

Kayne Anderson

Midstream/Energy Fund



KMF Annual Report
November 30, 2010

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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.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
LETTER TO STOCKHOLDERS

January 27, 2011

Dear Fellow Stockholders:

It has been an exciting and productive first few months since our initial public offering (“IPO”) on November 24, 2010. We are pleased with the Fund’s operational performance since inception and the progress we’ve made investing the IPO proceeds. We are happy to report that our investment “ramp up” is ahead of schedule and that we expect to be fully invested, including proceeds from leverage, by the end of the second quarter of fiscal 2011.

Given the very short period of time that the Fund operated during fiscal 2010 (only 7 days!), rather than reviewing the results for such a short period, we thought it would be more helpful to provide an update of our investment activities and performance through a more recent date.

The Fund received net proceeds of \$507 million from its IPO, which includes the net proceeds from the sale of 2.3 million shares pursuant to the underwriters’ over-allotment option. As of January 27, 2011, the Fund had long-term investments of \$551 million. At such date, we have invested all of the net proceeds from the IPO and invested \$20 million with borrowings under our revolving credit facility. Additionally, the Fund has committed to invest \$25 million in PAA Natural Gas Storage, L.P. in a privately negotiated transaction, which is expected to close in early February. As of January 27th, the Fund’s long-term investments included MLPs (23%), Midstream Companies (49%), Other Energy Companies (7%) and Debt (19%).

We are very pleased with the Fund’s investment returns since the IPO. Immediately following the IPO, our net asset value was \$23.83 per share, which represents the offering price less underwriting discounts and other offering expenses. As of January 27, 2011, the Fund’s net asset value had increased to \$25.00 per share, a 4.9% increase since the IPO.

On January 20, 2011, we entered into a \$100 million revolving credit facility. The credit facility has a three-year term and an interest rate of one month LIBOR plus 175 basis points. This credit facility is an important first step in adding leverage to the Fund. We expected to be fully borrowed on this facility by the end of February. Our target leverage for the Fund is 30% of total assets, which we anticipate being a mix of (i) borrowings under the credit facility, (ii) senior notes and (iii) preferred stock. We are considering our financing alternatives for the senior notes and preferred stock and hope to have these offerings complete by the end of March.

We announced our initial quarterly distribution of 37.5 cents per share on January 19th, which is payable on March 30, 2011. This represents a partial distribution based on the expected net distributable income generated by our portfolio for the quarter ending February 28, 2011, our first full quarter of operations. This distribution represents an annualized yield of 6.0% on the Fund’s \$25 per share IPO price. Further, we announced that we expect to pay a distribution for our fiscal second quarter in an amount that represents an annualized yield of 6.5% on our IPO price.

Market Overview

While the Fund was only in existence during a short period of fiscal 2010, we believe it’s helpful to review the performance of the MLP market over the entire fiscal year. The MLP market, as measured by the Alerian MLP Index, generated a total return of 42.4% during fiscal 2010 and has now fully recovered from the economic crisis of late 2008 and early 2009. When combined with the gains that the MLP market enjoyed during fiscal 2009, the sector has generated a total return in excess of 140% since the market low in March 2009. We believe that the strong performance of the MLP market during the year was the result of a reversion of MLP yields to levels that were more in-line with historical averages. There were several factors that contributed to this tightening, including the strong operating performance of MLPs throughout the financial crisis, the improved prospects for distribution growth across the entire MLP sector, and the strong demand for yield securities by individual investors. At the beginning of the fiscal year, the average MLP yield was 7.9%, which represented a 467 basis point premium (100 basis points equals one percent) to the yield on 10-year U.S. Treasury Bonds. This difference is often referred to as a “spread to

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
LETTER TO STOCKHOLDERS

Treasuries.” By the end of the fiscal year, the spread to Treasuries was 352 basis points, which is still well above the 219 basis point average for the five-year period prior to the financial crisis. Since the end of our fiscal year, MLP yields have continued to decline, and overall interest rates have risen, such that the spread to Treasuries is now much closer to historical levels.

Capital markets activity for MLPs reached a record high in calendar 2010. MLPs raised \$12 billion in follow-on equity offerings and \$20 billion in debt. Much of the equity was used to finance acquisitions and growth projects, and MLPs took advantage of attractive interest rates to refinance their debt. The previous record for MLP follow-on equity offerings was \$7 billion in 2009. We believe that a strong market for raising new capital will help facilitate distribution growth in the future. Also encouraging was the return of the IPO market. After a two-year absence, the IPO market made a strong comeback with five new MLPs raising \$1.3 billion during fiscal 2010. Currently, four of these deals are trading well above their IPO prices.

With ample access to capital, MLPs were able to return to a path of more predictable distribution growth. During the last two quarters of the fiscal year, over half of the MLPs increased their distributions, and the remainder provided greater visibility for increasing distributions in 2011. Distribution growth for the universe of midstream MLPs was 4.8% during fiscal 2010 and we believe we will see distribution growth of 5% to 6% for these names in fiscal 2011.

Now that we have fully recovered from the 2008-2009 financial crisis, it is helpful to look back at the growth and relative performance of the MLP sector over the decade. During this 10-year period, the MLP market (as measured by the Alerian MLP Index) has delivered an annualized total return of 19.3%. We believe that investors are beginning to view MLPs as a distinct asset class and recognizing the strong returns and the “yield plus growth” attributes of the sector. Since November 30, 2000, the MLP sector has grown from a niche market consisting of 20 partnerships with a combined equity market capitalization of approximately \$14 billion to a much larger universe consisting of 66 partnerships with a combined equity market capitalization of approximately \$220 billion at November 30, 2010.

The Midstream Companies in which we invest also enjoyed a very strong year. Their performance during the year was driven by many of the same factors that propelled the MLP market to strong returns, including the prospects for growth in earnings and cash flow as a result of investment opportunities in the “Big 6” natural gas shale plays.

Energy Market Overview

Without a doubt, the biggest story in the domestic energy business is the development of “unconventional reserves,” which is an industry term that refers to oil and natural gas reserves produced using advanced drilling and completion techniques. Technological advances — such as horizontal drilling and multi-stage hydraulic fracturing — have enabled the development of these reserves which were previously believed to be uneconomic to produce. Unconventional reserves can include oil shales, gas shales and the Canadian oil sands. The rapid development of unconventional reserves has resulted in a substantial increase in both estimated oil and natural gas reserves and production over the past few years. As an example, domestic natural gas reserves, as reported by government agencies, have increased by 44% from 2003 to 2009. Examples of unconventional reserves include the Barnett Shale, Haynesville Shale, Woodford Shale, Fayetteville Shale, Eagle Ford Shale, Marcellus Shale and Bakken Shale.

Significant amounts of capital are being spent by energy companies to develop these reserves. In fact, major oil companies, foreign oil companies and national oil companies have spent more than \$60 billion in calendar 2010 to acquire these types of reserves. This trend is very important for both the upstream companies, which will be able to grow reserves at low relative costs, as well as the midstream sector, as development of these new reserves will require substantial amounts of new midstream infrastructure. An energy industry group estimates that up to \$210 billion will need to be spent over the next 20 years to build the necessary midstream assets to develop these

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
LETTER TO STOCKHOLDERS

reserves. We believe this will provide attractive investment opportunities for both MLPs and Midstream Companies.

