Environmental Services

Spotlight:

August 2012

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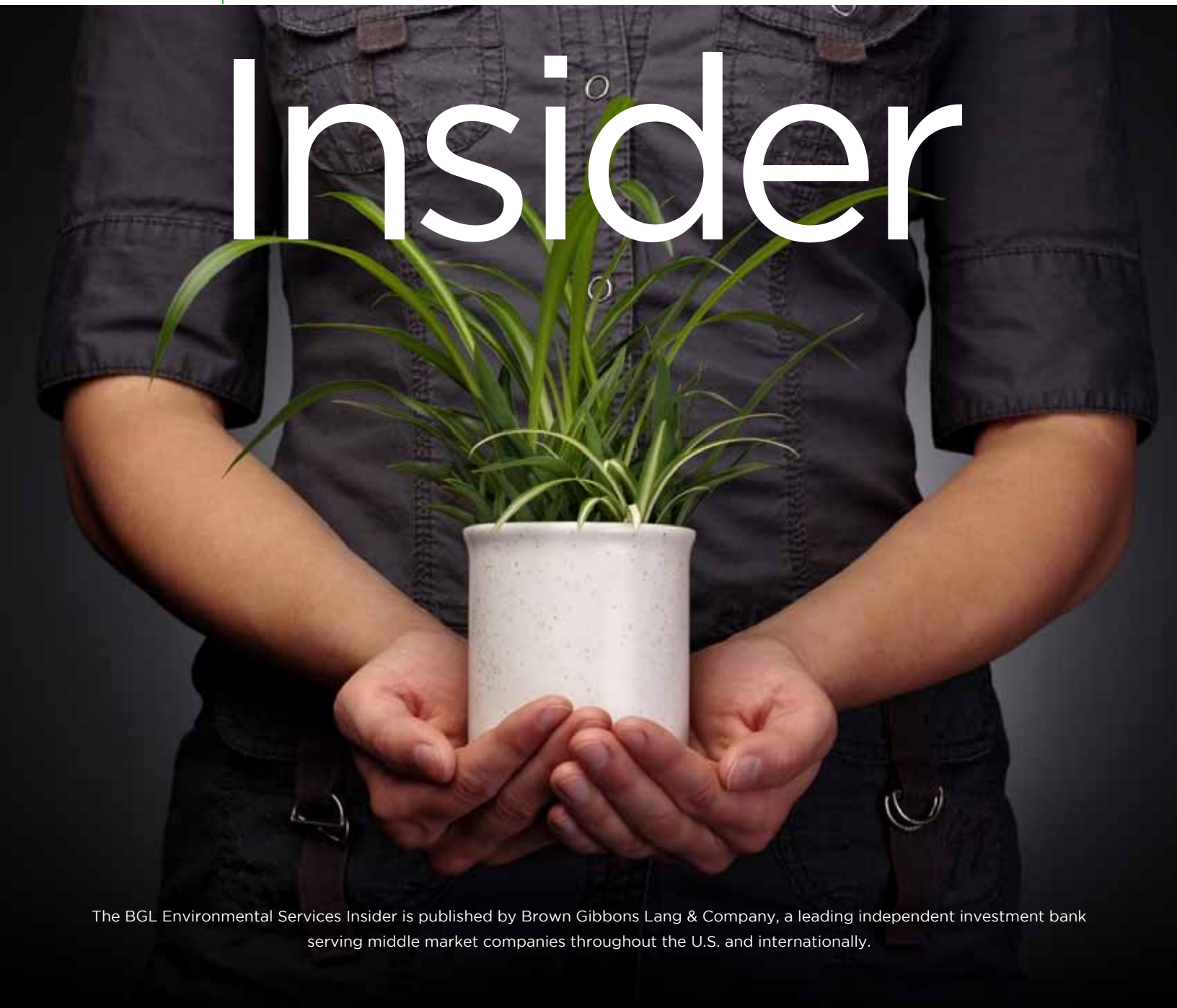

The BGL Environmental Services Insider is published by Brown Gibbons Lang & Company, a leading independent investment bank serving middle market companies throughout the U.S. and internationally.

The Environmental Services Insider discusses valuation metrics, recent mergers and acquisitions and capital markets activity, and select sector commentary for BGL's core focus areas within the environmental services industry:

- *Solid Waste (Non-Hazardous)*
- *Special Waste (Hazardous as well as other non-traditional waste streams)*
- *Environmental Consulting, Engineering & Construction (EE&C)*
- *Metals Recycling & E-Waste*
- *Reclamation & Remediation*
- *Waste-to-Energy (WtE)*
- *Cleantech*

Feature spotlights present our views and views of the market on certain sectors gathered through primary research and industry-focused transaction expertise.

M&A Activity

- Middle market M&A volume in H1 '12, based on number of announced transactions with deal values below $500 million, was down a modest 2.7 percent from the year-ago period, with deal flow slowing in Q2 '12. The tepid economy is keeping some sellers on the sidelines. Valuations remain healthy, with reported median EBITDA multiples for strategic and financial buyers of 7.7x and 7.5x, respectively, in July, according to Standard & Poors LCD (Page 4).
- Environmental services M&A activity was up more than 40 percent in Q2 '12, based on number of transactions, attributed to a sharp increase in deal flow in Special Waste and Environmental Consulting, Engineering & Construction (EE&C) (Page 5). The sale of Veolia's U.S. solid waste business is moving forward with private equity leading the charge. In July, Highstar Capital emerged as the buyer and will integrate the business with its existing waste holdings, Advanced Disposal Services and Interstate Waste Services, to form the largest privately-held hauler in the country. The $1.9 billion transaction represents a healthy valuation at 7.5x EBITDA.
- Middle market lenders are hungry. Thomson Reuters LPC, in its Q2 '12 Middle Market survey of lenders, reported that 90 percent of surveyed banks and 70 percent of non-banks fell short of lending goals in the quarter, following on an already slow Q1 '12. The need for loan growth has fueled a competitive financing market, with acquisition financing multiples increasing to 3.9x senior leverage and 4.4x total leverage through July, reported S&P LCD (Page 4).
- Environmental services continues to attract capital. Lenders are drawn to the recurring revenue models and high free cash flow profiles of many businesses. Growing volumes and specialized waste streams support themes of waste recovery and present unique opportunities to exploit technology and capability expansion for growth (Page 10).

Industry Valuations

- The public equity markets remain volatile and reactive to uncertainty in the global economy, notably slowing growth in China, and the eurozone crisis. Environmental stocks came under pressure in a volatile Q2 '12 but are rebounding in line with the broader market, with the S&P 500 up 11 percent year-to-date* and 18.8 percent year-over-year (Page 27). All BGL public composite indices are down year-to-date with the exception of Environmental Consulting, Engineering & Construction, which is up 16.5 percent, outperforming the market over the period. LTM EBITDA valuations (Page 26) are in line with Q2 '12 levels (Page 25).

**As of August 17, 2012.*

Operating Highlights

- Public solid waste companies reported headwinds of continued slow economic growth, a competitive volume and pricing environment, and declines in recycled commodity prices in the quarter, which put pressure on margins.
- In special waste, industrial services is seeing the positive impact of improving demand in major end markets (energy, chemicals cited) and will benefit long-term from increased environmental regulation and reshoring of manufacturing activities. Companies with greater exposure to oil and gas field services felt the impact of a lower energy price environment in the quarter. Used oil re-refiners saw spreads tighten with lower base oil prices. Base oil supply is ramping up with several capacity expansions coming online in 2013 which could depress lube oil prices, putting downward pressure on re-refining spreads and as competition for used oil feedstock escalates.
- Private sector and international work are contributing to solid growth for EE&C companies with environmental consulting and environmental management services cited as bright spots. Public sector growth remains muted amid budget challenges.
- Margins of metal recyclers are under pressure, with participants citing headwinds of slow manufacturing activity in most major scrap consuming markets and a sharp decline in global scrap prices. Competitive dynamics surrounding access to feedstock are expected to continue, putting downward pressure on margins.

For more information on how BGL's Global Environmental Services Practice can assist your company, please contact:

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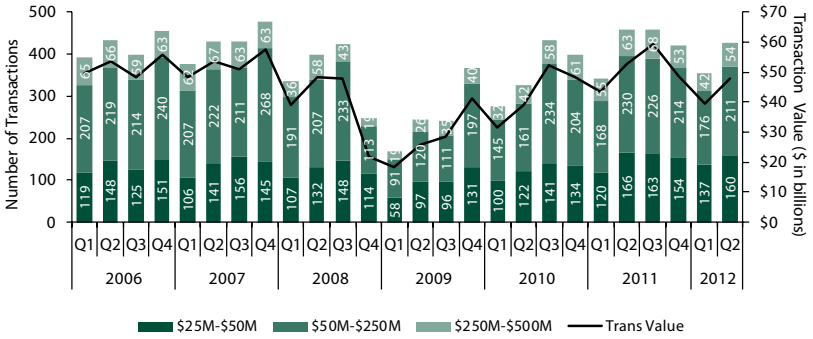
Overall M&A Activity

Mergers & Acquisitions Activity

Middle Market M&A Activity

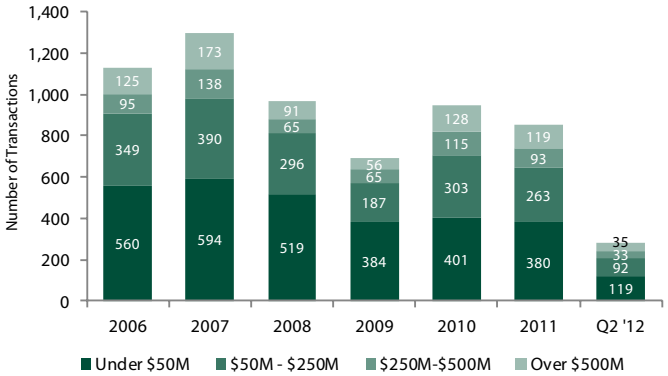


Based on announced deals, where the primary location of the target is in the United States.
Middle market enterprise values between $25 million and $500 million.

Source: S&P Capital IQ.

Private Equity Transaction Activity

Transaction Count by Deal Size

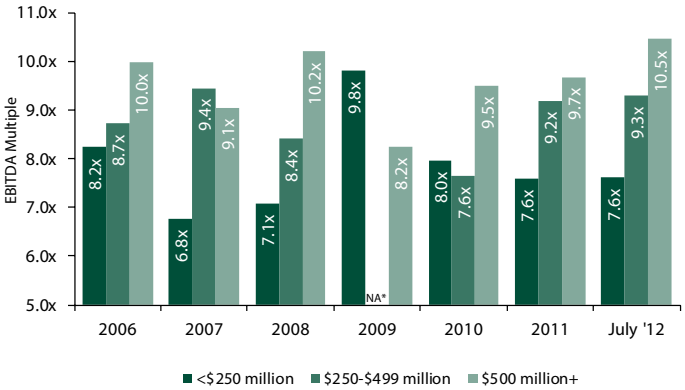


Counts only include deals with disclosed transaction values.

Source: PitchBook.

Trends in Valuation

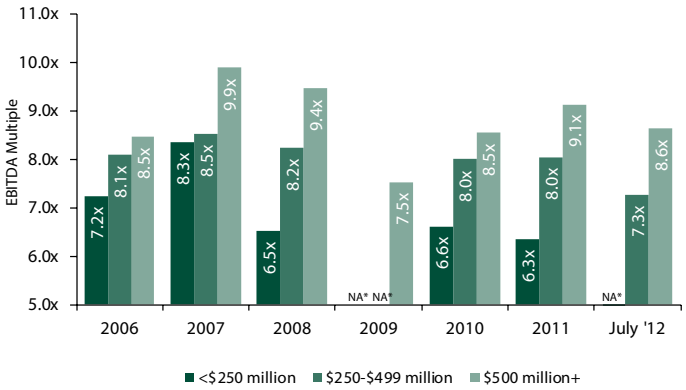
Transactions with Strategic Buyers



**NOTE: Data not reported due to limited number of observations for period.*

Source: Standard & Poors LCD.

Transactions with Financial Buyers

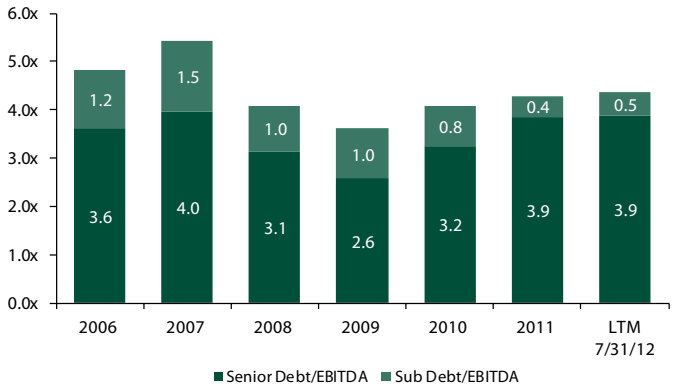


**NOTE: Data not reported due to limited number of observations for period.*

Source: Standard & Poors LCD.

Acquisition Financing Trends

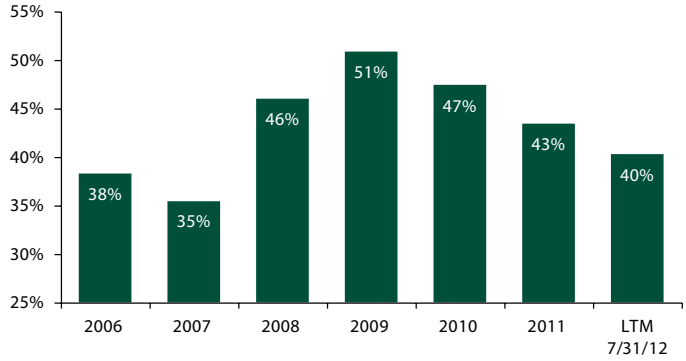
Leverage



Middle market enterprise values between $25 million and $500 million.

