



Yale School of Management
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Enviva Partners, LP (EVA)

Strong Midstream Player with Favorable Demand/Supply Dynamics and Public Policy Drivers

Recommendation: Buy

Price (as of 10/27/2016): \$27.65

52-week range: \$13.4 - \$28.6

Market Capitalization: 685 M

Enterprise Value: 874 M

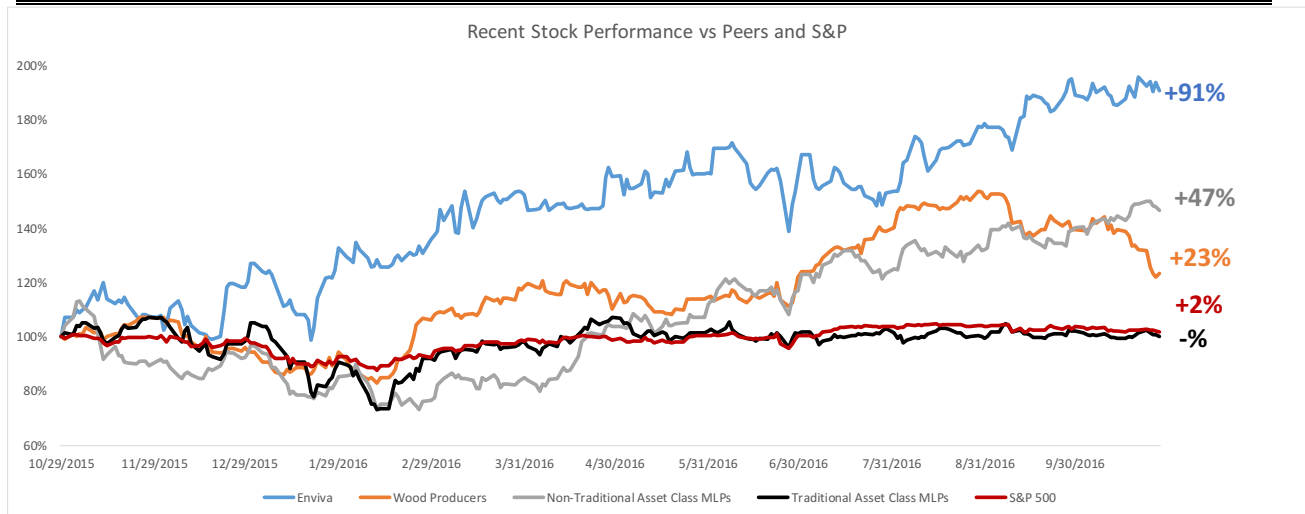
Units Outstanding: 24.8 M

Float (%): 87%

EPS, Adj+: 1.98

Short Interest (%) 1.1%

Industry: Forestry & Wood Products, MLPs



EXECUTIVE SUMMARY

The world’s demand for renewable energy is rapidly accelerating. Wood pellets are recognized as a clean renewable energy source for industrial power generation and have emerged as one of the most cost efficient and practical ways to adopt renewable energy at scale and reduce greenhouse gas (GHG) emissions.

Enviva is a hidden gem that offers the best exposure to the growing demand for renewable energy, and wood pellets in particular. The company has tremendous growth prospects and is run by a well-seasoned management team with a track record of bringing accretive acquisitions that bring positive cash flows to the firm. As the dominant supplier in the global wood pellet market, Enviva has a clear production cost advantage versus its competitors and is best positioned to seize extensive opportunities offered in international markets. With a dividend yield of 7-8%, Enviva is undervalued and should offer an upside of 37% from its current price.

