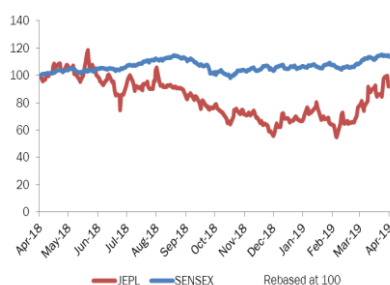


Capacity expansion and installation of burners will drive growth

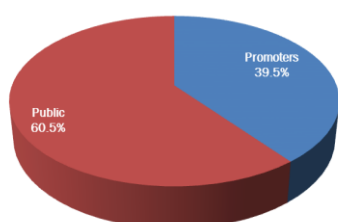
BUY

Sector	: Energy
Target Price	: Rs 109
Current Market Price	: Rs 58
Market Cap	: Rs 173 crore
52-week High/Low	: Rs 79/32
Daily Avg. Volume	: 1,06,591
Face Value	: Rs 10
Beta	: 1.16
Pledged Shares	: N/A
Year End	: March
BSE Scrip Code	: 539225
NSE Scrip Code	: N/A
Bloomberg Code	: JEPL IN
Reuters Code	: JIYA.BO
Nifty	: 11,594
BSE Sensex	: 38,645
Analyst	: Research Team

Price Performance



Shareholding Pattern



Initiation Report

INVESTMENT SUMMARY

- Gujarat-based Jiya Eco Products Limited (JEPL) manufactures bio briquettes, bio pellets and processed agro waste. Biomass pellets and briquettes are made from agricultural, forest and other bio wastes. With abundant availability of waste, biomass presents a sustainable economic opportunity across the value chain.
- Demand for biomass fuel will increase going forward, driven by its lower cost, high energy content, concern for the environment, and emerging opportunities such as biomass co-firing at thermal power plants.
- JEPL's greenfield project in Gandhidham with a capacity of 1,80,000 MTPA is expected to come on stream in 1Q FY20. The new capacity will primarily target the higher margin retail market, leading to margin-accretive growth. A greater share of retail sales will also ease up working capital requirement.
- The addition of processed agro waste to the product portfolio has opened up a new revenue stream. Further, the company's plan to install more burners at customer sites will create a secure captive revenue stream. While JEPL currently sells only within India, global opportunities and proximity of plants to major ports present future scope for exports.
- We expect healthy topline growth to be driven by capacity expansion, faster growth in retail sales and installation of more burners. Easy raw material availability and operating leverage will enable expansion of EBITDA margins. At current levels, the JEPL stock looks attractively priced at 5.6x FY21E EPS. Our SOTP valuation generates a price target of Rs 109 with a potential upside of 90% and informing a BUY rating.

Key Financial Metrics (Standalone)

Rs crore	FY17A	FY18A	FY19E	FY20E	FY21E
Operating revenue	52.0	91.0	163.6	226.6	266.8
Growth		75.1%	79.8%	38.5%	17.7%
EBITDA	8.2	15.3	26.7	38.0	44.8
EBITDA margin	15.8%	16.8%	16.3%	16.8%	16.8%
PAT	4.2	8.4	17.1	24.8	30.9
PAT margin	8.0%	9.3%	10.4%	10.9%	11.6%
Pro Forma EPS (Rs)	1.38	2.81	5.67	8.23	10.29

Source: Company data; Khambatta Research

Jiya Eco Products Limited

23 April 2019

The greenfield expansion at Gandhidham will add 1.8 lakh MTPA to JEPL's existing capacity of 2.4 lakh MTPA

COMPANY OVERVIEW

Jiya Eco Products Limited (JEPL) is an ISO 9001:2008-certified company engaged in the manufacture of solid biomass fuels. The company makes bio-briquettes, bio-pellets and processed agro waste from agricultural, forest and other bio wastes. The company set up a manufacturing unit at Navagam in Gujarat's Bhavnagar district in 2012. Thereafter it commenced production of bio-briquettes and within 2 years the company expanded its production capacity to 31,000 MTPA by installing new machinery and foraying into bio-pellets. JEPL has an aggregate capacity of 2,39,360 MTPA comprising 1,19,680 MTPA each for briquettes and pellets. The company's greenfield pellet project at Gandhidham in Kutch district of Gujarat will have an additional installed capacity of 1,80,000 MTPA when commissioned, taking the overall capacity to approximately 4.2 lakh MTPA. Management has plans of further expanding the Gandhidham plant's capacity to 2,60,000 MTPA.

