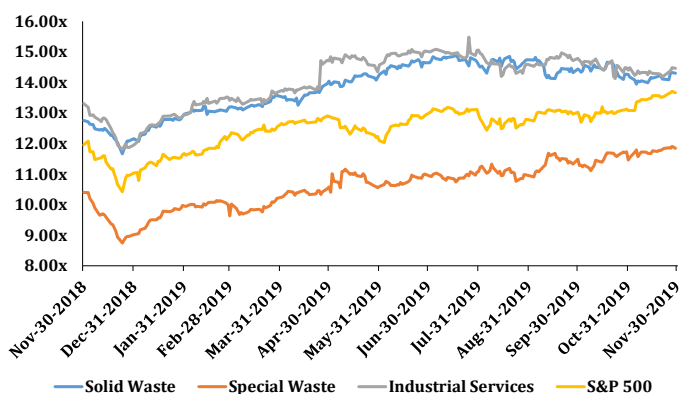




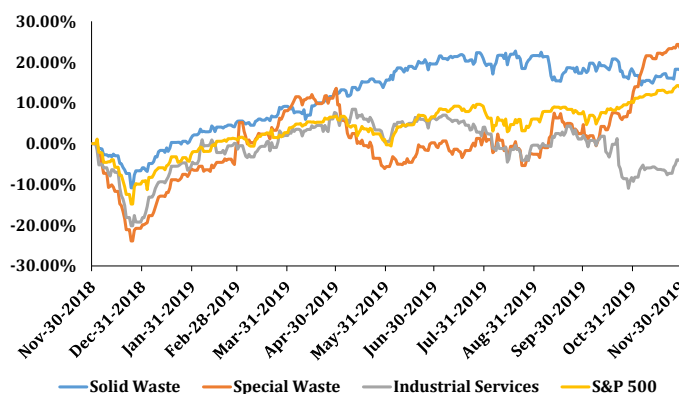
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Environmental Services LTM TEV/EBITDA



Environmental Services LTM Share Price (Shown as % change)



Indices Performance (% change)

	November 2019	LTM		November 2019	LTM
S&P 500	3.4%	13.8%	Solid Waste	0.3%	18.0%
Dow Jones	3.4%	9.8%	Special Waste	9.5%	23.4%
NASDAQ	4.9%	18.2%	Industrial Services	5.5%	(4.3%)

(Source: CapitalIQ)

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

Perma-Fix Environmental Services, Inc.	49.5%	US Ecology, Inc.	(11.6%)
Darling Ingredients Inc.	23.3%	Cypress Energy Partners, L.P.	(8.0%)
Heritage-Crystal Clean, Inc	16.5%	Sharps Compliance Corp.	(7.9%)
CECO Environmental Corp.	14.7%	Fuel Tech, Inc.	(3.4%)
Stericycle, Inc.	9.1%	Ecology & Environment, Inc.	(0.1%)

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Select Public Trading Statistics (as of 11/30/2019)

Solid Waste:

(\$ in millions, except per share data)

Company	Share Price 11/30/2019	% 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	Gross	EBIT	EBITDA		
Waste Management	WM	\$112.91	92.7%	\$47,001	\$58,346	3.8x	14.0x	22.2x	27.6x	16.9x	38.1%	17.0%	27.1%	2.5x
Republic Services	RSI	\$88.65	97.8%	\$28,292	\$37,120	3.6x	12.8x	20.8x	26.4x	17.2x	38.7%	17.1%	28.0%	3.1x
Waste Connections	WCN	\$90.55	92.5%	\$23,876	\$27,834	5.3x	17.4x	32.9x	42.3x	26.9x	40.8%	16.0%	30.2%	2.5x
Advanced Disposal	ADSW	\$32.95	99.8%	\$2,946	\$4,808	3.0x	13.5x	NA	58.3x	NA	5.1%	22.1%	5.2x	
Caella Waste Systems	CWST	\$46.71	97.9%	\$2,232	\$2,836	3.9x	24.1x	85.4x	291.9x	30.3x	31.0%	4.6%	16.3%	5.1x
Mean				\$21,049	\$26,189	3.9x	16.4x	43.9x	97.1x	27.0x	37.2%	12.0%	24.7%	3.7x
Median				\$23,876	\$27,834	3.8x	14.0x	32.9x	35.0x	26.9x	38.4%	16.0%	27.1%	3.1x
High				\$47,001	\$58,346	5.3x	24.1x	85.4x	291.9x	43.5x	40.8%	17.1%	30.2%	5.2x
Low				\$2,232	\$2,836	3.0x	12.8x	20.8x	26.4x	16.9x	31.0%	4.6%	16.3%	2.5x

