

Energy Transfer Partners, L.P.

Form 424B5

August 26, 2009

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PROSPECTUS SUPPLEMENT
To Prospectus dated August 14, 2009

August 26, 2009

Energy Transfer Partners, L.P.

Common Units Representing Limited Partner Interests having an aggregate offering price of up to \$300,000,000

This prospectus supplement and the accompanying prospectus relate to the issuance and sale from time to time of common units representing limited partner interests having an aggregate offering price of up to \$300,000,000 through UBS Securities LLC, as our sales agent. These sales, if any, will be made pursuant to the terms of an equity distribution agreement between us and the sales agent, which has been filed previously as an exhibit to a current report on Form 8-K.

Under the terms of the equity distribution agreement, we also may sell common units to UBS Securities LLC as principal for its own account at a price agreed upon at the time of the sale. If we sell common units to UBS Securities LLC as principal, we will enter into a separate terms agreement with UBS Securities LLC, and we will describe that agreement in a separate prospectus supplement or pricing supplement.

Our common units trade on the New York Stock Exchange under the symbol ETP. On August 25, 2009, the last reported sale price of our common units on the New York Stock Exchange was \$42.47 per unit. Sales of common units under this prospectus supplement, if any, will be made by means of ordinary brokers' transactions through the facilities of the New York Stock Exchange, or NYSE, at market prices, in block transactions, or as otherwise agreed between us and the sales agent.

Investing in our common units involves risks. See Risk Factors on page S-9 of this prospectus supplement and page 4 of the accompanying prospectus.

The compensation of the sales agent for sales of units shall be at a fixed commission rate of up to 2.0% of the gross sales price per unit, depending upon the number of units sold. The net proceeds from any sales under this prospectus supplement will be used as described under Use of Proceeds in this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

UBS Investment Bank

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus or any free writing prospectus prepared by us or on our behalf. We have not authorized anyone to provide you with additional or different information. We are not making an offer to sell our common units in any jurisdiction where the offer is not permitted. You should not assume that the information contained in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date on the front of this document or that any information we have incorporated by reference is accurate as of any date other than the date of the document incorporated by reference. Our business, financial condition, results of operations and prospects may have changed since these dates.

We provide information to you about this offering of our common units in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering, and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement.

You should carefully read this prospectus supplement and the accompanying prospectus, including the information incorporated by reference in the prospectus, before you invest. These documents contain information you should consider when making your investment decision. None of Energy Transfer Partners, L.P., UBS Securities LLC or any of their respective representatives is making any representation to you regarding the legality of an investment in our common units by you under applicable laws. You should consult with your own advisors as to legal, tax, business, financial and related aspects of an investment in the common units.

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SUMMARY

This summary highlights information included or incorporated by reference in this prospectus supplement. It does not contain all of the information that may be important to you. You should read carefully the entire prospectus supplement, the accompanying prospectus, the documents incorporated by reference and the other documents to which we refer herein for a more complete understanding of this offering.

Unless the context otherwise requires, references to (1) Energy Transfer, ETP, we, us, our and similar terms, as well as references to the Partnership, are to Energy Transfer Partners, L.P. and all of its operating limited partnerships and subsidiaries and (2) ETE are to Energy Transfer Equity, L.P. With respect to the cover page and in the section entitled Summary The Offering, we, our and us refer only to Energy Transfer Partners, L.P. and not to any of its operating limited partnerships or subsidiaries.

The Company

Overview

We are a publicly traded limited partnership that owns and operates a diversified portfolio of energy assets. Our natural gas operations include intrastate natural gas gathering and transportation pipelines, an interstate pipeline, natural gas treating and processing assets located in Texas, New Mexico, Arizona, Louisiana, Colorado and Utah, and three natural gas storage facilities located in Texas. These assets include approximately 17,500 miles of pipeline in service, with approximately 160 miles of additional pipeline under construction. In addition, we have 50% interests in joint ventures that have approximately 500 miles of interstate pipeline in service. Our intrastate and interstate pipeline systems transport natural gas from several significant natural gas producing areas, including the Barnett Shale in the Fort Worth Basin in north Texas, the Bossier Sands in east Texas, the Permian Basin in west Texas and New Mexico, the San Juan Basin in New Mexico and other producing areas in south Texas and central Texas. Our gathering and processing operations are conducted in many of these same producing areas as well as in the Piceance and Uinta Basins in Colorado and Utah. We are also one of the three largest retail marketers of propane in the United States, serving more than one million customers across the country.

