ClearBridge Energy Midstream Opportunity Fund Inc. Form N-CSR January 30, 2019

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-CSR

CERTIFIED SHAREHOLDER REPORT OF REGISTERED

MANAGEMENT INVESTMENT COMPANIES

Investment Company Act file number 811-22546

ClearBridge Energy Midstream Opportunity Fund Inc.

(Exact name of registrant as specified in charter)

620 Eighth Avenue, 49th Floor, New York, NY 10018

(Address of principal executive offices) (Zip code)

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Robert I. Frenkel, Esq.

Legg Mason & Co., LLC

100 First Stamford Place

Stamford, CT 06902

(Name and address of agent for service)

Registrant s telephone number, including area code: (888) 777-0102

Date of fiscal year end: November 30

Date of reporting period: November 30, 2018

ITEM 1. REPORT TO STOCKHOLDERS.

The **Annual** Report to Stockholders is filed herewith.

Annual Report

November 30, 2018

CLEARBRIDGE

ENERGY MIDSTREAM OPPORTUNITY FUND INC. (EMO)

Beginning in January 2021, as permitted by regulations adopted by the Securities and Exchange Commission, the Fund intends to no longer mail paper copies of the Fund s shareholder reports like this one, unless you specifically request paper copies of the reports from the Fund or from your financial intermediary (such as a broker-dealer or bank). Instead, the reports will be made available on a website, and you will be notified by mail each time a report is posted and provided with a website link to access the report.

If you invest through a financial intermediary and you already elected to receive shareholder reports electronically (e-delivery), you will not be affected by this change and you need not take any action. If you have not already elected e-delivery, you may elect to receive shareholder reports and other communications from the Fund electronically by contacting your financial intermediary.

You may elect to receive all future reports in paper free of charge. If you invest through a financial intermediary, you can contact your financial intermediary to request that you continue to receive paper copies of your shareholder reports. That election will apply to all Legg Mason funds held in your account at that financial intermediary. If you are a direct shareholder with the Fund, you can call the Fund at 1-888-888-0151, or write to the Fund by regular mail at P.O. Box 505000, Louisville, KY 40233 or by overnight delivery to Computershare, 462 South 4th Street, Suite 1600, Louisville, KY 40202 to let the Fund know you wish to continue receiving paper copies of your shareholder reports. That election will apply to all Legg Mason Funds held in your account held directly with the fund complex.

INVESTMENT PRODUCTS: NOT FDIC INSURED NO BANK GUARANTEE MAY LOSE VALUE

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Fund objective

The Fund s investment objective is to provide long-term investors a high level of total return with an emphasis on cash distributions.

The Fund seeks to achieve its objective by investing primarily in energy midstream entities.

Letter from the chairman

Dear Shareholder,

We are pleased to provide the annual report of ClearBridge Energy Midstream Opportunity Fund Inc. for the twelve-month reporting period ended November 30, 2018. Please read on for a detailed look at prevailing economic and market conditions during the Fund s reporting period and to learn how those conditions have affected Fund performance.

Special shareholder notice

On November 19, 2018, ClearBridge Energy Midstream Opportunity Fund Inc. (NYSE: EMO) announced the completion of the merger of ClearBridge American Energy MLP Fund Inc. (NYSE: CBA) with and into EMO. Effective after the close of business on Friday, November 16, 2018, CBA stockholders became EMO stockholders.

Each CBA common share converted into an equivalent dollar amount (to the nearest \$0.0001) of full common shares of EMO. The conversion price was based on each Fund s net asset value (NAV) per share calculated at the close of business on Friday, November 16, 2018.

The conversion ratio was calculated at 0.691518 common shares of EMO for each CBA common share. EMO did not issue any fractional common shares to CBA stockholders. In lieu of issuing fractional shares, EMO purchased all fractional shares at the then current NAV and remitted the cash proceeds to former CBA stockholders in proportion to their fractional shares.

EMO s post-merger net assets totaled \$777,019,422 and its NAV per common share was \$10.8350 based on approximately 71,714,031 shares outstanding, as of the close of business on November 16, 2018.

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In addition, EMO issued and delivered to CBA for distribution to holders of CBA mandatory redeemable preferred stock (MRPS) the same number of newly issued shares of Series D, E, F and G MRPS as that number of shares of CBA $\,$ s Series A, B, C and D MRPS issued and outstanding immediately before

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the date of the merger, with a liquidation preference and other terms identical to the terms of CBA s Series A, B, C and D MRPS. The newly issued EMO MRPS have equal priority with any other outstanding EMO MRPS as to the payment of dividends and as to the distribution of assets upon dissolution, liquidation or winding up of the affairs of EMO. Any accrued and unpaid dividends on the CBA MRPS have been assumed by EMO and will be payable on the same dividend payment schedule.

Management and each Fund s Board of Directors believed it is in the best interests of stockholders to merge CBA with and into EMO in part because the combined Fund may benefit from economies of scale, as one set of fixed expenses would be spread over a larger asset base, as well as from the possibility of enhanced market liquidity and improved market price trading relative to NAV. The Merger will also result in a more streamlined product offering, allowing for more focused marketing and stockholder servicing efforts. Management and the Fund s investment adviser do not anticipate any material portfolio turnover as a result of the proposed merger. The merger is expected to qualify as a tax-free reorganization for federal income tax purposes.

Also, after the close of business on November 16, 2018, EMO changed its name from ClearBridge Energy MLP Opportunity Fund Inc. to ClearBridge Energy Midstream Opportunity Fund Inc. and, relatedly amended its 80% policy from investing at least 80% of its managed assets in master limited partnerships (MLPs) in the energy sector to investing at least 80% of its managed assets in energy midstream entities structured as both partnerships and corporations.

The name and investment policy change should allow additional investment flexibility by including midstream C corporations in EMO s current 80% policy. Management does not anticipate any material change in the portfolio construction in the near term because of this policy change. For more information, please call 1-888-777-0102 or consult the Fund s website at www.lmcef.com.

As always, we remain committed to providing you with excellent service and a full spectrum of investment choices. We also remain committed to supplementing the support you receive from your financial advisor. One way we accomplish this is through our website, www.lmcef.com. Here you can gain immediate access to market and investment information, including:

Market insights and commentaries from our portfolio managers, and

A host of educational resources. We look forward to helping you meet your financial goals.

Fund prices and performance,

Sincerely,

Jane Trust, CFA

Chairman, President and Chief Executive Officer

December 28, 2018

ClearBridge Energy Midstream Opportunity Fund Inc.

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Investment commentary

Economic review

Economic activity in the U.S. was mixed during the twelve months ended November 30, 2018 (the reporting period). Looking back, the U.S. Department of Commerce reported that fourth quarter 2017 and first quarter 2018 U.S. gross domestic product (GDP growth was 2.3% and 2.2%, respectively. GDP growth then accelerated to 4.2% during the second quarter of 2018 the strongest reading since the third quarter of 2014. Finally, the U.S. Department of Commerce s final reading for third quarter 2018 GDP growth released after the reporting period ended was 3.4%. The deceleration in GDP growth in the third quarter of 2018 reflected a downturn in exports and decelerations in nonresidential fixed investment and personal consumption expenditures. Imports increased in the third quarter after decreasing in the second. These movements were partly offset by an upturn in private inventory investment.

Job growth in the U.S. was solid overall and supported the economy during the reporting period. As reported by the U.S. Department of Labor, when the reporting period ended on November 30, 2018, the unemployment rate was 3.7%, versus 4.1% when the period began. November 2018 s reading equaled the lowest unemployment rate since 1969. The percentage of longer-term unemployed also declined during the reporting period. In November 2018, 20.8% of Americans looking for a job had been out of work for more than six months, versus 22.9% when the period began.

Looking back, at its meeting that concluded on September 20, 2017, the Federal Reserve Board (the Fed kept the federal funds rateiii on hold, but reiterated its intention to begin reducing its balance sheet, saying, In October, the Committee will initiate the balance sheet normalization program. At its meeting that ended on December 13, 2017, the Fed raised rates to a range between 1.25% and 1.50%. As widely expected, the Fed again raised rates at its meetings that ended on March 21, 2018 (to a range between 1.50% and 1.75%), June 13, 2018 (to a range between 1.75% and 2.00%) and September 26, 2018 (to a range between 2.00% and 2.25%). Finally, at its meeting that ended on December 19, 2018, after the reporting period ended, the Fed raised rates to a range between 2.25% and 2.50%.

As always, thank you for your confidence in our stewardship of your assets.

Sincerely,

Jane Trust, CFA

Chairman, President and Chief Executive Officer

December 28, 2018

All investments are subject to risk including the possible loss of principal. Past performance is no guarantee of future results.

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- i Gross domestic product (GDP) is the market value of all final goods and services produced within a country in a given period of time.
- ii The Federal Reserve Board (the Fed) is responsible for the formulation of U.S. policies designed to promote economic growth, full employment, stable prices, and a sustainable pattern of international trade and payments.
- iii The federal funds rate is the rate charged by one depository institution on an overnight sale of immediately available funds (balances at the Federal Reserve) to another depository institution; the rate may vary from depository institution to depository institution and from day to day.

ClearBridge Energy Midstream Opportunity Fund Inc.

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Fund overview

Q. What is the Fund s investment strategy?

A. The Fund s investment objective is to provide long-term investors a high level of total return with an emphasis on cash distributions. Effective November 19, 2018, the Fund seeks to achieve its objective by investing primarily in energy midstream entities. Under normal market conditions, the Fund invests at least 80% of its managed assets in energy midstream entities including entities structured as both partnerships and corporations (the 80% policy). Previously, the Fund s investment policy provided that at least 80% of its managed assets be invested in master limited partnerships (MLPs) in the energy sector.

For purposes of the amended 80% policy, the Fund considers investments in midstream entities as those entities that provide midstream services including the gathering, transporting, processing, fractionation, storing, refining, and distribution of oil, natural gas liquids and natural gas. The Fund considers an entity to be within the Energy sector if it derives at least 50% of its revenues from the business of exploring, developing, producing, gathering, transporting, processing, fractionating, storing, refining, distributing, mining or marketing natural gas, natural gas liquids (including propane), crude oil, refined petroleum products or coal.

We currently focus primarily on investments in midstream entities with operations in crude oil, natural gas liquids and refined products infrastructure. We believe that the increased supply of domestic oil and natural gas liquids due primarily to recent shale gas discoveries makes midstream entities focused on these liquid products well positioned for long-term growth.

