FIRST TRUST ENERGY INFRASTRUCTURE FUND
Form N-CSRS
August 01, 2012

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 811-22528

First Trust Energy Infrastructure Fund
(Exact name of registrant as specified in charter)

120 East Liberty Drive, Suite 400
Wheaton, IL 60187
(Address of principal executive offices) (Zip code)

W. Scott Jardine, Esq.
First Trust Portfolios L.P.
120 East Liberty Drive, Suite 400
Wheaton, IL 60187
(Name and address of agent for service)

registrant's telephone number, including area code: 630-765-8000

Date of fiscal year end: November 30

Date of reporting period: May 31, 2012

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR unless the Form displays a currently valid Office of Management and Budget ("OMB") control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. ss. 3507.

ITEM 1. REPORTS TO STOCKHOLDERS.

The Report to Shareholders is attached herewith.

FIRST TRUST

E N E R G Y
INFRASTRUCTURE

FUND

SEMI-ANNUAL
REPORT
For the Six Months
Ended May 31, 2012

FIRST TRUST

Energy Income Partners, LLC

TABLE OF CONTENTS

FIRST TRUST ENERGY INFRASTRUCTURE FUND (FIF)
SEMI-ANNUAL REPORT
MAY 31, 2012

CAUTION REGARDING FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements within the meaning of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended. Forward-looking statements include statements regarding the goals, beliefs, plans or current expectations of First Trust Advisors L.P. ("First Trust" or the "Advisor") and/or Energy Income Partners, LLC ("EIP" or the "Sub-Advisor") and their respective representatives, taking into account the information currently available to them. Forward-looking statements include all statements that do not relate solely to current or historical fact. For example, forward-looking statements include the use of words such as "anticipate," "estimate," "intend," "expect," "believe," "plan," "may," "should," "would" or other words that convey uncertainty of future events or outcomes.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of First Trust Energy Infrastructure Fund (the "Fund") to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. When evaluating the information included in this report, you are cautioned not to place undue reliance on these forward-looking statements, which reflect the judgment of the Advisor and/or Sub-Advisor and their respective representatives only as of the date hereof. We undertake no obligation to publicly revise or update these forward-looking statements to reflect events and circumstances that arise after the date hereof.

PERFORMANCE AND RISK DISCLOSURE

There is no assurance that the Fund will achieve its investment objective. The Fund is subject to market risk, which is the possibility that the market values of securities owned by the Fund will decline and that the value of the Fund shares may therefore be less than what you paid for them. Accordingly, you can lose money by investing in the Fund. See "Risk Considerations" in the Notes to Financial Statements for a discussion of certain other risks of investing in the Fund.

Performance data quoted represents past performance, which is no guarantee of future results, and current performance may be lower or higher than the figures shown. For the most recent month-end performance figures, please visit http://www.ftportfolios.com or speak with your financial advisor. Investment returns, net asset value and common share price will fluctuate and Fund shares, when sold, may be worth more or less than their original cost.

HOW TO READ THIS REPORT

This report contains information that may help you evaluate your investment. It includes details about the Fund and presents data and analysis that provide insight into the Fund's performance and investment approach.

By reading the portfolio commentary by the portfolio management team of the Fund, you may obtain an understanding of how the market environment affected the Fund's performance. The statistical information that follows may help you understand the Fund's performance compared to that of relevant market benchmarks.

It is important to keep in mind that the opinions expressed by personnel of EIP are just that: informed opinions. They should not be considered to be promises or advice. The opinions, like the statistics, cover the period through the date on the cover of this report. The risks of investing in the Fund are spelled out in the prospectus, the statement of additional information, this report and other Fund regulatory filings.

SHAREHOLDER LETTER

FIRST TRUST ENERGY INFRASTRUCTURE FUND (FIF)
SEMI-ANNUAL LETTER FROM THE CHAIRMAN AND CEO
MAY 31, 2012

Dear Shareholders:

I am pleased to present you with the semi-annual report for your investment in First Trust Energy Infrastructure Fund (the "Fund").