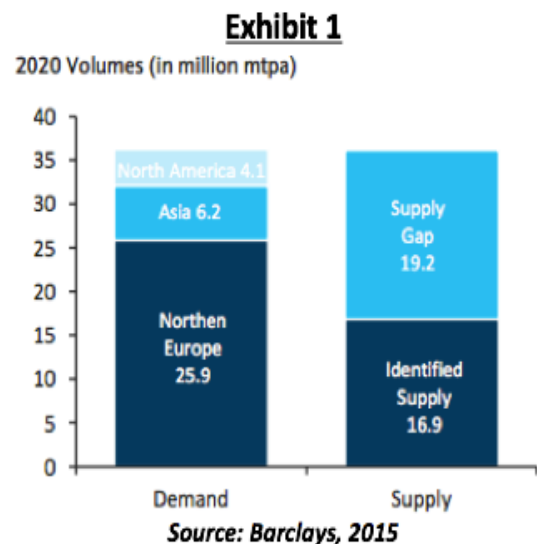
The end of 2016 is a particularly opportunistic time to invest in Enviva:

1. The global demand for wood pellets is forecasted to rapidly increase in the near-term, in particular due to increased demand from European nations that are well behind schedule in reaching binding 2020 renewable energy targets. Supplies are limited, so a massive global shortage is predicted.
2. The UN Paris Agreement on climate change will become international binding law (“enter into force”) on November 4, 2016 requiring its 195 signatories (including the United States and China) to cut down on GHGs, creating a short-term catalyst on the demand for Enviva’s product and strengthening the legislation it depends on.
3. Enviva offers the best biomass exposure to capture the rising renewable energy demand due to its current dominant position, its low cost structure relative to its competitors, pipeline of projects to increase its capacity and its world class management team.

BIOMASS PELLET INDUSTRY OVERVIEW

Biomass pellets are a renewable fuel that have traditionally been used for heating, but are increasingly being used as an alternative energy source for power generation. Wood pellets are the most common type of biomass pellets.¹ The United States is the leading producer and exporter of wood pellets with production concentrated in the southeast, one of the world’s strongest timber-producing regions. A large portion of this production is exported to Europe for power generation, as the European Union is the largest consumer of wood pellets and its forest resources are much more limited than those of the US. In 2014 European countries accounted for 80.9% of global pellet consumption, with 60% of European imports coming from the US.²

The global market for biomass pellets was valued at just under \$7 billion in 2014.³ The industry is growing rapidly as global demand for renewable energy sources like wood pellets increases. Demand for utility-grade wood pellets is projected to grow from about 11 million metric tons per annum (MTPA) in 2014 to 36 million MTPA in 2020, reflecting a 21% compound annual growth rate. European Union policies mandating GHGs reductions and increased use of renewable energy sources are largely responsible for increased demand and industry growth, with many European power companies pursuing large wood pellet power generation projects. Further but less significant demand comes from Asia and the US. Global wood pellet supply is projected to increase to 17 million MTPA by 2020,



¹ <http://www.pelletheat.org/what-are-pellets->

² RBC Capital Markets, Enviva Partners, LP Equity Research Report, Dec. 6, 2015

³ <http://www.prnewswire.com/news-releases/global-biomass-pellet-market-size-share-development-growth-and-demand-forecast-to-2020--industry-insights-by-application-heat-sector-power-sector-300217373.html>

falling far short of the projected 2020 demand, resulting in a potential shortage of 19 MTPA (Exhibit 1).²

