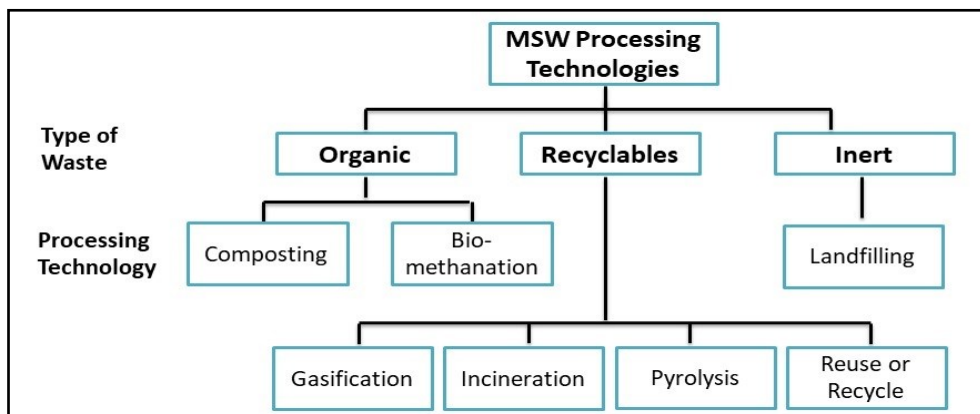


About the Industry:

The Global Context: Economic development, rising population and rapid urbanization are the major contributors to the waste generation across the globe. As some nations prosper and grow, the quantum of waste generated which has to be treated, managed and disposed keeps mounting. As per statista.com, the estimated size of waste management market is projected to be worth USD2.3tn by 2027 while witnessing a CAGR of 5.5% from 2020. The composition of waste differs across countries as it is influenced by factors like economic development, consumption patterns, climate, industrialization etc. In many cases it is noticed, in the developed nations, waste treated in the landfill sites consist of lesser portion of organic waste and more of dry waste like recyclables including plastic, paper, cardboard, metal, glass, etc. It is estimated ~33% of waste is still openly dumped and in the low income countries, ~93% is burnt or openly dumped. In developed countries only 2% is dumped and the rest is treated effectively to extract resources (Source: AWHCL AR2021, Frost and Sullivan). Thus in case of the high-income countries it has been noticed scientific treatment of waste is paving path to a sustainable environment. Some of the technology driven initiatives like smart bins and internet of things (IoT) have taken the lead in waste management which helps in simplifying the process of sorting, recycling and ultimately making the waste management process efficient.

Exhibit 01: MSW Processing Technologies



Source: AWHCL Nov2021 Investor PPT, Progressive Research

Recently, the developing and developed nations are trying to adopt a two-pronged approach i.e. (i) to promote onsite segregation and recycling and (ii) inviting technically competent bidders to set up waste treatment & processing plants to help convert existing open dumping sites into waste processing sites. As the technology keeps evolving, many players have successfully tackled the waste management issues by deploying processes involving waste to energy (WTE), bio-methanation, bio-composting etc. Hydrothermal carbonization is another chemical process which many countries have started exploring. This process is used for the conversion of organic compounds to structured carbons like nanostructured carbons, production, liquid petroleum precursors and biomass with release of energy. China was the first country to implement a law promoting circular economy by building eco-industrial parks (EIPs) which are run by public-private partnerships (PPP) and composed of enterprises that use the waste generated by one firm as an input for another. The EU's circular economy strategy to reduce waste relies on an eco-design framework for enterprises to manufacture the most energy-efficient products. These products are supposed to be easy to dismantle, recycle or should be used as secondary raw material by other firms. Developing nations like India can gain knowledge as well as expertise from these international examples. Allocation of resources by the public sector to tackle solid and liquid waste management (SLWM) issues in India complemented with the private sector participation in the circular economy can help India achieve the objective of clean India.

| SNAPSHOT | | | | |
|---|--------------------|---------------|---------|---------|
| 52 week H / L | | Mcap (INR mn) | | |
| 493 / 241 | | 8203 | | |
| Face value: 5 | | | | |
| BSE Code | | NSE CODE | | |
| 543254 | | AWHCL | | |
| Annual Performance | | | | |
| (Rs mn) | FY19 | FY20 | FY21 | FY22E |
| Total Revenue | 2,837 | 4,505 | 4,651 | 5,387 |
| EBITDA | 743 | 1,256 | 1,146 | 1,360 |
| EBITDA (%) | 26.2 | 27.9 | 24.6 | 25.3 |
| Other Income | 148 | 141 | 157 | 167 |
| Interest | 246 | 303 | 285 | 251 |
| Depreciation | 177 | 243 | 312 | 315 |
| PBT | 469 | 852 | 706 | 962 |
| *PAT | 247 | 274 | 450 | 531 |
| Equity (Rs mn) | 72 | 128 | 141 | 141 |
| *EPS (INR) | 22.0 | 10.7 | 15.9 | 18.8 |
| Quarterly Performance | | | | |
| Parameters (Rs mn) | Dec-20 | Mar-20 | June-21 | Sept-21 |
| Sales (Net) | 1,235 | 1,342 | 1,454 | 1,535 |
| EBITDA | 326 | 300 | 374 | 375 |
| EBITDA (%) | 26.4 | 22.4 | 25.7 | 24.4 |
| Other Income | 38 | 42 | 43 | 50 |
| Interest | 69 | 74 | 54 | 62 |
| Depreciation | 79 | 78 | 80 | 81 |
| PAT | 194 | 153 | 222 | 235 |
| Equity (Rs mn) | 141 | 141 | 141 | 141 |
| Ratio Analysis | | | | |
| Parameters (Rs mn) | FY19 | FY20 | FY21 | FY22E |
| EV/EBITDA (x) | 12.6 | 7.7 | 7.3 | 6.1 |
| EV/Net Sales (x) | 3.3 | 2.2 | 1.8 | 1.5 |
| M Cap/Sales (x) | 2.9 | 1.8 | 1.8 | 1.5 |
| M Cap/EBITDA (x) | 11.0 | 6.5 | 7.2 | 6.0 |
| Debt/Equity (x) | 0.95 | 0.90 | 0.46 | 0.42 |
| ROCE (%) | 21.0 | 26.1 | 18.0 | 19.1 |
| Price/Book Value (x) | 1.8 | 2.5 | 1.9 | 1.6 |
| P/E (x) | NA | NA | 12.8 | 10.9 |
| Shareholding Pattern as on 30th September, 2021 | | | | |
| Parameters | No of Shares | % | | |
| Promoters | 1,30,76,390 | 46.23 | | |
| Institutions | 50,08,477 | 17.71 | | |
| Public | 1,02,02,303 | 36.07 | | |
| TOTAL | 2,82,87,170 | 100.0 | | |

Source: Annual Report, Progressive Research

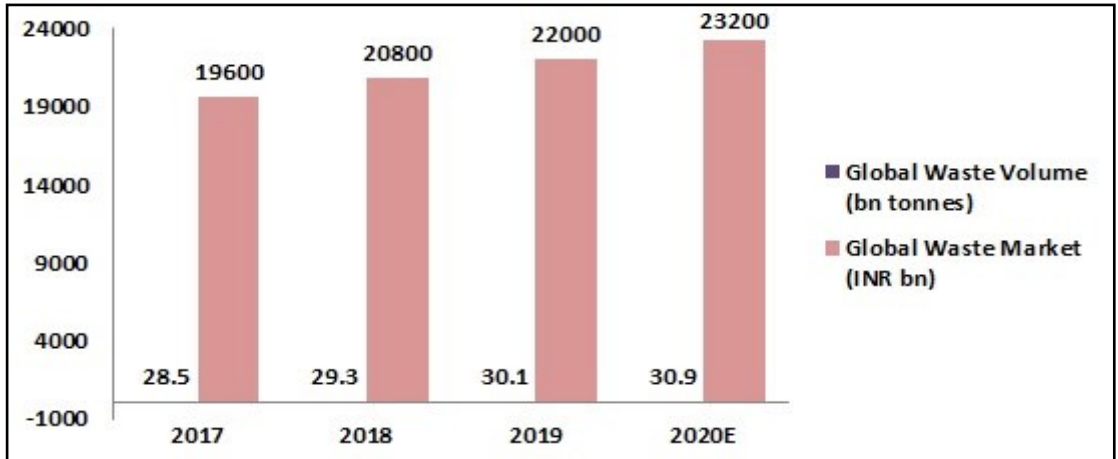
Note: Data is calculated as on 22nd Dec, 2021, after adjusting PAT and EPS for NCI

About the Industry (contd):

The Indian Context: In India, the municipal solid waste (MSW) is managed by (i) **Centralised Waste Management Approach:** which is a technology-driven process at a central processing facility and value is derived in the form of compost, incineration, refuse derived fuel (RDF), plasma gasification, biomethanation etc. and (ii) **Decentralised Waste Management Approach:** which involves small centres for collecting, transporting and processing waste from localities and the compost generated via processing and recyclables separated are sold to recyclers.

