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Biomass study shows growing opposition

The use of sustainably harvested forest biomass to replace oil heat would likely begin to yield benefits in greenhouse gas emissions reduction in as little as five years, but electricity from biomass compares unfavorably with fossil fuels, including coal, according to a Biomass Sustainability and Carbon Policy Study commissioned by the Department of Energy Resources (DOER).

The six month study of issues associated with biomass sustainability and carbon policy conducted by a team of scientists and policy experts led by the Manomet Center for Conservation Sciences shows that the use of biomass for heating and combined heat and power (CHP) facilities would result in a 25 percent reduction in greenhouse gas emissions in 2050 relative to oil, but biomass-fired electricity would result in a 3 percent increase in emissions over coal-fired electricity in 2050. Coal has the highest greenhouse gas emissions per kilowatt-hour of energy produced of any fossil fuel.

Under the Global Warming Solutions Act, Massachusetts is required to reduce greenhouse gas emissions across the economy 80 percent by 2050.

"These findings have broad implications for clean energy and the See BIOMASS, Page 4

Trains derail dependance on trash trucks in Northeastern United States

by MIKE BRESLIN

mbreslin@americanrecycler.com

The Port Authority of New York and New Jersey has authorized \$118 million dollars for the purchase and major improvements to the 100 year old Greenville Rail Yards in Jersey City, New Jersey. When completed, this barge-rail link will carry solid waste across New York Harbor in sealed containers between Brooklyn and Jersey City.

The plan is projected to remove 360,000 garbage trucks per year from trans-Hudson River roads, bridges and tunnels. "The board just approved it so we are still working on the property acquisition. It is scheduled to be completed and open for business by 2013," said Steve Coleman, a spokesman for the port authority.

From Jersey City, via Norfolk Southern Railway and CSX, cars loaded with waste can then be railroaded long distances to landfills, thereby cutting highway traffic and road bidding for the business in for solid waste disposal.



Artist rendering of rail vard currently under construction by Los Angeles County Sanitation Districts, Puente Hills MRF (fai right) has a dedicated access road to bring loaded waste containers to a rail yard and retrieve empties.

states as far away as Ohio and South Carolina. This makes a winning concept for New Yorkwear. The trash can be New Jersey highway congestions and one offloaded at landfills actually example of why rail is a growing alternative

Riding the rails for solid waste makes sense for many communities if they have rail access and can site a waste transfer station to load waste to rail without causing traffic, and See TRASH TRAINS, Page 6

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Mercury vapor exposure risks dictate recycling practices for fluorescent lamps

by LISA BROSSEAU, ScD, CIH

Fluorescent lamps have been used for decades in commercial and industrial facilities – and remain a popular lighting option today due to the substantial energy savings and environmental advantages they provide. Once these lamps reach the end of their usable lives, it is the responsibility of the user to ensure they remain environmentally-friendly through proper

lamp recycling practices. Fluorescent lamps contain mercury and, if broken, can release hazardous levels of mercury vapor, posing a risk to the environment as well as any personnel involved in the transportation and disposal process. To prevent this from occurring, used fluorescent lamps should be housed in packaging designed to contain mercury vapor in case of breakage.

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Medical waste disposal meets humanitarianism



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Gilmanton transfer facility manager receives Sami Izzo Recycler of the Year Award



Gilmanton town administrator Tim Warren, left, NRRA executive director Mike Durfor, center left, and Gilmanton selectmen Rachel Frechette Hatch, right, are pictured with Justin Leavitt, center right, who recently received the 2010 Sami Izzo Recycler of the Year Award.

The Northeast Resource Recovery Association (NRRA), New Hampshire, announced that Justin Leavitt, Gilmanton Transfer Facility manager, as the 2010 Sami Izzo Recycler of the Year. His leadership, passion and drive for recycling earned him this prestigious award.

Leavitt joined the staff at the Gilmanton Transfer Facility in August 2006 and filled the leadership void when the facility manager left the position in 2008. The town's board of selectmen appointed him interim manager, offering him a permanent position in July 2009.

As facility manager, his passion for recycling is infectious, and his dedication is a model to all residents, as well as to other facility managers, said Betty Ann Abbott, chair of the Gilmanton

board of selectmen, who nominated Leavitt for this award.

Leavitt has not only worked with residents of Gilmanton but is a driving force to educate students in the town about recycling. In his four years at the transfer facility, he has initiated a partnership with a local school that has been key to keeping The Gilmanton School's recycling program running. Not only does he give students tours of the transfer station, but he uses his own vehicle to pick up the recyclables at the school!

This award is given annually to an individual who combines the qualities of commitment, creativity, leadership, enthusiasm and flexibility in developing and sustaining an environmentally and financially sound solid waste management program.

Coca-Cola partners to provide recycling carts in Philadelphia

The Philadelphia Coca-Cola Bottling Company (Philly Coke) has created a special partnership with RecycleBank that will positively affect Philadelphians and Philly Coke employees in an effort to garner a greater commitment to sustainability and recycling within the city. Together, their goal is to provide greater opportunity for both community members and employees who live within the region to recycle more, reduce waste and live positively while doing it.

Since 2006, Coca-Cola has been a valuable partner to RecycleBank, a meaningful rewards program that motivates people to recycle and take greener actions by rewarding them for their efforts

Philly Coke is sponsoring 1,200 Coca-Cola branded recycling carts to encourage Philadelphia residents to recycle much more curbside. These carts will be distributed to families in need in

each of the six sanitation districts in which RecycleBank offers curbside rewards for recycling in conjunction with the City of Philadelphia.

Philly Coke and RecycleBank are also launching the first ever "Points for Employees" Program, designed to encourage all Philly Coke employees to recycle more and make greener lifestyle choices. Through this inaugural program, all Philly Coke Employees will earn bonus RecycleBank Points for registering and taking steps for greener actions with RecycleBank.

Additionally, RecycleBank, in conjunction with Philly Coke, will create a special sweepstakes promotion for Philadelphia metro region residents offering valuable prizes and rewards. The sweepstakes will be promoted to members in the Philadelphia metro region area via RecycleBank's website.

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Northwest carpet recycling industry to expand

Recycling most of the 50,000 tons of used carpet generated annually in Seattle and King County that is currently going into landfills is the goal of a new carpet recycling strategy by King County and Seattle Public Utilities (SPU).

In order to divert used and scrap carpet from the landfill and to boost recycling, the King County Solid Waste Division's LinkUp program and SPU organized a Carpet Recycling Workgroup comprised of state and local governments and research university representatives from Washington, Oregon, California, and British Columbia.

The result of the collaboration is the Northwest Carpet Recycling Strategy, which aims to increase demand for carpet recycling and drive demand for commodities derived from and products made with recovered carpet fiber.

The multi-agency workgroup gathered input from industry experts and stakeholders to create the strategy. The workgroup hosted two business roundtable sessions with industry stakeholders to gain input while developing the plan. Parties provided input about what were the most important activities needed to get carpet recycling established in the region.

The findings from these roundtable sessions were then combined with input from the workgroup members and a list of possible strategies and tactics emerged. The workgroup then prioritized and combined tactics into the recommended actions included in the final Northwest Carpet Recycling Strategy.

The strategy also includes action items to pursue product stewardship measures such as legislation, memoranda of understanding, product redesign, closed loop recycling, and take back programs. The goal of such activities is to utilize solid waste and other public policies to influence costs and facilitate the flow of quality material toward recycling.

Other actions outlined in the strategy include reduction of asbestos contamination in used carpet, formation of a consortium focused on bringing a carpet processing facility to the Northwest and continued collaboration between interested parties.

A number of items in the action plan are already under way, and some co exist with other programs in both the public and private sectors. The priority items that King County LinkUp and SPU will be working on in the near term include increasing demand for carpet recycling and driving demand for commodities derived from and made with recovered carpet fiber. The strategy will be implemented over the next couple of years.

According to the Carpet America Recovery Effort (CARE) 2008 Annual Report, of the 2,821,000 tons of post consumer carpet discarded in 2008 in the United States, 122,000 tons (243 million pounds) or 4 percent was recycled. Currently, most of the 50,000 tons of used and scrap carpet generated in Seattle and King County is being landfilled; area solid waste agencies estimate that only a very small percentage is recycled.

Detroit Metro Airport and Delta expand recycling

Wayne County Airport Authority posing of plastic bottles, metal cans and (WCAA) and Delta Air Lines have introduced a new public recycling program at Detroit Metro Airport (DTW). Nearly 70,000 travelers who pass through DTW's McNamara Terminal each day will find that the airport's trash receptacles have been augmented by divided waste bins to collect recyclable plastic bottles, metal cans and paper separate from other trash.

"The new collection, sorting and recycling effort expands a similar program launched at the North Terminal when it opened in 2008 and will now allow all DTW travelers to participate in this important environmental effort," said WCAA interim CEO Genelle Allen.

The Airport Authority and Delta have placed 19 of the new, divided bins in locations throughout McNamara Terminal concourses A, B and C. Upon collection by airport maintenance staff, the recyclable contents of the new bins will be taken to one of four dedicated recycling dumpsters placed below the terminal, and then on to a local recycling center. Additional recycling bins may be added based upon customer participation. For now, the terminal's existing trash receptacles will also remain in place.

Nearly 7,080 tons of trash were removed from the McNamara Terminal in 2009. How much of that waste could have been recycled is not known, but the Airport Authority and Delta encourage travelers to help maximize the amount of recyclable material by appropriately dispaper into one of the new recycling bins.

Both WCAA and Delta have been industry leaders in recycling. For 9 of the past 10 years, DTW has recycled more aircraft de-icing fluid than any other airport worldwide. More than 36,000 lbs. of paper are recycled from airport Authority offices each year and WCAA has led an initiative to use cooking grease from concessions as biofuel to power airport service vehicles.

In the air, Delta launched the industry's first comprehensive in-flight recycling program for waste collected on domestic flights into its Atlanta hub in 2007 – a program that has since expanded to include 24 domestic routes with additions planned for this year.

Senator Thomas Carper honored for recycling

The National Recycling Coalition (NRC) and the Institute of Scrap Recycling Industries (ISRI) joined forces to honor Senator Thomas R. Carper (DE) for his outstanding and passionate leadership on key recycling issues.

Carper serves as co-chair of the Senate Recycling Caucus and was instrumental in successfully incorporating important recycling amendments in recent climate change legislation, including S. 2191, the Lieberman-Warner Climate Security Act of 2007, and S. 1733, the Kerry-Boxer Clean Energy, Jobs and American Power Act of 2009. Carper also was an early and strong supporter of the Recycling Investment Saves Energy Act of 2008.



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Mercury

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As of today, proper recycling practices are recommended but not mandated by federal law. Some standards exist to regulate transportation and disposal of mercury-containing products; however, recent research indicates the need for more stringent legislation to specifically address fluorescent lamps. When Governor Chris Gregoire signed Senate Bill 5543 on March 19, Washington became the first state to confront this issue directly addressing the dangers of unsafe packaging and transportation of used fluorescent lamps and mercury-containing devices. This new legislation is set to be the precursor of future state and federal legislation as the public becomes more aware of mercury vapor risks.

History and hazards of mercury

Mercury is a valuable element contained in many common products, such as

thermometers, thermostats, button cell batteries, dental fillings, switches and fluorescent lamps, as well as many additional industrial and medical products. While mercury is a naturally occurring element, it becomes an environmental pollutant when agricultural, industrial, commercial and household products and wastes containing mercury are not properly managed. Mercury vapor escapes into the atmosphere and waterways, where it is converted to methyl mercury and can enter the food chain through fish. Methyl mercury causes damage to the central nervous system and it is also thought to be a possible human carcinogen.

Mercury is not only a threat to our quality of life when it is not recycled properly, but it can also have direct health detriments if not properly handled. Exposure typically results from inhaling mercury vapors. For many, fluorescent lamps present the single greatest risk of mercury exposure in the workplace. A study of exposure to broken low-mercury lamps by

the New Jersey Department of Environmental Protection entitled, "Release of Mercury from Broken Fluorescent Bulbs" demonstrated that "elevated airborne levels of mercury could exist in the vicinity of recently broken lamps, and "could exceed occupational exposure limits."

Federal packaging requirements for fluorescent lamps

Federal environmental and transportation regulations include packaging requirements for fluorescent lamps. The federal environmental requirements and most state requirements for lamp packaging are similar. They were established by the Environmental Protection Agency (EPA) in 1999 but are silent on the loss of mercury vapor. The regulations require lamps to be managed in containers designed to prevent breakage. Additionally, the packages must remain closed and lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable

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pending the Manomet Center study and development of sustainability criteria

addressing biomass supply and greenhouse gas impacts.

"Unlike wind and solar, biomass is a form of renewable energy that emits carbon," said Department of Energy Resources commissioner Phil Giudice. "With the scientific information provided by the Manomet team, we can begin the process of refining our renewable energy regulations to provide incentives only for biomass energy that truly reduces our greenhouse gas emissions and protects our forests."

As explained in the Manomet Center report, forest biomass generally emits more greenhouse gases per unit of energy produced than fossil fuels. The report terms these excess emissions, biomass's "carbon debt." For biomass electricity, that initial carbon debt is 31 percent compared with electricity from coal. Over time, however, re-growth of the harvested forest removes this carbon from the atmosphere, reducing the carbon debt associated with the initial combustion of biomass for energy. After the point at which the debt is paid off, biomass begins yielding "carbon dividends" in the form of reduced greenhouse gas levels in the atmosphere compared with fossil fuels for producing the same amount of energy.

Biomass

■Continued from Page 1

environment in Massachusetts and beyond," said Secretary of Energy and Environmental Affairs Ian Bowles. "Biomass energy can be renewable over the long term and it has benefits in independ-

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ence from imported fossil fuels. But now that we know that electricity from biomass harvested from New England forests is not 'carbon neutral' in a time-frame that makes sense given our legal mandate to cut greenhouse gas emissions, we need to re-evaluate our incentives for biomass."

Biomass technology for generating electricity has qualified for incentives under the Massachusetts Renewable Portfolio Standard (RPS) since the RPS was created in 2002 under the Electricity Restructuring Act of 1997. The RPS provides financial incentives for eligible renewable energy facilities by requiring utility companies and other electricity suppliers to deliver a minimum percentage of RPS-qualified renewable energy to their customers. The Green Communities Act of 2008 accelerated the rate of increase of this percentage (currently 5 percent) from 0.5 to 1 percent annually.

