BLACKROCK ENHANCED CAPITAL & INCOME FUND, INC. Form N-CSR March 06, 2017

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: 811-21506

Name of Fund: BlackRock Enhanced Capital and Income Fund, Inc. (CII)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock Enhanced Capital

and Income Fund, Inc., 55 East 52nd Street, New York, NY 10055

Registrant s telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 12/31/2016

Date of reporting period: 12/31/2016

Item 1 Report to Stockholders

DECEMBER 31, 2016

ANNUAL REPORT

BLACKROCK[®]

BlackRock Energy and Resources Trust (BGR) BlackRock Enhanced Capital and Income Fund, Inc. (CII) BlackRock Enhanced Equity Dividend Trust (BDJ) BlackRock Global Opportunities Equity Trust (BOE) BlackRock Health Sciences Trust (BME) BlackRock International Growth and Income Trust (BGY) BlackRock Resources & Commodities Strategy Trust (BCX) BlackRock Science and Technology Trust (BST) BlackRock Utility and Infrastructure Trust (BUI)

Not FDIC Insured May Lose Value No Bank Guarantee

Section 19(a) Notices

BlackRock Energy and Resources Trust s (BGR), BlackRock Enhanced Capital and Income Fund, Inc. s (CII), BlackRock Enhanced Equity Dividend Trust s (BDJ), BlackRock Global Opportunities Equity Trust s (BOE), BlackRock Health Sciences Trust s (BME), BlackRock International Growth and Income Trust s (BGY), BlackRock Resources & Commodities Strategy Trust s (BCX), BlackRock Science and Technology Trust s (BST) and BlackRock Utility and Infrastructure Trust s (BUI) (each, a Trust and collectively, the Trusts), amounts and sources of distributions reported are estimates and are being provided to you pursuant to regulatory requirements and are not being provided for tax reporting purposes. The actual amounts and sources for tax reporting purposes will depend upon each Trust s investment experience during the fiscal year and may be subject to changes based on tax regulations. Each Trust will provide a Form 1099-DIV each calendar year that will tell you how to report these distributions for federal income tax purposes.

December 31, 2016

	Total Cumulative Distributions for the Fiscal Period				% Breakdown of the Total Cumulative Distributions for the Fiscal Period					
	Net	Net Realized	Net Realized	Return		Net		Net Realized	Return	
					Net Realized					
	Investment	Capital Gains	Capital Gains	of	Total Per	Investmen	Capital Gair	Capital Gains	of	
										Total Per
	Income	Short-Term	Long-Term	Capital	Common Shar	e Income	Short-Term	n Long-Term	Capital (Common Share
BGR*	\$ 0.275184			\$ 0.720816	\$ 0.996000	28%	0%	0%	72%	100%
CII*	\$ 0.122292			\$ 1.026108	\$ 1.148400	11%	0%	0%	89%	100%
BDJ*	\$ 0.158965			\$ 0.401435	\$ 0.560400	28%	0%	0%	72%	100%
BOE*	\$ 0.118299			\$ 0.931701	\$ 1.050000	11%	0%	0%	89%	100%
BME	\$ 0.028393		\$ 2.971607		\$ 3.000000	1%	0%	99%	0%	100%
BGY*	\$ 0.081617			\$ 0.440383	\$ 0.522000	16%	0%	0%	84%	100%
BCX*	\$ 0.135692			\$ 0.441308	\$ 0.577000	24%	0%	0%	76%	100%
BST*	\$ 0.006420			\$ 1.193580	\$ 1.200000	1%	0%	0%	99%	100%
BUI*	\$ 0.536110	\$ 0.095500	\$ 0.373052	\$ 0.447337	\$ 1.452000	37%	6%	26%	31%	100%

* Certain Trusts estimate that they have distributed more than the amount of earned income and net realized gains; therefore, a portion of the distribution may be a return of capital. A return of capital may occur, for example, when some or all of the shareholder s investment in a Trust is returned to the shareholder. A return of capital does not necessarily reflect a Trust s investment performance and should not be confused with yield or income. When distributions exceed total return performance, the difference will reduce the Trust s net asset value per share.