According to Frost & Sullivan analysis, ~85-90% of the MSW generated in India is being collected and transported (C&T) where only ~30-35% gets processed. Among all known waste processing techniques, composting is most widely used in India, which is followed by biomethanation (as there is high content of bio-degradable waste in municipal waste) and since the same is a low capex processing system (when compared to gasification, or pyrolysis or incineration plants). In addition to this, the factors which influence the selection of waste processing technology for a city includes the population, area, land availability, climate conditions and composition of waste of a city. Three types of waste processing opportunities are expected to find favor in the Indian market i.e. (i) **bio-chemical conversion of biodegradables** i.e. composting and biomethanation of wet biodegradable waste; (ii) **thermal processing of MSW** via gasification, pyrolysis, incineration and preparation of RDF from high-calorific value combustible dry wastes and (iii) **plastic wastes to fuel oil** called catalytic conversion of waste plastic to liquid fuel.

Exhibit 02: Global Waste (All Types) Generation: Revenue (INR bn)



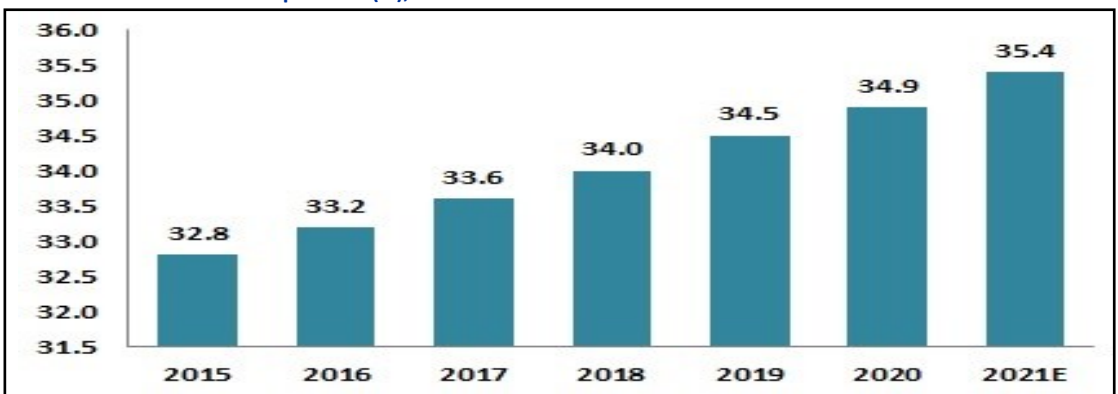
Source: AWHCL Red Herring, Progressive Research

Exhibit 03: India Population in bn, Historical and Projected, 2011-2025E



Source: AWHCL Red Herring, Progressive Research

Exhibit 04: India Urban Population (%), 2015-2021E

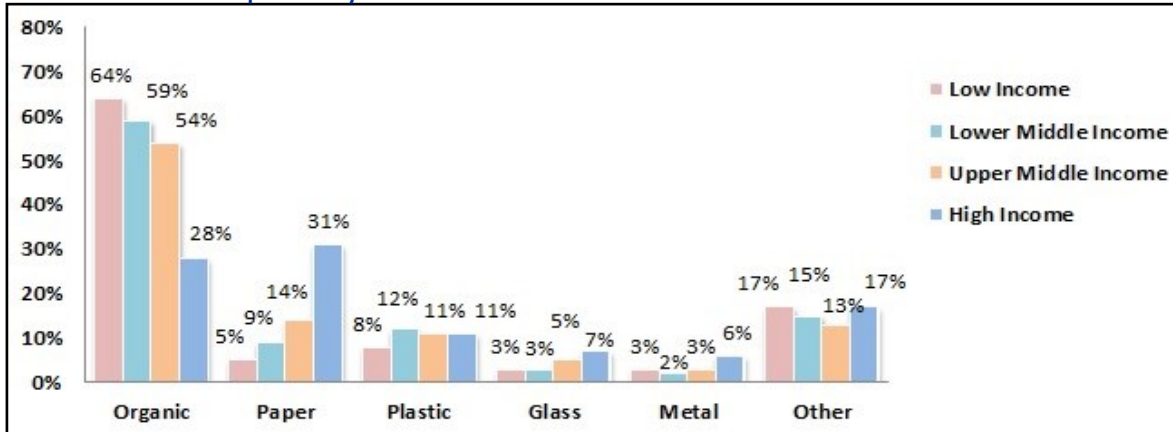


Source: AWHCL Red Herring, Progressive Research

About the Industry (contd.):

Increased waste generation is a constant issue faced by many cities which is basically due to quick urbanisation, improving lifestyles and increasing disposable incomes which is directly or indirectly contributing to piling up of MSW generation. Per capita waste generation in India ranges from ~200 to 600 grams per day and metro cities generate almost as twice as much waste as compared to tier 3 cities.

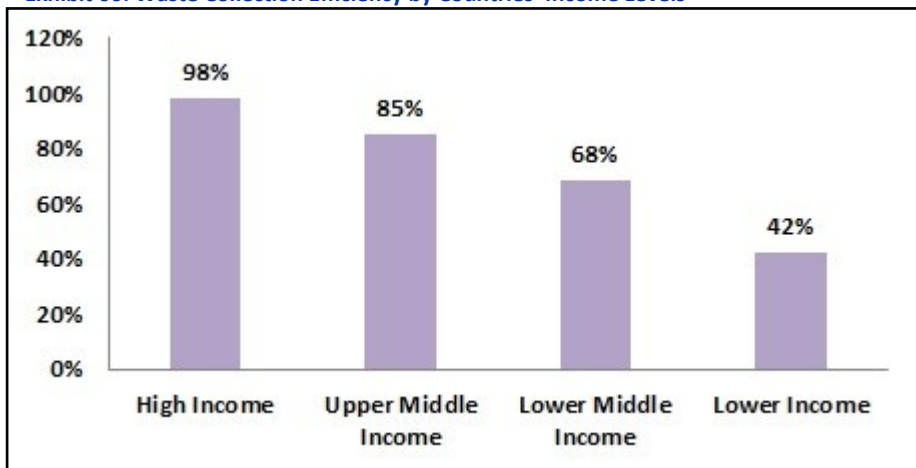
Exhibit 05: Waste Composition by Countries' Income Levels



Source: AWHCL Red Herring, Progressive Research

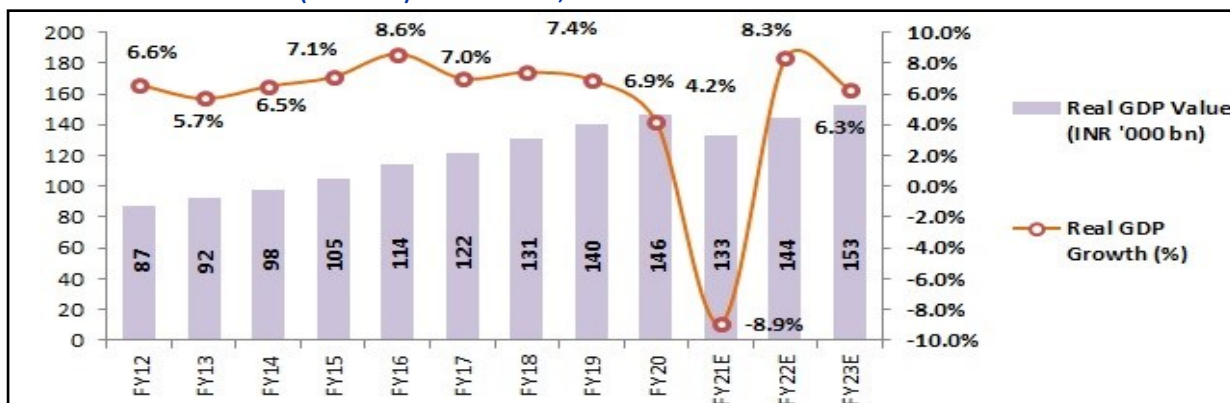
Per capita waste generation is also directly linked with population and affluence of the local people. As per research articles, India's per capita waste generation has grown at ~0.7% per year from 2001 to 2019. The market for India's MSW management is estimated to be worth ~Rs98bn and anticipated to witness a CAGR of 14.4% by FY25 (Source: AWHCL AR2021, Frost and Sullivan). As per market research reports and data, open dumping practices in India is exceptionally higher as compared to other nations where ~77% of waste is dumped openly, ~18% is composted and ~5% is recycled. As per the recent annual report of AWHCL, the MSW generation is anticipated to increase to 115TPA by 2025 from ~81TPA in FY21 with a growth of 8.9% in MSW generation (2020-2025) translating into a CAGR of 14.4% in terms of value of MSW market in India.

