 29, 2012 is an estimate of the characterization of the distribution paid and is based on the Fund's operating results during the period. Total distributions paid to common stockholders for the fiscal year ended November 30, 2011 are characterized as dividend income for such holders and are based on the Fund's earnings and profits.
- (6) Total investment return 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.
- (7) Not annualized.
- (8) Unless otherwise noted, ratios are annualized.
- (9) Ratio reflects total management fee before waiver.
- (10) 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.
- (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 Senior Notes or any other senior securities representing indebtedness and mandatory redeemable preferred stock divided by the aggregate amount of Senior 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 revolving credit facility is considered a senior security 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 Senior Notes, any other senior securities representing indebtedness and preferred stock divided by the aggregate amount of Senior Notes, any other senior securities representing indebtedness and preferred stock. 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 mandatory redeemable preferred stock, 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 revolving credit facility is considered a senior security representing indebtedness.

See accompanying notes to financial statements.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOTES TO FINANCIAL STATEMENTS

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

(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 shares of common stock are listed on the New York Stock Exchange, Inc. (NYSE) under the symbol KMF.

2. Significant Accounting Policies

A. Use of Estimates The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (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 revenue 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 no less frequently than as of the last day of each month based on the most recent close of regular session trading on the NYSE, and makes its net asset value available for publication monthly. Currently, the Fund calculates its net asset value on a weekly basis. 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 liquidated 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. 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 are not available, fair market value will be based on prices of comparable securities. In certain cases, the Fund may not be able to purchase or sell debt securities at the quoted prices due to the lack of liquidity for these securities.

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 other portfolio security held by the Fund for which reliable market quotations are not readily available, valuations are determined in a manner that most fairly reflects fair value of the security on the

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOTES TO FINANCIAL STATEMENTS

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

(UNAUDITED)

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 KA Fund Advisors, LLC (KAFAs or the Adviser) who are responsible for the portfolio investments. The investments will be valued quarterly, unless a new investment is made during the quarter, in which case such investment is valued at the end of the month in which the investment was made.

Investment Team Valuation Documentation. Preliminary valuation conclusions will be determined by senior management of KAFAs. Such valuations are submitted to the Valuation Committee (a committee of the Fund's Board of Directors) or the Board of Directors on a monthly or quarterly basis, as appropriate, and stand for intervening periods of time.

Valuation Committee. The Valuation Committee meets to consider the valuations submitted by KAFAs (1) at the end of each month for new investments, if any, and (2) at the end of each quarter for existing investments. Between meetings of the Valuation Committee, a senior officer of KAFAs 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. No less than quarterly, a third-party valuation firm engaged by the Board of Directors reviews the valuation methodologies and calculations employed for these securities.

Board of Directors Determination. The Board of Directors meets quarterly to consider the valuations provided by KAFAs and the Valuation Committee, if applicable, 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.

Unless otherwise determined by the Board of Directors, securities that are convertible into or otherwise will become publicly traded (*e.g.*, through subsequent registration or expiration of a restriction on trading) are valued through the process described above, using a valuation based on the fair value of the publicly traded security less a discount. The discount is initially equal in amount to the discount negotiated at the time the purchase price is agreed to. 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.

As of February 29, 2012, the Fund held 5.3% of its net assets applicable to common stockholders (3.9% of total assets) in securities that were fair valued pursuant to the procedures adopted by the Board of Directors. The aggregate fair value of these securities at February 29, 2012 was \$33,943. See Note 7 Restricted Securities.

E. Repurchase Agreements The Fund has agreed, from time to time, 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 KAFAs 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. KAFAs 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. As of February 29, 2012,

the Fund did not have any repurchase agreements.

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

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOTES TO FINANCIAL STATEMENTS

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

(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 three months ended February 29, 2012, 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 short term 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 normally purchase call options in anticipation of an increase in the market value of securities of the type in which it may invest. 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).

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. NOTES TO FINANCIAL STATEMENTS**

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

(UNAUDITED)

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 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 these securities are purchased or sold (trade date). Realized gains and losses are reported on an identified cost basis.