However, should macroeconomic energy, political, regulatory or tax considerations evolve, and other types of midstream entities become more attractive, we may look to invest in these new opportunities, subject to compliance with the Fund s 80% policy.

ClearBridge Investments, LLC is the Fund s subadviser. The portfolio managers primarily responsible for overseeing the day-to-day management of the Fund are Richard A. Freeman, Michael Clarfeld, CFA, Chris Eades, and Peter Vanderlee, CFA.

Q. What were the overall market conditions during the Fund s reporting period?

A. U.S. equity markets finished with decent returns for the twelve-month reporting period ended November 30, 2018, with the S&P 500 Indexⁱ advancing 6.27%. Small-cap stocks struggled, especially toward the end of the reporting period, with the Russell 2000 Indexⁱⁱ edging up 0.57% in total. Growth stocks of both large and small market capitalization companies outperformed value stocks during the period, with the large-cap Russell 1000 Growth Index ⁱⁱⁱ 8.59% return besting, the Russell 1000 Value Index^{iv} 2.96% gain, and the small-cap Russell 2000 Growth Index ^{vi}s 2.81% return capping the Russell 2000 Value Index ^{vi}s 1.83% decline.

The stock market opened the year strongly and then experienced a correction in February 2018 caused by higher interest rates, fear of increasing inflation and concerns regarding trade disputes. Overall, investors focused on U.S. economic strength and strong earnings growth, which were helped by tax cuts passed at the end of 2017, to push equity markets higher. U.S. equities underwent another correction in October 2018, however, as a mix of

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

Fund overview (cont d)

continuing trade concerns, higher interest rates and uninspiring financial results from some mega cap tech companies combined to make for a volatile month.

For most of the year, the cyclical sectors most tied to the performance of the U.S. economy led the market. The Information Technology (IT) sector was a strong performer. Consumer discretionary stocks also performed well, as low unemployment, gently rising wages and cycle-high consumer confidence created a good environment for discretionary spending. Materials stocks, however, faced cost pressures and underperformed the market.

U.S. economic indicators were generally powerful during the reporting period. U.S. gross domestic product (GDPii growth, as measured by the U.S. Department of Commerce, rose to 4.2% in the second quarter of 2018; jobless claims hit a five-decade low. Unemployment was at levels below the commonly accepted non-inflationary rate, putting the Federal Reserve Board (the Fediii) on inflation watch. Capital expenditures also reached the highest level of this business cycle, helped by incentives in the tax reform law. Share repurchases for companies in the S&P 500 were \$191 billion in the second quarter of 2018, the highest amount ever.

Seeing a steadily growing U.S. economy with low unemployment and core inflation approaching its target 2%, the Fed raised the federal funds rate^{ix} four times in the reporting period. The target range at the end of the period was between 2.00% and 2.25%. The yield on the ten-year U.S. Treasury likewise rose, from 2.3% to 3.0%, and pressured defensive, yield-oriented sectors such as the Consumer Staples, Real Estate and Utilities sectors, which underperformed the market during the reporting period.

Q. What were the overall market conditions for the MLP sector during the reporting period?

A. U.S. energy production growth remained robust. To date in 2018, oil production rose 15% year over year, natural gas production rose 12%, and natural gas liquids production rose 16%. While U.S. energy production growth rates may slow heading into 2019 due to infrastructure bottlenecks (primarily in the Permian Basin of West Texas), we expect production growth to continue. Such infrastructure bottlenecks are a clear signal from the market that growth opportunities to build new pipeline, storage and processing facilities will continue for at least the next several years. This continued growth in U.S. energy production and associated infrastructure buildout should help to drive increasing cash flows for energy infrastructure companies.

West Texas Intermediate (WTI) oil prices remained rangebound between \$60 and \$70 for the reporting period. The decline in oil prices at the end of the period was mostly the result of Organization of the Petroleum Exporting Countries (OPEC) (largely Saudi Arabia) increasing oil production ahead of Iran sanctions being implemented in early November 2018. While Iran sanctions are in place, waivers were granted to many countries, allowing more Iranian oil in the global market than expected resulting in rising inventories and falling oil prices. In our view, it is likely that OPEC reduces oil production by roughly 1 million barrels per day in the coming months to bring the oil market back into balance. Such a production decline by

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OPEC would likely result in firming oil prices. We expect WTI oil prices to trade in an intermediate to long-term range of \$50 per barrel to \$70 per barrel. In this price range, in our view, oil prices are high enough to incent drilling necessary to ensure supply growth and low enough to ensure continued demand growth. For reference, the 20-year average price for WTI oil is \$59.89 per barrel.

Interest rates rose over the period, and we expect the Fed to raise rates two to three more times before pausing during 2019. In an historical context, interest rates will likely remain low and we do not expect higher interest rates to impair expected returns on new capital investment by energy infrastructure companies. MLP stocks and energy midstream companies have not typically traded with the U.S. interest rate cycle. Over the past ten years, there have been four previous periods where the yield for the ten-year U.S. Treasury has increased by more than 100 basis points. MLP stocks, many of which are now energy midstream companies, outperformed other income-oriented equities (utilities and REITs) in all four periods.

We also monitored several risks during the reporting period: (1) A trade dispute between China and the U.S. threatened to significantly impact the global economy and reduce global demand growth for oil. (2) Saudi Arabia might maintain current production levels to appease President Donald Trump for not further pursuing the assassination of journalist Jamal Khashoggi. This would likely result in an oversupplied oil market and oil prices falling below our expected intermediate to long-term range of \$50 per barrel to \$70 per barrel for a period of time. (3) Slowing U.S. corporate profit growth might lead to a weakening U.S. stock market, which would likely present a headwind for MLP stock and energy midstream companies prices.

Q. How did we respond to these changing market conditions?

A. Our investment approach remained consistent throughout the reporting period. We continue to focus on MLPs and infrastructure companies that are engaged in the midstream space. These companies income streams are generally less exposed to the volatility of commodity prices and the companies have business models that are largely fee based. We focus on companies with high-quality assets, solid balance sheets and good growth outlooks.

Our view on MLP and energy midstream companies fundamentals remains largely intact. Over the long term we expect growing U.S. production of oil and gas, which will necessitate increased infrastructure investment. We expect MLPs to provide this growing infrastructure and expect that growth in infrastructure investment should lead to growing distributions. We continue to believe that MLP general partners (GP) are best positioned to drive value for shareholders and therefore we continue to focus our investments in GPs. We believe continued modest distribution growth, ready access to capital markets, solid balance sheets and improved investor sentiment position MLP stocks and energy midstream companies well going forward.

Performance review

For the twelve months ended November 30, 2018, ClearBridge Energy Midstream Opportunity Fund Inc. returned 0.67% based on its net asset value (NAV and -0.87% based on its New York Stock Exchange (NYSE) market price per share. The Lipper Energy

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Fund overview (cont d)

MLP Closed-End Funds Category Average xi returned 0.83% over the same time frame. Please note that Lipper performance returns are based on each fund $\,$ s NAV.

During the twelve-month period, the Fund made distributions to shareholders totaling \$1.28 per share, which included a return of capital of \$0.96 per share. The performance table shows the Fund s twelve-month total return based on its NAV and market price as of November 30, 2018. **Past performance is no guarantee of future results.**

Performance Snapshot as of November 30, 2018 (unaudited)

12-Month
Price Per Share
\$10.27 (NAV)
\$9.23 (Market Price)

12-Month
Total Return*
0.67%
0.67%
9.23 (Market Price)

All figures represent past performance and are not a guarantee of future results.

Total return assumes the reinvestment of all distributions, including returns of capital, at NAV.

Total return assumes the reinvestment of all distributions, including returns of capital, in additional shares in accordance with the Fund s Dividend Reinvestment Plan.

Q. What were the leading contributors to performance?

A. The Diversified Energy Infrastructure subsector contributed positively to absolute performance during the reporting period, as did sector allocation, due largely to an overweight to the Diversified Energy Infrastructure subsector. Stock selection in the Gathering/Processing subsector also contributed positively. In terms of individual Fund holdings, the top contributors to performance for the period were Energy Transfer Operating LP, Williams Partners LP, Enterprise Products Partners LP, ONEOK Inc. and Plains All American Pipeline LP.

Q. What were the leading detractors from performance?

A. The Gathering/Processing and Liquids Transportation & Storage subsectors detracted meaningfully from absolute performance during the reporting period. Stock selection in the Liquids Transportation & Storage and Diversified Energy Infrastructure subsectors dampened relative results. In terms of individual Fund holdings, leading detractors from performance for the period included positions in Buckeye Partners LP, Williams Cos. Inc., Energy Transfer LP, TC Pipelines LP and Macquarie Infrastructure.

Q. Were there any significant changes to the Fund during the reporting period?

A. During the reporting period, we established new Fund positions in Brookfield Infrastructure Partners L.P., Enviva Partners LP, CNX Midstream Partners LP and EQM Midstream Partners LP. In addition, Energy Transfer Partners LP was acquired by parent and general partner Energy Transfer Equity, shares of which were retained in the Fund as Energy Transfer LP; Williams Partners LP was acquired by parent Williams Cos. Inc., which bought the remaining outstanding units to consolidate into one entity whose shares were retained in the Fund. The Fund also closed positions in Tallgrass Energy Partners LP and Hess Midstream Partners LP.

^{*} Total returns are based on changes in NAV or market price, respectively. Returns reflect the deduction of all Fund expenses, including management fees, operating expenses, and other Fund expenses. Returns do not reflect the deduction of brokerage commissions or taxes that investors may pay on distributions or the sale of shares.

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Looking for additional information?

The Fund is traded under the symbol EMO and its closing market price is available in most newspapers under the NYSE listings. The daily NAV is available on-line under the symbol XEMOX on most financial websites. Barron s and the Wall Street Journal s Monday edition both carry closed-end fund tables that provide additional information. In addition, the Fund issues a quarterly press release that can be found on most major financial websites as well as www.lmcef.com (click on the name of the Fund).

In a continuing effort to provide information concerning the Fund, shareholders may call 1-888-777-0102 (toll free), Monday through Friday from 8:00 a.m. to 5:30 p.m. Eastern time, for the Fund s current NAV, market price and other information.