Source: Standard & Poors LCD.

Equity Contribution



Middle market enterprise values between $25 million and $500 million.

Source: Standard & Poors LCD.

Notable M&A Activity in Solid Waste

SOLID WASTE

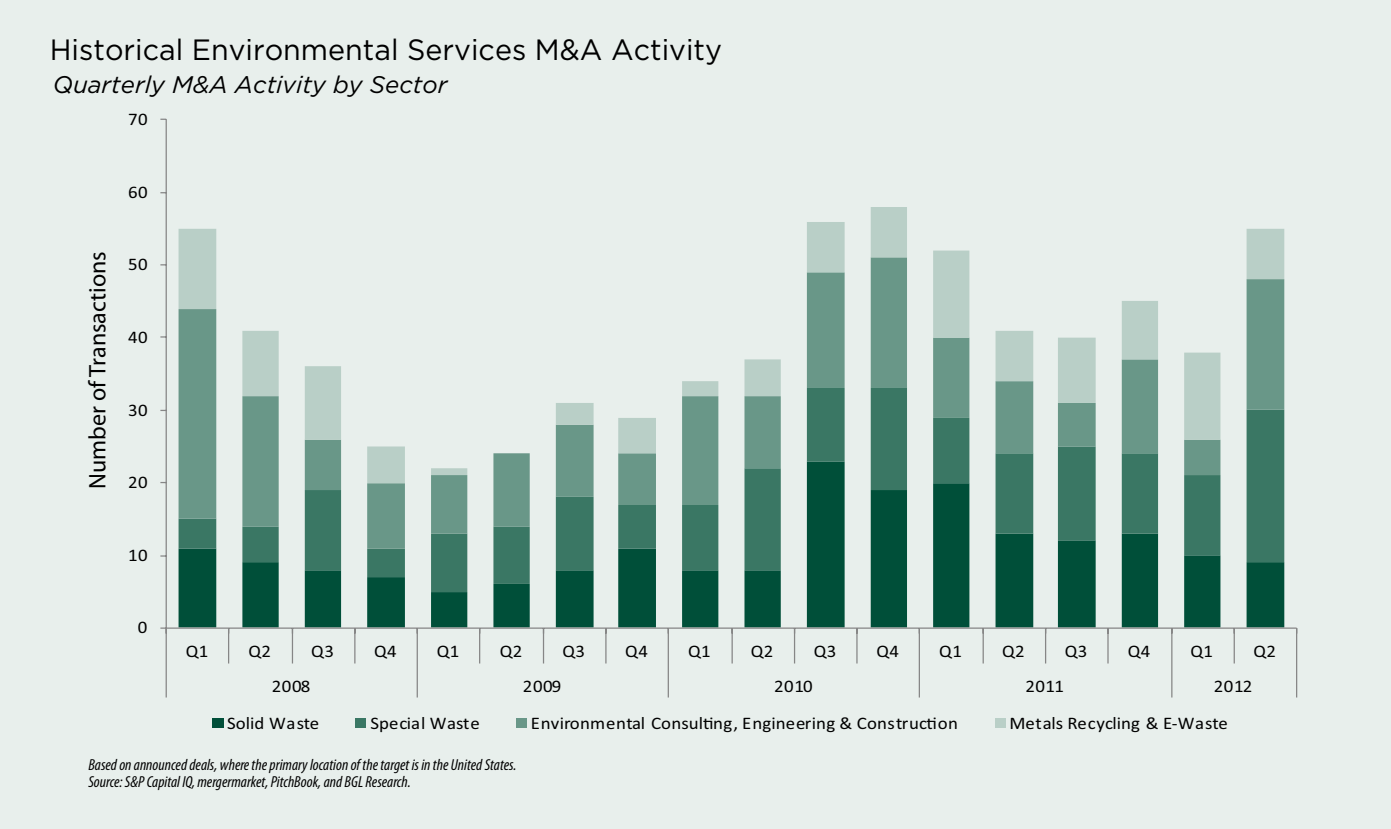
In July 2012, private equity firm **Highstar Capital** emerged as the buyer for **Veolia's U.S. solid waste business**. Highstar portfolio company Star Atlantic Waste Holdings LP announced it will acquire the business in a transaction valued at $1.9 billion. The buy builds on Highstar's existing solid waste holdings, Advanced Disposal Services, Inc., and Interstate Waste Services, both acquired in 2006, with the combined platform creating the largest privately held waste hauler in the U.S. The $1.9 billion transaction valued the business at 2.3x Revenue and 7.5x EBITDA.

Advanced Disposal Services and **Interstate Waste Services** both completed tuck-in acquisitions in Q2 '12:

Advanced Disposal Services (ADS) acquired two solid waste companies: Denver, North Carolina-based **Carolina Systems Inc.**, a provider of residential waste services which operates as **Cleanwell Sanitation** and the commercial roll-off solid waste business of Charlotte, North Carolina-based **Doggett Concrete Inc.**, which operates as **Dumpster Services**. The buys will expand ADS' commercial and residential business in the Charlotte, North Carolina region with the addition of 2,200 customers, primarily in the Lake Norman area. Cleanwell Sanitation began providing residential waste services in 1998, and Dumpster Services has served commercial roll-off customers since 2008. Also in June, ADS completed the purchase of Toccoa, Georgia-based waste hauler **At Your Disposal Inc.**, adding 326 customers and expanding the company's footprint in the north Georgia market. At Your Disposal began providing commercial front-load waste service in 2005.

In May 2012, **Interstate Waste Services** acquired **Evergreen Waste Solutions, Inc.** a residential hauling company based in Norristown, Pennsylvania, adding 7,000 customers.

Waste Connections Inc. (NYSE: WCN) announced in July the acquisition of St. Paul, Minnesota-based **SKB Environmental Inc.**, provider of solid and industrial waste transfer and disposal services primarily in Minnesota's Twin Cities region. The company also operates two construction and demolition debris landfills. SKB has annual revenue of approximately $30 million. Waste Connections expects to leverage the SKB platform with additional acquisitions in this new market, CEO Ronald J. Mittelstaedt said in a company statement.



SOURCE: Capital IQ, PitchBook, Waste & Recycling News, Equity Research; and Company Filings.

Notable M&A Activity in Special Waste

SOLID WASTE (continued)

In July 2012, **Waste Management, Inc.** (WM) completed the acquisition of **Affordable Disposal & Recycling, LLC**, a provider of disposal and recycling services based in St. Joseph, Minnesota. WM will acquire 150 commercial customers and nearly 2,000 residential customers.

In June 2012, **Area Disposal Service Inc.** announced it was acquiring **Armstrong Disposal Service Inc.** Founded in 1976 and based in Oakford, Illinois, Armstrong Disposal provides residential, commercial, roll-off, and recycling services, serving customers in the Cass, Logan, Menard, Mason, and Sangamon counties. The buy will expand the company's service area in central Illinois. Armstrong Disposal will be integrated with Area's Buster Sanitation operation located in Jacksonville, Illinois. Area Disposal is part of a group of companies that includes Peoria Disposal Co.

SPECIAL WASTE

In June 2012, private equity firm **Roark Capital Group** announced the acquisition of **QualaWash Holdings, LLC**. Headquartered in Tampa, Florida, QualaWash is a leading independent provider of industrial cleaning, maintenance, and repair services to the tank trailer and transportation container industry in North America. The company operates a coast to coast network of waste water treatment and cleaning facilities, comprised of 52 locations which provide tank trailer, intermediate bulk container, and ISO container cleaning capabilities. The transaction represents an exit for **KLH Capital, L.P.** which acquired the company in 2009.

In June 2012, **EQ - The Environmental Quality Company** acquired **Vac-All Service, Inc.** Founded in 1970 and based in Taylor, Michigan, Vac-All provides industrial cleaning, emergency response, and environmental cleanup services. The company's services include vacuuming, water blasting, transportation, sewer and storm drain cleaning and maintenance, road sweeping, and dust cleanup. EQ received approximately $195 million in development capital from private equity firm Kinderhook Industries in November 2008. Vac-All is EQ's third acquisition, following the purchase of Envirite, Inc. and certain assets from A Clean Environment Company, both in 2010.

In June 2012, **Darling International Inc.** (NYSE: DAR) completed the acquisition of **RVO BioPur, LLC**. Based in Waterbury, Connecticut, RVO BioPur provides used cooking oil collection and grease trap services to restaurants and foodservice establishments in Connecticut, Massachusetts, and northern New York City. The buy will expand Darling's existing East Coast operations and expands its reach into the New England area.

In May 2012, **US Ecology, Inc.** (NasdaqGS: ECOL) announced the acquisition of **Dynecol, Inc.**, a subsidiary of PVS Chemicals, Inc. for $11.25 million. Dynecol owns and operates a permitted treatment, storage, and disposal facility located in Detroit, Michigan. The facility, which has been in operation since 1974, principally provides hazardous liquid waste services to the Midwest United States and Canadian industrial markets. The facility generated revenue ranging from approximately $9 to $14 million annually over the last several years and has approximately 35 employees, US Ecology reported in a press release announcing the transaction.

In April 2012, **Lakeside Energy** acquired **InEnTec Chemical, LLC**, a developer of proprietary technology to produce renewable fuels and other valuable products from household, industrial, and chemical wastes. The company offers waste to energy plasma gasification systems. Lakeside Energy is backed by private equity firm **American Securities**.

GlyEco, Inc. (OTCBB: GLYE) completed two acquisitions in the quarter: the purchase of certain assets of **Renew Resources, LLC** in May and **Evergreen Recycling Co., Inc.** in April. GlyEco purchased assets of the antifreeze recycling business from Renew Resources. Rock Hill, South Carolina-based Renew Resources provides recycling services for multiple types of industrial waste, including antifreeze, used oil filters, e-scrap, light bulbs, plastics, and batteries. The company also provides a unique line of equipment used in changing automotive antifreeze. The antifreeze business services approximately 200 customers in the greater Charlotte, South Carolina area. Founded in 1999 and based in Indianapolis, Indiana, Evergreen is a leading glycol recycling company primarily servicing the waste automotive antifreeze industry.

GlyEco has announced six acquisitions in 2012. The company is expanding operations by seeking strategic buys of existing, profitable glycol recycling businesses. The recyclers primarily

SOURCE: Capital IQ, PitchBook, Waste & Recycling News, Equity Research; and Company Filings.

SPECIAL WASTE (continued)

process waste antifreeze. Approximately 700 million gallons of hazardous waste glycol are created each year, according to a GlyEco press release, and although most of this liquid waste could be recycled into useable products, over 85 percent is improperly disposed of in surface waters.

In May 2012, **Universal Lubricants, LLC** announced it acquired **Midstate Environmental Services, LP.**, a provider of used oil recycling, oil filter recycling, parts cleaner leasing, and other environmental services in Texas. Founded in 2003 and based in Robstown, Texas, Midstate is recognized as Texas' largest privately owned used oil collector. The company processes used oil in Texas and neighboring areas of western Louisiana and eastern New Mexico. With the addition of Midstate, Universal will grow to about 450 employees and have more than 35 facilities in 16 states. The buy will expand Universal's environmental services footprint and secure additional gallons for its captive used oil collections network. Universal has announced plans for a second used oil rerefinery with a projected annual processing capacity of 25 million gallons to be operational by late 2013 to early 2014. Midstate is Universal's fourth strategic acquisition, CEO John Wesley said, calling Universal an industry consolidator. "Our footprint is already strong in the Midwest, and I can see us expanding east beyond the Mississippi," said Wesley in an interview with *Lube Report*. Universal Lubricants received expansion capital from private equity backer **Pegasus Capital Advisors** in 2007.

ENVIRONMENTAL CONSULTING, ENGINEERING & CONSTRUCTION

In July 2012, **Chicago Bridge & Iron Company N.V.** (NYSE: CBI) announced it was acquiring **Shaw Group Inc.** (NYSE: SHAW) in a transaction valued at approximately $2.0 billion. The transformative acquisition will diversify CBI into new end-markets: power (nuclear, gas, coal); plant services (for power and process facilities); and environmental and infrastructure (predominantly a government funded business). Approximately 95 percent of CBI's revenue is currently derived from oil and gas markets. The buy will also enhance CBI's fabrication footprint. Shaw's fabrication and manufacturing business provides piping systems for process and power facilities. Transaction Multiples: .3x LTM Revenue and 7.0x 2012E EBITDA.

In July 2012, **Cardno Limited** (ASX: CDD) announced the acquisitions of **EM-Assist, Inc.** and **Marshall Miller & Associates** (MMA), for a combined purchase price of $45.25 million. Headquartered near Sacramento, California, EM-Assist specializes in environmental management and compliance services, encompassing air quality, hazardous materials, hazardous waste, and environmental restoration. The company also markets a portfolio of software products which are used by clients to manage environmental information associated with compliance with federal, state, and local environmental laws and regulations. EM Assist's client base includes the U.S. Air Force, U.S. Marine Corps and the U.S. Army Corps of Engineers. The buy is expected to further expand Cardno's expertise in environmental management in the defense and private sector markets. MMA specializes in mining engineering, mine reserve evaluation, oil and gas exploration, feasibility studies and due diligence services for mining and resource projects for clients including BHP Billiton, Cliffs Natural Resources, Peabody Energy, ArcelorMittal and the U.S. Department of Energy.

