



Protecting Tomorrow

A Message from CEO Stephen J. Jones

PROTECTING TOMORROW

At Covanta, we believe that sustainability is about protecting tomorrow: people, the planet and prosperity. What we do every day helps our communities, clients and customers find practical solutions to significant societal challenges. Our mission is to ensure that no waste is ever wasted.



Through our Energy-from-Waste (EfW) facilities and other sustainable waste management services, we reduce greenhouse gas (GHG) emissions, generate clean, renewable energy and help a growing list of companies and communities reach their sustainability objectives.

To protect tomorrow, we focus on the following principles:

- **Ensuring no waste is wasted.** We provide our communities and clients access to sustainable waste and materials management, from the largest fleet of EfW facilities in the world to wastewater treatment, reverse distribution, depackaging and tailored commercial waste services.
- **Protecting the environment.** Environmental performance is a core part of our service offerings. It's how we differentiate ourselves from landfilling. Consistently remaining below current standards and maintaining full compliance with our discharge limits is the expectation, the key to continued strong relationships with our communities and customers, and the prerequisite to new business opportunities.
- **Partnering with our communities.** Mutual acceptance and respect between Covanta and our communities is essential to productive operations. We work continually to be a good neighbor and to invest human and financial resources in the communities where our facilities are located.
- **Achieving world-class safety and health performance.** Protecting the safety and health of our co-workers is paramount. We believe that success comes with building and maintaining a robust safety culture throughout our business with employee leadership and engagement at all levels.
- **Creating and maintaining an inclusive, respectful and equitable work environment.** Our dedicated workforce drives our business and our success. We build high-performing teams by attracting and retaining

talented and diverse individuals. Our focus on diversity and inclusion helps foster innovation and continuous improvement, thereby contributing to reduced costs and revenue growth.

To advance our principles and our sustainability performance, we developed our second set of sustainability goals in 2015 to be measurable, impactful and aligned with our business. Each goal is championed by a member of our senior leadership team to ensure accountability and progress.

STORIES

VIDEO: PROTECTING TOMORROW— PEOPLE



STORIES

VIDEO: PROTECTING TOMORROW— PLANET



STORIES

VIDEO: PROTECTING TOMORROW— PROSPERITY



Our mission is to provide sustainable waste and energy solutions to ensure no waste is ever wasted.

At Covanta we believe the materials discarded every day should be utilized to their fullest potential to preserve the world's valuable resources and generate clean energy for our client communities and the world we live in.

This is how Covanta is powering today and protecting tomorrow.

PROTECTION:

We will conduct our business in an environmentally sound manner that is protective of human health and the environment.

COMPLIANCE:

We will manage our work to assure compliance with all applicable environmental regulations and requirements.

CONSERVATION:

We will minimize impact to the environment by encouraging pollution prevention at the source, waste minimization, recycling and responsible disposal of production by-products.

QUALIFICATION:

We will ensure that all employees have the necessary information, resources and training to make informed environmental decisions.

COMMITMENT:

Covanta is committed to be an industry leader in environmental protection by achieving superior awareness and performance through a process of continuous improvement.



***Environmental awareness and performance is the responsibility of every employee.
By embracing this philosophy, we all can make a difference.***



Stephen J. Jones, President and CEO

Covanta is committed to engage with and support the communities in which we have or will have facilities. Covanta believes in the meaningful opportunity for all people, regardless of race, ethnicity, color, income, national origin or education level to be knowledgeable and have the right to participate in public decisions and actions which have an impact on their environment and neighborhoods. To implement this policy consistent with our sustainability objectives, Covanta commits:

- To reduce discharges and minimize emissions from our facilities and to reduce other potential impacts of our operations, taking into account cumulative impacts.
- To identify and engage with individuals and organizations in the communities in which we operate, or in which we may operate, that are interested in our operations.
- To have open, two-way communication with communities on issues which may be of interest or concern to them, including environmental and quality of life issues in the community. Such communication shall include participation in meetings with community members or affected groups.
- To have an enhanced public participation strategy with communities on major facility permit actions and engage in substantive conversations with community members during the early stages of the permitting process.
- To work diligently to respond to issues identified by communities in which we operate.
- To promptly and effectively notify the community in the event of situations that may adversely impact the environment or their health.



Stephen J. Jones, President and CEO

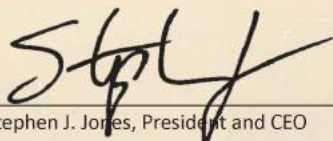


Total Safety and Health is the ongoing integration of Safety and Health into all activities with the objective of eliminating illnesses and injuries and continuously improving performance.

- **Nothing is more important than Safety and Health...**
not production, not throughput, not profits.
- **Accidents, illnesses and injuries are preventable...**
they are not inevitable.
- **Safety and Health is a management responsibility...**
and Safety and Health can be managed.
- **Safety and Health is an individual responsibility...**
and a condition of employment.
- **Safety and Health is a way of life...**
around the clock, both on and off the job.
- **Every task must be performed with a concern for Safety and Health...**
for ourselves, our fellow employees, our contractors, our visitors,
our customers and the communities in which we operate.



A Commitment to Total Safety and Health is a Commitment to Doing Things Right.



Stephen J. Jones, President and CEO

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SUSTAINABILITY POLICY

Vision

It is in the best interests of our company and society as a whole that our company moves along the path to sustainability. To that end, we will strive to achieve the following vision of performance and will publicly communicate this commitment and periodically report our progress and challenges in fulfilling it:

1. Economic success: the wise use of financial resources

A. Company economic prosperity

We will:

- Conduct our business to prosper economically and create long-term value for our shareholders
- Invest in research and development to expand and/or improve our core competency

B. Community economic prosperity

We will help our community prosper economically in three ways:

- Seek to employ local people, purchase goods and services locally and pay taxes
- Provide cost competitive and reliable waste disposal and energy generation
- Participate in civic and philanthropic efforts

2. Social responsibility: respect for people

A. Fair dealing with customers

- We will be honest and fair with our customers, compete ethically for their business, respect their privacy, anticipate their needs and provide them with safe and effective products and services while taking into account sustainability concerns.

B. Respect for employees

- We will treat our employees in a respectful, fair and nonexploitative way, especially with regard to compensation and benefits; promotion; training and development; open, constructive dialogue with management; involvement in decision-making; working conditions that are safe, healthy and noncoercive; privacy rights; labor law rights; employment-termination practices; and work-life balance. We will ensure that all employees have the necessary information, resources and training to make informed decisions on environmental and health and safety matters.

C. Diversity, fair hiring practices

- We will promote diversity and a culture of inclusion and use hiring practices that are fair, responsible, nondiscriminatory and nonexploitative for our employees and board members.

D. Responsible governance

- We will manage our risks appropriately, use our economic power responsibly and operate our business in a way that is ethical and legal.

E. Respect for stakeholders

- We will be transparent, respectful and fair to local populations, investors, suppliers and other stakeholders outside of our organization who may be affected by our operations. We will engage our key stakeholders to understand their needs and seek relationships with them based on integrity. We will work collaboratively toward a good neighbor relationship with our communities, governments, business partners and supply chain to enhance the well-being of others.

3. Environmental responsibility: respect for life and the wise management and use of natural resources

A. Resource conservation

- We will minimize our impact to the environment by conserving energy and natural resources to the extent practicable. We will promote sound materials and energy management by encouraging pollution prevention at the source, material reuse, recycling and recovery of materials and energy through energy from waste.

B. Waste prevention and management

- We will reduce to the extent practicable the solid waste and emissions of greenhouse gases and other harmful air pollutants from our operations and will maintain and implement programs to ensure compliance with all applicable environmental regulations.

C. Environmental risk control and restoration

- We will minimize the risk of spills and other potentially harmful environmental incidents, restore the environment in case of an event and enhance it to better support biodiversity.

D. Reduction of supply chain impacts

- We will work with others in our supply chain to help minimize adverse environmental impacts and risks and to optimize environmental benefits.

E. Collaboration with communities

- We will collaborate with our communities to protect and improve the environment.

PROTECTING TOMORROW

A MESSAGE FROM OUR CEO



At Covanta, we work every day to protect tomorrow.

Our operations help communities, clients and customers find practical solutions to waste and materials management while generating clean energy. By running our business responsibly, efficiently and profitably, we are addressing the three pillars of sustainability: people, planet and prosperity.

We have set sustainability goals that guide us not only with regard to our work in materials management, but also in ensuring a safe and diverse workplace, developing and maintaining strong ties with our communities and delivering “beyond compliance” environmental performance. We’ve made considerable strides toward achieving our targets in each of these areas.

Since our last report, we’ve had an exciting period of new growth and opportunities for our company. The rapid expansion of our waste management capabilities, which followed several acquisitions, provided us with a network of material-processing facilities to support our Energy-from-Waste (EfW) profiled waste business. From wastewater treatment to reverse distribution to depackaging to tailored commercial waste services, Covanta now offers comprehensive environmental services to help an expanding base of customers reach their sustainability goals.