We have experienced substantial growth over the last five years through a combination of internal growth projects and strategic acquisitions. Our internal growth projects consist primarily of the construction of natural gas transmission pipelines, both intrastate and interstate. From September 1, 2003 through June 30, 2009, we made growth capital expenditures, excluding capital contributions made in connection with the Midcontinent Express Pipeline and Fayetteville Express Pipeline joint ventures, of approximately \$4.9 billion, of which more than \$4.1 billion was related to natural gas transmission pipelines, and we anticipate growth capital expenditures of an additional \$250 million to \$300 million during the last six months of 2009, excluding capital contributions expected to be made in connection with the Midcontinent Express Pipeline and Fayetteville Express Pipeline joint ventures, which are expected to total \$480 million to \$520 million for the same period and include amounts to reduce the indebtedness of Midcontinent Express Pipeline to a level that we expect will be needed for it to obtain long-term financing in 2009, on a stand-alone basis without guarantees from the joint venture partners, on acceptable terms. Primarily as a result of these internal growth projects and acquisitions, we have increased our cash flow from operating activities from \$162.7 million for the year ended August 31, 2004 to \$1.3 billion for the year ended December 31, 2008. We have also increased our cash distributions from \$0.325 per common unit for the quarter ended November 30, 2003 (\$1.30 per common unit on an annualized basis) to \$0.89375 per common unit for the quarter ended June 30, 2009 (\$3.575 per common unit on an annualized basis), an increase of 175%.

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Our Business

Intrastate Transportation and Storage Operations

We own and operate approximately 7,800 miles of intrastate natural gas transportation pipelines and three natural gas storage facilities. We own the largest intrastate pipeline system in the United States. Our intrastate pipeline system interconnects to many major consumption areas in the United States. Our intrastate transportation and storage segment focuses on the transportation of natural gas from various natural gas producing areas to major natural gas consuming markets through connections with other pipeline systems. Our intrastate natural gas pipeline system has an aggregate throughput capacity of approximately 12.8 billion cubic feet per day, or Bcf/d, of natural gas. For the year ended December 31, 2008, we transported an average of 11.2 Bcf/d of natural gas through our intrastate natural gas pipeline system. We also utilize our three natural gas storage facilities to engage in natural gas storage transactions in which we seek to find and profit from pricing differences that occur over time. These transactions typically involve a purchase of physical natural gas that is injected into our storage facilities and a related sale of natural gas pursuant to financial futures contracts at a price sufficient to cover our natural gas purchase price and related carrying costs and provide for a gross profit margin. We also provide natural gas storage services for third parties for which we charge storage fees as well as injection and withdrawal fees. Our storage facilities have an aggregate working gas capacity of approximately 74.4 Bcf.

Our intrastate transportation and storage operations accounted for approximately 65% of our total consolidated operating income for the year ended December 31, 2008.

Based primarily on the increased drilling activities and increased natural gas production in the Barnett Shale in north Texas and the Bossier Sands in east Texas, we have pursued a significant expansion of our natural gas pipeline system in order to provide greater transportation capacity from these natural gas supply areas to markets for natural gas. This expansion initiative, which has resulted in approximately 700 miles of large diameter pipeline ranging from 20 inches to 42 inches with approximately 6.5 Bcf/d of natural gas transportation capacity, includes the following completed pipeline construction projects:

In April 2007, we completed the 243-mile pipeline from Cleburne in north Texas to Carthage in east Texas, which we refer to as the Cleburne to Carthage pipeline, to expand our capacity to transport natural gas produced from the Barnett Shale and the Bossier Sands to our Texoma pipeline and other pipeline interconnections. The Cleburne to Carthage pipeline is primarily a 42-inch diameter natural gas pipeline. In December 2007, we completed two natural gas compression projects that added approximately 90,000 horsepower on the Cleburne to Carthage pipeline, increasing natural gas deliverability at the Carthage Hub to more than 2.0 Bcf/d.

In April 2008, we completed our 150-mile Southeast Bossier 42-inch natural gas pipeline, which we refer to as the Southeast Bossier pipeline. This pipeline connects our 42-inch Cleburne to Carthage pipeline and our 30-inch East Texas pipeline to our 30-inch Texoma pipeline. The Southeast Bossier pipeline has an initial throughput capacity of 900 million cubic feet per day, or MMcf/d, that can be increased to 1.3 Bcf/d with the addition of compression. The Southeast Bossier pipeline increases our takeaway capacity from the Barnett Shale and Bossier Sands and provides increased market access for natural gas produced in these areas.

In July 2008, we completed our 36-inch Paris Loop natural gas pipeline expansion project in north Texas. This 135-mile pipeline initially provided us with an additional 400 MMcf/d of capacity out of the Barnett Shale, which increased to 900 MMcf/d in May 2009. The Paris Loop originates near Eagle Mountain Lake in northwest Tarrant County, Texas and connects to our Houston Pipe Line system near Paris, Texas.

In August 2008, we completed an expansion of our Cleburne to Carthage pipeline from the Texoma pipeline interconnect to the Carthage Hub through the installation of 32 miles of 42-inch pipeline. This expansion, which we refer to as the Carthage Loop, added 500 MMcf/d of

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pipeline capacity from Cleburne to the Carthage Hub. We expect to increase the capacity of the Carthage Loop to 1.1 Bcf/d by adding compression to this pipeline, which capacity increase we expect to complete by September 2009.