I. *Return of Capital Estimates* Dividends and distributions received from the Fund's investments are comprised of income and return of capital. The payments made by MLPs 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 payment that is considered investment income and the amount that is considered a return of capital. Such estimates 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 following table sets forth (1) the components of total dividends and distributions, (2) the percentage of return of capital attributable to each category and (3) the estimated total return of capital portion of the dividends and distributions received from investments and the amounts that are attributable to net realized gains (losses) and net change in unrealized gains (losses). The return of capital portion of the dividends and distributions received is a reduction to investment income, results in an equivalent reduction in the cost basis of the associated investments, and increases net realized gains (losses) and net change in unrealized gains (losses).

	Three Months Ended February 29, 2012
Dividends from investments	\$ 3,250
Distributions from investments	3,888
Total dividends and distributions from investments (before foreign taxes withheld of \$13)	\$ 7,138
Dividends % return of capital	24%
Distributions % return of capital	90%
Total dividends and distributions % return of capital	54%
Return of capital attributable to net realized gains (losses)	\$ 2,430
Return of capital attributable to net change in unrealized gains (losses)	1,432
Total return of capital	\$ 3,862

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 three months ended February 29, 2012, the Fund did not have a reserve against interest income, since all interest income accrued is expected to be received.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****NOTES TO FINANCIAL STATEMENTS****(amount in 000 s, except number of option contracts, share and per share)****(UNAUDITED)**

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 receives paid-in-kind dividends in the form of additional units from its investments in Buckeye Partners, L.P. (Class B Units), Crestwood Midstream Partners LP (Class C Units), Enbridge Energy Management, L.L.C. and Kinder Morgan Management, LLC. During the three months ended February 29, 2012, the Fund received the following paid-in-kind dividends.

	Three Months Ended February 29, 2012
Buckeye Partners, L.P. (Class B Units)	\$ 293
Crestwood Midstream Partners LP (Class C Units)	84
Enbridge Energy Management, L.L.C.	509
Kinder Morgan Management, LLC	1,062
Total paid-in-kind dividends	\$ 1,948

K. Distributions to Stockholders Distributions to common stockholders are recorded on the ex-dividend date. Distributions to mandatory redeemable preferred stockholders are accrued on a daily basis as described in Note 12 Preferred Stock. As required by the Distinguishing Liabilities from Equity topic of the Financial Accounting Standards Board (FASB) Accounting Standards Codification, the Fund includes the accrued distributions on its mandatory redeemable preferred stock 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 mandatory redeemable preferred stock are treated as dividends or distributions.

The estimated characterization of the distributions paid to stockholders will be either a dividend (ordinary income) or distribution (return of capital). This estimate is based on the Fund's operating results during the period. The actual characterization of the stock distributions made during the current year will not be determinable until after the end of the fiscal year when the Fund can determine 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 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. As long as the Fund meets certain requirements that govern its source of income, diversification of assets and timely distribution of earnings to stockholders, the Fund will not be subject to U.S. federal income tax. See Note 4 Taxes.

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Dividend income received by the Fund from sources within Canada is subject to a 15% foreign withholding tax. Interest income on Canadian corporate obligations may be subject to a 10% withholding tax unless an exemption is met. The most common exemption available is for corporate bonds that have a tenor of at least

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOTES TO FINANCIAL STATEMENTS

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

(UNAUDITED)

5 years, provided that not more than 25% of the principal is repayable in the first five years and provided that the borrower and lender are not associated. Further, interest is exempt if derived from debt obligations guaranteed by the Canadian government.

The Accounting for Uncertainty in Income Taxes Topic of the FASB Accounting Standards Codification 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.

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. As of February 29, 2012, the Fund did not have any interest or penalties associated with the underpayment of any income taxes. All tax years since inception remain open and subject to examination by tax jurisdictions.

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.

3. Fair Value

As required by the Fair Value Measurement Topic of the FASB Accounting Standards Codification, 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.