We are also excited by the growth of our metals management and recycling business. We recovered record volumes of ferrous and non-ferrous metals in 2016 through investments and upgrades to our metal collection equipment and technology. We opened a new facility in Fairless Hills, Pennsylvania, to clean and sort metal by type and size, allowing us to sell higher-quality metals directly to end users for a premium price. We are also investing in the development of new beneficial uses for the ash by-product of our energy recovery process.

The backbone of our business continues to be our world-class operation of modern EfW facilities. These facilities responsibly process the waste that remains after recycling by converting it to baseload renewable energy that is an important complement to intermittent renewables like wind and solar. EfW is a widely recognized tool in mitigating greenhouse gas emissions by enabling the diversion of waste from landfills and, in turn, avoiding the potent methane emissions associated with landfills.

Our newest EfW facility in Dublin, Ireland, is complete and began full-scale operation earlier this year. The facility has exceeded our expectations on all counts and will deliver more sustainable waste management for the Dublin area

for many years. The environmental performance has been outstanding—our first stack test results were 71.1–99.97 percent *below* license limits.

Ambitious Continuous Improvement projects continue across our operations to enhance the efficiency of the processes we utilize for providing sustainable waste management to our communities and customers. And in 2016, we completed a major retrofit of the air pollution control systems at our Essex Resource Recovery Facility in Newark, New Jersey. Already operating well below its permit limits, the retrofit further lowered particulate and metals emissions by up to 98 percent.

I am disappointed by our recent safety performance, and we are taking action on this front. While we have notable successes and continue to outperform our peers on injury rates, with more than half of our fleet injury free in 2016, we were devastated by two employee fatalities: a motor vehicle accident in 2016 and a heavy equipment accident in 2017. In response, we have hired third-party experts to review our safety programs and culture top to bottom across the company. As they complete their work, we have already initiated key changes with both our truck fleets and mobile equipment operations to address the specific root causes that led to these two accidents. Ensuring our employees and our contractors go home at the end of every day without injury is our number one priority.

On an environmental front, our facilities continue to operate well below their permitted limits, and we have successfully maintained the performance gains we've made over the past decade. However, after four exemplary years of no stack test failures, we had three exceedances of air emission standards during stack tests in 2015-16. In every case, we took immediate action to investigate and correct any issues, and multiple retests show that each facility is back in compliance. We remain committed to 100 percent compliance with all discharge limits.

Our partnership with communities remains strong, in part due to enhanced efforts to engage on multiple levels. We are particularly pleased with the outcomes of the work we're doing to enhance recycling and environmental awareness among elementary, middle and high school students. For example, in the New Jersey communities of Newark and Camden, we worked with local school districts to support teacher trainings, site visits and the provision of bins and other resources to promote recycling efforts. Following these efforts, we received an Environmental Hero Award from the Camden Collaborative Initiative.

I now invite you to explore our latest sustainability report. As a society, we face significant environmental challenges related to waste, energy and climate change. I hope you will share in our excitement about the many ways Covanta is committed to working with our partners and stakeholders to find effective solutions that help all of us to Protect Tomorrow.

Sincerely,

A handwritten signature in black ink, appearing to read 'Stephen J. Jones', written in a cursive style.

Stephen J. Jones,

President and Chief Executive Officer

STORIES

VIDEO: CEO STEVE JONES TALKS ABOUT PROTECTING TOMORROW



PROTECTING TOMORROW

ABOUT COVANTA



Covanta is a world leader in providing municipalities and corporate customers with sustainable waste and energy solutions. The Company’s core business—operation and ownership of Energy-from-Waste (EfW) facilities—helps communities and businesses around the world convert millions of tons of waste (otherwise destined for landfills) into clean, renewable energy. These facilities reduce greenhouse gas (GHG) emissions, conserve land and complement recycling efforts.

Our Covanta Environmental Solutions business provides commercial and industrial waste clients a variety of sustainable waste management services, including consulting, logistics support, recycling and energy recovery services. Our expanded service offerings provide our clients with additional routes to meet their zero-waste, zero-waste-to-landfill and sustainability goals.

As clients reduce, reuse, recycle and recover energy, they reduce environmental impacts associated with materials and waste in our society. Ultimately, we seek not only to divert materials from landfills, but also to find fully sustainable waste management solutions that consider economics and the environment.

Covanta also owns and/or operates two small-scale hydroelectric facilities and other waste management businesses, such as transfer stations, which broaden the geographic reach of our core facilities.

- For a full description of Covanta’s business, including how we incorporate sustainability into our business strategy, please refer to the Company’s [2016 10-K](#).
- An overview of our Board’s oversight of our sustainability strategies can be found in our [2017 Proxy Statement](#).
- Covanta’s complete governance information, structure, annual filings and related charters, including the [Policy of Business Conduct](#), can be accessed from our [Investor Relations](#) home page. We outline expectations for supplier ethical conduct on our [Partners & Suppliers](#) web page.



MATERIALS MANAGEMENT

GOAL

Advance sustainable waste management and life cycle GHG reductions through increased landfill diversion; greater operational efficiency; and expansion of waste reduction, reuse and recycling.

PROGRESS

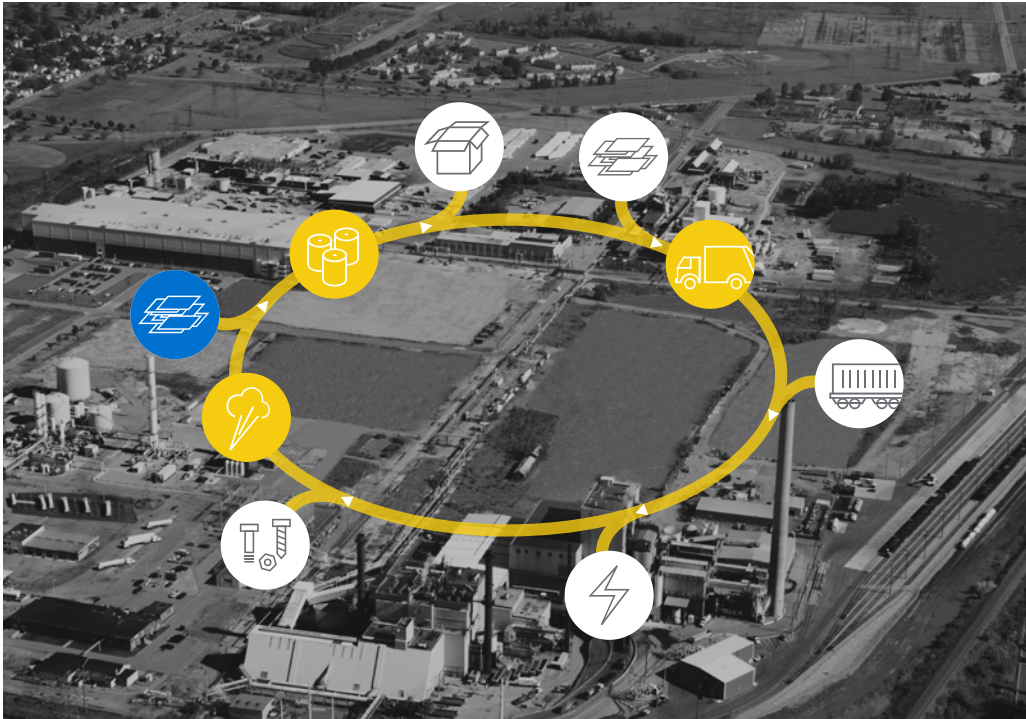
In 2016, we avoided, recycled or reused over 900,000 tons of waste, a 60 percent increase in just two years, meeting our goal four years early.

Waste is a resource. At Covanta, our mission is to provide sustainable waste and energy solutions to ensure that no waste is ever wasted. We help our municipal, commercial and industrial clients meet their sustainability goals, whether they are focused on zero waste, zero waste to landfill, advancing the circular economy, minimizing GHG emissions or reducing overall environmental impacts from waste management.

- 42 EfW facilities in North American and Europe
- 20 million tons of waste converted into enough energy to power 1 million homes each year
- More than 510,000 tons of metal recycled annually
- Doubling of non-ferrous metals recovered over the past five years
- 120 employees trained in Lean / Six Sigma tools for Continuous Improvement

MATERIALS MANAGEMENT

COVANTA AND THE CIRCULAR ECONOMY



Waste paper, collected from homes and businesses, supplies all of the fiber required by Greenpac Mill.



WASTE MATERIAL



Greenpac Mill uses waste-to-energy steam produced by Covanta Niagara in its process, including for drying the 100% recycled paper.



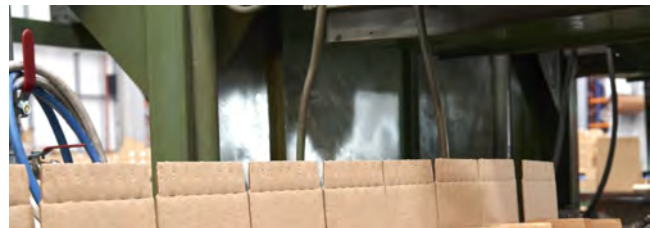
ENERGY



Greenpac Mill can produce 540,000 tons of lightweight 100% recycled linerboard annually. Some of the linerboard is used by Jamestown Container to make corrugated boxes for market.