Section 19(a) notices for the Trusts, as applicable, are available on the BlackRock website http://www.blackrock.com.

Section 19(b) Disclosure

The Trusts, acting pursuant to a U.S. Securities and Exchange Commission (SEC) exemptive order and with the approval of each Trust s Board of Trustees/Directors (the Board), each have adopted a plan, consistent with its investment objectives and policies to support a level distribution of income, capital gains and/or return of capital (the Plan). In accordance with the Plans, the Trusts distribute the following fixed amounts per share on a monthly basis as of December 31, 2016:

Amount Per Common		
Share		
\$0.0776		
\$0.0828		
\$0.0467		

BOE	\$0.0780
BME	\$0.2000
BGY	\$0.0380
BCX	\$0.0446
BST	\$0.1000
BUI	\$0.1210

The fixed amounts distributed per share are subject to change at the discretion of each Trust s Board. Under its Plan, each Trust will distribute all available investment income to its shareholders, consistent with its primary investment objectives and as required by the Internal Revenue Code of 1986, as amended (the Code). If sufficient investment income is not available on a monthly basis, the Trusts will distribute long-term capital gains and/or return of capital to shareholders in order to maintain a level distribution. Each monthly distribution to shareholders is expected to be at the fixed amount established by the Board, except for extraordinary distributions and potential distribution rate increases or decreases to enable the Trusts to comply with the distribution requirements imposed by the Code.

Shareholders should not draw any conclusions about each Trust s investment performance from the amount of these distributions or from the terms of the Plan. Each Trust s total return performance on net asset value is presented in its financial highlights table.

The Board may amend, suspend or terminate a Trust s Plan at any time without prior notice to the Trust s shareholders if it deems such actions to be in the best interests of the Trust or its shareholders. The suspension or termination of the Plan could have the effect of creating a trading discount (if the Trust s stock is trading at or above net asset value) or widening an existing trading discount. The Trusts are subject to risks that could have an adverse impact on their ability to maintain level distributions. Examples of potential risks include, but are not limited to, economic downturns impacting the markets, decreased market volatility, companies suspending or decreasing corporate dividend distributions and changes in the Code. Please refer to each Trust s prospectus for a more complete description of its risks.

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The Markets in Review Dear Shareholder.

The year 2016 started on a fraught note with worries about slowing growth in China, plunging oil prices and sliding share prices. Then reflationary expectations in the United States helped drive a second-half global growth pick-up and big market reversals. As such, higher-quality asset classes such as Treasury bonds, municipals and investment grade credit prevailed in the first half of the year, only to struggle in the second. In contrast, risk assets sold off at the start of the year and rebounded in the latter half, with some asset classes posting strong year-end returns.

A key takeaway from 2016 s market performance is that economics can trump politics. The global reflationary theme governments taking policy action to support growth was the dominant driver of 2016 asset returns, outweighing significant political upheavals and uncertainty. This trend accelerated after the U.S. election on expectations for an extra boost to U.S. growth via fiscal policy.

Markets were remarkably resilient during the year. Spikes in equity volatility after big surprises such as the U.K. s vote to leave the European Union and the outcome of the U.S. presidential election were short-lived. Instead, political surprises and initial sell-offs were seized upon as buying opportunities. We believe this reinforces the case for taking the long view rather than reacting to short-term market noise.

Asset returns varied widely in 2016. Perceived safe assets such as government bonds and low-volatility shares underperformed the higher-risk areas of the market. And the reversal of longstanding trends created opportunities, such as in the recovery of value stocks and commodities.

We expect some of these trends to extend into 2017 and see the potential for more flows into risk assets this year. Learn more by reading our market insights at **blackrock.com**.