Thank you for your investment in ClearBridge Energy Midstream Opportunity Fund Inc. As always, we appreciate that you have chosen us to

manage your assets and we remain focused on achieving the Fund s investment goals. Sincerely, Michael Clarfeld, CFA Portfolio Manager ClearBridge Investments, LLC Chris Eades Portfolio Manager ClearBridge Investments, LLC Richard A. Freeman Portfolio Manager ClearBridge Investments, LLC

Peter Vanderlee, CFA

Portfolio Manager

ClearBridge Investments, LLC

December 18, 2018

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RISKS: The Fund is a non-diversified, closed-end management investment company designed primarily as a long-term investment and not as a trading vehicle. The Fund is not intended to be a complete investment program and, due to the uncertainty inherent in all investments, there can be no assurance that the Fund will achieve its investment objective. The Fund's common stock is traded on the New York Stock Exchange. Similar to stocks, the Fund's share price will fluctuate with market conditions and, at the time of sale, may be worth more or less than the original investment. Shares of closed-end funds often trade at a discount to their net asset value. Because the Fund is non-diversified, it may be more susceptible to economic, political or regulatory events than a diversified fund. The Fund's investments are subject to a number of risks such as stock market risk, MLP and midstream entities risk, market events risk and portfolio management risk. MLP distributions are not guaranteed and there is no assurance that all distributions will be tax deferred. Investments in MLP securities and midstream entities are subject to unique risks. The Fund's concentration of investments in energy-related MLPs and midstream entities subjects it to the

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

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Fund overview (cont d)

risks of MLPs, midstream entities and the energy sector, including the risks of declines in energy or commodity prices, decreases in energy demand, adverse weather conditions, natural or other disasters, changes in government regulation, and changes in tax laws. Leverage may result in greater volatility of NAV and the market price of common shares, and increases a shareholder s risk of loss. The Fund may make significant investments in derivative instruments. Derivative instruments can be illiquid, may disproportionately increase losses, and have a potentially large impact on Fund performance. The Fund may invest in small-capitalization or illiquid securities, which can increase the risk and volatility of the Fund.

Portfolio holdings and breakdowns are as of November 30, 2018 and are subject to change and may not be representative of the portfolio managers current or future investments. The Fund s top ten holdings (as a percentage of total net assets) as of November 30, 2018 were: Enterprise Products Partners LP (14.0%), Energy Transfer Partners LP (10.8%), Genesis Energy LP (7.9%), Williams Cos. Inc. (7.5%), ONEOK Inc. (7.4%), Magellan Midstream Partners LP (7.0%), Targa Resources Corp. (6.1%), EnLink Midstream Partners LP (6.0%), Cheniere Energy Partners LP (5.6%) and Tallgrass Energy LP (5.6%). Please refer to pages 9 through 11 for a list and percentage breakdown of the Fund s holdings.

The mention of sector breakdowns is for informational purposes only and should not be construed as a recommendation to purchase or sell any securities. The information provided regarding such sectors is not a sufficient basis upon which to make an investment decision. Investors seeking financial advice regarding the appropriateness of investing in any securities or investment strategies discussed should consult their financial professional. The Fund s top five sector holdings (as a percentage of net assets) as of November 30, 2018 were: Diversified Energy Infrastructure (38.6%), Oil, Gas & Consumable Fuels (26.4%), Liquids Transportation & Storage (24.2%), Gathering/Processing (27.6%), and Natural Gas Transportation & Storage (10.6%). The Fund s portfolio composition is subject to change at any time.

All investments are subject to risk including the possible loss of principal. Past performance is no guarantee of future results. All index performance reflects no deduction for fees, expenses or taxes. Please note that an investor cannot invest directly in an index.

The information provided is not intended to be a forecast of future events, a guarantee of future results or investment advice. Views expressed may differ from those of the firm as a whole.

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- ¹ The S&P 500 Index is an unmanaged index of 500 stocks and is generally representative of the performance of larger companies in the U.S.
- ii The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 is a subset of the Russell 3000 Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2,000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 3000 Index measures the performance of the 3,000 largest U.S. companies based on total market capitalization, which represents approximately 98% of the U.S. equity market.
- iii The Russell 1000 Growth Index measures the performance of those Russell 1000 Index companies with higher price-to-book ratios and higher forecasted growth values. (A price-to-book ratio is the price of a stock compared to the difference between a company s assets and liabilities.) The Russell 1000 Index measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000 Index and includes approximately 1,000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 90% of the U.S. market.
- iv The Russell 1000 Value Index measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 Index companies with lower price-to-book ratios and lower expected growth values.
- Y The Russell 2000 Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 Index companies with higher price-to-value ratios and higher forecasted growth values.
- vi The Russell 2000 Value Index measures the performance of those Russell 2000 Index companies with lower price-to-book ratios and lower forecasted growth values.
- vii Gross domestic product (GDP) is the market value of all final goods and services produced within a country in a given period of time.
- viii The Federal Reserve Board (the Fed) is responsible for the formulation of U.S. policies designed to promote economic growth, full employment, stable prices and a sustainable pattern of international trade and payments.
- ix The federal funds rate is the rate charged by one depository institution on an overnight sale of immediately available funds (balances at the Federal Reserve) to another depository institution; the rate may vary from depository institution to depository institution and from day to day.
- x Net asset value (NAV) is calculated by subtracting total liabilities, including liabilities associated with financial leverage (if any, from the closing value of all securities held by the Fund (plus all other assets) and dividing the result (total net assets) by the total number of the common shares outstanding. The NAV fluctuates with changes in the market prices of securities in which the Fund has invested. However, the price at which an investor may buy or sell shares of the Fund is the Fund s market price as determined by supply of and demand for the Fund s shares.
- xi Lipper, Inc., a wholly-owned subsidiary of Reuters, provides independent insight on global collective investments. Returns are based on the twelve-month period ended November 30, 2018, including the reinvestment of all distributions, including returns of capital, if any, calculated among the 22 funds in the Fund s Lipper category.

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Fund at a glance (unaudited)

Investment breakdown (%) as a percent of total investments

The bar graph above represents the composition of the Fund s investments as of November 30, 2018 and November 30, 2017. The Fund is actively managed. As a result, the composition of the Fund s investments is subject to change at any time.

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Schedule of investments

November 30, 2018

ClearBridge Energy Midstream Opportunity Fund Inc.

Security	Shares/Units	Value
Master Limited Partnerships 127.4%		
Crude/Refined Products Pipelines 2.4%		
BP Midstream Partners LP	1,071,400	\$ 18,074,518
Diversified Energy Infrastructure 38.6%		
Energy Transfer LP	5,472,061	79,727,929
Enterprise Products Partners LP	3,915,417	102,779,696
Genesis Energy LP	2,652,650	58,490,933
Plains All American Pipeline LP	1,670,571	38,473,250
Plains GP Holdings LP, Class A Shares	217,965	4,823,565
Total Diversified Energy Infrastructure		284,295,373
Gathering/Processing 27.6%		
Antero Midstream Partners LP	178,000	4,923,480
Blueknight Energy Partners LP, Class L Shares	2,890,395	4,942,576
CNX Midstream Partners LP	907,100	16,418,510
DCP Midstream LP	1,017,576	34,678,990
Dominion Energy Midstream Partners LP	372,590	6,922,722
Enable Midstream Partners LP	2,067,075	27,574,781
EnLink Midstream Partners LP	3,345,820	44,265,199
EQM Midstream Partners LP	292,920	13,960,567
Noble Midstream Partners LP	349,640	11,583,573
Summit Midstream Partners LP	382,680	4,703,137
Western Gas Partners LP	742,594	33,000,877
Total Gathering/Processing		202,974,412
General Partner 5.6%		
Tallgrass Energy GP LP	1,934,210	41,314,726
Global Infrastructure 3.0%		
Brookfield Infrastructure Partners LP	581,950	22,213,031
Liquids Transportation & Storage 24.2%	,	
Buckeye Partners LP	1,205,629	35,638,393
Delek Logistics Partners LP	293,030	8,931,554
Enbridge Energy Partners LP	3,212,119	34,915,734
Global Partners LP	173,670	3,001,018
Holly Energy Partners LP	513,232	14,437,216
Magellan Midstream Partners LP	852,410	51,553,757
NuStar Energy LP	503,470	12,168,870
PBF Logistics LP	855,580	17,180,046
Total Liquids Transportation & Storage	,500	177,826,588
Natural Gas Transportation & Storage 10.6%		, ,
Cheniere Energy Partners LP	1,096,770	41,326,294
Spectra Energy Partners LP	389,550	14,121,187
111111111111111111111111111111111111111	,500	,,,

See Notes to Financial Statements.

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

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Schedule of investments (cont d)

November 30, 2018

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ClearBridge Energy Midstream Opportunity Fund Inc.

Security	Shares/Units		Value
Natural Gas Transportation & Storage continued			
TC PipeLines LP	755,630	\$	22,510,218
Total Natural Gas Transportation & Storage			77,957,699
Offshore 0.3%			
Dynagas LNG Partners LP	568,330		2,568,852
Oil, Gas & Consumable Fuels 3.2%			
Enviva Partners LP	665,000		19,105,450
Green Plains Partners LP	330,000		4,441,800
Total Oil, Gas & Consumable Fuels			23,547,250
Oil/Refined Products 7.2%			
Andeavor Logistics LP	618,798		23,093,541
MPLX LP	762,626		25,265,800
Shell Midstream Partners LP	253,200		4,770,288
Total Oil/Refined Products			53,129,629
Propane 3.9%			
AmeriGas Partners LP	568,761		21,135,159
Suburban Propane Partners LP	320,060		7,476,601
Total Propane			28,611,760
Shipping 0.8%			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
KNOT Offshore Partners LP	280,051		5,612,222
Total Master Limited Partnerships (Cost \$1,007,978,547)			938,126,060
2000 12000 2000 2000 42,000 17			>00,120,000
	Shares		
Common Stocks 25.0%			
Energy 23.2%			
Oil, Gas & Consumable Fuels 23.2%			
ONEOK Inc.	881,279		54,136,969
SemGroup Corp., Class A Shares	977,974		15,872,518
Targa Resources Corp.	1,010,353		45,092,054
Williams Cos. Inc.	2,189,675		55,442,571
Total Energy			170,544,112
Industrials 1.8%			
Transportation Infrastructure 1.8%			
Macquarie Infrastructure Corp.	318,880		13,297,296
Total Common Stocks (Cost \$205,611,870)			183,841,408
Total Investments before Short-Term Investments (Cost \$1,213,590,417)		1	,121,967,468

See Notes to Financial Statements.

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

ClearBridge Energy Midstream Opportunity Fund Inc.

