BlackRock Real Asset Equity Trust Form N-CSRS July 07, 2010

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM N-CSRS

CERTIFIED SHAREHOLDER REPORT OF REGISTERED MANAGEMENT INVESTMENT COMPANIES

Investment Company Act file number 811-21931

Name of Fund: BlackRock Real Asset Equity Trust (BCF)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: Anne F. Ackerley, Chief Executive Officer, BlackRock Real Asset Equity Trust, 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: 10/31/2010

Date of reporting period: 04/30/2010

Semi-Annual Report

APRIL 30, 2010 | (UNAUDITED)

BlackRock Dividend AchieversTM Trust (BDV)

BlackRock Enhanced Dividend AchieversTM Trust (BDJ)

BlackRock Strategic Dividend AchieversTM Trust (BDT)

BlackRock EcoSolutions Investment Trust (BQR)

BlackRock Energy and Resources Trust (BGR)

BlackRock Global Opportunities Equity Trust (BOE)

BlackRock Health Sciences Trust (BME)

BlackRock International Growth and Income Trust (BGY)

BlackRock Real Asset Equity Trust (BCF)

BlackRock S&P Quality Rankings Global Equity Managed Trust (BQY)

NOT FDIC INSURED MAY LOSE VALUE NO BANK GUARANTEE

Table of Contents

	Page
Section 19(b) Disclosure	2
<u>Dear Shareholder</u>	3
Semi-Annual Report:	
<u>Trust Summaries</u>	4
<u>Derivative Financial Instruments</u>	14
Financial Statements:	
Schedules of Investments	15
Statements of Assets and Liabilities	60
Statements of Operations	62
Statements of Changes in Net Assets	64
Financial Highlights	68
Notes to Financial Statements	78
Officers and Trustees	86
Additional Information	87

Section 19(b) Disclosure

BlackRock Dividend AchieversTM Trust (BDV), BlackRock Enhanced Dividend AchieversTM Trust (BDJ), BlackRock Strategic Dividend AchieversTM Trust (BDT), BlackRock EcoSolutions Investment Trust (BQR), BlackRock Energy and Resources Trust (BGR), BlackRock Global Opportunities Equity Trust (BOE), BlackRock Health Sciences Trust (BME), BlackRock International Growth and Income Trust (BGY), BlackRock Real Asset Equity Trust (BCF) and BlackRock S&P Quality Rankings Global Equity Managed Trust (BQY) (collectively, the Trusts), acting pursuant to a Securities and Exchange Commission (SEC) exemptive order and with the approval of each Trust s Board of Directors/Trustees (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 (Plan). In accordance with the Plans, the Trusts currently distribute the following fixed amounts per share on a quarterly basis:

Exchange	Amount Per
Symbol	Common Share
BDV	\$0.162500
BDJ	\$0.245000
BDT	\$0.162500
BQR	\$0.300000
BGR	\$0.405000
BOE	\$0.568750
BME	\$0.384375
BGY	\$0.340000
BCF	\$0.271800
BQY	\$0.187500

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 quarterly basis, the Trusts will distribute long-term capital gains and/or return of capital to shareholders in order to maintain a level distribution. Each quarterly 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 the 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 without prior notice 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.

Please refer to the Additional Information for a cumulative summary of the Section 19(a) notices for each Trust s current fiscal period. Section 19(a) notices for the Trusts, as applicable, are available on the BlackRock website **www.blackrock.com**.

2 SEMI-ANNUAL REPORT

APRIL 30, 2010

Dear Shareholder

Although overall global economic and financial conditions have generally improved over the past year, the period ended with high levels of market volatility and diminishing investor confidence sparked by the sovereign debt crisis in Europe, concerns over the strength of the economic recovery and uncertainty surrounding the future of interest rate policies. Additionally, as the period drew to a close, the increasing likelihood of more stringent financial market regulations added to the overall sense of investment uncertainty. Despite the uneven nature of recent market conditions, we continue to believe that the Great Recession likely ended at some point last summer, thanks primarily to massive fiscal and monetary stimulus, and that the global economy remains in recovery mode.