Sincerely,

Rob Kapito

President, BlackRock Advisors, LLC

Rob Kapito

President, BlackRock Advisors, LLC

Total Returns as of December 31, 2016

	6-month	12-month
U.S. large cap equities	7.82%	11.96%
(S&P 500 [®] Index)		
U.S. small cap equities	18.68	21.31
(Russell 2000 [®] Index)		
International equities	5.67	1.00
(MSCI Europe, Australasia,		
Far East Index)		
Emerging market equities	4.49	11.19
(MSCI Emerging Markets Index)		
3-month Treasury bill	0.18	0.33
(BofA Merrill Lynch 3-Month Treasury Bill Index)		
U.S. Treasury securities	(7.51)	(0.16)
(BofA Merrill Lynch 10- Year U.S. Treasury Index)		
U.S. investment grade bonds	(2.53)	2.65
(Bloomberg Barclays U.S. Aggregate Bond Index)		
Tax-exempt municipal bonds	(3.43)	0.77
(S&P Municipal Bond Index)		
	7.40	17.13

U.S. high yield bonds

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(Bloomberg Barclays U.S. Corporate High Yield 2% Issuer Capped Index)

Past performance is no guarantee of future results. Index performance is shown for illustrative purposes only. You cannot invest directly in an index.

THIS PAGE NOT PART OF YOUR TRUST REPORT

The Benefits and Risks of Option Over-Writing

In general, the goal of each of the Trusts is to provide total return through a combination of current income and realized and unrealized gains (capital appreciation). The Trusts seek to pursue this goal primarily by investing in a portfolio of equity securities and utilizing an option over-writing strategy in an effort to enhance the Trusts distribution rate and total return performance. However, these objectives cannot be achieved in all market conditions.

The Trusts primarily write single stock covered call options, and may also from time to time write single stock put options. When writing (selling) a covered call option, the Trust holds an underlying equity security and enters into an option transaction which allows the counterparty to purchase the equity security at an agreed-upon price (strike price) within an agreed-upon time period. The Trusts receive cash premiums from the counterparties upon writing (selling) the option, which along with net investment income and net realized gains, if any, are generally available to support current or future distributions paid by the Trusts. During the option term, the counterparty may elect to exercise the option if the market value of the equity security rises above the strike price, and the Trust is obligated to sell the equity security. If the option remains unexercised upon its expiration, the Trusts realize gains equal to the premiums received. Alternatively, an option may be closed out by an offsetting purchase or sale of an option prior to expiration. The Trust realizes a capital gain from a closing purchase or sale transaction if the premium paid is less than the premium received from writing the option. The Trust realizes a capital loss from a closing purchase or sale transaction if the premium received is less than the premium paid to purchase the option.

Writing covered call options entails certain risks, which include, but are not limited to, the following: an increase in the value of the underlying equity security above the strike price can result in the exercise of a written option (sale by the Trust to the counterparty) when the Trust might not otherwise have sold the security; exercise of the option by the counterparty may result in a sale below the current market value and a gain or loss being realized by the Trust; and limiting the potential appreciation that could be realized on the underlying equity security to the extent of the strike price of the option. As such, an option over-writing strategy may outperform the general equity market in flat or falling markets but underperform in rising markets.

Each Trust employs a plan to support a level distribution of income, capital gains and/or return of capital. The goal of the plan is to provide shareholders with consistent and predictable cash flows by setting distribution rates based on expected long-term returns of the Trusts. Such distributions, under certain circumstances, may exceed a Trust s total return performance. When total distributions exceed total return performance for the period, the difference reduces the Trust s total assets and net asset value per share (NAV) and, therefore, could have the effect of increasing the Trust s expense ratio and reducing the amount of assets, the Trust has available for long term investment. In order to make these distributions, a Trust may have to sell portfolio securities at less than opportune times.

The final tax characterization of distributions is determined after the fiscal year and is reported in the Trust s annual report to shareholders. Distributions can be characterized as ordinary income, capital gains and/or return of capital. The Trust s taxable net investment income or net realized capital gains (taxable income) may not be sufficient to support the level of distributions paid. To the extent that distributions exceed the Trust s taxable income but do not exceed the Trust s current and accumulated earnings and profits, the excess may be treated as a non-taxable return of capital. Distributions that exceed a Trust s taxable income but do not exceed the Trust s current and accumulated earnings and profits, may be classified as ordinary income which are taxable to shareholders. Such distributions are reported as distributions in excess of net investment income.