With the improving global economy, demand for energy grew modestly in 2010 after experiencing significant declines in 2009. Strong demand for crude oil from China and other developing countries, combined with a weakening dollar, led to substantially higher crude oil prices during fiscal 2010 compared to the prior year. Further, with crude oil trading in the \$70 to \$85/barrel range for most of the year, this can be described as relatively stable considering the historical volatility of commodity prices. We expect that crude oil prices will continue in this range as both supply and demand are both forecasted to increase modestly.

Largely as a result of the development of the unconventional natural gas shales, growth in the supply of natural gas has exceeded the recovery in demand for natural gas. Further, there is a growing perception that the natural gas market will be oversupplied for years to come. As a result, we saw natural gas prices decline substantially during the year, from the \$5.75 to \$6.00/mcf range in late December 2009 to as low as \$3.25/mcf in late October 2010. While natural gas prices have recovered since October, most analysts are projecting that natural gas prices will remain closer to \$5.00/mcf for the remainder of 2011. We will continue to focus our debt portfolio on upstream companies that have solid acreage positions in the unconventional plays and avoid companies that have a large weighting in conventional natural gas properties.

On a somber note, the energy industry had more than its share of negative headlines during the year. The tragic events surrounding the Macondo oil spill, as well as several pipeline leaks and explosions served as powerful reminders of the risks inherent in the energy business. The industry takes great pride in its safety track record, and we believe it is committed to learning the right lessons from these events. We anticipate increased regulatory scrutiny in the years to come, but we do not anticipate that this will materially impact operations or cash flows.

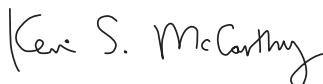
2011 Outlook

Our first few months of operations have gone very well, but much work remains. Our action plan for the first half of 2011 includes issuing senior notes and preferred stock, completing our portfolio ramp up and achieving a target distribution rate of 6.5% based on our IPO price.

As we formulate our outlook for 2011, we believe valuations for MLPs and Midstream Companies remain attractive. While we do not anticipate a continuation of the strong returns generated during fiscal 2009 and 2010, we do expect low double-digit returns for both sectors during fiscal 2011. We are extremely excited about the opportunity that unconventional resources present to the midstream sector and believe that the Fund's portfolio mix provides a unique investment opportunity for investors.

We look forward to continuing to execute on our business plan of achieving a high level of total returns by investing in a diversified portfolio of MLPs, Midstream Companies and Other Energy Companies. We invite you to visit our website at kaynefunds.com for the latest updates.

Sincerely,



Kevin S. McCarthy
Chairman of the Board of Directors,
President and Chief Executive Officer

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
MANAGEMENT DISCUSSION
(UNAUDITED)

Fund Overview

Kayne Anderson Midstream/Energy Fund, Inc. is a newly organized 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 24 for description of these investment categories.

Financial Highlights

As of November 30, 2010, we had total assets of \$488.9 million, net assets applicable to our common stock of \$452.3 million (net assets per share of \$23.80 per share), and 19.0 million shares of common stock outstanding.

During our short initial period of operations (November 24, 2010 through November 30, 2010), we had a net investment loss of \$0.3 million and a net change in unrealized losses on investments of \$0.2 million. Our net investment loss was primarily a result of incurring costs of the annual audit and annual report without the benefit of earning any significant income during the short operating period prior to our fiscal year end.

Recent Events

Credit Facility. On January 20, 2011, we entered into a \$100 million revolving credit facility with a syndicate of lenders. The credit facility has a three-year commitment maturing on January 20, 2014. Outstanding loan balances will accrue interest daily at a rate equal to one-month LIBOR plus 1.75% based on current leverage ratios. The interest rate may vary between LIBOR plus 1.75% and LIBOR plus 2.25% depending on our asset coverage ratios. We will pay a fee 0.35% on any unused amounts of the credit facility.

Declaration of Initial Quarterly Distribution. On January 18, 2011, our Board of Directors declared our initial quarterly distribution of \$0.375 per share for the quarter ending February 28, 2011. This represents a partial distribution based on the expected net distributable income generated by our portfolio during our first quarter of operations. The distribution represents an annualized yield of 6.0% on the initial public offering price of \$25.00 per share. The distribution will be payable on March 30, 2011 to common stockholders of record on March 23, 2011.

Underwriter's Exercise of Over-allotment Option. In addition to the proceeds from our initial public offering, we received a total of \$54.9 million in net proceeds from the exercise of 2.3 million shares pursuant to the underwriters' over-allotment option.

Privately Negotiated Transactions. During December 2010, we completed a \$10 million equity investment in Plains All American GP LLC, the general partner of Plains All American Pipeline, L.P. During January 2011, we completed a \$30 million equity investment in Buckeye Partners, L.P. on a privately negotiated basis.

We have also committed to a \$25 million equity investment in PAA Natural Gas Storage, L.P. on a privately negotiated basis that is expected to close in February 2011.

Update on Investment of Proceeds

We received net proceeds of \$507 million from our IPO including the net proceeds from the exercise of the underwriters' over-allotment option. As of January 27, 2011, we had invested \$528 million which is in excess of the net proceeds raised in the IPO, and we have drawn \$20 million on our revolving credit facility. Including our commitment to invest \$25 million in PAA Natural Gas Storage, L.P., we will have invested \$553 million.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
MANAGEMENT DISCUSSION
(UNAUDITED)

We expect to be fully invested during our fiscal second quarter of 2011 (including proceeds from leverage) and expect to pay a distribution for such quarter in an amount that represents an annualized yield of 6.5% on the IPO price of \$25.00 per share.

Liquidity and Capital Resources

On January 20, 2011, we entered into a \$100 million unsecured revolving credit facility. A full copy of the credit facility is available on our website, www.kaynefunds.com. As of January 27, 2011, we had \$21 million in cash or short-term investments, consisting of repurchase agreements collateralized by U.S. Treasury securities, and we had \$20 million of borrowings under our credit facility.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
SCHEDULE OF INVESTMENTS
NOVEMBER 30, 2010
(amounts in 000's)