Security	Rate	Shares	Value
Short-Term Investments 1.6%			
JPMorgan 100% U.S. Treasury Securities Money Market Fund, Institutional Class (Cost			
\$11,894,786)	2.070%	11,894,786	\$ 11,894,786
Total Investments* 154.0% (Cost \$1,225,485,203)			1,133,862,254
Mandatory Redeemable Preferred Stock, at Liquidation Value (6.5)%			(48,000,000)
Liabilities in Excess of Other Assets (47.5)%			(349,698,156)
Total Net Assets Applicable to Common Shareholders 100.0%			\$ 736,164,098

^{*}The entire portfolio is subject to lien, granted to the lender and Senior Note holders, to the extent of the borrowing outstanding and any additional expenses.

See Notes to Financial Statements.

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

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Statement of assets and liabilities

November 30, 2018

Assets: Investments, at value (Cost \$1,225,485,203) Cash Income tax receivable Dividends and distributions receivable Interest receivable Prepaid expenses Total Assets		,133,862,254 966,563 3,133,543 273,516 33,691 85,161 ,138,354,728
Liabilities: Senior Secured Notes (net of deferred debt issuance and offering costs of \$888,062) (Note 6) Loan payable (Note 5) Mandatory Redeemable Preferred Stock (\$100,000 liquidation value per share; 480 shares issued and outstanding) (net of deferred offering costs of \$539,117) (Note 7) Deferred tax liability (Note 10) Interest payable Investment management fee payable Distributions payable to Mandatory Redeemable Preferred Stockholders Directors fees payable Accrued expenses Total Liabilities Total Net Assets Applicable to Common Shareholders		246,111,938 96,000,000 47,460,883 8,819,221 2,069,288 937,109 98,888 28,278 665,025 402,190,630 736,164,098
Net Assets Applicable to Common Shareholders: Common stock par value (\$0.001 par value; 71,713,987 shares issued and outstanding; 100,000,000 common shares authorized) Paid-in capital in excess of par value Total distributable earnings (loss), net of income taxes Total Net Assets Applicable to Common Shareholders Common Shares Outstanding	(71,714 862,445,989 126,353,605) 736,164,098 71,713,987
Net Asset Value Per Common Share		\$10.27

See Notes to Financial Statements.

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Statement of operations

For the Year Ended November 30, 2018

Investment Income:	
Dividends and distributions	\$ 44,891,608
Return of capital (Note 1(f))	(41,117,561)
Net Dividends and Distributions	3,774,047
Interest	123,048
Total Investment Income	3,897,095
Expenses:	
Interest expense (Notes 5 and 6)	5,713,630
Investment management fee (Note 2)	5,674,760
Distributions to Mandatory Redeemable Preferred Stockholders (Notes 1 and 7)	977,099
Legal fees	297,947
Audit and tax fees	292,085
Amortization of debt issuance and offering costs (Note 6)	128,399
Commitment fees (Note 5)	108,338
Directors fees	101,745
Transfer agent fees	92,940
Amortization of preferred stock offering costs (Note 7)	60,570
Franchise taxes	57,200
Fund accounting fees	53,416
Shareholder reports	26,117
Rating agency fees	19,172
Stock exchange listing fees	15,989
Custody fees	7,505
Insurance	6,360
Miscellaneous expenses	76,811
Total Expenses	13,710,083
Less: Fee waivers and/or expense reimbursements (Note 2)	(18,663)
Net Expenses	13,691,420
Net Investment Loss, before income taxes	(9,794,325)
Net current and deferred tax benefit (Note 10)	11,779,222
Net Investment Income, net of income taxes	1,984,897
Realized and Unrealized Gain (Loss) on Investments (Notes 1, 3 and 10):	
Net Realized Gain (Loss) From:	26.175.015
Investment transactions	26,475,945
Deferred tax expense (Note 10)	(15,886,084)
Net Realized Gain, net of income taxes	10,589,861
Change in Net Unrealized Appreciation (Depreciation) From:	(22.014.141)
Investments Deferred tax benefit (Note 10)	(32,914,141) 15,787,962
Change in Net Unrealized Appreciation (Depreciation), net of income taxes	15,787,962 (17,126,179)
Net Loss on Investments, net of income taxes	(6,536,318)
Decrease in Net Assets Applicable to Common Shareholders From Operations	\$ (4,551,421)
Decrease in Net Assets Applicable to Common Shareholders From Operations	φ (4,551,421)

See Notes to Financial Statements.

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

Statements of changes in net assets

For the Years Ended November 30,	2018	2017
Operations: Net investment income (loss), net of income taxes Net realized gain, net of income taxes Change in net unrealized appreciation (depreciation), net of income taxes Decrease in Net Assets Applicable to Common Shareholders From Operations	\$ 1,984,897 10,589,861 (17,126,179) (4,551,421)	\$ (6,105,529) 9,826,119 (40,847,878) (37,127,288)
Distributions to Common Shareholders From (Note 1): Dividends Return of capital Decrease in Net Assets From Distributions to Common Shareholders	(13,290,715) (39,605,970) (52,896,685)	(39,930,952) (39,930,952)
Fund Share Transactions: Net assets of shares issued in connection with merger (40,517,975 shares issued) (Note 9) Cost of aggregate fractional shares repurchased (44 aggregate fractional shares repurchased) (Note 9) Increase in Net Assets From Fund Share Transactions Increase (Decrease) in Net Assets Applicable to Common Shareholders	439,010,871 (481) 439,010,390 381,562,284	(77,058,240)
Net Assets Applicable to Common Shareholders: Beginning of year End of year ¹	354,601,814 \$ 736,164,098	431,660,054 \$ 354,601,814

Parenthetical disclosure of undistributed net investment income is no longer required. See Note 12. For the year ended November 30, 2017, end of year net assets included accumulated net investment loss, net of income taxes, of \$(50,693,872).

See Notes to Financial Statements.

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Statement of cash flows

For the Year Ended November 30, 2018

Increase (Decrease) in Cash: Cash Provided (Used) by Operating Activities: Net decrease in net assets applicable to common shareholders resulting from operations \$ (4,551,421) Adjustments to reconcile net decrease in net assets resulting from operations to net cash provided (used) by operating activities: Purchases of portfolio securities (86,611,023) Sales of portfolio securities 104,160,265 Net purchases, sales and maturities of short-term investments 6.317,775 Return of capital 41,117,561 Decrease in dividends and distributions receivable 2,871,333 Increase in interest receivable (21,338)Increase in prepaid expenses (8,113)Decrease in receivable for securities sold 4,604,487 (2,230,843)Increase in income tax receivable Increase in investment management fee payable 161,476 Increase in Directors fee payable 1,564 122,988 Increase in interest payable Increase in accrued expenses 48,637 Increase in distributions payable to Mandatory Redeemable Preferred Stockholders 33,019 Decrease in deferred tax liability (9,407,323)Net realized gain on investments (26,475,945)Change in net unrealized appreciation (depreciation) of investments 32,914,141 Net Cash Provided by Operating Activities* 63,047,240 **Cash Flows From Financing Activities:** Distributions paid on common stock (52,896,685)Proceeds from loan facility borrowings 13,000,000 Repayment of loan facility borrowings (22,000,000)Payment for fractional shares repurchased (481)Decrease in deferred debt issuance and offering costs 128,399 Decrease in preferred stock offering costs 60,570 Net Cash Provided in Financing Activities (61,708,197)Net Increase in Cash and Restricted Cash 1,339,043 Cash at beginning of year Cash acquired in connection with the reorganization (372.480)Cash at end of year 966,563

Excludes assets and liabilities acquired in reorganization.

The following table provides a reconciliation of cash and restricted cash reported with the Statement of Assets and Liabilities that sums to the total of the such amounts shown on the Statement of Cash Flows.

November 30, 2018
Cash
Sestricted cash
Total cash and restricted cash shown in the Statement of Cash Flows
Section Statement o

^{*}Included in operating expenses is cash of \$5,170,164 paid for interest and commitment fees on borrowings and \$396 refunded for income taxes.

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See Notes to Financial Statements.

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

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Financial highlights

For a common share of capital stock outstanding throughout each year ended I	November 30:				
	2018 ¹	20171	20161	20151	20141
Net asset value, beginning of year	\$11.37	\$13.84	\$15.25	\$25.80	\$23.53
Income (loss) from operations:					
Net investment income (loss)	0.06	(0.20)	(0.40)	(0.18)	(0.29)
Net realized and unrealized gain (loss)	0.12	(0.99)	0.27	(8.86)	3.96
Total income (loss) from operations	0.18	(1.19)	(0.13)	(9.04)	3.67
Less distributions to common shareholders from:					
Dividends	(0.32)				
Return of capital	(0.96)	(1.28)	(1.28)	(1.51)	(1.40)
Total distributions to common shareholders	(1.28)	(1.28)	(1.28)	(1.51)	(1.40)
Net asset value, end of year	\$10.27	\$11.37	\$13.84	\$15.25	\$25.80
Market price, end of year	\$9.23	\$10.47	\$12.83	\$14.71	\$23.55
Total return, based on NAV ^{2,3}	0.67%	(9.34)%	0.68%	(36.35)%	15.64%
Total return, based on Market Price ⁴	(0.87)%	(9.54)%	(2.83)%	(32.14)%	8.38%
Net assets applicable to common shareholders, end of year (millions)	\$736	\$355	\$432	\$473	\$798
Ratios to average net assets:					
Management fees	1.49%	1.43%	1.43%	1.44%	1.27%
Other expenses	2.12	1.72	2.65^{5}	1.49	0.93
Subtotal	3.61	3.15	<i>4.08</i> ⁵	2.93	2.20
Income tax expenses	6	6	0.10	6	8.20
Total gross expenses	3.61	3.15	4.18^{5}	2.93	10.40
Total net expenses	3.60	3.15	4.18^{5}	2.93	10.40
Net investment income (loss), net of income taxes	0.52	(1.45)	$(3.12)^5$	(0.84)	(1.15)
Portfolio turnover rate	14%	16%	23%	8%	10%
Supplemental data:					
Loan and Debt Issuance Outstanding, End of Year (000s)	\$343,000	\$158,000	\$147,000	\$235,000	\$250,000
Asset Coverage Ratio for Loan and Debt Issuance Outstanding ⁷	329%	339%	409%	331%	419%
Asset Coverage, per \$1,000 Principal Amount of Loan and Debt Issuance					
Outstanding ⁷	\$3,286	\$3,390	\$4,093	\$3,312	\$4,1918
Weighted Average Loan and Debt Issuance (000s)	\$163,197	\$157,819	\$137,883	\$247,384	\$217,260
Weighted Average Interest Rate on Loan and Debt Issuance	3.51%	3.32%	4.38%9	2.76%	2.90%
Mandatory Redeemable Preferred Stock at Liquidation Value, End of Year (000s)	\$48,000	\$23,000	\$23,000	\$70,000	
Asset Coverage Ratio for Mandatory Redeemable Preferred Stock ¹⁰ Asset Coverage, per \$100,000 Liquidation Value per Share of Mandatory	288%	296%	354%	255%	
Redeemable Preferred Stock ¹⁰	\$288,277	\$295,913	\$353,918	\$255,188	

See Notes to Financial Statements.