In August 2008, we completed the first segment of our 36-inch Maypearl to Malone natural gas pipeline expansion project. This 25-mile pipeline extends from Maypearl, Texas to Malone, Texas, and provides an additional 600 MMcf/d of capacity out of the Fort Worth Basin.

In January 2009, we completed our Southern Shale natural gas pipeline project, which consists of 31 miles of 36-inch pipeline that originates in southern Tarrant County, Texas and delivers natural gas to our Maypearl to Malone pipeline expansion project. The Southern Shale pipeline provides an additional 700 MMcf/d of takeaway capacity from the Barnett Shale.

In January 2009, we completed our 36-inch Cleburne to Tolar natural gas pipeline expansion project. This 20-mile pipeline extends from Cleburne, Texas to Tolar, Texas and provides an additional 400 MMcf/d of takeaway capacity from the Barnett Shale.

In February 2009, we completed our 56-mile Katy Expansion pipeline project. This 36-inch expansion project increases the capacity of our existing ETC Katy natural gas pipeline in southeast Texas by more than 400 MMcf/d.

In addition, in April 2008, we announced another pipeline expansion project, which we refer to as the Texas Independence Pipeline, that will consist of 160 miles of 42-inch pipeline connecting our ET Fuel System and North Texas System with our East Texas pipeline. The Texas Independence Pipeline will expand our ET Fuel System's throughput capacity by an incremental 1.1 Bcf/d and, with the addition of compression, the capacity may be expanded to 1.75 Bcf/d. Construction of this pipeline is expected to be completed by September 2009.

These pipeline projects are supported by principally fee-based contracts for periods ranging from five to ten years.

Interstate Transportation Operations

We own and operate the Transwestern pipeline, an open-access natural gas interstate pipeline extending from the gas producing regions of west Texas, eastern and northwest New Mexico, and southern Colorado primarily to pipeline interconnects off the east end of its system and to pipeline interconnects at the California border. Including the recently completed projects described below, Transwestern comprises approximately 2,700 miles of pipeline with a capacity of 2.1 Bcf/d. The Transwestern pipeline has access to three significant gas basins: the Permian Basin in west Texas and eastern New Mexico, the San Juan Basin in northwest New Mexico and southern Colorado, and the Anadarko Basin in the Texas and Oklahoma panhandle. Natural gas sources from the San Juan Basin and surrounding producing areas can be delivered eastward to Texas intrastate and mid-continent connecting pipelines and natural gas market hubs as well as westward to markets like Arizona, Nevada and California. Transwestern's customers include local distribution companies, producers, marketers, electric power generators and industrial end-users.

During 2007, we initiated the Phoenix project, consisting of 260 miles of 42-inch and 36-inch pipeline lateral, with a throughput capacity of 500 MMcf/d, connecting the Phoenix area to Transwestern's existing mainline at Ash Fork, Arizona. This lateral pipeline was completed in February 2009.

During the third quarter of 2008, we completed the San Juan Loop pipeline, a 26-mile loop that provides an additional 375 MMcf/d of capacity to Transwestern's existing San Juan lateral. This expansion project supports the Phoenix project by providing additional throughput capacity from the San Juan Basin natural gas producing area to

Transwestern's primary transmission pipeline to supply natural gas for the Phoenix project pipeline.

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Our interstate pipeline segment also includes our development of the Midcontinent Express Pipeline with Kinder Morgan Energy Partners, L.P., or KMP. The Midcontinent Express Pipeline is an approximately 500-mile interstate natural gas pipeline that will originate near Bennington, Oklahoma, be routed through Perryville, Louisiana, and terminate at an interconnect with Transcontinental Gas Pipe Line Corporation's, or Transco, interstate natural gas pipeline in Butler, Alabama. Transco's pipeline provides producers in the Barnett Shale, Bossier Sands, the Fayetteville Shale in Arkansas and the Woodford/Caney Shale in Oklahoma access to the significant natural gas markets in the midwest, northeast, mid-Atlantic and southeast portion of the United States. The Midcontinent Express Pipeline consists of 266 miles of 42-inch pipeline, 201 miles of 36-inch pipeline and 40 miles of 30-inch pipeline and has multiple receipt and delivery interconnections. The first zone of the pipeline, from Bennington, Oklahoma to Perryville, Louisiana, was placed in service in April 2009, and the second zone of the pipeline, from Perryville, Louisiana to Butler, Alabama, was placed in service on August 1, 2009. The first zone of the pipeline has an initial design capacity of 1.5 Bcf/d and the second zone has an initial design capacity of 1.2 Bcf/d. Midcontinent Express Pipeline LLC, or MEP, the entity developing this pipeline, has received firm transportation commitments from customers for the full throughput design capacity for periods ranging from five to 10 years. MEP has also received long-term firm transportation commitments from customers for a 0.3 Bcf/d planned expansion of the pipeline capacity, through additional compression, expected to be completed in June 2010. In January 2008, in conjunction with the signing of transportation commitments, MEP entered into an option agreement with a subsidiary of MarkWest Energy Partners, L.P., or MarkWest, providing it a one-time right to purchase a 10% ownership interest in MEP. On August 11, 2009, MarkWest provided notice of its election to conditionally exercise the option. If MarkWest determines to proceed with this purchase following its due diligence review, MarkWest will be required to pay MEP 10% of the aggregate capital costs to construct the pipeline project and, following such purchase, we and KMP will each own 45% of MEP, while MarkWest will own the remaining 10%.