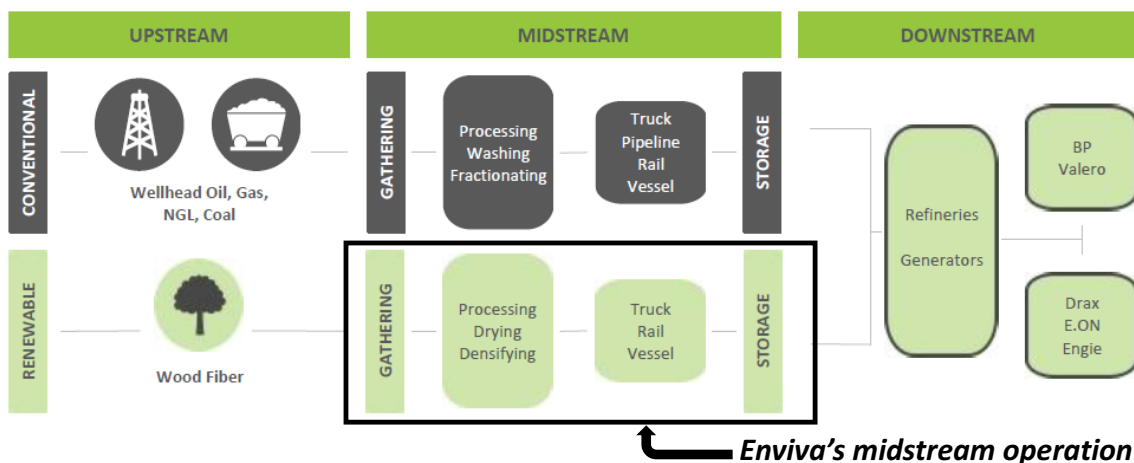
ENVIVA PARTNERS, LP BUSINESS OVERVIEW

Enviva Partners, LP (NYSE: EVA) is the world’s largest producer of wood pellets, a cost-effective alternative to coal offering electric utilities a practical clean energy solution. Enviva owns and operates wood pellet production and transportation infrastructure strategically located in the southeastern United States. Since founded in 2014, it has become the world’s largest supplier of utility-grade wood pellets for power generators. Wood pellets are a particularly attractive renewable energy source for electric utilities, offering carbon dioxide emission reductions of approximately 80% with no power generation interruption necessary.⁴

Enviva Partners, LP is a publicly-traded master limited partnership that owns and operates six wood pellet production plants in North Carolina, Virginia, Mississippi, and Florida with an annual production capacity of about 2.3 million metric tons. Enviva exports wood pellets through a deep-water marine terminal it owns and operates at the Port of Chesapeake, Virginia, as well as through long-term contracts with ports in Alabama and Florida. Enviva develops and builds its wood pellet production and transportation infrastructure through a separate entity, Enviva Development Holdings, LLC a wholly-owned, private company.

A simplified description of Enviva’s business model is as follows: the company procures wood fiber in the regions surrounding its production plants, converts this fiber into pellets (an easily transportable, compact form of wood fiber ideal for combustion), transports the pellets to export terminals via truck, train, and barge, and ultimately ships the pellets to Europe via ocean vessels. Exhibit 2 below shows Enviva’s midstream operation within the larger renewable wood fiber supply chain, and compares this supply chain to that of conventional fossil fuels.

Exhibit 2



Source: Enviva Partners, LP, 2016

⁴ <http://www.envivabiomass.com/about/>

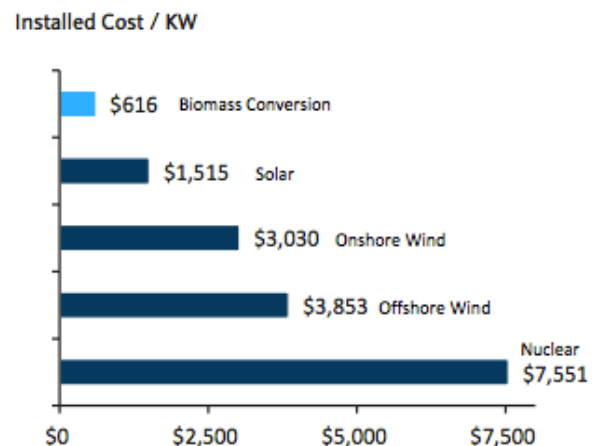
INVESTMENT THESIS

1. Massive supply gap: As explained in the Industry Overview (pg. 2), global demand for wood pellets is projected to increase by 21% CAGR between 2014 and 2020, resulting in a 2020 demand of 36 MTPA. This growth in demand will not be matched by a similar growth in supply, which is projected at 17 MTPA in 2020. The result will be a shortage of 19 MTPA in global wood pellet markets. Using Enviva's 2015 revenue of \$192.7 per metric ton, this gap represents approximately \$3.5 billion. As the market leader, Enviva is primed to capitalize on this opportunity.