Exhibit 06: Waste Collection Efficiency by Countries' Income Levels



Source: AWHCL Red Herring, Progressive Research

Exhibit 07: Real GDP Value (Rs 000'bn) and Growth %, India FY12 to FY23E



Source: AWHCL Red Herring, Progressive Research

About the Industry (contd.):

The emergence of waste management industry is directly linked to the growing urbanization, influx of rural population to towns, high standard of living, stringent environmental regulations, and increasing levels of awareness in the society related to the ill effects of improper disposal of solid waste. Urbanization at a fast pace, increased concentration of urban population in large cities, variation in population distribution is putting excess strain on the urban civic infrastructure. As a result of this, State agencies and municipal corporations have started working in agreement to tackle these issues. The waste management industry in India is comparatively new, constantly evolving and with increasing awareness, a significant shift is seen in how India manages MSW. Currently, the authorities have started realizing, the importance of how materials can be recovered from waste rather than a pure collection and dumping of MSW. Many States are now looking at recycling and effectively processing waste.

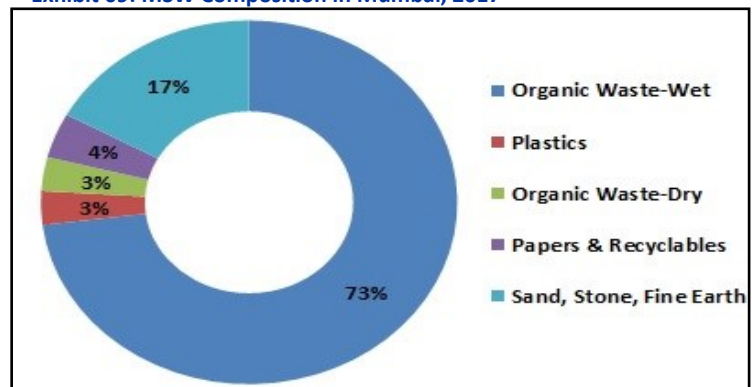
Some of the key market restraints in the past have been the lack of funds by the municipalities (due to poor property tax collection record), the need to have recurrent cash flows and the need of service providers to rely on grants or fund transfers from other levels of government; low privatization level in India (where only 30-35% is managed by professional waste management players); low focus on downstream of MSW management value chain including scientific treatment and safe disposal of solid waste. The municipal corporations face several challenges related to the entire supply chain of waste management and hence the GOI has been encouraging public private partnerships (PPP) right from collection, transportation, processing, treatment, WTE and scientific waste disposal. *Swachh Bharat Mission (SBM)* and *Smart City Mission (SCM)*, coupled with GOI subsidies for projects like WTE, have been the key driving factors in increasing private sectors participation. The Indian WTE market is in its nascent stage with huge potential to grow in the long run. With increasing energy demand and government initiatives, WTE market is anticipated to see more PPP based projects. The Indian Waste Management Services market is gaining global traction. Knowing that the costs involved for a sustainable solid waste management system is high, the GOI along with urban local bodies (ULBs) are increasingly participating with the private sector players through PPP to find sustainable solutions for the waste management industry. To tackle the mounting problem of solid waste, the ministry of environment and forests (MoEF) legislated waste management and handling rules promoting the involvement of private agencies in waste collection, treatment, disposal etc.

Exhibit 08: GDP per Capita Value and Growth %, India, FY12 to FY21E



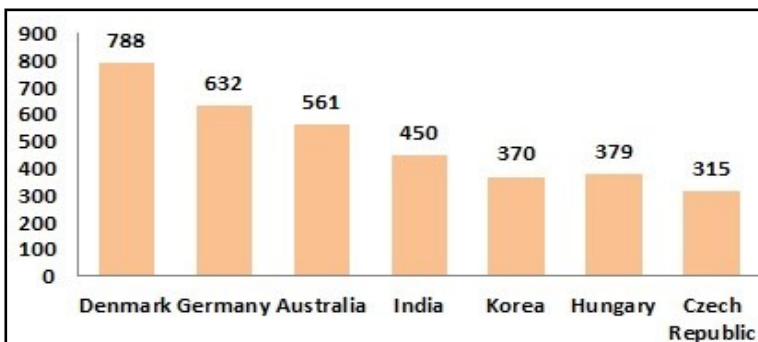
Source: AWHCL Red Herring, Progressive Research

Exhibit 09: MSW Composition in Mumbai, 2017



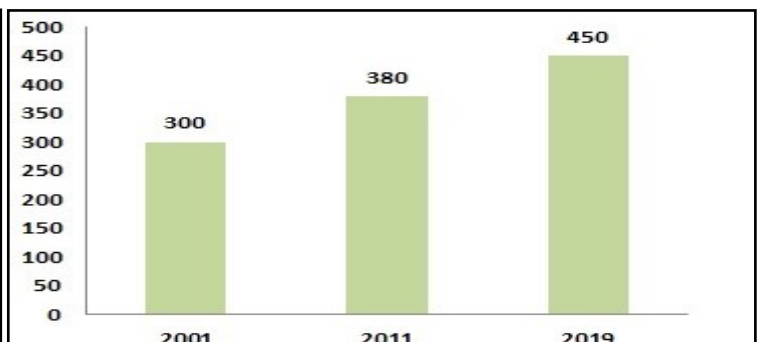
Source: AWHCL Red Herring, Progressive Research

Exhibit 10: Per Capita Waste Generation, gm/person/day in 2018



Source: AWHCL Red Herring, Progressive Research

Exhibit 11: India Per Capita Waste Generation gm/person/day in 2018

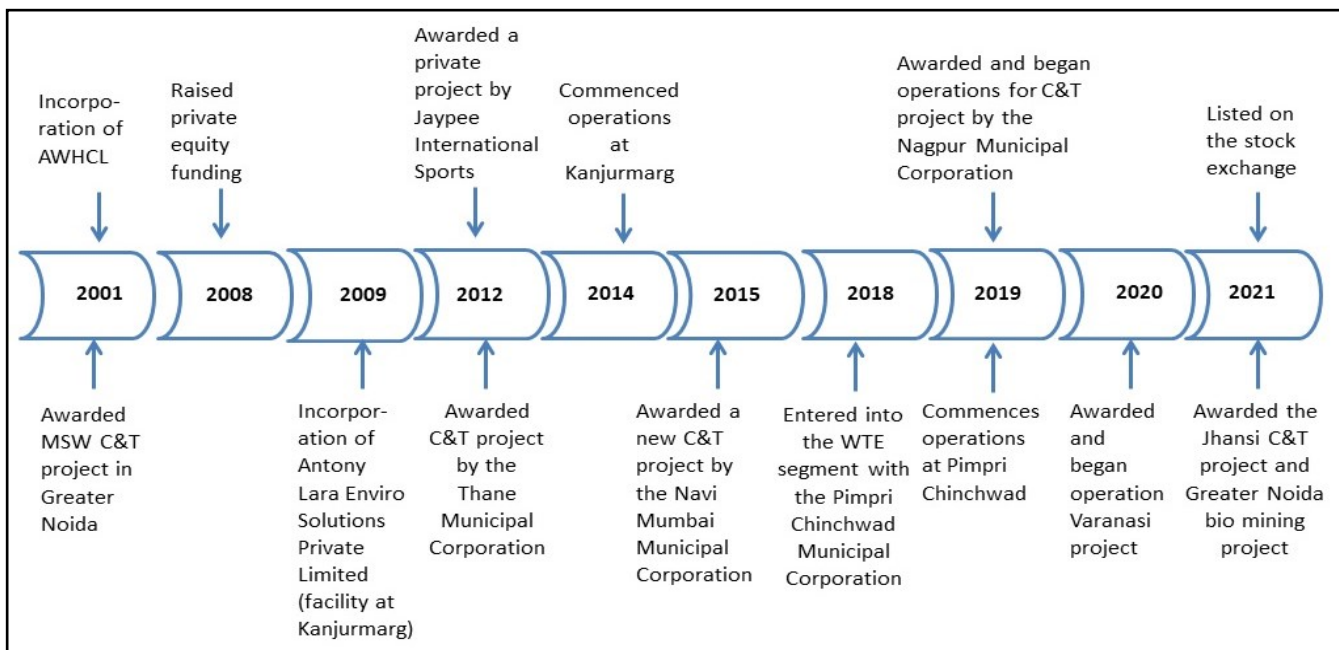


Source: AWHCL Red Herring, Progressive Research

About the Company:

Antony Waste Handling Cell Limited (AWHCL) is a part of the Antony Group which has diversified business interests in automotive body building and ancillary industries. The strong foothold in the MSW can be traced back to the incorporation of the company in 2001. AWHCL collects, transports, processes, treats, recycles and disposes waste while providing high quality integrated waste management services across the entire waste management supply chain. AWHCL is one of the leading players of India’s MSW management industry with an established track record of almost two decades. The company’s operations are present across the entire spectrum of MSW services, including solid waste collection, transportation, processing and disposal services. The company is also involved in reusing, recycling and converting the waste collected into usable energy (when possible). Processing plants of the company are located at Kanjurmarg (under Antony Lara Enviro Solutions Private Limited) and Pimpri-Chinchwad (under Antony Lara Renewable Energy Private Limited). The solid waste business is operated and managed locally by the subsidiaries of AWHCL while focusing on distinct geographic areas allocated. As on March 2021, the company had nine subsidiaries and one associate overseas company. The subsidiary/associate company(s)/LLP include AG Enviro Infra Projects Private Ltd, AL Waste Bio Remediation LLP, Antony Infrastructure and Waste Management Services Private Ltd, Antony Lara Enviro Solutions Private Ltd, Antony Lara Renewable Energy Private Ltd, Antony Lara Renewable LLP, Antony Revive E-Waste Private Ltd, KL EnviTech Private Ltd, Varanasi Waste Solutions Private Ltd and Mazaya Waste Management LLC (joint venture of the company). As on March 31, 2021, AWHCL had 8,135 employees (including its subsidiary companies). Promoters of the company have an experience of more than 19 years in the solid waste management industry.