Source: PitchBook

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 11/30/2019	% 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	Gross	EBIT	EBITDA		
Storicycle	SRCL	\$62.82	96.8%	\$5,725	\$8,840	2.6x	NA	NA	NA	21.2x	36.4%	(11.6%)	(3.6%)	(25.9x)
Clean Harbors	CLH	\$82.65	95.9%	\$4,613	\$6,010	1.8x	11.7x	28.6x	51.7x	21.1x	30.4%	6.2%	15.1%	2.7x
Darling Ingredients	DAR	\$23.80	99.9%	\$3,896	\$5,631	1.7x	10.1x	24.3x	36.6x	19.2x	22.1%	6.9%	16.6%	3.0x
US Ecology	ECOL	\$54.99	78.0%	\$1,214	\$1,566	2.6x	12.0x	18.5x	24.2x	20.8x	29.8%	13.6%	20.9%	2.7x
Sharps Compliance	SMED	\$4.34	82.7%	\$70	\$75	1.6x	27.1x	69.2x	86.8x	NA	30.2%	2.3%	5.8%	1.9x
Perma-Fix Environmental Services	PESI	\$7.10	95.3%	\$86	\$89	1.4x	73.0x	NA	NA	15.7x	19.3%	(0.2%)	1.9%	3.9x
Mean				\$2,601	\$3,702	1.9x	26.8x	35.2x	49.8x	19.6x	28.0%	2.9%	9.5%	-1.9x
Median				\$2,555	\$3,599	1.7x	12.0x	26.4x	44.1x	20.8x	30.0%	4.2%	10.4%	2.7x
High				\$5,725	\$8,840	2.6x	73.0x	69.2x	86.8x	21.2x	36.4%	13.6%	20.9%	3.9x
Low				\$70	\$75	1.4x	10.1x	18.5x	24.2x	15.7x	19.3%	-11.6%	-3.6%	(25.9x)

Source: PitchBook

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 11/30/2019	% 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	Gross	EBIT	EBITDA		
Covanta	CVA	\$14.71	80.0%	\$1,933	\$4,475	2.4x	12.4x	31.7x	367.8x	6.4x	NA	7.5%	19.2%	7.0x
Heritage-Crystal Clean	HCCI	\$30.93	97.9%	\$717	\$765	1.8x	20.8x	38.9x	54.3x	24.0x	18.7%	4.7%	8.8%	1.4x
CECO Environmental	CECE	\$7.87	80.0%	\$277	\$330	1.0x	11.9x	20.0x	28.1x	NA	32.9%	4.8%	8.0%	1.9x
Cypress Energy Partners	CELP	\$8.73	86.1%	\$105	\$226	0.6x	8.0x	9.9x	11.2x	6.5x	13.1%	5.7%	7.1%	2.5x
Ecology and Environment	EEI	\$15.11	97.0%	\$65	\$52	0.6x	NA	NA	NA	23.5x	43.4%	(1.1%)	0.0%	NA
Fuel Tech	FTEK	\$0.98	32.2%	\$24	\$12	0.3x	NA	NA	NA	NA	40.4%	(6.2%)	(3.9%)	7.2x
Quest Resource Holding	QRHC	\$2.58	83.1%	\$40	\$44	0.4x	21.3x	71.1x	NA	NA	18.2%	0.6%	2.0%	2.0x
Mean				\$452	\$843	1.0x	14.9x	34.3x	115.3x	15.1x	27.8%	2.3%	5.9%	3.7x
Median				\$105	\$226	0.6x	12.4x	31.7x	41.2x	15.0x	25.8%	4.7%	7.1%	2.3x
High				\$1,933	\$4,475	2.4x	21.3x	71.1x	367.8x	24.0x	43.4%	7.5%	19.2%	7.2x
Low				\$24	\$12	0.3x	8.0x	9.9x	11.2x	6.4x	13.1%	-6.2%	-3.9%	1.4x