2. Wood pellets offer a practical solution to renewable energy targets: Many industrial economies face the challenge of expanding their renewable energy generation capacity to meet environmental targets. Wood pellets represent a particularly attractive option to meet such targets. While most renewable energy sources are difficult and expensive to implement at scale, coal power plants can quickly and cost-effectively be converted to run on biofuels. When wood pellets are used as a replacement for coals, carbon dioxide emissions can be reduced by about 80%. This method of generating renewable energy capacity based on wood pellets offers significant advantages relative to other renewable energy sources:

- **Cost:** Installation costs are multiple times lower than those of other alternative energy sources such as solar and wind (Exhibit 3). Furthermore, the unit cost of megawatt-hour is also significantly lower than that of other renewable energy sources.²
- **Grid compatibility:** Existing power plants can be converted to run on wood pellets, so no alterations to the electric grid are necessary.
- **Baseload demand:** Wood pellet-based power is capable of providing reliable and constant electricity to meet baseload electricity demand (unlike wind and solar, which vary with the weather).
- **Dispatchable:** Power generated from wood-pellets can easily be turned on or off.

Exhibit 3



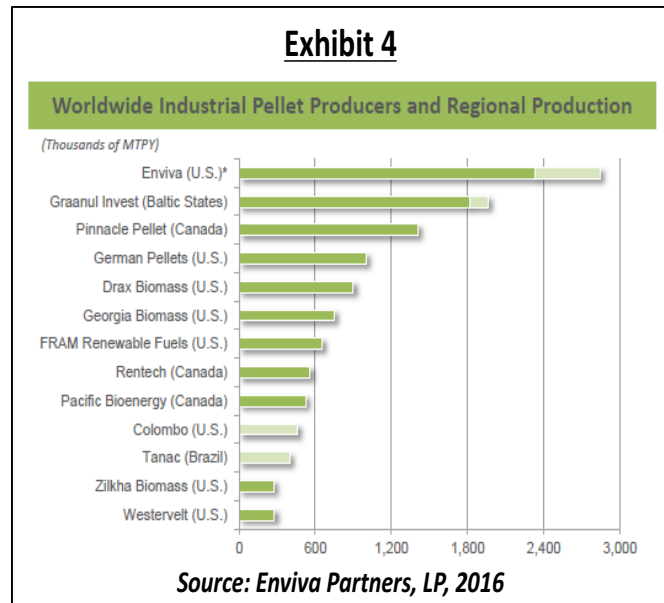
Source: Barclays, 2015

Thus, wood pellets represent a cheap, fast and practical way for major power generators to make significant progress towards meeting renewable energy targets at scale. Enviva is so successful because it is the global leader in the provision of this practical solution for the growing challenge of increased adoption of renewable energy.

3. European Union policies drive market growth: Under current policies known collectively as the “20-20-20” plan, European Union nations are required to: 1) reduce GHGs by 20% relative

to 1990 GHG emissions levels; and 2) reach targets that ensure that 20% of all energy supplied to consumers in the EU is derived from renewable sources. Both of these targets must be achieved by the year 2020. Most EU members are significantly behind in making progress towards these binding 2020 targets. Overall, renewable energy made up only 15% of the EU's total energy consumption in 2013, a gap that is sometimes even more pronounced at the country level. For example, the UK has only accomplished 28% of its required renewable energy mix.² As a result, European demand for cost-effective renewable energy solutions that can be implemented at scale is increasing substantially.

4. Dominant player in the world market: As the world's largest producer and supplier of utility-grade wood pellets (Exhibit 4), Enviva is poised to capitalize on the trends in the growing wood pellet market. Historically, the biomass pellet industry has never had a very strong or consolidated supply base. Enviva sets itself apart with its enterprise industrial-scale approach including: an expert team of foresters, engineers, and logisticians; multiple plants allowing for optimized production; years of experience and a successful 'build and copy' framework; a conservative balance sheet; and multi-billion dollar investors experienced in energy and forest products.