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

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1	Per share amounts have been calculated using the average shares method.
2	Performance figures may reflect compensating balance arrangements, fee waivers and/or expense reimbursements. In the absence of compensating balance arrangements, fee waivers and/or expense reimbursements, the total return would have been lower. Past performance is no guarantee of future results.
3	The total return calculation assumes that distributions are reinvested at NAV. Past performance is no guarantee of future results.
4	The total return calculation assumes that distributions are reinvested in accordance with the Fund s dividend reinvestment plan. Past performance is no guarantee of future results.
5	Includes non-recurring prepayment penalties, the write off of debt issuance and offering costs and the write off of preferred stock offering costs recognized during the period totaling 0.66% of average assets.
6	For the years ended November 30, 2018, 2017 and 2015, the net income tax benefit was 3.08%, 4.20% and 23.47%, respectively. The net income tax benefit is not reflected in the Fund s expense ratios.
7	Represents value of net assets plus the loan outstanding, debt issuance outstanding and mandatory redeemable preferred stock at the end of the period divided by the loan and debt issuance outstanding at the end of the period.
8	Added to conform to current period presentation.
9	Includes prepayment penalties recognized during the period.
	Represents value of net assets plus the loan outstanding, debt issuance outstanding and mandatory redeemable preferred stock at the end of the period divided by the loan, debt issuance and mandatory redeemable preferred stock outstanding at the end of the period. Calculation of the net gain per share (both realized and unrealized) does not correlate to the aggregate realized and unrealized losses presented in the Statement of Operations due to the change in fund shares outstanding resulting from the transfer of assets in relation to fluctuating market values of the investment of the Fund.
	See Notes to Financial Statements.

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Notes to financial statements

1. Organization and significant accounting policies

ClearBridge Energy Midstream Opportunity Fund Inc. (formerly ClearBridge Energy MLP Opportunity Fund Inc.) (the Fund) was incorporated in Maryland on April 05, 2011 and is registered as a non-diversified, closed-end management investment company under the Investment Company Act of 1940, as amended (the 1940 Act). The Board of Directors authorized 100 million shares of \$0.001 par value common stock. The Fund s investment objective is to provide long-term investors a high level of total return with an emphasis on cash distributions. There can be no assurance that the Fund will achieve its investment objective.

Effective November 19, 2018, the Fund seeks to achieve its objective by investing primarily in energy midstream entities. Under normal market conditions, the Fund invests at least 80% of its Managed Assets in energy midstream entities including entities structured as both partnerships and corporations (the 80% policy). For purposes of the 80% policy, the Fund considers investments in midstream entities as those entities that provide midstream services including the gathering, transporting, processing, fractionation, storing, refining, and distribution of oil, natural gas liquids and natural gas. The Fund considers an entity to be within the Energy sector if it derives at least 50% of its revenues from the business of exploring, developing, producing, gathering, transporting, processing, fractionating, storing, refining, distributing, mining or marketing natural gas, natural gas liquids (including propane), crude oil, refined petroleum products or coal. Managed Assets means net assets plus the amount of borrowings and assets attributable to any preferred stock of the Fund that may be outstanding. Prior to November 19, 2018, the Fund s investment policy provided that at least 80% of its managed assets be invested in energy master limited partnerships (MLPs).

The following are significant accounting policies consistently followed by the Fund and are in conformity with U.S. generally accepted accounting principles (GAAP). Estimates and assumptions are required to be made regarding assets, liabilities and changes in net assets resulting from operations when financial statements are prepared. Changes in the economic environment, financial markets and any other parameters used in determining these estimates could cause actual results to differ. Subsequent events have been evaluated through the date the financial statements were issued.

(a) Investment valuation. Equity securities for which market quotations are available are valued at the last reported sales price or official closing price on the primary market or exchange on which they trade. The valuations for fixed income securities (which may include, but are not limited to, corporate, government, municipal, mortgage-backed, collateralized mortgage obligations and asset-backed securities) and certain derivative instruments are typically the prices supplied by independent third party pricing services, which may use market prices or broker/dealer quotations or a variety of valuation techniques and methodologies. The independent third party pricing services use inputs that are observable such as issuer details, interest rates, yield curves, prepayment speeds, credit risks/spreads, default rates and quoted prices for similar securities. Investments in open-end funds are valued at the closing net asset value per share of each fund on the day of valuation. When the Fund holds securities or other assets that are denominated in a

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

foreign currency, the Fund will normally use the currency exchange rates as of 4:00 p.m. (Eastern Time). If independent third party pricing services are unable to supply prices for a portfolio investment, or if the prices supplied are deemed by the manager to be unreliable, the market price may be determined by the manager using quotations from one or more broker/dealers or at the transaction price if the security has recently been purchased and no value has yet been obtained from a pricing service or pricing broker. When reliable prices are not readily available, such as when the value of a security has been significantly affected by events after the close of the exchange or market on which the security is principally traded, but before the Fund calculates its net asset value, the Fund values these securities as determined in accordance with procedures approved by the Fund s Board of Directors.

The Board of Directors is responsible for the valuation process and has delegated the supervision of the daily valuation process to the Legg Mason North Atlantic Fund Valuation Committee (the Valuation Committee). The Valuation Committee, pursuant to the policies adopted by the Board of Directors, is responsible for making fair value determinations, evaluating the effectiveness of the Fund s pricing policies, and reporting to the Board of Directors. When determining the reliability of third party pricing information for investments owned by the Fund, the Valuation Committee, among other things, conducts due diligence reviews of pricing vendors, monitors the daily change in prices and reviews transactions among market participants.

The Valuation Committee will consider pricing methodologies it deems relevant and appropriate when making fair value determinations. Examples of possible methodologies include, but are not limited to, multiple of earnings; discount from market of a similar freely traded security; discounted cash-flow analysis; book value or a multiple thereof; risk premium/yield analysis; yield to maturity; and/or fundamental investment analysis. The Valuation Committee will also consider factors it deems relevant and appropriate in light of the facts and circumstances. Examples of possible factors include, but are not limited to, the type of security; the issuer s financial statements; the purchase price of the security; the discount from market value of unrestricted securities of the same class at the time of purchase; analysts research and observations from financial institutions; information regarding any transactions or offers with respect to the security; the existence of merger proposals or tender offers affecting the security; the price and extent of public trading in similar securities of the issuer or comparable companies; and the existence of a shelf registration for restricted securities.

For each portfolio security that has been fair valued pursuant to the policies adopted by the Board of Directors, the fair value price is compared against the last available and next available market quotations. The Valuation Committee reviews the results of such back testing monthly and fair valuation occurrences are reported to the Board of Directors quarterly.

The Fund uses valuation techniques to measure fair value that are consistent with the market approach and/or income approach, depending on the type of security and the particular circumstance. The market approach uses prices and other relevant information generated by

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Notes to financial statements (cont d)

market transactions involving identical or comparable securities. The income approach uses valuation techniques to discount estimated future cash flows to present value.

GAAP establishes a disclosure hierarchy that categorizes the inputs to valuation techniques used to value assets and liabilities at measurement date. These inputs are summarized in the three broad levels listed below:

Level 1 quoted prices in active markets for identical investments

Level 2 other significant observable inputs (including quoted prices for similar investments, interest rates, prepayment speeds, credit risk, etc.)

Level 3 significant unobservable inputs (including the Funds own assumptions in determining the fair value of investments)

The inputs or methodologies used to value securities are not necessarily an indication of the risk associated with investing in those securities.

The following is a summary of the inputs used in valuing the Fund s assets carried at fair value:

	ASSET	3		
	Quoted Prices	Other Significant Observable Inputs	Significant Unobservable Inputs	
Description	(Level 1)	(Level 2)	(Level 3)	Total
Long-term investments:				
Master limited partnerships	\$ 938,126,060			\$ 938,126,060
Common stocks	183,841,408			183,841,408
Total long-term investments	1,121,967,468			1,121,967,468
Short-term investments	11,894,786			11,894,786
Total investments	\$ 1,133,862,254			\$ 1,133,862,254

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See Schedule of Investments for additional detailed categorizations.

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(b) Net asset value. The Fund determines the net asset value of its common stock on each day the NYSE is open for business, as of the close of the customary trading session (normally 4:00 p.m. Eastern Time), or any earlier closing time that day. The Fund determines the net asset value per share of common stock by dividing the value of the Fund s securities, cash and other assets (including interest accrued but not collected) less all its liabilities (including accrued expenses, borrowings, interest payables and the aggregate liquidation value (i.e., \$100,000 per outstanding share) of the Mandatory Redeemable Preferred Stock), net of income taxes, by the total number of shares of common stock outstanding.

(c) Master limited partnerships. Entities commonly referred to as MLPs are generally organized under state law as limited partnerships or limited liability companies. The Fund intends to primarily invest in MLPs receiving partnership taxation treatment under the Internal Revenue Code of 1986, as amended (the Code), and whose interests or units are traded on securities exchanges like shares of corporate stock. To be treated as a partnership

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for U.S. federal income tax purposes, an MLP whose units are traded on a securities exchange must receive at least 90% of its income from qualifying sources such as interest, dividends, real estate rents, gain from the sale or disposition of real property, income and gain from mineral or natural resources activities, income and gain from the transportation or storage of certain fuels, and, in certain circumstances, income and gain from commodities or futures, forwards and options with respect to commodities. Mineral or natural resources activities include exploration, development, production, processing, mining, refining, marketing and transportation (including pipelines) of oil and gas, minerals, geothermal energy, fertilizer, timber or industrial source carbon dioxide. An MLP consists of a general partner and limited partners (or in the case of MLPs organized as limited liability companies, a managing member and members). The general partner or managing member typically controls the operations and management of the MLP and has an ownership stake in the partnership. The limited partners or members, through their ownership of limited partner or member interests, provide capital to the entity, are intended to have no role in the operation and management of the entity and receive cash distributions. The MLPs themselves generally do not pay U.S. federal income taxes. Thus, unlike investors in corporate securities, direct MLP investors are generally not subject to double taxation (i.e., corporate level tax and tax on corporate dividends). Currently, most MLPs operate in the energy and/ or natural resources sector.

