Kayne Anderson MLP Investment Company

Kayne Anderson MLP Investment Company Announces Public Offering of Common Stock

Houston, TX – April 4, 2011 – Kayne Anderson MLP Investment Company (the "Company") (NYSE: KYN) announced that it has commenced a public offering of 5,700,000 shares of its common stock. The Company also intends to grant the underwriters a 45-day option to purchase up to 855,000 additional common shares to cover over-allotments, if any. Net proceeds from the offering will be used to make additional portfolio investments that are consistent with the Company's investment objective and policies and for general corporate purposes.

Citi, BofA Merrill Lynch, Morgan Stanley and UBS Investment Bank are acting as joint book-running managers. A copy of the preliminary prospectus supplement and the base prospectus relating to the offering may be obtained from the following addresses:

Citi

Attn: Prospectus Department Brooklyn Army Terminal 140 58th Street, 8th Floor Brooklyn, NY 11220 Telephone: 800-831-9146

Email: batprospectusdept@citi.com

Morgan Stanley Attn: Prospectus Department 180 Varick Street, 2nd Floor New York, NY 10014

Email: prospectus@morganstanley.com

Telephone: 866-718-1649

BofA Merrill Lynch

Attn: Prospectus Department 4 World Financial Center New York, NY 10080

Email: dg.prospectus_requests@baml.com

UBS Investment Bank Attn: Prospectus Department 299 Park Avenue New York, NY 10171

Telephone: 888-827-7275

Investors may also obtain these documents free of charge from the Company's website at www.kaynefunds.com/KynSECFilings.php or the Securities and Exchange Commission's ("SEC") website at www.sec.gov.

An investor should read the Company's preliminary prospectus supplement and the base prospectus carefully before investing. The preliminary prospectus supplement and the base prospectus contain important information about the Company and its investment objective and policies, risks, charges and expenses.

This press release does not constitute an offer to sell or a solicitation to buy the securities described herein, nor shall there be any sale of these securities in any state or jurisdiction in which such offer or solicitation or sale would be unlawful prior to registration or qualification under the laws of such state or jurisdiction. A registration statement relating to these securities was filed with, and has been declared effective by, the SEC.

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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 New York Stock Exchange. 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 (collectively, "MLPs"), and in other companies that, as their principal business, operate assets used in the gathering, transporting, processing, storing, refining, distributing, mining or marketing of natural gas, natural gas liquids, 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 objective will be attained.

CONTACT:

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