In July 2012, **Eurofins Scientific SA** (ENXTPA: ERF) announced the acquisition of **MWH Laboratories, Inc.** (MWH). Founded in 1969 and based in Monrovia, California, MWH operates the largest, full-service, single-site water testing laboratory in the United States offering a broad range of water and wastewater tests analyzing for disinfection byproducts, microbiology, organics, inorganics, asbestos, and radioactivity. The company serves a global base of more than 500 clients which include local, state and federal municipal agencies; private water utilities; engineering firms; and Fortune 500 companies. The company employs more than 100 people and generates annual revenue in excess of $15 million. The buy is expected to significantly enhance Eurofins water testing footprint and capabilities.

In April 2012, private equity firm **CIVC Partners, L.P.** announced it had acquired **EN Engineering L.L.C.** (ENE). Founded in 2002 and based in Woodridge, Illinois, ENE is a leading energy focused professional services firm providing engineering, consulting, automation and integrity management services to the natural gas, liquid petroleum, and related industrial markets. The Company is staffed with more than 350 full-time employees from offices in Illinois, Maryland (Baltimore), Colorado (Denver), and Kansas. Madison Capital Funding LLC provided senior

SOURCE: Capital IQ, PitchBook, Waste & Recycling News, Equity Research; and Company Filings.

Notable M&A Activity in Metals Recycling & E-Waste

ENVIRONMENTAL CONSULTING, ENGINEERING & CONSTRUCTION (continued)

debt financing for the transaction. Hartford Investment Management Company and Brookside Mezzanine Partners provided mezzanine financing.

The transaction represents an exit for **Clearview Capital**, which acquired the company in 2009. The sponsor netted a 4.5-times gross return on capital from its investment. Clearview completed a number of growth initiatives during its three-year ownership, helping the company achieve organic revenue growth of 50 percent. The sponsor helped ENE expand outside of its core Midwest market. ENE also completed the add-on acquisition of Wheatland Systems Inc. in 2010.
CIVC plans to pursue add-on acquisitions to expand ENE's service offerings and geographic footprint.

In June 2012, **Tetra Tech, Inc.** (NasdaqGS: TTEK) announced it acquired oil and gas pipeline planning and engineering firm **Rooney Engineering, Inc.** (REI). Founded in 1980 and based in Centennial, Colorado, REI provides planning, engineering, and construction management services for crude oil and natural gas production, midstream and mainline pipeline/facilities, and transmission projects. The company also offers specialized services for refined products pipelines, terminals, and natural gas storage. REI has worked on projects across the United States, including in Alaska and the Gulf Coast, but many of the firm's current clients are strategically located in the Bakken and Niobrara shale oil regions. REI operates offices in Colorada, Montana, and Wyoming and generates annual revenue of approximately $30 million.

In April 2012, **Total Environmental Concepts, Inc.** acquired **Crawford Environmental Services, Inc.** Based in Roanoke, Virginia, Crawford provides environmental site assessments, remediation, and compliance management for commercial and industrial sites throughout the Mid-Atlantic. The company has offices in Roanoke, Virginia; Charlotte, North Carolina; and Columbia, South Carolina.

In April 2012, **Capital Partners, Inc.** announced it was acquiring **The S.M. Stoller Corporation**, a provider of technical consulting services to the commercial nuclear power industry. Founded in 1959 and based in Broomfield Colorado, Stoller provides environmental remediation, waste management, infrastructure, ecological, and health and safety support to the federal government, municipal agencies, and private-sector companies. The company's service areas include: soil and groundwater assessment, characterization, and remediation; radioactive and hazardous waste management; facility management, support and decommissioning; long-term environmental stewardship; regulatory compliance; ecological monitoring; and program management. Stoller employs more than 900 from offices in 12 states.

METALS RECYCLING AND E-WASTE

In April 2012, **Upstate Shredding, LLC** acquired salvage yard **Auto City of Buffalo Inc.**, expanding its footprint in western New York. Auto City was founded in 1996 and is based in Owego, New York. The company was renamed Ben Weitsman & Son of Buffalo, LLC and operates as a subsidiary of Upstate Shredding, LLC. It will serve as a feeder yard for Ben Weitsman's megashredder and metals processing plant at its headquarters in Oswego.

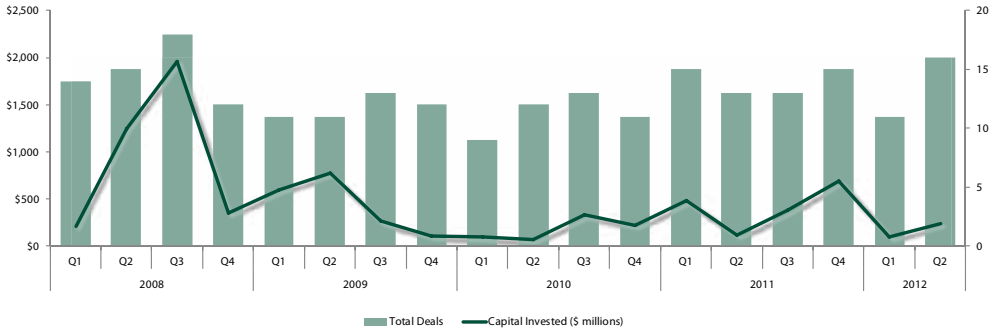
In May 2012, **eRecyclingCorps** (eRC) announced the acquisition of **Flipswap Inc.**, a manager of global consumer electronics buyback programs. With the acquisition, eRC expands operations to include five of the eight largest wireless carriers in North America and more than 15,000 retail locations, increasing eRC's projected annualized trade-in volume to more than six million wireless devices by year end. With its recent purchases of Zone Impact, a leading European provider of wireless device trade-in solutions, and Flipswap, Inc., eRC now operates in ten countries worldwide.

SOURCE: Capital IQ, PitchBook, Waste & Recycling News, Equity Research; and Company Filings.

Capital Raising

Capital raising activity in environmental services, based on number of transactions, is on pace with the year-ago period, with 27 deals reported during H1 '12, according to PitchBook, which compares to 28 transactions in H1 '11. Fund flows are down, with $336 million in capital invested in H1 '12 versus $598 million raised during H1 '11. Funds raised in Q2 '12 more than doubled from the previous quarter.

Capital Raising in Environmental Services



(1) Non-control investments involving equity (later stage growth and expansion capital (private equity) and venture capital) and junior debt capital to fund growth.
(2) Environmental Services defined as BGL Sectors: Solid Waste; Special Waste; Environmental Consulting, Engineering & Construction; and Metals Recycling and E-Waste.

The industry is seeing a healthy level of investor interest across a broad range of sub sectors, with notable first half activity in water and wastewater treatment and technology for waste recovery.

Summary of Selected Financing Transactions

RECENT FINANCING	COMPANY NAME	COMPANY DESCRIPTION	INVESTORS	FINANCING TYPE	FINANCING SIZE	CAPITAL RAISING HISTORY		
						ROUNDS OF FINANCING	INITIAL FUNDING DATE	TOTAL CAPITAL RAISED
Jun-12	Solum	Provider of measurement tools for soil nutrient needs.	Andreessen Horowitz, Khosla Ventures	Later Stage VC	$17.0	3	Feb-10	$23.6
Jun-12	Skyonic	Environmental technology company that converts carbon dioxide emissions to solids for long-term storage.	BP, Conocophillips, Northwater Capital, PVS Chemicals, Zachry	Later Stage VC	$9.0	5	Feb-10	$37.0
Jun-12	Genivar	Consulting in the areas of planning, engineering, architecture, environmental services, and project management.	Caisse de Depot et Placement du Quebec	PIPE	$95.8	2	Dec-11	$251.8
May-12	Ostara Nutrient Recovery Technologies	Developer of wastewater treatment systems. The company provides nutrient recovery and phosphorus management software.	FourWinds Capital, Frog Capital, VantagePoint Capital	Later Stage VC	$14.5	4	Jun-08	$30.6
May-12	Desalitech	Water treatment for the applications of sea water desalination, brackish water desalination, industrial water upgrade and wells water purification.	Liberation Capital	Early Stage VC	$6.3	2	Jan-08	$9.3
May-12	ecoATM	Developer of automated kiosks for recycling cell phones and other electronics.	AKS Capital, Claremont Creek, Coinstar, Moore Venture, Precision Parts Intl, TAO Venture Capital	Early Stage VC	$17.0	5	Feb-10	$32.4
Apr-12	NanoH2O	Reverse osmosis membranes for seawater and brackish water desalination, as well as wastewater reclamation.	BASF, Capital Dynamics, Keystone Ventures, Khosla Ventures, Oak Investment Partners, PCG Clean Energy, Total Energy Ventures	Later Stage VC	$60.5	6	Apr-07	$95.9
Apr-12	Recycled Energy Development	Operator of industrial power projects that harness waste energy to reduce GHG emissions and cut power costs for host companies.	Denham Capital Management	PE Growth/Expansion	$10.0	2	Nov-07	$1,510.0
Feb-12	GSE Investment	Maintenance of water, wastewater, and solid waste treatment plants and solid waste-to-energy and tap water treatment.	Hudson Clean Energy Partners	PE Growth/Expansion	$55.0	1	-	$55.0
Feb-12	Buckhorn Energy Services	Oilfield waste disposal and oil-focused drilling and production.	OFS Energy Fund	PE Growth/Expansion	$15.5	1	-	$15.5
Jan-12	HydroNovation	Water conditioning systems for residential and food service industry applications.	3M New Ventures	Later Stage VC	$3.1	3	Jun-09	$4.3
Dec-11	eRecyclingCorps	Recycling services for wireless devices.	Kleiner Perkins Caufield & Byers	Early Stage VC	$35.0	3	Feb-09	$36.3
Dec-11	Seven Seas Water	Operator of water and wastewater treatment plants in the United States.	Advent-Morro Equity Partners	PE Growth/Expansion	$0.2	2	Feb-08	$20.2
Nov-11	Fulcrum BioEnergy	Operator of facilities for converting municipal solid waste and other waste products to renewable transportation fuels.	Waste Management	Debt - General	$70.0	5	Dec-07	$159.0
Nov-11	Abengoa	Solutions for the energy and environment sector, including solar energy, biofuels, industrial waste recycling, water management, and engineering	First Reserve	PIPE	$407.6	1	-	$407.6
Nov-11	212 Resources	Recovers clean water and hydrocarbons for reuse or discharge in the oil and gas production fields.	Element Partners	PE Growth/Expansion	nd	10	Aug-05	$268.4
Nov-11	Noesis Energy	Energy management solutions.	Austin Ventures	Early Stage VC	$6.5	3	Feb-11	$13.6
Oct-11	BCR Environmental	Water and wastewater treatment solutions, including design/build, maintenance and support, testing, inspection and permitting services.	True North Venture Partners, XPV Capital	Early Stage VC	$10.0	1	-	$10.0
Oct-11	RecycleBank	Provider of reward programs that motivate people to recycle. The company is involved in recycling paper, metal, plastic, and glass materials.	Waste Management	Later Stage VC	nd	4	Oct-07	$92.1
Sep-11	RedZone Robotics	Wastewater inspection technologies and services for municipalities, contractors, and engineering companies.	ABS Capital Partners	Later Stage VC	$25.0	3	Jan-04	$34.1
Aug-11	Pinnergy	Driling and oil and gas waste disposal services to the energy industry in Texas and Northern Louisiana.	The Stephens Group	PE Growth/Expansion	nd	1	-	nd
Aug-11	FilterBoxx	Packaged potable water and wastewater treatment systems.	EnerTech Capital Partners, XPV Capital	Early Stage VC	$9.0	2	May-10	$9.0
Aug-11	Red Bag Solutions	Machines for the disposal of medical waste.	Fulcrum Equity Partners	PE Growth/Expansion	$3.0	1	-	$3.0
Aug-11	United Envirotech	Membrane-based water and wastewater treatment and recycling solutions in China's chemical, petrochemical, and municipal sectors.	Kohlberg Kravis Roberts	Convertible Debt	$113.8	1	-	$113.8

Source: PitchBook.

Spotlight On: Lending in Environmental Services

BGL conducted a roundtable discussion with a group of lenders that have specialization in the environmental services sector. We asked them to identify sub sectors that are garnering increased interest and how the credit markets are facilitating transaction activity.

Alcentra
Justin Kaplan
Managing Director

UnionBank
Douglas Spiro
Regional Vice President
National Specialized Lending Group

Ironwood Capital
Dickson Suit
Senior Managing Director

Please comment on the background of your lending group and your interests in environmental services.

Kaplan

We are a private, unlevered junior capital fund managing $300 million. Our largest LP is the Bank of New York Mellon. We focus on three industries: healthcare, government services, and business services. Within business services is our environmental services focus.

We have made several investments in environmental services, all in solid waste—haulers and operators of transfer stations as well as landfills. Our most recent investment, City Carting, manages residential and commercial hauling routes and transfer stations in Connecticut and New York. In addition to solid waste, we have been spending a lot of time on the e-waste sector.

Within environmental services, we focus on companies with EBITDA of $5 to $25 million. We've participated in buyout transactions with private equity sponsors, but typically we are working with companies seeking some type of growth capital. We are providing capital through a structured equity investment in the form of a credit security (mezzanine and/or unitranche) and some type of equity security, usually common or preferred equity. The benefit of our form of capital relative to private equity, for example, is the business owner is able to get some liquidity and still retain control.

