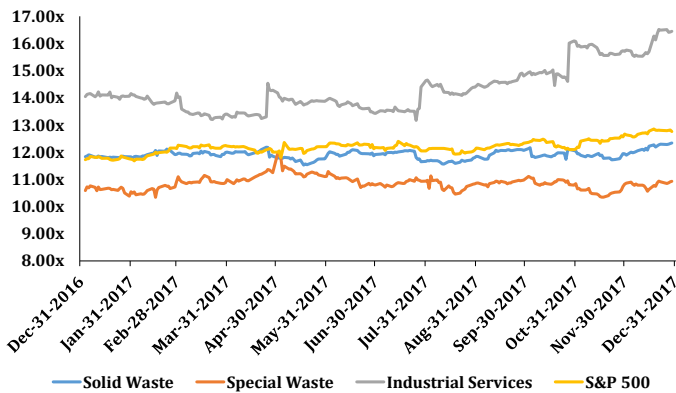


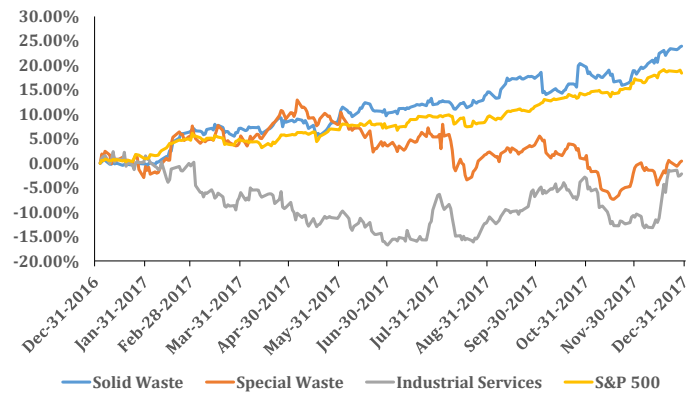
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Environmental Services LTM TEV/EBITDA



Environmental Services LTM Share Price (Shown as % change)



Indices Performance (% change)

	December 2017	LTM		December 2017	LTM
S&P 500	1.2%	19.4%	Solid Waste	4.2%	23.9%
Dow Jones	2.0%	25.1%	Special Waste	1.4%	0.4%
NASDAQ	0.8%	28.2%	Industrial Services	10.0%	(2.2%)

(Source: CapitalIQ)

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

Fuel Tech, Inc.	17.9%	Perma-Fix Environmental Services, Inc.	(7.6%)
Quest Resource Holding Corporation	15.0%	CECO Environmental Corp.	(5.2%)
Heritage-Crystal Clean, Inc.	13.6%	Cypress Energy Partners, L.P.	(2.8%)
Covanta Holding Corporation	11.2%	Sharps Compliance Corp.	(1.9%)
Casella Waste Systems, Inc.	8.0%	Ecology & Environment, Inc.	(0.9%)

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Select Public Trading Statistics (as of 12/31/2017)

Solid Waste:

(\$ in millions, except per share data)