NEW PRODUCTS



Diamond Packaging uses corrugated boxes from Jamestown Container. Diamond Packaging, the only American-owned folding carton manufacturer to achieve zero manufacturing waste-to-landfill status, corrugated waste from Diamond Packaging winds up back at Greenpac Mill as a raw material.



WASTE MATERIAL



Greenpac Mill's and Diamond Packaging's unrecyclable wastes are sent to Covanta Niagara for energy recovery.



WASTE MATERIAL TRANSPORT



Other wastes arrive in sealed rail cars through our new intermodal facility.



WASTE MATERIAL TRANSPORT



Covanta Niagara generates enough electricity to run the facility and supply over 15,000 homes every year.



ENERGY



Ferrous & non-ferrous metals recovered from the ash are sent to recyclers for processing. That's enough ferrous metal to build two Peace Bridges between Buffalo and Canada.



METALS RECOVERY



Steam from the energy recovery process, is delivered through overhead pipes to the Greenpac Mill and other local industrial customers including Goodyear, Praxair, and Cascades Containerboard Packaging – Niagara Falls. Generating the 3 billion lbs. of steam delivered from waste saves the equivalent of 3,600 tractor trailers of fuel oil.



ENERGY

Pursuing a Circular Economy

The circular economy aims to keep products, components and materials at their highest utility and value at all times. In this way, “waste” does not have to be wasted, but rather may be used as an input for another process. Just like the waste hierarchy, waste reduction, reuse and recycling should be prioritized, but for remaining materials, energy recovery has an important role to play. Nearly every step of a circular economy requires an energy input, and leftover waste can help meet this need.

The Circular Economy in Practice

Putting the circular economy into practice through a mutually beneficial and interdependent system is one of the highest ideals of sustainable waste management—and one that Covanta continues to pursue. A prime example of this is the collaboration we have between our EfW facility in Niagara Falls, New York, and two local paper manufacturers: Greenpac Mill and Diamond Packaging.

Considered the most advanced and largest facility of its kind in North America, Greenpac Mill manufactures lightweight linerboard for corrugated boxes, made with 100 percent recycled fibers. It has an annual production capacity of 540,000 short tons.

Both Greenpac Mill and Diamond Packaging send waste to Covanta Niagara for energy recovery. In this way, we are helping Greenpac Mill (and its parent company, Cascades Inc.) achieve its waste and energy goals, while helping Diamond Packaging meet its zero manufacturing waste-to-landfill status. But what makes this a truly circular solution is the fact that Greenpac Mill is powered partly by its own waste. Rejects and waste from the mill are sent to Covanta for energy recovery. Steam generated during the combustion process is returned to the mill, which uses it for drying the paper it produces.

“We are proud to contribute to the circular economy by converting residuals from the Greenpac Mill plant into energy,” said Covanta’s Chief Sustainability Officer Dr. Paul Gilman. “By opting for EfW conversion rather than the landfill for its residuals, Cascades has succeeded in avoiding the emission of close to 12,000 tons of CO₂e. That’s equivalent to removing 2,500 cars from the roads for a year.”

[Read more](#) about how Covanta is helping to “close the loop” in Niagara.

MATERIALS MANAGEMENT

ZERO WASTE TO LANDFILL

One pathway to a more circular economy is through “zero waste to landfill,” which, at its core, is exactly what it sounds like: a strategy to divert all waste from disposal in a landfill. Businesses are achieving this goal by moving up the waste hierarchy: reducing materials consumption; reusing materials; recycling, composting and using anaerobic digestion; and then, for anything left over, recovering energy through EfW facilities so that nothing is wasted.

Along with our extensive municipal partnerships, Covanta works closely with businesses to help them address their waste disposal challenges. Whether a short-term contract that provides for sustainable disposal (i.e., in the case of a product recall) or a long-term partnership that facilitates achievement of zero-waste-to-landfill goals, we have the technical expertise, capacity and infrastructure to develop tailored solutions for our corporate clients.

EfW is a critical part of many companies’ efforts, effectively capturing the energy value from materials that cannot be recycled. Our process provides our customers with confidence and credibility in the claims they make about their zero-waste-to-landfill performance. Independently verified by GreenCircle Certified, LLC, our profiled waste customers have access to transparent tracking of waste and accounting of energy and GHG emissions savings.



STORIES

WHAT ABOUT ASH?

Every downstream waste process generates some amount of waste—meaning there is a residue of material that cannot be processed. For example, paper recycling generates a residue of clay and calcium carbonate from the fillers added when the paper is manufactured, as well as shortened paper fibers that are reaching the end of their useful life.

EfW facilities generate an ash residue composed of the noncombustible material in wastes and, to a lesser extent, materials added for air pollution control, such as activated carbon and lime. These residues for downstream waste and recycling processes are generally not considered when evaluating zero-waste-to-landfill claims. We are exploring new ways to reuse and recover more materials from our ash. Many members of the European Union support the reuse of ash from EfW facilities.

For more information on how we manage our ash, please see [“Putting Ash to Work.”](#)

STORIES

HELPING J+J FLOORING GROUP GO ZERO WASTE TO LANDFILL

Designing a Solution for Zero Waste to Landfill

Imagine that you are a competitive long-distance runner. You know that the finish line is just over this last hill. As you tighten your muscles, drawing the last power you have to make it up the hill, the exhaustion hits you and you are suddenly unsure if you will actually make it to the end. But you do!

That's where J+J Flooring Group, a leading manufacturer of commercial specified flooring, was just two short years ago. Not on the last leg of an actual marathon, but facing the last major hurdle in its efforts to reduce the company's reliance on sending waste to landfills.

Making Something from Nothing

J+J Flooring Group was founded almost six decades ago by Tom Jones and Rollins Jolly who realized there were advantages by going into business together. The company focused on putting its people first, producing products with pride, providing value to customers and making a difference in the community—a set of values and a mission it continues to uphold today. A milestone for the company came in the early 1990s when it created the “Green Team” comprised of employees focused on sustainable processes. Over the next 24 years, through effective reuse, recycling and repurposing methods, the company systematically addressed areas within its plants and office space to reduce their impact on the environment and significantly decreased the amount of waste the company directly sent to local landfills.

Despite all of these efforts, the team found that there was still some waste that was going to the landfill.

“That’s when we made a conscious decision to find a way to get to zero waste to landfill,” said Russ Delozier, Director of Sustainability, J+J Flooring Group.

“We needed to complete the cycle, and we knew that something could be done with this last bit of material. We believed that it was better to get energy from it than bury it in a landfill.”

Russ Delozier,

J+J Flooring Group, Director of Sustainability

New Partner with a Solution

Delozier and his team researched possible solutions and partners to get J+J to landfill free.

“When I visited their plant in Dalton, Georgia, I was impressed,” said Hugh Moore, Southeast Regional Sales Manager for Covanta. “We get a lot of calls from companies that say they are close to landfill free, but they have a lot of work still to do. That was not the case with J+J. In fact, they are the model story—they walked the walk of getting to zero waste.”

Delozier and this team were equally impressed with the Covanta Huntsville, Alabama, plant during their tour, and the two teams agreed to work together. But J+J had one more challenge back in Dalton before the partnership could begin. The city of Dalton has a flow-controlled process for its landfills so businesses are prohibited from sending waste out of the county. The new relationship with Covanta would require J+J to transport waste not only out of the county, but across state lines.

“We had several good discussions with the local government officials,” said Delozier. “It was really about explaining how the material we were planning to move to Covanta was not ‘waste’ per se but actually ‘energy.’ Eventually it worked out.”

Moore added, “Not too many businesses would take on such discussions with local governments about waste management, but Russ and his team were ready for that challenge! And even though there are transportation costs associated with going to Huntsville, they are willing to do it because it takes the waste out of the landfills and allows it to be converted to energy to benefit others.”

Now any waste at J+J’s Dalton, Georgia, campus that cannot be recycled, reused or repurposed—approximately 2 percent of its total waste—will be sent to Covanta. Since J+J started shipping materials to Covanta, they are transporting about 11 tons of waste material to Huntsville every 6 to 8 weeks.

Once at Huntsville, the material is sorted and then processed to make steam. The steam travels through a six-mile pipe to the Redstone Arsenal in Huntsville providing heat and cooling to the buildings. The Redstone Arsenal, a U.S. Army garrison, services a number of tenants including the Army Materiel Command, the Missile Defense Agency of the Department of Defense and NASA’s Marshall Space Flight Center.

J+J’s zero-waste achievement is not just for manufacturing waste. It also includes all waste collected from the company’s Dalton administrative headquarters and manufacturing campus (more than 950,000 square feet). Waste is collected from all bathrooms, break areas, offices, conference rooms, design studios and other areas.

Going A Step Further-Certification

For J+J, a company that prides itself on sustainability and green processes, just being able to state that they were zero waste to landfill was not enough.

“There’s value in a third-party verification or certification of this achievement,” said Delozier. As the team soon found out, certification is not a simple task.

Third-party verification is an independent audit that assesses the validity of zero-waste-to-landfill claims. The process looks both at where the waste has gone in the past and the management processes in place. This second point is important: The verifier wants to make sure that a business will sustain past performance in diverting waste from landfills.