In October 2008, we entered into a 50/50 joint venture with KMP for the development of the Fayetteville Express Pipeline, an approximately 187-mile pipeline that will originate in Conway County, Arkansas, continue eastward through White County, Arkansas and terminate at an interconnect with Trunkline Gas Company in Quitman County, Mississippi. Fayetteville Express Pipeline LLC, or FEP, the entity formed to own and operate this pipeline, initiated public review of the project pursuant to the FERC's National Environmental Policy Act pre-filing review process in November 2008. The pipeline is expected to have an initial capacity of 2.0 Bcf/d. Pending necessary regulatory approvals, the pipeline is expected to be in service by early 2011. FEP has secured binding 10-year commitments for transportation of quantities with energy equivalents totaling 1.8 Bcf/d. The new pipeline will interconnect with Natural Gas Pipeline Company of America, or NGPL, in White County, Arkansas, Texas Gas Transmission in Coahoma County, Mississippi, and ANR Pipeline Company in Quitman County, Mississippi. NGPL is operated and partially owned by Kinder Morgan, Inc., which owns the general partner of KMP.

On January 27, 2009, we announced that we had entered into an agreement with a wholly-owned subsidiary of Chesapeake Energy Corporation, or Chesapeake, to construct a 178-mile 42-inch interstate natural gas pipeline, which we refer to as the Tiger Pipeline. The pipeline will connect to our dual 42-inch pipeline system near Carthage, Texas, extend through the heart of the Haynesville Shale and end near Delhi, Louisiana, with interconnects to at least seven interstate pipelines at various points in Louisiana. The Tiger Pipeline is anticipated to have an initial throughput capacity of not less than 1.5 Bcf/d, which capacity may be increased up to 2.0 Bcf/d based on the final level of firm contractual commitments from customers on the Tiger Pipeline prior to commencement of construction. The agreement with Chesapeake provides for a 15-year commitment for firm transportation capacity of approximately 1.0 Bcf/d. We have also entered into agreements with EnCana Marketing (USA), Inc., a subsidiary of EnCana Corporation, and another shipper that provide for 10-year commitments for firm transportation capacity on the Tiger Pipeline of not less than 0.5 Bcf/d in the aggregate. Pending necessary regulatory approvals, the Tiger Pipeline is expected to be in service in the first half of 2011.

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Our interstate transportation segment accounted for approximately 11% of our total consolidated operating income for the year ended December 31, 2008.

Midstream Operations

We own and operate approximately 7,000 miles of in-service natural gas gathering pipelines, three natural gas processing plants, 11 natural gas treating facilities, and 10 natural gas conditioning facilities. Our midstream segment focuses on the gathering, compression, treating, conditioning, processing and marketing of natural gas, and our operations are currently concentrated in the Barnett Shale in north Texas, the Bossier Sands in east Texas, the Austin Chalk trend of southeast Texas, the Permian Basin in west Texas and the Piceance and Uinta Basins in Colorado and Utah.

Our midstream segment accounted for approximately 14% of our total consolidated operating income for the year ended December 31, 2008.

Retail Propane Operations

We are one of the three largest retail propane marketers in the United States, serving more than one million customers across the country. Our propane operations extend from coast to coast with concentrations in the western, upper midwestern, northeastern and southeastern regions of the United States. Our propane business has grown primarily through acquisitions of retail propane operations and, to a lesser extent, through internal growth.

Our retail propane operations accounted for approximately 10% of our total consolidated operating income for the year ended December 31, 2008. The retail propane segment is a margin-based business in which gross profits depend on the excess of sales price over propane supply cost. The market price of propane is often subject to volatile changes as a result of supply or other market conditions over which we have no control.

Our propane business is largely seasonal and dependent upon weather conditions in our service areas. Historically, approximately two-thirds of our retail propane volume and substantially all of our propane-related operating income are attributable to sales during the six-month peak-heating season of October through March. This generally results in higher operating revenues and net income in the propane segment during the period from October through March of each year, and lower operating revenues and either net losses or lower net income during the period from April through September of each year. Cash flow from operations is generally greatest during the period from December to May of each year when customers pay for propane purchased during the six-month peak-heating season. Sales to commercial and industrial customers are much less weather sensitive.

Business Strategy

Our business strategy is to increase unitholder distributions and the value of our common units. We believe we have engaged, and will continue to engage, in a well-balanced plan for growth through acquisitions, internally generated expansion, and measures aimed at increasing the profitability of our existing assets.