Company	Share Price 12/31/2017	% 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	CY17 P/E	CY18 P/E	Gross	EBIT	EBITDA		
Waste Management, Inc.	WM	\$86.30	99.3%	\$37,473	\$46,805	3.3x	12.2x	18.7x	27.7x	26.5x	25.1x	37.7%	17.9%	27.4%	2.4x
Republic Services, Inc.	BSG	\$67.61	99.4%	\$22,997	\$30,393	3.1x	11.1x	18.6x	28.6x	27.6x	25.1x	38.3%	16.7%	27.8%	2.8x
Waste Connections, Inc.	WCN	\$70.94	95.6%	\$18,703	\$22,176	4.9x	15.5x	27.4x	53.9x	36.0x	32.8x	41.6%	17.9%	31.5%	2.4x
Advanced Disposal Services, Inc.	ADSW	\$23.94	93.1%	\$2,118	\$4,079	2.8x	10.3x	32.6x	NM	55.2x	49.8x	37.0%	8.4%	26.6%	5.0x
Casella Waste Systems, Inc.	CWST	\$23.02	99.2%	\$968	\$1,450	2.5x	12.6x	27.2x	NM	33.5x	29.2x	32.7%	9.0%	19.4%	4.2x
Meridian Waste Solutions, Inc.	MRDN	\$1.06	10.6%	\$15	\$105	2.2x	30.1x	NM	NM	NM	NM	31.4%	(28.2%)	7.3%	25.6x
Mean				\$13,646	\$17,501	3.1x	15.3x	24.9x	36.7x	35.7x	32.4x	36.4%	7.0%	23.4%	7.1x
Median				\$10,411	\$13,127	2.9x	12.4x	27.2x	28.6x	33.5x	29.2x	37.3%	12.9%	27.0%	3.5x
High				\$37,473	\$46,805	4.9x	30.1x	32.6x	53.9x	55.2x	49.8x	41.6%	17.9%	31.5%	25.6x
Low				\$15	\$105	2.2x	10.3x	18.6x	27.7x	26.5x	25.1x	31.4%	(28.2%)	7.3%	2.4x

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 12/31/2017	% 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	CY17 P/E	CY18 P/E	Gross	EBIT	EBITDA		
Stericycle, Inc.	SREL	\$67.99	77.3%	\$5,805	\$8,542	2.4x	11.4x	16.6x	NM	17.3x	17.3x	44.0%	14.3%	20.8%	3.6x
Clean Harbors, Inc.	CHH	\$54.20	88.0%	\$3,086	\$4,354	1.5x	10.6x	35.3x	NM	NM	NM	29.7%	4.3%	14.2%	3.1x
Darling Ingredients Inc.	DAR	\$18.13	97.2%	\$2,986	\$4,710	1.3x	9.8x	25.7x	47.2x	83.8x	28.9x	21.4%	3.7%	12.0%	3.8x
US Ecology, Inc.	ECOL	\$51.00	91.5%	\$1,113	\$1,383	2.8x	13.6x	23.2x	42.5x	34.3x	27.6x	29.1%	12.2%	20.9%	2.7x
Sharps Compliance Corp.	SMED	\$4.09	71.4%	\$65	\$63	1.6x	NM	NM	NM	NM	NM	31.1%	(0.4%)	3.6%	(1.9x)
Perma-Fix Environmental Services, Inc.	PESI	\$3.65	84.9%	\$43	\$46	0.9x	17.2x	NM	NM	NM	NM	21.3%	(3.8%)	5.3%	1.1x
Mean				\$2,183	\$3,183	1.8x	12.5x	25.2x	44.8x	45.1x	24.6x	29.4%	5.1%	12.8%	2.1x
Median				\$2,049	\$2,869	1.6x	11.4x	24.4x	44.8x	34.3x	27.6x	29.4%	4.0%	13.1%	2.9x
High				\$5,805	\$8,542	2.8x	17.2x	35.3x	47.2x	83.8x	28.9x	44.0%	14.3%	20.9%	3.8x
Low				\$43	\$46	0.9x	9.8x	16.6x	42.5x	17.3x	17.3x	21.3%	(3.8%)	3.6%	(1.9x)