“The certification process was thorough, tough and well worth it,” said Delozier. “GreenCircle, the vendor we selected to provide the certification, looked at our material flow analysis and even spent time with our vendors and our vendors’ vendors.”

In May 2015, J+J received its official certification from GreenCircle, becoming the first commercial flooring manufacturer in the U.S. to earn this distinction. This achievement is five years ahead of the company’s initial goal of being 100 percent landfill free by 2020.

“My advice for other companies on this journey—buckle up!” said Delozier. “Truly, you need to be committed to it because it’s not easy. It takes time, patience and funding. Identify a waste champion with authority to make

decisions throughout the process and have a good flow diagram of your organization showing where the waste is... and ultimately it will get easier every year.”

Not Slowing Down

Not unlike the marathon runner who draws on his last bit of energy to cross the finish line, breathing deeply, sore and exhausted but vowing to run the next race, J+J is not done yet.

“We still have elements of our 20/20 sustainability vision—a set of environmental performance goals we aim to achieve by 2020—to complete,” said Delozier. “It’s a never-ending journey, but it’s an important one.”

MATERIALS MANAGEMENT

RECOVERING ENERGY FROM WASTE

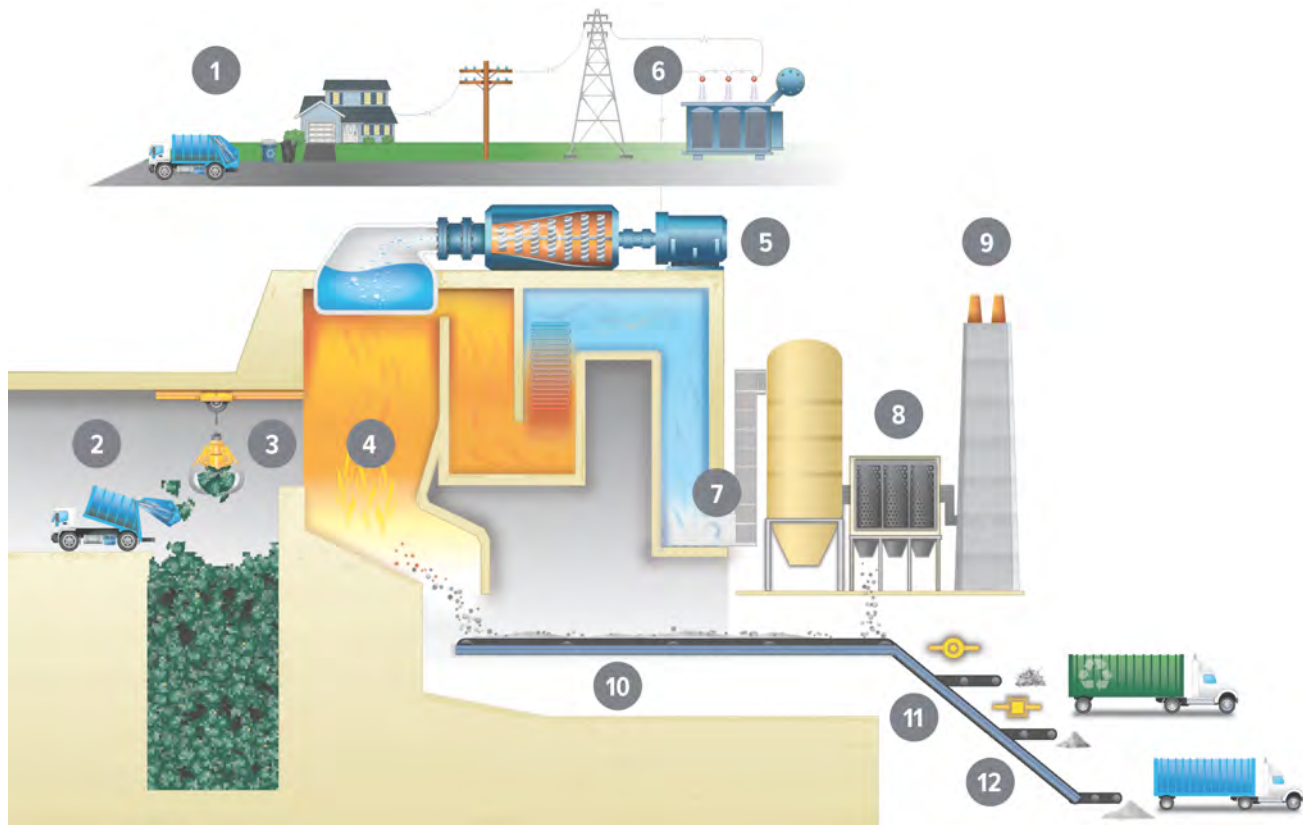
Better waste management saves energy. Waste reduction, reuse and recycling save the most energy by capturing the energy “embedded” in the manufacturing of a product or raw material. EfW facilities also recover significant amounts of energy from the remaining municipal solid waste (MSW), generating clean, renewable electricity and/or steam for export. Compared to landfills equipped with gas-to-energy recovery systems, EfW facilities are 9 to 14 times as effective at capturing the energy that remains in MSW after recycling.

This energy is defined as “renewable” by 31 states, the District of Columbia, U.S. federal law, Europe and China. New EfW capacity was considered a compliance option under the EPA’s Clean Power Plan. The World Economic Forum has called EfW a “key technology for a future low carbon energy system.”

EfW facilities are baseload, meaning that they generate their electricity consistently. As a result, they serve as an excellent complement to intermittent renewable resources, like wind and solar. EfW facilities are also often built near load centers, which reduces the energy losses associated with long-distance transmission of electricity.



The EfW Process



1. Post-recycled MSW is picked up at your home or business.
2. Waste is delivered to the tipping floor and temporarily stored in a bunker. All of the air used in the combustion process is drawn from the tipping and bunker areas of our facilities to control odor.
3. The waste is fed into a combustion chamber and burned at extremely high temperatures in a self-sustaining process. Auxiliary fuels like natural gas and fuel oil are not needed to maintain combustion.
4. Heat from combustion boils water to create steam.
5. The steam turns a turbine-driven generator to produce electricity or may be used directly for heating or industrial processes.
6. Electricity is distributed to the grid and used to power homes and businesses.
7. State-of-the-art air pollution control equipment is used to cool, collect and clean combustion gases. This equipment operates under stringent state and federal standards.
8. We control emissions of particulate matter primarily through a baghouse (fabric filter).
9. Emissions and other operating criteria are continuously monitored to ensure compliance with state and federal standards.
10. Residual material from the combustion process is collected for processing and metals extraction.
11. Ferrous and non-ferrous metals are extracted for recycling.
12. Remaining residual materials are beneficially reused or disposed of in a landfill.

Partnering with Veolia UK to Develop New EfW Facility

In May 2016, Covanta announced a partnership with Veolia UK, a waste, water and energy services company, to develop the Rookery South Energy Recovery Facility in Bedfordshire, United Kingdom. Construction is expected to begin by late 2017 with the facility becoming operational in 2020. The two companies will jointly own the project, with Veolia providing the waste and Covanta operating the facility. For more information, access the project's [website here](#).



The Rookery project will:

- Generate **60 MW of energy**, enough to power 75,000 homes
- Divert **585,000 metric tons** of waste from landfill
- Create **300 construction jobs**
- Create up to **50 permanent jobs** when operational

Using EfW to Manage Organic Pollutants

From pesticides to pharmaceuticals, some waste is difficult, if not impossible, to dispose of using traditional means. For example, when medications are improperly flushed down the drain or discarded in landfills, they can enter waterways and contaminate surface waters. Even with traditional wastewater treatment, these substances can adversely affect drinking water and the environment.

Our EfW facilities provide safe, environmentally sound destruction of waste that protects water resources while creating renewable energy. The U.S. Environmental Protection Agency (U.S. EPA) considers the disposal of pharmaceuticals in an EfW facility to be “environmentally protective.” Since the launch of our Prescription for Safety (Rx4Safety) program in 2010, Covanta facilities have destroyed over 4 million pounds of unwanted drugs and medications.

Our EfW facilities also provide a responsible method for disposing of other persistent organic pollutants, such as perfluorinated compounds (PFCs) and nonhazardous pesticides and herbicides because these facilities combust wastes at temperatures of more than 2,000°F. In accordance with federal regulations and our permits, we continuously monitor carbon monoxide levels to ensure complete combustion and must demonstrate meeting temperature requirements.

STORIES

CASE STUDY: DUBLIN ENERGY FROM WASTE



Covanta's new EfW facility in Dublin, Ireland, began operations in 2017 and is designed to provide highly efficient energy recovery in line with European Union policy on waste. The facility has exceeded our expectations on all counts and will deliver more sustainable waste management for the Dublin area for many years. The environmental performance has been outstanding—our first stack test results were 71.1–99.97 percent *below* license limits.