- (d) Concentration risk. Concentration in the energy sector may present more risks than if the Fund were broadly diversified over numerous sectors of the economy. A downturn in the energy sector of the economy could have a larger impact on the Fund than on an investment company that does not concentrate in the sector. At times, the performance of securities of companies in the sector may lag the performance of other sectors or the broader market as a whole.
- (e) Security transactions and investment income. Security transactions are accounted for on a trade date basis. Interest income (including interest income from payment-in-kind securities), adjusted for amortization of premium and accretion of discount, is recorded on the accrual basis. Dividend income is recorded on the ex-dividend date for dividends received in cash and/or securities. Foreign dividend income is recorded on the ex-dividend date or as soon as practicable after the Fund determines the existence of a dividend declaration after exercising reasonable due diligence. The cost of investments sold is determined by use of the specific identification method. To the extent any issuer defaults or a credit event occurs that impacts the issuer, the Fund may halt any additional interest income accruals and consider the realizability of interest accrued up to the date of default or credit event.
- (f) 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 the MLPs after their tax reporting periods are concluded.

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Notes to financial statements (cont d)

For the year ended November 30, 2018, the Fund estimated that approximately 93% of the MLP distributions received would be treated as a return of capital. The Fund recorded as return of capital the amount of \$41,724,554 of dividends and distributions received from its investments.

Additionally, the Fund recorded revisions to the return of capital estimates from the year ended November 30, 2017 in the amount of a \$606,993 increase in dividends and distributions received from investments.

- (g) 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 accordingly adjusts the cost basis of the underlying partnerships for return of capital. These amounts are included in the Fund s Statement of Operations.
- (h) Distributions to shareholders. Distributions to common shareholders are declared and paid on a quarterly basis and are recorded on the ex-dividend date. The estimated characterization of the distributions paid to common shareholders will be either a dividend (ordinary income) or distribution (return of capital). This estimate is based on the Fund s operating results during the year. The Fund has generated sufficient current year earnings and profits for tax purposes from gains realized on the sale of its MLP investments such that approximately 25% of the distributions paid during the current year will be treated as dividend income. Because the Fund is taxed as a C Corporation, the distributions paid by the Fund are considered to be dividend income to the extent that the distributions are paid out of the Fund s current net income and realized capital gains. The actual tax characterization of the common stock distributions made during the current year will not be determined until after the end of the fiscal year when the Fund can determine its earnings and profits and, therefore, may differ from the preliminary estimates.

Distributions to holders of Mandatory Redeemable Preferred Stock (MRPS) are accrued on a daily basis as described in Note 7 and are treated as an operating expense as required by GAAP. For tax purposes, the payments made to the holders of the Funds MRPS are treated as a dividend (ordinary income) or distribution (return of capital) similar to the treatment of distributions made to common shareholders as described above. The Fund anticipates that 100% of its current year distribution to the MRPS shareholders will be treated as dividend income. The actual tax characterization of the MRPS distributions made during the current year will not be determined until after the end of the fiscal year when the Fund can determine its earnings and profits and, therefore, may differ from the preliminary estimates.

- (i) Compensating balance arrangements. The Fund has an arrangement with its custodian bank whereby a portion of the custodian s fees is paid indirectly by credits earned on the Fund s cash on deposit with the bank.
- (j) Federal and other taxes. The Fund, as a corporation, is obligated to pay federal and state income tax on its taxable income. The Fund invests its assets primarily in MLPs, which generally are treated as partnerships for federal income tax purposes. As a limited partner in the MLPs, the Fund includes its allocable share of the MLP s taxable income in computing

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its own taxable income. The Fund, and entities in which the Fund invests, may be subject to audit by the Internal Revenue Service or other applicable tax authorities. The Fund s taxable income or tax liability for prior taxable years could be adjusted if there is an audit of the Fund, or of any entity that is treated as a partnership for tax purposes in which the Fund holds an equity interest. The Fund may be required to pay tax, as well as interest and penalties, in connection with such an adjustment.

Deferred income taxes reflect (i) taxes on unrealized gains (losses), which are attributable to the temporary difference between fair market value and book basis, (ii) the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and, as applicable, (iii) the net tax benefit of accumulated net operating losses, capital losses and tax credit carryforwards. To the extent the Fund has a deferred tax asset, consideration is given as to whether or not a valuation allowance is required. The need to establish a valuation allowance for deferred tax assets is assessed periodically by the Fund based on Financial Accounting Standards Board (FASB), Accounting Standards Codification Topic 740, Income Taxes (ASC 740) that it is more likely than not that some portion or all of the deferred tax asset will not be realized. In the assessment for a valuation allowance, consideration is given to all positive and negative evidence related to the realization of the deferred tax asset. This assessment considers, among other matters, the nature, frequency and severity of current and cumulative losses, forecasts of future profitability (which are highly dependent on future allocations of taxable income and future cash distributions from the Fund s MLP holdings), the duration of statutory carryforward periods and the associated risk that net operating losses, capital losses and tax credit carryforwards may expire unused.

For all open tax years and for all major jurisdictions, management of the Fund has concluded that there are no significant uncertain tax positions that would require recognition in the financial statements. Furthermore, management of the Fund is also not aware of any tax positions for which it is reasonably possible that the total amounts of unrecognized tax benefits will significantly change in the next twelve months.

The Fund may rely to some extent on information provided by the MLPs, which may not necessarily be timely, to estimate taxable income allocable to the MLP units held in the portfolio and to estimate the associated deferred tax liability. Such estimates are made in good faith. From time to time, as new information becomes available, the Fund modifies its estimates or assumptions regarding the deferred tax liability.

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. The 2014 through 2017 tax years remain open and subject to examination by tax jurisdictions.

(k) Reclassification. GAAP requires that certain components of net assets be reclassified to reflect permanent differences between financial and tax reporting. These reclassifications have no effect on net assets or net asset value per share. During the year ended Novembe 30, 2018, the Fund had no reclassification.

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Notes to financial statements (cont d)

2. Investment management agreement and other transactions with affiliates

Legg Mason Partners Fund Advisor, LLC (LMPFA) is the Fund s investment manager and ClearBridge Investments, LLC (ClearBridge) is the Fund s subadviser. LMPFA and ClearBridge are wholly-owned subsidiaries of Legg Mason, Inc. (Legg Mason).

Under the investment management agreement, the Fund pays LMPFA an annual fee, paid monthly, in an amount equal to 1.00% of the Fund s average daily Managed Assets.

LMPFA provides administrative and certain oversight services to the Fund. LMPFA delegates to the subadviser the day-to-day portfolio management of the Fund. For its services, LMPFA pays ClearBridge monthly an aggregate fee equal to 70% of the net management fee it receives from the Fund.

Effective November 19, 2018 LMPFA agreed to a waiver in the amount of 0.05% of the investment management fee that is paid to it by the Fund. The waiver will extend through December 1, 2019.

During periods in which the Fund utilizes financial leverage, the fees paid to LMPFA will be higher than if the Fund did not utilize leverage because the fees are calculated as a percentage of the Fund s assets, including those investments purchased with leverage.

During the year ended November 30, 2018, fees waived and/or expenses reimbursed amounted to \$18,663.

All officers and one Director of the Fund are employees of Legg Mason or its affiliates and do not receive compensation from the Fund.

3. Investments

During the year ended November 30, 2018, the aggregate cost of purchases and proceeds from sales of investments (excluding short-term investments) were as follows:

 Purchases
 \$ 86,611,023

 Sales
 104,160,265

4. Derivative instruments and hedging activities

During the year ended November 30, 2018, the Fund did not invest in derivative instruments.

5. Loan

Effective November 16, 2018, the Fund has a revolving credit agreement with The Bank of Nova Scotia (Credit Agreement), which allows the Fund to borrow up to an aggregate amount of \$175,000,000 (\$75,000,000 for the period May 29, 2018 through November 15, 2018) and renews daily for a 179-day term, unless notice to the contrary is given to the Fund. The Fund pays a commitment fee on the unutilized portion of the loan commitment amount at an annual rate of 0.25%, except that the commitment fee is 0.15% in the event that the aggregate outstanding principal balance of the loan is equal to or greater than 75% of \$175,000,000. The interest on the loan is calculated at a variable rate based on LIBOR

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plus any applicable margin. Securities held by the Fund are subject to a lien, granted to The Bank of Nova Scotia, to the extent of the borrowing outstanding and any additional expenses. The Fund s Credit Agreement contains customary covenants that, among other things, may limit the Fund s ability to pay distributions in certain circumstances, incur additional debt, change its fundamental investment policies and engage in certain transactions, including mergers and consolidations and require asset coverage ratios in addition to those required by the 1940 Act. In addition, the Credit Agreement may be subject to early termination under certain conditions and may contain other provisions that could limit the Fund s ability to utilize borrowing under the agreement. Interest expense related to this loan for the year ended November 30, 2018 was \$573,693. For the year ended November 30, 2018, the Fund incurred commitment fees of \$55,029. For the year ended November 30, 2018, based on the number of days during the reporting period that the Fund had an outstanding balance under the Credit Agreement, the Fund had an average daily loan balance outstanding of \$39,978,495 and the weighted average interest rate was 2.82%. At November 30, 2018, the Fund had \$96,000,000 of borrowings outstanding per this credit agreement.

Prior to May 29, 2018, the Fund had a 364-day revolving credit agreement with State Street Bank and Trust Company (Prior Credit Agreement), which allowed the Fund to borrow up to an aggregate amount of \$75,000,000. The Prior Credit Agreement terminated on May 29, 2018 and was repaid directly by proceeds from the Credit Agreement. The Fund paid a commitment fee at an annual rate of 0.25% on the unutilized portion of the loan commitment amount. The interest on the loan was calculated at variable rates based on LIBOR, plus any applicable margin. Securities held by the Fund were subject to a lien, granted to State Street Bank and Trust Company, to the extent of the borrowing outstanding and any additional expenses. The Fund s Prior Credit Agreement contained customary covenants that, among other things, may have limited the Fund s ability to pay distributions in certain circumstances, incur additional debt, change its fundamental investment policies and engage in certain transactions, including mergers and consolidations and require asset coverage ratios in addition to those required by the 1940 Act. In addition, the Prior Credit Agreement may have been subject to early termination under certain conditions and may have contained other provisions that could have limited the Fund s ability to utilize borrowing under the agreement. Interest expense related to this loan for the period ended May 29, 2018 was \$404,396. For the period ended May 29, 2018, the Fund incurred commitment fees of \$53,309. For the period ended May 29, 2018, based on the number of days during the reporting period that the Fund had an outstanding balance under the Prior Credit Agreement, the Fund had an average daily loan balance outstanding of \$32,111,732 and the weighted average interest rate was 2.57%.

