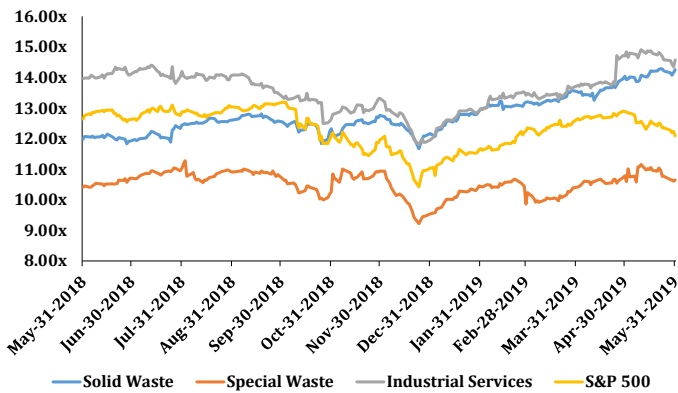


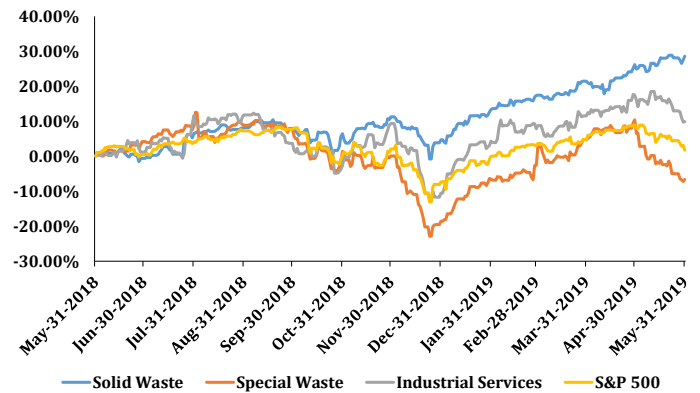
Trash Talk

An Environmental Services
Newsletter

Environmental Services LTM TEV/EBITDA



Environmental Services LTM Share Price (Shown as % change)



Indices Performance (% change)

	May 2019	LTM		May 2019	LTM
S&P 500	(7.2%)	1.7%	Solid Waste	1.9%	28.6%
Dow Jones	(7.3%)	1.6%	Special Waste	(15.6%)	(6.7%)
NASDAQ	(8.6%)	0.2%	Industrial Services	(6.5%)	9.9%

(Source: CapitalIQ)

Largest Environmental Services Movers and Losers (largest % changes in the month of May)

Quest Resource Holding Corporation	23.0%	Fuel Tech, Inc.	(42.6%)
CECO Environmental Corp.	14.1%	Stericycle, Inc.	(20.6%)
Casella Waste Systems, Inc.	3.8%	Industrial Services of America, Inc.	(19.3%)
Republic Services, Inc.	2.1%	Clean Harbors, Inc.	(15.6%)
Waste Management, Inc.	1.9%	Darling Ingredients Inc.	(13.3%)

Environmental Services Industry Contacts

Tom Denison
(312) 283-0819
thomas.denison@thechicagocorp.com

Phil Clarke
(312) 283-0803
philip.clarke@thechicagocorp.com



Trash Talk

An Environmental Services
Newsletter

Select Public Trading Statistics (as of 5/31/2019)

Solid Waste:

(\$ in millions, except per share data)