Shortly after the passage of the Global Warming Solutions Act of 2008, an interagency team from the Department of Energy Resources, the Department of Environmental Protection and the Department of Conservation and Recreation began exploring the potential greenhouse gas implications and forest sustainability impacts of biomass incentives. In December 2009, DOER suspended qualification of any new biomass facility for RPS





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Mercury

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conditions. However, neither federal nor state regulations require the container to be designed to prevent the loss of mercury vapor.

In 2005, federal regulations were established to specifically require that "mercury-containing equipment" be managed in containers designed to prevent the loss of mercury vapors. The requirements apply to mercury wastes such as mercury switches, thermostats and thermometers, but they do not apply to used fluorescent lamps.

Federal transportation requirements publicized by the United States Department of Transportation (USDOT) also provide packaging standards for fluorescent lamps. These regulations require that shipments of lamps be contained in packaging that prevents the escape of mercury.

In practice, however, the USDOT packaging requirements rarely apply to packages containing used fluorescent lamps. Based on the rules and the mercury content of used lamps, the USDOT standards only apply to packages containing more than 250 typical compact fluorescent lights (CFLs) or low-mercury fluorescent lamps, or 100-200 fluorescent lamps. Most used lamps are transported in far smaller quantities.

Additionally, most generators of used lamps are unlikely to comply with one specific requirement of USDOT regulations. According to these regulations. a shipper of used lamps must provide a "shipping paper" that indicates the quantity of mercury contained in the package. However, this requirement does not exist under federal and state Universal Waste Rules – which specifically exempt lamp generators and transporters from this type of record keeping in hopes of encouraging lamp recycling.

Finally, USDOT regulations allow transport of small quantities of used lamps in the original manufacturers' packaging for a lamp, even though that packaging is almost certainly not designed to prevent the loss of mercury vapors.

New research indicates a need for stricter packaging regulations

Recent research studying the packaging employed to transport used fluorescent lamps has indicated the need for much stricter legislation to prevent the release of mercury vapor from used lamps. This research, published in the March 2009 issue of the Journal of the Air & Waste Management Association, revealed the need for proven vapor-containing packaging. The results indicated that four out of five commonly used packages - including a single-layer cardboard box designed to resemble original manufacturers' packages - failed to minimize mercury emission levels below acceptable occupational exposure limits, as defined by state and federal regulations and guidelines.

There was a significant difference in how effective the five packaging configurations were in containing mercury vapors from broken fluorescent lamps, according to the study. Mercury vapor concentrations in the test chamber with the single cardboard box were higher than The Federal Occupational Health and Safety Administration (OSHA) permissible exposure level (PEL) by nearly 10 times. Concentrations were 40 times higher than the more stringent California OSHA PEL.

While other configurations performed slightly better than the singlelayer cardboard box, the only package of those tested that kept airborne concentrations below occupational exposure limits was a cardboard box layered with a patent-pending vapor-resistant bag and second cardboard box. This packaging configuration - which is also used to store, ship and recycle other mercurycontaining products including batteries, ballasts, electronic devices and dental wastes - lowered mercury vapor concentrations by 99.7 percent compared to the single layer cardboard box.

These results imply that all three layers of this packaging configuration are critical to the effective containment of mercury vapor. The first cardboard layer offers structure to the configuration, also protecting contents from external elements. The bag, which must feature a suitable material and tight seal, contains the mercury vapor, and the inner layer of cardboard ensures the bag's integrity by preventing broken glass from puncturing it.

States act to protect against mercury vapor emissions

Due to deficiencies of most current packaging configurations utilized for shipping used fluorescent lamps, the new law in Washington requires that lights and other mercury-containing devices be shipped in packaging that will minimize the release of mercury into the environment. The law also states that packages should include mercury vapor barrier materials if transported by the United States postal service or a common carrier, or collected via curbside programs and mail-back businesses.

The State of Wisconsin also recently considered legislation that would apply the newer EPA mercurycontaining equipment packaging standard to used lamps from households. If adopted, the law would require those lamps to be managed in containers "designed to prevent the escape of mercury into the environment by volatilization or other means."

Environmental practitioners know that most federal environmental laws followed the lead of state laws and regulations. Mercury waste regulation is no exception. Today most fluorescent lamps are not recycled and states are increasingly indicating that they will take action to fix that problem. As those state laws evolve, states will also consider imposing more specific packaging requirements to supplement the minimal requirements imposed by federal regulations. The EPA's container requirements for mercury-containing equipment provide a simple and effective standard for states to extend to mercury containing lamps.

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Trash trains

■Continued from Page 1

odor problems for people living near them. "Siting any facility these days is a problem, but sighting a waste management facility is especially tough if it's going to be publicly owned, whether it's a rail-haul, transfer station or a truck haul. A recent transfer station by a town in North Carolina ended without success because of political and other issues," said Jeremy O'Brien, director of applied research at the Solid Waste Association of North America (SWANA).

Combining loads from several trash trucks into one rail car or shipping containers for long distance transport to remote landfills is one answer that makes sense for many cities — those faced with shrinking local landfill capacity. "Historically, there's been a significant growth in rail haul over last 20 years, but it has not taken over," said O'Brien. "From my experience, I would say there are only about 10 to 20 places around the country where it's being done."

Rail versus trucking cost conundrum

CSX Railroad touts in its advertising – "Trains can move a ton of freight 423 miles on one gallon of diesel fuel." This, of course, depends on what class of tonnage at what rate is being moved and how far. This hyperbolic claim is obviously an extreme example to show that train transport over long distances is cheaper than trucking.

But all the comparisons of rail versus truck transport costs go out the window when it comes to moving municipal solid waste by rail. It's done on a case by case basis. Kristi Small, manager of rail

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Republic uses a stanchion-mounted excavator to unload gondola railcars at Niagara Falls Landfill in Buffalo, New York.

and logistics operations at Republic Services provided insight as to how rates are established with railroads – "We tell them our origin and destination, and how many tons we plan to ship per day. Then we start negotiating the transportation rate. Often one railroad doesn't handle the entire move, you are on multiple lines, involving short line railroads to get to your destination, many times crossing state lines. From my experience, most rates are negotiated by the car type and volume commitment, then the waste stream commodity is confirmed."

While the actual rail transportation rate is a major cost consideration, the transfer infrastructure and labor costs at both ends of the line have to make economic sense. Republic, which is one of the largest nationwide waste handling companies, employs several transfer strategies. The oldest, most basic are open-topped (sometimes covered) gondola cars conventionally loaded, often compacted at the point of origin and machine excavated from the car at point of destination, loaded into rubber-tired vehicles for movement to the working face of the landfill. In Price, Utah, Republic operates one of the few rotary gondola car systems in the country. Only a few exist because of the large infrastructure costs involved. In the rotary operation, cars are disconnected from the train, and the tracks along with the railcar are rotated to empty contents onto a tipping floor similar to a transfer station. The waste is loaded into articulated dump trucks for landfilling. The emptied car and tracks are realigned

with the train and the next car moves into position to be handled.

Intermodal containerization of waste continues to grow due to its logistical flexibility and the sanitary benefits of containing litter, odor and leakage. At the Travis Rail Yard in Staten Island, New York, Republic uses an AMFAB compactor that creates a load of waste that is compressed to fit the rail container. "It's a very clean operation for loading 20 foot containers that carry on average 20 tons of municipal solid waste," said Small. From Staten Island, these containers travel 993 miles to a landfill in South Carolina.

Tighter regulations and shrinking landfills

O'Brien attributed the significant growth since the early 1990s to Subtitle D landfill regulations of the Resource Conservation and Recovery Act (RCRA) when as a nation we went from local, more publicly owned landfills, to larger more regional and mostly privately held landfills. "We went from about 10,000 solid waste landfills in the early 1990s to about 1,600 today."

City and suburban landfills are not only fewer, but also filling up faster and building a new one in a populated area these days is virtually impossible. Beside a local solid waste-to-energy (WTE) solution, city planners and sanitation districts are facing longer hauls, either by truck or by rail.

Los Angeles County waste-by-rail

Beginning the late 1980s, the Los Angeles County Sanitation Districts (LACSD) along with other public agencies, began studying ways to cope with a projected shortfall in local solid waste landfill capacity. LACSD operate a comprehensive solid waste management

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ON TOPIC

Q&A

by Irwin Rapoport

Technology's impact on waste

Over the past 10 years major scientific advances have been made to harvest alternative fuels.

To discuss how technological improvements are helping to reduce energy consumption, harvest alternative energy and improve the bottom line of waste management companies, American Recycler sat down with Bruce Parker, the president and chief executive officer of the National Solid Wastes Management Association.



—Bruce Parker

With the costs of waste collection and processing increasing, how important is it for solid waste management companies to share technological developments to reduce operating costs?

Parker: To the best of my knowledge, companies in the solid waste industry do not directly "share" this type of competitive knowledge but, that said, technological development quickly becomes transparent throughout the industry for several reasons.

First, equipment manufacturers advertise breakthrough or modifications that save fuel, reduce emissions, increase payloads, reduce accidents and so on. The annual Waste Expo Exhibition and Conference showcases these types of changes. Secondly, innovation results from customer demand and need as in most industries. Third, publications such as American Recycler, write stories on significant technological changes in the industry.

To what extent are waste management companies and manufacturers of trucks and other vehicles and waste processing equipment – particularly equipment which reduces energy consumption – working together to develop pilot projects to test equipment?

Parker: The Environmental Research and Education Foundation (EREF) is one of the largest funding sources for solid waste research in the United States. Some of EREF's research areas of specialization are landfills, transport/collection, recycling and waste minimization, conversion technologies, life cycle analysis and combustion/waste-to-energy.

The Foundation also works closely with major universities, such as Michigan State, Florida State and North Carolina State University, on funded (grants) projects. In addition, NSWMA and EREF are responsible, in part, for assuring the success of the Global Waste Management Symposium, an every-other-year event that brings together solid waste academics, facility owners and operators, vendors, and others to present peer reviewed papers on new technologies, equipment and emerging trends.

In short, research and development is a very important part of the industry, especially at this time of global awareness and concern about greenhouse gas emissions, energy consumption and other major environmental issues.

Do the federal and state governments offer sufficient tax incentives and/or grants for waste management companies to upgrade their fleets and facilities to reduce energy consumption, improve environmental safeguards at facilities, and to help convert waste into alternative energy?

Parker: Yes, but there can always be more! There are many federal agencies that have programs in place to assist waste collection fleets and waste management facilities in reducing energy consumption and convert waste into alternate energy. For example, the Department of Energy (DOE) has provided Cummins Engines, Inc. with over \$38 million in

grant money to develop and demonstrate a highly efficient and clean diesel engine, among others things, and Navistar, Inc., has received over \$37 million from DOE to develop and demonstrate technologies to improve combustion efficiency, idle reduction and waste heat recovery.

Waste companies, big and small, have benefited from both federal and state funding to convert their fleets from diesel fuel to compressed or liquefied natural gas, and the Section 45 production tax credit for energy produced from renewable fuels has been a major reason for almost 600 landfills extracting clean, renewable energy (landfill gas) from landfills. The states also have been giving grants to haulers to convert to natural gas vehicles. A northern California refuse company recently received over \$400,000 from the Bay Area Quality Management District to buy about 23 CNG refuse trucks.

What are the most compelling advances in terms of equipment to derive alternative energy from landfills and at specially designed facilities for waste-to-energy conversion?

Parker: I believe the two most notable developments have been the continuing conversion from diesel fuel to natural gas to power refuse collection trucks, and engine manufacturers that are required to meet EPA's 2010 emissions reduction mandate for nitrogen oxides. The requirement will also reduce particulate matter. The use of natural gas and other alternative fuels in large part is being driven by municipalities, such as San Francisco and New York City, as part of the request for proposal to manage the city's waste needs. Body manufacturers also are using higher tensile steel to reduce truck weight.

Another important technology is a hybrid truck which uses a lithium ion battery or a hydraulic system to capture the braking energy. The greatest potential for fuel savings is in lots of "stop and go" driving typical of curbside trash collection. Volvo began developing a hybrid truck several years ago, but I believe there are none, or very few, of these trucks available now.

Is the public and the government aware of how important technological innovation is to the solid waste industry, and how new and improved equipment can reduce the environmental impact of waste in general, waste collection and waste processing?

Parker: I am sure the general public is unaware; reliable garbage collection is their major concern!

Without question local government is aware of how technological innovation can reduce emissions, increase operating and collection, processing, recycling and cost efficiencies. NSWMA has materials and organizes educational sessions on advances in technology at Waste Expo. The Solid Waste Association of North America, representing the public waste sector, does an excellent job of keeping its members up to speed.

PAPER

Smurfit-Stone successfully emerges from bankruptcy

Smurfit-Stone Container Corporation announced that it has successfully completed its financial restructuring and has officially emerged from Chapter 11 as a newly reorganized, publicly traded company that began trading on the New York Stock Exchange under the symbol SSCC in July 2010.

The company's plan of reorganization, which was confirmed by the United States Bankruptcy Court on June 21, 2010, and recognized by a Canadian court order, has become effective. All outstanding closing conditions have been satisfied or waived.

In conjunction with the company's completion of its financial restructuring, the company announced a new board of directors, including Ralph F. Hake, who has been appointed non-executive chairman of the Smurfit-Stone board of directors. Hake is the former chairman and CEO of Maytag Corporation. Additional board members include:

•Timothy J. Bernlohr, former president and CEO of RBX Industries, Inc.

•Terrell K. Crews, former EVP and chief financial officer of Monsanto

•Eugene I. Davis, chairman, CEO and chief restructuring officer for Pirinate Consulting Group, LLC

•Michael E. Ducey, former president and CEO of Compass Minerals International, Inc.

•Jonathan F. Foster, managing director, Current Capital LLC

•Ernst A. Häberli, former president, commercial operations, international, Gillette Company

•Arthur W. Huge, former president and CEO of Menasha Corporation

•Steven J. Klinger, president and COO, Smurfit-Stone

•Patrick J. Moore, CEO, Smurfit-Stone

•James J. O'Connor, former chairman and CEO of Unicom Corporation and the former Smurfit-Stone lead independent director.

As previously announced, in accordance with the terms of the plan, Smurfit-Stone's previous common stock and preferred stock have been cancelled. However, the plan provides that 2.25 percent of the New Smurfit-Stone common stock pool will be distributed pro rata to the company's previous preferred stockholders and 2.25 percent of the New Smurfit-Stone common stock pool will be distributed pro rata to the company's previous common stockholders.