JEPL's Pellet & Briquette Plant at Navagam in Gujarat



Source: Company photograph

JEPL's management has strong experience in the biomass sector

JEPL's promoters and core management team come with good experience in the solid biomass fuel sector. Managing Director, Mr. Bhavesh Kakadiya, who is in charge of finance and overall administration, has more than 8 years' experience in the production of briquettes and pellets. Executive Director, Mr. Yogeshbhai Patel has over 6 years' experience in the sector and is involved in the supervision and sourcing of raw materials while also overlooking factory administration.

INDUSTRY OVERVIEW

Biomass energy is more reliable than wind energy (which is subject to fluctuations) and solar energy (needing storage for use in times of non-availability). However, challenges around supply chains have led to modest proliferation of biomass energy. Biomass from agriculture waste

Jiya Eco Products Limited**23 April 2019**

is available only after harvesting, which generally limits its peak availability to 2 to 3 months in a year.

While Karnataka, Andhra Pradesh, Maharashtra and Chhattisgarh are amongst the Indian states leading in biomass-based power supply, many states with a primarily agriculture-based economy have not yet succeeded in appropriately harnessing their biomass resources. In North India only Uttar Pradesh has been able to utilise its biomass potential to a fairly large extent, mainly due to the sugarcane industry and co-generation power plants. On the other hand, Punjab and Haryana have much lower installed capacity compared to its potential in spite of better tariff rates than most states.

Surplus bio waste is not efficiently converted to energy due to bottlenecks in supply chains and difficulty to store biomass over a prolonged period of time

The surplus biological waste generated is not efficiently converted to energy due to bottlenecks in supply chains and difficulty to store biomass over a prolonged period of time. A primary cause for inefficient biomass use in the traditional sector is the negligible monetary value of biomass fuels since these fuels are collected primarily by family labour having little or no opportunity value.

The rapid depletion of natural resources and continuous increase in energy demand has led to a heightened attention to biomass. It is a versatile plant and animal derived energy source which has already found limited but efficient usages in cooking, process heating, electricity generation, steam generation, and mechanical and shaft power applications by using a number of conversion processes. Currently 32% of India's primary energy demand is met through biomass and more than 70% of the country's population depends on it for its energy needs (including both unprocessed bio waste and processed biomass). A carbon-based source of energy, biomass can generate energy to the tune of 3,100 to 4,700 kcal/kg.¹

Recognising the potential for biomass energy in India, the Ministry of New and Renewable Energy (MNRE) has initiated programmes to promote efficient technologies for exploiting biomass resources in the country. The biomass industry currently attracts investments of over Rs 600 crore and generates more than 5,000 million units of electricity. The industry has contributed more than 10 million man days of employment in rural India.²

The current availability of biomass in India is 500 million MTPA with a potential surplus of further 120-150 million MTPA

The current biomass availability in India is estimated at about 500 million MTPA. Studies sponsored by MNRE estimate surplus biomass availability of 120 to 150 million MTPA comprising agricultural and forestry residues, corresponding to a potential power output of 18,000 MW. Furthermore, an additional 5,000 MW could possibly be generated from bagasse-based cogeneration at the country's 550 sugar mills.