Global equity markets bottomed in early 2009 and since that time have moved unevenly higher as investors were lured back into the markets by depressed valuations, desire for higher yields and improvements in corporate earnings prospects. There have been several corrections along the way and volatility levels have remained elevated reflections of mixed economic data, lingering deflation issues (especially in Europe) and uncertainty surrounding financial regulations. On balance, however, improving corporate revenues and profits and a positive macro backdrop helped push stock prices higher over the last twelve and six months. From a geographic perspective, US equities have outpaced their international counterparts in recent months, as the domestic economic recovery has been more pronounced and as credit-related issues have held European markets down.

Within fixed income markets, yields have been moving unevenly as improving economic conditions have been acting to push Treasury yields higher (and prices correspondingly lower), while concerns over ongoing deflation threats have acted as a counterweight. As the period drew to a close, Treasury yields were falling as investors flocked to the safe haven asset class in the face of escalating uncertainty. Over the course of the last twelve and six months, however, Treasuries underperformed other areas of the bond market, particularly the high yield sector, which has been benefiting from increased investor demand. Meanwhile, municipal bonds slightly outperformed taxable sectors over both the six- and twelve-month periods thanks to continued high demand levels, but have continued to face the headwinds of ongoing state and local budget problems. As in the taxable arena, high yield municipals have been outperforming the rest of the market.

Regarding cash investments, yields on money market securities remain near all-time lows (producing returns only marginally above zero percent), with the Federal Open Market Committee reiterating that economic circumstances are likely to necessitate an accommodative interest rate stance for an extended period.

Against this backdrop, the major market averages posted the following returns:

Total Returns as of April 30, 2010	6-month	12-month
US equities (S&P 500 Index)	15.66%	38.84%
Small cap US equities (Russell 2000 Index)	28.17	48.95
International equities (MSCI Europe, Australasia, Far East Index)	2.48	34.43
3-month Treasury bill (BofA Merrill Lynch 3-Month Treasury Bill Index)	0.04	0.15
US Treasury securities (BofA Merrill Lynch 10-Year US Treasury Index)	(0.54)	(1.32)
Taxable fixed income (Barclays Capital US Aggregate Bond Index)	2.54	8.30
Tax-exempt fixed income (Barclays Capital Municipal Bond Index)	3.68	8.85
High yield bonds (Barclays Capital US Corporate High Yield 2% Issuer Capped Index)	11.60	42.53

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

Global financial markets continue to show signs of improvement, but questions about the strength and sustainability of the recovery abound. Through periods of uncertainty, as ever, BlackRock s full resources are dedicated to the management of our clients assets. For additional market perspective and investment insight, visit www.blackrock.com/shareholdermagazine, where you Il find the most recent issue of our award-winning Shareholder® magazine, as well as its quarterly companion newsletter, Shareholder Perspectives. As always, we thank you for entrusting BlackRock with your investments, and we look forward to your continued partnership in the months and years ahead.

Sincerely,

Rob Kapito President, BlackRock Advisors, LLC

THIS PAGE NOT PART OF YOUR FUND REPORT

3

Trust Summary as of April 30, 2010

BlackRock Dividend Achievers[™] Trust

Investment Objective

BlackRock Dividend Achievers[™] Trust (BDV) (the Trust) seeks to provide total return through a combination of current income and capital appreciation by investing in common stocks that pay above average dividends and have the potential for capital appreciation. The Trust utilizes an option writing (selling) strategy to help enhance current gains.

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

Performance

For the six months ended April 30, 2010, the Trust returned 16.39% based on market price and 12.78% based on net asset value (NAV). For the same period, the Mergent Broad Dividend Achievers Index (Dividend Achievers Index) returned 14.31% and the broader market, as measured by the Russell 1000 Index and the Russell 1000 Value Index, returned 16.77% and 17.77%, respectively. All returns reflect reinvestment of dividends. The Trust s discount to NAV, which narrowed during the period, accounts for the difference between performance based on price and performance based on NAV. The biggest individual contributor to Trust performance relative to the Dividend Achievers Index was a combination of security selection and an underweight in the utilities sector. Despite the overall underweight to the utilities sector, the allocation to the electric utilities sub-sector provided the largest amount of relative return. Stock selection within materials also contributed to performance, with securities in the chemicals industry providing the most support. While the Trust carried a neutral weight in the telecommunication services sector versus the benchmark, security selection was beneficial, especially in diversified telecommunication services. The largest detractor from performance was the Trust s overweight in the health care sector. Security selection in the pharmaceuticals industry also detracted from relative performance, along with weaker stock selection in the information technology and consumer staples sectors. The Trust s cash weighting, though minimal, detracted marginally as markets appreciated, as did the covered call option strategy.