<u>Description</u>	<u>No. of Shares/Units</u>	<u>Value</u>
Long-Term Investments — 12.5%		
Equity Investments⁽¹⁾ — 5.5%		
United States — 5.2%		
MLP⁽²⁾⁽³⁾ — 2.5%		
Crestwood Midstream Partners LP	11	\$ 292
Energy Transfer Equity, L.P.	28	1,124
Energy Transfer Partners, L.P.	79	4,023
Enterprise Products Partners L.P.	55	2,311
Exterran Partners, L.P.	10	241
MarkWest Energy Partners, L.P.	1	13
Niska Gas Storage Partners LLC	5	104
PAA Natural Gas Storage, L.P.	31	737
Regency Energy Partners LP.	50	1,285
Sunoco Logistics Partners L.P.	11	914
		<u>11,044</u>
Midstream⁽⁴⁾ — 2.3%		
Capital Product Partners L.P. ⁽⁵⁾	60	504
CenterPoint Energy, Inc.	70	1,094
El Paso Corporation	49	654
Knightsbridge Tankers Limited	39	889
NiSource Inc.	94	1,578
ONEOK, Inc.	27	1,359
Questar Corporation	30	498
Spectra Energy Corp.	72	1,702
Southern Union Company	18	430
Teekay Offshore Partners L.P. ⁽⁵⁾	20	576
Teekay Tankers Ltd.	37	436
The Williams Companies, Inc.	43	988
		<u>10,708</u>
Other Energy — 0.3%		
National Fuel Gas Company	11	697
Sempra Energy	12	576
		<u>1,273</u>
Other — 0.1%		
Navios Maritime Partners L.P. ⁽⁵⁾	23	423
Total United States (Cost — \$23,456)		<u>23,448</u>
Canada — 0.3%		
Midstream — 0.2%		
Enbridge Inc.	6	329
Provident Energy Trust	50	370
TransCanada Corporation	10	353
		<u>1,052</u>
Other Energy — 0.1%		
Northland Power Income Fund	22	334
Total Canadian (Cost — \$1,386)		<u>1,386</u>
Total Equity Investments (Cost — \$24,842)		<u>24,834</u>

See accompanying notes to financial statements.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
SCHEDULE OF INVESTMENTS
NOVEMBER 30, 2010
(amounts in 000's)

	<u>Interest Rate</u>	<u>Maturity Date</u>	<u>Principal Amount</u>	<u>Value</u>
Debt Investments — 7.0%				
United States — 5.4%				
Upstream — 2.5%				
Antero Resources LLC.	9.375%	12/1/17	\$5,000	\$ 5,150
Chaparral Energy, Inc.	8.500	12/1/15	2,000	1,975
Rosetta Resources Inc.	9.500	4/15/18	4,000	4,280
				<u>11,405</u>
Coal — 2.4%				
Foresight Energy LLC	9.625	8/15/17	8,390	8,894
Patriot Coal Corporation	8.250	4/30/18	2,000	2,000
				<u>10,894</u>
Midstream — 0.5%				
Navios Maritime Acquisition Corporation	8.625	11/1/17	2,000	2,010
Total United States (Cost — \$24,522)				<u>24,309</u>
Canada — 1.6%				
Upstream — 1.6%				
Paramount Resources Ltd. (Cost — \$7,306)	8.250	12/13/17	(6)	7,306
Total Debt Investments (Cost — \$31,828)				<u>31,615</u>
Total Long-Term Investments (Cost — \$56,670)				<u>56,449</u>
Short-Term Investment — 95.5%				
Repurchase Agreement — 95.5%				
J.P. Morgan Securities Inc. (Agreement dated 11/30/10 to be repurchased at \$431,942), collateralized by \$440,582 in U.S. Treasury Securities (Cost — \$431,942)	0.130	12/1/10		431,942
Total Investments — 108.0% (Cost — \$488,612)				<u>488,391</u>
Total Liabilities in Excess of Other Assets				<u>(36,108)</u>
Net Assets				<u>\$452,283</u>

- (1) Unless otherwise noted, equity investments are common units/common shares.
- (2) 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 November 30, 2010. It is the Fund’s intention to be treated as a RIC for tax purposes.
- (3) Includes Limited Liability Companies.
- (4) Securities are categorized as midstream if they (i) derive at least 50% of their revenues or operating income from operating Midstream Assets or (ii) have Midstream Assets that represent the majority of their assets.
- (5) This company is structured like an MLP but is not treated as a partnership for federal income tax purposes.
- (6) Security’s principal amount is 7,500 Canadian dollars.

See accompanying notes to financial statements.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
STATEMENT OF ASSETS AND LIABILITIES
NOVEMBER 30, 2010
(amounts in 000's, except share and per share amounts)

ASSETS

Investments, at fair value:	
Non-affiliated (Cost — \$56,670)	\$ 56,449
Repurchase agreement (Cost — \$431,942)	<u>431,942</u>
Total investments (Cost — \$488,612)	488,391
Interest receivable	<u>516</u>
Total Assets	<u><u>488,907</u></u>

LIABILITIES

Payable for securities purchased (Cost — \$35,398)	35,396
Investment management fee payable	87
Accrued directors' fees and expenses	3
Accrued expenses and other liabilities	188
Payable for offering expenses	<u>950</u>
Total Liabilities	<u>36,624</u>

NET ASSETS \$452,283

NET ASSETS CONSIST OF

Common stock, \$0.001 par value (19,004,000 shares issued and outstanding and 200,000,000 shares authorized)	\$ 19
Paid-in capital	452,483
Net unrealized losses on investments and foreign currency translations	<u>(219)</u>

NET ASSETS \$452,283

NET ASSET VALUE PER SHARE \$ 23.80

See accompanying notes to financial statements.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
STATEMENT OF OPERATIONS
FOR THE PERIOD NOVEMBER 24, 2010 THROUGH NOVEMBER 30, 2010
(amounts in 000's)

INVESTMENT INCOME

Income

Interest	\$ 5
Total Investment Income	<u>5</u>

Expenses

Investment management fees	109
Professional fees	85
Reports to stockholders	80
Custodian fees	8
Administration fees	7
Directors' fees	3
Insurance	3
Other expenses	<u>5</u>
Total Expenses — Before Investment Management Fee Waiver	300
Investment management fee waiver	<u>(22)</u>
Total Expenses	<u>278</u>
Net Investment Loss	<u>(273)</u>

REALIZED AND UNREALIZED GAINS/(LOSSES)

Net Realized Gains/(Losses)

Investments	<u>—</u>
Net Realized Gains/(Losses)	<u>—</u>

Net Change in Unrealized Gains/(Losses)

Investments — Non-affiliated	(221)
Foreign currency translations	<u>2</u>
Net Change in Unrealized Losses	<u>(219)</u>
Net Realized and Unrealized Losses	<u>(219)</u>

NET DECREASE IN NET ASSETS RESULTING FROM OPERATIONS **\$(492)**

See accompanying notes to financial statements.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
STATEMENT OF CHANGES IN NET ASSETS
FOR THE PERIOD NOVEMBER 24, 2010 THROUGH NOVEMBER 30, 2010
(amounts in 000's, except share amounts)

OPERATIONS

Net investment loss	\$ (273)
Net change in unrealized losses	<u>(219)</u>
Net Decrease in Net Assets Resulting from Operations	<u>(492)</u>

CAPITAL STOCK TRANSACTIONS

Proceeds from initial public offering of 19,000,000 shares of common stock	475,000
Underwriting discounts and offering expenses associated with the issuance of common stock . . .	<u>(22,325)</u>
Net Increase in Net Assets from Capital Stock Transactions	<u>452,675</u>
Total Increase in Net Assets	<u>452,183</u>