Covanta Dublin processes up to 600,000 metric tonnes of waste per year that would otherwise go to landfill and supplies enough clean energy for up to 80,000 homes annually. The plant's district heating system will have the potential to provide enough steam heat for up to 50,000 more homes. In addition to generating renewable electricity continuously, the plant will reduce Ireland's dependence on imported fossil fuels, eliminate the need to export or landfill waste, and enable Ireland to become more self-sufficient at managing its residual waste. The plant employs approximately 60 full-time highly skilled operators and support personnel.

Key Facility Features

- Widespread use of variable frequency drives, which reduce electricity use.
- Industry-leading 9 percent parasitic internal plant load, maximizing electrical output to the grid.
- All plant water use supplied by stormwater or gray water from local wastewater treatment plant.
- Almost all motors are fitted with variable frequency drives. This being the case, the facility's parasitic load at 9 percent is among the lowest in the industry.

- The ash bunker is sized for over 12,000 tonnes, which allows for less daily vehicle movements from the facility. The ash is loaded out every 10 to 14 days in 4,000 tonne shipments versus daily load out from the plant.

See how the Dublin EfW facility works.

For more information, please visit our [Dublin Waste to Energy Facility](#) website.

STORIES

CASE STUDY: COVANTA INVESTS IN YORK COUNTY



“Covanta has been an excellent partner in operating our Resource Recovery Center. This contract provides our county and residents long-term stability and ensures that this facility will continue to be a key part of York County’s sustainable solid waste management infrastructure in the future.”

David Vollero,
Executive Director, York County Solid Waste Authority

The extension of a long-term operation and maintenance contract between Covanta and York County Solid Waste Authority in Pennsylvania became effective at the beginning of 2016. The new agreement ensures that Covanta will continue providing first-class maintenance and operation of the county’s EfW facility located in Manchester Township for the next two decades, providing stability and reduced business risk for York County, its residents and the Authority.

The extension reflects the successful and mutually beneficial collaboration between the Authority and Covanta. Ongoing investments totaling \$30 million will help ensure that the facility maintains rigorous performance and safety standards, as well as reliable operations. In addition, the Authority is investing approximately \$65 million in site improvements to improve the customer interface and safety and prepare the site for eventual expansion of facility-processing capacity.

STORIES

CASE STUDY: RESOURCE RECOVERY IN PINELLAS COUNTY, FLORIDA



In late 2014, Covanta was awarded the operating contract for the Pinellas County Resource Recovery Facility in Florida. Owned by Pinellas County, the facility can process up to 3,150 tons of solid waste per day while generating 75 MW of renewable energy. Covanta is currently managing over \$240 million in capital projects designed to ensure the facility can continue to provide sustainable waste management to Pinellas County for many years to come.

Notable projects at the facility include:

- Upgrading the ash conditioning system, including the removal of two air emissions points
- Rebuilding the tertiary water system, including combining separate systems to reduce ongoing maintenance costs

STORIES

MICROGRIDS AND ENERGY RESILIENCY



The New Jersey Board of Public Utilities is working to improve energy resiliency and emergency preparedness by establishing microgrids throughout the state. A microgrid is a group of interconnected loads and distributed energy resources that acts as a single controllable entity that can connect and disconnect from the grid.

Covanta and the Camden County Municipal Utility Authority (CCMUA) are working together to assess connecting our EfW facility with CCMUA's wastewater treatment facility and other critical facilities within the City of Camden. A microgrid system will provide electric power to CCMUA from Covanta while providing treated wastewater to Covanta, allowing us to reduce our use of potable water and lessen stress on the local aquifer system.

EfW facilities can be a resilient source of energy and waste management for communities. When weather and other natural events disrupt the grid, EfW facilities often remain operational, managing both routine waste and the resulting debris from those events, regardless of whether the grid is able to receive the power it can generate.

MATERIALS MANAGEMENT

SUSTAINABLE WASTE SOLUTIONS

In response to demand from commercial and industrial customers, we offer a variety of sustainable waste management solutions, including secure destruction and energy recovery, onsite industrial cleaning services, wastewater treatment, transportation and logistics, recycling, depackaging and controlled drug substance waste management. We encourage our clients to consider the waste hierarchy in selecting the most environmentally beneficial waste disposal options.

Many of these services are delivered through our network of Material Processing Facilities (MPFs), which are specially designed to process nonhazardous solid and liquid wastes. We can receive these wastes either through our own transportation and logistics capabilities or through third parties. Our MPFs can shred, solidify and bulk package various waste types for more efficient transport and subsequent processing and provide wastewater treatment capabilities.

Our Waste Management Solutions



Our specially designed UnWrapp system, currently installed at our Milwaukee MPF, provides a recycling option for consumer-packaged goods that may be expired, off-specification or otherwise unusable. The product may be composted, recycled or treated for discharge to the local wastewater treatment plant, and in most cases, the packaging can be recycled.

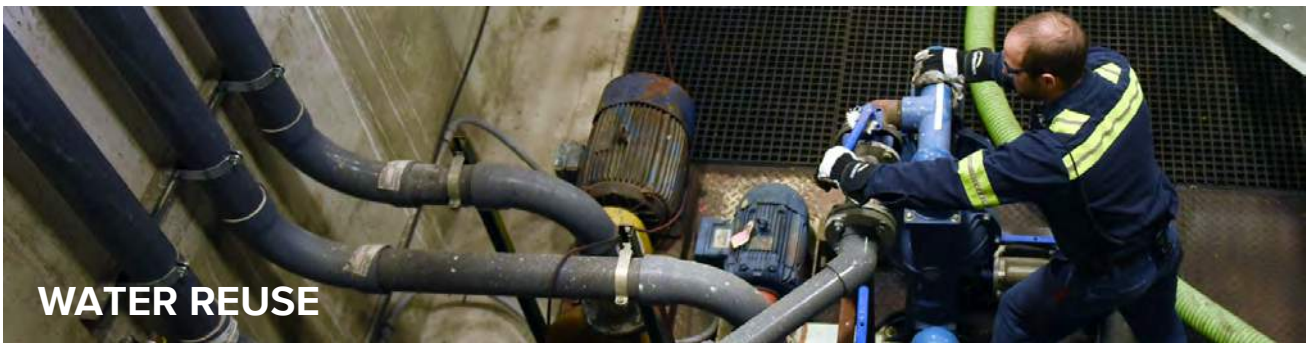


We process more than 140 million gallons of industrial wastewater annually, offering a better alternative to solidification for landfilling or deep well injection. Through screening, pH adjustment, oil-water separation and flocculation and sedimentation, we safely recycle wastewater back into productive use through publicly owned treatment plants. Our in-house lab capabilities ensure proper treatment and compliance with our permits.



LIQUID DIRECT INJECTION

When pretreatment or discharge into a publicly owned treatment plant is not an option, we can inject certain wastewater directly into the furnace at eight of our EfW facilities. This option allows for the complete destruction of contaminants, making it particularly well-suited for wastewater with high biological oxygen demand that may overload treatment plants. This option is also suitable for wastewater with high levels of persistent organic pollutants, such as pharmaceuticals, that typically pass through conventional treatment plants. Some ammonia-containing wastes have allowed us to reduce reagent use in the boiler for nitrogen oxide control.



WATER REUSE

Certain wastewater may be usable as a direct replacement for potable water at our energy recovery facilities, in our air pollution control equipment or for other uses. Depending on their composition, these wastewaters may be mutually beneficial, offering a reuse solution for the generator and providing some properties that are useful in our process.



PHARMACEUTICAL AND HEALTH CARE SOLUTIONS

We offer safe and secure management of waste from pharmaceutical manufacturing and through our Rx4Safety Program, a disposal program for community-led and organized drug-take-back events. Our Drug Enforcement Administration-licensed facilities in Pennsylvania and Arizona, as well as a new facility under construction in Indiana, provide national capabilities for reverse distribution and drug-take-back programs. In addition, two Covanta facilities are permitted to receive untreated medical waste and 20 others can receive treated medical waste, providing local energy recovery options to traditional medical waste incineration.



WASTE-CONSULTING SERVICES

We provide a full range of consulting services to clients who are seeking better methods for addressing their waste management needs. Through our network of facilities, partners and broker arrangements, we translate waste-consulting plans and advice into implemented waste management services. We help companies consider the waste hierarchy and find ways to reduce, reuse and recycle their materials in accordance with zero-waste-to-landfill, GHG-reduction and other goals.



EH&S CONSULTING

We provide full-service environmental health and safety (EH&S) consulting including air, water and solid waste permitting; pollution prevention planning; compliance auditing and assistance; training; site investigation and remediation (Phase 1 and Phase 2 audits); and workplace exposure assessment and monitoring.



INDUSTRIAL FIELD SERVICES

Our services include cleaning (facilities, site/equipment, e.g., railcars or tankers), demolition and remediation, transportation (hauling solutions) and technical- and chemical-consulting services. Our Industrial Field Services and Waste and EH&S Consulting teams work collaboratively to provide turnkey solutions as needed.

Delivering Complete Solutions to Municipalities

We strive to continually improve and expand our services and operations for both existing and new municipal partners. For example, through our bundled services program, which we currently offer in New England, we provide municipalities with a single relationship to address their nonhazardous materials management requirements. With one contract, we can cover single-stream recycling, electronicwaste, organics and energy recovery services.