¹ <https://biomasspower.gov.in/>; Biomass Energy Future for India, PR Shukla (IIM Ahmedabad)

² <https://mnre.gov.in>

Jiya Eco Products Limited

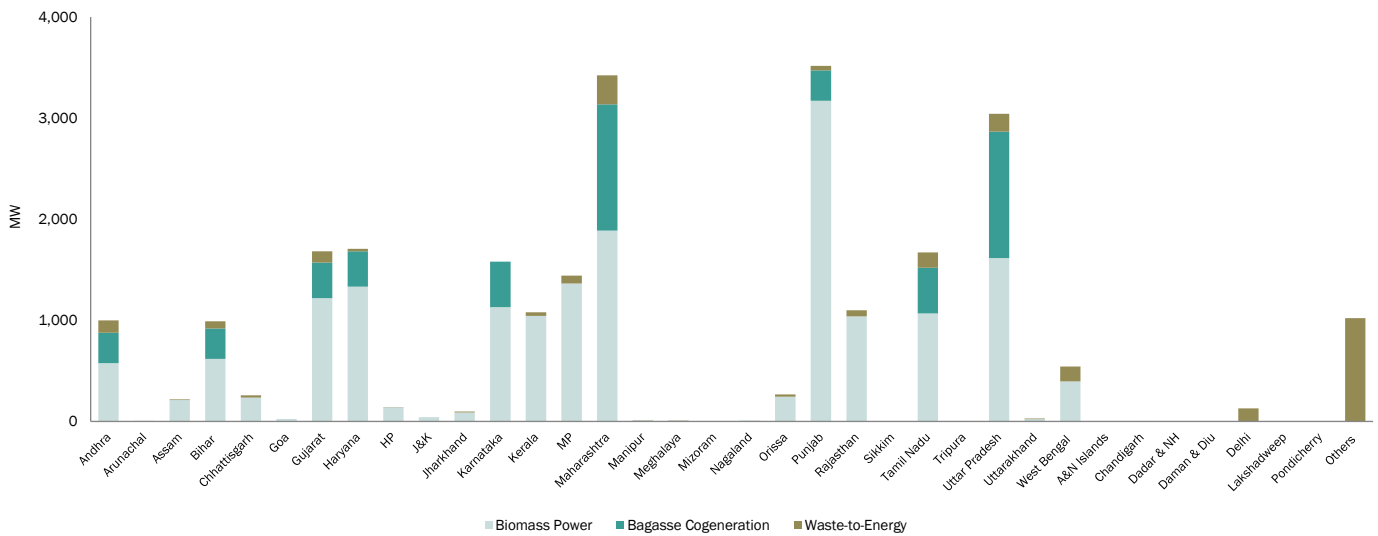
23 April 2019

The potential availability of agro residues and wood processing waste in India can generate up to 10,000 MW of power

The potential availability of agro residues (bagasse, rice husk, coconut shells, etc.) and wood processing waste in India is estimated to have a power generation capacity of 10,000 MW.³ The most economical option is to focus on better utilization of biomass waste through improved collection of agro residues and dung, better utilization of waste from sugar mills and wood processing units, and enlarging waste product use (e.g. briquetting of saw dust).

The critical factors in realizing the potential for biomass energy in India are land supply, technology interventions to enhance land productivity (matching of species, plant productivity), and economic operations (optimal harvesting cycle, better storage to reduce losses). Adequate logistics infrastructure is a prerequisite for enhanced reliability of biomass supply.

Biomass Potential in Indian States



Source: Data.Gov.In (Catalogue-estimated Renewable Energy Potential, February 2014)

PEER COMPARISON

JEPL’s peers include Abellon CleanEnergy and First Energy. While Ahmedabad-headquartered Abellon manufactures solid biomass fuels and biomass pellet-based appliances, Pune-based First Energy offers products and solutions employing biomass and gasification technology to heating applications, specifically home and commercial cooking. JEPL does not have any listed peers in India.