NET ASSETS

Beginning of period	<u>100</u>
End of period	<u><u>\$452,283</u></u>

See accompanying notes to financial statements.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
STATEMENT OF CASH FLOWS
FOR THE PERIOD NOVEMBER 24, 2010 THROUGH NOVEMBER 30, 2010
(amounts in 000's, except share and per share amounts)

CASH FLOWS FROM OPERATING ACTIVITIES

Net decrease in net assets resulting from operations	\$ (492)
Adjustments to reconcile net increase in net assets resulting from operations to net cash used in operating activities:	
Unrealized losses	221
Purchase of investments	(56,670)
Purchase of short-term investments	(431,942)
Increase in interest receivable	(516)
Increase in payable for securities purchased	35,396
Increase in investment management fee payable	87
Increase in accrued directors' fees and expenses	3
Increase in accrued expenses and other liabilities	188
Increase in payable for offering expenses	<u>950</u>
Net Cash Used in Operating Activities	<u>(452,775)</u>

CASH FLOWS FROM FINANCING ACTIVITIES

Proceeds from issuance of common stock	475,000
Underwriting discount and offering expenses associated with the issuance of common stock	<u>(22,325)</u>
Net Cash Provided by Financing Activities	<u>452,675</u>

NET DECREASE IN CASH	(100)
CASH — BEGINNING OF PERIOD	<u>100</u>
CASH — END OF PERIOD	<u>\$ —</u>

Supplemental disclosure of cash flow information: The Fund paid no interest or taxes during the period.

See accompanying notes to financial statements.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
FINANCIAL HIGHLIGHTS
FOR THE PERIOD NOVEMBER 24, 2010⁽¹⁾ THROUGH NOVEMBER 30, 2010
(amounts in 000's, except share and per share amounts)

Per Share of Common Stock

Net asset value, beginning of period	\$ 23.83 ⁽²⁾
Net investment loss	(0.02) ⁽³⁾
Net unrealized losses	<u>(0.01)⁽³⁾</u>
Total loss from operations	<u>(0.03)</u>
Net asset value, end of period	<u>\$ 23.80</u>
Per share market value, end of period	<u>\$ 25.00</u>
Total investment return based on market value ⁽⁴⁾	0.0%

Supplemental Data and Ratios⁽⁵⁾

Net assets, end of period	\$452,283
Ratio of expenses to average net assets	
Management fees	1.3% ⁽⁶⁾
Other expenses	<u>0.3⁽⁷⁾</u>
Subtotal	1.6
Management fee waivers	<u>(0.3)</u>
Total expenses	<u>1.3%</u>
Ratio of net investment loss to average net assets	(1.3)% ⁽⁷⁾
Net decrease in net assets applicable to common stockholders resulting from operations to average net assets	(0.1)% ⁽⁸⁾
Portfolio turnover rate	0.0% ⁽⁸⁾
Average net assets	<u>\$452,775</u>

- (1) Commencement of operations.
- (2) 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.
- (3) Based on average shares of common stock outstanding.
- (4) Not annualized. 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.
- (5) Unless otherwise noted, ratios are annualized since period is less than one full year.
- (6) Ratio reflects total management fee before waiver.
- (7) 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.
- (8) Not annualized.

See accompanying notes to financial statements.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
NOTES TO FINANCIAL STATEMENTS
NOVEMBER 30, 2010
(amount in 000's, except share and per share)

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 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 and repurchase agreements.

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 may hold securities that are privately issued, illiquid or otherwise restricted as to resale. For these securities, as well as any other portfolio security held by the Fund for which, in the judgment of its KA Fund Advisors, LLC ("KAFA" or the "Adviser"), reliable market quotations are not readily available, the pricing service does not provide a valuation, or provide a valuation that in the judgment of its Adviser is stale or does not represent fair value, valuations are determined in a manner that most fairly reflects fair value of the security on the

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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 initially valued by KAFA's investment professionals responsible for the portfolio investments.
- **Investment Team Valuation Documentation.** Preliminary valuation conclusions are documented and discussed with senior management of KAFA. Such valuations generally are submitted to the Valuation Committee (a committee of the Fund's Board of Directors) or the Board of Directors on a quarterly basis, and stand for intervening periods of time.
- **Valuation Committee.** The Valuation Committee generally meets on or about the end of each quarter to consider new valuations presented by KAFA, if any, which were made in accordance with the valuation procedures in such quarter. Between meetings of the Valuation Committee, a senior officer of KAFA is authorized to make valuation determinations. The Valuation Committee's valuations stand for intervening periods of time unless the Valuation Committee meets again at the request of KAFA, the Board of Directors, or the Valuation Committee itself. All valuation determinations of the Valuation Committee are subject to ratification by the Board 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 KAFA 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 market 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, KAFA may determine an applicable discount in accordance with a methodology approved by the Valuation Committee.

At November 30, 2010, the Fund did not hold any securities valued at fair value, as determined pursuant to procedures adopted by the Board of Directors.

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

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 proceeds received by the Fund for the short sale are retained by the broker until the Fund replaces the borrowed securities. In

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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.

All short sales are fully collateralized. The Fund maintains 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 segregates an equivalent amount of securities owned as collateral while the short sale is outstanding. At November 30, 2010, the Fund had no open short sales, nor did it engage in any short sales during the period.

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

Interest rate swap contracts. The Fund may use interest rate swap contracts to hedge against increasing interest expense 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 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. At November 30, 2010, the Fund had no interest rate swap contracts outstanding, nor did it engage in such transactions during the period.

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 ordinarily 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. The writer of an option on a security has the obligation upon exercise of the option to deliver the underlying security upon payment of the exercise price.

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

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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. At November 30, 2010, the Fund had no option positions, nor did it engage in such transactions during the period. 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* — Distributions received from the Fund's investments in MLPs generally are comprised of income and return of capital. The Fund records investment income and return of capital based on estimates made at the time such distributions are received. Such estimates are based on historical information available from each MLP and other industry sources. These estimates may subsequently be revised based on information received from MLPs after their tax reporting periods are concluded.

The Fund did not receive any distributions during the period November 24, 2010 (commencement of operations) through November 30, 2010.

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 period November 24, 2010 (commencement of operations) through November 30, 2010, the Fund did not have a reserve against interest income, since all interest income accrued is expected to be received.

Many of the Fund's debt securities 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.

K. *Distributions to Stockholders* — Distributions to common stockholders are recorded on the ex-dividend date. 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 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 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. For the period ended November 30, 2010, the Fund does not have any interest or penalties associated with the underpayment of any income taxes.

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. *Offering Costs* — Offering costs of \$950 incurred in connection with the sale of shares of common stock were charged to paid-in capital when the shares were issued.

P. *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 and Disclosures 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.

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

- *Level 1* — Quoted unadjusted prices for identical instruments in active markets to which the Fund has access at the date of measurement.
- *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.

Note that the valuation levels below are not necessarily an indication of the risk or liquidity associated with the underlying investment. For instance, the Fund's repurchase agreements, which are collateralized by U.S. Treasury bonds, are generally high quality and liquid; however, the Fund reflects these repurchase agreements as Level 2 because the inputs used to determine fair value may not always be quoted prices in an active market.