> *"There is always going to be capital available for a well-run integrated solid waste company that has a strong management team in a market that is fragmented."*
>
> *—Dickson Suit*
> *Ironwood Capital*

Spiro

For over 20 years, Union Bank has supported companies that provide recycling technologies and waste minimization solutions with the financing they need to grow and expand their vision for a more sustainable environment. We are one of the few banks with a dedicated national Environmental Services Group, with aggregate commitments in excess of $1.25 billion to the sector.

We are primarily focused on companies with EBITDA in excess of $5 million that are engaged in the waste and recycling industries. We have a large national portfolio of integrated waste companies and recyclers and understand the unique needs of this industry, including:

- Construction and long-term infrastructure financing for transfer stations, material recovery facilities, and composting facilities.
- Customized credit for working capital, equipment, facilities, real estate, and operations, such as tax-exempt bond financing, acquisition financing, and recapitalizations.

In addition, we have an entire suite of junior capital solutions provided by Union BanCal Equities. We have acted as Administrative Agent for several of the highest profile transactions in the sector, with a successful track record of building bank groups.

We are also able to provide our clients with risk management solutions to hedge long-term interest rates and energy prices, including diesel and natural gas prices as well as global treasury management to streamline operations and optimize cash flow.

Suit

Ironwood has completed roughly 50 investment transactions over the past 11 years, several of those in environmental services. We financed the recapitalization of Interstate Waste Services in 2004, which was sold to Highstar in 2007. We currently have two waste companies in our portfolio: City Carting, the largest solid waste company servicing Fairfield County, Connecticut, and Action Carting Environmental Services, the largest waste hauler in metro New York.

We are pretty hands-on mezzanine investors. In Action Carting, we provided multiple rounds of junior capital (mezzanine and equity) financing beginning with our recapitalization of the company in October 2007. We provided the first round institutional capital as a minority investor and brought in the management team that we backed in Interstate Waste Services. Action Carting then went on to acquire Waste Management's collection operations in New York City, which tripled the size of the company. In 2010, Action acquired certain assets when Republic Services was leaving New York City, taking revenues to its current size of over $110 million. In connection with that transaction, we brought in Summer Street Capital as the sponsor. In February 2012, we provided the mezzanine financing in Curtis Bay, a medical waste company in Maryland.

We generally look at companies with EBITDA between $3 and $12 million. Our investment size is $5 to $20 million. We will look at a variety of financing opportunities including mezzanine debt investments, growth and expansion capital, recapitalizations, and buyouts. Typically we are providing growth capital to management teams and companies. We are looking at a number of environmental services sub sectors, and companies that are collecting different waste streams from customers: solid waste, e-waste, medical waste, and organic waste.

Please comment on deal flow you are seeing in the industry.

Kaplan

Deal flow was slower in the first half of the year, but we are now seeing a moderate pick up in activity. We are seeing a number of deal opportunities in solid waste and e-waste. Within e-waste, we are seeing companies seeking growth capital as opposed to solid waste, where we are seeing more traditional buyout opportunities.

Spiro

Deal flow in H1 '12 was below historical levels with many fringe or difficult transactions in market. There has been an increase in transaction volume recently, and the second half of the year is looking stronger. Deal quality has improved with several larger refinancings and acquisitions set to come to market.

We saw a 43 percent increase in our portfolio year-over-year through June, despite a cooling off period during H1 '12, which followed several bellwether transactions closed in Q4 '11.

Suit

We continue to receive calls on solid waste opportunities. Recently, we have been receiving a number of inbound calls for deal opportunities around developing shale plays; we are leery to jump into the fray and need to conduct more diligence to fully understand the opportunities.

On the technology front, we're evaluating other cleantech opportunities such as biofuel and organic waste recycling. We are evaluating a waste-to-energy partnership in conjunction with one of our waste companies. It is probably not an area that we would look at on a standalone basis unless it is a compelling proposition and the feedstock and offtakes are secured. It would be more of a credit play with mezzanine if there is an opportunity.

"There appears to be an abundance of capital available in the market for the right transactions, both senior and junior."

—Douglas Spiro
Union Bank

Where are you spending your time in the space? What attracts you to those sectors, and what do you see as the opportunities and challenges from a financing perspective?

Spotlight On: Lending in Environmental Services

Spiro
The most attractive sector remains fully integrated waste companies, due primarily to the stability of cash flows, while the most challenging segments are recyclers and e-recyclers due to vulnerability to commodity markets and changing regulations. With that in mind, we continue to focus our efforts on banking "best-in-class" companies across all sectors.

Leverage, structure, past performance of management, and commodity exposure remain the primary hot buttons for lenders and will remain at the forefront for the foreseeable future. In light of the downward pressure on commodities in H1 '12, understanding management's hedging programs and the ability to absorb commodity price deterioration is more important than in the last few years.

SOLID WASTE

Kaplan
Solid waste is an essential service, and it has all of the characteristics that make a good credit investment: strong free cash flow; limited customer concentration; recurring revenues; and it is less correlated to economic cycles.

In traditional solid waste, we do not see a lot of organic growth. However, we do see very accretive opportunities through tuck-in acquisitions. You can probably buy tuck in acquisitions, depending on size, for 4x-6x EBITDA, and through synergies, the proforma acquisition multiple is probably closer to 3x-4x, which is highly accretive.

Most waste businesses have some type of commodity exposure, and in good times, it is a really nice play because the contribution margin on those commodity revenue dollars is very high. The flipside is true, when commodity prices are below your input costs, the EBITDA associated with those commodity revenue dollars can evaporate pretty quickly.

Suit
It is a recurring revenue model, so it draws in capital. There is always going to be capital available for a well-run integrated solid waste company that has a strong management team in a market that is fragmented.

To be a successful solid waste company, you need to have at least two prongs: the collection operations, including transfer stations because you need to partially internalize some of the waste streams, and assets to address the recycling component.

Organic growth continues to be challenging. Waste volumes are coming down, in part due to recycling efforts, which is generally offset by higher recycling volumes, which is positive. Pricing has been under pressure in metropolitan areas due to the recession. Because the top line is difficult to grow and margins are being squeezed, companies are forced to control costs in different ways. Tuck-ins are compelling and generally accretive which helps to offset margin compression. Certain markets are still very fragmented and have a lot of room for consolidation plays. Lenders are becoming less attracted to landfills because sellers still have high price expectations despite declining volume trends.

When we are evaluating opportunities, we are also considering the exit strategy. We are considering the competitive landscape and looking at markets where there is a strategic rationale for a major or a second tier player to come in and buy.

> *"Leverage, structure, past performance of management, and commodity exposure remain the primary hot buttons for lenders and will remain at the forefront for the foreseeable future."*
>
> *—Douglas Spiro*
> *Union Bank*

What attributes are you looking for in a solid waste platform?

Kaplan
An attractive geography, route density, and a solid management team, because I wouldn't expect a lot of growth through organic avenues. We are also looking at the mix between MSW and C&D. I really don't want to see a high exposure to C&D. I would want to see opportunities for tuck-ins.

Suit
MSW is more valuable than the C&D waste, so we are looking at composition weighted toward MSW and commercial business.

We lean less to C&D in the stream. You need a strong management team, ideally one that has proven they can integrate acquisitions to extract synergies. Other attributes include local operators who understand the ins and outs of the local markets and are looking to grow not just by the top line (as is sometimes the case with publicly-traded companies) but bottom line as well. The current management team that runs Action Carting was the former management team that ran Interstate Waste Services—a highly experienced team that had completed many acquisitions. You also need diversity in the customer base.

What is your perspective on recycling becoming a growing part of the solid waste business model?

Kaplan

We are seeing more and more traditional haulers looking to develop a MRF capability because they are realizing that they control the waste stream, and within that stream is revenue that they are not utilizing. I am a little bit nervous about the capex component required to develop that, but it is clearly what customers, including municipalities, want to see. We've been approached by parties about raising debt capital to develop a MRF. Assuming the economics make sense and the payback period is appropriate, I think it is a good play.

Suit

More and more we are seeing solid waste companies putting capital investments into recycling assets. As part of our investment in Action Carting, for example, we are building a single-stream MRF. In pricing contracts, you often can only be aggressive when you commingle the recycling component with the waste stream because your customers are pushing you. You need the two prongs, collections and recycling, in order to be a formidable player, so you can provide a much more competitive bid.

"The attraction in e-waste is the opportunity to own equity in a very nascent sector."

—Justin Kaplan
Alcentra

E-WASTE

Kaplan

We have been spending a lot of time on the e-waste sector. I think it is a great macro play just given the proliferation of electronic devices, e.g., tablets, smart phones, etc. The forecasted growth is strong. It is difficult to see how that growth slows in the near-term just given the growing volume, particularly now that OEMs are starting to recycle the products that they sell.

You are also dealing with significant commodity exposure. However, unlike in a traditional solid waste hauling business where there is not a hedging market, most of the commodities in an e-waste business can be hedged. Despite the ability to hedge the commodities, I think you need to see an extended historical period of operations to get a sense of the underlying EBITDA of the target.

Suit

It is an area within waste that is seeing a lot of growth. The industry is at an inflection point because of the regulatory environment.

I characterize the market as having two segments. There is the dirty segment—companies with contracts with municipalities to collect their e-waste from residential customers, most of which is recycled for commodity value. The other segment is securing contracts with Fortune 500 companies, working with IT asset managers to secure volume. In that market, roughly 30 to 40 percent of the products can be refurbished or resold. That is an attractive business. The refurb business is seeing very strong margins right now, north of 20 percent. There is a question of margin sustainability when customers get smarter.

Shredding is obviously asset heavy. You are dealing with commodity exposure so hedging is important. Refurb/resale is asset light. I think it is easier to get into the business through the refurb end.

Lenders have some reservations about investing in smaller companies. On the shredding side, a lot of your profitability is driven by the resale value of the commodities. There is much more concern that a smaller company can get hit harder than a larger one.

Spotlight On: Lending in Environmental Services

What do you see as most attractive in e-waste?

Kaplan

I think it is the opportunity to own equity in a very nascent sector. I would contrast it with solid waste, which is on one side of the bell curve—very mature, limited organic growth—and e-waste is on the other side—very immature, strong organic growth—where we are seeing companies grow at 15 to 20 percent per year.

Of the companies that I have seen, most are focused only on refurb/resale or on the downstream recycling business, extracting value from commodities. Clearly, the full end-to-end solution is the preferred business model, where you have a mix of revenue opportunities.

Acquisitions are a viable growth play but unlike solid waste where you do need the tuck-ins, I don't think you necessarily need them in e-waste. The organic growth alone should be sufficient. Even if you are growing only 7 to 10 percent a year, that is two to three times GDP growth.

MEDICAL WASTE

Suit

Clearly, underlying fundamentals support growing waste volumes. It is business model that is easy to understand; you secure contracts with hospitals and medical clinics to pick up their medical waste and feed volume through incinerators. And there are high barriers to entry, more than in solid waste, with strict regulatory compliance governing how waste should be handled.

It is a fragmented market. There is one dominant player, and beneath that many smaller operators, so you want to find markets where you can be competitive. The play is to grow by securing new contracts with new customers or by acquiring smaller competitors and feeding their volume into your incinerators.

Please comment on leverage and pricing trends.

Spiro

Generally, senior lenders remain focused on pursuing high quality assets, and lenders to the environmental services sector are no exception. The market remains bifurcated with very strong demand for quality assets, while more storied credits must be prepared to live with tighter structures, a higher equity component, and higher pricing.

Structure is the big differentiator in the market today and is increasingly more important in the multi-bank market. There appears to be little divergence in pricing and leverage among senior lenders, despite deep competition for quality transactions. Management remains the most important factor. When looking at a leveraged transaction we spend a lot of time getting comfortable with the management team's track record and history of operating successfully during challenging economic conditions.

Competition for deal flow appears to be bifurcated between two different segments; the single bank/club market and the broadly syndicated market. In the single bank market, competition for deals is more intense and pricing /structures are more aggressive. The broadly syndicated market and capital markets appear more reliant on certainty of execution and flexibility.

> *"Leverage is a function of the high conversion of EBITDA to cash flow; recurring nature of the cash flow streams; and relatively low capex."*
>
> *—Justin Kaplan*
> *Alcentra*

LEVERAGE

Kaplan

A traditional solid waste company can attract senior leverage of 2.5x-3x and total leverage of 4x-4.25x. I don't really see more than 3x on senior. Leverage is a function of the high conversion of EBITDA to free cash flow; recurring nature of the cash flow streams; and relatively low capex.

Generally speaking, there is less leverage available for companies with less than $10 million of EBITDA. There is a perception in the marketplace that at or above $10 million of EBITDA, a company has more stability. Below $10 million of EBITDA, it is unlikely to see more than 3.5x total leverage—2x senior

leverage and 1.5x subordinated debt, typically mezzanine. You might be able to get to 2.5x senior with a turn of mezzanine. Above $10 million of EBITDA, you can get to 4x-4.5x total leverage.

For an e-waste company, I don't think you want to see total leverage higher than 3.25x-3.5x, with senior leverage of 2x-2.5x. It depends on the maturity of the business. However, broadly, leverage is lower because the companies tend to be smaller in size, in that $4 to $7 million range of EBITDA. Additionally, the industry is not as mature and you have to manage commodity exposure and cyclicality.