Responsible for the production of 45% of wood pellets in the US and 15% globally,² Enviva is clearly the dominant player in the global supply of wood pellets and ready to take advantage of the forecasted mismatch between supply and demand in coming years.

5. Highly reliable cash flows over the long-term: Enviva exports the majority of its wood pellets to creditworthy European electric utilities and large-scale power generators. Its sales strategy is to contract all of its production capacity under long term agreements. It does so through long-term, take-or-pay agreements with an average remaining term of 9.6 years.⁵ Enviva's take-or-pay contracts are usually denominated in US Dollars and include clauses to protect Enviva against changes in law that could affect the cost-competitiveness of wood pellets. Such a strategy provides for stability and dependability of future revenues, significantly reducing the risk associated with Enviva's business model.

6. Strategic location of assets: All of Enviva's assets are strategically located in the southeastern United States, one of the world's strongest timber-producing regions characterized by a climate and soil regime ideal for plantation forestry. The southeastern US

⁵ http://www.envivapartners.com/sites/envivabiomass.investorhq.businesswire.com/files/doc_library/file/Enviva_Investor_Presentation_Aug_2016.pdf

timber market is characterized by wood chip prices that are much lower than those of markets with high demand for Enviva’s wood pellets (Exhibit 5). The areas surrounding Enviva’s plants contain abundant forest resources and thousands of willing sellers of low-value wood fiber that generally comes from waste wood. The result is a low, stable price of delivered wood fiber.

Exhibit 5



Source: Enviva Partners, LP, 2016

7. World-class management team: Enviva’s management team is characterized by significant experience in the forest products industry as well as experience managing large-scale public companies. Senior management has demonstrated success in acquiring, construction, operating, and contracting Enviva’s assets. The team brings a variety of experience with industry leaders including BP, Exxon, the Environmental Protection Agency, GM, and Plum Creek, among others.

WHY NOW?

The United Nations Paris Agreement: The UN Paris Agreement on climate change was reached at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in December of 2015. However, in order to ‘enter into force’ and become binding, the agreement had to be individually ratified by at least 55 Parties to the Convention representing at least an estimated 55% of global emissions. This was accomplished much more quickly than expected on October 5, 2016. As a result, the agreement will now become binding international law on November 4, 2016, when all 197 Parties to the UNFCCC (including both the US and China) will be required to strengthen efforts to reduce greenhouse gas emissions.⁶ Furthermore, the 22nd Conference of the Parties to the UNFCCC will begin just a few days later on November 7, when UNFCCC Parties will discuss concrete implementation strategies for the commitments made the year prior. Furthermore, the Conference is sure to put a spotlight on

⁶ http://unfccc.int/paris_agreement/items/9485.php

the agreement's new binding status (which has not yet seen significant news coverage). Ultimately, in early November we expect to see:

- Countries make more significant commitments specifying how they will achieve their renewable energy targets; and
- Investors and the business community become aware of the agreement's brand new status as binding international law.

As a result, we expect to see a large increase in demand for Enviva's wood pellets beginning in early- to mid-November.

Materialization of existing and future contracts: Enviva is growing in terms of production capacity and transportation efficiency with the support of its committed investors. In early 2016, a joint venture between Enviva Holdings, LLC and John Hancock Life Insurance Company ("the Hancock JV"), completed the construction of the Enviva Pellets Sampson production plant in North Carolina, with an annual production capacity of over 500,000 metric tons. The Hancock JV has offered to sell the plant, along with off-take contracts representing the plant's full production capacity for its first 10 years of operation, to Enviva Partners, LP. It is expected that the acquisition will be closed by 1/3/2017, and the plant will provide approximately \$20 million incremental adjusted EBITDA annually. The Hancock JV is also finalizing the construction of the Enviva Port of Wilmington in North Carolina (projected for October 2016), which will provide about \$7 million initial incremental adjusted EBITDA.⁷

COMPETITOR ANALYSIS

The barrier to entry in the industrial wood pellet industry is very high. The industry has historically been characterized by fragmented worldwide supply base, with a limited number of suppliers worldwide. Enviva distinguishes itself from its competition with an industrial, enterprise-scale approach. Due to the rising regulation in Europe, there is a huge demand for its products.