Exhibit 12: AWHCL Milestone Achievements



Source: AWHCL Nov2021 Investor PPT, Progressive Research

AWHCL is India’s leading comprehensive waste management environmental services provider; currently operating in 11 cities spread over 4 States with multiple projects. The company partners with various municipal corporations, providing services across the spectrum of MSW management i.e. from collection of waste, transportation and disposal. In the process, the company also recovers valuable resources and is able to generate clean renewable energy. Some of the locations where the business activities are undertaken by the company include Greater Noida, Jhansi, Varanasi and Noida (in Uttar Pradesh); Mangalore (in Karnataka); Mumbai, Navi Mumbai, Nagpur, Pimpri-Chinchwad, Thane (in Maharashtra) and New Delhi. The company operates on India’s largest single landfill site located in Kanjurmarg (Mumbai), where they are currently processing ~5300TPD of MSW. The company follows a hub-and-spoke model for transporting waste from the area of generation to the point of disposal in an efficient manner. When waste is deposited at the processing plant, the company uses waste to create energy by recovering the landfill gas that is collected to generate electricity. In addition to this, the company is also involved in a recycling facility where inorganic waste is segregated and RDF is manufactured, while the organic waste is converted and is sold as compost.

Investment Rationale:

(A) Business Model: AWHCL is one of the top five players in the Indian MSW management industry, providing a full spectrum of MSW services including C&T, mechanized sweeping, waste processing and WTE. The top 5 players in the Indian industry include Ramky Enviro, AWHCL, BVG India Ltd, Metrro Waste Handling Pvt Ltd and A2Z Green Waste Management Ltd. AWHCL and Ramky Enviro are among few companies who have pioneered the C&T sector due to technological improvements like mechanized primary waste collection & sweeping, GPS vehicle and bin tracking system etc. The project portfolio of AWHCL is diversified across multiple municipalities in urban as well as semi-urban areas in order to minimize the counter-party risk. The key products and services where AWHCL is involved in include:

(i) Collection & Transportation (C&T): door to door collection of MSW from households, commercials, bulk and non-bulk waste generators. The company has 12 ongoing contracts in this domain where the average ongoing contract duration is ~7.7 years. Nearly 1.28 million tons (MT) of waste was collected and transported during 2020-21 (excluding fixed trips/shifts wise collection) by the company.

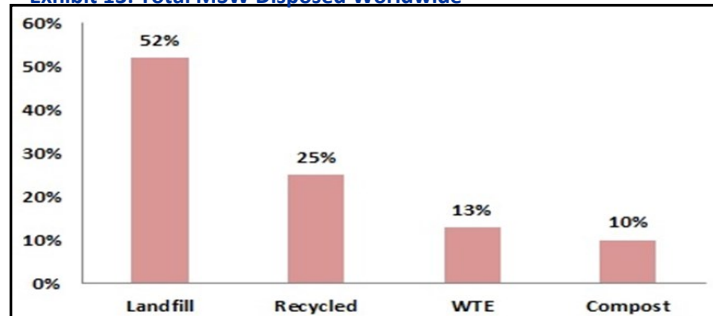
(ii) MSW Processing: involves mechanical sorting and segregation of waste received from MSW C&T, followed by making compost (of organic waste), extracting recyclables, shredding and compressing inorganic fractions into RDF to generate electricity. In this domain, the company has 3 ongoing contracts (2 are DBOOT i.e. design, build, own, operate, and transfer projects) where the average contract duration is ~25 years; ~2.06 MT was processed during 2020-21 by the company. AWHCL essentially follows two processes, **(a) anaerobic process** using bioreactor landfill technology which takes ~5-6 years to completely degrade the organic waste, post which the waste from bio-reactor landfill is mined and sorted, filled in sanitary landfills and the portion of biogas generated is collected for power generation and **(b) aerobic process** using material recovery facility (MRF) and composting facility where the waste received from MSW C&T operations is pre-sorted and pre-segregated at MRF. These are then sorted into compostable, combustible, recyclable and inert materials; the recyclable materials are sold to recycling facilities; the combustible material is shredded into smaller pieces and any homogeneous combustible material is removed. The material is then compressed and processed into RDF which can be sold as fuel to various industries for consumption in their boilers. The compostable materials are processed in the windrow platform where microbes decompose the organic waste matter and the processed garbage is then sent to the preparatory section for curing and collection of manure/ compost which can be sold to fertilizer companies.

(iii) Mechanised Sweeping Projects: which deploys power sweeping machines for cleaning operations. There are 4 mechanical sweeping projects under AWHCL currently.

(iv) Scrap/Recyclables Sales: via selling of compost, RDF & other recyclables.

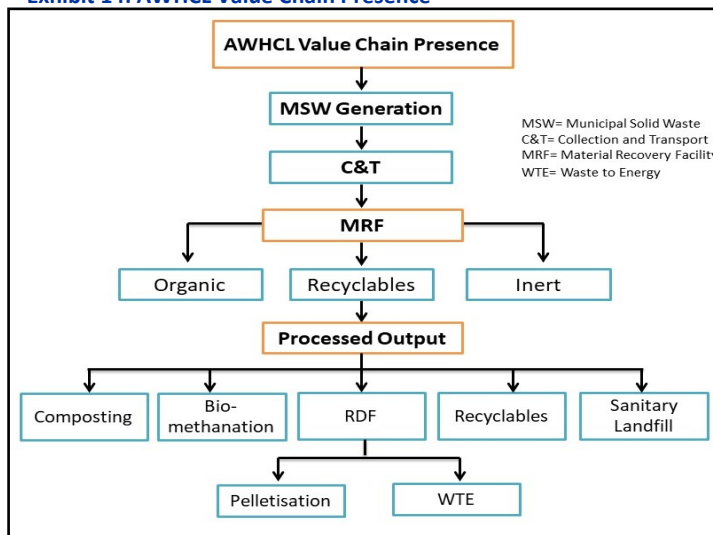
Composting is the most widely used waste processing technology in India followed by bio-methanation as there is high content of bio-degradable waste in India's municipal waste. These processes require relatively low investment to set up waste processing plants when compared to gasification, pyrolysis or incineration plants. AWHCL is trying to move up the MSW value chain and diversifying into emerging areas of waste management like WTE and bio-mining. It is also looking at exploring the readily available market for RDF and compost (as by-products of waste processing) which are generated at the Kanjurmarg site.

Exhibit 13: Total MSW Disposed Worldwide



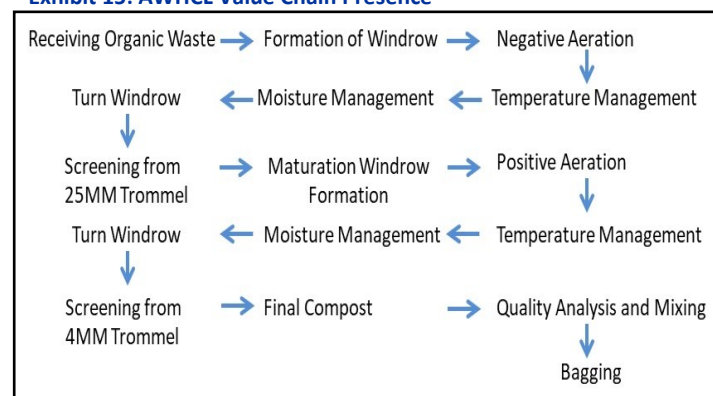
Source: AWHCL Nov2021 Investor PPT, Progressive Research

Exhibit 14: AWHCL Value Chain Presence



Source: AWHCL Nov2021 Investor PPT, Progressive Research

Exhibit 15: AWHCL Value Chain Presence



Source: AWHCL Company, Progressive Research

Investment Rationale (contd.):

(B) Strategies Deployed: Over the last 2 decades, AWHCL has been able to create a robust strategy to mitigate the possible risks. Urbanization, changing lifestyle patterns, increasing disposable incomes, and changes in the consumer patterns are critical factors driving the MSW generation in India and the same is expected to grow at a CAGR of 8.9% (FY20-25) to reach 115 million TPA by FY25. The MSW management market at ~Rs50bn (for FY20) and is expected to reach Rs98bn by FY25 while growing at a CAGR of 14.4%. Increasing participation of professional players in C&T services and development of scientific recycling & disposal methods of MSW is expected to be key driver for the market. The business catered to by AWHCL is totally dependent on the revenue generated from the municipal corporations which translates into high working capital days. In such a situation, AWHCL tries its best to identify, win and execute new municipal contracts which are viable and having substantially better ROE, which is driving the growth for the company. While building a strong business profile, some of the attributes shown by AWHCL business model includes,

(i) Barriers to Entry: The company has a clear moat as it is difficult for any new player to enter this field owing to stringent bidding process of all municipal corporations requiring the operators to have a proven track record and execution capabilities. This has directly created strong barriers to entry for AWHCL and few qualified players in the industry. AWHCL has an established track record of almost two decades with a good scale of operations with diversified geographic presence.