³ <https://mnre.gov.in>

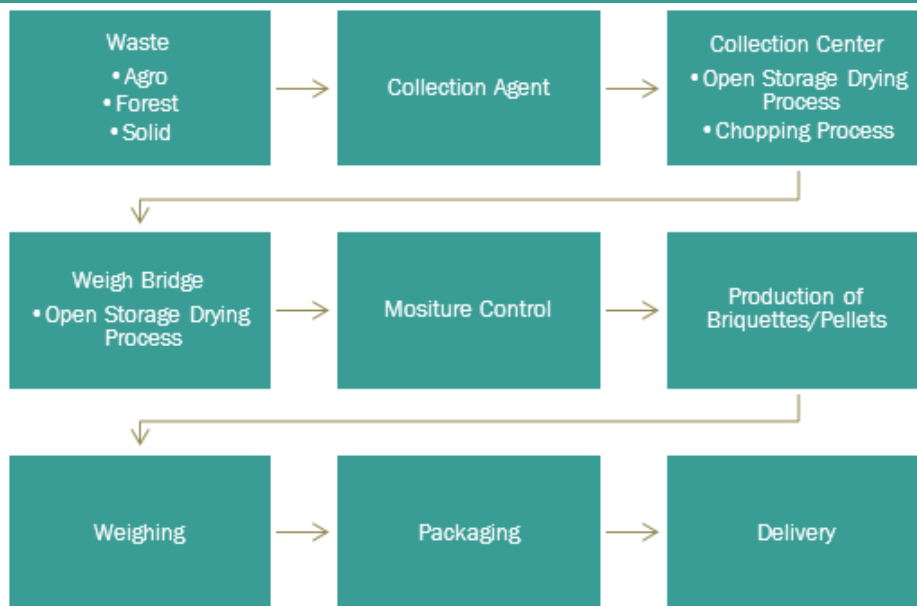
INVESTMENT THESIS

With abundant availability of waste, biomass presents a sustainable economic opportunity across the value chain

Collection agents sell biomass waste to manufacturers for Rs 3,500-3,800 a tonne with biomass pellets fetching up to Rs 14,000 a tonne

Biomass pellets and briquettes are primarily made from agricultural and forest waste. Agricultural waste to the tune of 6-8 tonnes is created while harvesting an acre of land while the waste created by wild trees is another key source of biomass. Collection agents collect this waste from villages for Rs 500-700 per tonne and then dry it under sunlight to reduce the moisture content from 50% to 5%. The waste is then sold to pellet/briquette manufacturers for Rs 3,500-3,800 a tonne. Processed biomass pellets fetch a price of up to Rs 14,000/tonne. The margins for all the parties involved make this a desirable sector for investment. Availability of raw biomass is abundant with only a small fraction of it currently being processed for manufacturing pellets and briquettes. For instance, JEPL's current production capacity permits the usage of only 15-20% of raw materials available to the company. So with additional sources of funding, biomass manufacturers will be able to improve their efficiency and scale up their operations with relative ease.

Biomass Pellet/Briquette Manufacturing Process



Source: Company presentation

Demand for biomass fuel is set to increase, driven by its lower cost, high energy content, and concern for the environment

The calorific value obtained per rupee from biomass pellets is higher than other fuels. Biomass fuel is approximately 50% cheaper than substitute liquid and gas fuels while it is 25% cheaper than coal. Further, Indian coal is characterized by its low to medium quality and high ash content, which has led to Indian coal being labelled as the 'unhealthiest' in the world. Consequently Indian government agencies have started