The report you hold contains detailed information about your investment; a portfolio commentary from the Fund's management team that provides a recap of the period; a performance analysis and a market and Fund outlook. Additionally, you will find the Fund's financial statements for the period this report covers. I encourage you to read this document and discuss it with your financial advisor. A successful investor is also typically a knowledgeable one, as we have found to be the case at First Trust.

First Trust remains committed to being a long-term investor and investment manager and to bringing you quality financial solutions regardless of market ups and downs. We have always believed, as I have written previously, that there are two ways to attain success in reaching your financial goals: staying invested in quality products and having a long-term investment horizon. We are committed to this approach in the products we manage or supervise and offer to investors.

As you know, First Trust offers a variety of products that we believe could fit many financial plans to help investors seeking long-term investment success. We encourage you to talk to your financial advisor about the other investments First Trust offers that might also fit your financial goals and to discuss those goals with your financial advisor regularly so that he or she can help keep you on track.

First Trust will continue to make up-to-date information about your investments available so you and your financial advisor are current on any First Trust investments you own. We value our relationship with you, and thank you for the opportunity to assist you in achieving your financial goals. I look forward to the remainder of 2012 and to the next edition of your Fund's report.

Sincerely,

/s/ James A. Bowen

James A. Bowen
Chairman of the Board of Trustees of First Trust Energy Infrastructure Fund and
Chief Executive Officer of First Trust Advisors L.P.

FIRST TRUST ENERGY INFRASTRUCTURE FUND
"AT A GLANCE"
AS OF MAY 31, 2012 (UNAUDITED)

FUND STATISTICS	
Symbol on New York Stock Exchange	FIF
Common Share Price	$20.35
Common Share Net Asset Value ("NAV")	$21.88
Premium (Discount) to NAV	(6.99)%
Net Assets Applicable to Common Shares	$384,038,985
Current Monthly Distribution per Common Share (1)	$0.1085
Current Annualized Distribution per Common Share	$1.3020
Current Distribution Rate on Closing Common Share Price (2)	6.40%
Current Distribution Rate on NAV (2)	5.95%

COMMON SHARE PRICE & NAV (WEEKLY CLOSING PRICE)

	Common Share Price	NAV
11/11	19.64	20.43
	19.84	21.35

	20.00	21.37
	20.05	21.34
	20.35	22.35
12/11	20.25	22.47
	21.08	22.31
	20.83	21.95
	20.78	22.19
1/12	21.08	22.22
	21.15	22.39
	21.36	22.45
	21.49	22.76
2/12	21.74	22.94
	21.96	22.92
	21.63	22.93
	21.80	22.57
	21.16	22.56
3/12	21.29	22.52
	21.25	22.55
	20.75	22.10
	20.97	22.55
4/12	21.63	23.03
	21.18	22.67
	21.15	22.60
	19.94	21.66
	20.26	22.16
5/12	20.35	21.88

PERFORMANCE

	Cumulative Total Return	
	6 Months Ended 5/31/2012	Inception (9/27/2011) to 5/31/2012
Fund Performance (3)		
NAV	5.55%	18.15%
Market Value	5.90%	4.95%
Index Performance		
Philadelphia Stock Exchange Utility Index	4.26%	8.06%
Alerian MLP Total Return Index	2.05%	9.67%
Blended Benchmark (4)	3.16%	8.87%

INDUSTRY CLASSIFICATION	% OF TOTAL INVESTMENTS
Pipelines	60.6%
Electric Power	29.9
Propane	4.0
Marine	2.2
Coal	1.8
Other	1.5
Total	100.0%

TOP 10 HOLDINGS	% OF TOTAL INVESTMENTS
Kinder Morgan Management, LLC	7.5%
Enbridge Energy Management, LLC	7.1
Williams Cos., Inc.	4.4
TransCanada Corp.	4.0
Dominion Resources, Inc.	4.0
NextEra Energy, Inc.	3.9
NiSource, Inc.	3.5
Centerpoint Energy, Inc.	3.2
Spectra Energy Corp.	3.1
Southern Co.	3.1
Total	43.8%

(1) Most recent distribution paid or declared through 5/31/2012. Subject to change in the future.