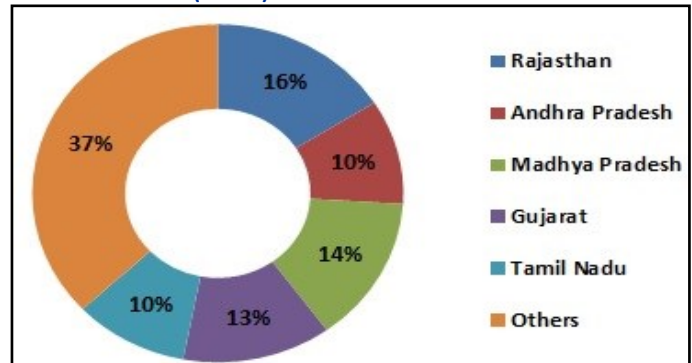
(ii) Pass-Through: As the industry is evolving and so is AWHCL, the Management has been looking at reducing the financial burden on the company due to fixed rate contracts and is concentrating on signing the contracts with a pass-through for cost escalations related to labour and fuel. These cost increases are now more or less calibrated in the tipping fees thus providing a scope for a stable margin and also helping in reducing the associated financial risks.

(iii) Project Bidding: As per the new rules for SWM, there is pressure on the municipalities to modernize their present C&T as well as waste processing techniques and managing the legacy waste via bio-mining. SBM seems to be picking pace providing good opportunities to many industry players to pick and choose the bids. AWHCL is constantly bidding for viable projects via due diligence of the municipalities (funds availability) before bidding. The contracts that are currently coming up from various municipalities are not purely C&T or waste processing, but are a combination of both. In addition to this, some established cities are looking at bio-mining process as solutions to tackle waste.

(iv) Strong Competences: are witnessed across the entire value chain of MSW industry and involved in scientific disposal through bio-reactor landfill and through WTE technology. These are complemented by factors like **experience:** of handling more than 28 large scale complex projects over the last two decades; **strong management:** with extensive experience and strong track record; **technology investments:** in RFID, GPS-tracking devices and surveillance system to provide efficiency & enhanced productivity; **diverse presence and portfolio:** spread across Mumbai, Navi Mumbai, Thane, Pimpri-Chinchwad, Nagpur, Delhi, Greater Noida, Noida, Varanasi, Jhansi and Mangalore.

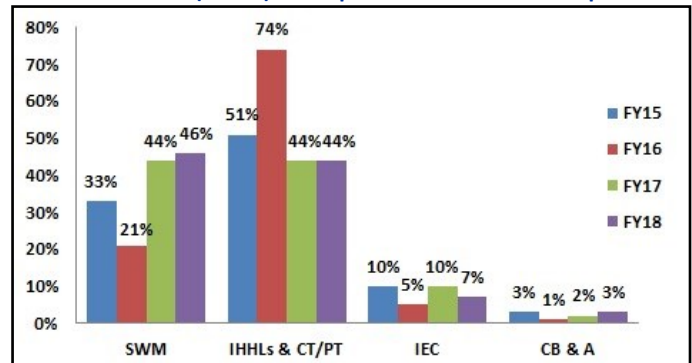
(v) More Triggers: The various municipal corporations across the country are competing with each other to get recognition and ranking for their cities under SBM. In addition to this, private sector participation via the SCM, government subsidies for projects such as WTE and C&T of municipal waste are some more triggers that are the driving forces for private players to help the corporations achieve their goals. AWHCL is consciously avoiding projects that require significant investments (in vehicles or manpower) or which may prove to be economically unviable. The company is putting in deliberate efforts to grow and establish in those states which have strong GDP growth potential and then follow geographical cluster approach to enhance financial performance. The company continues to assess potential customers in unexplored geographies while growing sustainably.

Exhibit 16: SBM (Urban)- SWM State Fund Release



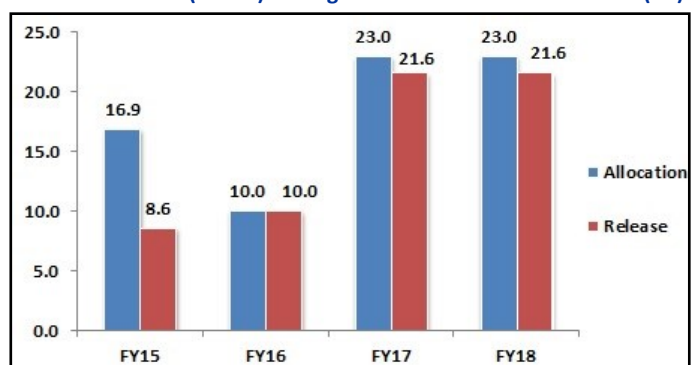
Source: AWHCL Red Herring, Progressive Research

Exhibit 17: SBM (Urban) – Component Allocation and Expenditure



Source: AWHCL Red Herring, Progressive Research

Exhibit 18: SBM (Urban) – Budget Allocation vs Release Trend (bn)



Source: AWHCL Red Herring, Progressive Research

Investment Rationale:

(C) Projects Handled: AWHCL generally targets cities with a population of at least 4 lakh, which generates around 300TPD day kind of waste as the asset turns deliver the required delta on return on fixed assets. Currently, India is providing an opportunity of 70-75 cities which satisfy this criterion. Currently, decent amount of scope for active privatization is witnessed in the eastern and southern parts of the country and a large number of tenders have been floated here. The company is currently looking at some major long term projects at

Kanjurmarg: site is an integrated solid waste management facility based on DBOOT model, comprising of MRF, a bioreactor landfill, a composting facility, a leachate treatment plant, and sanitary plant provision with a peak capacity to process 7,500MT of MSW per day. As a part of the process, MRF technology has been implemented to segregate the waste before it enters the composting unit. Post this segregation, selected material is sent to the composting plant while RDF, recyclable plastics, metals and rejects are sorted out. The waste collected is sent to the bio-reactor landfill which generates leachate and methane. The recirculation of leachate into the waste rushes the rate of decomposition (due to the presence of microbes) and also helps in generation of methane, which is sucked out and used to generate electricity while reducing the greenhouse gas emissions.

Noida: As per Market Research, Noida's first waste plant is looking at treating ~400TPD. The project is looking at treating and disposing over 3 lakh MT of legacy waste. This is the city's first remediation initiative which generates about 250MT per day. It is imperative to dispose off the municipal waste in a scientific way for sustained urban development. With this plant, the aim is to reduce ~50% of the total waste generated and the remaining 50% is anticipated to be recycled. A contract of ~Rs230mn was awarded to the consortium of Antony Lara Enviro Solutions Pvt Ltd and AG Enviro Infra Projects Pvt Ltd. The authorities are of the opinion while the legacy waste will be remediated, the remaining plastic and construction demolition waste will be segregated and sent to the recycling plant; the plastic waste will be recycled to make fuel as well as multi-layer boards including chairs, benches, tree guards etc., whereas the construction and demolition waste will be used to build roads and fill potholes.

Jhansi Project: is a five-year contract for door-to-door C&T of solid waste in the Smart City (in May 2021) and is extendable upto 2 more years upon mutual agreement. The contract is estimated to generate ~Rs200-Rs210mn per annum involving C&T of solid waste from 1.1 lakhs households, 8000 commercial shops/establishment (non-food shops), 2000 commercial shops/establishment (food shops) and 150 bulk waste generators.

