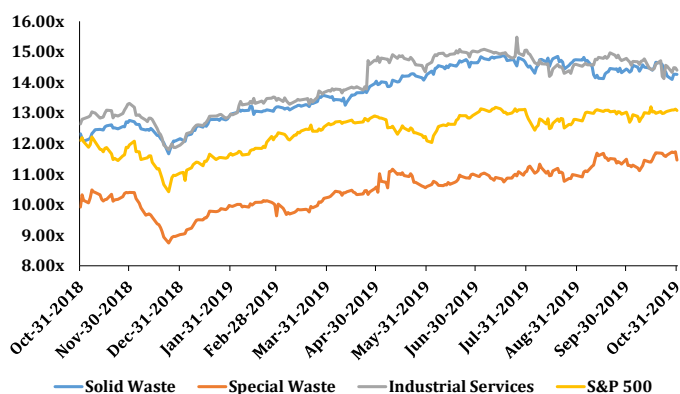




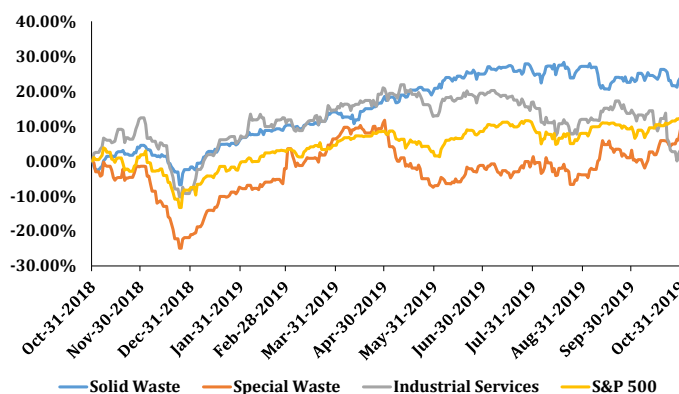
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Environmental Services LTM TEV/EBITDA



Environmental Services LTM Share Price (Shown as % change)



Indices Performance (% change)

	October 2019	LTM		October 2019	LTM
S&P 500	2.2%	12.0%	Solid Waste	(0.7%)	23.0%
Dow Jones	0.5%	7.7%	Special Waste	7.7%	11.0%
NASDAQ	4.0%	13.5%	Industrial Services	(11.0%)	1.9%

(Source: CapitalIQ)

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

Sharps Compliance Corp.	13.5%	Covanta Holding Corporation	(16.5%)
Stericycle, Inc.	13.1%	Quest Resource Holding Corporation	(5.2%)
Clean Harbors, Inc.	6.8%	US Ecology, Inc.	(2.7%)
Cypress Energy Partners, L.P.	5.4%	Waste Management, Inc.	(2.4%)
Perma-Fix Environmental Services, Inc.	4.6%	CECO Environmental Corp.	(1.8%)

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Select Public Trading Statistics (as of 10/31/2019)

Solid Waste:

(\$ in millions, except per share data)