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into the following three broad categories. Note that the valuation levels below are not necessarily an indication of the risk or liquidity associated with the underlying investment.

Level 1 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.

Table of Contents**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.****NOTES TO FINANCIAL STATEMENTS**

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

(UNAUDITED)

Level 2 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.

The following table presents the Fund's assets and liabilities measured at fair value on a recurring basis at February 29, 2012. The Fund presents these assets by security type and description on its Schedule of Investments.

	Total	Quoted Prices in Active Markets (Level 1)	Prices with Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
<u>Assets at Fair Value</u>				
Equity investments	\$ 722,105	\$ 688,162	\$	\$ 33,943
Debt investments	133,963		133,963	
Total assets at fair value	\$ 856,068	\$ 688,162	\$ 133,963	\$ 33,943
<u>Liabilities at Fair Value</u>				
Call option contracts written	\$ 1,119	\$	\$ 1,119	\$

For the three months ended February 29, 2012, there were no transfers between Level 1 and Level 2.

In May 2011, the FASB issued Accounting Standards Update (ASU) No. 2011-04 Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs which amends ASC Topic 820, Fair Value Measurement. 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 is effective for interim and annual periods beginning after December 15, 2011 and is applied prospectively. The Fund will adopt ASU No. 2011-04 in the fiscal second quarter of 2012, which is the Fund's first reportable period for which adoption is required. Management is currently evaluating this guidance and does not believe that the adoption of this guidance will have a material impact on the Fund's financial statements and disclosures.

The following table presents the Fund's assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) for the three months ended February 29, 2012.

	Equity Investments
Balance November 30, 2011	\$ 38,063
Purchases	
Issuances	377
Transfers out	(5,428)
Realized gain (losses)	
Unrealized gains, net	931
Balance February 29, 2012	\$ 33,943

The \$931 of unrealized gains presented in the table above for the three months ended February 29, 2012 relate to investments that were still held at February 29, 2012, and the Fund presents these unrealized gains on the Statement of Operations Net Change in Unrealized Gains.

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The issuances of \$377 relate to additional units received from Buckeye Partners, L.P. (Class B Units) and Crestwood Midstream Partners LP (Class C Units). The Fund's investment in the common units of Teekay Offshore Partners L.P., which is noted as a transfers out of Level 3 in the tables above, became readily marketable during the three months ended February 29, 2012.

4. Taxes

Income and capital gain distributions made by RICs often differ from GAAP basis net investment income (loss) and any 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 due to wash sales, disallowed partnership losses from MLPs and foreign currency transactions.

As of February 29, 2012, the principal temporary differences were (a) realized losses that were recognized for book purposes, but disallowed for tax purposes due to wash sale rules; (b) disallowed partnership losses related to the Fund's MLP investments; and (c) other basis adjustments in the Fund's MLPs and other investments. For purposes of characterizing the nature 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.

For the fiscal year ended November 30, 2011, the tax character of the total \$25,608 distributions paid to common stockholders and the tax character of the total \$1,397 distributions paid to mandatory redeemable preferred stockholders was all ordinary income.

Under the Regulated Investment Company Modernization Act of 2010 (the Act), 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.

At February 29, 2012, the cost basis of investments for federal income tax purposes was \$736,386, and the net cash received on option contracts written was \$937. At February 29, 2012, gross unrealized appreciation and depreciation of investments and options for federal income tax purposes were as follows:

Gross unrealized appreciation of investments (including options)	\$ 131,218
Gross unrealized depreciation of investments (including options)	(11,718)
Net unrealized appreciation of investments before foreign currency related translations	119,500
Unrealized appreciation on foreign currency related translations	(21)
Net unrealized appreciation of investments	\$ 119,479

5. Concentration of Risk

The Fund's investment objective is to obtain a high level of total return with an emphasis on making quarterly cash distributions to its stockholders. Under normal circumstances, the Fund will invest at least 80% of total assets in securities of companies in the Midstream/Energy Sector and will invest at least 50% of total assets in securities of Midstream MLPs and Midstream Companies. Additionally, the Fund may

