

Kayne Anderson MLP Investment Company Announces Distribution of \$0.55 per Share for Q4 2016 and Provides Guidance for Q1 2017

Houston, TX – December 15, 2016 – Kayne Anderson MLP Investment Company (the "Company") (NYSE: KYN) announced today its quarterly distribution of \$0.55 per share for the quarter ended November 30, 2016. The distribution will be payable on January 13, 2017 to common stockholders of record on January 6, 2017, with an ex-dividend date of January 4, 2017.

"Over the past nine months, the health of the MLP market has improved dramatically," said Kevin McCarthy, the CEO of the Company. "Commodity prices have improved substantially, the capital markets have re-opened, and we believe that domestic production has bottomed and is poised for significant increases in the next 12 to 18 months. The stronger outlook for the energy industry has resulted in higher equity prices for many MLPs and a strong recovery in the Company's net asset value, which has increased by over 70% from the lows of February 2016," said Mr. McCarthy.

"At the same time, there has been an on-going trend of MLPs (or GPs) with lower yields acquiring MLPs with a higher yield, including the recently announced merger of Energy Transfer Partners, L.P. ("Energy Transfer") with Sunoco Logistics Partners, L.P. ("Sunoco"). The impact of these transactions has been to significantly reduce our net distributable income over the last two years," noted Mr. McCarthy.

"In light of these transactions, management currently expects to recommend a reduction of \$0.07 to \$0.08 per share in the quarterly distribution for the first quarter of fiscal 2017. The actual amount of the reduction will depend on a variety of factors, including whether or not the Energy Transfer/Sunoco transaction closes and whether or not any additional transactions are announced. We believe it is prudent to reduce the Company's distribution to a level that is below the Company's expected net distributable income. MLP valuations currently are very attractive, and we believe our recommendation best positions the Company to generate attractive returns for stockholders during fiscal 2017," said Mr. McCarthy. Payment of the distribution for the first quarter of fiscal 2017 is subject to board approval and will be paid in April 2017.

The Company estimates that 100% of its distribution for the quarter ended November 30, 2016 will be treated as a return of capital for tax purposes. This estimate is based on the Company's anticipated earnings and profits for fiscal 2017 and its accumulated earnings and profits as of November 30, 2016. The final determination of the tax character of the distribution will be made in early 2018 when the Company can determine its actual earnings and profits for the full year (including gains and losses on the sale of securities during fiscal 2017) and may differ substantially from this preliminary information.

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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 (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 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.

CONTACT:

KA Fund Advisors, LLC Monique Vo, 877-657-3863 http://www.kaynefunds.com