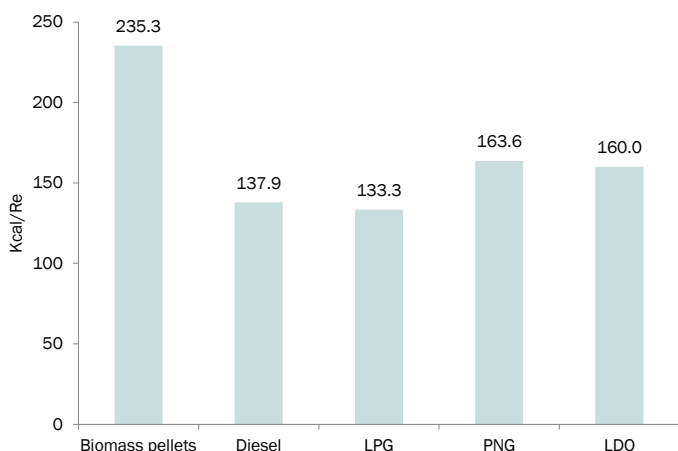
Jiya Eco Products Limited

23 April 2019

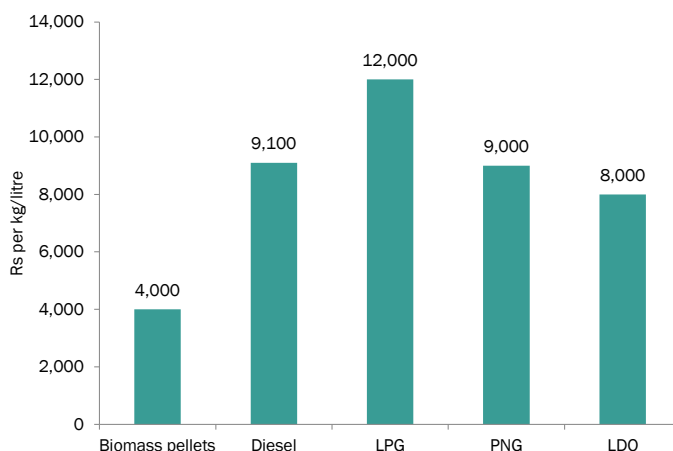
Recently the NGT ordered all ceramic units in Morbi, Gujarat operating on coal gasifiers to shut down

cracking down on the usage of coal. Recently the National Green Tribunal (NGT) ordered all ceramic units in Morbi, Gujarat operating on coal gasifiers to shut down with manufacturers forced to find alternative sources of fuel in order to continue operations. Similar actions are expected across industries going forward. As biomass produces little fly ash and emissions from its combustion are amongst the least, it is an attractive alternative to shift to for current users of coal and other fossil fuels.

Calorific Value of Biomass vs Fossil Fuels



Price of Biomass vs Fossil Fuels



Source: Company data; Note: In the second infographic, price of biomass pellets is quoted on a per kg basis while prices of other fuels are in per litre

Biomass co-firing in coal-fired power plants has a huge potential

NTPC initiated a programme to utilise agricultural waste to complement its coal-fuelled power plants when it started a bidding process last year to procure 1,000 metric tonnes of agricultural waste-based pellets and briquettes to fuel a part of its 2,650 MW Dadri power plant in the NCR. Currently, the plant generates 10% of its output from biomass co-firing.⁴ This measure is aimed to provide an alternative agricultural waste disposal avenue for farmers and thereby reduce pollution in an economical and efficient manner.

Biomass co-firing in power generation is seen to have a strong potential going forward. In February 2018, the Ministry of Power issued a policy to use 5-10% of biomass pellets along with coal for power generation in thermal power plants. With the objective of promoting biomass usage, the Central Electricity Authority (CEA) directed all central and state utilities, state governments, power equipment manufacturers, integrated power producers and generating companies that all fluidised bed and pulverised coal units of power generating utilities (except those having ball and tube mills) should endeavour to use a 5-10% blend of biomass pellets made primarily from agro residue along with coal after assessing technical feasibility. India has over 2,20,000 MW of operating coal-

The Ministry of Power has issued a policy to use 5-10% of biomass pellets along with coal for power generation in thermal power plants

⁴ <https://timesofindia.indiatimes.com>

Jiya Eco Products Limited**23 April 2019**

The Gandhidham plant will have abundant raw material supply from the local furniture industry

powered generation capacity while approximately 94,000 MW of additional capacity is in the pipeline.⁵ Even a small fraction of this capacity presents a huge potential opportunity for the biomass industry.

Capacity expansion will be a key driver of topline growth

JEPL's Gandhidham plant is expected to come on stream in 1Q FY20. The greenfield plant with an additional capacity of 1,80,000 MTPA will increase the company's total production capacity by more than 75%. Coupled with abundant availability of wood waste from the local furniture industry, ramping up production at this new plant is expected to be seamless. Raw material supply for the Navagam factory, on the other hand, is also secure with ample availability of agro and forest waste as well as the company's agreement for solid waste collection from 52 nearby villages. The surplus supply of raw materials is expected to protect gross margins.