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 12/31/2017	% 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	CY17 P/E	CY18 P/E	Gross	EBIT	EBITDA		
Covanta Holding Corporation	CVA	\$16.90	97.7%	\$2,208	\$5,143	3.0x	18.3x	69.5x	NM	NM	NM	29.5%	4.2%	16.3%	10.5x
Heritage-Crystal Clean, Inc.	HCCI	\$21.75	97.1%	\$498	\$493	1.4x	11.7x	20.6x	25.0x	34.0x	28.3x	25.4%	6.7%	11.8%	(0.1x)
CECO Environmental Corp.	CECE	\$5.13	35.5%	\$178	\$276	0.7x	6.9x	11.6x	NM	19.3x	15.6x	33.4%	6.4%	10.7%	2.5x
Cypress Energy Partners, L.P.	CELP	\$6.00	42.0%	\$71	\$166	0.6x	11.1x	18.2x	28.9x	18.0x	17.9x	12.1%	3.1%	5.1%	7.9x
Ecology & Environment, Inc.	EEI	\$10.50	80.4%	\$45	\$30	0.3x	4.5x	5.4x	17.0x	NM	NM	45.0%	5.3%	6.3%	(2.5x)
Quest Resource Holding Corporation	QRHC	\$2.30	76.7%	\$35	\$41	0.3x	NM	NM	NM	(16.7x)	NM	10.2%	(3.2%)	(0.6%)	(5.7x)
Fuel Tech, Inc.	FTEK	\$1.12	85.5%	\$27	\$21	0.5x	NM	NM	NM	NM	NM	34.5%	(27.9%)	(21.8%)	0.7x
Industrial Services of America, Inc.	ISDA	\$1.64	63.1%	\$13	\$20	0.4x	11.0x	NM	NM	NM	NM	6.4%	(0.8%)	3.6%	3.9x
Mean				\$384	\$774	0.9x	10.6x	25.0x	23.6x	13.7x	20.6x	24.5%	(0.8%)	3.9%	2.1x
Median				\$58	\$103	0.5x	11.1x	18.2x	25.0x	18.7x	17.9x	27.4%	3.7%	5.7%	1.6x
High				\$2,208	\$5,143	3.0x	18.3x	69.5x	28.9x	34.0x	28.3x	45.0%	6.7%	16.3%	10.5x
Low				\$13	\$20	0.3x	4.5x	5.4x	17.0x	(16.7x)	15.6x	6.4%	(27.9%)	(21.8%)	(5.7x)

Source: Capital IQ

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

LTM = Last Twelve Months





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Select Mergers and Acquisitions & Capital Raising News

❖ California to Help Finance Glass Processing Facility

December 6, 2017 – The state of California is helping to finance a facility that will process glass fines into a product used in high-strength concrete. Meanwhile, state regulators recently approved new reporting and inspection rules for glass sorting and cleanup facilities. CalRecycle recently announced it awarded a \$3 million grant to Sioneer Stockton, LLC, a company working to build a glass processing facility in Stockton, California. Sioneer's parent company is Glass Processing Solutions (GPS).

❖ Covanta Teams with Green Investment Group to Develop, Fund and Own EFW Projects

December 19, 2017 – Morristown, New Jersey-based waste and energy firm Covanta Holding Corp. has entered into a strategic partnership with the Green Investment Group Ltd., a subsidiary of Macquarie Group Ltd., to develop, fund and own energy-from-waste (EFW) projects in both Ireland and the UK. The partnership will be structured as a 50/50 joint venture, creating a platform to develop and invest in the combined project pipelines of the partners as well as to pursue new opportunities for EFW project development or acquisitions. As the initial step in the partnership, Green Investment Group will invest in Covanta's Dublin plant through the joint venture, with proceeds from this transaction fully funding Covanta's anticipated equity requirements for all of the advanced projects in the joint venture's combined UK pipeline.

Select Industry News

❖ Covanta's Dublin WTE Facility Now Operating at Full Capacity

December 4, 2017 – In 2014, Covanta Holding Corp. announced that it would build, own and operate a 58-megawatt waste-to-energy (WTE) facility at Poolbeg in Dublin Port. Earlier this year, the facility began its operations and accepted its first waste delivery. Now, the company has announced that the facility is operating at full capacity, processing approximately 1,800 tonnes of solid waste per day, diverting post-recycled residual waste from landfills, reducing Ireland's reliance on imported fossil fuel by generating 60 megawatts of continuous electricity that's exported onto the national grid to power 80,000 homes and enabling the region to become self-sufficient in managing waste and complying with EU landfill diversion targets.