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invest up to 30% of its total assets in debt securities. It may directly invest up to 25% (or such higher amount as permitted by any applicable tax diversification rules) of its total assets in equity or debt securities of MLPs. The Fund may invest up to 50% of its total assets in unregistered or otherwise restricted securities of Midstream/Energy Sector. It will not invest more than 15% of its total assets in any single issuer. The Fund may, for defensive purposes,

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOTES TO FINANCIAL STATEMENTS

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

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temporarily invest all or a significant portion of its assets in investment grade securities, short-term debt securities and cash or cash equivalents. To the extent the Fund uses this strategy, it may not achieve its investment objectives.

6. Agreements and Affiliations

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

B. Investment Management Agreement The Fund has entered into an investment management agreement with Kafa under which the Adviser, subject to the overall supervision of the Fund's Board of Directors, manages the day-to-day operations of, and provides investment advisory services to, the Fund. For providing these services, the Adviser receives a management fee from the Fund. The current agreement is effective until November 22, 2012. The agreement may then be renewed annually upon the approval of the Fund's Board of Directors and 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 the three months ended February 29, 2012, the Fund paid management fees at an annual rate of 1.25% of 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 or proceeds from the Fund's use of debt and preferred stock, minus the sum of the Fund's accrued and unpaid dividends/distributions on any outstanding common stock and accrued and unpaid dividends/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 portfolio companies, each as defined in the 1940 Act. In general, under the 1940 Act, the Fund would control a portfolio company if the Fund owned 25% or more of its outstanding voting securities and would be an affiliate of a portfolio company if the Fund 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 is significant ambiguity in the application of existing Securities and Exchange Commission (SEC) staff interpretations of the term voting security to complex structures such as limited partnership interests of the kind in which the Fund invests. As a result, it is possible that the SEC staff may consider that certain securities investments in limited partnerships are voting securities under the staff's prevailing interpretations of this term. If such determination is 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 light of the ambiguity of the definition of voting securities, the Fund does not intend to treat any class of limited partnership interests that it holds as voting securities unless the security holders of such class currently have the ability, under the partnership agreement, to remove the general partner (assuming a sufficient vote of

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(UNAUDITED)

such securities, other than securities held by the general partner, in favor of such removal) or the Fund has an economic interest of sufficient size that otherwise gives it the de facto power to exercise a controlling influence over the partnership. The Fund believes this treatment is appropriate given that the general partner controls the partnership, and without the ability to remove the general partner or the power to otherwise exercise a controlling influence over the partnership due to the size of an economic interest, the security holders have no control over the partnership.

Plains All American GP LLC and Plains All American Pipeline, L.P. Robert V. Sinnott is Chief Executive Officer of Kayne Anderson Capital Advisors, L.P. (KACALP), the managing member of KAFA. Mr. Sinnott also serves as a director on the board of Plains All American GP LLC (Plains GP), 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 units of Plains GP. 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 interests in Plains GP and (ii) Mr. Sinnott's participation on the board of Plains GP.

PAA Natural Gas Storage, L.P. (PNG) is an affiliate of PAA and Plains GP. PAA owns 62% of PNG's limited partner units and owns PNG's general partner. The Fund does not believe it is an affiliate of PNG based on the current facts and circumstances.

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, 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.

At February 29, 2012, the Fund held the following restricted investments:

Investment	Security	Acquisition Date	Type of Restriction	Number of Units, Principal (\$) (in 000s)	Cost Basis	Fair Value	Fair Value Per Unit	Percent of Net Assets	Percent of Total Assets
Level 3 Investments ⁽¹⁾									
Buckeye Partners, L.P.	Class B Units	1/18/11	(2)	288	\$ 14,779	\$ 15,694	\$ 54.45	2.5%	1.8%
Crestwood Midstream Partners LP	Class C Units	4/1/11	(2)	175	4,001	4,614	26.44	0.7	0.5
Plains All American GP LLC ⁽³⁾	Common Units	(4)	(5)	7	9,477	13,635	1,956.52	2.1	1.6
Total					\$ 28,257	\$ 33,943		5.3%	3.9%
Level 2 Investments ⁽⁶⁾									
Crestwood Holdings Partners, LLC	Secured Term Loan	(4)	(5)	\$ 5,951	\$ 6,124	\$ 6,070	n/a	1.0%	0.7%
Foresight Energy LLC	Senior Notes	(4)	(5)	15,233	16,198	16,299	n/a	2.6	1.8
Kodiak Oil & Gas Corp.	Senior Notes	(4)	(2)	750	750	803	n/a	0.1	0.1
Lone Pine Resources Inc.	Senior Notes	2/9/12	(2)	750	739	788	n/a	0.1	0.1
Paramount Resources Ltd.	Senior Notes	11/30/10	(2)	(7)	7,063	7,620	n/a	1.2	0.9

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PBF Holding Company LLC	Senior Notes	(4)	(5)	17,250	17,122	17,336	n/a	2.7	2.0
Southern Pacific Resource Corp.	Secured Term Loan	(4)	(2)	11,489	11,491	11,719	n/a	1.8	1.3
Total					\$ 59,487	\$ 60,635		9.5%	6.9%
Total of all restricted securities					\$ 87,744	\$ 94,578		14.8%	10.8%

(1) Securities are valued using inputs reflecting the Fund's own assumptions as more fully described in Note 2 Significant Accounting Policies.

(2) Unregistered or restricted security of a publicly traded company.

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- (3) In determining the fair value for Plains All American GP, LLC (PAA GP), the Fund's valuation is based on publicly available information. Robert V. Sinnott, the CEO of KACALP, sits on PAA GP's board of directors (see Note 6 for more detail). Certain private investment funds managed by KACALP may value its investment in PAA GP based on non-public information, and, as a result, such valuation may be different than the Fund's valuation.
- (4) Security was acquired at various dates during the three months ended February 29, 2012 and the previous fiscal years.
- (5) Unregistered security of a private company.
- (6) 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, principal market maker or an independent pricing service as more fully described in Note 2 Significant Accounting Policies. These securities have limited trading volume and are not listed on a national exchange.
- (7) Principal amount is 7,250 Canadian dollars.

8. Derivative Financial Instruments

As required by the Derivatives and Hedging Topic of the FASB Accounting Standards Codification, the following are the derivative instruments and hedging activities of the Fund. The total number of outstanding options at February 29, 2012 is indicative of the volume of this type of option activity during the period. See Note 2 Significant Accounting Policies.

Option Contracts Transactions in option contracts for the three months ended February 29, 2012 were as follows:

	Number of Contracts	Premium
Call Options Written		
Options outstanding at November 30, 2011	6,750	\$ 780
Options written	26,725	2,881
Options subsequently repurchased ⁽¹⁾	(10,800)	(1,016)
Options exercised	(11,857)	(1,493)
Options expired	(2,098)	(215)
Options outstanding at February 29, 2012 ⁽²⁾	8,720	\$ 937

(1) The price at which the Fund subsequently repurchased the options was \$462, which resulted in net realized gains of \$554.

(2) The percentage of total investments subject to call options written was 5.0% at February 29, 2012.

Interest Rate Swap Contracts The Fund may enter into interest rate swap contracts to partially hedge itself from increasing interest expense on its leverage resulting from increasing short-term interest rates. A decline in future 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 the interest rate swap contracts defaults, the Fund would not be able to use the anticipated receipts under the swap contracts to offset the interest payments on the Fund's leverage. At the time the interest rate swap contracts reach their scheduled termination, there is a risk that the Fund would not be able to obtain a replacement transaction or that the terms of the replacement transaction would not be as favorable as on the expiring transaction. In addition, if the Fund is required to terminate any swap contract early, then the Fund could be required to make a termination payment. As of February 29, 2012, the Fund did not have any interest rate swap contracts outstanding.