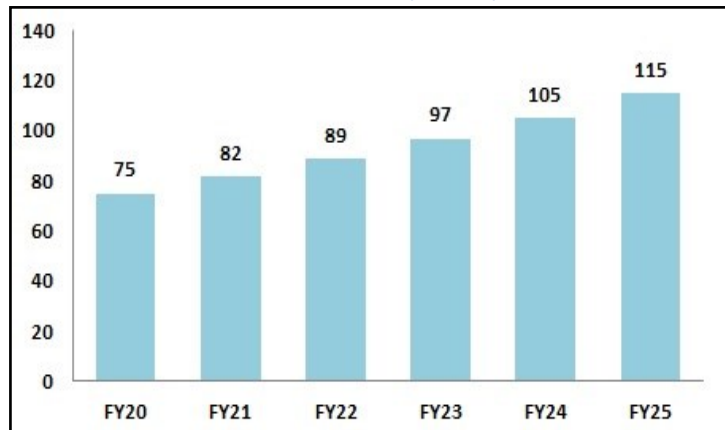
NDMC: Recently in December 2021, the subsidiary company i.e. AG Enviro Infra Projects Private Limited has received letter of intent for door-to-door C&T of MSW to disposal site and operation & maintenance of equipment/machineries from Sadar Paharganj Zone of North Delhi Municipal Corporation (NDMC). AG Enviro has been associated with NDMC since last 16 years in the business of MSW Management. The company is required to handle 1,000 TPD of waste in this dual revenue model where the user fee collection (waste generators will be charged fees by the operator for door to door C&T of solid waste from households, commercial shops/establishments, and bulk waste generators) ratio stands at 85:15 (NDMC: AG) for an appropriate projected revenue of Rs10bn where the tenure of the project is 10 years. As per the press release, a portion of the capex will be provided by NDMC and the balance will be funded by AG Enviro. AWHCL continues to follow cluster based approach, which will enhance the operational efficiencies.

Exhibit 19: AWHCL Strengths



Source: AWHCL AR2021, Progressive Research

Exhibit 20: MSW Generation in India, (mn TPA)



Source: AWHCL Red Herring, Progressive Research

Exhibit 21: MSW Management Market in India, (Rs mn)



Source: AWHCL Red Herring, Progressive Research

Investment Rationale:

(D) Emergent Processes: Waste management today leverages technology to efficiently collect and dispose waste. In the C&T segment, the aim is to ensure reduced number of trips and minimise manual handling involving 24x7, 365 days of operations. In case of waste processing the selection of technologies like bio-reactors, WTE etc. requires detailed understanding of local geography, existing generation of waste and its projection. AWHCL keeps itself updated with technological innovations by establishing joint ventures and hiring experienced consultants. AWHCL is essentially following scientific processes which are very important for the society as well. The company is exploring modern emerging processes like biomethanation, RDF, bio-mining and other scientific disposal of waste processes.

(i) Biomethanation: is an anaerobic fermentation process of bio-degradable waste (done in an enclosed area) to generate methane rich biogas and sludge (which can be used in making compost). This process is apt for the Indian municipal waste as it has high organic and moisture content. As mentioned earlier as well, bio-methane is another way of scientifically processing waste to produce and fetch methane produced during the processing of waste. AWHCL has a well-advanced system for the same; methane produced by this process is collected and is used to generate power and electricity. The organic part of the processing is converted into compost (which is saleable).

(ii) Refuse Derived Fuel (RDF): is the residual dry combustible fraction of MSW like leather, paper, textile, rubber, non recyclable plastic etc. RDF is majorly used as a coal substitute for energy intensive processes like cement kilns, power production, steel manufacturing etc. AWHCL is also involved in producing RDF of the waste processed and produced at the sites. The shredded waste is converted into RDF which is a product similar to coal and the company is marketing the same. The RDF generated in AWHCL's Kanjurmarg site has been tested by IIT- Bombay and has a calorific value of over 3,000 Kcal/kg.

(iii) Bio-mining: involves spraying the dumping grounds with composting bio-cultures to help loosen the layers of waste accumulated over long periods of time, creation of regular aerobic windrows on the site and then sending the organic and inorganic substances for recycling, re-using or composting. The need for more space, has led to clearing these dumping grounds (which were once at the outskirts of a city), which are now becoming zones of developments for commercial exploitation or for creating space for receiving fresh waste. Bio-mining at Mulund dumping ground was initiated in 2018 which is the world's largest bio-mining project and recently these kind of projects are commenced across various cities like Indore, Delhi, Mangalore, Coimbatore, Pune, Kolhapur and Kolkata.

(iv) WTE Industry: is in a budding stage in India and has immense potential to grow. On a global level, WTE is an increasingly followed method for waste disposal. In India, as the energy demand also keeps increasing and many state governments are trying to push this process to be implemented while looking at more PPP-based projects. Construction of WTE plants is considered an ideal way to manage MSW and its conversion into renewable energy. Currently there are only seven WTE plants in India which are reported to be running at a sub-optimal level. With the conclusion of the SBM, the importance of tackling MSW is foreseen to gain traction and new rules for SWM which were introduced in 2016 encourage the construction and use of WTE plants. As mentioned earlier, the company is gradually trying to move up the value chain and in that pursuit is shifting towards WTE. AWHCL continues to bid for commercially viable WTE projects from financially strong municipalities. AWHCL's step-down subsidiary, Antony Lara Renewables Energy Private Limited (ALREPL), is currently working for setting up a 14MW WTE plant by Pimpri-Chinchwad Municipal Corporation (PCMC) with an estimated investment of ~Rs2400mn to cater to a capacity to treat ~800 to 1,000TPD of waste at PCMC.

(v) Scientific Landfill: The waste that cannot undergo further treatment i.e. rejects from compost, RDF and WTE plants are scientifically treated and disposed in landfills. These landfills are created using geo-membrane layers of high density polyethylene (HDPE) as bottom liners which are effective in restricting the ground water from getting contaminated by leachate generated from the waste.

Exhibit 22: On-going Projects

| Ongoing Projects | Type of Services | | |
|-----------------------------------|------------------|----------------|---------------------|
| | C&T | MSW Processing | Mechanized Sweeping |
| Thane Project | Y | - | - |
| Navi Mumbai Project | Y | - | - |
| Mangaluru Project - South Zone | Y | - | - |
| Mangaluru Project - North Zone | Y | - | - |
| Greater Noida Project - Zone 1* | Y | - | - |
| Greater Noida Project - Zone 2* | Y | - | - |
| Jaypee Project | Y | - | - |
| North Delhi Project* | Y | - | - |
| MCGM Dahisar Project | Y | - | - |
| PCMC - South Zone Project | Y | - | - |
| Nagpur Project | Y | - | - |
| NOIDA Project | Y | - | - |
| Varanasi Project | Y | - | - |
| Navi Mumbai Sweeping Project* | - | - | Y |
| Greater Noida Sweeping Project #1 | - | - | Y |
| Greater Noida Sweeping Project #3 | - | - | Y |
| Kanjur Project | - | Y | - |
| PCMC (WTE) Project | - | Y | - |
| Jhansi Project | Y | - | - |
| NOIDA (Bio-Mining) Project | - | Y | - |

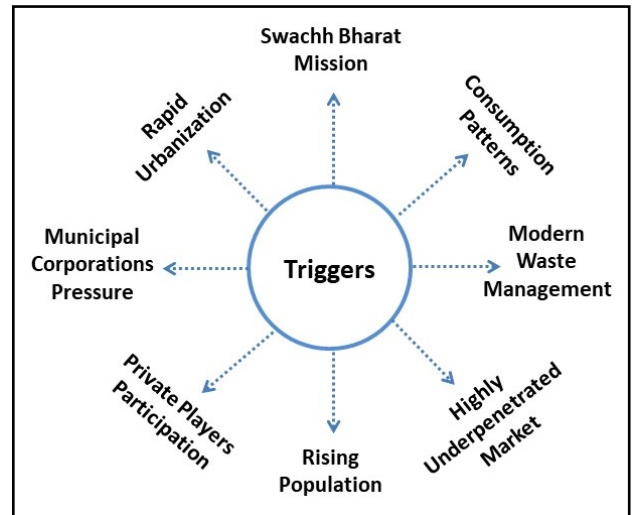
Source: AWHCL Nov2021 Investor PPT, Progressive Research

(E) Sustainable Triggers:

The ever increasing population continues to generate lot of waste which in many cases does not get reused or recycled or is poorly managed. In order to overcome the issue of waste management, GOI and ULBs have started entering PPP models while looking at ensuring long term sustainable solutions for waste management where only 35% of MSW generated is scientifically processed. In some cases where city has a well-managed municipality, waste is transported to a secure site where it is segregated, processed, treated, recycled and scientifically disposed. In some of the well managed municipalities in India today, this entire job is carried out on a partnership basis by the Solid Waste Department of Municipal Corporations and private players (like AWHCL).

The Ministry of Environment and Forests (MoEF) has revised all waste management & handling rules in 2016 to ensure greater accountability and effective implementation of waste management. To tackle the growing menace arising out of waste generation, the GOI has initiated several schemes at central, state, and local levels with SBM which was also given a 28% hike in funds allocation during the Union Budget of FY21. In addition to this, *Swachh Survekshan* is another scheme which monitors the performance of SBM.

Exhibit 23: Sustainable Triggers



Source: AWHCL AR2021, Progressive Research

The Union Budget of FY21 has given a push to waste management which will boost the prospects of companies in this industry and the aim of GOI in the recent times is to tackle the issue of solid and liquid waste management (SLWM). The inefficiencies of the local bodies to handle waste and the projected rise of waste generation, is the key rationale for higher participation of private sector in the concept of circular economy of waste management. As per industry estimates ~20% of the collected waste is processed while the remaining 80% of unprocessed waste is deposited on the dumping sites. This untreated waste either seeps into land and water or is burnt to accommodate more waste, thus causing land, water and air pollution. The World Bank estimates that the solid waste generation in India will reach 377,000TPD by 2025 (which is more than double of the current waste generated). Hence optimal and accelerated handling of SLWM is bound to gain further traction.