Company	Share Price 05/31/2019	% of 52 Wk High	Market Capitalization	Enterprise Value	Valuation Multiples			PE Multiples			LTM Operating Margins			Net Debt/EBITDA	
					TEV/Total Revenue	TEV/EBITDA	TEV/EBIT	LTM P/E	CY18 P/E	CY19 P/E	Gross	EBIT	EBITDA		
Waste Management, Inc.	WM	\$109.35	99.4%	\$46,439	\$57,138	3.8x	13.6x	21.1x	25.1x	23.5x	26.5x	38.0%	18.2%	28.1%	2.5x
Republic Services, Inc.	BSG	\$84.59	99.1%	\$27,203	\$35,796	3.5x	13.0x	21.8x	26.8x	24.5x	26.1x	38.5%	16.8%	27.7%	3.1x
Waste Connections, Inc.	WCN	\$94.64	98.8%	\$24,947	\$28,843	5.7x	18.3x	32.8x	45.6x	33.8x	35.0x	41.5%	17.5%	31.4%	2.5x
Advanced Disposal Services, Inc.	ADSW	\$32.14	97.4%	\$2,856	\$4,768	3.0x	12.2x	47.3x	NM	49.1x	58.9x	35.3%	6.3%	24.6%	4.9x
Casella Waste Systems, Inc.	CWST	\$38.72	97.1%	\$1,829	\$2,367	3.5x	18.9x	44.7x	197.8x	52.6x	48.5x	31.2%	7.8%	18.5%	4.3x
Mean				\$20,655	\$25,782	3.9x	15.2x	33.5x	73.8x	36.7x	39.0x	36.9%	13.3%	26.1%	3.5x
Median				\$24,947	\$28,843	3.5x	13.6x	32.8x	36.2x	33.8x	35.0x	38.0%	16.8%	27.7%	3.1x
High				\$46,439	\$57,138	5.7x	18.9x	47.3x	197.8x	52.6x	58.9x	41.5%	18.2%	31.4%	4.9x
Low				\$1,829	\$2,367	3.0x	12.2x	21.1x	25.1x	23.5x	26.1x	31.2%	6.3%	18.5%	2.5x

Source: Capital IQ

Total Enterprise Value (TEV) = Market Capitalization + Preferred Equity + Debt + Minority Interest - Cash

LTM = Last Twelve Months

Special Waste:

(\$ in millions, except per share data)

Company	Share Price 05/31/2019	% of 52 Wk High	Market Capitalization	Enterprise Value	Valuation Multiples			PE Multiples			LTM Operating Margins			Net Debt/EBITDA	
					TEV/Total Revenue	TEV/EBITDA	TEV/EBIT	LTM P/E	CY18 P/E	CY19 P/E	Gross	EBIT	EBITDA		
Stortecycle, Inc.	SRCL	\$46.38	64.9%	\$4,222	\$7,380	2.2x	10.9x	17.8x	NM	14.3x	17.7x	39.1%	12.1%	19.8%	4.7x
Clean Harbors, Inc.	CLH	\$64.12	83.0%	\$3,582	\$5,102	1.5x	10.4x	26.7x	45.7x	NM	NM	30.3%	5.7%	14.7%	3.1x
Darling Ingredients Inc.	DAR	\$18.90	83.6%	\$3,114	\$4,901	1.5x	9.6x	26.2x	144.4x	62.6x	30.8x	21.9%	3.0%	12.6%	4.1x
US Ecology, Inc.	ECOL	\$59.52	77.1%	\$1,312	\$1,654	2.9x	13.9x	22.2x	27.2x	30.5x	29.2x	29.4%	12.9%	20.7%	2.9x
Shups Compliance Corp.	SMED	\$3.23	76.6%	\$52	\$49	1.2x	NM	NM	NM	NM	NM	29.3%	(0.5%)	3.4%	(2.5x)
Perma-Fix Environmental Services, Inc.	PEFI	\$4.15	83.0%	\$50	\$55	1.1x	149.2x	NM	NM	NM	NM	22.9%	(2.3%)	0.8%	16.7x
Mean				\$2,086	\$3,190	1.7x	38.8x	23.2x	72.4x	35.8x	25.9x	28.8%	5.2%	12.0%	4.8x
Median				\$2,213	\$3,277	1.5x	10.9x	24.2x	45.7x	30.5x	29.2x	29.4%	4.4%	13.7%	3.6x
High				\$4,222	\$7,380	2.9x	149.2x	26.7x	144.4x	62.6x	30.8x	39.1%	12.9%	20.7%	16.7x
Low				\$50	\$49	1.1x	9.6x	17.8x	27.2x	14.3x	17.7x	21.9%	-2.3%	0.8%	(2.5x)

