

Kayne Anderson MLP Investment Company Provides Unaudited Balance Sheet Information and Announces its Net Asset Value and Asset Coverage Ratios at April 30, 2010

Houston, TX – May 3, 2010 – Kayne Anderson MLP Investment Company (the “Company”) (NYSE: KYN) today provided a summary unaudited balance sheet and announced its net asset value and asset coverage ratios under the Investment Company Act of 1940 (the “1940 Act”) as of April 30, 2010.

As of April 30, 2010, the Company’s net assets were \$1.349 billion and its net asset value per share was \$23.12. As of April 30, 2010, the Company’s asset coverage ratio under the 1940 Act with respect to senior securities representing indebtedness was 409% and the Company’s asset coverage ratio under the 1940 Act with respect to total leverage (debt and preferred stock) was 352%.

Kayne Anderson MLP Investment Company
Balance Sheet
April 30, 2010
(Unaudited)

| | (in millions) |
|----------------------------------|-------------------|
| Investments | \$ 2,111.2 |
| Repurchase agreements and cash | 2.1 |
| Deposits | 1.1 |
| Accrued income | 15.5 |
| Receivable for securities sold | 1.2 |
| Other assets | 2.5 |
| Total assets | <u>2,133.6</u> |
| Short-term borrowings | 91.0 |
| Senior notes | 370.0 |
| Preferred stock | 75.0 |
| Total leverage | <u>536.0</u> |
| Payable for securities purchased | 15.1 |
| Deferred tax liability | 220.8 |
| Other liabilities | 12.6 |
| Total liabilities | <u>248.5</u> |
| Net assets | <u>\$ 1,349.1</u> |

58.4 million common shares currently outstanding

Long-term investments were comprised of Midstream MLPs (70%), General Partner MLPs (9%), MLP Affiliates (9%), Propane MLPs (6%), Shipping (4%), Upstream MLPs (1%), and Coal (1%).

The Company's ten largest holdings by issuer at April 30, 2010 were:

| | Units/Par (\$ (in thousands)) | Amount (\$ millions) | Percent of Long-Term Investments |
|---|----------------------------------|-------------------------|--|
| 1. Plains All American Pipeline, L.P. (Midstream MLP) | 2,876 | 166.8 | 7.9% |
| 2. Enterprise Products Partners L.P. (Midstream MLP) | 4,339 | 153.9 | 7.3% |
| 3. Magellan Midstream Partners, L.P. (Midstream MLP) | 3,150 | 149.9 | 7.1% |
| 4. Kinder Morgan Management, LLC (MLP Affiliate) | 2,502 | 147.2 | 7.0% |
| 5. Inergy, L.P. (Propane MLP) | 3,252 | 123.6 | 5.9% |
| 6. MarkWest Energy Partners, L.P. (Midstream MLP) | 3,655 | 112.4 | 5.3% |
| 7. Copano Energy, L.L.C. (Midstream MLP) | 3,659 | 95.9 | 4.5% |
| 8. Energy Transfer Equity, L.P. (General Partner MLP) | 2,512 | 86.0 | 4.1% |
| 9. Energy Transfer Partners, L.P. (Midstream MLP) | 1,724 | 84.3 | 4.0% |
| 10. Enbridge Energy Partners, L.P. (Midstream MLP) | 1,558 | 79.9 | 3.8% |

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Kayne Anderson MLP Investment Company is a non-diversified, closed-end management investment company registered under the Investment Company Act of 1940, whose common stock is traded on the NYSE. The Company's investment objective is to obtain a high after-tax total return by investing at least 85% of its total assets in energy-related master limited partnerships and their affiliates, and in other companies that, as their principal business, operate assets used in the gathering, transporting, processing, storing, refining, distributing, mining or marketing natural gas, natural gas liquids (including propane), crude oil, refined petroleum products or coal.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS: This press release 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 differ from the Company's historical experience and its present expectations or projections indicated in any forward-looking statements. 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 Company's filings with the SEC. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. The Company undertakes no obligation to publicly update or revise any forward-looking statements made herein. There is no assurance that the Company's investment objectives will be attained.

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