(2) Distribution rates are calculated by annualizing the most recent distribution paid or declared through the report date and then dividing by Common Share price or NAV, as applicable, as of 5/31/2012. Subject to change in the future.

(3) Total return is based on the combination of reinvested dividend, capital gain and return of capital distributions, if any, at prices obtained by the Dividend Reinvestment Plan and changes in NAV per share for NAV returns and changes in Common Share price for market value returns. Total returns do not reflect sales load and are not annualized for periods less than one year. Past performance is not indicative of future results.

(4) The blended benchmark consists of the following: Philadelphia Stock Exchange Utility Index (50%) and Alerian MLP Total Return Index (50%).

PORTFOLIO COMMENTARY

FIRST TRUST ENERGY INFRASTRUCTURE FUND (FIF)
SEMI-ANNUAL REPORT
MAY 31, 2012

SUB-ADVISOR

ENERGY INCOME PARTNERS, LLC

Energy Income Partners, LLC ("EIP"), Westport, CT, was founded in 2003 to provide professional asset management services in the area of energy-related master limited partnerships and limited liability companies taxed as partnerships ("MLPs") and other high-payout securities such as pipeline companies, utilities and Canadian infrastructure equities. EIP mainly focuses on investments in energy-related infrastructure assets such as pipelines, petroleum storage and terminals that receive fee-based or regulated income from their corporate customers. EIP managed or supervised approximately $1.6 billion of assets, as of May 31, 2012. The other funds advised by EIP include a partnership for U.S. high net worth individuals and a master-and-feeder fund for institutions. EIP also manages separately managed accounts. EIP is a registered investment advisor and serves as an advisor or sub-advisor to two registered investment companies other than the Fund.

PORTFOLIO MANAGEMENT TEAM

JAMES J. MURCHIE
FOUNDER AND CEO OF ENERGY INCOME PARTNERS, LLC

Mr. Murchie founded EIP in 2003 and is the portfolio manager for all funds advised by EIP which focus on energy-related master limited partnerships and other high payout securities of companies that operate energy infrastructure. From 2005 to mid-2006, Mr. Murchie and the EIP investment team joined Pequot Capital Management. In July 2006, Mr. Murchie and the EIP investment team left Pequot and re-established EIP. From 1998 to 2003, Mr. Murchie managed a long/short fund that invested in energy and cyclical equities and commodities. From 1995 to 1997, he was a managing director at Tiger Management where his primary responsibilities were investments in energy, commodities and related equities. From 1990 to 1995, Mr. Murchie was a principal at Sanford C. Bernstein where he was a top-ranked energy analyst and sat on the Research Department's Recommendation Review Committee. Before joining Bernstein, he spent 8 years at British Petroleum in 7 operating and staff positions of increasing responsibility. He has served on the board of Clark Refining and Marketing Company and as President and Treasurer of the Oil Analysts Group of New York. Mr. Murchie holds degrees from Rice University and Harvard University.

EVA PAO
PRINCIPAL OF ENERGY INCOME PARTNERS, LLC

Ms. Pao has been with EIP since its inception in 2003 and is co-portfolio manager for all of the funds advised by EIP. She joined EIP in 2003, serving as Managing Director of EIP until the EIP investment team joined Pequot Capital Management. From 2005 to mid-2006, Ms. Pao served as Vice President of Pequot Capital Management. Prior to Harvard Business School, Ms. Pao was a Manager at Enron Corp where she managed a portfolio in Canadian oil and gas equities for Enron's internal hedge fund that specialized in energy-related equities and managed a natural gas trading book. She received a B.A. from Rice University in 1996. She received an M.B.A. from the Harvard Business School in 2002.