Source: Capital IQ

Total Enterprise Value (TEV) = Market Capitalization + Preferred Equity + Debt + Minority Interest - Cash

LTM = Last Twelve Months

Industrial Services:

(\$ in millions, except per share data)

Company	Share Price 05/31/2019	% of 52 Wk High	Market Capitalization	Enterprise Value	Valuation Multiples			PE Multiples			LTM Operating Margins			Net Debt/EBITDA	
					TEV/Total Revenue	TEV/EBITDA	TEV/EBIT	LTM P/E	CY18 P/E	CY19 P/E	Gross	EBIT	EBITDA		
Covanta Holding Corporation	CVA	\$16.86	92.4%	\$2,204	\$4,725	2.5x	14.6x	45.4x	NM	NM	NM	29.6%	5.3%	17.0%	8.0x
Heritage-Crystal Clean, Inc	HCCI	\$25.00	86.2%	\$578	\$628	1.5x	17.4x	32.5x	47.2x	38.9x	28.7x	20.2%	4.6%	8.5%	1.4x
CECO Environmental Corp.	CECE	\$8.85	90.3%	\$310	\$378	1.1x	12.4x	21.0x	NM	31.1x	17.3x	32.8%	5.2%	8.7%	2.2x
Cypress Energy Partners, L.P.	CELP	\$7.32	86.1%	\$88	\$191	0.6x	8.4x	11.1x	10.3x	NM	NM	13.5%	5.0%	6.6%	3.6x
Ecology & Environment, Inc.	EEI	\$11.09	79.5%	\$48	\$36	0.4x	NM	NM	NM	NM	NM	44.0%	(2.6%)	(1.3%)	10.8x
Fuel Tech, Inc.	FTEK	\$1.51	49.3%	\$37	\$31	0.6x	39.7x	NM	NM	NM	NM	35.3%	(0.2%)	1.4%	(7.4x)
Quest Resource Holding Corporation	QRHC	\$2.57	82.9%	\$39	\$45	0.4x	31.8x	NM	NM	NM	NM	16.9%	(0.8%)	1.3%	3.8x
Industrial Services of America, Inc.	ISDA	\$1.21	45.0%	\$10	\$24	0.4x	12.7x	NM	NM	NM	NM	5.7%	(0.3%)	3.2%	7.6x
Mean				\$414	\$757	0.9x	19.6x	27.5x	28.7x	35.0x	23.0x	24.7%	2.0%	5.7%	3.7x
Median				\$68	\$118	0.6x	14.6x	26.7x	28.7x	35.0x	23.0x	24.9%	2.2%	4.9%	3.7x
High				\$2,204	\$4,725	2.5x	39.7x	45.4x	47.2x	38.9x	28.7x	44.0%	5.3%	17.0%	10.8x
Low				\$10	\$24	0.4x	8.4x	11.1x	10.3x	31.1x	17.3x	5.7%	-2.6%	-1.3%	(7.4x)

Source: Capital IQ

Total Enterprise Value (TEV) = Market Capitalization + Preferred Equity + Debt + Minority Interest - Cash

LTM = Last Twelve Months





Trash Talk

An Environmental Services
Newsletter

Select Mergers and Acquisitions & Capital Raising News

❖ Ironwood Capital Announces Sale of Lewis Clark Recycling & Disposal

May 10, 2019 – Ironwood Capital announced an exit from its investment in Lewis Clark Recycling & Disposal LLC (Lewis Clark), which was sold to Waste Connections. Ironwood Capital is a Connecticut-based private equity firm that provides non-control growth capital to middle market companies, investing more than \$700 million in over 130 companies over the past 17 years. Lewis Clark is a solid waste management company headquartered in Harrisburg, Illinois. Over the past two years, Lewis Clark has completed several tuck-in acquisitions resulting in an expanded geographic footprint, as well as construction of a new transfer station facility.