Company	Share Price 10/31/2019	% 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	\$112.21	92.2%	\$47,604	\$58,527	3.8x	13.7x	21.4x	27.4x	23.5x	27.8x	38.1%	18.0%	28.0%	2.5x
Republic Services, Inc.	RSG	\$87.51	96.6%	\$27,951	\$36,833	3.6x	13.3x	22.1x	26.0x	24.5x	27.7x	39.1%	16.8%	27.5%	3.1x
Waste Connections, Inc.	WCN	\$92.40	94.4%	\$24,364	\$28,375	5.4x	17.4x	31.5x	43.2x	33.8x	38.5x	40.8%	17.0%	30.9%	2.5x
Advanced Disposal Services, Inc.	ADSW	\$32.78	99.3%	\$2,931	\$4,823	3.0x	12.5x	52.4x	NM	49.1x	77.1x	35.3%	5.6%	23.7%	4.9x
Casella Waste Systems, Inc.	CWST	\$43.59	91.3%	\$2,074	\$2,678	3.7x	20.4x	49.2x	232.2x	52.6x	58.3x	31.0%	7.5%	18.2%	4.6x
Mean				\$20,985	\$26,247	3.9x	15.4x	35.3x	82.2x	36.7x	45.9x	36.9%	13.0%	25.7%	3.5x
Median				\$24,364	\$28,375	3.7x	13.7x	31.5x	35.3x	33.8x	38.5x	38.1%	16.8%	27.5%	3.1x
High				\$47,604	\$58,527	5.4x	20.4x	52.4x	232.2x	52.6x	77.1x	40.8%	18.0%	30.9%	4.9x
Low				\$2,074	\$2,678	3.0x	12.5x	21.4x	26.0x	23.5x	27.7x	31.0%	5.6%	18.2%	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 10/31/2019	% 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		
Stericycle, Inc.	SRCL	\$57.60	96.4%	\$5,249	\$8,364	2.5x	12.5x	20.9x	NM	14.3x	24.4x	37.0%	11.9%	19.9%	4.6x
Clean Harbors, Inc.	CLH	\$82.46	96.4%	\$4,602	\$6,032	1.8x	11.7x	28.1x	51.5x	NM	NM	30.4%	6.3%	15.2%	2.8x
Darling Ingredients Inc.	DAR	\$19.30	85.3%	\$3,180	\$4,952	1.5x	9.7x	26.2x	41.8x	62.6x	41.4x	22.1%	2.6%	12.2%	4.1x
US Ecology, Inc.	ECOL	\$62.23	82.3%	\$1,374	\$1,730	2.8x	12.9x	20.6x	27.4x	30.5x	30.0x	30.6%	12.2%	20.3%	2.9x
Sharps Compliance Corp.	SMED	\$4.71	89.7%	\$76	\$81	1.7x	NM	74.7x	103.0x	NM	NM	30.2%	2.3%	5.8%	NM
Perma-Fix Environmental Services, Inc.	PESI	\$4.75	88.8%	\$57	\$63	1.2x	144.2x	NM	NM	NM	NM	21.5%	1.6%	3.8%	2.0x
Mean				\$2,423	\$3,537	1.9x	38.2x	34.1x	55.9x	35.8x	31.9x	28.6%	6.1%	12.9%	3.3x
Median				\$2,277	\$3,341	1.7x	12.5x	26.2x	46.7x	30.5x	30.0x	30.3%	4.4%	13.7%	2.9x
High				\$5,249	\$8,364	2.8x	144.2x	74.7x	103.0x	62.6x	41.4x	37.0%	12.2%	20.3%	4.6x
Low				\$57	\$63	1.2x	9.7x	20.6x	27.4x	14.3x	24.4x	21.5%	1.6%	3.8%	2.0x

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 10/31/2019	% 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	\$14.44	78.6%	\$1,887	\$4,429	2.3x	14.8x	56.8x	NM	NM	NM	28.4%	4.6%	16.3%	8.5x
Heritage-Crystal Clean, Inc.	HCCI	\$26.54	91.5%	\$615	\$666	1.5x	17.0x	30.3x	47.4x	38.9x	32.5x	20.5%	5.1%	9.1%	1.3x
CECO Environmental Corp.	CECE	\$6.86	69.7%	\$242	\$309	0.9x	9.9x	15.9x	NM	31.1x	21.2x	32.9%	5.2%	8.4%	2.1x
Cypress Energy Partners, L.P.	CELP	\$9.49	93.6%	\$114	\$218	0.6x	8.3x	10.5x	12.1x	NM	NM	13.1%	5.7%	7.0%	2.6x
Ecology & Environment, Inc.	EEI	\$15.12	97.0%	\$65	\$52	0.6x	41.5x	228.2x	NM	NM	NM	43.4%	(0.1%)	1.0%	(16.1x)
Fuel Tech, Inc.	FTKX	\$1.02	33.3%	\$25	\$14	0.3x	10.4x	32.4x	NM	NM	NM	40.4%	(4.6%)	(2.3%)	12.5x
Quest Resource Holding Corporation	QRHC	\$2.37	76.5%	\$36	\$41	0.4x	30.6x	NM	NM	NM	NM	18.2%	0.6%	2.0%	2.0x
Industrial Services of America, Inc.	ISDA	\$1.10	50.7%	\$9	\$23	0.4x	NM	NM	NM	NM	NM	1.7%	(5.6%)	(2.4%)	(9.8x)
Mean				\$374	\$719	0.9x	18.9x	62.4x	29.7x	35.0x	26.9x	24.8%	1.3%	4.9%	0.4x
Median				\$90	\$135	0.6x	14.8x	31.3x	29.7x	35.0x	26.9x	24.5%	2.6%	4.5%	2.0x
High				\$1,887	\$4,429	2.3x	41.5x	228.2x	47.4x	38.9x	32.5x	43.4%	5.7%	16.3%	12.5x
Low				\$9	\$14	0.3x	8.3x	10.5x	12.1x	31.1x	21.2x	1.7%	-5.6%	-2.4%	(16.1x)