Suit

Most banks that understand the solid waste business are looking at it on a cash flow basis. The distinction is how they look at EBITDA. At the lower end of the middle market, you are seeing 4x total leverage. The more aggressive banks will be looking at a 3x-3.25x senior leverage ratio based on proforma EBITDA. The conventional banks will still get to 3x senior leverage but based on GAAP EBITDA which is much less aggressive. Senior and total leverage will be higher for larger companies with bigger syndicate groups.

Banks have been pretty aggressive in terms of providing financing to companies that have a track record. They will give credit for proforma growth. For example, if they had previous experience with a company building a MRF, they understand there is a baseline profitability metric that in their mind is a given, so they are willing to give you some credit in terms of EBITDA.

Lenders will look at financing an e-waste business on a cash flow basis, except that if you decompose the EBITDA, they are more leery if a significant contribution of the EBITDA is coming from commodity driven profitability. Hence, that is the rationale behind lower leverage. Lenders are not comfortable with the sustainability of EBITDA. We brought a bank in to look at an e-waste deal with us. The bank was proposing 2x-2.25x of senior leverage. Most mezzanine lenders will do a turn of leverage, maybe a little bit more. A turn is a good benchmark for mezzanine.

"Banks have been pretty aggressive in terms of providing financing to companies that have a track record."

—Dickson Suit
Ironwood Capital

PRICING

Kaplan

Mezzanine is a 13 to 15 percent coupon market, and I am not seeing any deviations from that. If you can blend up to an all-in return of 16 to 19 percent, I think that's a good play.

Unitranche pricing is 10 to 11 percent. Leverage for a unitranche facility is matching the leverage level on a comparable senior mezzanine execution. The blended pricing is probably better on a traditional senior mezzanine structure, and you are probably getting a better amortization schedule.

We will look at unitranche structures for companies with less than $10 million of EBITDA.

Suit

We recently went out to the market to raise some capital, mezzanine as well as a bank facility of revolver and term debt. The revolving facility settled at L+325 and term ranged from L+250 to L+325. The mezzanine market is also pretty receptive and reasonably priced. We saw several proposals for all-coupon deals in the 12 to 14 percent range. Part of it is the quality of the asset, part of it is scale, and part of it is the opportunity.

What is your outlook on credit availability?

Kaplan

I am not seeing any slowdown in credit demand for companies.

In a recent deal that I looked at, there were six debt financing proposals for the company. It was sub $10 million of EBITDA, and lenders were putting in proposals at around 3.5x total leverage, which is right where I would expect it to be.

Spiro

There appears to be an abundance of capital available in the market for the right transactions, both senior and junior. Lenders like Union Bank, with the ability to fund across the entire capital structure, provide their clients and sponsors with a

Spotlight On: Lending in Environmental Services

streamlined and simplified process, reducing execution risk and uncertainty. The biggest challenge to mezzanine and second lien lenders appears to be the last out and unitranche structures that are more prevalent today in the lower end of the market than they have been in the last couple of years.

While banks and non-banks are hungry for assets, pricing discipline appears to be holding. The implementation of Basel II and Basel III have the potential to create appetite and pricing uncertainty, particularly for less well-capitalized banks, as these financial requirements may make meeting internal return on capital hurdles more challenging.

Please comment on valuation trends you are seeing in the marketplace.

Kaplan

It really depends on the opportunity. For an $8 to $10 million EBITDA solid waste hauler that is a nice business, the valuation multiple is probably in the 6.5x-7.5x EBITDA range. WCA Waste was a public company that was taken private at 9x EBITDA. The private equity sponsor that took it private had the opportunity to put a sizable amount of capital to work. I think private equity funds will pay up for that opportunity. The multiple is more like 4x-5x EBITDA on tuck-ins in solid waste.

E-waste companies are trading higher, in the 8x-10x EBITDA range, which is purely a function of growth.

Spiro

Valuations have trended higher, and in some segments are hard to support, particularly in light of the commodity volatility that many companies have experienced in H1 '12. The high valuations in some subsectors such as e-recycling, coupled with relatively unproven business models, make achieving significant levels of leverage difficult for a senior lender. It is easier to justify higher valuations for fully integrated companies with significant contractual revenue.

> *"It is easier to justify higher valuations for fully integrated companies with significant contractual revenue."*
>
> *—Douglas Spiro*
> *Union Bank*

The ultimate buyers appear split squarely between financial sponsors and strategic buyers. Whenever there is a process, it appears that the number of financial sponsors involved is disproportionate, however many strategic buyers appear well-positioned with cash on the balance sheet, low leverage, and the ability to recognize significant synergies by purchasing regional competitors.

Suit

For solid waste companies of scale (revenues of $100 million or higher), the valuation multiples are still pretty high. I would not be surprised to see 8x or 9x EBITDA multiples. There is value embedded in a large piece of business. You can look at recent trades in the market, WCA Waste and Veolia, which went for high multiples. Tuck-ins are still 5.5x-6x EBITDA, but for some scale, you are paying up. A 6x multiple to a seller can look like 4.5x for the buyer after synergies.

E-waste is probably lower right now, 6x-7x EBITDA, because there aren't many opportunities of scale available.

Similar to e-waste, there aren't many medical waste companies with scale. Multiples are higher because it is a growth area, 6x-8x EBITDA.

Are you seeing a valuation gap between buyers and sellers?

Kaplan

When I finance a recapitalization or have discussions about financing a recapitalization, we get into valuation so I see a little bit of it there. I wouldn't say there is a gap. We are generally within the range.

Market Update: Oil Collections & Re-Refining

The lubricants industry is slowly migrating to higher quality base stocks, creating opportunities for re-refiners. Their feedstock, used oil, remains in high demand as capacity swells, forcing collectors and re-refiners to adapt to a rapidly-evolving competitive landscape.

Collectors are weighing the benefits of remaining independent or partnering with a re-refiner. Access to capital, feedstock quality, facility size and location, and operating experience all weigh in the decision to expand into re-refining. Investors are vetting out the market opportunity, capital requirements, and opportunities for consolidation. In this market update, we talked to industry executives who shared their observations on the changing dynamics in the industry.

Headwinds

Base oil production is expected to ramp up in the coming years with several announced facility expansions by the major oil producers, which will dramatically change the global supply picture as Group II and Group III base oils grow in value and use. By 2020, industry forecasts estimate Group I will retain the largest share of the global base oil market with 40 percent, with Group II growing to 30 percent and Group III and other products to 30 percent, assuming all planned capacity is built and comes online.[1] In this expansion, technologically outdated Group I plants with high operating costs will face challenges and be forced to close, insiders say, pointing to the European market, where Group I lube plants are being shut down as the market migrates up the value chain.

(1) *My Energy.*

At the same time, re-refinery capacity expansions continue in earnest. Since March 2010, when Heritage-Crystal Clean announced its entry as the new player in the U.S. re-refining market, nine new and existing facility expansions have been announced, which could more than double the nation's re-refining capacity, adding more than 200 million gallons of re-refining capacity (feedstock) and 120 million gallons of base lube oil production capacity to an already forecasted long base oil market. "What concerns me is the impact that this flood of base oil will have on re-refining spreads. The market is already long, and the volume is still coming. The re-refiners are adding product to the market too," commented Ben Cowart, CEO at Vertex Energy. "Re-refiners see their raw material under fire because of VGO and btu-type processors and exporters, and that dynamic is not going to change. And their finished lube product is under fire because of long markets."

> *"What concerns me is the impact that this flood of base oil will have on re-refining spreads. The market is already long, and the volume is still coming. The re-refiners are adding product to the market too."*
>
> *—Ben Cowart*
> *Vertex Energy*

Used oil collectors and re-refiners are often price followers, taking direction from posted prices on No. 6 fuel and Group I and II base oils. The first half of 2012 brought a period of volatility, with declining crude prices sending base oil and No. 6 prices down. Re-refiners saw their spread, the arbitrage between the street price of used oil and commodity base oil, tighten. "The base oil market since January has basically dropped about 50 cents with three rounds of price decreases, which has an impact on the spreads you can make when you have to buy high-priced feedstock," observed John Wesley, CEO at Universal Lubricants. "For you to cover your historical spread, collection street price would have to fall a corresponding amount. That has not happened." Juan Fritschy, CEO at Universal Environmental Services (UES), added "From time to time, I have talked with certain competitors and know that they are having a hard time adapting to a market that lost 27 percent of the selling price in six weeks."

Cycles bring temporary supply and demand imbalances in the market, requiring participants to adjust to the new pricing reality. "Prices are sticky. On the way down, there is a period where your margins get compressed until the street pricing reflects the reality of the crude market. On the way up, there is a period of time when you are making more money than usual. These are just temporary phenomena," observed Matt Finlay, a managing director at MidMark Capital, a minority investor in Avista Group (Avista is the majority shareholder of UES). "In the medium term, one to three years, there will be an impact on base oil prices due to the amount of supply coming online. It is not going to be immediate and we don't know by how much prices will adjust, but that is my expectation. The question then

Market Update: Oil Collections & Re-Refining

becomes, who is going to be able to compete?" commented Juan Fritschy at UES. "As re-refiners, we can only control our production costs and our collection costs. We have to make sure that we are efficient and we produce a high-quality base oil." Fritschy added, "All the base oil groups are designed for different applications, and there are plenty of applications for all of the groups. We want to make sure that we participate in all of them."

Industry participants are confident in the long-term demand picture for re-refined oil, and overcapacity is not a concern. "Today the U.S. has plenty of capacity to fill all of the re-refineries, and there is no shortage of places that we could put our base oil," said Matt Finlay at MidMark Capital. "If you look at the capacity of re-refineries and VGO plants today, these are still nowhere near having an appetite for all the used oil," added Greg Ray, COO at Heritage-Crystal Clean. "If crude oil prices stay relatively high, we believe there will be a driver for continuing growth in re-refining in North America, and we will see more capacity added by existing participants or new entrants."

Looking ahead, re-refiners will be seeking ways to participate as the lubricants industry migrates up the value chain to higher-quality base oils. Current re-refining technology limits production to Group I and Group II base stocks; however, insiders see opportunity with process improvements and feedstock quality. "How quickly the market demands Group III as a main product is not as critical a question as when would Group II be phased out," commented Ray. "The shift from Group I to Group II has been underway for more than 15 years, and Group I is still roughly half of the U.S. market. So we don't feel any heightened concern today that we have to rush to make Group III." Ray indicated that passenger car motor oil (PCMO), the primary user of Group III product, today accounts for a minority share of the lubricants sold in North America, compared to heavy duty diesel oils and industrial oils, both of which are formulated using more traditional oils, which presents re-refiners with a sizable market opportunity. Ray added, "If demand shifts in a direction where Group III is needed, the question of whether re-refiners can produce Group III will depend, in part, on looking at the used oil feedstock. I would argue that over time, as more Group III is used in product formulations, the characteristics of used oil will shift in way that makes it feasible to think about re-refining to produce Group III products."

> *"If crude oil prices stay relatively high, we believe there will be a driver for continuing growth in re-refining in North America, and we will see more capacity added by existing participants or new entrants."*
>
> *—Greg Ray*
> *Heritage-Crystal Clean*

A Changing Landscape

Consolidation Underway

Consolidation is continuing. Insiders expect a shake out of the market that will result in more acquisition activity and share common views on the drivers of deal flow. Re-refiners should and will continue to try to acquire collection. Collectors without refining assets will be looking at selling, partnering with a re-refiner, or investing in a re-refining technology. The smaller collectors without critical mass and volume to justify a re-refinery "...need to be looking at selling," said Ben Cowart at Vertex Energy. "The small lifestyle business owners are very concerned. Not having the volume of used oil themselves to justify a major capital investment, the street pressure from integrated re-refiners is going to force them to reconsider their position. On the other hand, re-refiners will begin to see their margins erode long-term if they do not control a good portion of their feedstock."

"We are seeing a lot more transaction opportunities," Ray commented. "Smaller players have seen the development of new re-refining projects on the drawing board. They have the perception that re-refiners will have better margins and this will lead to their capturing increased market share. It will not happen overnight; however, if you are not affiliated with a re-refiner, you are likely going to face challenges."

Recent industry M&A activity is illustrative of a rapidly-evolving competitive landscape:

Thermo Fluids, the largest collector of used oil and producer of reprocessed fuel oil in the Western United States, was sold to **Heckmann Corporation** in April 2012 in a $245 million transaction. Market reaction to the deal has been one of surprise, leaving some participants searching for the synergies brought by a buyer outside the industry. With valuable collection assets in an attractive geography, the company garnered a full price, despite having no re-refining capacity to monetize the feedstock. Commenting on the transaction, Matt Finlay at MidMark

Capital, offered, "The fact is, Thermo Fluids doesn't have a re-refinery, so they likely will have to invest more capital because there will be industry players that build re-refineries around them and try to attack their markets." UES' Juan Fritshy added, "If somebody builds a new refinery in that footprint, obviously that entity will have an advantage. But you are still talking about years, and then you are competing with somebody who already has a very strong, well-known collection network in place. In that region of the country, being the incumbent is quite a substantial advantage." "We view the Western States markets as isolated and less competitive than other regions at present, but that situation may not continue indefinitely, if more re-refining capacity is added," remarked Greg Ray at Heritage-Crystal Clean.

June 2012 brought the news that **Safety-Kleen** was exploring strategic alternatives including a possible sale of the company. The largest used oil collector and re-refiner in the United States, Safety-Kleen is widely-regarded as a storied company with a well-known brand and valuable asset base. An August announcement revealed that the company's private equity backers would seek liquidity through an IPO, looking to raise $400 million. Safety-Kleen's revenue increased 20 percent to $1.28 billion in 2011. Earnings rose to $135.5 million from $24.3 million in 2010.