Upon completion of all distributions to former creditors under the plan (as well as holders of the former preferred stock and the former common stock), the company will have approximately 100 million shares of common stock issued and outstanding.

U.S. Containerboard report

The American Forest & Paper Association (AF&PA) released the United States Containerboard Statistics Report for May 2010. For the seventh straight month, containerboard paper production has risen sharply when compared to last year. Current total production saw an increase of 238,100 tons or 9.1 percent over May 2009. Total production amounts increased over April 2010, with average daily production up 0.3 percent. Year-to-date 2010 production has

increased 12.6 percent over 2009. The containerboard operating rate for May 2010 rose 12.2 points over May 2009 to 95.2 percent.

Additional key findings from the report include:

•Linerboard production was up from last year.

•Medium production follows the trend and increases over May 2009.

•Containerboard operating rates reached their highest levels in 2010.

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PAPER

Recycled paper consumption rose 7.1 percent

According to the May 2010 Recovered Paper Monthly Report published by the American Forest & Paper Association (AF&PA), total United States industry consumption of recovered paper was 2.6 million tons, a 1.3 percent increase from last month, and an increase from May 2009 of 7.1 percent. Compared to the same five months of 2009, consumption is up 8.5 percent.

The current month consumption changes compared to May 2009 are as follows: Mixed (+5.8 percent), News (+5.2 percent), Corrugated (+11.7 percent), Pulp Substitutes (+2.2 percent), High Grade Deinking (-14.6 percent).

The April 2010 United States exports of recovered paper stock to 1.8 million tons, a 7.7 percent increase from April 2009, and a 3.5 percent increase year-to-date.

June Kraft paper sector report

According to the American Forest & Paper Association's June 2010 Kraft Paper Sector Report, total Kraft paper shipments were 134.5 thousand tons, an increase of 10.7 percent compared to June 2009, and 8,400 tons higher than May 2010. Total inventory was 67.1 thousand tons, 1,100 tons less than last month.

Total Unbleached Kraft shipments were 118.9 thousand tons, up 10.8 percent compared to the same month last year.

Total Bleached Kraft shipments increased by 9.4 percent compared to the same month last year, and 8.3 percent from last month.

June 2010 paperboard report

According to the American Forest & Paper Association's June 2010 United States Paperboard Report, total boxboard production increased by 3.0 percent compared to June 2009, but decreased 2.0 percent from last month. Year-to-date production was up 4.1 per-

ALTERNATIVE ENERGY

Consumers Energy makes agreements with developers of renewable energy

Consumers Energy has reached energy capacity to Consumers Energy power purchase agreements with independent developers for more than 240 megawatts of new Michigan-based renewable energy capacity.

The agreements support Consumers Energy's Balanced Energy Initiative which is a comprehensive 20 year plan to meet the needs of its 1.8 million electric customers with a balanced energy portfolio, including energy efficiency, renewable energy and customer demand management.

The power purchase agreements are for 20 years and have been submitted for approval to the Michigan Public Service Commission. The new renewable energy projects are:

•John Deere Wind Energy, based in Johnston, Iowa, will develop its Michigan Wind 2 farm in Sanilac County. This wind project will provide 90 megawatts of renewable energy capacity to Consumers Energy beginning in 2012.

•John Deere Wind Energy will develop its Harvest II Windfarm project in Huron County. This wind project will provide 59.4 megawatts of renewable beginning in late 2012.

•John Deere Wind Energy and Great Lakes Wind, LLC, will develop their Blissfield Wind Energy project in Lenawee County. This wind project will provide 81 megawatts of renewable energy capacity to Consumers Energy beginning in late 2012.

•Waste Management Renewable Energy, based in Houston, will develop an additional landfill gas electric generation facility at its Pine Tree Acres landfill near Richmond in Lenox Township, Macomb County. The project will provide 12.8 megawatts of renewable energy capacity to Consumers Energy beginning in 2012.

The power purchase agreements support Consumers Energy's plan to increase its renewable energy supply portfolio to 10 percent by 2015 to meet the requirements of Michigan's energy reform law.

Once ready for construction, the new wind projects are each expected to create between 150 and 200 construction jobs.

Partners plan to reclaim PV waste

Pv recycling, llc of Tempe, Arizona, a recycler of photovoltaic module waste, and Swiss based Encros signed a memorandum of understanding (MOU) to develop collection and recycling systems in North America and Europe.

This alliance will unite pv recycling, Ilc's business development and administrative expertise with Encros' advanced scientific technologies and experienced facility management.

Under the terms of the MOU, Encros will develop, test and operate recycling technologies, while pv recycling, llc will implement and manage areas related to administration, logistics, and regulatory compliance.

Together the two entities will comarket their services to companies in the solar supply chain. The initial focus will be on solar panel manufacturers selling products in North America and Europe.

As aging installations in Europe are being replaced and demand for United States module manufacturing increases, the volume of panels reaching their end of life and the inevitable factory scrap will need to be handled in a sustainable

Dow Jones partners to build solar power system

Dow Jones & Company and Sun-Power Corp. announced that SunPower has been selected to install a high-efficiency solar power system totaling 4.1 megawatts at Dow Jones' corporate offices in central New Jersey.

The system will include 3.6 megawatts of elevated solar panels above parking areas and a 522 kilowatt rooftop installation. When completed early next year, the system will be one of the nation's largest solar power installations operating at a corporate site and is expected to generate the equivalent of 15 percent of current electricity needs for Dow Jones' South Brunswick campus.

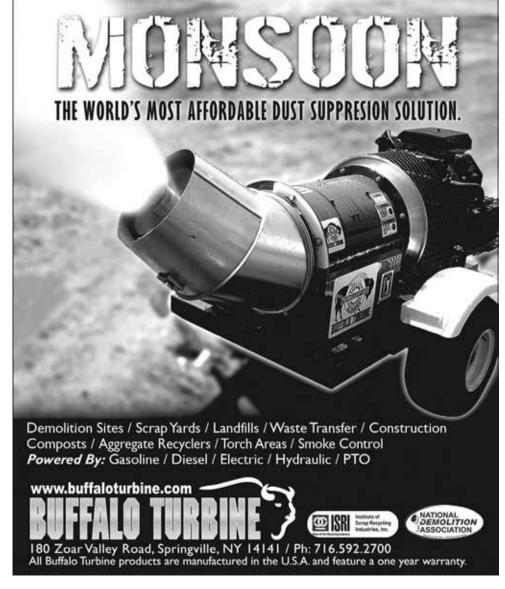
At the site, SunPower is installing SunPower T5 Solar Roof Tile, the solar ing system into a single pre-engineered unit. Tilted at a five-degree angle, the T5 Roof Tile system approximately doubles the energy generated per square

meter compared with other systems that are mounted flat onto commercial rooftops.



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Warren, Indiana



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Trash trains

■Continued from Page 6

system serving the needs of a large portion of Los Angeles County. This system includes sanitary landfills, recycle centers, and materials recovery/transfer facilities.

As planning for disposal capacity proceeded, public opposition grew to siting new or expanding existing landfills in Los Angeles Basin. Sites farther away began to look more desirable despite higher costs for longer transport distances. "We projected we would need more remote disposal sites. A study was done as to the breaking point where it was no longer economical to haul waste by truck and it's right around 200 miles," said Connie Christian, LACSD senior project engineer.

All these factors convinced LACSD to start building an ambitious, integrated system of local and remote infrastructure called "Waste-by-Rail."

"A lot of the planning is based on having capacity available if it's needed to field the shortfall from the closure of our Puente Hills Landfill in November of 2013," said Christian. Owned and operated by LACSD, Puente Hills is located in Whittier, California and is currently the largest landfill in the country permitted to accept approximately 13,000 tons per day.

When the Puente Hills materials recovery facility (MRF) was built in 2005, it was designed with a tipping room floor that allowed for overhead loading of containers destined for rail shipment. Waste is delivered to the MRF and sorted for recyclable material, the

residual material is placed in containers parked under the tipping floor which will be compacted, sealed and trucked a short distance to the rail loading yard.

Last year, LACSD completed construction of the key component of its waste-by-rail system, the new Mesquite Regional Landfill in Imperial County, California. It's operational, but no waste is being delivered as of this writing.

Located approximately 200 miles from the Puente Hills MRF, Mesquite Regional Landfill is permitted to accept 20,000 tons per day mostly delivered by rail from outside Imperial County. It can accept deliveries from within Imperial County, but that has not occurred primarily because Imperial does not generate a large volume at this time. (Imperial, located in the southeast corner of the state bordering Arizona and Mexico is 4,482 square miles with a population of 165,000).

The Mesquite Regional Landfill and the Puente Hills MRF are both close to the Union Pacific Railroad (UPRR) mainline. LACSD is currently constructing a dedicated subsurface access road under a county road and UPRR railroad tracks to allow direct off street access between the Puente Hills MRF and the new rail yard under construction. Other MRFs may also send containers to the rail yard.

LACSD's new rail yard has been under construction since late 2009 and is scheduled for completion in mid 2012. The project consists of three-miles of staging tracks on the UPRR right of way, a 17 acre rail yard, and all the necessary equipment to maintain and load 40 foot containers on and off rail cars. When it becomes operational, plans call for up to two trains

per day carrying a total of approximately 8,000 tons of refuse.

At the Mesquite Regional Landfill, the rail spur and rail yard is under construction and will be similar to the Puente Hills rail yard. Containers will be hauled by truck from the local rail yard to the landfill face for unloading

Mesquite has a total estimated capacity of 600 million tons and will be equipped with a gas recovery system.

"Today there is enough capacity within the county. There are a lot of variables to the amount of waste being disposed and we have seen tonnage fluctuates with market conditions." Christian noted.

The LACSD waste-by-rail system is expected to cost approximately \$500 million dollars.

Short-haul rail solutions

While long hauls of solid waste by rail may be the future for the dwindling landfill capacities of urban areas such as New York and Los Angeles, shorter rail routes to waste-to-energy (WTE) plants can also reduce waste highway traffic as well as provide renewable energy.

For example, Montgomery County, Maryland's resource recovery facility began commercial operation in 1995. This WTE plant processes an average of 1,500 tons per day of solid waste that generates up to 55 megawatts of renewable energy. All the waste feeding the plant is shipped by rail from only 22 miles away, but rail delivery virtually eliminated waste truck traffic on the roads associated with the facility. For Montgomery County, located just north of Washington, D.C. and southwest of Baltimore, reducing traffic is a high priority.

All the waste destined for the plant arrives by truck at a transfer station in Derwood, Maryland, compacted into intermodal steel containers and loaded onto railcars with gantry cranes. Each day CSX assembles a train that makes the 22 mile trip to the resource recovery facility that is located in Dickerson, Maryland. There the containers are offloaded at the on site rail yard and trucked to the plant's enclosed refuse building for processing and energy recovery. Residue from the WTE process is loaded into sealed containers and shipped by rail to a landfill located in Brunswick, Virginia.

The bottom line for waste by train

When weighing the total costs and environmental impact of rail transport against trucking solid waste, a universe of related factors must be evaluated including fuel costs, emissions, local road and highway congestion, pavement wear and tear, safety and land use, just to mention a few.

While estimates differ, trains are roughly three times more fuel-efficient than trucks and release fewer emissions. At the same time, trucks are becoming more fuel efficient and emit fewer pollutants. Proposals like the Pickens Plan may emerge to transition diesel powered trucks to natural gas that burns cleaner and could become price competitive with diesel fuel. Trucks are also flexible to changing route needs and can easily move to landfills offering the most attractive locations or lowest tipping fees.

Private companies operating wasteto-rail transfer stations usually operate more efficiently than government agencies and can respond faster to market demands.

As we have seen from the Port Authority of New York and New Jersey, and the Los Angeles County Sanitation Districts projects, investments of hundreds of millions are required to build dedicated infrastructure. For large, dense metropolitan areas it appears that waste-by-rail to the boondocks, or local rail to waste-to-energy plants is the in the offing.

In the end, taxpayers foot the bill for waste disposal and their voices will be heard loud and clear whenever the subject of trucking versus rail comes to the floor for debate. There are sound arguments for both sides.



Senators Jeff Bingaman and Tom Udall announced that the Department of Energy has awarded \$2.79 million to New Mexico Recycling Coalition in Santa Fe as part of a national effort to support energy efficiency and renewable energy programs that reduce energy use by American homes, vehicles and businesses.

The grant, which was awarded through the American Recovery and Reinvestment Act, will support the New Mexico Recycling Coalition's efforts to promote recycling across the state.





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ALTERNATIVE ENERGY

Technology taps hydrogen generated by living algae

OriginOil, Inc., the developer of a technology to transform algae into a competitor to petroleum, announced a new invention that generates hydrogen from living algae, providing an additional energy source from bioreactors.

The new Hydrogen Harvester™ uses little or no external energy inputs, requires no sulfur deprivation or other "stressing" of the algae, and no genetic modification. The process employs viable, high growth rate, high oil content algae strains.

"One of the primary challenges for algae production is to achieve the best-possible energy balance," said Riggs Eckelberry, OriginOil CEO. "By harvesting hydrogen from algae we are able to increase the energy output of virtually any algae production system. The result is a photosynthetic technology platform that yields energy in the form of oil, biomass, and hydrogen."

Recovering hydrogen provides the necessary ingredients for electricity generation using fuel cells. The energy can be used to offset the electricity requirements of algae cultivation, harvesting and downstream processing.

The Hydrogen Harvester will be integrated into OriginOil's existing portfolio of algae growth technologies, including the recently announced Multi-Reactor™. It will also be available as an add-on to other industry growth systems.

Hydrogen has often been called the perfect fuel. Its major reserve on earth (water) is inexhaustible, meaning that we will never run out of hydrogen. Hydrogen, if produced cleanly, efficiently and affordably from renewable resources, is the ultimate green energy solution: It produces no air pollutants or greenhouse gases when used in fuel cells and the only pollutants generated when burned in internal combustion engines are nitrogen oxides (NOx).

Largest fast pyrolysis plant to be built

Ensyn Technologies Inc. and Tolko Industries Ltd. have formed a partnership to build the world's largest commercial fast pyrolysis plant in High Level, Alberta. The partnership, High North BioResources Limited Partnership, was formed to build and operate a plant capable of processing 400 bone dry tons of biomass per day into 85,000,000 liters (22.5 million United States gallons) of pyrolysis oil annually.

This pyrolysis oil will be used to produce renewable energy in the form of electricity and heat that will be used in Tolko's sawmill at high level. The facility will also be capable of producing a renewable resin ingredient that can be used in the manufacture of wood panel products. High North will immediately commence the regulatory approval process for the project.