❖ Miami-Dade, Florida Property Owner Charged with Operating Illegal Landfill

December 6, 2017 – Gelio Justino Hernandez, a Miami-Dade, Florida, property owner, was accused of operating an illegal landfill following a 2016 fire that took two weeks to extinguish. Hernandez was charged with two counts of operating an illegal landfill and one count of failing to obtain a permit to store, process or dispose of solid waste. The landfill, which is filled with items like wood, concrete, metal, roofing materials, carpet, five-gallon oil buckets, tires and plant debris, features a massive pile of waste that stands at least 40-feet tall.

❖ Republic Services Names New COO

December 7, 2017 – Republic Services Inc. has named Jon Vander Ark, 42, as the company's COO, effective January 1, 2018. As COO, Vander Ark will be responsible for operationalizing the company's strategy and executing its business plan across its field operations. Additionally, he will have functional responsibility for all operational support departments, including safety, engineering, environmental compliance and fleet management, which includes the seventh largest vocational truck fleet in the country. Vander Ark will continue to report to Don Slager, president and CEO. Prior to this appointment, Vander Ark was executive vice president, operations, responsible for maximizing Republic's field performance, ensuring service delivery, and achieving financial and operational results across the company's operations in the eastern half of the U.S., which represents approximately \$5 billion of Republic's annualized revenues. Previous to this, he oversaw the western half of the company's operations. Vander Ark joined Republic Services in January 2013 as executive vice president, chief marketing officer, responsible for establishing the Republic Services brand and advancing the company's customer-centric service approach. In 2014, Vander Ark played a role when Republic made the move to unify its subsidiary brands under the Republic banner.

❖ Sims Recycling Solutions and DTSC Reach Settlement

December 8, 2017 – Sims Recycling Solutions (SRS), a provider of global IT asset disposition (ITAD) services, and the California Department of Toxic Substances Control (DTSC) have reached an agreement to resolve issues resulting from Summary of Violations (SOVs) issued following August 2011 and March 2015 site inspections at the SRS facility in Roseville, California. The settlement, which relates to large-scale indoor electronics shredding operations that were previously conducted at the facility, is made out of a desire to avoid costly, protracted litigation and consists of a \$275,000 civil penalty and a payment of \$125,000 to reimburse DTSC for its costs incurred in this matter. Before the settlement was reached, Roseville promptly addressed any issues identified by DTSC and made the move in 2016 to no longer operate the shredder.

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❖ McLean County, Illinois' 20-Year Solid Waste Plan Could Include Recycling Ordinances

December 12, 2017 – Over the past two years, the Ecology Action Center (EAC), with input from stakeholders and the public, worked to develop a 20-year solid waste plan for McLean County, Illinois. The new plan, which could be in effect through 2037, focuses on reducing solid waste costs and increasing the lifespan of the county's future landfill. The plan also calls for a pilot program that would provide recycling services based on "geographically dense areas," or areas where there are a high number of apartment complexes. This was one of the top requests made by the public.

❖ Cullman County, Alabama Files Suit to Shut Down Three Competing Garbage Companies

December 19, 2017 – Last week, the Cullman County, Alabama, Commission authorized County Attorney Chad Floyd to file a complaint against three garbage companies for providing services illegally to residents. A resolution passed years ago states that the county commission is the sole provider of solid waste collection services within Cullman County, but two companies have placed roll-off containers and dumpsters at county construction sites and one company has begun running a residential collection route on the east side of the county.

❖ Breaking Down the Latest Industry Fatality Stats

December 26, 2017 – Last week the Bureau of Labor Statistics (BLS) published its annual review of fatal occupational injuries with the results bringing mixed news for the sector. Overall, the BLS reported that while fatalities of all U.S. workers increased in 2016, in the public and private waste and recycling industry, fatalities declined from 50 in 2015 to 42 in 2016. On the positive side, the fatality rate for the industry decreased in 2016, which was consistent with BLS data from November that showed a drop in injury rates for some parts of the sector. In addition, the fatal injury rate for the occupation of refuse and recyclable material collector also dropped from the prior year. However, the improvement wasn't enough to shake the occupation's position as the fifth-most dangerous private sector occupation as ranked by fatal injury rate.

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