Trust Information

Symbol on New York Stock Exchange (NYSE)	BDV
Initial Offering Date	December 23, 2003
Yield based on Closing Market Price as of April 30, 2010 (\$9.30)1	6.99%
Current Quarterly Distribution per Common Share ²	\$0.1625
Current Annualized Distribution per Common Share ²	\$0.6500

- 1 Yield on closing market price is calculated by dividing the current annualized distribution per share by the closing market price. 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 tax return of capital or net realized gain.

The table below summarizes the changes in the Trust s market price and net asset value per share:

	4/30/10	10/31/09	Change	High	Low
Market Price	\$ 9.30	\$ 8.27	12.45%	\$ 9.63	\$ 8.15
Net Asset Value	\$ 9.96	\$ 9.14	8.97%	\$ 10.11	\$ 9.14

The following charts show the ten largest holdings and sector allocations of the Trust s long-term investments:

Ten Largest Holdings

	4/30/10
International Business Machines Corp.	4%
Chevron Corp.	4
Exxon Mobil Corp.	4
Johnson & Johnson	3
Abbott Laboratories	3
McDonald s Corp.	3
Procter & Gamble Co. (The)	3
AT&T Inc.	3
General Dynamics Corp.	2
Coca-Cola Co. (The)	2

Sector Allocations

	4/30/10	10/31/09
Consumer Staples	20%	22%
Industrials	15	15
Health Care	12	15
Energy	11	9
Utilities	10	4
Consumer Discretionary	8	8
Financials	7	13
Information Technology	7	6
Materials	6	3
Telecommunication Services	4	5

For Trust compliance purposes, the Trust s sector classifications refer to any one or more of the sector sub-classifications used by one or more widely recognized market indexes or ratings group indexes, and/or as defined by Trust management. This definition may not apply for purposes of this report, which may combine sector sub-classifications for reporting ease.

4 SEMI-ANNUAL REPORT APRIL 30, 2010

Trust Summary as of April 30, 2010

BlackRock Enhanced Dividend Achievers[™] Trust

Investment Objective

BlackRock Enhanced Dividend Achievers™ Trust (BDJ) (the Trust) seeks to provide current income and current gains, with a secondary objective of long-term capital appreciation. The Trust seeks to achieve these objectives by investing in common stocks that pay above average dividends and have the potential for capital appreciation and by utilizing an option writing (selling) strategy to enhance distributions paid to the Trust s shareholders.

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

Performance

For the six months ended April 30, 2010, the Trust returned 18.13% based on market price and 11.13% based on NAV. For the same period, the Dividend Achievers Index returned 14.31% and the broader market, as measured by the Russell 1000 Index and the Russell 1000 Value Index, returned 16.77% and 17.77%, respectively. All returns reflect reinvestment of dividends. The Trust moved from a discount to NAV to a premium by period-end, which accounts for the difference between performance based on price and performance based on NAV. The Trust s covered call option strategy was the largest detractor from returns relative to the Dividend Achievers Index, followed by the combination of an underweight and stock selection in the health care sector. Stock selection in the information technology sector, specifically within the computers & peripherals industry, also detracted from relative performance. Weaker stock selection in industrials was largely offset by an overweight in that sector, but the aggregate effect was still negative. Finally, an underweight in the financials sector detracted. Strong individual stock selection in the utilities sector was the largest contributor to relative performance, specifically within the electric and gas segments of the market. The Trust's underweight in utilities also aided performance. Stock selection within the telecommunication services and materials sectors also enhanced relative returns during the period, helped mostly by holdings within the diversified telecommunication and chemicals industries, respectively.