INTERNATIONAL

Mission wood waste and recycling center set to open

Carbon Friendly Solutions Inc. announced that its 75 percent owned subsidiary Pacific Briquetter's Inc. (PBI), has received final approval from the BC Ministry of Environment for its Material Recovery Facility permit at its biomass energy production, wood waste and recycling facility, located in Mission, British Columbia

The Mission Woodwaste & Recycling Centre (MWRC) a division of PBI, opened for business in July 2010 to immediately start accepting a variety of construction, demolition and wood waste materials delivered to the Centre from within the Fraser Valley Regional District (FVRD). The FVRD is comprised of six municipalities including Mission, Abbotsford, Chilliwack, Hope, Kent and Harrison Hot Springs covering roughly 13,900 square kilometers and a population of over 250,000 people.

MWRC will charge tipping fees for waste materials delivered to the Centre. Tipping fees will vary based on the type of

waste and volume ranging from \$15 to \$75 CAD per ton. The MWRC site location is equipped with an 80 foot scale to support any size truck and has the capacity to accommodate up to 200,000 tons of waste materials annually.

The waste materials will be sorted, processed and utilized at the Centre site location to produce a number of reusable engineered products. These products include biomass briquettes, mixed blend fuels and yard fill. The various PBI engineered products will be marketed to businesses such as energy companies, cement plants, combined heat and power facilities and landfill operators for daily cover.

PBI intends to sell its various engineered products produced at the Centre for a range of \$20 to \$180 CAD per ton depending on product type, demand, quantity and foreign currency exchange rates for exported products. A small percentage of unused materials collected such as metal, cardboard, tires and batteries will be sold or delivered to other recyclers.

Australia introduces reverse vending

Wincor Nixdorf has launched reverse vending machines (RVM) in South Australia to support a goal to promote recycling and reduce littering. RVM allows for the identification, collecting, sorting and processing of used or empty bottles and cans in a convenient standalone system.

Consumers insert containers which are identified by an image camera, com-

pacted and then sorted in an integrated container, which allows the crushed material to go straight to recycling depots. Consumers receive their cash deposit refunds, as part of the South Australian state government's container deposit legislation, by scanning a receipt issued by the RVM in an adjacent cash machine.











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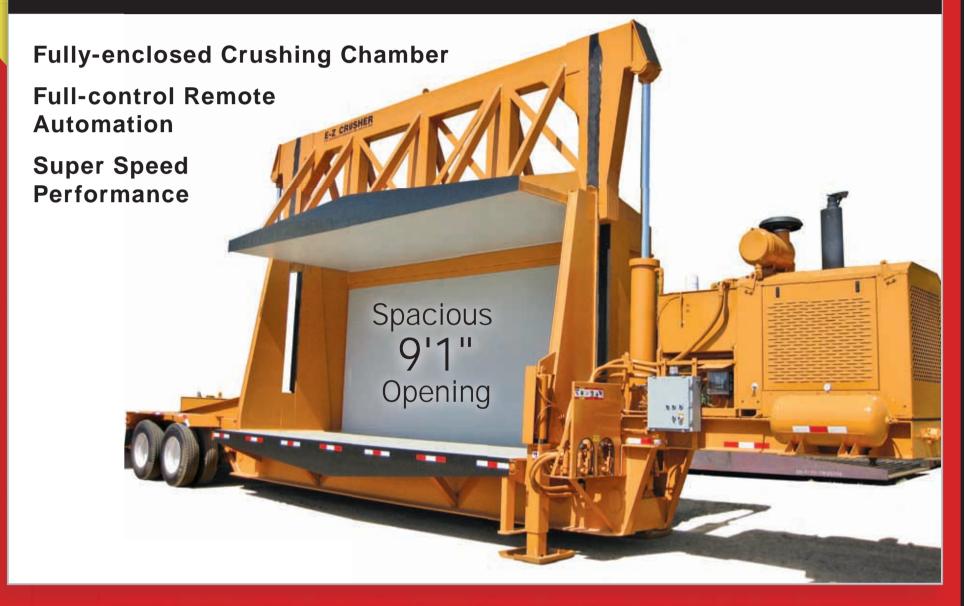
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1998 E-Z METAL BALER

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METALS

Steel imports rise in May

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the United States imported a total of 2,226,000 net tons (NT) of steel in May, including 1,722,000 NT of finished steel (up 7 percent and 3 percent, respectively, vs. April final data). This was the highest monthly total since January 2009 and the 3rd consecutive monthly increase. Finished steel import market share was an estimated 21 percent in May, vs. a low of 15 percent in August 2009. Import market share has remained above 20 percent since March.

Key finished steel products with significant import increases in May 2010 compared to April include plates in coils (up 34 percent), tin plate (up 32 percent), mechanical tubing (up 23 percent), oil country goods (up 21 percent) and sheets and strip galvanized hot dipped (up 17 percent).

In May, the largest volumes of finished steel imports from offshore were from South Korea (180,000, down 8 percent), Japan (122,000 NT, up 34 percent), India (116,000, up 187 percent), Germany (96,000 NT, up 12 percent) and China (60,000, down 2 percent).

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)

	MAY 2010	APR 2010	2010 Annual (est)	2009 Annual	% Change 2010 Annual vs. 2009
SOUTH KOREA	180	197	1,765	1,323	33.4%
JAPAN	122	91	1,313	981	33.9%
GERMANY	96	86	929	495	87.8%
CHINA	60	61	702	1,463	-52.0%
INDIA	116	40	687	581	18.2%
TURKEY	46	86	596	492	20.6%
AUSTRALIA	52	34	524	285	84.3%
ITALY	35	53	521	323	61.4%
All Others	1,015	1,030	11,105	8,237	34.8%
TOTAL	1,722	1,678	18,139	14,179	27.9%

Gerdau Ameristeel enters into definitive arrangement agreement

Gerdau Ameristeel Corporation and Gerdau S.A. have entered into a definitive arrangement agreement to implement the previously announced proposal to take Gerdau Ameristeel private at a price of \$11.00 cash per common share.

The transaction, which values Gerdau Ameristeel's publicly held shares at \$1.6 billion, will be implemented by way of a court-approved plan of arrangement under Ontario law.

The transaction has been approved unanimously by the board of directors of Gerdau Ameristeel (with the representatives of Gerdau S.A. declaring their interests in the transaction and abstaining from voting) following the report and unanimous recommendation of a special committee of independent directors. In doing so, the board of directors of Gerdau Ameristeel determined that the arrangement is fair to the shareholders of Gerdau Ameristeel and is in the best interests of Gerdau Ameristeel. The board of directors of Gerdau Ameristeel also determined unanimously (with the representatives of

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Gerdau S.A. declaring their interests in the transaction and abstaining from voting) to recommend to the shareholders of Gerdau Ameristeel that they vote their common shares in favor of the transaction. The complete recommendations and reasons of the special committee and the board of directors of Gerdau Ameristeel and full details of the terms of the transaction will be included in the management proxy circular that will be sent to holders of common shares in connection with the special meeting to consider the arrangement.

To be implemented, the arrangement will require approval by two-thirds of the votes cast by holders of common shares. Gerdau S.A. has agreed to vote all common shares held directly or indirectly by it in favor of the arrangement. The arrangement also will require approval by a simple majority of the votes cast by holders of common shares, other than Gerdau S.A., Gerdau Steel North America Inc., their respective directors and senior officers and any other "related parties", "interested parties" and "joint actors".

Steel import permits decline

Based on the Commerce Department's most recent Steel Import Monitoring and Analysis (SIMA) data, the American Iron and Steel Institute (AISI) reported that steel import permit applications for the month of June totaled 1,955,000 net tons (NT).

This was a 15 percent decrease from the 2,297,000 permit tons recorded in May and a 12 percent decrease from the May preliminary imports total of 2,226,000 NT. Import permit tonnage for finished steel in June was 1,524,000 NT. This was a 12 percent decrease from the preliminary imports total of 1,722,000 NT in May. June total and finished steel import permit tons would annualize at 23,116,000 NT and 18,165,000 NT, up 43 percent and 28 percent, respectively, from the 16,215,000 NT and 14,179,000 NT imported in 2009.

In June, the largest finished steel import permit applications for offshore countries were for Korea (154,000 NT, down 14 percent from May), China (79,000 NT, up 32 percent), Taiwan (76,000 NT, up 243 percent), Japan (70,000 NT, down 42 percent) and Germany (64,000 NT, down 34 percent). Finished steel import market share in June is estimated at 19 percent and is estimated to be at 20 percent year-to-date.

Finished steel import permits for major product categories that registered significant increases in June vs. the May preliminary include reinforcing bar (up 117 percent), sheets and strip all other metallic coatings (up 37 percent), standard pipe (up 14 percent) and cut length plates (up 11 percent).



Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	per gross ton	\$275.00	\$248.00	\$265.00	\$264.00	\$373.00
#1 Bundles	per gross ton	279.00	248.00	265.00	258.00	368.00
Plate and Structural	per gross ton	310.00	250.00	285.00	280.00	323.00
#1 & 2 Mixed Steel	per gross ton	315.00	250.00	275.00	276.00	286.00
Shredder Bundles (tin)	per gross ton	230.00	225.00	198.00	180.00	230.00
Crushed Auto Bodies	per gross ton	230.00	225.00	196.00	180.00	230.00
Steel Turnings	per pound	150.00	148.00	130.00	143.00	237.00
#1 Copper	per pound	2.66	2.68	2.62	2.58	2.79
#2 Copper	per pound	2.56	2.50	2.52	2.46	2.63
Aluminum Cans	per pound	.55	.56	.61	.59	.64
Auto Radiators	per pound	1.70	1.35	1.71	1.51	1.75
Aluminum Core Radiators	per pound	.59	.56	.58	.63	.64
Heater Cores	per pound	1.14	1.39	1.37	1.50	1.54
Stainless Steel	per pound	.72	.67	.72	.70	.80

DISCLAIMER: American Recycler (AR) collects pricing and other information from experienced buyers, sellers and facilitators of scrap metal transactions throughout the industry. All figures are believed to be reliable and represent approximate pricing based on information obtained by AR (if applicable) prior to publication. Factors such as grades, quality, volumes and other considerations will invariably affect actual transaction prices. Figures shown may not be consistent with pricing for commodities associated with a futures market. While the objective is to provide credible information, there is always a chance for human error or unforeseen circumstances leading to error or ornisoin. As such, AR is not responsible for the accuracy or completeness of the information provided, or for outcomes arising from use of this information. American Recycler disclaims any liability to any person or entity for loss or damage resulting from errors or omissions, including those resulting from negligence of AR, its employees, agents or other representatives.

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AUTO

Energy Star helps auto plants LKQ launches improve energy efficiency

Protection Agency's (EPA) Energy Star program has helped improve the energy efficiency of the auto manufacturing industry, which has cut fossil fuel use by 12 percent and reduced greenhouse gases by more than 700,000 tons of carbon dioxide, according to a recent report by the Nicholas Institute for Environmental Policy Solutions at Duke University.

The report, Assessing Improvement in the Energy Efficiency of United States Auto Assembly Plants, affirms EPA's energy management strategy, particularly the importance of performance measurement and recognition for top performance. The report also demon-

The United States Environmental strates that the gap between top performing plants and others has closed and the performance of the industry as a whole has improved.

> Central to this energy management approach is the Energy Star Energy Performance Indicator (EPI) for auto assembly plants, which enables industry to benchmark plant energy performance against peers and over time. Energy Star EPIs exist or are under development for more than 20 other industries. Across these industries, EPA has recognized nearly 60 manufacturing plants with the Energy Star label, representing savings of more than \$500 million and more than 6 million metric tons of carbon dioxide equivalent annually.

competition

LKQ Corporation has kicked off its annual Car Calendar Competition. Have your classic, custom or project car or truck featured in LKQ's 2011 calendar by submitting your entry through September 15.

Entrants who submit a photograph by the deadline will receive a limited edition 2011 LKQ Calendar Competition t-shirt.

Winners will receive a spot in the 2011 calendar plus a copy of the calendar, a framed poster of their winning entry, a professional car care kit from the Keystone Platinum Refinish Detail Series, a fullcolor Goodmark catalog and a \$100 Goodmark gift certificate.

> For full contest rules, view this article on www.AmericanRecycler.com.

facility in Texas Total Resource Auctions adds new

Total Resource Auctions recently announced the addition of Total Resource Auctions Dallas, in Wilmer, Texas. Built on 71 acres and featuring 26,000 total square feet, the new standalone facility is the company's largest location that will include two Simulcast sale lanes and a wash bay that will hold up to 30 cars.

The new location was designed to conserve vital environmental resources.

Recycled concrete was used on half of the 46 acres of surface that was developed. In addition, the facility will use an advanced geothermal heating and cooling system and reuse 90 percent of the water from its wash bays.

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by Ron Sturgeon Autosalvageconsultant.com

Make your new or existing website earn money Part 1 of 3

If your strategy for growth doesn't include the web, you're likely missing a lot of sales. However, even if you're a shrewd operator, you can easily spend a lot more developing a website than you need to. You don't know what you don't know. And in the case of building a web site for your business, what you don't know can be costly.

This is how it usually goes - you meet with a web developer, you will give her some idea what you want your site to do, she gives you some thoughts and you agree on a scope of work. What you almost never get is the strategic marketing advice that you need to make your website ring the cash register.

Let's face it - websites are a commodity. Just yesterday, I talked to a man who builds websites. CHEAP. Many of his clients are marketing agencies. After they determine the keywords for their client, they hire him to develop the site. Once the site is up, these agencies do some level of search engine optimization. In other words, they make some changes to make the website easier for the search engines like Google and Bing to find when a prospective customer types in a search term like "used 1998 Honda Accord transmission."

Don't be fooled. No matter what the developer said, the cheap sites

(below about \$1,500) don't have much search engine optimization, though they may look nice. The web developer may very well tell you that your new or redesigned website is optimized, but how do you know?

Good news. You don't have to spend tens of thousands of dollars, but you have to know what to ask and how

The biggest problem, really, is that the developers don't usually understand your business, and don't know the right questions to ask. They don't understand the complex issues surrounding part look up, or the strategic issues of your customer mix now and/or where you want to migrate it, or shipping issues, pricing issues, and don't mention cores or they are for sure thrown for a loop.