The trend toward privatization is gradual and the push by central government (through SBM) to reduce, reuse and recycle forms the integral components of the circular economy. The central idea towards achieving the vision of clean India is bound to be a circular economy approach. Circular economy solutions are intended to aim at the concept of generating zero waste and developing innovations that can help utilise the discarded materials. SBM and SCM can lead to more and more municipalities moving toward privatization in times to come. The increasing demand for energy and GOI initiatives to focus on WTE market while anticipating more PPP based projects will continue to be a booster to such developments. The landscape of the opportunities keeps on expanding due to many factors like,

Rising Population: India has the second largest population with median age of ~28.4 years and is expected to grow at the rate of 1.07% over 2019-2025

Changing Consumption Patterns: can lead to more consumption and higher waste generation

Rapid Urbanization Rate: is expected to have increased from 28% in 2001 to 35% by 2021, since millions of Indians migrate every year to cities and towns for livelihood and better standards of living. Over the last two decades, the urban population has registered CAGR of ~2.6%.

Pressure on Municipal Corporations: to manage waste in a better manner is ever increasing to cater to the rising emphasis on health and hygiene among the younger population

Modern Waste Management Methods: and access to the same is driving the industry to innovate and adopt more efficient smart waste management systems

Private Players Participation: is seen as a solution to create an effective waste management system for urban local bodies and many such tie-ups or combined projects are gradually popping up

Highly Underpenetrated Market: provides scope for a modernized way of collecting waste, processing and treating the same with safe disposal techniques. Along with opportunities to players in the domain, the same has its own barriers to entry to new players. As and when the new players enter the market, the old players are bound to get re-rated

Swachh Bharat Mission (SBM): or the Clean India Mission is a strong driver of growth for the industry and emphasis for the same in the Union Budget can attract more business for the well established entities

Risk and Concerns:

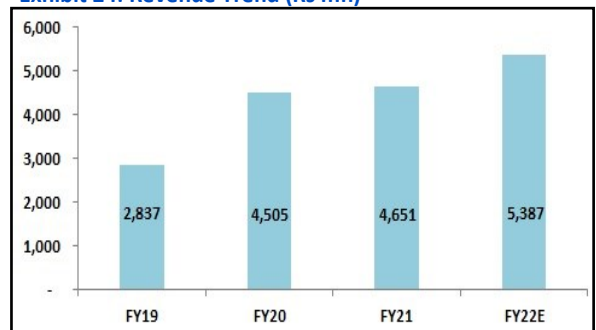
The orders of the company are largely **dependent on municipal** authorities which is a substantial proportion of the business and revenue; where many municipalities have been struggling to fund various MSW projects. In addition to this, the receipts are highly dependent on state/central grants/budget allocation and any decline in the **budgetary allocation** towards MSW projects will have a material adverse impact on the business. As a result, the company depends on a **limited number of customers** and the loss of any of these major customers or any significant reduction in business can adversely affect the company's operations. In the pre bidding processes, the company **incurs significant costs** in the preparation and submission of bids, which are onetime non-reimbursable costs and it is difficult to gauge if the bids would be translated into projects being awarded to AWHCL despite the technical and financial pre-qualifications. Newer projects require **high working capital** and the same increases as the company continues on its expansion plans. Though the Management tries it best to have profitable projects only, the projects in new geographies may not be as profitable as the major contracts which the company operates in an industry. Any future widespread **public health emergencies** (or pandemic) can materially and adversely impact the business via reduced MSW tonnage due to the closure or partial closure of commercial activities. Certain contracts which the company is involved in have **warranties** which can result in deduction of payments, if the company is not able to perform the tasks for the projects in a timely and efficient manner. The company is under constant risks associated to delays in the **collection of receivables** from customers. The company operates in a highly **competitive business environment**, and price is a major factor in most of the tenders/ negotiated contracts. In addition to this, AWHCL is also exposed to **risks related to cost** of fuel (largest operating expenses) and employees/ wages expenses. The company is also exposed to a number of stringent labour laws. The MSW sector is a blend of organized as well as unorganized players. AWHCL operates in a highly regulated industry where the changing standards or **regulatory compliance** issues can adversely impact the operations. The company has **noncurrent trade receivables** as on 30th September, 2021 including certain long outstanding receivables aggregating Rs80.5mn due from various municipal corporations, which are under dispute but considered good and recoverable by the Management. The company is hopeful of recovering these trade receivables in due course.

Financials:

The MSW C&T part of the business accounts for ~64% of the total revenue while the MSW processing segment accounts for ~28% and the mechanized sweeping and others segment accounts for ~8% of the total revenue contribution for FY21-22. The operating revenue of the company is primarily generated from fees charged from the C&T, disposal, recycling and resource recovery via sale of commodities from recycling operations. The energy generated from the landfill gas-to-energy operations in Kanjurmarg, is used for captive consumption. The C&T revenues are influenced by factors such as tonnage of MSW collected, distance to the disposal facility and repairs & maintenance costs. Revenues from landfill operations consist of tipping fees, which is based on the volume of waste disposed at the bioreactor and MRF. The fee charged at transfer stations is based on the weight or volume of waste deposited while the recycling revenues consist of tipping fees and the sale of recycling commodities to downstream recyclers.

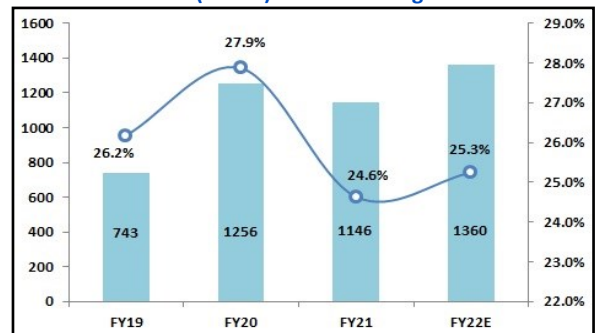
The major cost for the company is in the form of labor, fuel and repairs & maintenance which was ~44%, ~19% and ~8% in FY21. The volatility in costs is addressed by an in-built escalation clause mentioned in the tender and all the tenders signed by AWHCL have a build in price escalations clause. These escalations are either fixed or of variable which keep pace with the changes with the fuel cost. Some contracts have annual escalation or quarterly escalation clause. ~53% of the revenue has a variable escalation where ~60% of them have an annual escalation linked to the WPI, ~30% have half-yearly escalation and the balance is on a quarterly escalation. Bulks of the contracts get escalations in February and May and the pass through generally takes 2-4 months. As a policy, a portion of the contract value, (generally 5% or more) is withheld by the client as security deposit / performance security and is released only upon the evaluation of the work or the completion date.

Exhibit 24: Revenue Trend (Rs mn)



Source: AWHCL AR , Progressive Research

Exhibit 25: Ebitda (Rs mn) vs Ebitda margins



Source: AWHCL AR , Progressive Research

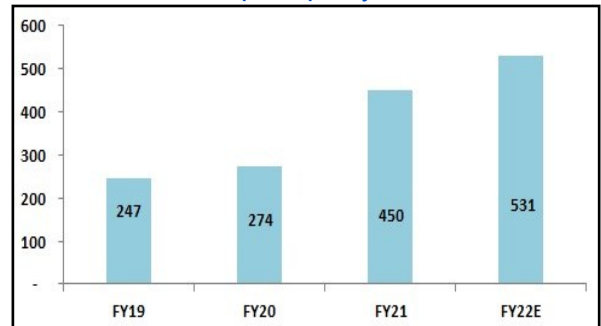
Financials (contd.):

A part of the net proceeds from the IPO have been utilized to repay borrowings and some part is used towards equity contribution of the WTE project in Pimpri-Chinchwad. The company has been seeing gradual reduction in the debt burden. Total debt of the company as of September 2021 stood at Rs1400mn as compared to Rs1500mn in March 2021. The average cost of borrowing has reduced by ~170 bps from 12.4% in March 2020 to ~10.7% in September 2021; D/E ratio has reduced from ~1.03x in 2018-19 to ~0.45x in 2020-21. The company is having a prudent capital management system and better operational efficiency thus enabling AWHCL to report good RoCE ~20% and RoE ~16.6% as of September 2021. The company has been reporting strong RoCE in the average range of 20-24% over the last 2-4 years. AWHCL has started looking for projects where the RoEs (currently ~14.5%) are significantly higher than the cost of capital and these new projects are intended to have built-in price increases to address inflationary pressures. The receivable day which is a critical metrics which the company closely monitors stood at 68 days as of 30th September 2021. As per the Management commentary, on an average, the monthly bills submitted to municipal corporations now gets cleared within 50-70 days.