Approximately 58% of the world's utility-grade wood pellet production capacity is located in North America⁸. EVA's competitors in North America include Fram Renewable Fuels (which is owned by an individual investor), Georgia Biomass (a plant owned by RWE Innogy), Rentech Inc., Pacific BioEnergy, Pinnacle Renewable Energy Inc., Drax Biomass Inc. (affiliates of German Pellets GmbH), The Navigator Company, S.A., Zilkha Biomass LLC and The Westervelt Company.

RISKS

Outcome of the 2016 US Presidential election: If Republican presidential candidate Donald Trump wins the election, he may attempt to annul the US's signing of the UN Paris Agreement. This could adversely impact the future growth of clean energy providers such as Enviva.

⁷ <http://www.businesswire.com/news/home/20161017006493/en/Enviva-Partners-LP-Receives-Offer-Acquire-Sampson>

⁸ EVA 2015 10K filing

High concentration of revenue: Enviva derives substantially all of their revenues from customers in Northern Europe. Most notably, Drax GDF Suez, and E.ON account for a significant portion of Enviva's revenue. If Enviva fails to diversify its customer base, its future results of operations, business and ability to pay cash distributions can be adversely impacted.

Regulatory risks: Changes in government policies, incentives and taxes implemented to support low-carbon and renewable energy could affect the cost-competitiveness of wood pellets. Government's regulatory initiatives on forestry products and potential for litigation may increase costs and offer additional operating restrictions and delays for Enviva's suppliers and customers. This would result in a decline in the demand for their products.

Transportation instability: Enviva's business could suffer a failure of the ship loading equipment at the Port of Chesapeake or Port Panama City or be adversely impacted by the closure of its port. Major fluctuations in transportation costs and the availability of shipping, rail or truck transportation can impair the company's ability to deliver its products to their end customers, which ultimately affect the top line revenue.

Contracting risk: Failure to review or renew Enviva's contracts with favorable terms can impact the company's ability to sustain its cash distribution given a sizeable portion of its revenue is tied to its existing contracts.

Acquisition risk: Enviva's future growth is dependent on its ability to execute 3rd party acquisitions. If the company is unable to execute such transactions, its ability to grow at its current rate may be hindered.

Funding risk: The funding of equity and debt may not be in favorable terms over the next year as the interest rate is expected to rise.

VALUATION

Given the high dividend payment/yield nature of MLP businesses, we use Dividend Discount Model and Gordon Growth Model to value EVA. We utilize a blended rate of the two valuations and this leads to a \$37.00 per unit (a 37% premium over EVA's price of \$27.65). Our valuation uses 2017E as the base year.

Gordon growth model		Dividend discount model	
2017E distribution per unit	\$2.07	Present value of projected distributions	15.86
Discount rate	8.7%	Present value - unit value at terminal year	23.89
Long term Distribution growth	3.0%	Value per unit	\$39.75
Value of unit	\$36.02	Current price of unit	\$27.65
Current price of unit	\$27.65	Premium to current	43.8%
Premium to current	30.3%	Total units	32.517
Total units	32.517	Implied Equity Value	\$1,293
Implied Equity Value	\$1,171	Implied Enterprise Value	\$1,683
Implied Enterprise Value	\$1,561		
Value per unit - Gordon	\$36.02		
Value per unit - DDM	\$39.75		
Blended price per unit	\$37.89		
Premium to current	37.0%		