And you don't know what to ask of the developer, you just want all the "cool" stuff. A blog? Sure, no prob! (With no discussion about who will post to it daily, using relevant terms and content designed to boost traffic to your

This is a three part article, watch the next two months to get tips and practical explanations of many terms, so you can pull together all the information you need to do better on the web.

Remember, only you can make BUSINESS GREAT!

This article was provided by autosalvageconsultant.com, which was formed in 2001 by recyclers for recyclers, to help them improve their businesses.

GLASS

Americans race for recycling

The Glass Packaging Institute's (GPI) Recycle Glass Week was the environmental sponsor for the 29th annual Race Across America, the three thousand mile ultra-endurance cycling race from Oceanside, California, to Annapolis, Maryland.

At Recycle Glass Week-sponsored event time stations in five cities -Oceanside, California; Durango, Colorado; Bloomington, Indiana; Oxford, Ohio; and Annapolis, Maryland approximately 4,000 people came out to show their support for the time station events, recycled glass, plastic, and aluminum beverage containers, and learned about the environmental benefits of recycling glass bottles and jars.



"Through glass container recycling awareness events consumers are becoming more aware of the huge environmental and energy saving benefits of recycling glass bottles and jars," said Joseph Cattaneo, president of the Glass Packaging Institute. "Such awareness and collection events will ultimately help to meet the goal of using 50 percent recycled glass in the creation of new containers by 2013."

GPI worked with community recycling coordinators in the five Recycle Glass Week-sponsored event time station locations to collect glass containers and provide local recycling awareness. Doubling the United States glass container recycling rate (28 percent in 2008) would allow manufacturers to use 50 percent recycled glass to make new glass containers, saving enough energy to power 21,978 homes for one year and removing 181,550 tons of waste from landfills every

GPI's second annual Recycle Glass Week is planned for September 12 through 18, 2010. During the week, GPI and its member companies will hold nationwide activities and events to build awareness and boost glass bottle recycling. GPI will announce the 2010 Clear Choice Awards winners, and recognize Friends of Glass, those organizations or persons that recycle glass or promote the recycling of glass as a way to better the environment.

By working faithfully eight hours a day you may eventually get to work twelve hours a day.

-Robert Frost

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WASTE

Waste Services completes merger

Inc. (WSI) have completed their merger which establishes North America's third largest solid waste management company. The combined company, which will be headquartered in Toronto, will continue as IESI-BFC Ltd. and trade under the ticker symbol "BIN" on the New York and the Toronto Stock Exchanges.

The merged company will have more than 6,000 employees serving commercial, industrial and residential customers in 11 of the United States and the District of Columbia, and in 6 Canadian provinces. The transaction is expected to generate \$25 to 30 million in net pre-tax annual run rate synergies by the end of the second year following closing.

Under the terms of the agreement, WSI shareholders will receive 0.5833 common shares of IESI-BFC for each WSI common share held. The 28.0 million common shares that IESI-BFC is issuing to WSI represent approximately 23.0 percent ownership in the combined

IESI-BFC Ltd. and Waste Services, company, assuming conversion of IESI-BFC's Participating Preferred Shares (PPS). At close, IESI-BFC's total number of outstanding common shares and PPSs is 121.4 million.

> The combined company will be led by Keith Carrigan, IESI-BFC's current vice chairman and chief executive officer. Thomas Cowee, vice president and chief financial officer of IESI-BFC, will continue in his current role.

> The board of directors of the combined company will consist of eight members, including Carrigan, five directors from the IESI-BFC board of directors and two directors nominated by WSI. WSI has nominated Michael G. DeGroote and David Sutherland-Yoest.

> IESI-BFC has also announced that it completed several tuck-in acquisitions in its United States operations since the beginning of its second fiscal quarter of 2010. Consideration for these acquisitions totalled in excess of \$50 million and they were financed through borrowings under IESI-BFC's United States revolving credit facility.

> who are veterans (14 percent), veteran

training programs (10 percent) and pre-

vious three years' rankings (30 percent).

WM named top military employer

Waste Management, Inc. (WM) was recognized by G.I. Jobs magazine as a 2010 Top Military Employer.

One in 12 employees at Waste Management is a military veteran, spouse and/or current reservist. Every day a military person is hired at WM.

WM provides pay differentials to employees who are on an involuntary military leave, equal to the difference between their current base pay and their military pay. As well, the company provides outreach efforts to disabled veterans through Hire Heroes USA, Marines for Life and the Wounded Warriors project. Recruiters and hiring managers attend military job fairs across the nation every month. WM has a full-time employee responsible for building relationships with the military and veterans through outreach, sponsorship and recruiting initiatives.

Criteria for the G.I. Jobs Military Friendly Employers® rankings is objective, quantitative, comprehensive and looks at assets dedicated to military hiring (28 percent), Reserve/Guard policies (18 percent), percentage of new hires

Veolia acquires Indiana hauler

Veolia ES Solid Waste, Inc. has acquired substantially all the business assets of Indiana Waste Systems (IWS). IWS is based in Montecello, Indiana. The acquisition will establish a hauling presence for Veolia ES Solid Waste in western and northern Indiana and will add additional volume of 16,000 tons annually.

The IWS assets consist of 7 rearloaders, 4 roll-off trucks, 820 containers, 80 rolloff boxes and a transfer station. The waste collected will be internalized at the Veolia ES Hoosier Landfill in Claypool, Indiana. Terms were not disclosed.

Broward County recognized for making landfill into park

The United States EPA honored Broward County, Florida, with the EPA Region 4 Excellence in Site Reuse award for redeveloping the former Davie Landfill Superfund site, once referred to by some as "Mount Trashmore," into the Vista View Park. This is only the second award of its type to be awarded by the EPA.

Broward County saw the potential for the site of the former landfill that operated between 1964 and 1987 to be used as a park early on, even before EPA encouraged the reuse of Superfund sites. While the county closed the landfill and cleaned up the site under EPA oversight, it installed much of the infrastructure (roads, stormwater drainage, landscaping, etc.) for the site to eventually be used as a park. Five or more years passed after the landfill was closed before the county obtained enough funding to complete the park.

The Vista View Park opened in July 2003. The park's popularity led the county to purchase more land around it and expanded it in November 2009.

The 210 acre Davie Landfill site originally housed a garbage incinerator for the

county. The incinerator closed in 1975, and a sanitary landfill was constructed on the site for disposal of municipal solid waste, construction debris, tires and other waste materials. A sludge lagoon on the site was used to dispose of grease trap pump-out material, septic tank sludge and treated municipal sludge from 1971 until 1981. The lagoon was closed in 1981 after the sludge contaminated ground water, and the sanitary landfill was closed in 1987. In 1989, Broward County excavated, dewatered, and stabilized the contaminated sludge from the lagoon, placed it within a cell in the sanitary landfill, and constructed a cap over the cell with a protective cover. Due to the low levels of groundwater contamination detected, EPA and the Florida Department of Environmental Protection (DEP) determined that the contaminants could be addressed by natural processes with regular monitoring of the groundwater. Groundwater cleanup standards were achieved by September 2003. The site was removed from the National Priorities List in 2006 and, since then, the EPA and DEP have continued to monitor the site to ensure its safety.

■More industry news in WASTE available on Page B1

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BUSINESS BRIEFS

Anderson named regional sales manager for ACS

■ ACS Group welcomed Mike Anderson who will take on the role of regional sales manager in Florida where he will be a direct salesman for all of the ACS Group product lines.

Anderson comes to ACS Group with over 16 years of experience selling granulators, having started out in the AEC/Nelmor division where he worked as an inside sales assistant for two years, he then moved to Conair for five years and then on to Rapid for an additional nine years.

New Liberty Tire executive focuses on rubber asphalt

■ Pittsburgh-based Liberty Tire Recycling announced the appointment of Douglas D. Carlson as vice president of asphalt products. In his new role, Carlson will help Liberty Tire Recycling focus on the emerging market of rubber asphalt.

A recognized expert in the use of rubberized asphalt, tire recycling and granulated tire rubber in engineering materials, Carlson has held a number of executive and managerial positions during his career. This includes his most recent position as the director of the Rubber Pavement Association. In the last decade alone, he has authored twelve published reports on a variety of rubberized asphalt-related topics.

Life is like a game of baseball. You'll never know if you can get a home run unless you swing.

Olympic Steel announces award recipient

Olympic Steel, Inc. announced that Eva Miranda is the 2010 recipient of the Chairman's Humanitarian Award.

Miranda was recognized for using her language skills to broaden the reach of local philanthropic initiatives. As a fluent Spanish speaker, she has supported several organizations, including the Make-A-Wish Foundation of Illinois where she volunteers as a wish granter, by overcoming the language barrier for non-English speakers in the community.

Miranda joined Olympic Steel in 2007 as an intern at the company's corporate headquarters before transitioning to her current role as human resources representative for the Schaumburg, Illinois facility.

The Chairman's Humanitarian Award is presented annually for extraordinary contributions to the community or for a special initiative, resourcefulness and courage in an emergency situation on or off the job.

Fecon announces Brian Kile as territory manager

■ Fecon announced that Brian Kile is their new Northeast and Mid-Atlantic regional manager.

Kile will offer sales support for dealers and customers by offering demos, technical support, start-ups and operator training. Kile comes to Fecon with a strong background in heavy equipment sales.

Harsco announces executive appointments

Harsco Corporation announced major appointments within the Company's senior executive management structure. The appointments, are all effective immediately.

Harsco chairman and CEO Salvatore D. Fazzolari will add the office of president to his responsibilities, becoming chairman, president and CEO of the company. A 30 year veteran of Harsco, Fazzolari has been chairman and CEO since 2008 and has been responsible for developing and executing the Company's envisioned future business transformation roadmap.

Stephen J. Schnoor, who serves the company as senior vice president and CFO, will add the role of treasurer to his responsibilities, bringing together the Company's worldwide financial organization under single executive leadership as senior vice president, CFO and treasurer.

Richard A. Sullivan, who joined Harsco at the beginning of 2009 as vice president of business transformation, will add the role of chief supply chain officer to his responsibilities. In this additional role, Sullivan will direct the implementation of the key initiatives developed to streamline and strengthen Harsco's global supply chain.

The executive operating management team that reports directly to Fazzolari has been reorganized to include new promotions and appointments within the Company's principal operating groups. Galdino J. Claro, who joined Harsco in 2009, will assume the title of executive vice president and group CEO for the company's Harsco Metals and Harsco Minerals business groups.

Both executive vice president positions as well as their respective group CFOs and other key group leaders will be based at Harsco's world headquarters in Camp Hill, Pennsylvania to provide centralized senior leadership and collaboration in executing the Company's strategic plans.

In addition, Scott W. Jacoby has been named vice president and group president of the Harsco Rail business group, and Scott H. Gerson will become vice president and group president of the company's Harsco Industrial business group. Gerson will also continue his responsibilities as the company's chief information officer until the appointment of his successor. Jacoby and Gerson will also report directly to Fazzolari.

Leslie Equipment joins Bandit's sales force

To assist with chipper sales and the wood waste recycling business in the logging sector, Bandit Industries signed Leslie Equipment Company as a new dealer for the southern United States.

Bandit whole tree chippers and Beast recyclers are a natural complement to their existing lines and provide opportunities for expansion into new markets.

Bandit added 7 new dealers in 43 locations over the past 6 months.

Brookfield expands into the Chicago market

■ Brookfield Resource Management, a recycling company serving the New York metro area, has formed a joint venture with Wilkins Rebuilders Supply, Inc.

The new company, Brookfield Iron & Metal LLC, will recycle a wide variety of items including end-of-life commercial and passenger vehicles and all grades of scrap metal.

The new company, located in Chicago Heights, Illinois, began operations at the end of May and is expected to employ 15 people within the first 12 months of operation. The company recently took delivery of several pieces of recycling equipment including a 70' truck scale, a Sennebogen 830 material handler, a Komastu PC350 with a LaBounty MSD 3000 shear and a Sierra RB6000 logger/baler.

Events Calendar

August 15th-17th

WASTECON 2010. Boston Convention and Exhibition Center, Boston, Massachusetts. 800-467-9262 • www.wastecon.org

August 30th-September 2nd
Power Plant Air Pollutant Control "MEGA"
Symposium. Baltimore Marriott Waterfront
Hotel, Baltimore, Maryland.
412-904-6012 • www.megasymposium.org

September 19th-21st
International Roundtable on Automotive
Recycling (IRT). Hotel Plaza Quebec,
Quebec City, Canada.
519-858-8761 • www.autorecyclers.ca

September 13th-15th
20th Annual Arkansas Recycling
Conference & Trade Show. The Robinson
Center, Little Rock, Arkansas.
866-290-1429 • www.recycleark.org

September 28th-30th

The GREEN Expo. World Trade Center, Mexico City, Mexico. 52-55 1087 1650 www.ejkrause.com/thegreenexpo

September 29th-October 1st 2010 Rubber Recycling Symposium. Sheraton Centre Hotel, Toronto. 905-814-1714 • www.rubberrecycling.ca

October 1st-2nd
TIA Environmental Symposium. Ocean
City Convention Center, Ocean City,
Maryland.

800-876-8372 • www.tireindustry.org

October 3rd-6th

2010 Global Waste Management Symposium. JW Marriott San Antonio Hill
Country Resort & Spa, San Antonio, Texas.
800-559-0620 • www.wastesymposium.com

November 3rd-4th
Canadian Waste & Recycling Expo.
International Centre, Toronto, Ontario
877-534-7285 • www.cwre.ca

November 7th-9th
West Virginia Solid Waste and Litter
Control Education Conference. Stonewall
Jackson State Park, West Virginia.
304-292-3801 • www.moncoswa.org



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BUSINESS BRIEFS

Universal Stainless names McSorley VP of finance

■ Universal Stainless & Alloy Products, Inc. announced that Douglas M. McSorley has been named vice president of finance, chief financial officer and treasurer of the company.

McSorley, most recently served as chief financial officer of PSC Metals, Inc., an Icahn Enterprises L.P. scrap metal recycling company operating in the United States and Canada. He joined a predecessor company to PSC as controller in 1994, after serving five years with Deloitte & Touche LLP in Ontario, Canada, where he worked as a chartered accountant. In addition to holding positions of increasing responsibility and leadership, McSorley also was responsible for the acquisition and financial consolidation of several companies over the course of his 15 year career at PSC.

Morbark adds B & G **Equipment to dealer list**

■ B & G Equipment, specializing in forestry equipment, parts and service, is now the authorized dealer of Morbark industrial equipment in all of Mississippi and select counties in Tennessee.