A return of capital distribution does not necessarily reflect a Trust s investment performance and should not be confused with yield or income. A return of capital is a return of a portion of an investor s original investment. A return of capital is not taxable, but it reduces a shareholder s tax basis in his or her shares, thus reducing any loss or increasing any gain on a subsequent disposition by the shareholder of his or her shares. It is possible that a substantial portion of the distributions paid during a calendar year may ultimately be classified as return of capital or as distributions in excess of net investment income for income tax purposes when the final determination of the source and character of the distributions is made.

To illustrate these concepts, assume the following: (1) a common stock purchased at and currently trading at \$37.15 per share; (2) a three-month call option is written by a Trust with a strike price of \$40 (i.e., 7.7% higher than the current market price); and (3) the Trust receives \$2.45, or 6.6% of the common stock s value, as a premium. If the stock price remains unchanged, the option expires and there would be a 6.6% return for the three-month period. If the stock were to decline in price by 6.6% (i.e., decline to \$34.70 per share), the option strategy would break-even from an economic perspective resulting in neither a gain nor a loss. If the stock were to climb to a price of \$40 or above, the option would be exercised and the stock would return 7.7% coupled with the option premium received of 6.6% for a total return of 14.3%. Under this scenario, the Trust loses the benefit of any appreciation of the stock above \$40, and thus is limited to a 14.3% total return. The premium from writing the call option serves to offset some of the unrealized loss on the stock in the event that the price of the stock declines, but if the stock were to decline more than 6.6% under this scenario, the Trust s downside protection is eliminated and the stock could eventually become worthless.

Each Trust intends to write covered call options to varying degrees depending upon market conditions. Please refer to each Trust s Schedule of Investments and the Notes to Financial Statements for details of written options.

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Trust Summary as of December 31, 2016

BlackRock Energy and Resources Trust

Trust Overview

BlackRock Energy and Resources Trust s (BGR) (the Trust) investment objective is to provide total return through a combination of current income, current gains and long-term capital appreciation. The Trust seeks to achieve its investment objective by investing, under normal market conditions, at least 80% of its total assets in equity securities of energy and natural resources companies and equity derivatives with exposure to the energy and natural resources industry. The Trust may invest directly in such securities or synthetically through the use of derivatives. The Trust seeks to pursue this goal primarily by investing in a portfolio of equity securities and utilizing an option over-writing strategy in an effort to seek total return performance and enhance distributions.

No assurance can be given that the Trust s investment objective will be achieved.

Trust Information

Symbol on New York Stock Exchange (NYSE)	BGR
Initial Offering Date	December 29, 2004
Current Distribution Rate on Closing Market Price as of December 31, 2016 (\$ 14.44) ¹	6.45%
Current Monthly Distribution per Common Share ²	\$0.0776
Current Annualized Distribution per Common Share ²	\$0.9312

¹ Current distribution rate on closing market price is calculated by dividing the current annualized distribution per share by the closing market price. The current distribution rate consists of income, net realized gains and/or a return of capital. See the Financial Highlights for the actual sources and character of distributions.

Past performance does not guarantee future results.

² The distribution rate is not constant and is subject to change. A portion of the distribution may be deemed a return of capital or net realized gain.

Performance and Portfolio Management Commentary

Returns for the 12-month period ended December 31, 2016 were as follows:

	Returns	Returns Based On		
	Market Price	Net Asset Value		
BGR ^{1,2}	24.01%	25.07%		
Lipper Natural Resources Funds ³	37.40%	32.14%		

¹ All returns reflect reinvestment of dividends and/or distributions.

² The Trust s discount to NAV widened during the period, which accounts for the difference between performance based on price and performance based on NAV.

³ Average return.

Performance results may include adjustments made for financial reporting purposes in accordance with U.S. generally accepted accounting principles. The following discussion relates to the Trust s absolute performance based on NAV:

What factors influenced performance?

The Trust s positions in the U.S. exploration & production companies Laredo Petroleum, Inc. and Energen Corp. were the largest detractors from performance. The investment adviser exited both positions early in the period due to its concerns about the two companies significant financial leverage. As a result, the Trust was not in a position to benefit from their subsequent recovery.

The Trust made use of options, principally written call options on individual stocks, in order to seek enhanced income returns while continuing to participate in the performance of the underlying equities. The Trust s option writing strategy had a negative impact on performance given the strength in the overall sector.