

# MESSAGE FROM OUR CEO



Our 2014 Sustainability Report was titled "Creating a Circular Economy." For this 2015 update, I'll talk more about what that means.

For the past six years, our sustainability reports have analyzed our revenue according to two categories: "green" and "traditional" business. Our traditional collection and handling services take waste materials from households and businesses and safely isolate them in highly-engineered, permitted disposal sites. For more than a decade, we've

worked to expand our base of "greener" service offerings such as recycling, capturing landfill gas for use as low-carbon electricity or fuel, and consulting with our customers on waste reduction, so they can create less waste in the first place.

We have maintained recycling at 17 percent of revenue while managing 15 million tons of material. It's important to note that, although national recycling rates are slightly down, we were able to counterbalance this trend by offering our services to the utility industry, converting coal ash into a feedstock for cement and other encapsulated uses. This beneficial use of residual material resulting from coal combustion was classified as "recycling" by U.S. EPA in December 2014, and we have adopted their definition in our classifications. This is an important line of business for Waste Management, and a form of recycling that has been embraced by U.S. EPA, our customers and the environmental community alike, because it is safe, protective of the environment and conserves natural resources.

We have been encouraged by a 50 percent increase in revenues attributable



<ul><li>Traditional Services</li><li>Green Services</li></ul>	43% 57%
Traditional collection	38%
<ul> <li>Traditional landfill</li> </ul>	5%
Green collection	24%
Recycling	17%
Green energy	13%
Innovation service lines	3%

to our innovative service lines, such as our sustainability consulting business, new ventures like landfill-gas-to-fuel plants, and treatment services for the energy production sector. We continue to work with customers on the cutting edge of waste reduction and transformation. To learn more, visit <a href="www.wm.com/sustainability-services/index.jsp">www.wm.com/sustainability-services/index.jsp</a>.

Our revenues from "green" collection (transport to recycling and waste-based energy facilities) are down by 3 percent, in part because our coal ash recycling services involve processing rather than transportation. Our revenue from traditional landfills, those that don't provide energy recovery opportunities, has held steady, at 5 percent of total revenue.

#### Creating the Circular Economy

The concept of funneling discarded materials back into the manufacturing process is a no-brainer. Instead of mining new resources, this "circular economy" mindset urges us to use and reuse materials time and again, recycling them and reusing them, in a closed loop of innovation. Avoiding the mining and extraction of new materials reduces demands on natural resources and reduces the carbon and other emissions that result from the manufacturing process. The concept works particularly well for metals, which are almost indefinitely reusable. For products like paper and metal, resource reuse is also generally cheaper than use of virgin materials.



#### **GROWING RECYCLING**

Waste Management has embarked with customers on a campaign to make sure consumers remember to recycle wherever they are, and to ensure they treat recyclables as valuable commodities — that they "recycle right."

#### **EXTRACTING VALUE FROM ORGANICS**

Waste Management is working on creative ways to mitigate the challenges in transporting food waste and other organics, and the economics of expensive organics processing.

### RECOVERING ENERGY

Waste Management is focusing on the natural strengths and efficiencies we can bring to convert waste that isn't recycled into energy. We continue to supply feedstock to wasteto-energy facilities and to convert methane from our landfills into energy and fuel. Note, however, that there's more to the circular economy. The value lies not just in completing the circle, but in what you gain along the way. A functioning circular economy helps to *continually* reduce emissions and other environmental impacts. Waste, including residual waste, is reduced, as is the use of non-renewable energies in traditional manufacture.

It's important to remember that the concept of a circular economy remains, after all, an "economy". There are market forces to be reckoned with, including unpredictable externalities and shifting public demand. But there are also less tangible but real, enduring benefits. If together, we focus on the characteristics we want in a circular economy — use of fewer virgin resources, reductions in emissions, sustainable market conditions — then the relationship between markets and the environment becomes obvious.

When we consider the "rings" of our activities, the size of the overall circle matters and kick-starts this whole process. By reducing the generation of waste in the first place, we make the circle smaller: fewer waste-related impacts to manage and more

money potentially saved. Our Waste Management Sustainability Services, Public Sector Services and Manufacturing and Industrial teams focus on how we can all better protect the environment by working with customers to reduce the waste they generate. For these customers, we become the "Zero-Waste Management" company.

For materials that have to be discarded, ideally we would be able to extract value according to the highest potential value that discarded material can offer. For some items, that may mean recycling.