Source: PitchBook

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

❖ US Ecology Completes NRC Group Merger

November 4, 2019 – US Ecology, Inc. has completed its previously announced merger with NRC Group Holdings Corp., a national provider of environmental, compliance and waste management services to the marine and rail transportation, general industrial and energy industries in an all-stock transaction. The combined Company, which will retain the US Ecology name, will begin trading on the Nasdaq Global Select Market under the ticker ECOL. Shares of NRC Group ceased trading at the close of the NYSE American Exchange on October 31. Pursuant to the merger agreement, US Ecology stockholders received a fixed exchange ratio of 1.00 share of new US Ecology for each share held, and NRC Group stockholders received a fixed exchange ratio of 0.196 shares of new US Ecology for each NRC share held. In addition, each share of NRC's 7.00 percent Series A Convertible Cumulative Preferred Stock has been converted into approximately 1.8 common shares of new US Ecology. As a result, US Ecology stockholders own approximately 70 percent of the combined Company and NRC stockholders own approximately 30 percent on a fully diluted basis.

❖ Leyline Announces \$150M Investment from Newlight Partners

November 4, 2019 – Leyline Renewable Capital, a provider of development financing across several renewable energy sectors, announced a \$150 million investment by Newlight Partners LP. This investment will enable Leyline to identify and provide development-stage debt and equity to support renewable energy projects throughout the United States. To date, the Leyline team has developed, financed and/or constructed more than \$2 billion in 170-plus projects totaling 1 gigawatt (GW) electricity, which equates to 140,000 metric tons in greenhouse gas reductions. Leyline Renewable Capital develops, builds and finances renewable energy projects that emphasize efficient project development, reducing risk and increasing investor returns. Founded and managed by industry veterans who have personal stakes in the renewable energy industry, the Leyline team understands the unique opportunities and challenges that face renewable energy developers in the pivotal months and years before construction begins.

❖ Meridian Waste Announces Third Acquisition in Knoxville, Tennessee

November 5, 2019 – Meridian Waste, an integrated, non-hazardous solid waste services company, has acquired the hauling, container and contract assets of Designated Disposal, LLC in Knoxville, Tennessee. This is Meridian Waste's third acquisition since entering the Knoxville marketplace within a year. The Company first purchased Knoxville Landfills, LLC, two active construction and demolition landfills located within the Knoxville city limits, in November 2018, followed five months later (April 2019) with the purchase of WCA-Tennessee's hauling assets. Designated Disposal is the 12th acquisition since the Company transitioned to private stock under the ownership of Warren Equity Partners in April 2018.

❖ GFL Environmental Cancels IPO

November 6, 2019 – Canada-based GFL Environmental will cancel its initial public offering (IPO) after share sales fell below the marketed value range. The existing shareholders determined that the proposed pricing offered in the IPO did not represent fair value for the Company and therefore have elected to revisit the public markets at a later date. GFL had sought to raise as much as \$2.1 billion at the top end of the marketed range of \$20 and \$24 a share. However, the banks running the share sale told investors that they had support for the offering at about \$18 a share. Last month, GFL announced the launch of its IPO of 87,572,500 subordinate voting shares and an amended and restated preliminary base PREP prospectus filed with the securities regulatory authorities in each of the provinces and territories of Canada. GFL had been approved for listing on the New York Stock Exchange under the symbol "GFL" and had applied to list its subordinate voting shares on the Toronto Stock Exchange under the symbol "GFL." The IPO was expected to close the week of November 11.

❖ GFL Announces Acquisition of AGI Group

November 20, 2019 – GFL Environmental Inc. has acquired the AGI group of companies, including Ground Force Environmental, Robert Cooke Trucking and WasteAway Recycling Environmental. AGI is a provider of environmental remediation and waste management services, primarily within the Kitchener-Waterloo area of Ontario, Canada. The acquisition of AGI expands and complements GFL's existing liquid waste and soil remediation capabilities in Southwestern Ontario. GFL Environmental Inc. is a North American provider of diversified environmental solutions that offers services in solid waste management, liquid waste management and infrastructure development. Services include collection, hauling, sorting, transfer and disposal of non-hazardous solid waste (including recyclable materials and organics); identification, collection, transport, processing, recycling and disposal of a broad range of hazardous and non-hazardous liquid wastes (plus sale of recycled liquid wastes and other liquid products); and infrastructure services, including site excavation, demolition, shoring and foundations, civil projects, soil retention and remediation and more.