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

❖ Closed Loop Partners Acquires Stake in Balcones Resources

October 8, 2019 – Closed Loop Partners, a New York-based investment firm focused on building the circular economy, announced the acquisition of a stake in Balcones Resources through its private equity fund, the Closed Loop Leadership Fund. Balcones Resources is an environmental services company that has been in business for 25 years, handling commercial and residential recycling, among other services, in Texas and Arkansas. Kerry Getter, chairman and CEO of Balcones, will continue to lead the Company. The partnership builds on Closed Loop Partners' network of strategic stakeholders across the recycling and manufacturing value chain, from supplier relationships with corporate partners, to recycling facilities, to manufacturers across the United States. By better connecting and integrating the system and costs, volatility in the market is reduced.

❖ Australia's Largest Waste Company Acquires SKM Assets

October 10, 2019 – Australia-based Cleanaway Waste Management will pay \$66 million to acquire the assets of Victoria, Australia, recycling operator SKM Corporate. In July, SKM announced its financial collapse and said it could no longer accept recycled materials from 30 area councils, sending more than 180,000 tons of recyclables to landfill. In August, Cleanaway announced it would take control of SKM's debt in order to get the recycler back to capacity and help ease the state of Victoria's recycling crisis. Now, Cleanaway will take over three materials recovery facilities in Victoria.

❖ BASF Invests in Plastics Chemical Recycling Specialist

October 11, 2019 – Global chemical company BASF announced an investment in Oslo, Norway-based Quantafuel, which specializes in pyrolysis of mixed plastic waste and purification of pyrolysis oil. The partnership aims to further develop Quantafuel's technology for chemical recycling, and Quantafuel plans to license the jointly developed technology to other parties. In the fourth quarter of 2019, Quantafuel intends to start a pyrolysis and purification plant in Skive, Denmark, with a capacity of roughly 16,000 tons per year. BASF, which will have access to all pyrolysis oil and purified hydrocarbons from this plant, will use secondary raw materials in its ChemCycling project to develop the market for chemically recycled plastics with selected customers.

❖ Meridian Waste Announces Expansion into North Carolina

October 15, 2019 – Meridian Waste, an integrated, non-hazardous solid waste services Company, has signed a definitive purchase agreement to acquire the equity interests of Shotwell Landfill, Inc.; Shotwell Transfer Station II, Inc.; Capitol Waste Transfer, LLC; Capital Recycling, LLC; and Morrisville Transfer Station LLC (collectively, the Shotwell Companies) throughout the greater Raleigh, North Carolina marketplace. The stock purchase agreement is scheduled to close within 90 days. This will be Meridian Waste's first acquisition within North Carolina and the 11th acquisition since the Company transitioned to private ownership under the ownership of Warren Equity Partners in April 2018.

❖ The Junkluggers Unveil Charlotte, North Carolina Franchise Agreement

October 21, 2019 – Sustainable junk removal service, The Junkluggers, recently finalized an agreement with experienced franchisees Ryan and Sarah Barclay to acquire ownership rights to the Company's current location in Charlotte, North Carolina. The Barclays' career in franchising dates back to 2007 when they opened their first Meineke Care Center franchise. They grew that business to four locations in seven years before selling the locations to pursue other career opportunities. Prior to becoming a franchise owner, Ryan spent 10 years in the financial industry.

❖ RTS Acquires Recyclebank, Enters Gamification Space

October 24, 2019 – Recycle Track Systems (RTS) announced the acquisition of Recyclebank, signaling RTS' continued growth in the waste and recycling industry. This is the Company's first acquisition since launching in 2015 and follows RTS' recent hire of Allyn L. Shaw, a banking and technology executive, as president and CTO. In closing on the sale of Recyclebank, a rewards platform that encourages individuals to recycle through an incentive program, RTS now expands into the gamification space. Users measure their recycling participation via online engagement, earning points by tracking their daily sustainability habits. The more users recycle and learn, the more rewards they earn that can be used to support local businesses, purchase green-friendly products or make donations to user-chosen charities.