# The Growing Focus on Making Recycling Sustainable Over the Long Term

Recycling — a cornerstone of the "circular economy" — is an important part of our revenue and a critical part of the environmental benefits we provide to our customers.

Take paper and packaging. Most can, and should, be recycled. When paper is clean and dry, manufacturers can use the recycled feedstock to create new products and packages. Paper remains a valuable commodity, but — and this is a big "but" — the market has begun

to change. Demand for, and discard of, paper has been impacted dramatically by the technology revolution; think less newspapers and more electronic devices. Global market forces are at work as well. A slow-growth Chinese economy means that country demands less feedstock. This reduced demand has significantly suppressed global prices for paper.

A similar story can be told for plastic. While a smaller percentage by weight, plastics make up a growing percentage of the waste stream. Since plastics are a petroleum-based product, they have been impacted by the lowered price of petroleum. In fact, in some cases, virgin plastic is less expensive than recycled plastic feedstock.

To add insult to injury, global prices for metals are at historically-low levels as well. While these commodity prices have always fluctuated (as commodity prices tend to do), the sustained low pricing over the past three years has fundamentally changed the economics of recycling in the U.S. and around the world. What happens in the global marketplace is most definitely felt at the local level.

So, what does this all mean? For recycling to be truly sustainable, it needs to be economically **and** environmentally sustainable. Over the years, many have asked, "What are the true benefits of recycling?" There are many benefits, some obvious and quantifiable, and others not. There is certainly a financial benefit. For example, it's very costeffective to recycle metal. Some of the non-financial benefits are not as easy to quantify, including the value of not extracting non-renewable resources and the value of avoiding greenhouse gas emissions by reducing the extraction and transportation of raw materials. These environmental benefits — while difficult to monetize — are very real, and critically important. These benefits are also at risk if collectively, we don't find a way to make recycling sustainable for the long term.

#### **Doing Our Part**

In 2014 and 2015, we at Waste
Management have been laser-focused
on raising the profile of the importance
of recycling, including how to make
it efficient and sustainable — both
economically and environmentally. We
have even called this a "crisis" — because

it will be if we don't sustain and expand the environmental benefits of recycling by making it work in the marketplace. We know the global benefits of recycling; we want to make the cost to the customer work locally.

We know we can't effect all of the much-needed change on our own. We are talking with all our stakeholders about how much recycled material can be expected to be generated, the true costs to collect and process this material, what's recyclable and what's not, and the price paid for those materials at the back end. We are carefully evaluating our business models around recycling, confirming that we are addressing all of these points to ensure sustainable recycling for the long term.

#### **Education is Key**

We are working closely with our customers to make recycling more productive for everyone by reducing contamination in the ubiquitous "blue bin." Each shipment at our Materials Recovery Facilities (MRFs) containing contamination such as plastic bags, coat hangers, or garden hoses prevents the intended recyclables from being processed

properly, creating higher operating costs for the entire program. These and most other so-called "contaminates" are recyclable — just not in standard curbside collection programs. In response to this issue, Waste Management has been active with a broad array of alliances, getting the word out on what goes in the bin — and what doesn't. If you're interested in improving your personal record for "recycling right," visit recycleoftenrecycleright.com. We are working with customers, governments and non-governmental partners to elevate this conversation to the level that it merits. We will report on these discussions in detail in our next full sustainability report.

If recycling is going to be sustainable over the long term, we must have honest conversations about cost. We must have a clear understanding of the benefits. And, we must **all** work together to help drive much-needed solutions.

Sincerely,

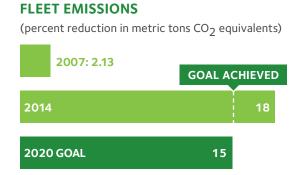
**DAVID STEINER** 

President and CEO, Waste Management

capital expenditures customers employees 21<sub>M+</sub> \$1.2B free cash flow 38.9<sub>K</sub> \$3.4B OPERATIONS returned total vehicles to shareholders FINANCIAIS **32**<sub>K</sub> \$1.3B number of WASTE MANAGEMENT ENVIRONMENT total revenue wildlife habitat **IN SUMMARY 2014** programs **\$14**B Waste Management, Inc. (NYSE: WM), based in Houston, Texas, is the leading provider of comprehensive waste management and environmental services in North America. organics processing vehicles that run on alternative energy ENERGY We dedicate We manage over We create 26,000 acres to enough energy to 15 million tons power more than wildlife habitat of recyclable 298 1 million homes commodities. natural gas every year.\* FACULTIES fueling stations CIVING transfer facilities \*Includes power from Wheelabrator, divested in December 2014. \$13.3<sub>M</sub> 126 LANDFILLS traditional 5 recycling facilities; 50 single stream, 134 247 active hazardous 12 construction and waste underground demolition landfill-gas-toactive solid waste landfills energy facilities waste landfills