STORIES

HELPING SUNNYD BECOME LANDFILL FREE



Covanta is proud to be Sunny Delight's partner in waste management, helping them reach their goal of being 100 percent landfill free three years ahead of schedule. The company, whose beverage products include SunnyD, Fruit2O and Veryfine, also set an accompanying goal to be 95 percent recycled and is now within 2 percent of its recycle-reuse target.

When the company's landfill free goal was first announced, Sunny Delight's Sherman, Texas, manufacturing facility was sending 140 tons of waste per year to landfill. We worked closely with Sunny Delight to analyze its waste stream and find ways to reduce waste, including identifying more material that could be sold to recyclers. That solution not only reduced the total volume of waste, but also the costs of hauling and disposal. In fact, the facility's entire reduce-reuse-recycle-recover effort now more than offsets the cost of disposal and produces a financial benefit.

"Covanta is playing a very important part for us by offering a truly sustainable way to manage what we cannot recycle," said David Nelson, Operations Leader at the plant in Sherman, Texas. "We already were doing well, but they helped us take our sustainability efforts to a whole new level."

In total, Covanta helped reduce the Sherman facility's waste stream disposal by up to two and a half tons per month. For the portion of the waste stream that cannot be reused or recycled, we provide landfill avoidance through the EfW process, which yields a positive benefit in the form of clean energy.

Sunny Delight was also one of Covanta's first customers to use our new UnWrapp capability. This consumer products depackaging program uses specialized technology to depackage products that cannot be sold and reuses or recycles their material components.

MATERIALS MANAGEMENT

RECOVERING MATERIALS

At Covanta, we seek ways to increase the amount of materials that can be reused or recycled from the waste stream. In the last five years alone, we have doubled the amount of non-ferrous metal we recover from waste through our investments in new technology and systems. Recycling metal from EfW facilities avoids a tremendous amount of GHGs and recovers valuable natural resources that would have otherwise been lost in landfills.

Metals Recycling in Fairless Hills



In 2016, we launched commercial operations at a new metals recycling and processing facility in Fairless Hills, Pennsylvania. The new facility improves the quality of recycled metal and increases its value by using advanced processing techniques to recover, clean, sort and deliver an end product ready for the open market.

	2012	2013	2014	2015	2016
Total Metal Recovered (thousand tons)	432	441	489	496	513

Metal Recovery Pays Off

Our investments in proper metals processing have also paid off at times in unexpected ways. For example, in 2015, the Board of Public Utilities in New Jersey tied the issuance of Renewable Energy Credits (RECs) to a resource

recovery facility's ability to remove scrap metal from bottom ash before it is combined with fly ash. Because of Covanta's investments in improved metals recovery, we could comply with New Jersey requirements and generate more RECs.

Putting Ash to Work

When EfW facilities combust waste, about 10 percent of the volume remains as ash. Years of testing ash from every EfW facility in the country have consistently demonstrated that the ash is nonhazardous, allowing options for its beneficial reuse.

One use of ash is as a daily cover for landfills. Ash exhibits concrete-like properties that cause it to harden once set in place. Use of ash for landfill daily cover reduces the need for virgin soils. Currently, approximately one-third of the ash from our facilities is beneficially reused as landfill daily cover. However, we are optimistic that we can find better uses for ash.



For example, bottom ash from our EfW facility in Pasco County, Florida, is being tested as a road-building substrate in short test sections of roadway in Pasco County at the West Pasco Landfill. The project was funded by the Pasco County Board of County Commissioners and conducted with support from the University of Florida. Use of the ash in road construction is expected to begin later in 2017. According to the county, preliminary estimates project the cost savings to be anywhere from \$50,000 to \$100,000 per mile of all two-lane roads constructed using bottom ash.

We are also moving forward with our first total ash processing system (TAPS). TAPS is intended to further process our ash resulting in a greater recovery of high-value metal and a significant amount of ash redirected for beneficial uses beyond landfill daily cover, such as aggregate replacement.

STORIES

COVANTA PARTNERS WITH ASPHALT COMPANY TO PAVE THE WAY FOR ASH REUSE



Finding a beneficial use for the combined ash left over from the EfW combustion process is a long-standing industry challenge. So, when Covanta and a Long Island-based asphalt company successfully designed and paved a road using an aggregate generated from Covanta's residual ash as a substitute for the natural sand used in asphalt, it marked a major industry breakthrough.

It may also offer a solution for the paving industry, which faces its own challenges. According to the United Nations Environment Programme, the demand for mixed-aggregate asphalt is increasing while the supply of natural sand used to create it is shrinking.

MATERIALS MANAGEMENT

CONTINUOUS IMPROVEMENT

Covanta has a long history of continuous improvement, from leading the development of energy recovery technologies and advanced air pollution control equipment to delivering an increasing array of services to our customers through Covanta Environmental Solutions. Our facilities routinely achieve availability rates over 90 percent, and we continue to strive for improvements in operations, reliability and performance that help sustain our company financially, while protecting our people, our communities and the planet.

Over the last two years, Covanta has been working to coalesce our long-standing tradition of continuous improvement (CI) into a formal group. We introduced Lean and Six Sigma tools and methodologies to further advance our ongoing efforts to reduce operating and processing waste and uncover additional revenue opportunities. Widely applied in the industrial sector, these tools help us maintain our competitive advantage while continuing to attract capital to sustain our growth.

Continuous Improvement in Action

While our CI Group and the incorporation of our formal Lean / Six Sigma tools are relatively new, we are already well under way in developing our capabilities through training and implementing projects with significant results. We had a very successful first full year of implementation in 2016 and delivered a total of \$10 million in net benefits reflecting a concerted and inclusive effort across our CI Group, maintenance, operations and engineering. Some of our recent CI projects include:



Feed Chute Plugs

When chutes feeding waste into our facilities get backed up, these “plugs” can reduce steam generation, consume staff time for unplugging and potentially result in process upsets. A team at the Union County facility analyzed operating data to determine patterns and cut feed chute plugs by more than half.




APHIS Waste

Several of Covanta’s facilities take Animal Plant Health Inspection Service (APHIS) waste, thereby preventing potential spread of invasive species and pests and diseases. However, APHIS waste deliveries at our Hempstead facility were causing significant variations in steam output in one of the boilers. New procedures led to a 20 percent reduction in steam flow variation.



Reagent Optimization

Successful installation of the new baghouse at the Essex county facility allowed the team to eliminate the use  of phosphoric acid and reduce lime consumption while maintaining environmental performance and reducing wear on equipment. These savings in reagent use reduce costs and lower life cycle environmental impacts associated with reagent production.



Steam Cycle Optimization

Our Haverhill facility has successfully stabilized net MWh generation across operating conditions. Prior to optimization, steam cycle efficiency would drop significantly during days with high ambient air temperatures due to reduced effectiveness of the air-cooled condenser.



ENVIRONMENT

GOAL

We are committed to 100 percent compliance with all discharge limits (air, water, etc.) at all facilities while also maintaining emissions at levels consistent with past performance, which are well below existing standards.

PROGRESS

Emission reductions of up to 50 percent have been maintained through the last full reporting cycle ending in 2016.

Now more than ever, we need environmentally and socially responsible means of managing solid waste. Covanta's EfW and materials-processing facilities help our communities move up the waste hierarchy, recover resources in the form of materials and energy and provide critical local and community waste management infrastructure all while helping to reduce GHG emissions from waste management. Our EfW facilities deliver clean, renewable baseload power right next to load centers and help provide resiliency to the electrical grid.

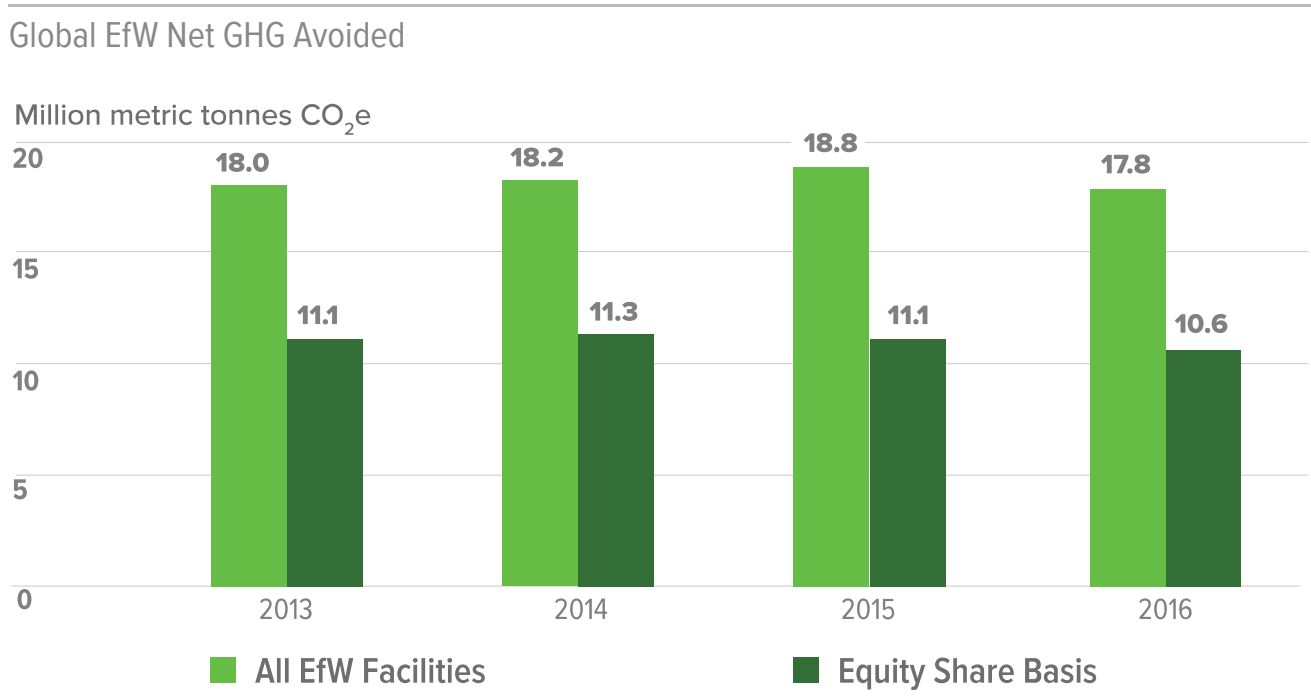
- One ton of CO₂e reduced, on average, for every ton of municipal solid waste diverted from landfill and sent to an EfW facility
- Air emissions reductions of up to 50 percent since the advent of the Clean World Initiative, our first sustainability program