Trust Information

Symbol on NYSE	BDJ
Initial Offering Date	August 31, 2005
Yield based on Closing Market Price as of April 30, 2010 (\$8.80) ¹	11.14%
Current Quarterly Distribution per Common Share ²	\$0.245
Current Annualized Distribution per Common Share ²	\$0.980

- 1 Yield on closing market price is calculated by dividing the current annualized distribution per share by the closing market price. Past performance does not guarantee future results.
- 2 The distribution is not constant and is subject to change. A portion of the distribution may be deemed a tax return of capital or net realized gain.

The table below summarizes the changes in the Trust s market price and net asset value per share:

	4/30/10	10/31/09	Change	High	Low
Market Price	\$ 8.80	\$ 7.89	11.53%	\$ 9.28	\$ 7.77
Net Asset Value	\$ 8.53	\$ 8.13	4.92%	\$8.64	\$8.13

The following charts show the ten largest holdings and sector allocations of the Trust s long-term investments:

Ten Largest Holdings

	4/30/10
International Business Machines Corp.	4%
Chevron Corp.	4
Exxon Mobil Corp.	4
Johnson & Johnson	3
Abbott Laboratories	3
Procter & Gamble Co. (The)	3
McDonald s Corp.	3
AT&T Inc.	3
General Dynamics Corp.	3
Coca-Cola Co. (The)	3

Sector Allocations

	4/30/10	10/31/09
Consumer Staples	20%	22%
Industrials	14	14
Health Care	12	16
Energy	11	9
Utilities	10	4
Consumer Discretionary	8	8
Financials	8	12
Information Technology	7	6
Materials	6	3
Telecommunication Services	4	6

For Trust compliance purposes, the Trust sector classifications refer to any one or more of the sector sub-classifications used by one or more widely recognized market indexes or ratings group indexes, and/or as defined by Trust management. This definition may not apply for purposes of this report, which may combine sector sub-classifications for reporting ease.

SEMI-ANNUAL REPORT APRIL 30, 2010 5

Trust Summary as of April 30, 2010

BlackRock Strategic Dividend Achievers[™] Trust

Investment Objective

BlackRock Strategic Dividend Achievers™ Trust (BDT) (the Trust) seeks to provide total return through a combination of current income and capital appreciation by investing primarily in common stocks of small to mid-capitalization companies that pay above average dividends and have potential for capital appreciation. The Trust utilizes an option writing (selling) strategy to help enhance current gains.

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

Performance

For the six months ended April 30, 2010, the Trust returned 25.93% based on market price and 21.00% based on NAV. For the same period, the Dividend Achievers Index returned 14.31% and the broader market, as measured by the Russell 1000 Index and the Russell 1000 Value Index, returned 16.77% and 17.77%, respectively. All returns reflect reinvestment of dividends. The Trust s discount to NAV, which narrowed during the period, accounts for the difference between performance based on price and performance based on NAV. Stock selection in the financials sector provided the biggest boost to Trust performance relative to the Dividend Achievers Index, specifically within the commercial banking and insurance industries. The next largest contributor overall was security selection in the industrials sector, especially within the commercial services & supplies industry. A Trust overweight in industrials was also beneficial. Lastly, stock selection in materials played a key role in performance for the period. The Trust had positive absolute total returns in all 10 economic sectors. The aggregate effect of the Trust s option positions was the largest single detractor from relative performance. Elsewhere, stock selection in consumer staples and utilities weighed on relative returns. Stock selection in consumer discretionary detracted, although a small sector underweight contributed slightly to returns. A marginal overweight in information technology also hurt returns.

Trust Information

Symbol on NYSE	BDT
Initial Offering Date	March 30, 2004
Yield based on Closing Market Price as of April 30, 2010 (\$10.19)1	6.38%
Current Quarterly Distribution per Common Share ²	\$0.1625
Current Annualized Distribution per Common Share ²	\$0.6500

- 1 Yield on closing market price is calculated by dividing the current annualized distribution per share by the closing market price. 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 tax return of capital or net realized gain.

The table below summarizes the changes in the Trust s market price and net asset value per share:

	4/30/10	10/31/09	Change	High	Low
Market Price	\$10.19	\$ 8.37			