We intend to continue to operate as a diversified, growth-oriented master limited partnership with a focus on increasing the amount of cash available for distribution on each common unit. We believe that by pursuing independent operating and growth strategies for our natural gas operations and retail propane business, we will be best positioned to achieve our objectives.

We expect that acquisitions in natural gas operations will be the primary focus of our acquisition strategy going forward as evidenced by our acquisition of the Transwestern pipeline and Canyon Gathering System, although we also

expect to continue to pursue complementary propane acquisitions. We also anticipate that our natural gas operations will provide internal growth projects of greater scale compared to those available in our propane business as demonstrated by our significant number of completed natural gas pipeline projects as well as our recently announced pipeline projects.

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We believe that we are well-positioned to compete in both the natural gas operations and retail propane industries based on the following strengths:

We believe that the size and scope of our operations, our stable asset base and cash flow profile, and our investment grade status will be significant positive factors in our efforts to obtain new debt or equity financing in light of current market conditions.

Our experienced management team has an established reputation as highly-effective, strategic operators within our operating segments. In addition, our management team is motivated to effectively and efficiently manage our business operations through performance-based incentive compensation programs and through ownership of a substantial equity position in Energy Transfer Equity, L.P., the entity that indirectly owns our general partner and therefore benefits from incentive distribution payments we make to our general partner.

Natural Gas Operations Business Strategies

Enhance profitability of existing assets. We intend to increase the profitability of our existing asset base by adding new volumes of natural gas under long-term producer commitments, undertaking additional initiatives to enhance utilization and reducing costs by improving operations.

Engage in construction and expansion opportunities. We intend to leverage our existing infrastructure and customer relationships by constructing and expanding systems to meet new or increased demand for midstream and transportation services.

Increase cash flow from fee-based businesses. We intend to seek to increase the percentage of our midstream business conducted with third parties under fee-based arrangements in order to reduce our exposure to changes in the prices of natural gas and natural gas liquids, or NGLs.

Growth through acquisitions. We intend to continue to make strategic acquisitions of midstream, transportation and storage assets in our current areas of operation that offer the opportunity for operational efficiencies and the potential for increased utilization and expansion of our existing and acquired assets.

Propane Business Strategies

Pursue internal growth opportunities. In addition to pursuing expansion through acquisitions, we have aggressively focused on high return internal growth opportunities at our existing customer service locations. We believe that by concentrating our operations in areas experiencing higher-than-average population growth, we are well positioned to achieve internal growth by adding new customers.

Growth through complementary acquisitions. We believe that our position as one of the three largest propane marketers in the United States provides us a solid foundation to continue our acquisition growth strategy through consolidation.

Maintain low-cost, decentralized operations. We focus on controlling costs, and we attribute our low overhead costs primarily to our decentralized structure.

Recent Developments

Common Unit Offerings

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In January 2009, we completed a public offering of 6,900,000 common units, which included 900,000 common units issued pursuant to the exercise of the underwriters' option to purchase additional common units. We used the net proceeds of approximately \$225.9 million to repay amounts outstanding under our \$2.0 billion revolving credit facility.

In April 2009, we completed a public offering of 9,775,000 common units (including 1,275,000 common units pursuant to the exercise of the underwriters' option to purchase additional common

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units). We used the net proceeds of approximately \$352.4 million to fund capital expenditures and capital contributions to joint venture entities related to pipeline construction projects.

Termination of Joint Venture

In September 2008, we entered into an agreement with OGE Energy Corp., or OGE, to form a joint venture entity, ETP Enogex Partners LLC, to which OGE would contribute its Enogex midstream business and we would contribute our Transwestern pipeline, our interest in the Midcontinent Express Pipeline, and our Canyon gathering system. Subsequent to entering into this agreement, conditions in the credit markets deteriorated and we and OGE were not able to obtain financing for the joint venture on favorable terms. On February 12, 2009, we and OGE agreed to terminate the agreement to form a joint venture and we have no further obligations under this agreement.

Senior Notes Offering

On April 7, 2009, we closed a public offering of \$350 million aggregate principal amount of our 8.50% senior notes due 2014 and \$650 million aggregate principal amount of our 9.00% senior notes due 2019. We used the net proceeds of approximately \$993.6 million to repay all amounts outstanding under our \$2.0 billion revolving credit facility and for general partnership purposes.

Our Principal Executive Offices

We are a limited partnership formed under the laws of the State of Delaware. Our executive offices are located at 3738 Oak Lawn Avenue, Dallas, Texas 75219. Our telephone number is (214) 981-0700. We maintain a website at <http://www.energytransfer.com> that provides information about our business and operations. Information contained on this website, however, is not incorporated into or otherwise a part of this prospectus supplement or the accompanying prospectus.