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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 February 29, 2012
Call options	Call option contracts written	\$ (1,119)

The following table sets 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 February 29, 2012	
		Net Realized Gains/(Losses) on Derivatives Recognized in Income	Change in Unrealized Gains/(Losses) on Derivatives Recognized in Income
Call options	Options	\$ 764	\$ 100

9. Investment Transactions

For the three months ended February 29, 2012, the Fund purchased and sold securities in the amounts of \$180,066 and \$153,920 (excluding short-term investments and options), respectively.

10. Revolving Credit Facility

At February 29, 2012, the Fund had a \$100,000 unsecured revolving credit facility (the Credit Facility) with a syndicate of banks. The Credit Facility has a three-year commitment maturing on January 20, 2014. The interest rate may vary between LIBOR plus 1.75% to LIBOR plus 2.25%, depending on the Fund's asset coverage ratios. Outstanding loan balances will accrue interest daily at a rate equal to one-month LIBOR plus 1.75%, based on current asset coverage ratios. The Fund will pay a fee of 0.35% per annum on any unused amounts of the Credit Facility. See Financial Highlights for the Fund's asset coverage ratios under the 1940 Act.

For the three months ended February 29, 2012, the average amount outstanding under the Credit Facility was \$58,099 with a weighted average interest rate of 2.11%. As of February 29, 2012, the Fund had \$73,000 outstanding under the Credit Facility at an interest rate of 2.42%.

11. Senior Unsecured Notes

At February 29, 2012, the Fund had \$115,000 aggregate principal amount of senior unsecured notes (Senior Notes). See Note 14 Subsequent Events.

The table below sets forth the key terms of each series of the Senior Notes.

Series	Principal Outstanding, February 29, 2012	Estimated Fair Value, February 29, 2012	Fixed Interest Rate	Maturity
A	\$ 55,000	\$ 58,500	3.93%	3/3/16
B	60,000	66,200	4.62%	3/3/18
	\$ 115,000	\$ 124,700		

Holder of the fixed rate Senior Notes (Series A and Series B) are entitled to receive cash interest payments semi-annually (on September 3 and March 3) at the fixed rate. During the three months ended February 29, 2012, the weighted average interest rate on the outstanding Senior Notes was 4.29%.

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As of February 29, 2012, each series of Senior Notes were rate AAA by FitchRatings. In the event the credit rating on any series of Senior Notes falls below A- (FitchRatings), the interest rate on such series will increase by 1% during the period of time such series is rated below A- .

The Senior Notes were issued in private placement offerings to institutional investors and are not listed on any exchange or automated quotation system. The Senior Notes contain various covenants related to other indebtedness, liens and limits on the Fund's overall leverage. Under the 1940 Act and the terms of the Senior 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 Senior Notes would be less than 300%.

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

At February 29, 2012, the Fund was in compliance with all covenants under the agreements of the Senior Notes.

12. Preferred Stock

At February 29, 2012, the Fund had 1,400,000 shares of Series A mandatory redeemable preferred stock outstanding, with a total liquidation value of \$35,000. The mandatory redeemable preferred stock has a seven-year term with a mandatory redemption date of March 3, 2018 and has a liquidation value of \$25.00 per share. The estimated fair value of the mandatory redeemable preferred stock as of February 29, 2012 was \$37,000. See Note 14 Subsequent Events.

Holders of the mandatory redeemable preferred stock 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) at a fixed rate of 5.32% per annum.

As of February 29, 2012, the Fund's mandatory redeemable preferred stock were rated AA by FitchRatings. The dividend rate on the Fund's mandatory redeemable preferred stock will increase between 0.5% and 4.0% if the credit rating is downgraded below A (FitchRatings). Further, the annual dividend rate will increase by 4.0% if no ratings are maintained, and the dividend rate will increase by 5.0% if the Fund fails to make quarterly dividend or certain other payments.

The mandatory redeemable preferred stock ranks senior to all of the Fund's outstanding common shares and on parity with any other preferred stock. The mandatory redeemable preferred stock is redeemable in certain circumstances at the option of the Fund and is 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 mandatory redeemable preferred stock, 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%.