The following table presents the Fund's assets and liabilities measured at fair value on a recurring basis at November 30, 2010.

	<u>Total</u>	<u>Quoted Prices in Active Markets (Level 1)</u>	<u>Prices with Other Observable Inputs (Level 2)</u>	<u>Unobservable Inputs (Level 3)</u>
<u>Assets at Fair Value</u>				
Equity investments	\$ 24,834	\$ 24,834	\$ —	\$ —
Debt investments	31,615	—	31,615	—
Repurchase agreement	<u>431,942</u>	<u>—</u>	<u>431,942</u>	<u>—</u>
Total assets at fair value	<u>\$488,391</u>	<u>\$ 24,834</u>	<u>\$463,557</u>	<u>\$ —</u>

At November 30, 2010, the Fund did not have any assets or liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3), and during the period November 24, 2010 through November 30, 2010, the Fund did not have any transfers in and out of Level 3.

In January 2010, the FASB issued Accounting Standards Update ("ASU") No. 2010-06 "Improving Disclosures about Fair Value Measurements." ASU 2010-06 amends FASB Accounting Standards Codification Topic, Fair Value Measurements and Disclosures, to require additional disclosures regarding fair value measurements. Certain disclosures required by ASU No. 2010-06 are effective for interim and annual reporting periods beginning after December 15, 2009, and other required disclosures are effective for fiscal years beginning after December 15, 2010, and for interim periods within those fiscal years.

The disclosures for reporting periods beginning after December 15, 2009 relate to disclosing both the amounts of significant transfers between Level 1 and Level 2 and the reasons for the transfers. For the period ended November 30, 2010, there were no transfers between Level 1 and Level 2. The disclosures for reporting periods beginning after December 15, 2010 relate to presenting separately the Level 3 purchases, sales, issuances and settlements on a gross basis instead of one net amount. Management will continue to evaluate the impact ASU No. 2010-6 for the required disclosures effective for fiscal years beginning after December 15, 2010.

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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 November 30, 2010, the Fund did not have any temporary differences. During the period November 24, 2010 (commencement of operations) through November 30, 2010, the Fund reclassified \$273 from accumulated net investment loss to paid-in capital due to the net operating loss during the period.

The tax basis of the components of distributable earnings can differ from the amounts reflected in the Statement of Assets and Liabilities due to temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. At November 30, 2010, there were no distributable earnings on a tax basis for the Fund. The following table sets forth the components of accumulated income or deficit on a tax basis for the Fund:

Unrealized depreciation of investments	\$(219)
Total accumulated deficit	<u>\$(219)</u>

During the period November 24, 2010 (commencement of operations) through November 30, 2010 the Fund did not make any distributions to stockholders.

At November 30, 2010, the identified cost of investments for federal income tax purposes was \$488,612. At November 30, 2010, gross unrealized appreciation and depreciation of investments for federal income tax purposes were as follows:

Gross unrealized appreciation of investments	\$ 81
Gross unrealized depreciation of investments	<u>(302)</u>
Net unrealized depreciation before foreign currency related translations	(221)
Unrealized appreciation on foreign currency related translations	<u>2</u>
Net unrealized depreciation of investments	<u>\$(219)</u>

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 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, 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”). Pursuant to the administration agreement, Ultimus will provide certain

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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.

For the period November 24, 2010 through November 30, 2010, the Fund paid management fees at an annual rate of 1.25% of average monthly total assets of the Fund. During the first year of investment activities following the Fund's initial offering, KAFA has contractually agreed to waive or reimburse the Fund for fees in an amount equal on an annual basis to 0.25% of its monthly average total assets.

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 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.

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 cannot be offered for public sale in a non-

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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 November 30, 2010, the Fund held the following restricted investments:

Investment	Security	Acquisition Date	Type of Restriction	Principal (in 000s)	Cost Basis	Fair Value	Percent of Net Assets	Percent of Total Assets
Level 2 Investments⁽¹⁾								
Foresight Energy LLC	Senior Notes	11/24/2010	(2)	\$8,390	\$ 9,019	\$ 8,894	2.0%	1.8%
Navios Maritime Acquisition Corporation . .	Senior Notes	11/24/2010	(3)	2,000	2,035	2,010	0.4	0.4
Paramount Resources Ltd.	Senior Notes	11/30/2010	(3)	(4)	<u>7,306</u>	<u>7,306</u>	<u>1.6</u>	<u>1.5</u>
Total					<u>\$18,360</u>	<u>\$18,210</u>	<u>4.0%</u>	<u>3.7%</u>

- (1) These securities have a fair market value determined by the mean of the bid and ask prices provided by 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.
- (2) Unregistered security of a private company.
- (3) Unregistered security of a public company.
- (4) Security's principal amount is 7,500 Canadian dollars.

8. Derivative Financial Instruments

As required by the Derivatives and Hedging Topic of the FASB Accounting Standards Codification, the Fund is required to disclose its derivative and hedging activities during the period. The Fund did not have any derivative financial transactions during the period November 24, 2010 (commencement of operations) through November 30, 2010. See Note 2 — Significant Accounting Policies.

9. Investment Transactions

For the period November 24, 2010 (commencement of operations) through November 30, 2010, the Fund purchased securities in the amount of \$56,670 (excluding short-term investments). The Fund did not sell any securities during the period.

10. Common Stock

The Fund has 200,000,000 shares of common stock authorized. Of the 19,004,000 shares of common stock outstanding at November 30, 2010, KAFA owned 4,000 shares. Transactions in common shares for the period November 24, 2010 (commencement of operations) through November 30, 2010 were as follows:

Shares outstanding at November 24, 2010	4,000
Shares issued as a result of the initial public offering	<u>19,000,000</u>
Shares outstanding at November 30, 2010	<u>19,004,000</u>

11. Subsequent Events

On December 10, 2010, December 29, 2010 and January 12, 2011, the Fund issued 750,000 shares, 800,000 shares and 750,000 shares, respectively, of common stock at a price of \$25.00 per share as a result of the exercises of an option granted to the underwriters in connection with the initial public offering. Net proceeds of

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\$54,913 will be used to make additional investments in accordance with the Fund's investment objective and for general corporate purposes.

On January 20, 2011, the Fund entered into a revolving credit facility with a syndicate of lenders with availability of \$100,000. The credit facility has a three-year commitment maturing on January 20, 2014. Outstanding loan balances will accrue interest daily at a rate equal to one-month LIBOR plus 1.75% based on targeted leverage ratios. The interest may vary between LIBOR plus 1.75% and LIBOR plus 2.25% depending on the Fund's asset coverage ratios. The Fund will pay a fee 0.35% on any unused amounts of the credit facility. The Fund had \$24,000 borrowed under its revolving credit facility at January 31, 2011.