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The Offering

Common Units Offered	Common units having an aggregate offering price of up to \$300,000,000.
Use of Proceeds	We intend to use the net proceeds from this offering, after deducting the sales agent's commission and our offering expenses, to repay amounts outstanding under our revolving credit facility, to fund capital expenditures and capital contributions to joint venture entities related to pipeline construction projects described elsewhere in this prospectus supplement as well as for general partnership purposes. Please read Use of Proceeds.
Exchange Listing	Our common units are traded on the New York Stock Exchange under the symbol ETP.
Risk Factors	There are risks associated with this offering and our business. You should consider carefully the risk factors on page S-9 of this prospectus supplement and page 4 of the accompanying prospectus and the other risks identified in the documents incorporated by reference herein before making a decision to purchase common units in this offering.

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RISK FACTORS

An investment in our common units involves risk. You should carefully read the risk factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2008, and the risk factors contained in the accompanying prospectus, together with all of the other information included in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus, when evaluating an investment in our common units.

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USE OF PROCEEDS

We intend to use the net proceeds of this offering, after deducting the sales agent's commission and our offering expenses, to repay amounts outstanding under our revolving credit facility, to fund capital expenditures and capital contributions to joint venture entities related to pipeline construction projects described elsewhere in this prospectus supplement as well as for general partnership purposes.

An affiliate of the sales agent is a lender under our revolving credit facility. To the extent we use proceeds from this offering to repay indebtedness under our revolving credit facility, such affiliate may receive proceeds from this offering.

As of August 24, 2009, an aggregate of approximately \$337.1 million of borrowings were outstanding under our revolving credit facility. In addition, there were \$60.8 million of letters of credit outstanding. The weighted average interest rate on the total amount outstanding at August 24, 2009 was 0.84%. Our revolving credit facility matures on July 20, 2012. We use revolving credit loans to fund growth capital expenditures and working capital requirements.

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PLAN OF DISTRIBUTION

We have entered into an equity distribution agreement with UBS Securities LLC under which we may offer and sell common units having an aggregate offering price of up to \$300,000,000 from time to time through UBS Securities LLC, as our sales agent. Sales of the common units, if any, will be made by means of ordinary brokers' transactions on the NYSE at market prices, block transactions and such other transactions as agreed upon by us and the sales agent. As agent, UBS Securities LLC will not engage in any transactions that stabilize the price of our common units.

Under the terms of the equity distribution agreement, we also may sell common units to UBS Securities LLC as principal for its own account at a price agreed upon at the time of the sale. If we sell common units to UBS Securities LLC as principal, we will enter into a separate terms agreement with UBS Securities LLC, and we will describe that agreement in a separate prospectus supplement or pricing supplement.

UBS Securities LLC will use its reasonable efforts, as our sales agent, to sell the common units offered pursuant to this prospectus supplement on a daily basis or as otherwise agreed upon by us and the sales agent. We will designate the maximum number of common units to be sold through the sales agent, on a daily basis or otherwise as we and the sales agent agree. Subject to the terms and conditions of the equity distribution agreement, UBS Securities LLC will use its reasonable efforts as the sales agent to sell, as our sales agent and on our behalf, all of the designated common units. We may instruct the sales agent not to sell common units if the sales cannot be effected at or above the price designated by us in any such instruction. Either we or the sales agent may suspend the offering of common units pursuant to the equity distribution agreement by notifying the other party.

The commission to be paid to the sales agent for units sold through it pursuant to the equity distribution agreement shall be at a fixed rate of up to 2.0% of the gross sales price per unit, depending upon the number of units sold. The remaining sales proceeds, after deducting the applicable commission and any expenses payable by us and any transaction fees imposed by any governmental or self regulatory organization in connection with the sales, will equal our net proceeds from the sale of the common units.

Settlement for sales of common units will occur on the third business day following the date on which any sales were made in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sale of the common units on our behalf, UBS Securities LLC may be deemed to be an underwriter within the meaning of the Securities Act of 1933, as amended, and the compensation paid to UBS Securities LLC may be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to the sales agent against certain liabilities, including civil liabilities under the Securities Act. We have also agreed to reimburse the sales agent for certain of its expenses.

UBS Securities LLC and its related entities have, from time to time, performed, and may in the future perform, various financial advisory and commercial and investment banking services for us and our affiliates, for which they have received and in the future will receive customary compensation and expense reimbursement.

In compliance with the guidelines of the Financial Industry Regulatory Authority, Inc., or FINRA, the maximum discount or commission to be received by any FINRA member or independent broker-dealer may not exceed 8% of the aggregate offering price of the common units offered pursuant to this prospectus supplement. We intend to use a portion of the proceeds of this offering to repay amounts outstanding under our revolving credit facility. As a result, this offering is made pursuant to the provisions of Section 5110(h) of the FINRA Conduct Rules. Pursuant to that

section, the appointment of a qualified independent underwriter is not necessary in connection with this offering, as a bona fide independent market (as defined in the FINRA Conduct Rules) exists in the common units.