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Select Industry News

❖ EPA Proposes to Roll Back 2015 Coal Ash Regulations

November 6, 2019 – The U.S. Environmental Protection Agency (EPA) will amend 2015 Obama-era regulations for the disposal of coal combustion residuals (CCR) from electric utilities. The agency also plans to revise a portion of the regulations (known as effluent guidelines) affecting wastewater management from steam electric power plants. The 2015 CCR rule required plants that burn coal to dispose of the fine powder and sludge using wastewater treatment technology in order to prevent about 1.4 billion pounds of coal ash from leaking into waterways. Under Obama-era requirements, coal ash waste ponds that were seeping contaminants into groundwater would have had to close by April 2019. Under the latest revisions, utilities now have until August 31, 2020, to retrofit or close unlined ash ponds.

❖ Baltimore City Council Approves Bill to Ban Plastic Bags

November 8, 2019 – Baltimore's City Council has approved a ban on retailers' use of plastic bags and has set a 5-cent fee on paper bags. The legislation applies to grocery stores, convenience stores, pharmacies, restaurants and gas stations, although some types of products would be exempt, such as fresh fish, meat or produce, newspapers, dry cleaning and prescription drugs. Retailers would keep 4 cents from the fee for each alternative bag they supply, such as a paper bag, with a penny going to city coffers. The bill bans plastic bags with a thickness of less than four-thousandths of an inch and passed on an 8-5 vote.

❖ FIJI Water Unveils Initiative to Transform Use of Plastic

November 14, 2019 – FIJI Water announced a multifaceted initiative to transform its use of plastic while promoting a circular economy. The plan is highlighted by an aggressive timetable to make all plastic bottles from 100 percent recycled plastic (rPET) by 2025, with 20 percent rPET in bottles next year. The transition to 100 percent rPET is the cornerstone of the comprehensive approach to sustainability. As one of the world's leading source waters, the Company believes the best things come from nature and are dedicated to taking steps to protect the environment.

❖ U.S. Reps. Introduce RECOVER Act to Invest in Recycling

November 19, 2019 – U.S. Reps. Tony Cárdenas (CA-29) and Larry Bucshon (IN-8) introduced the Realizing the Economic Opportunities and Value of Expanding Recycling (RECOVER) Act on America Recycles Day, November 15. Through a coalition of partners, led by the Plastics Industry Association (PLASTICS), the bill, H.R. 5115, would allocate \$500 million in matching federal grants to states and municipalities to invest in improving their recycling programs and infrastructure, including upgrading plants that receive and process recyclables and enhance the recovery and collection of materials. H.R. 5115 aims to establish a recycling infrastructure program within the U.S. Environmental Protection Agency (EPA), put federal funding toward building new recycling technology and programs to help increase collection rates, improve the sortation and separation of materials, enhance the performance of curbside collection and more.

❖ Dell Utilizes VMware's Blockchain Tech to Track Recycled Packaging

November 25, 2019 – Software provider VMware announced a partnership with Dell Technologies to track Dell's recycled packaging items via blockchain technology. Under the partnership, VMware is providing its blockchain solutions to track and trace recycled plastic, in which end users can view the origin of the recycled material—from what kind of plastic it was and from where it was recovered. Dell has an existing supply chain for recycled material that comprises aggregators who collect the plastic, recyclers who process the waste and the manufacturer who takes that recycled material to make packaging for Dell laptops. VMware's blockchain solution will support each transaction between the aggregator, recycler and manufacturer.

❖ Trump DOE Launches Plastics Innovation Challenge

November 25, 2019 – U.S. Secretary of Energy Rick Perry announced the launch of the Plastics Innovation Challenge, a comprehensive U.S. Department of Energy (DOE) program to accelerate innovations in energy-efficient plastics recycling technologies. The Office of Energy Efficiency and Renewable Energy is leading the Plastics Innovation Challenge in collaboration with the Office of Science and other DOE programs. Over the coming weeks, DOE will release requests for information and host workshops to engage with stakeholders about the current barriers to plastic recycling technologies and shape the work that will bring those technologies to market. DOE also plans to announce funding opportunities and strategic partnerships to spur innovative solutions to plastics recycling.

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