On January 18, 2011, the Fund declared its initial quarterly distribution of \$0.375 per common share for the quarter ending February 28, 2011. This represents a partial distribution based on the expected net distributable income generated by the Fund's portfolio during its first three months of operations. The distribution represents an annualized yield of 6.0% on the initial public offering price of \$25.00 per share. The distribution will be payable on March 30, 2011 to common stockholders of record on March 23, 2011, with an ex-dividend date of March 21, 2011.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Kayne Anderson Midstream/Energy Fund, Inc.

In our opinion, the accompanying statement of assets and liabilities, including the schedule of investments, and the related statements of operations, of changes in net assets and of cash flows and the financial highlights present fairly, in all material respects, the financial position of Kayne Anderson Midstream/Energy Fund (the “Fund”) at November 30, 2010, and the results of its operations, the changes in its net assets and its cash flows and the financial highlights for the period from November 24, 2010 (commencement of operations) through November 30, 2010, in conformity with accounting principles generally accepted in the United States of America. These financial statements and financial highlights (hereafter referred to as “financial statements”) are the responsibility of the Fund’s management. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit, which included confirmation of securities at November 30, 2010 by correspondence with the custodian and brokers, provides a reasonable basis for our opinion.

PRICEWATERHOUSECOOPERS LLP

Los Angeles, California
January 31, 2011

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 Annual 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.

**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
 PRIVACY POLICY NOTICE
 (UNAUDITED)**

Rev. 01/2011

FACTS	WHAT DOES KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC. (“KMF”) DO WITH YOUR PERSONAL INFORMATION?
Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	<p>The types of personal information we collect and share depend on the product or service you have with us. This information can include:</p> <ul style="list-style-type: none"> ■ Social Security number and account balances ■ Payment history and transaction history ■ Account transactions and wire transfer instructions <p>When you are <i>no longer</i> our customer, we continue to share your information as described in this notice.</p>
How?	All financial companies need to share customers’ personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers’ personal information; the reasons KMF chooses to share; and whether you can limit this sharing.

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

Questions?	Call 877-657-3863 or go to http://www.kaynefunds.com
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**KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
 PRIVACY POLICY NOTICE
 (UNAUDITED)**

Who we are	
Who is providing this notice?	KMF
What we do	
How does KMF protect my personal information?	<p>To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings.</p> <p>Access to your personal information is on a need-to-know basis. KMF has adopted internal policies to protect your non-public personal information.</p>
How does KMF collect my personal information?	<p>We collect your personal information, for example, when you</p> <ul style="list-style-type: none"> ■ Open an account or provide account information ■ Buy securities from us or make a wire transfer ■ Give us your contact information <p>We also collect your personal information from other companies.</p>
Why can't I limit all sharing?	<p>Federal law gives you the right to limit only</p> <ul style="list-style-type: none"> ■ sharing for affiliates' everyday business purposes — information about your creditworthiness ■ affiliates from using your information to market to you ■ sharing for nonaffiliates to market to you <p>State laws and individual companies may give you additional rights to limit sharing.</p>
Definitions	
Affiliates	<p>Companies related by common ownership or control. They can be financial and nonfinancial companies.</p> <ul style="list-style-type: none"> ■ <i>KMF does not share with our affiliates.</i>
Nonaffiliates	<p>Companies not related by common ownership or control. They can be financial and nonfinancial companies.</p> <ul style="list-style-type: none"> ■ <i>KMF does not share with nonaffiliates so they can market to you.</i>
Joint marketing	<p>A formal agreement between nonaffiliated financial companies that together market financial products or services to you.</p> <ul style="list-style-type: none"> ■ <i>KMF does not jointly market.</i>
Other important information	
None.	

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
DIVIDEND REINVESTMENT PLAN
(UNAUDITED)

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

1. Unless a stockholder specifically elects to receive cash as set forth below, all distributions hereafter declared by the Board shall be payable in shares of the Common Stock of the Fund, and no action shall be required on such stockholder’s part to receive a distribution in stock.

2. Such distributions shall be payable on such date or dates as may be fixed from time to time by the Board to stockholders of record at the close of business on the record date(s) established by the Board for the distribution involved.

3. The Fund may use newly-issued shares of its Common Stock or purchase shares in the open market in connection with the implementation of the plan. The number of shares to be issued to a stockholder shall be based on share price equal to 95% of the closing price of the Fund’s Common Stock one day prior to the dividend payment date.

4. The Board may, in its sole discretion, instruct the Fund to purchase shares of its Common Stock in the open market in connection with the implementation of the Plan as follows: If the Fund’s Common Stock is trading below net asset value at the time of valuation, upon notice from the Fund, the Plan Administrator (as defined below) will receive the dividend or distribution in cash and will purchase Common Stock in the open market, on the New York Stock Exchange or elsewhere, for the Participants’ accounts, except that the Plan Administrator will endeavor to terminate purchases in the open market and cause the Fund to issue the remaining shares if, following the commencement of the purchases, the market value of the shares, including brokerage commissions, exceeds the net asset value at the time of valuation. These remaining shares will be issued by the Fund at a price equal to the greater of (i) the net asset value at the time of valuation or (ii) 95% of the then current market price.

5. In a case where the Plan Administrator has terminated open market purchases and caused the issuance of remaining shares by the Fund, the number of shares received by the participant in respect of the cash dividend or distribution will be based on the weighted average of prices paid for shares purchased in the open market, including brokerage commissions, and the price at which the Fund issues remaining shares. To the extent that the Plan Administrator is unable to terminate purchases in the open market before the Plan Administrator has completed its purchases, or remaining shares cannot be issued by the Fund because the Fund declared a dividend or distribution payable only in cash, and the market price exceeds the net asset value of the shares, the average share purchase price paid by the Plan Administrator may exceed the net asset value of the shares, resulting in the acquisition of fewer shares than if the dividend or distribution had been paid in shares issued by the Fund.

6. A stockholder may, however, elect to receive his or its distributions in cash. To exercise this option, such stockholder shall notify American Stock Transfer & Trust Company, the plan administrator and the Fund’s transfer agent and registrar (collectively the “Plan Administrator”), in writing so that such notice is received by the Plan Administrator no later than the record date fixed by the Board for the distribution involved.

7. The Plan Administrator will set up an account for shares acquired pursuant to the Plan for each stockholder who has not so elected to receive dividends and distributions in cash (each, a “Participant”). The Plan Administrator may hold each Participant’s shares, together with the shares of other Participants, in non-certificated form in the Plan Administrator’s name or that of its nominee. Upon request by a Participant, received no later than three (3) days prior to the payable date, the Plan Administrator will, instead of crediting shares to and/or carrying shares in a Participant’s account, issue, without charge to the Participant, a certificate registered in the Participant’s name for the number of whole shares payable to the Participant and a check for any fractional share less a broker commission on the sale of such fractional shares. If a request to terminate a

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
DIVIDEND REINVESTMENT PLAN
(UNAUDITED)

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

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

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

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

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

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

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

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
DIVIDEND REINVESTMENT PLAN
(UNAUDITED)

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

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

Adopted: November 18, 2010

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
INVESTMENT MANAGEMENT AGREEMENT APPROVAL DISCLOSURE
(UNAUDITED)

The Fund's Board of Directors approved the Fund's Investment Management Agreement (the "Agreement") with KA Fund Advisors, LLC (the "Adviser") for an initial term of two years.