#### **GOALS AND PROGRESS TO DATE**







# WASTE-BASED ENERGY PRODUCTION (million households) 2007 1.07 2014 1.08 2020 GOAL 2



NUMBER OF WILDLIFE

## **SUSTAINABILITY KEY PERFORMANCE INDICATORS**

Key Performance Indicators	2011	2012	2013²	2014
Greenhouse Gas Footprint (metric tons CO <sub>2</sub> e)				
• Process	16,448,441	17,363,769³	17,662,765	17,286,709
• Transportation <sup>4</sup>	1,773,307	1,729,547	2,114,250	1,825,103
• Energy use <sup>5</sup>	488,738	540,601	355,015	350,738
Potential Avoided Emissions <sup>6</sup> (metric tons CO <sub>2</sub> e)				
Renewable energy generation	4,700,000 <sup>7</sup>	4,739,563	5,635,6438	4,587,712
Reuse and recycling of materials <sup>9</sup>	30,996,786	36,414,438	38,588,377	35,901,171
• Carbon permanently sequestered <sup>10</sup>	15,593,412	15,490,568	16,126,208	16,836,940
Waste-Based and Alternative Energy Benefits <sup>11</sup> (metric tons CO <sub>2</sub> e)				
Tons of coal equivalent	6,089,000	6,220,000	6,144,562	5,972,539
Resource Savings Achieved through Recycling (millions)				
Household equivalent	1.8 million	2.1 million	2.3 million	2.2 million
· Cars off road	6.3 million	7.0 million	7.6 million	7.6 million
Percent of Waste Management Modern Landfills with Off-Site Contaminated Groundwater <sup>12</sup>	0	0	0	0
Total Recordable Injury Rate	3.1	2.9	3.1	3.15
Vehicle Accident Recordable Rate (driver hours without a vehicle accident)	13,307 <sup>13</sup>	14,200	14,499	13,632
Charitable Giving	\$13.9 million	\$15.1 million	\$13.9 million	\$13.3 million

#### **AWARDS AND RECOGNITIONS**



Named to *Fortune* magazine's "Change the World" list, August 2015



Named to "50 Best Companies to Sell For" by *Selling Power* magazine, 2015



Named as a "World's Most Ethical Company," by Ethisphere, 2008–2015



Featured in the Dow Jones Sustainability Indices of North America or the World, 11 times in past 12 years



Named to the Euronext Vigeo World 120 Index, 2012-2015



Named on 100 Best Corporate Citizens list by *Corporate Responsibility* (CR) Magazine, 2015



Rated a *Military Times*"Best for Vets Employer," 2010-2015



Voted to *U.S. Veterans Magazine* "Best of the Best," 2010-2015



Rated a G.I. Jobs "Top Military Friendly Employer," 2010–2015



Featured in CDP's S&P 500 Climate Disclosure Leadership Index (CDLI), 2014

#### **ENDNOTES**

- In 2011, we began to participate in the Wildlife Habitat Council's "lands for learning" projects, which supplement its initial place-specific focus. From 2011 on, our numbers reflect both "lands for learning" projects and specific habitat sites.
- <sup>2</sup> Beginning with our 2013 emissions reporting, we are using the modified 100-year global warming potentials (GWPs) promulgated by the U.S. Environmental Protection Agency (EPA) in November 2013. Pertinent to our carbon footprint, EPA revised the GWP for methane from 21 to 25 and the GWP for nitrous oxide from 310 to 298.
- <sup>3</sup> We have corrected our 2012 process number to include power generation and refrigerants used at sites included in previous years' calculations but exempted by EPA's GHG reporting rule. We included these units for consistency over time, amending the previous year's reporting number.
- <sup>4</sup> In 2014, we changed our methodology for calculating fleet efficiency to EPA's 2013 SmartWay Truck Tool. In order to evaluate relative emissions and progress toward our 2020 transport emissions reduction goal, we recalculated our 2007 baseline for collection vehicles and our 2011—2013 emissions using the 2013 tool. In addition, we changed our database for making these SmartWay calculations from our prior reliance on fuel logs to the use of records compiled for tax credit and fee purposes. The tax documentation reflects fuel purchased in a year, including some insignificant amounts of fuel stored rather than used in a given year. We believe the corporate tax records are more complete than the facilityspecific fuel logs. The transition to these records accounts for part of the increase in emissions from 2012 to 2013. Note that our transportation emissions reported here include those from both our collection fleet and our non-collection "yellow iron" (i.e., off-road equipment such as forklifts and excavators) used on site. A small amount of fuel in this category is used for non-transportation purposes (e.g., running emergency generators or barbeque grills on site), but we do not subtract these from our transportation totals.