Universal Lubricants (UL) acquired **Midstate Environmental Services** in May, a used oil collector with eight facilities in Texas, which "...expanded our environmental services footprint significantly," said UL CEO John Wesley. Prior to the acquisition, UL was primarily focused on used oil collection and re-refining, antifreeze, and filters—a traditional collector of PCMO and heavy-duty products. The acquisition brings additional wastewater treatment facilities and additional filter reclamation technology that will enable the company to sell the residual metals at more attractive rates. The buy also expands UL's vacuum services business and brings new remediation capabilities. "We continue to add higher-margin, value-added services that allow us to toggle bolt in new accounts," Wesley offered, commenting on the transaction. "I want to sell my customers a broad range of environmental services. It builds firewalls around the business."

Universal Lubricant's origin as a lubricant blender and compounder has a perceived value in the marketplace. "If you are not able to put base oil in your own product lines, you are going to have to sell it as a commodity, and it is going to compete with everybody else's base oil," observed Ben Cowart at Vertex Energy. "If you can package the product, that is a great model." "I believe that there are certain niche markets for every oil company. For some re-refiners, integrating into blending and packaging is a viable model," commented Joseph Chalhoub, CEO at Heritage-Crystal Clean. "It is a return on capital decision." "I have a market for a finished lubricant product which differentiates me from most of my competition. Shell and Mobil go back to the wellhead for their economics. My wellhead is the used oil generator—the quick lube, the car dealer, the general repair facility," remarked Wesley. "We have a closed loop process, which allows us to do more than just buy product from our customers. We are in the market to continue to grow our finished lubricant business at double-digit rates, and I do not see any reason for that growth to slow." Safety-Kleen announced in July the completion of a 20 million gallon blend facility at its East Chicago location, which will allow the company to produce lubricating base oils for passenger cars and heavy duty diesel engines and increase supply of its EcoPower engine oils.

Feedstock in Focus

Heritage-Crystal Clean has been building out its branch infrastructure for 12 years, Chalhoub indicated, with an established network of 71 locations according to its Q1 '12 filing. The company is expanding its internal collections business through a combination of organic growth and acquisitions and now controls roughly 90 percent of the oil feeding its re-refinery. "We clearly have an interest in looking at acquisitions. In used oil collections, we will look at opportunities across the United States," offered Chalhoub. "We are more interested in the routes, trucks, and customer relationships than we are in adding facilities. The ease of integrating those relationships is important because at the end of the day, it is about being able to hold onto that volume."

> *"The ability to collect used oil is the most critical aspect of this business. That doesn't mean you have to supply your plant only with the oil you collect. But you should collect the majority of the oil you require."*
>
> *—Joseph Chalhoub*
> *Heritage-Crystal Clean*

"The ability to collect used oil is the most critical aspect of this business. It is not something you can get "off the shelf" or have somebody show you how to do it," commented Chalhoub. "That doesn't mean

Market Update: Oil Collections & Re-Refining

you have to supply your plant only with the oil you collect. But you should collect the majority of the oil you require." "It is critical that you have a very strong, cost-effective collection system that provides good service and good value to the generators. If you don't have that, you are going to be at the mercy of other people who will develop that capability," added Heritage-Crystal Clean's Greg Ray. "We continue to grow our collection business throughout all of our service areas."

"If you already have the investment in a re-refinery, it is a lot easier to control your raw material cost if you are controlling it at a generator level," observed Ben Cowart at Vertex Energy. "The margins are significantly different on those generator gallons compared to third-party purchases. If re-refiners cannot organically grow street volume, they will be forced to acquire more companies in order to control that volume and hopefully garner more margin around the assets that they have." Within our Texas footprint, our company is no different. We have a 30 million gallon refining capacity, and we are only feeding a third of that with our own supply so we will be acquiring more companies and growing our footprint at a street level because over the long-term it secures the feed for the refinery investment."

As their feedstock grows in value, collectors see their gallons at risk as re-refiners expand in their territory. "I would tell a collector, unless you are going to be scalable, you might want to find a safe harbor of a potential consolidator," said John Wesley at Universal Lubricants. "There will be a handful of large companies with national or large regional scope that the smaller players won't be able to compete against because of scale, environmental regulations, and market forces." "There will be some collectors who in one way or another will end up partnering with a re-refinery. There will be others that, if run properly and provide quality service, can remain independent," observed Juan Fritschy at UES. "There will be some consolidation, but it doesn't mean that a small collector cannot exist ten years from now."

Staking a Claim

Geography

Regional nuances dictate access to feedstock, competition, and pricing, which has participants jockeying for position, "...trying to figure out who is going to build where and establish their territory," said Matt Finlay at MidMark Capital, "There is a lot of used oil that is not being re-refined in the United States, which presents a lot of opportunity." Finlay continued, "If you don't have the capital, you might consider M&A. If you do have the capital, you might consider doing greenfield or M&A. Everybody is thinking about expanding."

"The Western United States is not nearly as competitive," commented John Wesley at Universal Lubricants, comparing it to the Midwest market, "...where you have in one small triangle Safety-Kleen, the largest consumer of feedstocks, in East Chicago; Heartland in Columbus, which arguably requires 18 to 20 million gallons to keep its plant running; and Heritage-Crystal Clean in Indianapolis with a 50 million gallon plant. That is a lot of people competing for feedstock." "You want a re-refinery around large population centers to get cheap transportation of the raw material into your plant," remarked Ben Cowart at Vertex Energy. "And you want to be as far away from places like Houston and New Orleans, the East Coast and even the West Coast, as you can get due to off shore fuel demand."

"The market has seen a number of new entrants and will become more competitive as more players join the fray," observed Joseph Chalhoub at Heritage-Crystal Clean. "Some of the facilities that have been announced may not get built." "You have to put this in some historical context. Between 1991 and 2007, there was no significant new re-refining capacity added in the United States. Now we have this mad flurry of projects that are being discussed and announced," commented Greg Ray at Heritage-Crystal Clean. "Assuming that they all are financed and built, it appears that it could meaningfully increase demand for used oil throughout the collection system. But that is a big assumption. We think that some of the announced projects should have question marks next to them."

> *"I would tell a collector, unless you are going to be scalable, you might want to find a safe harbor of a potential consolidator. There will be a handful of large companies with national or large regional scope that the smaller players won't be able to compete against because of scale, environmental regulations, and market forces."*
>
> —*John Wesley*
> *Universal Lubricants*

Recent News on Re-Refinery Expansions and Planned Projects:

Alabama Green Lubricants LLC announced in July 2012 plans were moving forward to construct a $40 million re-refinery in Athens,

Alabama, adding capacity in the Southeast. The company is said to be working through the permitting process and is proceeding with financing for the project.
In May 2012, **Universal Lubricants** announced it acquired land for a second U.S. re-refinery, the location of which was not disclosed, at the same time it announced the acquisition of Texas-based Midstate Environmental Services, pointing to a likely regional hub in the Southwestern states. Additional capacity is going to require a second re-refinery, said CEO John Wesley, indicating plans are underway for a facility double in size of its Wichita plant, which will bring combined processing capacity to nearly 40 million gallons. "We have the ability to build a world class 25 million gallon facility," Wesley said. "We are absolutely in the market to expand into a second refinery and are still marching down that path."

NexLube Tampa reported in June 2012 it will begin construction of a 24 million gallon re-refinery in Tampa, Florida, overlapping the footprint of Universal Environmental Services (UES) in the Southeast. On NexLube's expansion, Matt Finlay at MidMark Capital, commented, "We don't think they've broken ground, but there is no reason we shouldn't take them seriously. We currently don't collect many gallons from Florida, but it could affect us at the margin." Finlay continued, "To my knowledge, they don't have any collection themselves, so they are going to have a big job putting together either a collection network or an organization that buys from independents." Juan Fritschy at UES added, "Whether it happens in 2013 or 2014, we have to assume this project is going to become real," Fritschy added, "Florida is a market in which we participate, but it is not our biggest market. What is certain is that there is plenty of oil in the Southeast for two, three, even four re-refineries. It will be more competitive for the oil that is going to the burners."

The construction of **Universal Environmental Services**' 30 million gallon re-refinery is expected to begin operations in Q2 '13—the first of several re-refineries planned by the German majority owner Avista Group, according to Fritschy. "The Avista Group has dedicated a management team whose mandate is to research the U.S. market and find opportunities. We made our first investment in UES and the used oil collection division of The McPherson Companies, and the construction of our re-refinery in Peachtree City, Georgia is on schedule. We are actively in discussions with many collectors and are close to choosing a partner for a second re-refinery. Our intention is to communicate to the market the location in Q4 '12. The Avista Group came to the United States with the intention to be a top player in different regions of the country. We know that it will take a lot of time and a lot of commitment. It is a decision we made in 2009, and it is a decision we are executing today," Fritschy offered.

Juan Fritschy shared his insights on UES' growth. "We sat down a year ago when we started building the re-refinery and asked the question, What do we have to do to be the best used oil collector in every aspect?" said Fritschy. During the nine months following its consolidation with the used oil collection division of The McPherson Companies, UES has organically grown collected gallons by more than 20 percent and today has roughly 36 million gallons under control. "Our efforts are being well-received by the market, which is giving us the opportunity to gain more market share." UES expanded service to Wal-Mart and now collects used oil from five states, adding Arkansas, Florida, and Louisiana to its existing footprint in Alabama and Mississippi, growing volume to 3 million gallons a year. "With Wal-Mart as a customer, you have to perform at the top of your game. They bring discipline and creative problem-solving to the industry," said Fritschy. "We are spending significant time and resources in finding solutions to problems that have not been addressed by the industry for a long time."

In June 2012, **Mil Speck Re-Refining Oil Company**, in partnership with non-profit organization **Renewable Manufacturing Gateway** (RMG), announced plans for the construction of 25 million gallon re-refinery in the Mid-Atlantic region. The facility will produce vacuum gas oil, base neutral, and asphalt flux utilizing technology designed by Sequoia Global Inc. The plant is expected to begin operations in Q4 '13. The Mil Speck announcement adds to Northeast expansions previously announced by **FCC** (40 million gallons) and **Green View Technologies** (5 million gallons).

"There is a lot of used oil that is not being re-refined in the United States, which presents a lot of opportunity. If you don't have the capital, you might consider M&A. If you do have the capital, you might consider doing greenfield or M&A. Everybody is thinking about expanding."

—Matt Finlay
MidMark Capital

Facility Size

We asked industry participants to provide their insights on facility size and location in the decision to build and operate a re-refinery:

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Juan Fritschy, CEO, Universal Environmental Services. The size of a re-refinery is one of the most crucial questions to consider. From an investment perspective, build it as big as you can because you gain efficiencies from scale, but don't build it too big that it is going to be a problem logistically to fill it. At some point you have to limit the size of the re-refinery because you will start stretching your collection capabilities. Fritschy points to Avista, which operates three re-refineries of different scale: Germany (40 million gallons); Denmark (14 million gallons); and the United States (30 million gallons, to be operational by Q2 '13).

Matt Finlay, MidMark Capital. I don't think there is one easy answer to that question. It is possible that different geographies merit different sizes of re-refining capacity. I think it has much more to do with your transportation costs and your opportunity to collect oil in an economic manner more than anything else.

John Wesley, CEO, Universal Lubricants. Anything less than 10 million gallons, I think you are going to be disadvantaged in the market because your fixed costs are spread across too few gallons. Anything much above 25 million gallons, unless you have a surplus of feedstock in that market, it is too big. The cost to compete for a large facility, unless you are in a top ten MSA, requires that you go far and wide to collect your feedstock to make it worthwhile for the facility to get the scale advantages. What you gain in scale and efficiency you lose in transportation and logistics costs, which doesn't leave a lot of margin for these big behemoth facilities. The magic number is somewhere between 18 and 30 million gallons. It is not 75 million, and it is certainly not 3 to 5 million gallons.

Ben Cowart, CEO, Vertex Energy. In interior markets, where you cannot access the export market or marine-based fuel sales, there is a place for small plants. Anything on the coast would not make sense because btu is going to be your nightmare of a competitor.

Access to Capital

Capital is a challenge, depending on who you are, insiders say. "As an operator, one of the challenges is defining the true economics of the business. Raising capital at the end of the day is not the biggest challenge," said Joseph Chalhoub at Heritage-Crystal Clean. "There is quite a buzz around this industry right now. Capital is trying to find a home." The expectation is that private equity will continue to play a role in the industry's evolution.

> *"As an operator, one of the challenges is defining the true economics of the business. Raising capital at the end of the day is not the biggest challenge. There is quite a buzz around this industry right now. Capital is trying to find a home."*
>
> *—Joseph Chalhoub*
> *Heritage-Crystal Clean*

Operating Expertise

As you move up the value chain from producing VGO to higher value lubricating base oils, the economics of the processes and operations, as well as the capital requirements, are different. Hydrotreating is a more costly technology and often justified for a larger scale re-refinery, some insiders say. Clay filtration is an alternative for the smaller facility; however, the technology is less proven. Feedstock quality determines value in the finished product. Between 65 and 70 percent of base stock can be converted into high grade base oil.

Hydrotreating is a technology developed by big oil and not new to re-refining, but the feedstock required to run re-refineries—used oil—presents unique operating challenges. "There are contaminants in used oil that are detrimental to the operability of the units, and there are operating conditions within these units that require experience," remarked Chalhoub. Every time we build a plant, we try to improve on the technology. That really has been our vision from the beginning."