In connection with the approval of the Agreement, the Board of Directors was provided with the proposed Agreement as well as any related agreements prior to the in-person meeting called for that purpose. The Board of Directors discussed the terms of the Agreement, and representatives from the Adviser presented additional oral and written information to the Board of Directors to assist in its considerations. The Adviser also discussed its expected profitability from its relationship with the Fund under the Agreement. The Directors who are not parties to the Agreement or "interested persons" (as defined in the 1940 Act) of any such party (the "Independent Directors") also met in executive session to further discuss the terms of the Agreement and the information provided by the Adviser.

Because the Fund had not yet commenced investment operations, the Board of Directors considered the Adviser's services provided to other closed-end funds managed by the Adviser (the "Other Funds"). The Board of Directors noted that the Adviser provides various written materials to the boards of directors of the Other Funds during the course of each year as well as in connection with the consideration of the investment management agreements between those Other Funds and the Adviser, including (i) information on the advisory personnel of the Adviser; (ii) information on the internal compliance procedures of the Adviser; (iii) comparative information showing how the Other Funds' proposed fee schedules compare to other registered investment companies that follow investment strategies similar to those of the Other Funds; (iv) information regarding brokerage and portfolio transactions; (v) comparative information showing how the Other Funds' performance compares to other registered investment companies that follow investment strategies similar to those of the Other Funds; and (vi) information on any legal proceedings or regulatory audits or investigations affecting the Adviser. The Board of Directors was informed by the Adviser that the Adviser intends to follow the same practices for the Fund.

The Independent Directors reviewed various factors, detailed information provided by the Adviser at the meeting, and other relevant information and factors including the following, no single factor of which was dispositive in their decision whether to approve the Agreement:

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

The Independent Directors considered the scope of services that are to be provided by the Adviser under the Agreement, the investment research and other capabilities of the Adviser, and other resources the Adviser is expected to dedicate to the performance of services for the Fund. Because of the Fund's lack of operating history, the Board of Directors considered the quality of services provided by the Adviser to the Other Funds, including the quality of advisory and other services, such as the Adviser's assistance in the coordination of the activities of some of the Other Funds' other service providers, the provision of administrative services by the Adviser, the call strategy used and the responsible handling of the leverage target. In particular, the Independent Directors considered the nature and quality of the services that are expected to be provided by the Adviser to the Fund in light of their experience as Directors of one of the Other Funds, Kayne Anderson Energy Development Company ("KED"), their confidence in the Adviser's integrity and competence gained from that experience and the Adviser's responsiveness to questions, concerns or requests for information raised or made by them in serving as Directors of KED. The Independent Directors also noted the high quality of services provided by the Adviser to the Other Funds in the wake of past market turbulence and the Adviser's efforts to maximize returns for the Other Funds. Based on the foregoing, the Independent Directors concluded that the Adviser has the quality and depth of personnel and investment methods essential to performing its duties under the Agreement and that the nature and the proposed cost of such advisory services are fair and reasonable for the services expected to be provided.

The Fund's performance under the management of the Adviser

Because the Fund does not have any performance history, the Independent Directors reviewed information pertaining to the performance of the Other Funds. Based on the oral and written information provided by the Adviser that compares the performance of the Other Funds with the performance of certain other registered

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
INVESTMENT MANAGEMENT AGREEMENT APPROVAL DISCLOSURE
(UNAUDITED)

investment companies that follow investment strategies similar to those of the Other Funds as well as specialized and more general market indexes, the Independent Directors were satisfied with the Other Funds' favorable performance over time. The Independent Directors also noted that, based on their experience as Directors of KED, the Independent Directors would receive detailed performance information at each regular board of directors meeting during the year rather than annually at the meeting for the approval of the investment management agreement. The Independent Directors then noted the Adviser's ongoing efforts to increase distributions to stockholders of the Other Funds.

The costs of the services to be provided by the Adviser and the profits to be realized by the Adviser and its affiliates from the relationship with the Fund

The Independent Directors considered the profitability of the services to be provided by the Adviser, recognizing that it is difficult to make comparisons of profitability from investment advisory contracts. The Independent Directors considered that the Adviser's relationship with the Fund is not expected to be one of its significant sources of revenue given that the fee waivers and other arrangements will substantially reduce the net fees retained by the Adviser. The Independent Directors considered certain benefits the Adviser will realize due to its relationship with the Fund. In particular, they noted that the Adviser has soft dollar arrangements under which certain brokers may provide industry research to the Adviser's portfolio managers through the use of a portion of the brokerage commissions generated from the Adviser's trading activities on behalf of the Fund. The Independent Directors acknowledged that the Fund's stockholders will also benefit from these soft dollar arrangements because the Adviser receives this research, which is used in the management of the Fund's portfolio, by aggregating securities trades.

The Independent Directors also considered the Fund's management fee under the Agreement in comparison to the management fees of funds within the Fund's expected peer group and believed such comparisons to be acceptable to the Fund. The Adviser's successful handling of the past market downturn and related leverage challenges for the Other Funds was also noted by the Independent Directors as relevant considerations in evaluating the reasonableness of the management fee given that the Fund does not have any operating history. Based on those comparisons, the Independent Directors concluded that the management fee to be paid to the Adviser under the Agreement is reasonable.

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

The Independent Directors also considered possible economies of scale that the Adviser could achieve in its management of the Fund. They considered the anticipated asset levels of the Fund, the information provided by the Adviser relating to its estimated costs, and information comparing the fee rate to be charged by the Adviser with fee rates charged by other unaffiliated investment advisers to their investment company clients. The Independent Directors also considered the Adviser's commitment to retaining its current professional staff in a competitive environment for investment professionals based on their experience in serving as Directors for KED. In view of the information provided by the Adviser and in light of the Independent Directors' experience with the Adviser as Directors of KED, the Independent Directors concluded that the fee structure was reasonable. The Independent Directors also noted that the fee structure currently does not provide for a sharing of any economies of scale that might be experienced from substantial future growth of the Fund. Because the Fund was yet to be operational, the Independent Directors recognized that an evaluation of possible economies of scale will be more appropriate if the Fund reaches a substantially larger size.