In business for over 30 years, B & G is based in Philadelphia, Mississippi and has branches in Iuka, Magnolia and Hattiesburg.

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Tubelite adds Mike Efeney to architectural sales

■ Mike Efeney joined Tubelite Inc. representing the company's architectural aluminum products in northern Texas and Oklahoma.

Located near Dallas in Rockwall, Texas, Efeney shares educational and technical information on Tubelite's contribution to green goals such as the U.S. Green Building Council's LEED® Rating System[™].

Efeney is well-versed in LEED criteria and other green building guidelines. Most recently, he worked as a sales manager with Armstrong World Industries, Inc.'s Ceilings - Architectural Specialties. While there, he was responsible for high-end wood and metal products, as well as coordination for nine local representatives serving Arkansas, Colorado, Louisiana, New Mexico, Oklahoma and Texas.

Drawing from nearly 20 years of experience in architectural product sales, the majority of Efeney's career has been in the glass and glazing industry. After graduating from the University of North Texas, he began working with U.S. Aluminum.

Efeney accepted a position with Vistawall as territory sales manager for North Texas and western Oklahoma. He continued to grow sales and develop strong customer relationships, leading to his eventual role as district sales manager with responsibilities for four local sales representatives, major projects in the southern states, and architectural consultations.

Bejac becomes newest Sennebogen dealer

■ Constantino Lannes, president of Sennebogen North America, recently announced that Bejac Corporation has been appointed as the newest addition to the company's distributor network for Sennebogen. Bejac Corporation, headquartered in Placentia, will represent Sennebogen products for the state of California from its five branches serving in San Diego, Los Angeles, Inland Empire, Sacramento, Redding and the Oakland Bay area.

With its fleet of excavators, wheel loaders, compactors, air compressors, demolition tools, forestry and logging equipment, and machine fed chippers and grinders, Bejac serves a wide variety of customers and applications that exclude it from being labeled as a traditional 'dirt house.'

RIGK appoints new managing director

■ After his three year activity as managing director, Bernd Roth will leave RIGK and will retire.

The RIGK executive board has appointed Markus Dambeck as new managing director effective July 2010. Dambeck has been an employee of RIGK since the foundation of the company and was responsible for the management of the operative systems.

WM acquires medical waste processing facility

■ WM Healthcare Solutions, Inc., a subsidiary of Waste Management, Inc., announced that it has acquired a medical waste processing facility and certain other medical waste business assets located in Phoenix, Arizona, from Milum Textile Services Co., a provider of linen services and medical waste collection and treatment services. Terms of the deal were not disclosed.

The purchase of the medical waste autoclave facility fits into Waste Management's strategy to manage solid waste, medical, recycling and pharmaceutical waste for the healthcare industry. The 35,000 square-feet facility today serves approximately 250 licensed healthcare facility customers, employs 6 people and has the capacity to process 30 tons of medical waste per day.

Synalloy board names Richard D. Sieradzki CFO

■ Synalloy Corporation, a producer of stainless steel pipe, fabricator of stainless and carbon steel piping systems, and producer of specialty chemicals, announced that the board of directors made permanent the appointment of Richard D. Sieradzki to the position of chief financial officer.

Sieradzki has been interim CFO since early April. He has served as assistant vice president, finance since June 2007. Prior to joining the company, he was employed by Buffets, Inc. - Ryan's Division as divisional vice president, finance from 2006 to 2007.

STW Resources names Garwood as consultant

■ STW Resources Holding Corp., a water reclamation company, reported that Jeffrey R. Garwood, former president and CEO of General Electric Water & Process Technologies, Trevose, Pennsylvania, has agreed to serve as a personal consultant to Stanley Weiner, chief executive officer of STW Resources.

Having worked with McKinsey & Co., DuPont and start up companies as well as GE, Garwood currently consults with companies in the clean technology area. He advises them on strategic planning and execution.

Garwood served as president and CEO of GE Water & Process Technologies, a business unit of GE Infrastructure, from 2006 to 2009. He joined GE in 1992, in business development and sourcing at GE's global headquarters and later served in a variety of management roles at GE Plastics, leading the engineered styrenics resins business and plant management responsibilities.

He worked outside GE from 1999 to 2001, as chief operating officer for Commerx and Youcentric, early stage IT firms. He rejoined GE Aircraft Engines in 2001 as president of Garrett Aviation Services and was named president and CEO of GE Fanuc Automation in 2003.

Garwood began his career in 1984 as a process engineer with DuPont with responsibilities for water treatment, powerhouse and boiler management, air compression and Nitric Acid production. After DuPont, he spent more than more than four years as a consultant with McKinsey & Co.



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DUST CONTROL AUTOMATES LARGE-SCALE FACILITY NEEDS

Dust Control Technology has announced a strategic collaboration to apply computer-controlled automation for monitoring and managing dust suppression equipment. Driven by proprietary software, the resulting "intelligent" systems can be programmed to manage start/stop cycles based on dust monitor readings, motion sensors, weather input or operator remote control. The technology allows users of DustBoss® equipment to automatically adjust elevation, oscillation range and other features on any number of machines to improve suppression performance and free up manpower for other tasks.

Dust Control Technology 1607 W Chanute Road Peoria, IL 61615 309-693-8600 www.dustboss.com



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PRECISION AIRCONVEY UNVEILS **MOBILE PACKAGE ON TRIMPAC**

Pneumatic conveying system manufacturer Precision AirConvey has unveiled a mobile package on its TrimPAC[™] series of automated trim systems.

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www.precisionairconvey.com



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The Arm-Matic is available through a network of Shur-Co. dealers as well as through one of Shur-Co's eight service centers.



Waste Management 1001 Fannin Houston, TX 77002 713-512-6200 www.wm.com

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CONTINUED, Page 22

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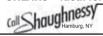
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go long periods between

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But the Model 10's speed is its primary distinguishing option. OverBuilt employs a high speed oil bypass system to quickly transfer hydraulic fluid from the tops of cylinders to the bottoms, reducing the volume of oil that must be pumped from the reservoir, therefore cutting cycle time.

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FOCUS on SOLID WASTE



Medical waste disposal meets humanitarianism

by MIKE BRESLIN

mbreslin@americanrecycler.com

Regulated medical waste (RMW) is a far-reaching term that encompasses everything from syringes to prescription drugs, new and used medical supplies to human and animal parts, to laboratory and hospital equipment. That just begins to describe an entire universe of constituent compo-

Adding to the scope of this category is the exploding size of the American healthcare market due to the aging of baby boomers, new technologies requiring ever more supplies, the mushrooming use of prescription drugs and the increased generation of home medical waste. For instance, the obesity problem has triggered more use of onset Type 2 diabetic supplies, like blood testing and insulin syringes, leading to a surge in RMW disposal.

RMW is a complex, ultra sensitive branch of the solid waste stream. It is subject to special regulatory compliance depending on where it is generated, comes with legal liabilities throughout the flow of the waste stream and requires higher collection and disposal costs.

Reuse for humanitarian relief

Because of the challenges facing RMW and the desire of the healthcare industry to ensure public safety and to be environmentally responsible, keeping as much of these wastes out of landfills as possible and recycling whenever practical have become high priorities. As a result, there have emerged a number of innovative alternatives.

Over the past decade, for example, the recovery and reuse of medical supplies and biomedical equipment has grown from virtually nothing to a well-established national supply chain that is now exporting hundreds of thousands of tons annually for reuse to developing countries around the world. Materials that would have been landfilled are now relieving pain and saving lives.

An example is MedShare, a non-profit humanitarian organization founded in 1998 and headquartered in Atlanta. It pioneered the concept of recycling American medical supplies and equipment for people in needy countries.

MedShare has established bin collection programs in the Atlanta and San Francisco metro area hospitals to recover medical supplies that otherwise would be trashed due to hospital regulations. "Since our founding we estimate that we have saved in excess of 1.7 million cubic feet from going into landfills. On average, we recover about 2,500 pounds of surplus medical supplies each week from hospitals in Atlanta and Northern California, thus diverting them from landfills," said A.B. Short, CEO and cofounder of MedShare.

Hospitals generate large volumes of medical waste, much of it perfectly good medical supplies and equipment. This is partially a result of our litigious society. Once an item is ordered for a patient's room, the patient is charged for it, and if unused, it must be disposed of. There are also hundreds of different medical-surgical kits used. Often there are separately packaged leftovers as well as damaged packaging, inventory clearances and equipment disposals due to upgrades.

MedShare collects these items, as long as the ones with expiration dates have a shelf life of 12 to 18 months, and receives product donations from medical supply manufacturers and distributors mostly cosmetically damaged products, overstocks and discontinued lines. It also receives products and equipment from other humanitarian organizations that have found MedShare an efficient conduit to distribute their donations.

With a small staff and approximately 1,000 volunteers per month, MedShare sorts and repackages nearly 25,000 product codes, repairs and refurbishes biomedical equipment ranging from hospital beds to X-ray machines and packs 40 foot containers for export.

Thus far they have shipped nearly 600 containers to hospitals and clinics in the developing world valued at more than \$70 million dollars, and have provided medical supplies to more than 1,000 international medical missions worth over \$2.3 million.

This recycling model has led to the formation of similar non-profit efforts across the country. In 2008, the MedSurplus Network was established. "The Med-Surplus Network is a growing alliance of five medical surplus recovery organizations working together to improve the



tainer is full, it is secured, sealed and mailed back to XMED for disposal.

quality of medical supply and equipment donations here and abroad," Short explained.

Hospitals are enthusiastic about recovery and reuse organizations. Many are actually paying for the collection service. It's consistent with their humanitarian efforts and green agendas, plus has the bottom-line benefit of reducing

RMW volume thereby reducing disposal costs.

Recovery

The bulk of medical waste is biohazardous. It includes potentially infectious materials such as blood and other biologics, dressings, pharmaceuticals, laboratory waste, and contaminated glassware and

See RMW DISPOSAL, Page 7



A Letter from the Editor

Readers,

It may have taken me awhile, but I think I'm finally beginning to understand how best to invite reader feedback.

It turns out that all I have to do to get folks to get in touch with me is to screw something up.

Last month, there was a fairly egregious editorial error (for which I take full responsibility) in the Focus cover story regarding solar power and water conservation. A number was quoted incorrectly, and as a result, the article claimed that more than five-sixths of the world's populace died off each year for lack of adequate water.

As several keen-eyed readers pointed out, that simply isn't true.

So, I'm here today to humbly beg your forgiveness and to issue an official correction – the number should have read five million people per year.

For those of you who ran out and stocked up on bottled water for the pending global drought that you read about in American Recycler, I'm truly sorry. For the rest of you who merely laughed at my end-of-the-world gaffe, thanks for understanding.

In other news, welcome to the August edition of American Recycler. This month's focus is on solid waste. Inside you'll find news about the generation, disposal, conversion and clean-up of solid waste of all sorts, including our Focus Section headline this month: medical waste.

With the recent governmental restructuring of the American health-care system and access to it being expanded, there's a possibility of a sharp spike in the amounts of medical waste being generated in our nation. Writer Mike Breslin has jumped in head-first and given us a glimpse of what goes on after we leave the doctor's office.

And medical waste disposal is no longer something that only doctors and hospitals have to worry about. Rather, as more and more individuals are managing medical conditions at home, it is becoming necessary for even lay people to have a rudimentary understanding of how to safely dispose of their medical waste

I hope that you enjoy this month's edition of American Recycler. As always, please feel free to contact me with any questions, comments or feedback.

Until next month,



Dave Fournier Focus Section Editor david@americanrecycler.com

California begins \$7 million cleanup of former landfill

A settlement with El Dorado County, California, will ensure the beginning of the cleanup of the Meyers Landfill site, located outside of the city of South Lake Tahoe, California, according to the Justice Department and United States Department of Agriculture, Forest Service. The estimated cost of the clean up will be \$7 million.

The agreement, lodged in United States District Court in Sacramento, resolves certain federal claims against El Dorado County for cleanup of the Meyers Landfill site. In addition, the agreement resolves certain counterclaims made by the county against the United States for cleanup of the site.

Under the settlement, El Dorado County will be responsible for consolidating the waste mass at the site and placing it under an impervious cap. The cap and associated drainage features around the cap will prevent the infiltration of precipitation and snowmelt into the landfill waste mass, thus eliminating or significantly reducing additional groundwater contamination. A landfill gas venting and monitoring system will also be installed.

The United States Forest Service is continuing to investigate groundwater contamination related to the site. Several years of study will be required after the landfill cap is constructed to determine the effect on the groundwater, and what remedy may be required to address any remaining groundwater contamination.

The Meyers Landfill site is a former municipal waste dump and is located wholly on National Forest System lands administered by the Lake Tahoe Basin Management Unit of the United States Forest Service.

The site was operated as a landfill from about 1946 through 1971 under a series of Forest Service special use permits that were issued to private parties and since 1955 to El Dorado County.

Between 1991 and 1994, volatile organic compounds (VOCs), likely produced by degradation of organic material within the landfill waste mass, were detected in the groundwater beneath the former landfill disposal area. In August 1996, VOCs, including vinyl chloride, were detected down gradient of the site, including in Saxon Creek, a tributary of Lake Tahoe. The Forest Service initiated a response action under the Superfund law or the Comprehensive Environmental Response, Compensation, and Liability Act to determine the extent and impacts of the VOC contamination, and in 2001 it filed litigation against El Dorado County and the city of South Lake Tahoe.

Two lawyers were out hunting when they came upon a couple of tracks. After close examination, the first lawyer declared them to be deer tracks. The second lawyer disagreed, insisting they must be elk tracks.

They were still arguing when the train hit them.

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Covanta and Burney Mountain earn Cal/VPP STAR designation

Covanta Energy, a wholly-owned subsidiary of Covanta Holding Corporation and a developer and operator of large scale energy from waste and other renewable energy projects, announced its Covanta Burney Mountain Power and Covanta Mt. Lassen Power biomass facilities have earned STAR status in California's Voluntary Protection Program (Cal/VPP) administered by the California Occupational Safety and Health Administration (Cal/OSHA).

STAR designation is the highest honor given to worksites with comprehensive, successful safety and health management systems. Sites such as Burney Mountain and Mt. Lassen are committed to the highest levels of employee protection, going above and beyond the requirements of state and federal standards. Participants develop and implement systems to effectively identify, evaluate, prevent and control occupational hazards with an ultimate objective of preventing injuries and illnesses.