"These are sophisticated plants. Some people think they can buy technology off-the-shelf and become a great operator in this industry. You need to ask, how many of these plants have made money over a long period of time?" Chalhoub said. "We are fortunate enough to have developed expertise," Chalhoub added, crediting his combined 30 years as CEO at Heritage-Crystal Clean and previous role as President at Safety-Kleen. "We have designed, built, and operated the facilities that account for two-thirds of the re-refining capacity in the United States."

Technology developed by the Avista Group, which is based on solvent extraction, has the flexibility to produce Group I and Group II base oils, and it will be the technology employed at the UES re-refinery. "We found that the economic return on capital of building an Avista plant is just superior," remarked Matt Finlay at MidMark Capital. "If you are solely focused on only producing Group II, you probably want a hydrotreater. We think that is the wrong economic

decision. People can make their own determination." "We are going to partner with major buyers so we will produce Group II and Group I," commented Juan Fritschy at UES. "There will be oversupply of certain base oil groups and undersupply of other groups. Depending on how the market is pricing that oversupply or undersupply, we will use our technology to produce a group that gives us the highest profitability."

VGO producers are thinking about the competitive dynamics for feedstock as re-refiners expand. Ben Cowart at Vertex Energy shared his perspective, "I would say six to nine months ago, I would have been more concerned. Today, I like the VGO model better given all of the new activity in the global base oil market that is starting to back up. It comes down to your operating costs to make the product. Then you have to sell into a base oil market, and how much better is that market going to be than a VGO product?" Today, that premium is significant, with Group II base oil valued at more than $1 per gallon, or 43 percent higher, than VGO. Cowart added, "We produce a 98 percent finished hydrocarbon product, which gives us an advantage over the VGO model. Our operating costs are significantly less than a base oil re-refinery."

"VGO producers will survive in a market where refining crack spreads are good. VGO is a higher value than crude," observed John Wesley at Universal Lubricants. "But I think you have a declining market for your product. You don't have refinery expansion going on, and the only value for the VGO is a feedstock to a refinery." Wesley indicated that the VGO market has historically garnered a premium, in the range of $6-$10/bbl over crude, running up as high as $30-$35/bbl over crude in 2011. "Those margins are not sustainable. What goes up comes down," Wesley added.

"Ultimately, I think people will stop building just VGO plants. There is a lower capital investment required, but you have a less valuable end product. I think people will recognize the value of the incremental capital," commented Matt Finlay at MidMark Capital. "It is possible that some VGO plants will put in a hydrotreater and start producing base oil, but that won't impact the market. If someone builds a new plant, that has the ability to disrupt the market. There is so much used oil in the United States that we have years to go before that becomes a problem."

Long Distance Race

How much of the demand for re-refined oil will come from the "green movement" versus being an economically viable product? Insiders agree that the industry places significant value on Valvoline's efforts, the results of which will take time to observe in the marketplace. What is certain, Valvoline's commitment to buy re-refined base oil, and the backing of a powerhouse brand, could make a significant market for re-refined product. Skeptics say that while re-refiners are benefitting from the energy that Valvoline has put into its "recycled" product, at the end of the day, economics is what drives the business.

"This is a long distance race that may take years. As industry participants, we should be more reasonable in our expectations of the time it takes for a product to become mainstream. The wrong assumption is to expect immediate effects in the market measured by months or quarters," said Juan Fritschy at UES. "Valvoline has a strategy, and they put a lot of resources behind it. I think it is the right strategy, and others will follow their lead," Fritschy added. "In the medium- to long-term, five to ten years, there will be quite a substantial segment of the market for products like Valvoline's NextGen."

"We are spending significant time and resources in finding solutions to problems that have not been addressed by the industry for a long time."

—*Juan Fritschy*
Universal Environmental Services

Regulatory Developments

Environmental regulation has the potential to change the demand picture for used oil. One such regulation in New York could present a win for re-refiners in the Northeast. Effective October 1, 2012, a New York City regulation will require the phase-out of No. 6 heating oil in nearly 10,000 buildings. Insiders expect that the new regulation will create a supply and demand imbalance for used oil in the Northeast in the medium-term as restrictions are imposed on burning No. 6 oil.

Insider Perspective

THERMO FLUIDS
The Responsible Solution

In April 2012, used oil collector Thermo Fluids was acquired by Heckmann Corporation, marking an exit from a six-year investment for private equity sponsor CIVC Partners. In a post-mortem interview, Keith Yamada, the partner at CIVC who oversaw the investment, shared his thoughts on the transaction, the business, and changing dynamics in the industry.

"We're pleased with the investment. It is a really interesting market and business. What makes the used oil market more than a typical waste business is the recycling step. You are processing a waste stream into a raw material that ultimately turns into a saleable product. Although we exited the investment in April 2012, we still firmly believe that it is a business that has a lot of legs to it."

What were some of the key opportunities and challenges you encountered in operating the business over the course of your investment?

We had the benefit of the re-refining market open up. Facilities today can be made smaller in scale and require a lower capital investment, which has permitted the growth of smaller re-refiners and driven much stronger demand for used oil. As more re-refining capacity comes online, it is ultimately going to drive much more stable demand, which is positive.

We anticipated a higher crude oil price environment during our investment period but certainly not the volatility (commodity pricing and economic cycle) that we saw. Oil is ultimately scarce. Depriving supply to one market, i.e., the asphalt market or industrial burner market, in the face of increasing demand, creates a very attractive pricing dynamic. We implemented this "allocation" approach and believe it is sustainable long-term.

What were your thoughts on expansion into re-refining?

We had the belief that the small re-refinery (~15 to 18 million gallons) in the right geography could be very attractive and seemed like a more reasonable financial risk compared to a large re-refinery. A large re-refinery can work in locations that are close to large MSAs. When you start moving west of the Mississippi, distances between MSAs get longer, which makes it difficult to justify putting in a large plant and hope all the volume gets there. You also have slightly more concentration by city, so if you lose a large customer in Las Vegas, for example, it can be the difference between making and losing money because of the high fixed costs of operating the facility.

The market has become more competitive for feedstock with re-refining capacity coming online. Are collectors without re-refining capacity at risk?

I have seen both sides of the coin. In periods when oil prices are high and there is insatiable demand for oil, re-refiners are able to price high and can afford to pay more for feedstock. I have also seen the downside. When oil prices are low, re-refiners can end up being unable to pay for their feedstock and are stuck with a stranded asset.

Price is a temporary differentiator. We still strongly believe that if you control the collection routes, over the long-term, you control the customer. Given Thermo Fluid's scale advantages, we could be more sophisticated on pricing our overall service package and also build in cushion for commodity price volatility. While this is not a blanket statement, I would say that in most instances, the mom and pop collectors have one blunt instrument—price—which makes it difficult to be competitive over a long period of time.

Collectors have to play the game in hot markets, but by and large, recognize it is a service business. You are asking a vendor to perform a service, not necessarily to extract the highest price for your waste stream.

How many acquisitions did Thermo Fluids complete during CIVC's ownership?

We completed a half a dozen acquisitions. I wouldn't consider us a consolidator. We were selective about which acquisitions we pursued, not just for scale but for strategic reasons.

Did you see the number of acquisition opportunities increase during the investment period?

Not markedly. It is a highly-fragmented market. Beneath the five or six large players are a lot of "mom and pop" collectors. These small collectors have seen markets move and don't want to live through another downturn. There have been examples in the marketplace that have illustrated the way to exit the business. They have seen that path.

As you went through the sale process, were there particular areas that interested parties were focused on from a diligence perspective?

Generally speaking, buyers were focused less on the historical results as we went through a period of commodity price and economic volatility. Ultimately, those who looked at the company realized that we had a pretty buoyant business in almost all energy markets. Much of the buyer diligence was centered on understanding the opportunity set, both from an internal and external standpoint.

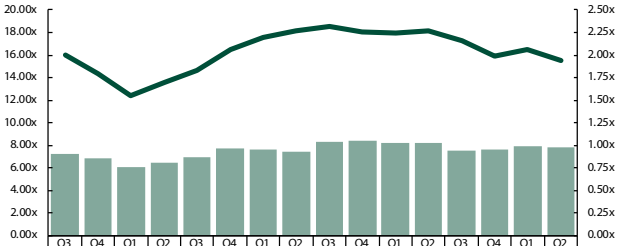
Can you share your observations on Heckmann Corporation emerging as the buyer?

Heckmann was looking for a business that would help them diversify their exposure to other energy plays but also build a growing base, making Thermo Fluids an ideal fit. We are oil-focused but also have a growing environmental services business, which the company knew well. The company was profitable and generated high free cash flow, so it will enable them to use that cash flow for future acquisitions. Heckmann sees the opportunity to grow and further diversify as an energy and industrial services business.

Industry Valuations

Relative Valuation Trends

Solid Waste



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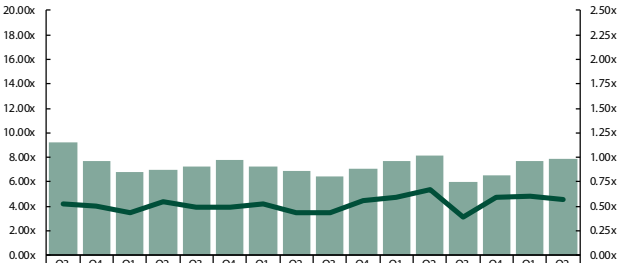
EV/EBITDA	7.3x	6.9x	6.0x	6.5x	6.9x	7.7x	7.6x	7.4x	8.3x	8.4x	8.2x	8.2x	7.5x	7.6x	7.9x	7.8x
EV/Revenue	2.0x	1.8x	1.5x	1.7x	1.8x	2.1x	2.2x	2.3x	2.3x	2.3x	2.2x	2.3x	2.2x	2.0x	2.1x	1.9x

Special Waste

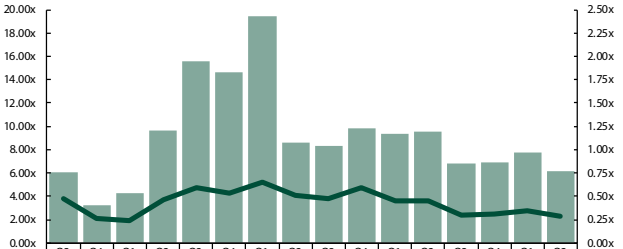
	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10	Q1 11	Q2 11	Q3 11	Q4 11	Q1 12	Q2 12
EV/EBITDA	11.1x	8.9x	7.5x	7.9x	9.3x	8.8x	9.6x	9.0x	7.9x	8.8x	8.7x	10.0x	8.0x	8.2x	9.5x	8.8x
EV/Revenue	1.7x	1.3x	0.9x	1.2x	1.3x	1.5x	1.4x	1.4x	1.2x	1.3x	1.6x	1.5x	1.6x	1.8x	1.9x	1.6x

Environmental Consulting, Engineering & Construction



	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10	Q1 11	Q2 11	Q3 11	Q4 11	Q1 12	Q2 12
EV/EBITDA	9.2x	7.7x	6.8x	6.9x	7.2x	7.8x	7.2x	6.8x	6.4x	7.1x	7.6x	8.1x	6.0x	6.5x	7.7x	7.8x
EV/Revenue	0.5x	0.5x	0.4x	0.5x	0.5x	0.5x	0.5x	0.4x	0.4x	0.6x	0.6x	0.7x	0.4x	0.6x	0.6x	0.6x

Metals Recycling & E-Waste



	Q3 08	Q4 08	Q1 09	Q2 09	Q3 09	Q4 09	Q1 10	Q2 10	Q3 10	Q4 10	Q1 11	Q2 11	Q3 11	Q4 11	Q1 12	Q2 12
EV/EBITDA	6.0x	3.3x	4.3x	9.6x	15.6x	14.7x	19.5x	8.6x	8.4x	9.8x	9.4x	9.6x	6.8x	6.9x	7.7x	6.2x
EV/Revenue	0.5x	0.3x	0.2x	0.5x	0.6x	0.5x	0.6x	0.5x	0.5x	0.6x	0.5x	0.5x	0.3x	0.3x	0.4x	0.3x

BGL Environmental Services indices defined on Page 26.
SOURCE: S&P Capital IQ.

