

FOR IMMEDIATE RELEASE**Kayne Anderson MLP Investment Company Announces Appointment of William H. Shea Jr. to its Board of Directors and Resignation of Michael Morgan from its Board of Directors**

Houston, TX – (MARKET WIRE) – March 31, 2008 – (NYSE: KYN) Kayne Anderson MLP Investment Company (the “Company”) announced today that William H. Shea Jr. has been appointed to its Board of Directors.

Mr. Shea was the Chairman, Chief Executive Officer and President of the general partner of Buckeye GP Holdings, L.P. (NYSE: BGH) until June 2007. BGH is the publicly traded general partner of Buckeye Partners, L.P. (NYSE: BPL), which owns and operates petroleum products pipelines and terminals. Mr. Shea served as President of the general partner of BPL since 1998 and CEO since 2000. Mr. Shea also serves on the Board of Trustees of The Franklin Institute. He earned a B.A. from Boston College and an M.B.A. from the University of Virginia. Mr. Shea also serves on the board of Penn Virginia Corporation (NYSE: PVA).

“We are extremely excited to have Bill join our board given his extensive experience leading a large and successful midstream energy company,” said Kevin McCarthy, CEO and President of the Company.

Mr. Shea fills the independent board member vacancy created by the departure of Michael Morgan, who is resigning from the board effective immediately. Mr. Morgan recently decided to form a new private equity fund that will invest in the energy sector, including MLPs, and is stepping down from the board to avoid any potential conflicts of interest. “We are grateful for the insight and experience that Mike contributed to the board during his tenure as an independent board member,” said Mr. McCarthy.

Kayne Anderson MLP Investment Company (“the 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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