❖ Santek Waste Services Completes \$290M Recapitalization

May 23, 2019 – Santek Waste Services LLC has completed a \$290 million recapitalization of the Cleveland, Tennessee-based company, according to the CFO, Chris Holmstrom. The Company's new credit facility is all debt, including a \$75 million Holdco Credit Facility led by Willow Tree Credit Partners. Additionally, SunTrust Robinson Humphrey served as exclusive financial advisor and placement agent to Santek on the transaction. Founded in 1986, Santek is one of the Southeast's largest privately held solid waste services companies. Its hub-and-spoke footprint extends throughout nine states predominantly in the Southeast and Texas and comprises 17 landfills, 11 transfer stations and seven waste collection companies. The financing provides Santek with additional capital to realize initiatives by growing collections activities, which leverage investments in landfill operations. Santek explained that it is unique in that its landfill operations are all partnerships with municipal governments, thus increasing yield to the communities the Company serves by generating revenue for local needs.

❖ Orion Waste Acquires Certain Assets of Florida-based DisposAll

May 24, 2019 – Orion Waste Solutions announced that it acquired all the assets of DisposAll of Pinellas County, Florida, and the commercial front-load assets only of DisposAll of Orlando, Florida. This acquisition opens a new market in Pinellas County on Florida's West Coast and helps Orion create a contiguous service corridor from Sarasota through St. Petersburg/Tampa to Orlando, one of the largest metropolitan areas in the country. Orion Waste Solutions is the new unified brand of the Bobcat North America group of companies that include: Inland Waste Solutions, Russo & Sons and Bobcat Disposal of Sarasota. Orion, headquartered in Sarasota, Florida, provides residential, commercial and industrial waste and recycling collection services to more than 200,000 customers in seven states.

Select Industry News

❖ RTS Names GlobalTranz Executive Chairman to Board of Directors

May 15, 2019 – Recycle Track Systems (RTS), a technology-driven waste and recycling management company, announced it has added significant transportation and logistics expertise to its Board of Directors with the appointment of Bob Farrell, executive chairman of GlobalTranz, a technology company providing cloud-based multimodal transportation management system (TMS) products to shippers, carriers, third-party logistics providers and brokers. Farrell has more than 30 years of experience and a proven track record of building high-growth software and technology-driven companies. He is a four-time CEO and brings to RTS relevant experience in technology, process management, go-to-market strategies, asset-light business models and mergers and acquisitions. RTS solutions incorporate fleet-based technology that streamlines collection routes, provides data analytics and fosters real-time communication between all relevant parties in the waste ecosystem including garbage, recyclables, compost, e-waste and reusable materials.

❖ Strategic Materials Appoints New COO

May 16, 2019 – Strategic Materials Inc., North America's largest glass recycler, announced the appointment of Edward May as executive vice president and COO for the Company. The announcement comes shortly after Mike Hajost joined the Company as CFO in January. May is an accomplished supply chain leader with domestic and international experience, serving in most recent roles as vice president for Fortune 500 Danaher Corporation and as chief supply chain officer with privately held wastewater treatment leader Evoqua Water Technologies. May holds a bachelor's degree in business administration from Loyola University and a master's degree in business administration from DePaul University. He also is a member of the Institute for Supply Management and American Production and Inventory Control Society.

❖ U.S. Lifts Aluminum, Steel Tariffs on Canada and Mexico

May 21, 2019 – The United States agreed to lift tariffs on steel and aluminum from Canada and Mexico in exchange for tough, new measures to prevent Chinese steel from entering the United States from either of those countries. In addition, the Trump administration announced a commitment to jointly address potential issues of transshipment, dumped or subsidized metal and surges that could impact the North American value chain.