The holders of the mandatory redeemable preferred stock 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 mandatory

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redeemable preferred stock or the holders of common stock. The holders of the mandatory redeemable preferred stock, voting separately as a single class, have the right to elect at least two directors of the Fund.

At February 29, 2012, the Fund was in compliance with the asset coverage and basic maintenance requirements of its mandatory redeemable preferred stock.

13. Common Stock

At February 29, 2012, the Fund has 198,600,000 shares of common stock authorized. Of the 21,755,773 shares of common stock outstanding at February 29, 2012, KAFA owned 4,000 shares. Transactions in common shares for the three months ended February 29, 2012 were as follows:

Shares outstanding at November 30, 2011	21,663,977
Shares issued through reinvestment of distributions	91,796
Shares outstanding at February 29, 2012	21,755,773

14. Subsequent Events

On March 22, 2012, the Fund completed a private placement with institutional investors of \$50,000 of Senior Notes and \$30,000 of mandatory redeemable preferred stock. Net proceeds from the offerings were used to repay borrowings under the Fund's Credit Facility. Remaining proceeds were used to make new portfolio investments and for general corporate purposes. The table below sets forth the key terms of the Senior Notes and preferred stock.

Security	Amount	Rate	Maturity
Series C Senior Notes	\$ 50,000	4.0%	2/22/22
Series B mandatory redeemable preferred stock	30,000	4.5%	2/22/20

On March 28, 2012, the Fund declared its quarterly distribution of \$0.425 per common share for the fiscal first quarter for a total of \$9,246. The distribution was paid on April 26, 2012 to common stockholders of record on April 20, 2012. Of this total, pursuant to the Fund's dividend reinvestment plan, \$1,302 was reinvested into the Fund through the issuance of 50,173 shares of common stock.

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

GLOSSARY

(UNAUDITED)

This glossary contains definitions of certain key terms, as they are used in our investment objective and policies and as described in this Quarterly 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. Such companies are not structured as Master Limited Partnerships and are taxed as corporations. For purposes of this definition, this includes companies that (i) derive at least 50% of their revenue or operating income from operating Midstream Assets or (ii) have Midstream Assets that represent the majority of their assets.

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

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

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

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

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

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

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

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KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

INFORMATION REGARDING CHANGES TO INVESTMENT POLICY

(UNAUDITED)

On March 28, 2012, the Fund's board of directors approved a change to its non-fundamental investment policy related to debt securities. The prior policy allowed 10% of the Fund's total assets to be invested in unrated debt securities. The revised policy allows 10% of the Fund's total assets to be invested in unrated debt securities or debt securities that are rated less than B- (Standard & Poor's or FitchRatings) / B3 (Moody's) of public or private companies.

The revised policy related to debt securities will be effective July 1, 2012 as follows:

The Fund may invest up to 30% of its total assets in debt securities of Energy Companies. Up to 10% of its total assets may be invested in (i) unrated debt securities or (ii) debt securities that are rated less than B- / B3 of public or private companies. The balance of such debt investments may be invested in securities which are rated, at the time of investment at least B- (or an equivalent rating) by a nationally recognized ratings agency at the time of the investment. For the purposes of determining if an investment satisfies this test, the Fund will look to the highest credit rating on such debt investment.

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 Senior Notes in the open market or in a privately negotiated transactions.

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Directors and Corporate Officers

Kevin S. McCarthy	Chairman of the Board of Directors, President and Chief Executive Officer
William R. Cordes	Director
Barry R. Pearl	Director
Albert L. Richey	Director
William L. Thacker	Director
Terry A. Hart	Chief Financial Officer and Treasurer
David J. Shladovsky	Chief Compliance Officer and Secretary
J.C. Frey	Executive Vice President, Assistant Secretary and Assistant Treasurer

James C. Baker

Executive Vice President

Jody C. Meraz

Vice President

Investment Adviser

Administrator

KA Fund Advisors, LLC

Ultimus Fund Solutions, LLC

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Stock Transfer Agent and Registrar

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American Stock Transfer & Trust Company

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Custodian

Independent Registered Public Accounting Firm

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

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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.