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If we or the sales agent have reason to believe that our common units are no longer an actively-traded security as defined under Rule 101(c)(1) of Regulation M under the Securities Exchange Act of 1934, as amended, that party will promptly notify the other and sales of common units pursuant to the equity distribution agreement or any terms agreement will be suspended until in our collective judgment Rule 101(c)(1) or another exemptive provision has been satisfied.

The offering of common units pursuant to the equity distribution agreement will terminate upon the earlier of (1) the sale of all common units subject to the equity distribution agreement or (2) the termination of the equity distribution agreement by us or by the sales agent.

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LEGAL MATTERS

The validity of the common units offered in this prospectus supplement will be passed upon for us by Vinson & Elkins L.L.P., Houston, Texas. Certain legal matters will be passed upon for the sales agent by Andrews Kurth LLP, Houston, Texas.

EXPERTS

The consolidated financial statements and management's assessment of the effectiveness of internal control over financial reporting of Energy Transfer Partners, L.P. and the consolidated balance sheets of Energy Transfer Partners GP, L.P. and Energy Transfer Partners, L.L.C., all incorporated by reference in this prospectus supplement, have been so incorporated by reference in reliance upon the reports of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in giving said reports.

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WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports and other information with the SEC. You may read and copy any document we file at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-732-0330 for further information on the operation of the SEC's public reference room. Our SEC filings are available on the SEC's web site at <http://www.sec.gov>. We also make available free of charge on our website, at <http://www.energytransfer.com>, all materials that we file electronically with the SEC, including our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, Section 16 reports and amendments to these reports as soon as reasonably practicable after such materials are electronically filed with, or furnished to, the SEC. Additionally, you can obtain information about us through the New York Stock Exchange, 20 Broad Street, New York, New York 10005, on which our common units are listed.

The SEC allows us to incorporate by reference the information we have filed with the SEC. This means that we can disclose important information to you without actually including the specific information in this prospectus supplement by referring you to other documents filed separately with the SEC. These other documents contain important information about us, our financial condition and results of operations. The information incorporated by reference is an important part of this prospectus supplement and the accompanying prospectus. Information that we file later with the SEC will automatically update and may replace information in this prospectus supplement and information previously filed with the SEC.

We incorporate by reference in this prospectus supplement the documents listed below:

our annual report on Form 10-K for the year ended December 31, 2008;

our quarterly reports on Form 10-Q for the quarters ended March 31, 2009 and June 30, 2009;

our current reports on Form 8-K filed January 21, 2009, January 26, 2009 (two reports), January 27, 2009, our Item 1.02 current report filed February 17, 2009, and our current reports filed March 17, 2009, April 2, 2009, April 7, 2009, April 9, 2009, April 17, 2009, July 29, 2009 (two reports) and August 26, 2009 (excluding any information furnished pursuant to Item 2.02 or Item 7.01 of any such current reports on Form 8-K);

the description of our common units in our registration statement on Form 8-A (File No. 1-11727) filed pursuant to the Securities Exchange Act of 1934 on May 16, 1996; and

all documents filed by us under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 between the date of this prospectus supplement and before the termination of this offering (excluding any information furnished pursuant to Item 2.02 or Item 7.01 of any current report on Form 8-K).

You may obtain any of the documents incorporated by reference in this prospectus supplement or the accompanying prospectus from the SEC through the SEC's website at the address provided above. You also may request a copy of any document incorporated by reference in this prospectus supplement and the accompanying prospectus (including exhibits to those documents specifically incorporated by reference in this document), at no cost, by visiting our internet website at <http://www.energytransfer.com>, or by writing or calling us at the address set forth below. Information on our website is not incorporated into this prospectus supplement, the accompanying prospectus or our other securities filings and is not a part of this prospectus supplement or the accompanying prospectus.

Energy Transfer Partners, L.P.
3738 Oak Lawn Avenue
Dallas, TX 75219
Attention: Thomas P. Mason
Telephone: (214) 981-0700

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Prospectus

ENERGY TRANSFER PARTNERS, L.P.

\$1,000,000,000

**Common Units
Debt Securities**

We may offer and sell up to \$1,000,000,000 in aggregate offering price of common units, representing limited partner interests of Energy Transfer Partners, L.P., and debt securities described in this prospectus from time to time in one or more classes or series and in amounts, at prices and on terms to be determined by market conditions at the time of our offerings.

We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. This prospectus describes the general terms of these common units and debt securities and the general manner in which we will offer the common units and debt securities. The specific terms of any common units and debt securities we offer will be included in a supplement to this prospectus. The prospectus supplement will also describe the specific manner in which we will offer the common units and debt securities.

Investing in our common units and debt securities involves risks. Limited partnerships are inherently different from corporations. You should carefully consider the risk factors described under Risk Factors beginning on page 4 of this prospectus before you make an investment in our securities.