6. Senior secured notes

At November 30, 2018, the Fund had \$247,000,000 aggregate principal amount of fixed-rate senior secured notes (Senior Notes) outstanding. Interest expense related to the Senior Notes for the year ended November 30, 2018 was \$4,735,541. Costs incurred by the Fund in connection with the Senior Notes are recorded as a deferred charge, which are amortized

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

Notes to financial statements (cont d)

over the life of the notes. Securities held by the Fund are subject to a lien, granted to the Senior Notes holders, to the extent of the borrowings outstanding and any additional expenses. The Senior Notes holders and the lender have equal access to the lien (See Note 5).

The table below summarizes the key terms of each series of Senior Notes at November 30,

2018.

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				Estillated
Security	Amount	Rate	Maturity	Fair Value
Senior secured notes: Series A	\$ 27,420,382	3.27%	February 7, 2020	\$ 27,233,752
Series B	\$ 34,471,338	3.87%	February 7, 2020	\$ 34,176,650
Series C	\$ 41,522,293	4.02%	February 7, 2025	\$ 41,176,275
Series D	\$ 15,668,790	3.33%	August 26, 2022	\$ 15,228,476
Series E	\$ 3,917,197	3.76%	August 26, 2026	\$ 3,778,014
Series F	\$ 33,695,652	3.89%	October 15, 2020	\$ 33,570,925
Series G	\$ 47,847,826	4.51%	October 15, 2023	\$ 48,691,872
Series H	\$ 42,456,522	4.66%	October 15, 2025	\$ 43,498,646
	\$ 247,000,000			\$ 247,354,610

Estimated

The Senior Notes are not listed on any exchange or automated quotation system. The estimated fair value of the Senior Notes was calculated, for disclosure purposes, based on estimated market yields and credit spreads for comparable instruments with similar maturity, terms and structure. The Senior Notes are categorized as Level 3 within the fair value hierarchy.

7. Mandatory redeemable preferred stock

At November 30, 2018, the Fund had 480 shares of fixed rate Mandatory Redeemable Preferred Stock (MRPS) outstanding with an aggregate liquidation value of \$48,000,000. Offering costs incurred by the Fund in connection with the MRPS issuance are being amortized to expense over the respective life of each series of MRPS.

The table below summarizes the key terms of each series of the MRPS at November 30, 2018.

	Term			Liquidation	Aggregate	
	Redemption			Preference	Liquidation	Estimated
Series	Date	Rate	Shares	Per Share	Value	Fair Value
Series A	3/26/2020	3.69%	49	\$ 100,000	\$ 4,900,000	\$ 4,856,085
Series B	3/28/2022	4.07%	41	\$ 100,000	\$ 4,100,000	\$ 4,023,752
Series C	3/26/2024	4.26%	140	\$ 100,000	\$ 14,000,000	\$ 13,693,411
Series D	7/23/2024	4.37%	30	\$ 100,000	\$ 3,000,000	\$ 2,929,588
Series E	7/23/2026	4.55%	70	\$ 100,000	\$ 7,000,000	\$ 6,821,266
Series F	8/7/2022	4.01%	41	\$ 100,000	\$ 4,100,000	\$ 3,990,912
Series G	8/7/2024	4.30%	109	\$ 100,000	\$ 10,900,000	\$ 10,605,231
					\$ 48,000,000	\$ 46,920,245

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

The MRPS are not listed on any exchange or automated quotation system. The estimated fair value of the MRPS was calculated, for disclosure purposes, based on estimated market yields and credit spreads for comparable instruments with similar maturity, terms and structure. The MRPS are categorized as Level 3 within the fair value hierarchy.

Holders of MRPS are entitled to receive quarterly cumulative cash dividends payable on the first business day following each quarterly dividend date (February 15, May 15, August 15 and November 15). In the event of a rating downgrade of any series of the MRPS below A by Fitch Ratings Inc., the applicable dividend rate will increase, according to a predetermined schedule, by 0.5% to 4.0%.

The MRPS rank senior to the Fund s outstanding common stock and on parity with any other preferred stock. The Fund may, at its option, redeem the MRPS, in whole or in part, at the liquidation preference amount plus all accumulated but unpaid dividends plus the make whole amount equal to the discounted value of the remaining scheduled payments. If the Fund fails to maintain a total leverage (debt and preferred stock) asset coverage ratio of at least 225% or is in default of specified rating agency requirements, the MRPS are subject to mandatory redemption under certain provisions.

The Fund may not declare dividends or make other distributions on shares of its common stock unless the Fund has declared and paid full cumulative dividends on the MRPS, due on or prior to the date of the common stock dividend or distribution, and meets the MRPS asset coverage and rating agency requirements.

The holders of the MRPS have one vote per share and vote together with the holders of common stock of the Fund as a single class except on matters affecting only the holders of MRPS or the holders of common stock. Pursuant to the 1940 Act, holders of the MRPS have the right to elect two Directors of the Fund, voting separately as a class.

8. Stock repurchase program

On November 16, 2015, the Fund announced that the Fund s Board of Directors (the Board) had authorized the Fund to repurchase in the open market up to approximately 10% of the Fund s outstanding common stock when the Fund s shares are trading at a discount to net asset value. The Board has directed management of the Fund to repurchase shares of common stock at such times and in such amounts as management reasonably believes may enhance stockholder value. The Fund is under no obligation to purchase shares at any specific discount levels or in any specific amounts. During the year ended November 30, 2018, the Fund did not repurchase any shares.

9. Transfer of net assets

On November 16, 2018, the Fund acquired the assets and certain liabilities of ClearBridge American Energy MLP Fund Inc. (the Acquired Fund), pursuant to a plan of reorganization approved by shareholders of both the Acquired Fund and the Fund. Total shares issued by

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MLP Fund Inc.

Notes to financial statements (cont d)

the Fund and the total net assets of the Acquired Fund and the Fund on the date of the transfer were as follows:

40.517.975

Total Net Assets Shares Issued Total Net Assets of the Acquired Fund by the Fund Acquired Fund of the Fund ClearBridge American Energy \$ 439,010,871 338,008,552

As part of the reorganization, for each share they held, shareholders of the Acquired Fund received 0.691518 shares of the Fund. The Fund did not issue any fractional shares to shareholders of the Acquired Fund. In lieu thereof, the Fund purchased all fractional shares at the current net asset value of the shares and remitted the cash proceeds to former shareholders of the Acquired Fund in proportion to their fractional shares.

The total net assets of the Acquired Fund before acquisition included a total distributable loss, net of income taxes, of \$415,835,940. Total net assets of the Fund immediately after the transfer were \$777,019,423. The transaction was structured to qualify as a tax-free reorganization under the Code.

Proforma results of operations of the combined entity for the entire year ended November 30, 2018, as though the acquisition had occurred as of the beginning of the year (rather than on the actual acquisition date), are as follows:

(Unaudited) Net investment loss, net of income taxes \$ (12,161,122) Net realized gain, net of income taxes 19.352.654 Change in net unrealized depreciation, net of income taxes (18,368,798)\$ (11,177,266) Decrease in net assets from operations

Because the combined investment portfolios have been managed as a single portfolio since the acquisition was completed, it is not practicable to separate the amounts of revenue and earnings of the Acquired Fund that have been included in the Fund s accompanying Statement of Operations since the close of business on November 16, 2018.

10. Income taxes

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On December 22, 2017, the U.S. government signed into law comprehensive tax reform legislation commonly known as the Tax Cuts and Jobs Act of 2017 (the Tax Act). The Tax Act makes broad and complex changes to the Code, including but not limited to, (1) reducing the U.S. federal corporate income tax rate from 35% to 21%; (2) repealing the corporate alternative minimum tax (AMT); (3) creating a new limitation on the deductibility of business interest expense; and (4) changing the rules related to usage of net operating loss carryforwards. These changes generally go into effect for tax years beginning after December 31, 2017.

The modifications to the Code also significantly impact the MLPs in which the Fund invests. The indirect ramification of these changes on the Fund are, as of yet, unknown.

The U.S. Securities and Exchange Commission (SEC) also issued Staff Accounting Bulletin No. 118 (SAB 118), which provides guidance on accounting for the income tax effects of

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the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the enactment of the Tax Act for companies to complete the accounting under ASC 740. In accordance with SAB 118, in the financial statements that include the reporting period in which the Tax Act was enacted, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company s accounting for certain income tax effects of the Tax Act is incomplete, but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If the company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act.

Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. As a result of the reduction in the U.S. federal corporate income tax rate under the Tax Act, the Fund has revalued its net deferred tax liability. This decrease was reflected in the Fund s net asset value reported on December 22, 2017. No material adjustment has been recorded to the provisional revaluing of net deferred tax liability subsequent to the enactment of the Tax Act. As of November 30, 2018, the accounting for the income tax effects of the Tax Act is complete.

The Fund s current and deferred income tax provision for the respective categories on the Statement of Operations are as follows:

		Change in Net		
	Net Investment	Net Realized	Unrealized	
	Loss	Gain	Depreciation	Total
Current tax expense (benefit)	\$ (2,273,777)			\$ (2,273,777)
Deferred tax expense (benefit)	(9,505,445)	\$ 15,886,084	\$ (15,787,962)	(9,407,323)
Total tax expense (benefit)	\$ (11,779,222)	\$ 15,886,084	\$ (15,787,962)	\$ (11,681,100)

The Fund s federal and state income tax provision consist of the following:

	Federal	State	Total
Current tax expense (benefit)	\$ (2,266,761)	\$ (7,016)	\$ (2,273,777)
Deferred tax expense (benefit)	(8,289,877)	(1,117,446)	(9,407,323)
Total tax expense (benefit)	\$ (10,556,638)	\$ (1,124,462)	\$ (11,681,100)

Total income taxes have been computed by applying the U.S. federal statutory income tax rate of 21% plus a blended net state income tax rate of 2.2%. The Fund applied this rate to net investment income (loss) and realized and unrealized gains (losses) on investments before income taxes in computing its total income tax expense (benefit).

During the year, the Fund s combined federal and state income tax rate decreased from 37.1% to 23.2% due to the enactment of the Tax Act, which reduced the U.S. federal corporate income tax rate from 35% to 21%, and due to changes in the composition of MLP investments and underlying MLP activity in various state tax jurisdictions. This decrease

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Notes to financial statements (cont d)

resulted in the additional income tax benefit and corresponding increase in the Fund s effective tax rate (as there is a loss in net assets from operations before taxes) outlined below.