Trash Talk

An Environmental Services
Newsletter

❖ **Bottle-to-bottle Recycler Tackles Ocean Plastic Pollution**

May 23, 2019 – As part of its closed loop philosophy, CarbonLITE Industries, a global recycler and producer of post-consumer polyethylene terephthalate plastic (PET), is launching a new category: 100 percent post-consumer, ocean-diverted plastic. CarbonLITE's newest offering will replace virgin materials for food, beverage and cosmetic applications. These products will have the dual benefit of reducing ocean plastics and the amount of virgin material produced. CarbonLITE also owns PinnPACK Packaging, a sustainable food packaging company in southern California, which allows it to introduce this grade of ocean-diverted plastic in a vertically integrated enterprise. Since its founding, CarbonLITE has been focused on closed loop, bottle-to-bottle recycling. The Company recycles more than 4 billion beverage containers annually between its facilities in California and Texas. A third plant is underway in Pennsylvania, which will increase CarbonLITE's capacity to more than 6 billion bottles a year.

❖ **Whole Foods to Further Reduce Plastics Across All Stores**

May 24, 2019 – Whole Foods Market recently announced it will eliminate plastic straws from its stores in the U.S., the U.K. and Canada by July 2019, becoming the first national grocer to make this change. In addition, the grocer switched to smaller plastic bags in its produce department this year and is replacing hard plastic rotisserie chicken containers with new bags that use approximately 70 percent less plastic. Together, these packaging changes will reduce an estimated 800,000 pounds of plastic per year. By July 2019, Whole Foods Market will remove plastic straws from Whole Foods Market-operated venues, including Allegro coffee bars, juice bars and cafes. As a replacement for plastic straws, it will offer customers paper straws with frozen drinks or upon request; the paper straws are Forest Stewardship Council certified, recyclable and compostable. The Company will offer a plastic straw option for customers with disabilities.

❖ **DSWM Names Fernandez as New Director**

May 29, 2019 – The Miami-Dade County Department of Solid Waste Management in Florida (DSWM) announced that it has named Michael J. Fernandez as its Director. Fernandez previously served as the Deputy Director of Operations for DSWM. Fernandez, a 2018 Waste360 40 Under 40 award recipient, is replacing Alina T. Hudak, who will continue to serve in her capacity as Miami-Dade County Deputy Mayor until her retirement in July after 35 years of service. As Director of DSWM, Fernandez will oversee one of the largest publicly-owned and operated solid waste systems in the United States, with close to 1,000 employees, a budget of approximately \$500 million, a customer base of 353,000 households and a collection and disposal system that includes multiple landfills, regional transfer stations, 13 trash and recycling centers and the largest public waste-to-energy plant in the country. Fernandez holds a bachelor's degree in business administration from Florida International University along with a number of certificates in the field. In addition to being named a Waste360 40 Under 40 award recipient, he serves, and has served, on numerous boards including the Collections and Transfer Technical Board of the Solid Waste Association of North America and the Miami-Dade County Illegal Dumping Task Force.

❖ **Maryland Becomes Second State to Ban Plastic Foam Containers**

May 30, 2019 – Maryland's statewide ban on polystyrene foam cups and containers will officially go into law without Gov. Larry Hogan's signature. In March, Maryland became the first state in the country to pass a foam ban through its state legislature. Following Maine's lead earlier in May, Maryland is now the second state to have a foam ban on the books. Polystyrene foam—commonly referred to as Styrofoam—is one of the most common forms of single-use plastic. Less than 3 percent of it is recycled, and once in landfills or the natural environment, it persists for hundreds of years. In a single year, Americans throw out 25 billion polystyrene foam cups, part of the 8 million tons of plastic dumped in waterways every year.

Trash Talk is a monthly newsletter published by The Chicago Corporation. To subscribe, please visit www.thechicagocorp.com.

Information contained in this publication is based on data obtained from sources we deem to be reliable, however, it is not guaranteed as to accuracy and does not purport to be complete. Nothing contained in this publication is intended to be a recommendation of a specific security or company nor is any of the information contained herein intended to constitute an analysis of any company or security reasonably sufficient to form the basis for any investment decision. Nothing contained in this publication constitutes an offer to buy or sell or the solicitation of an offer to buy or sell any security. Officers or employees of affiliates of The Chicago Corporation, or members of their families, may have a beneficial interest in the securities of a specific company mentioned in this publication and may purchase or sell such securities in the open market or otherwise. Sources include Waste360, Waste Dive and various publicly available news publications. Additional information is available upon request.