The capacity expansion would enable JEPL meet demand from big retail markets in states such as Maharashtra, Rajasthan and Madhya Pradesh. The entire production from the Gandhidham plant will be geared towards retail customers. The capex for the Gandhidham facility is Rs 12 crore, entirely funded through preferential issue.

Higher retail sales post-expansion will drive profitability while easing up working capital; silos at Navagam facility will generate savings

Currently the industrial segment accounts for 70% of total sales while retail generates the remaining 30%. Commencement of operations at the Gandhidham plant will help JEPL achieve its objective of increasing retail sales' contribution to 50%. With retail pellets sold for Rs 14,000 and industrial pellets for Rs 8,500 a tonne on average, the retail margin is much higher than the industrial margin. Consequently the capacity expansion while driving revenues will also be margin-accretive.

The payment cycle in the retail market is 30 days compared to 120 days in the industrial market

Another anticipated benefit from incremental retail sales is the shortening of the average collection cycle. While the payment cycle in the industrial market is between 90 and 120 days on average, it is much shorter at around 30 days in the retail market. With an expanding share of retail sales, we can expect a decline in the average collection period. This will lead to an improvement in JEPL's working capital, especially with most of the raw material paid for upfront.

Further, the building of silos at the Navagam facility will benefit in a number of ways. Currently the raw material is stored in the open while being exposed to the natural elements, especially during the monsoon. Besides reducing wastage, storing the raw material in vertical silos would also reduce the horizontal space requirement as well as save the manpower cost involved in carrying raw materials from the storage area

⁵ <https://www.carbonbrief.org/mapped-worlds-coal-power-plants>

Jiya Eco Products Limited

23 April 2019

to the manufacturing area. The raw material can now be transported by a conveyor belt connecting the two areas.

JEPL's Navagam Facility



Source: Company photographs

Addition of processed agro waste to the product portfolio has opened up a new revenue stream

Customers using crushed biomass can now benefit by directly procuring processed agro waste and save on the additional labour cost for crushing

Many of JEPL's clients utilised additional labour to crush the supplied pellets or briquettes as the crushed product offers a larger surface area for burning and is more efficient. As the agricultural waste is processed before being shaped into pellets or briquettes, JEPL's management realised that the company could save the extra step of binding and shaping by directly selling the processed agro waste. It also reduces labour and manufacturing cost, and the savings thus generated could be transferred to customers. The customers are particularly benefitted as they can procure the processed waste at a lower cost while also saving on the additional labour cost for crushing the pellets/briquettes.

Installation of more burners at customer sites will create a secure captive revenue stream

JEPL is developing a burner for brass applications as Jamnagar has 5,000 large scale and 10,000 small scale brass manufacturing units

JEPL has installed 211 burners at client locations. The company constantly researches the optimum motor rpm and gear box ratios for their burners as well as adjustments for various industry applications. Clients from Jamnagar, the brass city, have shown interest in converting their gas and diesel burners to pellet burners. The company is currently developing a burner for brass applications as Jamnagar has 5,000 large scale and 10,000 small scale brass manufacturing units around the city. The annual brass production of the city is approximately 200 tonnes and JEPL believes it can develop burners which will generate significant savings in production costs over gas and diesel burners. After optimising the burner for brass applications, the company plans on developing a burner suitable for the ceramic industry and attracting clientele from Morbi. JEPL currently has 400-500 enquiries for burners and plans to

Jiya Eco Products Limited

23 April 2019

ramp up production once the new Gandhidham capacity is operational. The company expects to further attract upwards of 600 enquiries from the city of Jamnagar and install 900 burners by 2020. Once the burners are installed, the average monthly pellet consumption of a customer is 8 tons. JEPL installs the burners by taking a security deposit while entering into a long-term supply agreement with the customer. Installation of more burners will create a sizeable captive customer base, thereby ensuring a secure source of revenues going forward.