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Select Industry News

❖ **Pep Boys to Pay \$3.7M in Hazardous Waste Lawsuit**

October 2, 2019 – Automotive aftermarket retail and service chain Pep Boys has agreed to pay \$3.7 million to resolve allegations that it violated California laws by illegally disposing of automotive fluids, used motor oil and other hazardous wastes into Company bins that were destined for landfill, as well as improperly shredding customer information containing confidential records. These findings were uncovered during an investigation led by the Alameda County District Attorney's Office Environmental Protection Unit from April 2014 to November 2017. In addition to paying the settlement, Pep Boys will undergo a trash audit to ensure its hazardous waste and customer information are properly disposed of going forward.

❖ **PepsiCo Prices \$1B Green Bond to Fund Sustainability Initiatives**

October 9, 2019 – PepsiCo Inc. has priced the Company's first-ever Green Bond. The net proceeds from the \$1 billion Green Bond offering will fund a series of key initiatives to advance PepsiCo's sustainability agenda. The Company also has named PepsiCo leader Simon Lowden as its first chief sustainability officer. In this new role, effective immediately, Lowden will be responsible for leading PepsiCo's Sustainability Office, including the Global Sustainable Plastics team and Global Sustainable Operations team. In addition to leading PepsiCo's Plastics Council and spearheading the Company's Global Sustainable Plastics agenda for the past year, Lowden has held numerous leadership positions across both Foods and Beverages, in North America and globally, throughout his 23-year career with PepsiCo. He most recently served as president of the Global Foods Group, where he oversaw a period of growth.

❖ **Kentucky Plans Cleanup of Millions of Pounds of CRT Glass**

October 14, 2019 – Millions of pounds of leaded cathode ray tubes (CRT) glass in Kentucky will be treated with an additive in an effort to allow for more cost-efficient disposal of problematic material. The additive will be used for a nearly \$3 million glass cleanup left behind from now-closed processor Global Environmental Services (GES). GES closed in late 2015, leaving millions of pounds of CRT glass at its three Kentucky locations: Georgetown, Cynthiana and Winchester. Since then, attention has been turned to planning the cleanup of 26 million pounds stored inside the Cynthiana and Winchester facilities.

❖ **Kroger to Standardize Date Labels to Reduce Food Waste**

October 18, 2019 – The Kroger Co. plans to standardize date labels for "Our Brands" food products, providing simpler, easier-to-understand product quality and safety information as part of its Zero Hunger | Zero Waste social impact commitment. Kroger recognizes food waste often takes place in its customers' kitchens simply because product date labels can be confusing, resulting in safe-to-eat food regularly being tossed out. As Kroger works to reduce food waste throughout its business and communities, it is standardizing and simplifying "Our Brands" products' date labels, providing clearer guidance to its customers.

❖ **Los Angeles to Test Recycled Plastic in Road Construction**

October 22, 2019 – The city of Los Angeles is piloting a project that will use recycled plastic as a key ingredient in city roads. The city is using technology from TechniSoil and will test the method on First Street and Grand Avenue to see if it will work for other roads. According to One Green Planet, tests show that plastic roads are up to seven times stronger than those made with regular asphalt. Environmentalists, however, have expressed concern about the leaching of plastic into waterways once they're made into roads.

❖ **Baltimore Lawmakers Move Forward with Plastic Bag Ban**

October 30, 2019 – A Baltimore City Council committee advanced a plastic bag ban proposal that would also require retailers to charge 5 cents for paper bags. The bill is scheduled for a preliminary vote from the full council on November 4. The ban would not apply to bags used to hold fresh fish, meat or produce, newspapers, dry cleaning or prescription drugs, but it otherwise would apply to all sales at grocery stores, convenience stores, restaurants, gas stations or other sales outlets. Earlier this month, the City Council amended its proposed ban on plastic bags by reducing the threshold to 2.25 mils from 4 mils, but lawmakers have since removed that provision exempting some thicker bags.

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