Our common units are traded on the New York Stock Exchange, or the NYSE, under the symbol ETP. The last reported sales price of our common units on the NYSE on August 11, 2009 was \$41.82 per common unit. We will provide information in the prospectus supplement for the trading market, if any, for any debt securities we may offer.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is August 14, 2009.

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In making your investment decision, you should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone to provide you with any other information. If anyone provides you with different or inconsistent information, you should not rely on it.

You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the front cover of this prospectus. You should not assume that the information contained in the documents incorporated by reference in this prospectus is accurate as of any date other than the respective dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission using a shelf registration process. Under this shelf registration process, we may, over time, offer and sell any combination of the securities described in this prospectus in one or more offerings. This prospectus generally describes Energy Transfer Partners, L.P. and the securities. Each time we sell securities with this prospectus, we will provide you with a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add to, update or change information in this prospectus. Before you invest in our securities, you should carefully read this prospectus and any prospectus supplement and the additional information described under the heading **Where You Can Find More Information**. To the extent information in this prospectus is inconsistent with information contained in a prospectus supplement, you should rely on the information in the prospectus supplement. You should read both this prospectus and any prospectus supplement, together with additional information described under the heading **Where You Can Find More Information**, and any additional information you may need to make your investment decision. Unless the context requires otherwise, all references in this prospectus to we, us, ETP, the Partnership and our refer to Energy Transfer Partners, L.P., and its operating partnerships and subsidiaries.

ENERGY TRANSFER PARTNERS, L.P.

We are a publicly traded limited partnership that owns and operates a diversified portfolio of energy assets. Our natural gas operations include intrastate natural gas gathering and transportation pipelines, an interstate pipeline, natural gas treating and processing assets located in Texas, New Mexico, Arizona, Louisiana, Utah and Colorado, and three natural gas storage facilities located in Texas. These assets include more than 17,500 miles of pipeline in service. We also have a 50% interest in joint ventures with approximately 500 miles of interstate pipeline in service. Our intrastate and interstate pipeline systems transport natural gas from several significant natural gas producing areas, including the Barnett Shale in the Fort Worth Basin in north Texas, the Bossier Sands in east Texas, the Permian Basin in west Texas and New Mexico, the San Juan Basin in New Mexico and other producing areas in south Texas and central Texas. Our gathering and processing operations are conducted in many of these same producing areas as well as in the Piceance and Uinta Basins in Colorado and Utah. We are also one of the three largest retail marketers of propane in the United States, serving more than one million customers across the country.

Our principal executive offices are located at 3738 Oak Lawn Avenue, Dallas, Texas 75219, and our telephone number at that location is (214) 981-0700.

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CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus contains various forward-looking statements and information that are based on our beliefs and those of our general partner, as well as assumptions made by and information currently available to us. These forward-looking statements are identified as any statement that does not relate strictly to historical or current facts. When used in this prospectus, words such as anticipate, project, expect, plan, goal, forecast, intend, could, may, and similar expressions and statements regarding our plans and objectives for future operations, are intended to identify forward-looking statements. Although we and our general partner believe that the expectations on which such forward-looking statements are based are reasonable, neither we nor our general partner can give assurances that such expectations will prove to be correct. Forward-looking statements are subject to a variety of risks, uncertainties and assumptions. If one or more of these risks or uncertainties materialize, or if underlying assumptions prove incorrect, our actual results may vary materially from those anticipated, estimated, projected or expected. Among the key risk factors that may have a direct bearing on our results of operations and financial condition are:

the amount of natural gas transported on our pipelines and gathering systems;

the level of throughput in our natural gas processing and treating facilities;

the fees we charge and the margins we realize for our gathering, treating, processing, storage and transportation services;

the prices and market demand for, and the relationship between, natural gas and natural gas liquids, or NGLs; energy prices generally;

the prices of natural gas and propane compared to the price of alternative and competing fuels;

the general level of petroleum product demand and the availability and price of propane supplies;

the level of domestic oil, propane and natural gas production;

the availability of imported oil and natural gas;

the ability to obtain adequate supplies of propane for retail sale in the event of an interruption in supply or transportation and the availability of capacity to transport propane to market areas;

actions taken by foreign oil and gas producing nations;

the political and economic stability of petroleum producing nations;

the effect of weather conditions on demand for oil, natural gas and propane;

availability of local, intrastate and interstate transportation systems;

the continued ability to find and contract for new sources of natural gas supply;

availability and marketing of competitive fuels;

the impact of energy conservation efforts;

energy efficiencies and technological trends;

governmental regulation and taxation;

changes to, and the application of, regulation of tariff rates and operational requirements related to our interstate and intrastate pipelines;

hazards or operating risks incidental to the gathering, treating, processing and transporting of natural gas and NGLs or to the transporting, storing and distributing of propane that may not be fully covered by insurance;

the maturity of the propane industry and competition from other propane distributors;

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competition from other midstream companies, interstate pipeline companies and propane distribution companies;

loss of key personnel;

loss of key natural gas producers or the providers of fractionation services;