International sales enquiries and proximity to ports present future export opportunities

JEPL has been seeing interest from prospective clients in foreign markets such as Japan and Dubai. There is a surging demand for biomass fuel in many countries but they face a shortage of supply. However, JEPL looks to strengthen its position further in the domestic market before expanding to international markets. While the current production capacity is entirely dedicated towards the burgeoning domestic retail sector and long-term contractual agreements with industrial distributors, we expect the company to explore the overseas markets as and when the production capacity is scaled up further. Furthermore, JEPL's factories in Navagam and Gandhidham are strategically located near the key ports of Bhavnagar and Kandla which would make it easy for the company to supply to overseas markets.

VALUATION

Our valuation informs a BUY rating with a price target of Rs. 109

Since none of JEPL's peers are listed, we cannot compare their trading multiples. The Thermax Group bought a 33% stake in First Energy for Rs 20 crore in 2015 as part of its phased acquisition of the Pune-based company. First Energy develops stoves and biomass pellet fuel under the Oorja brand. First Energy had recorded revenues of Rs. 42 crore in FY15 with the Thermax transaction translating into a Price-to-Sales (P/S) multiple of 1.4x. By 2017, Thermax had acquired 76% in First Energy.

We expect healthy topline growth over the next couple of years, driven by the greenfield expansion in Gandhidham, faster growth in retail sales and installation of burners at customer sites. An expanding share of high-margin retail sales, easy raw material availability and operating leverage will enable expansion of EBITDA margins. The JEPL stock is currently trading at attractive levels of 7.0x and 5.6x FY20E and FY21E EPS, respectively. Valuing JEPL's standalone business at 10.0x FY21E EPS (implying a P/S multiple of 1.2x FY21E standalone sales) and subsidiaries at 3.0x 2Q FY19 BVPS, we arrive at a price target of Rs 109 with a potential upside of 90% and informing a BUY rating. The choice of multiples reflects the growth potential as well as the low entry barrier for the sector.

JEPL currently sells its products exclusively in the domestic market

Thermax's acquisition of First Energy in 2015 was valued at 1.4x sales

Our SOTP valuation comprises valuing the standalone business based on P/E and subsidiaries based on P/BV

Jiya Eco Products Limited

23 April 2019

Valuation: SOTP

	EPS/BVPS (Rs)	Multiple (x)	Target (Rs)
Standalone: P/E (x FY21E EPS)	10.29	10.0	102.86
Subsidiaries: P/BV (x Sep-18 BVPS)	2.16	3.0	6.47
Consolidated valuation			109.34

Source: Company data; Khambatta Research

Profit & Loss Account (Standalone)

Rs crore	FY17A	FY18A	FY19E	FY20E	FY21E
Operating revenue	52.0	91.0	163.6	226.6	266.8
Growth		75.1%	79.8%	38.5%	17.7%
Production & operating expenses	43.7	75.7	136.8	188.7	221.9
EBITDA	8.2	15.3	26.7	38.0	44.8
EBITDA margin	15.8%	16.8%	16.3%	16.8%	16.8%
Depreciation & amortization	2.3	1.9	1.6	2.3	2.0
EBIT	6.0	14.2	25.6	36.4	43.8
Interest expense	1.8	2.7	2.2	2.5	1.6
PBT	4.1	11.6	23.3	33.8	42.3
Tax expense	(0.0)	3.1	6.3	9.1	11.3
PAT	4.2	8.4	17.1	24.8	30.9
PAT margin	8.0%	9.3%	10.4%	10.9%	11.6%
Pro Forma EPS (Rs)	1.38	2.81	5.67	8.23	10.29

Source: Company data; Khambatta Research

Abridged Balance Sheet (Standalone)

Rs crore	FY17A	FY18A	FY19E	FY20E	FY21E
Share capital	23.6	42.6	74.6	99.3	130.3
Total debt	13.1	17.1	16.2	18.7	11.2
Trade payables	1.4	13.6	26.2	22.6	23.9
Total capital & liabilities	39.8	77.4	122.3	147.7	173.5
Tangible fixed assets	14.2	12.4	13.8	20.5	18.4
Inventories	5.2	4.8	9.8	15.8	18.6
Trade receivables	15.6	49.8	67.2	80.7	73.1
Cash & cash equivalents	0.4	0.6	17.9	13.1	43.3
Total assets	39.8	77.4	122.3	147.7	173.5