In awarding this elite status, Cal/OSHA gives strong consideration to the level of employee engagement and ongoing involvement in on site health and safety program development combined with long term commitment and support from management. STAR recipients routinely incur injury and illness rates that are at or below the state average for their specific industry.

Burney Mountain and Mt. Lassen are the 30th and 31st Covanta Energy facilities, respectively, to have achieved the prestigious VPP STAR designation. The facilities join three other Covanta Cal/VPP STAR sites in California, making them five of only 78 other worksites to have received this award.

Mt. Lassen and Burney Mountain combined generate up to 22 megawatts of clean, renewable energy from processing biomass waste materials, enough to power up to 20,000 homes. Unlike traditional methods of power generation that rely on exhaustible fossil fuels, biomass energy is generated by utilizing wood and agricultural fuel from a variety of local, renewable sources. Biomass energy facilities reduce greenhouse gases by replacing fossil fuel generated energy and preventing the release of greenhouses gases from organic waste that would otherwise decompose in the open.

Additionally, the collection and use of wood waste for use at biomass facilities like Mt. Lassen and Burney improves the health of American forests by removing combustible material left on forest floors, reducing the potential for wildfires. The United States Forest Service notes that the "advantage of biomass is that it produces electricity 24/7 while not adding any additional CO2 into the atmosphere. The development of wood energy is needed to ensure our energy security."

Pennsylvania DEP OKs Alliance's landfill assessment

The Department of Environmental Protection (DEP) has approved the environmental assessment of Alliance Sanitary Landfill's proposed expansion in Taylor Borough and Ransom Township, Lackawanna County.

The assessment represents the first phase of the department's review of the proposal.

"Alliance documented that the environmental, social and economic benefits clearly outweighed the potential environmental harms. As such, we have approved this first phase of their expansion application," said Northeast regional director Michael Bedrin. "This is only the first step in the process. A comprehensive review of the engineering and technical aspects of their application will now begin."

Alliance Landfill applied for an 87.3 acre expansion of its lined disposal area and an increase in its average daily volume from 2,000 tons per day to 4,000 tons per day.

DEP held a public hearing on the environmental assessment, also known as the harms/benefits analysis in January.

The assessment process requires landfills to provide a detailed analysis that describes the proposed facility's potential impact on the environment, public health and public safety; and the known and potential harms of the proposed project.

The analysis must include a written mitigation plan that explains how the landfill will deal with each known or potential harm, as well as the extent to which any known or potential harms will remain after mitigation. It must also demonstrate that the benefits to the public clearly outweigh the project's known and potential harms.

In approving the Alliance assessment, DEP evaluated the social and economic benefits to the municipalities and found that the benefits included: free waste disposal; recycling and environmental education programs; the landfill's support for watershed and community groups; and the host municipality agreements with Taylor Borough and Ransom Township.

environmental The potential impacts identified during the application's review included dust and odors, diminished aesthetics, additional noise and litter, improperly contained truck loads, and general transportation issues, among others.

The Pennsylvania Department of Health and the federal Agency for Toxic Substances and Disease Registry (ATSDR) evaluated air monitoring data from DEP and Alliance, and recently concluded that the landfill would not be expected to harm the public's health.

The environmental assessment approval does not authorize changes to the landfill's permit. That decision will be made based on the company's ability to meet the department's solid waste engineering and technical regulations.

Ohio waste authority files suit to end clean energy contract with FirmGreen

The Solid Waste Authority of Cen- interests of SWACO and the taxpayers tral Ohio (SWACO) has asked the Franklin County Common Pleas Court to declare that FirmGreen Fuels of Ohio LLC committed an anticipatory breach of its landfill gas purchase contract with SWACO.

FirmGreen publicly acknowledged at SWACO's May board of trustees; engineering, operations and compliance committee meeting that it will not timely meet its contractual commitments. This action does not affect the operation of the Green Energy Center which continues to produce Compressed Natural Gas (CNG) for vehicle fuel.

SWACO executive director Ron Mills indicated SWACO has lost all confidence that FirmGreen will complete Phase Two of the Green Energy Center by the contractually required deadline of December 10, 2010.

"FirmGreen stated in June 2009 that it would take 18 months to construct Phase Two. Just this past month, (May 2010), FirmGreen chairman and CEO, Steve Wilburn, told the SWACO committee members that Phase Two would not be completed by the contract date. He also told SWACO that equipment necessary for construction had not been ordered and that, once ordered, construction would take 12 to 14 months to complete. It is obvious that Phase Two is significantly behind schedule. We believe it is in the best to end this relationship with Firm-Green."

FirmGreen publicly acknowledged that it will not timely meet its contractual commitments.

SWACO's contract with Firm-Green for Phase Two requires Firm-Green to purchase landfill gas from SWACO. The contract also states that FirmGreen will construct and operate the facilities needed to process the landfill gas sold to it by SWACO.

SWACO's Green Energy Center (Phase One) cleans landfill methane to "pipeline quality" natural gas which is then compressed for use as vehicle fuel. SWACO currently operates 12 CNG vehicles and looks to add more CNG fueled cars and trucks to the fleet as older cars and trucks are retired. The Green Energy Center currently has an annual capacity of 250,000 gasoline gallon equivalents of CNG.

The Green Energy Center was named "Project of the Year" in 2009 by the EPA's Landfill Methane Outreach Program. The Center has also received an Innovation Award from the Solid Waste Association of North America.



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Primary reduction equipment

by MARY M. COX

maryc@american recycler.com

Primary reduction equipment, or slow-speed high-torque shredders, are used to process a variety of materials across of wide array of industries involved in reclamation and destruction. Instead of shredding material in a conventional manner, primary-reduction equipment breaks material into smaller pieces using impaction. Already popular outside the United States in countries where landfill space comes at a high cost, the domestic trend is following suit, as landfill space becomes increasingly more expensive stateside.

Greg Wright is sales director at Granutech Saturn Systems. The firm has been in business over 40 years, sells products worldwide and "offers several lines of shredders that provide solutions for challenging applications."

He went on to describe, "Saturn, our most versatile line, offers low speed, high torque, 2 and 4 shaft rotary shear shredders (11-50 rpm). The Roto-Grind model is a ram-fed, single rotor grinder (80-115 rpm), and our Grizzly product is a massive, gravityfed, single-rotor grinder (321 rpm)," Wright reported.

He said that choosing the shredder most appropriate for a given job involves several factors, including the material to be shredded, the amount of contamination in that material, the production rate required and the final product size.



"Oftentimes, multiple machines or stages will be integrated together to achieve the required result. For example, a company might use our two or four shaft shredder, followed by our Grizzly shredder to achieve maximum cleanliness, or a smaller product size. side of processing equipment, with capacity of these machines range from

most of what we build being greater than 150 hp. We also build a lot of hydraulic-driven equipment for the advantages it has over electric-drive in tough applications. These advantages include instant and multiple reversals

of the shafts, no need for an external gearbox or clutch, and the ability to clip amperage spikes with no need to constantly re-start electric motors," said Wright.

He added, "When more than just shredding is required, we're also able to integrate ancillary equipment such as our conveyors, eddy current or density separators, metal

detectors, cross belt magnets and air/dust collection systems."

Wright claimed that as people everywhere attempt to reduce the amount of waste generated and find new uses for what was once considered waste, the need for finer processing continues to grow. Waste-to-energy, biomass reduction, and refuse derived fuel applications are becoming more prevalent, and many of these applications require a small final shred size. "Our Grizzly shredder is very successful in these applications because it produces a very small and consistent product size - the ideal end product for fuel usage," Wright said.

Hammel shredders do it differently. "Our shredders operate under a 'ripping and tearing' principle instead of 'cutting and shearing.'" This is how

Ralf Semler, regional manager, at Hammel New York differentiates Hammel shredders from those made by other manufac-

"This difference makes our machines extremely tolerant to any kind of material contamination, which can quickly dull or damage a sharp cutting edge type of shredder. Because we are not concerned with maintaining sharp edges and tight tolerances in the shredding Granutech Saturn Systems mill, our maintenance and

operating costs are among the lowest in the industry," said Semler.

Hammel's main product line offers slow-speed, high-torque primary shredders, offered in several models: VB450, VB750, VB850 and the VB950 - the "Red Giant." When pro-Our focus is typically on the larger cessing solid waste, the throughput est in minimizing landfill usage is

10 tons per hour up to 200 tons per hour.

Hammel products are manufactured in Bad Salzungen, Germany where approximately 250 shredders are produced annually. "Hammel



invented the first synchronized dualshaft, slow-speed, high-torque shredder for processing dirty stumps 30 years ago. Since then, our products have evolved to handle applications such as processing MSW, C&D, green waste, industrial waste, counterfeit or confiscated goods, tires with or without rims and scrap metal items such as white goods, appliances, aluminum, steel – even entire cars," Semler said.

He said Hammel's product line focuses mainly on machines that offer superior volume reduction, ferrous metal reclamation or preparation (sizing) of material for further processing. The company also designs and builds entire turnkey recycling plants and special equipment according to customer specifications.

According to Semler, "Our newest products include the MMS 150DK Mobile Metal Screen and the MWA 1000E Mobile Eddy Current Separator. When used along with our VB950 primary shredder, we can provide a mobile plant that is designed to process scrap metal, appliances, white goods, etc. Ferrous, nonferrous and fluff elements are reduced to a six inch or less size, and all three items are then divided into separate streams for final output. Our mobile primary shredders are self-contained and require no setup other than hydraulically unfolding the discharge conveyor.

"Most of our shredders are remote controlled and track-mounted but we also offer semi-stationary and stationary machines." Semler believes that domestic market demand for the type of shredder design offered by Hammel will continue to grow. "Domestic inter-

See SPOTLIGHT, Page 5

Manufacturer List

Artech Reduction Technologies Gary Klowak 905.829.1350

www.artechreduction.com

BACKHUS North America, Inc. Lennart Aldick 212-419-0515

www.backhus.us

Badger Shredding Bob Lamer 920-746-9800 www.badgershredding.com

Columbus McKinnon Corp. **Rick Colyar** 941-755-2621 www.cmtirerecyclingequipment.com

Continental Biomass Industries, Inc. **Michele Morrill**

603-382-0556 www.cbi-inc.com

Gensco Equipment, Inc. Sean Abenstein 800-268-6797 www.genscoequip.com

Granutech Saturn Systems Greg Wright 877-582-7800 www.granutech.com

Hammel New York, LLC Gert Semler 219-929-5824 www.hammelny.com

Jordan Reduction Solutions Richard Pyle 888-733-8248 www.jordanreductionsolutions.com

Komar Industries, Inc. **Sheldon Smith** 614-836-2366 www.komarindustries.com

Komptech GmbH **Brandon Lapsys** 720-890-9090 www.komptechusa.com

Metso Texas Shredder **Chad Grohman** 800-531-5927 www.metso.com/recycling

Republic Machine, Inc. Jason W. Bradley 816-868-5111 www.republicmachine.com

Rotonics Manufacturing, Inc. Mark Gregorek

310-538-4932 www.rotonics.com

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Spotlight Continued from Page 4

increasing and volume reduction equipment is the simple, straight-forward solution whether it is used on a transfer station to recover ferrous metals and reduce trucked-off material volume or right at the working face of the landfill, to increase compaction, recover ferrous metals, and prolong the lifespan of each cell," Semler predicted.



Republic Machine, Inc.

In the opinion of Jason Bradley, Republic Machine's Modular Split-a-Part, Eagle and Pipe Single and Multiple-Shaft Shredder cutting systems incorporate the best of the firm's patented engineering innovations.

Bradley, vice president of sales, explained the innovations further, "The modular construction of our shredders facilitate the best accessibility, easiest cleanout and most efficient maintenance in the industry today. Our Modular Split-a-Part machine features cutter knife rotation and the bed knife reduces readjustment time by half compared to a typical non-split machine. Our patented Zoidal Cutting product is a non-wrapping precision cutting system designed to maximize production in a single pass and is utilized in all film and fiber applications.

"The large Zoidal product is the gold standard for carpet shredding and the system's patented design provides throughput from 2,500 to 8,000 pounds per hour 'sustainable.' The product

EQUIPMENT SPOTLIGHT

To be included in the spotlight, you must manufacture the equipment featured. We require a company name, contact person, telephone number and, if applicable, a website address.

To be listed in the appropriate spotlight, please call 877-777-0737.

UPCOMING TOPICS 09/10 Crushed Car Haulers 10/10 Wire Choppers 11/10 Paper/Plastics Balers 12/10 Eddy Current Separators 1/11 Auto Loggers

American Recycler is not responsible for non-inclusion of manufacturers and their equipment. Manufacturers are to contact American Recycler to ensure their company is listed in the Equipment Spotlight.

offers lowered operating costs to less than a penny per pound when processing more than a million pounds of carpet in a live production setting. Our patented Monorail Self-Guiding Ram assembly eliminates the need to replace any guide rails and is part of our Eagle Series Single Shaft Shredder family.

"Perhaps most important of Republic's latest innovations in single-shaft shredders is our Insta-torque Detection System. This system provides the most reliable drive train in the industry today, and the ultimate protection to the gearbox in the event of metal contamination," Bradley said. Belt drive and right angle drive lash-ups are also available. The Insta-torque system is included in all Falcon, Eagle and Modular Split-a-Part single-shaft shredders made by Republic and he believes the system represents the added value customers demand and deserve.

In describing the company's newest product, Bradley announced, "Republic's newly designed and reengineered pipe shredder solves the problem of pre-cutting pipe. It is the only North American-made pipe shredder on the market that can grind 20-foot and longer pipes. It is also the first North American-made pipe shredder sold at an attainable price point. The machine's modular design includes a flexible size bed that begins at 20 feet and can be extended to 60 feet long. The shredder is intended to serve well in any difficult-to-process, single-shaft shredder applications."

Bradley said innovations at Republic are driven by customer needs that arise within the variety of markets they serve, and he expects Republic Machine will continue as a leader in single-shaft size reduction in North America.

Manufacturer List Continued

RRT Design & Construction Nat Egosi

631-756-1060 www.rrtenviro.com

Shred-Tech Mike Davison 800-465-3214

800-465-3214 www.shred-tech.com

SSI Shredding Systems, Inc. Joby Easton

800-537-4733 www.ssiworld.com

Vecoplan Kim James 877-738-3241 www.vecoplanllc.com

Weima America, Inc. Madison Burt 803-802-7170

www.weimaamerica.com

WM launches curbside CFL recycling program

Waste Management, Inc., has launched a new program for communities to recycle used compact fluorescent lamps (CFLs) in a safe, environmentally responsible manner along with their residential recycling programs.