The provision for income taxes differs from the amount derived from applying the statutory income tax rate to net investment income (loss) and realized and unrealized gains (losses) before income taxes as follows:

Provision at statutory rates	21.00%	\$ (3,408,829)
State taxes, net of federal tax benefit	2.20%	(357,115)
Non-deductible distributions on MRPS	(1.48)%	240,739
Dividends received deduction	1.45%	(234,686)
Change in U.S federal tax rate	47.59%	(7,724,480)
Change in blended state tax rate from 2.5% to 2.2%	1.01%	(163,326)
Other, net	0.19%	(33,403)
Total tax expense (benefit)	71.96%	\$ (11,681,100)

Components of the Fund s net deferred tax asset (liability) as of November 30, 2018 are as follows:

Deferred tax assets

Net operating loss carryforward	\$ 53,915,115
Capital loss carryforward	48,286,271
Unrealized losses on investment securities	21,256,524
Other deferred tax assets	3,146,123

Deferred tax liabilities

Basis reduction resulting from differences in the book vs. taxable income received from MLPs

Net deferred tax asset (liability) before valuation allowance

Less: valuation allowance

Total net deferred tax asset (liability)

(83,838,777)

(88,819,221)

At November 30, 2018 the Fund had federal and state net operating loss carryforwards of \$232,784,960 and \$92,436,546 (net of state apportionment), respectively (deferred tax asset of \$53,915,115), including \$215,537,058 and \$77,884,781 (net of state apportionment) from the Acquired Fund, respectively. Several states compute net operating losses before apportionment, therefore the value of the state net operating loss carryforward disclosed may fluctuate for changes in apportionment factors. Realization of the deferred tax asset related to the net operating loss carryforwards is dependent, in part, on generating sufficient taxable income in each respective jurisdiction prior to expiration of the loss carryforwards. During the year ended November 30, 2018 the Fund wrote off state net operating loss carryforwards of \$9,633,801 (deferred tax asset of \$447,895) from the Acquired Fund due to limitations imposed by various state tax jurisdictions resulting from the acquisition. The Acquired Fund had a full valuation allowance recorded against the deferred tax asset, therefore the write-off had no impact on the Fund s net asset value or results of operations. If not utilized, the federal net operating loss carryforward expires in tax years 2032, 2033, 2036 and 2037, and the state net operating loss carryforwards expire in tax years between 2018 and 2037.

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Additionally, at November 30, 2018 the Fund had a capital loss carryforward of \$208,130,480 (deferred tax asset of \$48,286,271), including \$154,967,880 from the Acquired Fund, which may be carried forward for 5 years. During the year ended November 30, 2018, the Fund utilized \$19,790,815 of capital loss carryforward available from previous years. If not utilized, this capital loss will expire in tax years 2019 and 2020. For corporations, capital losses can only be used to offset capital gains and cannot be used to offset ordinary income. Therefore, the use of this capital loss carryforward is dependent upon the Fund generating sufficient net capital gains prior to the expiration of the loss carryforward.

At November 30, 2018 the Fund also had a minimum tax credit carryforward of \$2,488,719, including \$807,550 from the Acquired Fund, which is available to offset against future regular federal tax liabilities. The minimum tax credit does not carry an expiration. The Tax Act repealed corporate AMT for tax years beginning after December 31, 2017 and provides that existing minimum tax credit carryforwards be refundable, subject to certain annual limitations, over the next four taxable years. As such, the Fund has reclassified this carryforward to an income tax receivable on the Statement of Assets and Liabilities.

As a result of the acquisition discussed in Note 9, the Fund s pre-acquisition loss carryovers are now subject to an annual limitation of approximately \$8.0 million under Section 382 of the Code. Additionally, under Section 384 of the Code, the Fund is limited in its ability to use the Acquired Fund s loss carryovers to offset the recognition of its built-in gains in assets that existed at the time of the acquisition for a period of five-years.

The amount of net operating loss and capital loss carryforwards differed from the amounts disclosed in the prior year financial statements due to differences between the estimated and actual amounts of taxable income received from the MLPs for the prior year and the acquisition of tax attributes from the Acquired Fund. Additionally, the acquisition caused the taxable year of the Acquired Fund to close, which accelerated by one year the schedule for expiration of its loss carryovers.

Tax carryovers, net of taxes, of \$85,447,041 acquired from the Acquired Fund have resulted in the Fund having a net deferred tax asset at November 30, 2018. Significant declines in the fair market value of the Acquired Fund s portfolio of investments, in conjunction with cumulative net operating losses and capital losses incurred and expected to be incurred, resulted in the Acquired Fund recording a full valuation allowance on its net deferred tax asset prior to the acquisition. Based on the Fund s assessment, as described in Note 1(j), and due to limitations imposed under Section 384 as discussed above, it has determined that it is not more likely than not that it will be able to generate significant future taxable income of the appropriate character in order to realize the Acquired Fund s deferred tax assets. Accordingly, the Fund has determined that the valuation allowance acquired on November 16, 2018 should remain at this time.

The Fund determined that it is more likely than not that its pre-acquisition deferred tax assets will be realized through future taxable income of the appropriate character. When assessing the recoverability of its deferred tax assets, significant weight is given to the effects of potential future realized gains on investments (reversal of existing deferred tax

ClearBridge Energy Midstream Opportunity Fund Inc. 2018 Annual Report

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Notes to financial statements (cont d)

liability) and the period over which these deferred tax assets can be realized. Based on the Fund s deferred tax liability balance at November 30, 2018, and taking into consideration the limitations imposed under Section 382 as discussed above, no valuation allowance has been established on the Fund s pre-acquisition deferred tax assets. Significant declines in the fair market value of its portfolio of investments may change the Fund s assessment regarding the recoverability of its pre-acquisition deferred tax assets and may result in an additional valuation allowance being recorded. If a valuation allowance is required to reduce any deferred tax asset in the future, it could have a material impact on the Fund s net asset value and results of operations in the period it is recorded.

At November 30, 2018, the cost basis of investments for Federal income tax purposes was \$1,016,602,971. At November 30, 2018, gross unrealized appreciation and depreciation of investments for Federal income tax purposes were as follows:

Gross unrealized appreciation \$ 218,267,746
Gross unrealized (depreciation) (101,008,463)
Net unrealized appreciation (depreciation) before tax \$ 117,259,283
Net unrealized appreciation (depreciation) after tax \$ 90,055,129

11. Distribution to common shareholders subsequent to November 30, 2018

The following distribution to common shareholders has been declared by the Fund s Board of Directors and is payable subsequent to the period end of this report:

 Record Date
 Payable Date
 Amount

 2/15/2019
 \$ 0.2300

12. Recent accounting pronouncements

The Fund has adopted the disclosure provisions of Financial Accounting Standards Board Accounting Standards Update 2016-18 (ASU 2016-18), *Statement of Cash Flows (Topic 230) Restricted Cash.* ASU 2016-18 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. ASU 2016-18 requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Prior to the issuance of ASU 2016-18, GAAP did not include specific guidance on the cash flow classification and presentation of changes in restricted cash or restricted cash equivalents. Upon evaluation, the Fund has concluded that ASU 2016-18 does not materially impact the financial statement amounts; however, as required, additional or enhanced disclosure has been included.

In August 2018, the Securities and Exchange Commission released its Final Rule on Disclosure Update and Simplification (the Final Rule) which is intended to simplify an issuer s disclosure compliance efforts by removing redundant or outdated disclosure requirements without significantly altering the mix of information provided to investors. Effective with the current reporting period, the Fund adopted the Final Rule with the most notable impacts being that the Fund is no longer required to present the components of distributable earnings on the Statement of Assets and Liabilities or the amount of undistributed net investment income on the Statements of Changes in Net Assets.

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Report of independent registered public accounting firm

To the Board of Directors and Shareholders of ClearBridge Energy Midstream Opportunity Fund Inc.

Opinion on the financial statements

We have audited the accompanying statement of assets and liabilities, including the schedule of investments, of ClearBridge Energy Midstream Opportunity Fund Inc. (formerly known as ClearBridge Energy MLP Opportunity Fund Inc.) (referred to hereafter as the Fund) as of November 30, 2018, the related statements of operations and cash flows for the year ended November 30, 2018 and the statement of changes in net assets and the financial highlights for each of the two years in the period ended November 30, 2018, including the related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Fund as of November 30, 2018, the results of its operations and its cash flows for the year then ended, and the changes in its net assets and the financial highlights for each of the two years in the period ended November 30, 2018 in conformity with accounting principles generally accepted in the United States of America.

The financial statements of the Fund as of and for the year ended November 30, 2016 and the financial highlights for each of the periods ended on or prior to November 30, 2016 (not presented herein, other than the financial highlights) were audited by other auditors whose report dated January 25, 2017 expressed an unqualified opinion on those financial statements and financial highlights.

Basis for opinion

These financial statements are the responsibility of the Fund s management. Our responsibility is to express an opinion on the Fund s financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Fund in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our procedures included confirmation of securities owned as of November 30, 2018 by correspondence with the custodian. We believe that our audits provide a reasonable basis for our opinion.

/s/PricewaterhouseCoopers LLP

Baltimore, Maryland

January 18, 2019

We have served as the auditor of one or more investment companies in Legg Mason investment company group since at least 1973. We have not been able to determine the specific year we began serving as auditor.

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Board approval of management and subadvisory agreements (unaudited)

Background

The Investment Company Act of 1940, as amended (the 1940 Act), requires that the Board of Directors (the Board) of ClearBridge Energy Midstream Opportunity Fund Inc. (formerly ClearBridge Energy MLP Opportunity Fund Inc.) (the Fund), including a majority of its members who are not considered to be interested persons under the 1940 Act (the Independent Directors) voting separately, approve on an annual basis the continuation of the investment management contract (the Management Agreement) with the Fund s manager, Legg Mason Partners Fund Advisor, LLC (the Manager), and the sub-advisory agreement (the Sub-Advisory Agreement) with the Manager s affiliate, ClearBridge Investments, LLC (formerly ClearBridge Advisors, LLC) (the Sub-Adviser). At a meeting (the Contract Renewal Meeting) held in-person on November 7 and 8, 2018, the Board, including the Independent Directors, considered and approved the continuation of each of the Management Agreement and the Sub-Advisory Agreement for an additional one-year term. To assist in its consideration of the renewals of the Management Agreement and the Sub-Advisory Agreement, the Board received and considered a variety of information (together wit