Units outstanding for valuation pro forma for EVA's \$100M equity issuance

FINANCIAL MODEL

	2016E	2017E	2018E	2019E	2020E
Industrial wood pellet Demand	14.538	17.155	19.900	22.885	26.318
Enviva Metric tons (in millions)	2.472	2.916	3.284	3.719	4.211
Enviva Revenue per metric ton	\$193.16	\$192.91	\$191.91	\$190.00	\$190.00
Total Revenues	\$477	\$563	\$630	\$707	\$800
Cost of goods sold	399.4	473.8	512.5	583.6	657.0
Gross Profit	78.0	88.9	117.7	123.0	143.1
Gross Margin	16.3%	15.8%	18.7%	17.4%	17.9%
SG&A D&A	0.0	0.1	0.1	0.1	0.1
General and administrative	18.5	22.5	25.2	28.3	32.0
Operating expenses	18.6	22.6	25.3	28.3	32.1
Operating income	59.5	66.3	92.4	94.6	111.0
Operating margin	12.5%	11.8%	14.7%	13.4%	13.9%
Total other expenses	13.5	18.5	21.4	31.5	31.5
Net income	\$46.0	\$47.8	\$71.0	\$63.1	\$79.5

Non GAAP Measures:

Adjusted EBITDA	\$93.6	\$105.3	\$134.9	\$140.8	\$161.7
Distributable Cash Flow	\$77.1	\$81.3	\$107.3	\$102.4	\$122.3
Cash Available for Distribution to LP	\$75.7	\$77.4	\$98.4	\$94.2	\$112.5

Comparable Company Analysis

Since EVA's pure competitors are privately held, we utilize three comp sets: wood producers, non-traditional MLPs, and traditional MLPs.

Peer Comparison	Current Price	2017E Yield	2017E EV/EBITDA	P/CF
Enviva Partners	\$27.65	7.5%	7.8	7.7
Wood Producers				
Trex Company	\$52.76	-%	11.2	14.8
Universal Forest Products Inc.	\$86.41	1.04%	7.1	12.6
Average		0.52%	9.2	13.7
Median		0.52%	9.2	13.7
Non-Traditional Asset Class MLPs				
Westlake Chemical Partners	\$21.15	6.26%	3.7	1.4
HI-Crush Partners	\$17.50	-%	26.9	25.7
SunCoke Energy Partners LP	\$16.75	14.13%	7.1	3.9
Foresight Energy LP	\$6.09	11.25%	8.7	3.8
Transocean Partners LLC	\$12.05	12.03%	6.9	2.7
Average		8.73%	10.7	7.5
Median		11.25%	7.1	3.8
Traditional Asset Class MLPs				
Cone Midstream Partners	\$21.09	4.99%	13.4	8.9
Delek Logistics Partners	\$25.25	10.36%	8.8	7.8
PBF Logistics LP	\$21.74	8.90%	7.7	8.3
Sunoco LP	\$28.41	11.19%	9.3	4.2
GasLog Partners LP	\$21.25	8.99%	8.6	5.0
Average		8.89%	9.5	6.8
Median		8.99%	8.8	7.8



Additional Performance Stock Picks

Facebook, Inc. (NASDAQ: "FB")

Advertising technology revenue is expected to grow by 300%+ by 2020 - up from \$30B in 2015 to \$100B by 2020. Facebook remains a leading advertising tech player with 13-15% market share (second and growing). FB is expected to generate ROIC's of 25-30% over the next five years.

Based on our preliminary financial model, we have placed a \$140 per share price target on FB, based solely on its advertising franchise. We believe that analysts continue to place less significance on the firm's ability to monetize its longer term projects e.g. virtual reality / Oculus, Enterprise potential.

Near-term catalysts include: 1) Q4 tends to be strong quarters for advertisers as marketing officers and companies push to hit full year numbers, 2) Instagram, Facebook Videos, and Facebook Dynamic Ads have been strong ad platforms for clients and expected to continue to show solid momentum, 3) Strong ex-US revenue acceleration: Asia Pacific has remain strong and Europe bounced back and is expected to a solid contributor to growth, and 4) leading mobile and desktop channels allow FB to capture multiple advertising revenue streams.