COMMENTARY

FIRST TRUST ENERGY INFRASTRUCTURE FUND

The investment objective of First Trust Energy Infrastructure Fund ("FIF" or the "Fund") is to seek a high level of total return with an emphasis on current distributions paid to shareholders. The Fund pursues its objective by investing primarily in securities of companies engaged in the energy infrastructure sector. These companies principally include publicly-traded MLPs, MLP affiliates, Canadian income trusts and their successor companies, pipeline companies, utilities and other infrastructure- related companies that derive at least 50% of their revenues from operating or providing services in support of infrastructure assets such as pipelines, power transmission and petroleum and natural gas storage in the petroleum, natural gas and power generation industries (collectively, "Energy Infrastructure Companies"). Under normal market conditions, the Fund invests at least 80% of its managed assets in securities of Energy Infrastructure Companies. There can be no assurance that the Fund's investment objective will be achieved. The Fund may not be appropriate for all investors.

MARKET RECAP

As measured by the Alerian MLP Total Return Index ("AMZX") and the Philadelphia Stock Exchange Utility Index ("UTY"), the total return for energy-related MLPs and utilities over the semi-annual period ended May 31, 2012 was 2.05% and 4.26%, respectively. These figures are according to data collected from Alerian Capital Management and Bloomberg. While in the short term, share appreciation

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can be volatile, we believe that over the longer term, share appreciation will approximate growth in per share quarterly cash distributions. Over the last 10 years, growth in per share MLP distributions and utility dividends has averaged about 6.8% and 6.1%, respectively. Over the last 12 months, the cash distributions of MLPs and utilities increased by about 5.6% and 4.9%, respectively (source: Alerian Capital Management and Bloomberg).

PERFORMANCE ANALYSIS

On a net asset value ("NAV") basis, the Fund provided a total return1 of 5.55%, including the reinvestment of dividends, for the semi-annual period ended May 31, 2012. This compares, according to collected data, to a total return of 3.16% for the average of the two benchmarks (2.05% for AMZX and 4.26% for UTY). On a market value basis, the Fund had a total return1, including the reinvestment of dividends, for the period covered by this report, of 5.90%. The Fund's discount to NAV narrowed slightly over the course of the semi-annual period. On May 31, 2012, the Fund was priced at $20.35 while the NAV was $21.88, a discount of 6.99%. As a comparison, on November 30, 2011, the Fund was priced at $19.82, while the NAV was $21.38, a discount of 7.30%.

The Fund declared regular monthly common share distributions of $0.1085 per share for each month of the reporting period.

The outperformance of the Fund's NAV relative to the 3.16% average of the AMZX and UTY benchmarks is largely driven by the non-MLPs in the portfolio, as well as ownership of companies that primarily have non-cyclical and/or regulated businesses like pipelines and storage terminals, while underweighting or avoiding altogether certain MLPs that we view as less attractive investments (including some that operate in some of the non-cyclical businesses, but whose individual company characteristics are not attractive.) We believe the most important long-term drivers of the Fund's total return will be the maintenance and growth of the dividends of the Fund's portfolio companies.

An important factor affecting the return of the Fund is the Fund's use of financial leverage through the use of a line of credit. The Fund entered into a committed facility agreement with the Bank of Nova Scotia that has a maximum commitment amount of $145,000,000. The Fund uses leverage because its managers believe that, over time, leverage can enhance total return for common shareholders. However, the use of leverage can also increase the volatility of the NAV and therefore the share price. For example, as the prices of securities held by the Fund decline, the effect of changes in Common Share NAV and Common shareholder total return is magnified by the use of leverage. Conversely, leverage may enhance Common Share returns during periods when the prices of securities held by the Fund generally are rising. Unlike the Fund, AMZX and UTY are not leveraged. Leverage had a positive impact on the performance of the Fund over this reporting period.