ENVIRONMENT

REDUCING GREENHOUSE GASES

When it comes to mitigating climate change, people often think of things like closing coal-fired power plants or getting more cars off the road. But how materials and waste are managed also has a significant impact on the climate. In fact, roughly one-third of GHG emissions in the U.S. every year are associated with various stages of materials management: extracting raw materials, making them into products and dealing with manufacturing waste and end-of-life disposal.

That’s where Covanta comes in.



The largest part of our business—operating EfW facilities—is an internationally recognized source of GHG mitigation. On average, the U.S. EPA has determined that EfW facilities reduce GHG emissions by 1 ton of CO₂ equivalents (CO₂e) for every ton of municipal solid waste (MSW) diverted from landfill and processed. By eliminating emissions that would have otherwise occurred, EfW is the only major source of electricity that reduces GHG emissions.

Furthermore, EfW can generate carbon offset credits under the Kyoto Protocol’s Clean Development Mechanism and the Verified Carbon Standard. Two U.S. EfW facilities, eligible due to their recent expansion, have sold carbon offset credits into the voluntary market. EfW was also eligible to generate emission rate credits under the U.S. EPA’s Clean Power Plan.

EfW contributes to the reduction of GHGs in the environment by:



generating energy that otherwise would likely be generated by fossil-fueled facilities;



diverting solid waste from landfills where it would have emitted methane for decades, even when factoring in landfill gas collection; and



recovering metals for recycling, saving the GHGs and energy associated with the production of products and materials from virgin inputs.

The GHG reductions associated with these three factors are significantly more than the fossil-based CO₂ emissions from the combustion of plastics and other fossil-fuel-based MSW components.

Treatment of EfW in Cap and Trade Programs

Although EfW is widely recognized as a source of GHG mitigation, our combustion process results in facility-level GHG emissions that are included in GHG inventories that could be subject to cap and trade or other laws or regulations designed to limit or reduce GHG emissions. Currently, none of our EfW facilities are subject to existing cap and trade programs in areas where we operate, including the Regional Greenhouse Gas Initiative (RGGI) in the Northeastern United States, the European Union Emissions Trading Scheme or the cap and trade programs in California and Ontario.

Our exclusions in California and Ontario are temporary, potentially expiring in 2018 and 2020, respectively. Administered equitably, cap and trade programs could provide an economic incentive for EfW (relative to landfilling), as a result of the lower lifetime carbon intensity of EfW (relative to landfilling) for the management of municipal solid waste. However, the California and Ontario programs initially exempted landfilling, resulting in the potential for a perverse economic disincentive for EfW if it were to be included in the cap. The temporary exemptions have addressed this issue as policymakers work toward long-term solutions.

GHG Inventories

Covanta reports our GHG emissions to the U.S. EPA GHG Reporting Program and have been disclosing GHG emissions to CDP since 2007. For more information, please see our [2016](#) and [2017](#) CDP responses, covering emissions from 2015 and 2016 respectively.

GHG inventories are very useful in understanding where our emissions come from and identifying long-term trends, but they do not help us choose between different options, like those available for waste management.

While EfW facilities are sources of net GHG mitigation, they generate stack or “Scope 1” GHG emissions of their own as part of normal operation. The more waste we divert from landfilling, the greater the net GHG reduction achieved overall. However, this also translates to an increase in our Scope 1 emissions.

GHG Reduction Goals

The only way we can lower our stack, or Scope 1, GHG emissions would be to process less waste. Doing so would increase the amount of waste going to landfills, and as a result, increase overall net GHG emissions. So, we focus our GHG emission reduction efforts on energy efficiency, raw materials, metal recovery, and most importantly, helping our customers divert biodegradable wastes from landfills.

Our most effective tools in reducing GHG emissions:

Project / GHG Reduction Goal Type	GHG Emissions Reduction as tons CO ₂ e	
Recovery of metals from ash	10.0	Per ton of aluminum
	5.2	Per ton of copper
	2.0	Per ton of ferrous metal
Energy efficiency projects	0.8	Per MWh of electricity saved
Materials management	1.0	Per ton of MSW diverted
	0.7	Per ton of packaged foods diverted
Raw materials efficiency	0.8	Per ton of lime saved
	2.6	Per ton of ammonia saved

We remain committed to providing customers with more sustainable waste management practices, even though many external assessments of our corporate GHG performance do not recognize the indirect emissions benefits these solutions generate.

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WHY ADDRESS GHG EMISSIONS FROM WASTE?

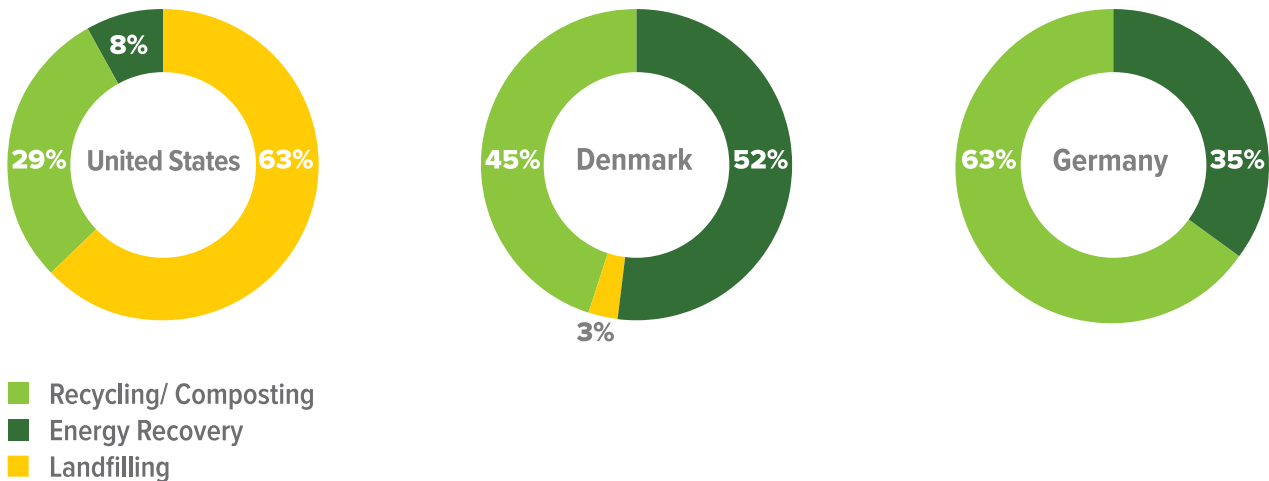
As supported by overwhelming scientific consensus, climate change is real and largely driven by human activity. The path forward for responding to climate change is far less certain. However, in the face of the tremendous risks presented by climate change to our future, we believe it prudent to reduce GHG emissions today, especially when other benefits can be realized.

A focus on more sustainable waste management can save natural resources, lower non-GHG emissions, provide high-wage jobs for local economies and diversify our electrical grid all while addressing risks of climate change by reducing life cycle GHG emissions.

We can all have a big impact on reducing GHG emissions by following the waste management hierarchy developed by the U.S. EPA and pursuing a more circular economy.

We have lots of room to grow. According to research by Columbia University, roughly two-thirds of what Americans discard ends up in landfills. In contrast, Germany has eliminated the direct landfilling of waste, with over two-thirds of their trash being recycled or composted. Energy recovery is used for the remainder.

EfW Around the World



In fact, if the United States managed its wastes as sustainably as Germany, it could:

- reduce GHG emissions equivalent to shutting down over 60 coal-fired power plants, and
- save over two quadrillion BTU of primary energy, equal to all the electricity generated by wind and solar combined.