One needs to note, the growth in revenue is driven by improvement in tonnage handled by the company and historically, an organic growth of 3-5% per annum in tonnage generated in a city is seen owing to the improvement in lifestyle and rising urbanization. In addition to this, one must also keep in mind, the first half of the year has monsoon, which increases the tonnage due to the moisture level which can add ~8-9% of the weight and these benefits are generally not available in the second half of the year. In the current scenario, the Management is looking at compensating the lost tonnage via the increase in new businesses from Greater Noida and Jhansi. In addition to this, revenue growth is also anticipated from new project wins, where revenue recognition starts 6-10 months after the LOA is signed. As of March 2021, the top 5 clients contributed ~78% to the topline in 2020-21 as compared to ~81.9% in FY20 and ~93.8% in FY19.

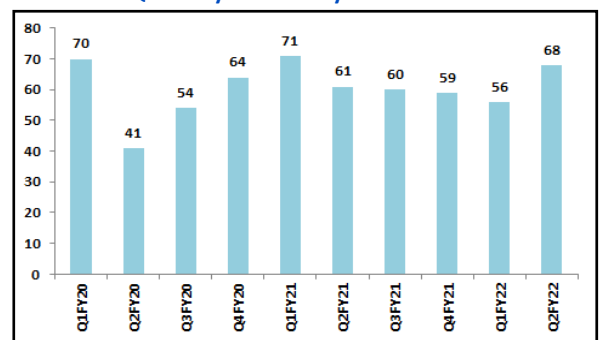
If one will try to look at the capex requirements and spends, every new contract which the operator enters into requires a fleet of new vehicles which generally leads to front loading of the capex. If the geography wins keep on increasing for AWHCL, then naturally the capex requirements will eventually increase in the medium to long term. At the end of the projects for C&T (which is ~7-8 years) these vehicles are checked for viability or are sold as scrap. AWHCL is targeting a capex to the tune of at least Rs900-1100mn in the current fiscal year; has already spent close to Rs350mn or so and is also anticipating an incremental capex at the Kanjurmarg facility to the tune ~Rs280mn over the next 2 years. The company has been investing in automation in various aspects of the operations, including MRF, waste segregation and WTE plants with a vision to increase operational efficiency when compared to manual operations. The company aims to enhance its operational efficiency via higher utilization of vehicles fleet, equipment and technologies to maximize asset utilization, invest in new equipment and vehicles (for new projects whenever they are bagged) in order to improve execution quality, deploy centralized system to control costs, upgrade information and communication technology infrastructure and reduce manual intervention.

Exhibit 26: PAT Trend (Rs mn) * adjusted for NCI



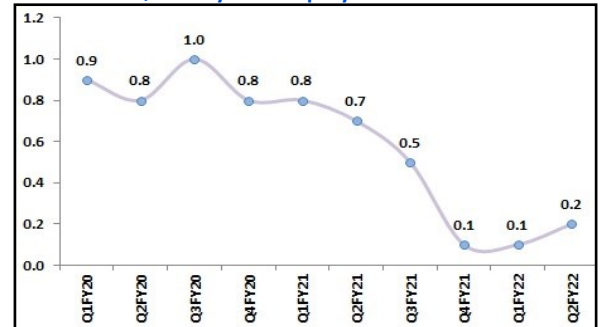
Source: AWHCL AR, Progressive Research

Exhibit 27: Quarterly Debtor Days



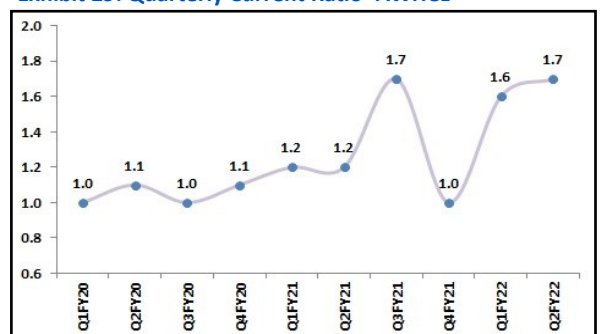
Source: AWHCL AR, Progressive Research

Exhibit 28: Quarterly Debt-Equity- AWHCL



Source: AWHCL Nov2021 Investor PPT, Progressive Research

Exhibit 29: Quarterly Current Ratio- AWHCL

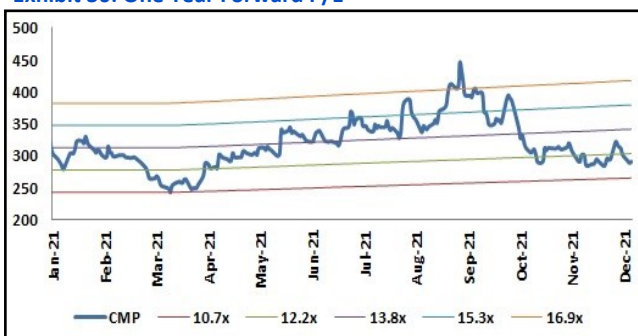


Source: AWHCL Nov2021 Investor PPT, Progressive Research

Outlook and Recommendation:

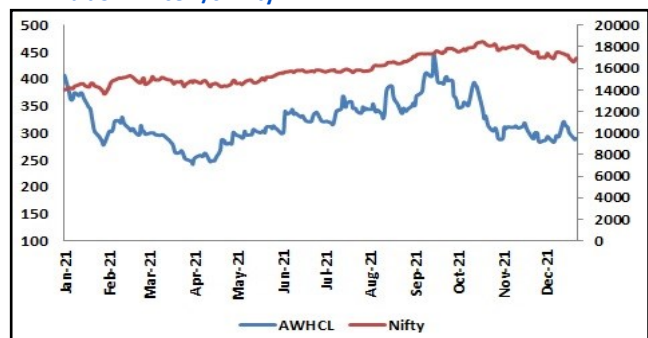
AWHCL has been showing a unique technique to the industry while managing waste and delivering growth as well. A combination of efficient and systematic project management & execution skills has helped the company establish its reputation as one of the key players with end-to-end capabilities for executing a number of MSW management projects. AWHCL aims to continue to expand in states with high GDP, growing urbanization, high standard of living, favorable geographic and climatic conditions. The strategy which the company is following is quite simple while capitalizing opportunities in waste management, following a cluster-based approach, selecting projects based on established criteria and moving up the value chain. The company intends to create a safer and cleaner environment via collecting, recycling, treating, disposing waste material in a scientific manner with major emphasis on segregation and conversion of MSW into compost, RDF and recyclables. Of the total waste generated, only ~30-35% gets scientifically processed and this gap has a huge opportunity to ensure growth and profitability. In the waste management industry there is a myth which believes, an indicator of future performance or anticipated revenues lies in the number, size and duration, of simultaneous ongoing projects (which are clearly in favor of AWHCL). The growth story of the company will continue to remain strong and the business will grow with time. In the upcoming years, it is anticipated that there can be gradual but consistent growth in the top line (through contract wins) coupled with volume as well value growth. The company has an established track record of almost 2 decades, with good understanding of scale of operations, diversified geographic presence, vertical integration and strong position in the MSW management sector which enables them to identify and win new contracts. The Management continues to stay put with its discipline to stay out of the bidding processes of those projects which are financially unviable. As the sector is in a nascent stage, one must look at decent returns only in the long-term. One must also not ignore the possibility of revenue generation (through other income) from the sale compost and RDF to players which require the same. The company is diligently expanding the scale and scope of operations, enhancing the geographic footprint (across India), focusing on sustainable growth (through careful selection of projects), reasonable bidding and thrust on cost management which has helped them identify, win and execute new municipal contracts that have been a core component for growth. Waste generation is going to increase multi fold growth and the company is gearing itself to capture this imminent growth prospects on this long runway as a niche player. AWHCL has been handling waste on a profitable front with innovation and professionalism while recovering high quality compost which too has a high scalability in monetary terms as well. The company is slightly undiscovered with good return ratios in a niche business and also has the possibility of getting rerated, if the some of the industry players get listed on the stock exchanges in this annuity kind of business. India's waste management industry is in a growth phase with increased tonnage and with the concept of circular economy gaining importance along with ESG, AWHCL is showing good execution (managing the waste effectively with value addition), sustainability, focus on technology and delivering good returns to long-term shareholders and thus, we initiate a BUY on the stock for long term investors with a conservative target price of **Rs400** with a horizon of 12 months.

Exhibit 30: One Year Forward P/E



Source: Ace Equity, Progressive Research

Exhibit 31: Price v/s Nifty



Source: Ace Equity, Progressive Research

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Registered Office Address:

Progressive Share Brokers Pvt. Ltd,
122-124, Laxmi Plaza, Laxmi Indl Estate,
New Link Rd, Andheri West,
Mumbai—400053, Maharashtra
www.progressiveshares.com | Contact No.:022-40777500.

Compliance Officer:

Mr. Shyam Agrawal,
Email: compliance@progressiveshares.com,
Contact No.:022-40777500.