MARKET AND FUND OUTLOOK

The MLP asset class has experienced 5 IPOs in the six month reporting period. There also has been a healthy level of secondary financing activity for MLPs during the reporting period, as they continue to fund their ongoing investments in new pipelines, processing and storage facilities. In the semi-annual period, there have been 27 secondary equity offerings for MLPs that raised $8.0 billion through May 31, 2012. This compares to $8.7 billion raised in 34 secondary equity offerings during the same time period last year. MLPs also found access to the public debt markets, raising $7.9 billion in 9 offerings during the same time period. This compares to $9.0 billion during the same period last year (source: Barclays Capital). The combination of equity and debt raised of approximately $16 billion represents about 6% of the roughly $274 billion MLP market cap. Since MLPs pay out virtually all of their free cash flow each quarter, this capital raising is mostly a reflection of the capital investment and acquisition activity in the asset class.

Capital spending for utilities continues to increase. As measured by the UTY, capital expenditures have grown from $34 billion and $45 billion in 2002 and 2007, respectively, to $60 billion last year. This growth in expenditures is in response to needs such as reliability, interconnection, modernization and growing demand. These capital investments are supported, in part, by federal and state regulation which allows companies to recoup investments made in their rate structure.

The Fund continues to aim to be invested in Energy Infrastructure Companies with mostly non-cyclical cash flows, investment-grade ratings, conservative balance sheets, modest and/or flexible organic growth commitments and liquidity on their revolving lines of credit. Since the Fund invests in securities that tend to have high dividend payout ratios (as measured versus earnings), securities with

1 Total return is based on the combination of reinvested dividend, capital gain and return of capital distributions, if any, at prices obtained by the Dividend Reinvestment Plan and changes in NAV per share for net asset value returns and changes in Common Share price for market value returns. Total returns do not reflect sales load. Past performance is not indicative of future results.

unpredictable cyclical cash flows make them a poor fit, in the opinion of the Sub-Advisor. While there are some businesses within the Fund's portfolio whose cash flows have cyclicality, they are usually small and analyzed in the context of each company's financial and operating leverage and payout ratio.

MLPs continue to play an integral role in the restructuring of some more diversified energy conglomerates. The first phase of this restructuring, which has occurred over the last few years, has been the creation by diversified conglomerates of an MLP subsidiary that contains assets such as pipelines and storage terminals. The more recent phase has been the divestiture by some of the conglomerates of most or all of their cyclical businesses, leaving the parent company looking very similar to an old-fashioned pipeline utility with a large holding in a subsidiary MLP. The diversified energy conglomerates are restructuring so that their regulated infrastructure assets with predictable cash flows may be better valued by the market. And sometimes, a more active role is being taken as three diversified energy companies have been purchased by MLP general partners over the last eight months. We expect this restructuring will continue. The Fund is pursuing these opportunities in the context of the desired characteristics including business exposure and quality.

The total return proposition of owning Energy Infrastructure Companies has been and continues to be their yield plus their growth. The yield of the MLPs, weighted by market capitalization, on May 31, 2012, was 6.6% based on AMZX and for utilities, as measured by UTY, was 4.21%. The growth in the quarterly cash distributions that make up this yield has averaged 6.8% annually over the last ten years for MLPs and 6.1% for utilities. In the opinion of the Sub-Advisor, this growth has been and will continue to be driven by three factors: 1) modest increases in volume from growth from both underlying petroleum demand as the economy recovers and increases in North American oil and gas production (particularly in new supply areas); 2) inflation and cost escalators in pipeline tariffs and contracts; and 3) accretion from profitable capital projects and acquisitions. The capital projects continue to be related to growth in areas such as the Canadian Oil Sands, the new oil and natural gas shale resources and the need for more infrastructure related to bio fuels and other environmental mandates, including the conversion of many coal fired power plants to natural gas.