Source: Company data; Khambatta Research

Abridged Pro Forma Cash Flow Statement (Standalone)

Rs crore	FY17A	FY18A	FY19E	FY20E	FY21E
Cash flow from operating activities	(1.89)	(8.70)	8.41	4.27	39.36
Cash flow from investing activities	(0.77)	(2.91)	(3.00)	(9.00)	-
Cash flow from financing activities	2.69	11.85	11.85	(0.03)	(9.14)
Net cash flow	0.03	0.24	17.26	(4.76)	30.22

Source: Company data; Khambatta Research

Jiya Eco Products Limited

23 April 2019

Ratio Analysis

	FY17A	FY18A	FY19E	FY20E	FY21E
Return on Assets	10.4%	10.9%	13.9%	16.8%	17.8%
Return on Capital Employed	16.3%	23.9%	28.1%	30.8%	31.0%
Return on Equity	17.6%	19.8%	22.9%	24.9%	23.7%
Debt-to-Equity Ratio	0.6x	0.4x	0.2x	0.2x	0.1x
Days Inventory Outstanding	45	30	30	35	35
Days Sales Outstanding	110	200	150	130	100
Days Payable Outstanding	12	83	80	50	45

Source: Company data; Khambatta Research

KEY RISKS

- JEPL generates 30-35% of its revenues from the top 3 of its 6-7 industrial and 5-6 retail distributors. The concentration of sales in the hands of a few distributors poses a risk to our outlook and forecasts.
- Manufacturing of solid biomass fuel has low entry barriers as it does not involve high-end technologies or heavy capital investments.
- The inability to ramp up production or installation of new burners adequately may lead to underperformance of our forecasts.
- The debtor collection period in the industrial biomass fuel market can extend up to 120 days, thereby putting pressure on working capital requirement. The raw waste, on the other hand, is mostly paid for upfront. While we expect the payment cycle to improve on account of a higher share of retail sales going forward, if debtor days does not decline or further increases then it could stress JEPL's balance sheet.

Jiya Eco Products Limited

23 April 2019

Guide to Khambatta's research approach

Valuation methodologies

We apply the following absolute/relative valuation methodologies to derive the 'fair value' of the stock as a part of our fundamental research:

DCF: The Discounted Cash Flow (DCF) method values an estimated stream of future free cash flows discounted to the present day, using a company's WACC or cost of equity. This method is used to estimate the attractiveness of an investment opportunity and as such provides a good measure of the company's value in absolute terms. There are several approaches to discounted cash flow analysis, including Free Cash Flow to Firm (FCFF), Free Cash Flow to Equity (FCFE) and the Dividend Discount Model (DDM). The selection of a particular approach depends on the particular company being researched and valued.

ERE: The Excess Return to Equity (ERE) method takes into consideration the absolute value of a company's return to equity in excess of its cost of equity discounted to the present day using the cost of equity. This methodology is more appropriate for valuing banking stocks than FCFF or FCFE methodologies.

Relative valuation: In relative valuation, various comparative multiples or ratios including Price/Earnings, Price/Sales, EV/Sales, EV/EBITDA, Price/Book Value are used to assess the relative worth of companies which operate in the same industry/industries and are thereby in the same peer group. Generally our approach involves the use of two multiples to estimate the relative valuation of a stock.

Other methodologies such as DuPont Analysis, CFROI, NAV and Sum-of-the-Parts (SOTP) are applied where appropriate.

Stock ratings

Buy recommendations are expected to improve, based on consideration of the fundamental view and the currency impact (where applicable) by at least 15%.

Hold recommendations are expected to improve, based on consideration of the fundamental view and the currency impact (where applicable) between 5% and 15%.

Sell recommendations are expected to improve up to 5% or deteriorate, based on consideration of the fundamental view and the currency impact (where applicable).

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Jiya Eco Products Limited**23 April 2019**

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