Waste Management launched its curbside CFL recycling program in four communities where it provides residential recycling services: Rolling Hills Estates, California; Melbourne, Florida; Palm Bay City, Florida; and Brevard County, Florida. Residents will receive a specially designed Mercury VaporLok® container that can safely store up to 12 standard CFLs. When the bag is full, residents call Waste Management to collect the container through their current curbside pickup service. Waste Management can customize this service based on the needs of each community to ensure the program is intuitive and effective.

For those communities that do not have Waste Management residential recycling services, residents can recycle their CFLs through Waste Management's ThinkGreenFromHome.com, which provides consumers with a convenient option to recycle their household universal waste directly from their home with confidence it will be handled safely and responsibly.



Kansas component company fined for improper hazardous waste management

A Wichita, Kansas aircraft component company has agreed to pay a civil penalty of \$132,500 to the United States to settle a series of alleged violations of federal hazardous waste management regulations at its manufacturing facility.

Spirit AeroSystems, Inc. manufactures fuselages, under-wing components, large jet engine aircraft at its facility.

According to a consent agreement and final order filed in Kansas City, Environmental Protection Agency (EPA) Region 7 staff conducted an inspection of the Wichita plant in July 2006 and noted a series of violations of the federal

composites, wings and spare parts for Resource Conservation and Recovery Act (RCRA), which regulates the generation, transportation, treatment, storage, disposal and management of hazardous wastes.

> The EPA inspection found that Spirit AeroSystems had offered hazardous waste for transport without a proper manifest, and failed to perform hazardous waste determinations on primer-coated machine residue, industrial wastewater sludge and chromium primer spillage.

> The inspection further found that the company was operating as a hazardous waste treatment, storage and disposal facility without a RCRA permit by having an inadequate secondary containment system for its hazardous waste tanks, failing to maintain the facility to minimize the possibility of fire, failing to properly close and/or date accumulation and storage containers of hazardous waste, failing to maintain an adequate contingency plan, and failing to provide and document hazardous waste training for its employees.

> As part of the settlement, Spirit AeroSystems has certified that its Wichita facility is now in full compliance with RCRA and its regulations.



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A Closer Look

by Donna Currie

■ Waste Haulers Richard Wyatt • 800-804-3520

When Waste Haulers was founded by Pat Sperduto in 2006, it was just another small waste hauler in the small state of Rhode Island. Today, the company is the third largest commercial waste hauler in the state according to Richard Wyatt, the company's CFO.

Wyatt started his waste hauling career 18 years ago in Toronto, where he worked in the accounting department for a small waste hauling company. That company was subsequently bought by a larger company, which led to several moves around the country for Wyatt, along with promotions. Eventually he decided that he wanted to get out of accounting and into operations.

Waste Haulers was still a small company when Wyatt got the call. "Pat reached out to me," he said, and he found that working for a smaller company is sometimes easier because "there are no layers to go through. I pretty much touch everything."

Even though Waste Haulers is small compared to the large national haulers, "we have a corporate mindset in a small company," Wyatt said. The management understands how large corporations run, and those policies are implemented on a smaller scale for their own operation.

The accounting department has also seen some improvements in the two years that Wyatt has been with the company. The department is now "a little more

Right now, there are about 55 employees and 30 to 35 trucks on the road every day, and the company has been running a transfer station for the town of South Kingston since 2008. "Pat sat down with the town manager to set up the program," Wyatt said. The program was designed to help increase recycling rates and reduce landfill fees.

While landfills are reaching capacity all over the country, Rhode Island is in better shape than many. While there is only one landfill for the entire state, the life of the landfill was greatly extended when two of the national waste haulers decided to landfill their waste outside the state.

Besides the landfill, some of the state's municipal waste ends up at one of the four "burn plants" in the state, where the material is incinerated. The plants "create energy and sell it back to the grid," Wyatt said.

As far as customers, the biggest portion of waste that Waste Haulers picks up comes from commercial accounts, although the company also services about 2,000 residential customers.

Wyatt said that the largest commercial account is Brown University, and the interesting thing about that contract was that Waste Haulers wasn't the lowest bidder. "We won it from our interview, and not from our numbers," he explained.

But it's not all about snagging the biggest customers. Waste Haulers has a sales staff that talks to all the potential customers, "from the university to the local mom-and-pops."

A recent innovation for the company was the installation of a baler for cardboard and paper last November, "so we can sell it," rather than filling the landfill. Wyatt said that the landfill is already recycling incoming glass and metals, but that Waste Haulers is "one of the only private companies that pushes recycling to our

Wyatt said that the waste handling business will change when single-stream recycling is implemented in the state. When that happens, the landfill will buy the necessary equipment and do all the sorting. Right now, Waste Haulers is sorting the material that comes in from Brown University, "but we couldn't do it for all our customers."

Meanwhile, Waste Haulers is recycling in another sense. The entire fleet of trucks was converted to biodiesel several months ago. "It's a little more expensive," Wyatt said, "but it's better for the environment." He also said this change hasn't affected the customers' pricing.

Wyatt said that while Waste Haulers is big in the state, it's not a large company compared to others in the country, but, "we have aspirations of growth," although he said that it's likely the company will stay in the northeast, "but grow geographically."

Growth brings about change, but that's one thing Wyatt enjoys about the business. "Change is important," he said. "You have to embrace it."

Cedar Grove unveils waste digester plans

Grove Cedar Composting announced that it is working with BioFerm Energy Systems, a Germanbased clean energy generation company owned by The Viessmann Group, to integrate anaerobic digestion into its composting process. The proposed technology employs a high solids anaerobic digester that produces a usable biogas by enhancing natural processes to convert food scraps and yard clippings into a viable fuel. That biogas can then be used as either natural gas for auto and truck fuel or to produce electricity. Cedar Grove is in the engineering and design phase of this project.

Steve Banchero, Cedar Grove Composting CEO, said, "Cedar Grove is moving into the next realm of its development - the creation of green energy from food scraps that were once destined for a land fill.'

The project is one of the first and largest of its kind in the United States. The digester will produce biogas by converting once wasted food and yard scraps into digestate that can then be combusted to produce electricity and heat, or be scrubbed to natural gas quality. These can be used as a renewable alternative to compressed natural gas applications, such as transportation fuel. Once operational, the digester will produce energy equivalent to the electricity usage of 400 homes or the fuel for 1,100 passenger vehicles per year.

"Like all of our sustainable business models, we need a healthy aftermarket for the products and by-products we produce in order for our programs to be viable," continued Banchero.

Advanced Disposal makes another acquisition in Florida

Advanced Disposal Services, Inc., a regional integrated environmental services company, has completed the acquisition of certain assets of Accurate Waste Systems, Inc. This is the second acquisition in Polk County for Advanced Disposal in three months, further expanding the Florida-headquartered company's footprint in Central Florida.

The asset purchase included commercial frontload and roll-off customer contracts and containers. The operations staff will now be a member of the Advanced Disposal team. Advanced Disposal acquired Trash Taxi in March 2010.

"Alright," the lawyer said looking through his papers. "You owe me \$1000 down and \$417.58 each month for the next 36 months."

"What?! That sounds like a car payment schedule," retorted the client.

The lawyer replied, "You're right. It's

RMW disposal

■Continued from Page 1

sharps – things like needles, syringes and surgical instruments. Virtually any material generated from the medical industry by labs, hospitals, clinics, physicians, dentists, pharmacies and veterinarians can fall into the category of biohazardous.

Laws, regulations, standards and guidelines governing biohazardous materials abound. Many aspects are regulated at the state and local level. Many regulations are based on the United States Environmental Protection Agency's (EPA) Model Guidelines for State Medical Waste Management. Others are governed by federal regulations issued by the EPA, the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT) and United States Postal Service (USPS). The federal government also regulates hazardous elements used in medicine such as mercury and radioactive elements. The EPA's Medical Waste Tracking Act has established guidelines for the segregation, handling, containment, labeling and transport of medical waste. Most states have developed their medical waste regulatory framework around these guidelines.

Disposal

In the old days, most hospitals used on-site incinerators to dispose of medical wastes, but for the most part those times have passed due to the Clean Air Act, the costs for pollution control systems and the poor environmental image of smoke. Today, hospitals and health-care practitioners send RMW out to private companies for disposal.

According to the EPA, currently over 90 percent of potentially infectious medical waste is incinerated, but this used to emit highly toxic pollutants like acid gases, carbon monoxide and nitrogen oxides, and are major sources of dioxins and metals such as lead, mercury and cadmium. This caused public opposition to medical waste incineration and many healthcare facilities looked for more environmentally friendly alternatives, primarily industrial sized autoclaves using steam sterilization and often combined with post-processing shredding, microwaving or chemical treatment. Once properly sterilized and shredded, if so required to meet local landfill regulations, RMW can be landfilled as non-hazardous.

Costs for medical waste disposal are much higher than regular solid waste because of the special handling mandated by regulations and the extra treatment required. Like many services, the costs go down as the volume generated goes up. Competition among service providers level out prices of disposal. Medical waste disposal companies are reluctant to talk about costs because it largely depends on volume and nature of the collection customer; frequency and distance for pickup, or if delivered by mail.

But that leaves the perplexing question of how much more does it cost to dispose of biohazardous medical waste than regular solid waste. The only extensive study found on this issue was conducted by Frost and Sullivan, a respected international research and consulting



XMED supplies customers with 28 or 32 gallon plastic rubberized containers. After waste is disposed of, containers are sanitized before return to customers.

firm. Published in November 2004, 'U.S. Medical Waste Management and Disposal Markets' said in part: "...the cost of disposing medical waste is currently over \$480 per ton, compared to municipal waste at a cost of around \$24 per ton."

American Recycler spoke to George Winters, manager of marketing and corporate communications for XMED Medical Waste Disposal about typical biomedical collection and disposal practices. Headquartered in Huntsville, Alabama, XMED uses a fleet of trucks to make regular collections of biohazardous waste at hospitals and clinics throughout North Alabama and Southern Tennessee, and has a nationwide mailback program.

Like most, XMED provides services to anyone who generates sharps or regulated medical waste – from large hospitals to tattoo parlors. Hospitals use small autoclaves to sterilize reusable instruments, but all other contaminated materials must be put in approved biohazard containers.

"We charge by the container, generally 28 or 32 gallon plastic-rubberized containers. Inside the container is a red biohazard bag that must be tied up and the container sealed before pickup," said Winters.

Smaller containers are used with XMED's mail-back program – three smaller sized packages for sharps disposal and a five gallon container for regulated medical waste. Biohazardous materials must be mailed in a puncture proof container that is sealed inside a 4 mil plastic liner to meet USPS and DOT regulations.

Materials arriving at XMED's facility go to industrial autoclaves that handle hundreds of pounds of material and are sterilized using high pressure steam. Sterilized materials are compacted and disposed of according to state and federal regulations.

"We are very environmentally and regulatory compliant in our activities and make sure our process is clean. When we send containers back they are cleaned and sanitized because our customers want it that way," Winters concluded.

A mobile solution?

American Recycler also spoke with Nicholas Esposito, director of marketing for MedClean Technologies, headquartered in Bethel, Connecticut. Although his company outfits treatment facilities and provides custom built solutions for its customers, MedClean has developed a patent-pending, mobile, self-contained approach for regulated medical waste sterilization and volume reduction.

"To my knowledge, we are the only company offering a mobile or stationary self-contained unit that utilizes autoclave and shredding technology with all utilities on board. It has the ability to be a disaster relief unit because it is self-contained and delivered on demand. With steam and electricity already onboard, the only additional requirement is a simple garden hose, he explained.

The MedClean system uses an onboard steam sterilization unit followed by a separate inline shredder that reduces sharps down to one eighth of an inch size, and red bags to confetti. Once processed, it can go into municipal solid waste dumpsters as non-hazardous.

"The costs associated with operating a MedClean system is under a penny per pound. The total cost to a hospital will depend on the volume of medical waste being addressed. Further, the MedClean System can be acquired as a lease, purchase or rental with no capital outlay. The biggest cost-reduction comes with the ability to address multiple waste streams onsite; red bags, sharps, and confidential documents, with a MedClean System," said Esposito.

Chemical conversion

It has not escaped the attention of scientists, engineers and entrepreneurs that medical waste is a potentially rich source of chemicals that can be converted into fuels and a wide range of other chemicals. It's a sound concept: medical waste is totally destroyed, and the energy content is recovered and converted into a synthetic gas which can be reformulated into any number of chemical derivatives such as ethanol. A number of companies are following this path with various technologies, but the volume being processed today is very minimal.

Last year a major development occurred – a joint venture called S4 Energy Solutions was formed between Waste Management, Inc. and InEnTec LLC to develop and operate a series of plasma gasification plants. Initially, the facilities will process medical and industrial waste streams.

Education must begin at home

While collection practices and disposal methods differ, the healthcare industry appears to do a good job of disposing of medical waste driven by regulations, liability issues and professional responsibility. The industry is trending away from incineration to autoclaves.

In most states, however, home generated medical waste is not regulated. This does not apply to regulated medical waste produced by home healthcare workers such as visiting physicians, nurses, therapists or aides. They are supposed to provide for proper disposal.

Home medical waste created through the personal administration of injectable medications, other invasive or noninvasive procedures and surplus or expired prescription drugs are handled differently depending on jurisdiction.

Many counties and municipalities recommend that sharps and other materials be put into a heavy plastic container, closed with a top, sealed with tape, be clearly marked as hazardous medical wastes and put into household trash. This protects waste handlers and segregates hazardous material for incineration or sterilization. Other communities have designated drop off locations or special pick up days.

The sad truth, though, is that far too much medical waste is improperly comingled with household trash, either through laziness or because communities have failed to provide adequate consumer education and convenient means for disposal.

These materials pose serious safety, health and environmental problems. For example, over four billion prescriptions are written annually in the United States. Up to 40 percent dispensed outside hospitals go unused, generating approximately 200 million pounds of pharmaceutical waste each year. Much of this waste goes into sewer systems contaminating water supplies or in landfills doing the same. People often flush disposable syringes down toilets. Because they float, they are difficult to remove at the wastewater treatment plants and can wind up in rivers, the oceans and wash up on beaches.

In fact, it was medical waste washing up on East Coast beaches that first prompted Congress to enact the Medical Waste Tracking Act in 1988. This landmark legislation eventually led to the comprehensive federal and state regulations in place today.



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