FIRST TRUST ENERGY INFRASTRUCTURE FUND
PORTFOLIO OF INVESTMENTS
MAY 31, 2012 (UNAUDITED)

SHARES/ UNITS	DESCRIPTION	
COMMON STOCKS - 100.6%		
	ELECTRIC UTILITIES - 24.4%	
651,800	Duke Energy Corp. (a)	$
284,600	Emera, Inc. (CAD) (a)	
296,450	Exelon Corp. (a)	
109,800	Fortis, Inc. (CAD) (a)	
115,000	ITC Holdings Corp. (a)	
300,400	NextEra Energy, Inc. (a)	
355,800	Northeast Utilities (a)	
340,000	Southern Co. (a)	
		-
		-
	GAS UTILITIES - 5.5%	
15,800	ONEOK, Inc. (a)	
285,000	Questar Corp. (a)	
492,600	UGI Corp. (a)	

	MULTI-UTILITIES - 19.7%
35,000	Atco, Ltd. (CAD) (a)..
45,500	Canadian Utilities, Ltd. (CAD) (a)..
797,600	Centerpoint Energy, Inc. (a)...
391,400	Dominion Resources, Inc. (a)...
195,000	National Grid PLC, ADR (a)...
708,300	NiSource, Inc. (a)...
50,000	Sempra Energy (a)..
75,000	Wisconsin Energy Corp. (a)...
	OIL, GAS & CONSUMABLE FUELS - 51.0%
1,157,163	Enbridge Energy Management, LLC (a) (b)....................................
534,700	Enbridge Income Fund Holdings, Inc. (CAD) (a)..............................
353,169	Enbridge, Inc. (a)...
252,300	Keyera Corp. (CAD) (a)...
534,593	Kinder Morgan Management, LLC (b)..
306,500	Kinder Morgan, Inc. (a)..
482,100	Pembina Pipeline Corp. (CAD) (a)...
552,350	Spectra Energy Corp. (a)...
500,400	TransCanada Corp. (a)..
258,000	Veresen, Inc. (CAD) (a)..
730,700	Williams Cos., Inc. (a)..
	TOTAL COMMON STOCKS ....
	(Cost $353,093,443)

MASTER LIMITED PARTNERSHIPS - 31.5%

	GAS UTILITIES - 1.6%
157,764	AmeriGas Partners, L.P. (a)..

 See Notes to Financial Statements

FIRST TRUST ENERGY INFRASTRUCTURE FUND
PORTFOLIO OF INVESTMENTS - (CONTINUED)
MAY 31, 2012 (UNAUDITED)

SHARES/ UNITS	DESCRIPTION

MASTER LIMITED PARTNERSHIPS - (CONTINUED)

OIL, GAS & CONSUMABLE FUELS - 29.9%

20,000	Alliance GP Holdings, L.P.	$
72,165	Alliance Resource Partners, L.P.(a)	
160,460	Buckeye Partners, L.P. (a)..	
162,000	El Paso Pipeline Partners, L.P. (a)	
149,000	Energy Transfer Equity, L.P. (a)..	
51,600	Enterprise Products Partners, L.P. (a)....................................	
128,423	Holly Energy Partners, L.P. (a)...	
99,300	Magellan Midstream Partners, L.P. (a).....................................	
173,239	Natural Resource Partners, L.P.	
213,200	NuStar Energy, L.P. (a)...	
29,600	NuStar GP Holdings, LLC	
16,000	ONEOK Partners, L.P.	
144,443	Plains All American Pipeline, L.P. (a)....................................	
117,700	Spectra Energy Partners, L.P. (a)...	
177,909	Sunoco Logistics Partners, L.P. (a).......................................	
353,095	TC Pipelines, L.P. (a)..	
304,828	Teekay LNG Partners, L.P. (a)...	
242,670	TransMontaigne Partners, L.P. (a)...	
66,300	Williams Partners, L.P. (a)...	
		-
		-
	TOTAL MASTER LIMITED PARTNERSHIPS	
	(Cost $116,926,667)	-
	TOTAL INVESTMENTS - 132.1%	