- <sup>5</sup> Beginning in 2013, we employed a third party to assist in developing and reporting electricity data, making use of the companywide accounting system's coding of accounts paid. This accounting system is more accurate than our previous estimation. The dramatic reduction in energy use in 2013 is likely due in large part to overestimation in prior years.
- We are reporting these data to inform our customers and the public about the potential GHG reduction benefits associated with carbon storage in landfills, our renewable energy production and the value of the recyclable materials we collect and process. We are not presuming to characterize how emerging regulatory programs will allocate credit for these avoided emissions, so we do not claim these GHG reduction benefits as our own nor attempt to deduct these reductions from our carbon footprint.
- <sup>7</sup> Renewable energy from our waste wood plants in 2011 inadvertently was omitted from our 2012 report. This has been corrected.
- <sup>8</sup> Increases in productivity in 2013 included running our waste-to-energy plants at higher capacity and including energy generated from wind projects in our calculations.
- <sup>9</sup> The greenhouse gas savings figures for 2011 and 2012 were based upon estimates made using the National Recycling Coalition (NRC) Environmental Benefits Calculator. Consistent with our efforts to align our reporting more closely with current EPA methods where possible, we have converted our estimates of the benefits of recycling to those developed using EPA's Waste Reduction Model (WARM), which reports benefits in MTCO<sub>2</sub>e (the measure consistent with the other units reported in this chart). Our 2011 and 2012 emissions remain those calculated using the NRC model, but they have been converted to MTCO<sub>2</sub>e for purposes of comparison. (Note that our 2012 report erroneously stated the recycling savings were already expressed as MTCO2e.) Our 2011, 2012 and 2013 emissions were calculated using an older version of WARM; 2014 emissions were calculated using WARM v13; and in our next full sustainability report we will update all emissions avoided figures to reflect the most recent updates

- to WARM initiated in March 2015. In so doing, all of our emissions will be calculated using the same emission factors and global warming potentials for ease of comparison. In our calculations, we assume that, by recycling, we divert materials from the average landfill nationally, not solely from our modern landfills with landfill-gas-to-energy capacity. If instead our recycling were to divert materials only from our own modern landfills, the emissions reductions achieved by recycling would be less. Note also that the increase in emissions reductions realized by recycling does not correspond arithmetically to the increase in total tons recycled. That is because paper recycling achieves very high emissions reductions, and the relative proportion of paper in the recycling stream is declining as consumers shift from paper-based information to electronics (e.g., from newspapers to e-readers).
- <sup>10</sup> For a discussion of the protocols that govern this calculation of carbon storage or sequestration, see pp. 27-29 of the Waste Management 2014 Sustainability Report Appendix.
- 11 Tons of coal equivalent is calculated based on the equivalent number of households that could be powered by Waste Management energy production. Note that standard industry assumptions about household energy use differ for the waste-to-energy and landfill-gas-to-energy sectors: Standard waste-to-energy reporting is 1,000 households per installed megawatt, while the household conversion for landfill-gas-to-energy is based upon U.S. Energy Information Administration data that is updated yearly. We have not included the energy value of our wind projects in this entry because there is no sector conversion template comparable to that for waste to energy and landfill gas to energy.
- Modern landfills are post-1993 and are permitted under 40 CFR Part 258 Subtitle D. Off-site contamination is regulatory corrective action required to address off-site impacts to groundwater.
- <sup>13</sup> The Vehicle Accident Recordable Rate for 2011 was restated to account for resolutions of vehicle accident investigations that were made following the publication of our 2012 report.