Industry Valuations

Relative Valuation Trends

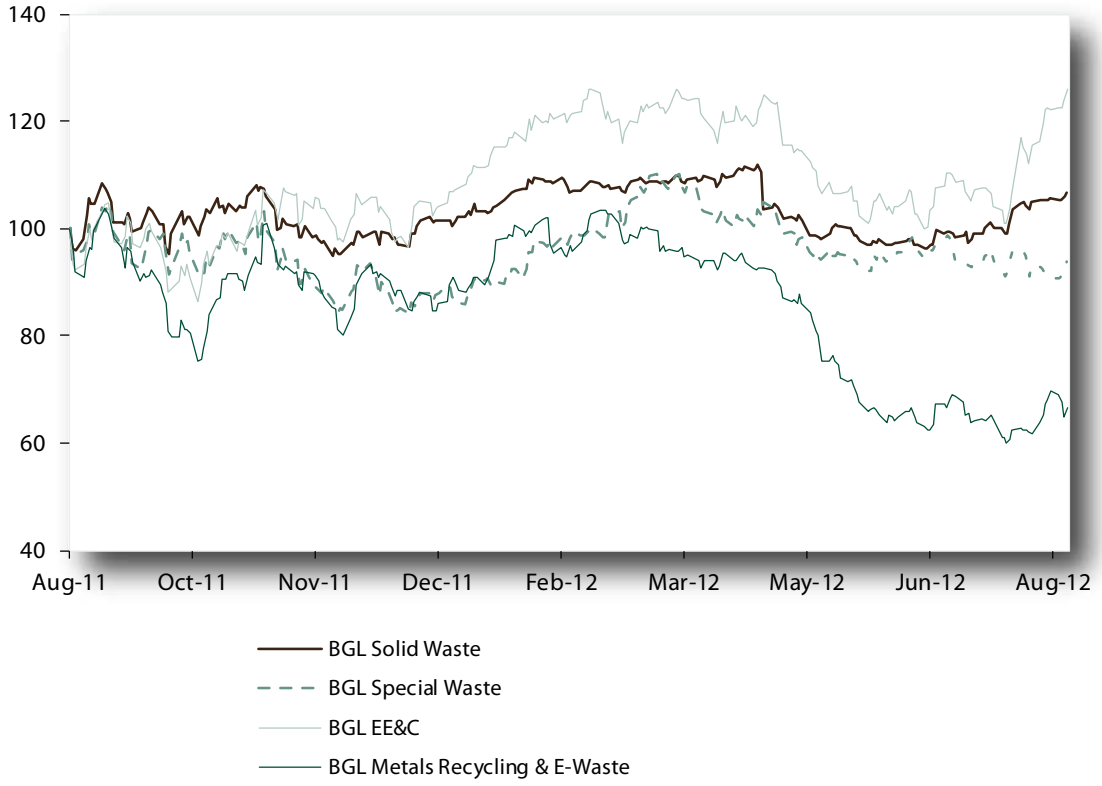
($ in millions, except per share data)			Current	% of	Market	Enterprise	TTM Enterprise Value /		Total Debt/	TTM	TTM Margins	
Company Name	**Country**	**Ticker**	**Stock Price (1)**	**52W High**	**Capitalization (2)**	**Value (3)**	**Revenue**	**EBITDA**	**EBITDA**	**Revenue**	**Gross**	**EBITDA**
SOLID WASTE (NON-HAZARDOUS)												
Waste Management, Inc.	United States	NYSE:WM	$35.66	98.1%	$16,530.5	$26,537.5	1.9x	8.1x	3.0x	$13,682.0	35.4%	24.2%
Republic Services, Inc.	United States	NYSE:RSG	28.81	92.0%	10,523.6	17,570.0	2.1x	7.2x	2.9x	8,184.4	40.0%	29.7%
Waste Connections Inc.	United States	NYSE:WCN	30.72	85.5%	3,784.9	4,659.4	3.0x	9.3x	2.0x	1,570.9	42.5%	31.9%
Progressive Waste Solutions Ltd.	Canada	TSX:BIN	20.52	85.5%	2,361.5	3,759.2	2.0x	6.8x	2.6x	1,861.4	39.8%	28.8%
Casella Waste Systems Inc.	United States	NasdaqGS:CWST	4.74	66.3%	127.9	601.9	1.3x	7.6x	5.3x	480.8	31.2%	18.5%
Median			**$28.81**	**85.5%**	**$3,784.9**	**$4,659.4**	**2.0x**	**7.6x**	**2.9x**	**$1,861.4**	**39.8%**	**28.8%**
Mean			**$24.09**	**85.5%**	**$6,665.7**	**$10,625.6**	**2.1x**	**7.8x**	**3.2x**	**$5,155.9**	**37.8%**	**26.6%**
SPECIAL WASTE (HAZARDOUS AND OTHER NON-TRADITIONAL WASTE STREAMS)												
Stericycle, Inc.	United States	NasdaqGS:SRCL	$91.47	96.7%	$7,834.6	$9,166.0	5.1x	17.0x	2.5x	$1,796.5	47.2%	30.0%
Veolia Environnement S.A.	France	ENXTPA:VIE	10.79	67.1%	5,478.1	27,128.8	0.7x	7.2x	6.5x	38,187.4	16.7%	10.2%
Clean Harbors, Inc.	United States	NYSE:CLH	57.30	80.0%	3,057.4	3,285.2	1.5x	8.6x	1.4x	2,197.1	30.5%	17.4%
Covanta Holding Corporation	United States	NYSE:CVA	17.59	99.6%	2,367.0	4,384.0	2.6x	9.8x	5.1x	1,664.0	42.9%	26.3%
Newalta Corporation	Canada	TSX:NAL	13.76	88.1%	670.2	1,029.6	1.4x	7.2x	2.5x	689.9	24.1%	20.2%
US Ecology, Inc.	United States	NasdaqGS:ECOL	20.27	89.3%	371.4	415.5	2.7x	7.6x	0.9x	154.2	39.4%	35.5%
Heritage-Crystal Clean, Inc	United States	NasdaqGM:HCCI	19.36	85.5%	352.6	323.7	1.6x	***32.5x***	2.2x	204.9	16.6%	4.9%
EnergySolutions, Inc	United States	NYSE:ES	2.54	46.8%	229.2	825.6	0.5x	***48.7x***	116.4x	1,772.9	3.7%	0.4%
Perma-Fix Environmental Services Inc.	United States	NasdaqCM:PESI	1.00	52.4%	55.9	73.9	0.5x	7.1x	1.7x	138.1	18.7%	7.5%
Median			**$17.59**	**85.5%**	**$670.2**	**$1,029.6**	**1.5x**	**7.6x**	**2.5x**	**$1,664.0**	**24.1%**	**17.4%**
Mean			**$26.01**	**78.4%**	**$2,268.5**	**$5,181.4**	**1.9x**	**9.2x**	**15.5x**	**$5,200.6**	**26.6%**	**16.9%**
ENVIRONMENTAL CONSULTING, ENGINEERING & CONSTRUCTION												
URS Corporation	United States	NYSE:URS	$38.36	81.3%	$2,948.2	$5,105.3	0.5x	6.2x	3.2x	$9,917.1	8.2%	7.2%
Shaw Group Inc.	United States	NYSE:SHAW	41.68	95.4%	2,750.8	2,906.4	0.5x	***17.6x***	11.5x	6,032.8	5.2%	2.4%
AECOM Technology Corporation	United States	NYSE:ACM	19.02	78.3%	2,150.7	2,878.7	0.3x	5.9x	2.4x	8,253.3	5.2%	5.3%
Tetra Tech Inc.	United States	NasdaqGS:TTEK	26.94	96.2%	1,714.8	1,717.7	0.9x	7.9x	0.7x	1,961.8	18.4%	11.1%
Arcadis NV	Netherlands	ENXTAM:ARCAD	21.33	98.2%	1,578.9	2,061.8	0.7x	10.0x	3.4x	2,902.4	27.3%	7.4%
Great Lakes Dredge & Dock Corporation	United States	NasdaqGS:GLDD	7.66	98.0%	453.6	637.8	1.0x	8.1x	3.3x	638.5	14.1%	12.3%
TRC Companies Inc.	United States	NYSE:TRR	6.97	95.8%	194.5	191.5	0.7x	8.0x	0.4x	292.7	18.3%	8.1%
Median			**$21.33**	**95.8%**	**$1,714.8**	**$2,061.8**	**0.7x**	**7.9x**	**3.2x**	**$2,902.4**	**14.1%**	**7.4%**
Mean			**$23.14**	**91.9%**	**$1,684.5**	**$2,214.2**	**0.7x**	**7.7x**	**3.6x**	**$4,285.5**	**13.8%**	**7.7%**
METALS RECYCLING & E-WASTE												
Sims Metal Management Limited	United States	ASX:SGM	$9.33	56.3%	$1,911.6	$2,224.3	0.2x	5.6x	1.2x	$9,731.2	13.9%	3.8%
Schnitzer Steel Industries Inc.	United States	NasdaqGS:SCHN	30.91	59.5%	828.8	1,155.4	0.3x	6.0x	1.9x	3,659.8	8.9%	5.2%
INTERSEROH SE	Germany	DB:ABA	75.06	100.0%	738.6	824.7	0.3x	***17.0x***	3.5x	2,871.9	10.2%	1.8%
Metalico Inc.	United States	AMEX:MEA	2.24	42.8%	106.5	237.3	0.4x	8.4x	4.8x	612.7	9.3%	4.6%
Industrial Services of America, Inc.	United States	NasdaqCM:IDSA	3.83	48.5%	26.6	52.9	0.2x	***NM***	NM	216.9	0.4%	-3.1%
Median			**$9.33**	**56.3%**	**$738.6**	**$824.7**	**0.3x**	**6.0x**	**2.7x**	**$2,871.9**	**9.3%**	**3.8%**
Mean			**$24.27**	**61.4%**	**$722.4**	**$898.9**	**0.3x**	**6.7x**	**2.9x**	**$3,418.5**	**8.5%**	**2.5%**

NOTE: Figures in bold and italic type were excluded from median and mean calculation.
(1) As of 8/17/2012.
(2) Market Capitalization is the aggregate value of a firm's outstanding common stock.
(3) Enterprise Value is the total value of a firm (including all debt and equity).
Source: S&P Capital IQ.

Industry Valuations

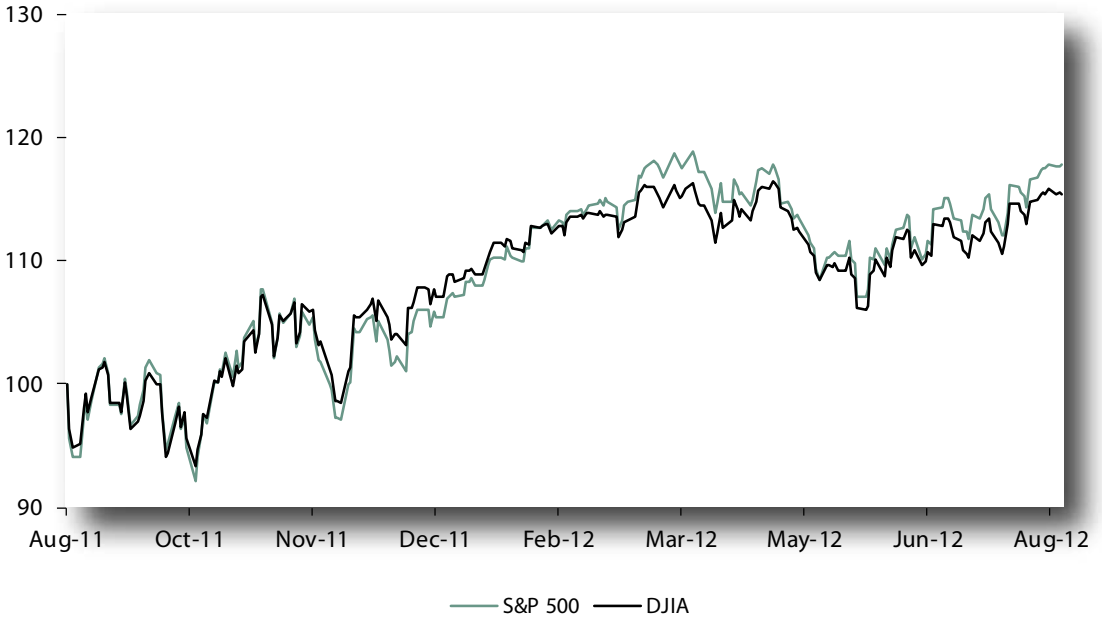
Sector Performance

By Sector



	1 Year
Solid Waste	6.7%
Special Waste	-5.8%
EE&C	24.9%
Metals Recycling & E-Waste	-33.3%

Overall Market



	1 Year
S&P 500	18.8%
DJIA	16.3%

Index: August 17, 2011= 100.

Source: S&P Capital IQ.

Global Environmental Services

- Solid Waste (Non-Hazardous)
- Special Waste (Hazardous as well as other non-traditional waste streams)
- Environmental Consulting, Engineering & Construction (EE&C)
- Metals Recycling & E-Waste
- Reclamation & Remediation
- Waste-to-Energy (WtE) and Cleantech

Who We Are

Leading Independent Firm

- Independent investment banking advisory firm focused on the middle market
- Senior bankers with significant experience and tenure; partners average over 20 years of experience
- Offices in Chicago, Cleveland, and Salt Lake City
- Founding member and the exclusive U.S. partner of Global M&A, the world's leading partnership of investment banking firms focusing on middle market transactions
- Deep industry experience across core sectors of focus, including: Business and Environmental Services, Basic Industrials, Consumer Products, Healthcare and Life Sciences, and Real Estate

Comprehensive Capabilities

M&A Advisory	Private Placements	Financial Restructuring
Sell-Side Advisory General Financial & Strategic Advice Acquisitions & Divestitures Public & Private Mergers Special Committee Advice Strategic Partnerships & Joint Venture Formation Fairness Opinions & Fair Value Opinions	All Tranches of Debt & Equity Capital for: Growth Acquisitions Recapitalizations Dividends	Balance Sheet Restructurings Sales of Non-Core Assets or Businesses §363 Auctions

Representative Transactions:

RemTec International — acquired by — A-GAS — a portfolio company of — LDC BROWN GIBBONS LANG & COMPANY	ECS REFINING — recapitalized by — ZS Fund L.P. BROWN GIBBONS LANG & COMPANY	**Pending Sale** Provider of Emergency Response and Waste Remediation Services BROWN GIBBONS LANG & COMPANY	**Pending Capital Raise** Liquid Waste Collection and Recycling Business BROWN GIBBONS LANG & COMPANY	**Pending Capital Raise** Series of Waste-to-Energy Facilities throughout the United States BROWN GIBBONS LANG & COMPANY

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