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

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
INFORMATION CONCERNING DIRECTORS AND CORPORATE OFFICERS
(UNAUDITED)

Independent Directors

Name, (Year Born)	Position(s) Held with Fund, Term of Office/Time of Service	Principal Occupations During Past Five Years	Other Directorships Held by Director/Officer During Past Five Years
William R. Cordes (born 1948)	Director. 3-year term as Director (until the 2013 Annual Meeting of Stockholders), served since inception.	Retired from Northern Border Pipeline Company in March 2007 after serving as President from October 2000 to March 2007. Chief Executive Officer of Northern Border Partners, LP from October 2000 to April 2006. President of Northern Natural Gas Company from 1993 to 2000. President of Transwestern Pipeline Company from 1996 to 2000.	<ul style="list-style-type: none"> • Kayne Anderson Energy Development Company (“KED”) • Boardwalk Pipeline Partners, LP (midstream MLP)
Barry R. Pearl (born 1949)	Director. 2-year term (until the 2012 Annual Meeting of Stockholders). Served since inception.	Executive Vice President of Kealine, LLC, (and its affiliate WesPac Energy LLC), since February 2007. Provided management consulting services from January 2006 to February 2007. President of Texas Eastern Products Pipeline Company, LLC (“TEPPCO”), which is the general partner of TEPPCO Partners, L.P., from February 2001 to December 2005. Chief Executive Officer and director of TEPPCO from May 2002 to December 2005; and Chief Operating Officer from February 2001 to May 2002.	<ul style="list-style-type: none"> • KED • Targa Resources Partners LP (midstream MLP) • Magellan Midstream Partners, L.P. (midstream MLP)
Albert L. Richey (born 1949)	Director. 3-year term (until the 2013 Annual Meeting of Stockholders). Served since inception.	Vice President of Anadarko Petroleum Corporation since December 2008; Vice President of Corporate Development from December 2005 to December 2008; Vice President and Treasurer from 1995 to 2005; and Treasurer from 1987 to 1995.	<ul style="list-style-type: none"> • KED • Boys & Girls Clubs of Houston • Boy Scouts of America
William L. Thacker (born 1945)	Director. 2-year term (until the 2012 Annual Meeting of Stockholders). Served since inception.	Retired from the Board of TEPPCO in May 2002 after serving as Chairman from March 1997 to May 2002; Chief Executive Officer from January 1994 to May 2002; and President, Chief Operating Officer and Director from September 1992 to January 1994.	<ul style="list-style-type: none"> • KED • Copano Energy, L.L.C. (midstream MLP) • GenOn Energy, Inc. (electricity generation and sales)

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
INFORMATION CONCERNING DIRECTORS AND CORPORATE OFFICERS
(UNAUDITED)

Interested Director and Non-Director Officers

Name, (Year Born)	Position(s) Held with Fund, Term of Office/Time of Service	Principal Occupations During Past Five Years	Other Directorships Held by Director/Officer During Past Five Years
Kevin S. McCarthy ⁽¹⁾ (born 1959)	Chairman of the Board of Directors, President and Chief Executive Officer. 1-year term as a director (until the 2011 Annual Meeting of Stockholders), elected annually as an officers. Served since inception. ⁽²⁾	Senior Managing Director of KACALP since June 2004 and of KAFA since 2006. President and Chief Executive Officer of Kayne Anderson Energy Total Return Fund, Inc. (“KYE”); KED; and Kayne Anderson Midstream/ Energy Fund, Inc. (“KMF”) since inception (KYE inception in 2005; KED inception in 2006; and KMF inception in 2010). Global Head of Energy at UBS Securities LLC from November 2000 to May 2004.	<ul style="list-style-type: none"> • KYN • KYE • KED • Range Resource Corporation (oil and gas) • Direct Fuel Partners, L.P. (transmix refining and fuels distribution) • ProPetro Services, Inc. (oilfield services) • K-Sea Transportation Partners LP (shipping MLP)
Terry A. Hart (born 1969)	Chief Financial Officer and Treasurer. Elected annually. Served since inception.	Chief Financial Officer and Treasurer of KYN and KYE since December 2005, and KED since September 2006. Director of Structured Finance, Assistant Treasurer, Senior Vice President and Controller of Dynegey, Inc. from 2000 to 2005.	None
David J. Shladovsky (born 1960)	Secretary and Chief Compliance Officer. Elected annually. Served since inception.	Managing Director and General Counsel of KACALP since 1997 and of KAFA since 2006. Secretary and Chief Compliance Officer of KYN since 2004; of KYE since 2005, and of KED since 2006.	None
J.C. Frey (born 1968)	Executive Vice President, Assistant Treasurer and Assistant Secretary. Elected annually. Served since inception.	Senior Managing Director of KACALP since 2004 and of KAFA since 2006, and Managing Director of KACALP since 2000. Portfolio Manager of KACALP since 2000, Portfolio Manager, Vice President, Assistant Secretary and Assistant Treasurer of KYN since 2005; of KYE since 2005, and of KED since 2006. Executive Vice President of KYN, KYE and KED since June 2008.	None
James C. Baker (born 1972)	Executive Vice President. Elected annually. Served since inception.	Senior Managing Director of KACALP and KAFA since February 2008, Managing Director of KACALP and KAFA since December 2004 and 2006, respectively. Vice President of KYN from 2005 to 2008; of KYE from 2005 to 2008 and of KED from 2006 to 2008, and Executive Vice President of KYN, KYE and KED since June 2008.	<ul style="list-style-type: none"> • ProPetro Services, Inc. (oilfield services) • Petris Technology, Inc. (data management for energy companies) • K-Sea Transportation Partners LP (shipping MLP)

(1) Mr. McCarthy is an “interested person” by virtue of his employment relationship with KAFA, our investment adviser.

(2) Mr. McCarthy currently serves on the boards of directors of KYN, KYE, and KED, all closed-end investment companies registered under the Investment Company Act of 1940, as amended, that are managed by KAFA.

Additional information regarding the Fund’s directors is contained in the Fund’s Statement of Additional Information, the most recent version of which can be found on the Fund’s website at www.kaynefunds.com or is available without charge, upon request, by calling (877) 657-3863.

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.
ANNUAL CERTIFICATION
(UNAUDITED)

The Fund's Chief Executive Officer has filed an annual certification with the NYSE that, as of the date of the certification, he was unaware of any violation by the Fund of the NYSE's corporate governance listing standards.

PROXY VOTING AND PORTFOLIO HOLDINGS INFORMATION
(UNAUDITED)

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

- without charge, upon request, by calling (877) 657-3863;
- on the Fund's website, <http://www.kaynefunds.com>; and
- on the website of the Securities and Exchange Commission, <http://www.sec.gov>.

The Fund will file a complete schedule of its portfolio holdings for the first and third quarters of its fiscal year with the SEC on Form N-Q. The Fund's Forms N-Q will be available on the SEC's website at <http://www.sec.gov> and may be reviewed and copied at the SEC's Public Reference Room in Washington, DC. Information on the operation of the SEC's Public Reference Room may be obtained by calling 1-202-551-8090. The Fund will also make its Forms N-Q available on its website at <http://www.kaynefunds.com>.

SHARE 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 stock in the open market.

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

Investment Adviser

KA Fund Advisors, LLC
717 Texas Avenue, Suite 3100
Houston, TX 77002

Administrator

Ultimus Fund Solutions, LLC
350 Jericho Turnpike, Suite 206
Jericho, NY 11753

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

Stock Transfer Agent and Registrar

American Stock Transfer & Trust Company
59 Maiden Lane
New York, NY 10038

Custodian

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

Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP
350 South Grand Avenue
Los Angeles, CA 90071

Legal Counsel

Paul, Hastings, Janofsky & Walker LLP
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