Long-term drivers include: 1) Growth of multiple products including WhatsApp, Messenger, and Offers/Local, 2) virtual reality remains a disruptive platform for multiple industries.

Incyte Corporation (NASDAQ: "INCY")

INCY is a biotech company focused on drug development in hematology/oncology and inflammation. INCY remains one of the differentiated biotech assets of scale with solid oncology product and late stage pipeline. INCY has one marketed JAK1/2 inhibitor Jakafi. Jakafi was approved by the FDA for myelofibrosis (in November 2011) and for polycythemia vera (in December 2014). Myelofibrosis and polycythemia vera are both rare blood cancers.

INCY holds patents that cover the composition of matter and use of Jakafi through late 2026, which patents have been granted extensions through late 2027. The Jakafi franchise, alone, is expected to have a \$3.5-4B peak sales. INCY has a collaboration and license agreement with Novartis for Jakafi ex-U.S.

Near-term catalysts include: 1) pipeline includes - baricitinib (with Eli Lilly) is under regulatory review (US and Europe) for rheumatoid arthritis and could be approved in 2017, 2) oncology and rare diseases have been hot takeover areas for large pharma, 3) significant uncertainty

over the last few months as biotechs became a target of the political rhetoric expected to calm post-election.

Long-term drivers: INCY has an emerging rich early stage oncology/inflammation pipeline, with multiple phase II studies ongoing and completed.

BioMarin Pharmaceuticals (NASDAQ: "BMRN")

BioMarin is a biopharma company focused on the development and commercialization of drugs for the treatment of serious rare and ultrarare diseases. BMRN has a highly diversified portfolio that has the potential to generate superior growth and performance.

BMRN has 5 marketed products. BMRN's most recently approved drug is Vimizim; it received marketing approval in the U.S. and the EU in February 2014 and April 2014, respectively. BMRN is expected to have two new products by the end of 2017 – Brineura in CLN2 (a form of Batten disease) should receive FDA approval by January 2017, and Pegvaliase in Phenylketonuria in late 2016/early 2017.

Near-term catalysts include: 1) Initial read of Vimizim sales, 2) Pipeline. Pipeline. Pipeline. Potential approvals of Brineura and Pegvaliase, 3) rare diseases and oncology have been hot takeover areas for large pharma, 3) significant uncertainty over the last few months as biotechs became a target of the political rhetoric expected to calm post-election

Long-term drivers: BMRN's Vosoritide (for achondroplasia) is also a promising pipeline opportunity, and is expected to initiate Phase 3 trials later 2016.

Energy Recovery, Inc (NASDAQ: ERII)

ERII is a leading manufacturer of energy recovery devices used in the water desalination industry. Its clients include large scale water desalination and treatment plants such as Accinoa Water. It offers the best exposure into the growing global demand for fresh water, which doubles every 20 years and offers a large upside in oil & gas with limited downside risks of a traditional oil exploration company. ERII's high gross margin over 65% and low CapEx should lead to an exceptional return on equity. ERII is undervalued on a historical and relative basis and deserves to be traded at EV/EBITDA multiple closer to its peers. This will lead to a 35% upside for the stock over the 1-year horizon.

Its investment thesis is simple. Drinking water is scarce; less than 1% percent of Earth's water is drinkable. ERII has all the attributes of a long-term winner in the water desalination market: an early-mover advantage and an industry-standard device with 60%+ gross margin.

In addition to its water desalination business, the recent successful introduction of its groundbreaking product “VorTeq” in the oil & gas industry offers large upside to the company. On an industry level, the Statistics MRC predicts that global pressure pumping market will grow at a CAGR of ~17% to reach \$225 billion by 2022. Management anticipates its oil & gas revenue to outpace water desalination revenue by the year 2019.

Near term catalysts include: Schlumberger Milestone tests, Water shortage events, Cross selling benefits materialize, Share Buyback, IP Patents approval.