Globally, the GHG savings could equal 1 gigaton of carbon equivalents by mid-century, equivalent to building 2 million 1 MW wind turbines.

“EfW and recycling and composting efforts are a win-win-win for the United States. EfW generates clean electricity, decreases GHGs that would have been emitted from landfills and fossil-fuel power plants, and pairs well with increased recycling rates in states.”

Center for American Progress

For more information, please see Covanta’s white paper: “Waste and Climate: Reducing Your Footprint”

STORIES

WHY LIFE CYCLE ASSESSMENT?

Life cycle analysis (LCA) is a systemic approach that can be used to assess the environmental impacts of a product or process from cradle to grave, or from the extraction of raw materials to final disposition at the end of life. Applied to waste management, LCA allows us to evaluate the environmental impacts and trade-offs of different management approaches and is a very useful tool in helping communities, governments and industry make sound decisions in advancing more sustainable waste management. Because LCA looks far beyond an inventory at a single facility, it can consider emissions and energy savings associated with waste management practices that occur at different locations or even over different time periods. For waste to energy, it allows us to quantify the positive and negative impacts of not only the energy recovery process itself, but also the benefits that accrue from avoiding landfill disposal, recovering metals for recycling, and displacing grid-connecting electrical generation.

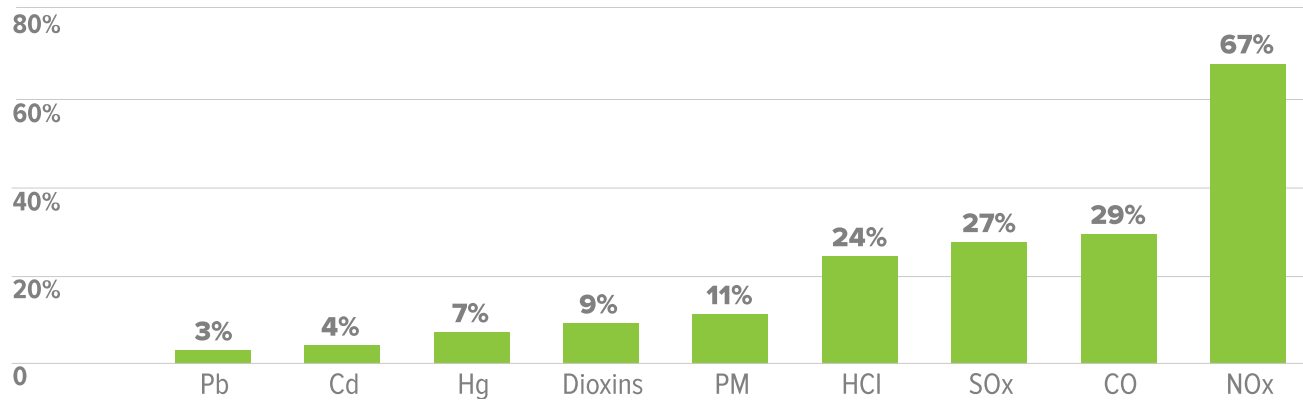
ENVIRONMENT

MINIMIZING AIR EMISSIONS

Covanta’s EfW facilities strive to reduce emissions below the strict air emissions limits set by regulatory bodies that have been demonstrated to protect human health and the environment. We employ sophisticated technologies to achieve superior environmental performance and minimize our impact.

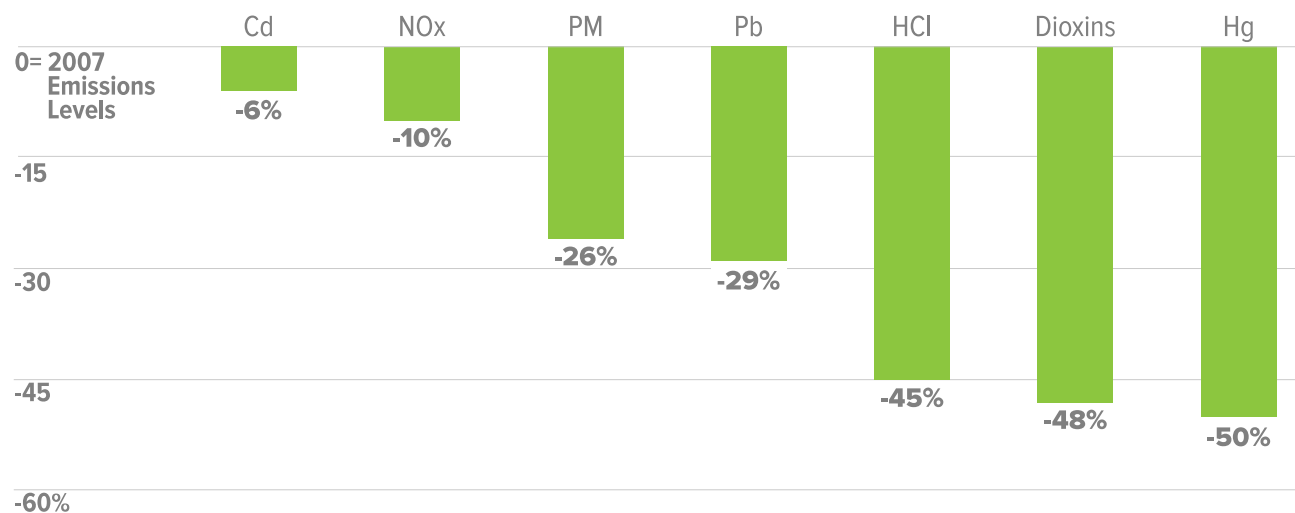
Covanta Americas 2014–2016 EfW Emissions Compared to Federal Standards

100% Federal allowable emissions standard, existing units



Since launching our first sustainability program in 2007, we’ve **reduced emissions by up to 50 percent.**

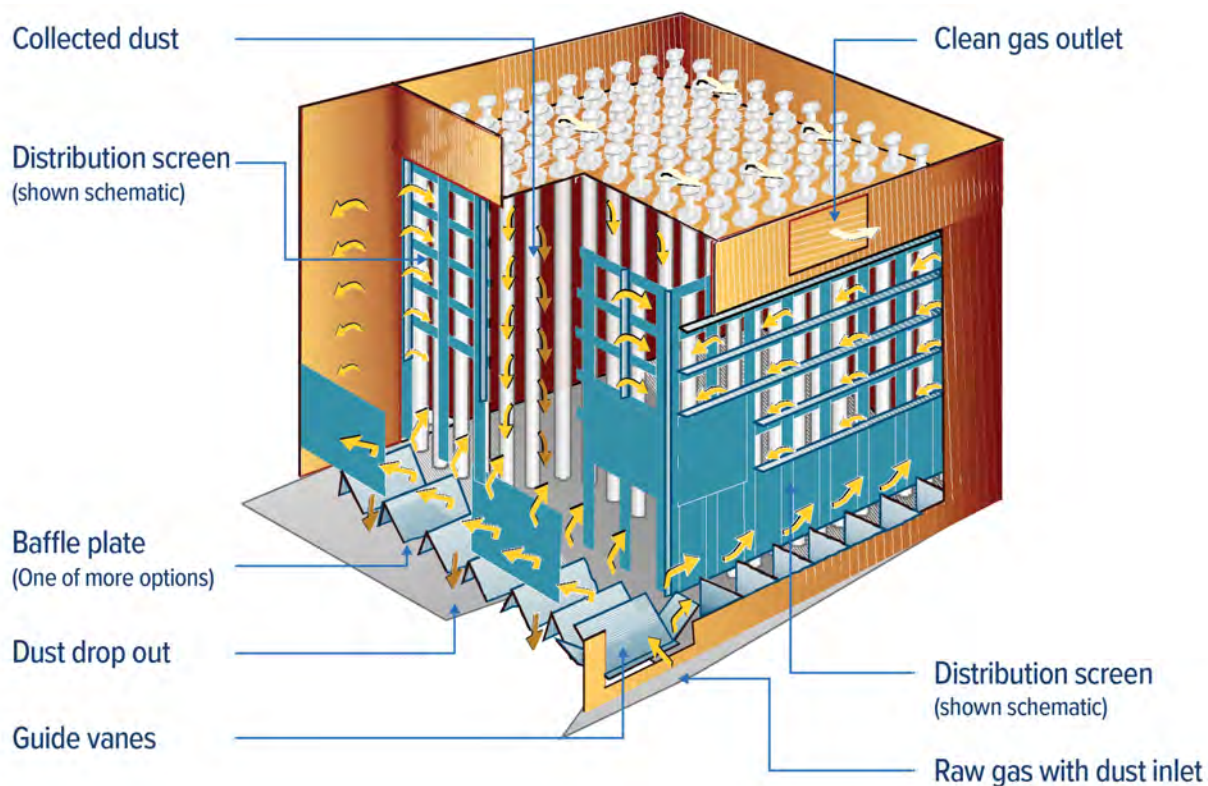
Covanta Americas 2014–2016 EfW Emissions Compared to 2007



In the United States, air emissions from our facilities consistently fall below established limits, usually operating at 60 to 90 percent or more below permitted parameters.

Covanta Essex: Pursuing Better Ways to Control Air Emissions

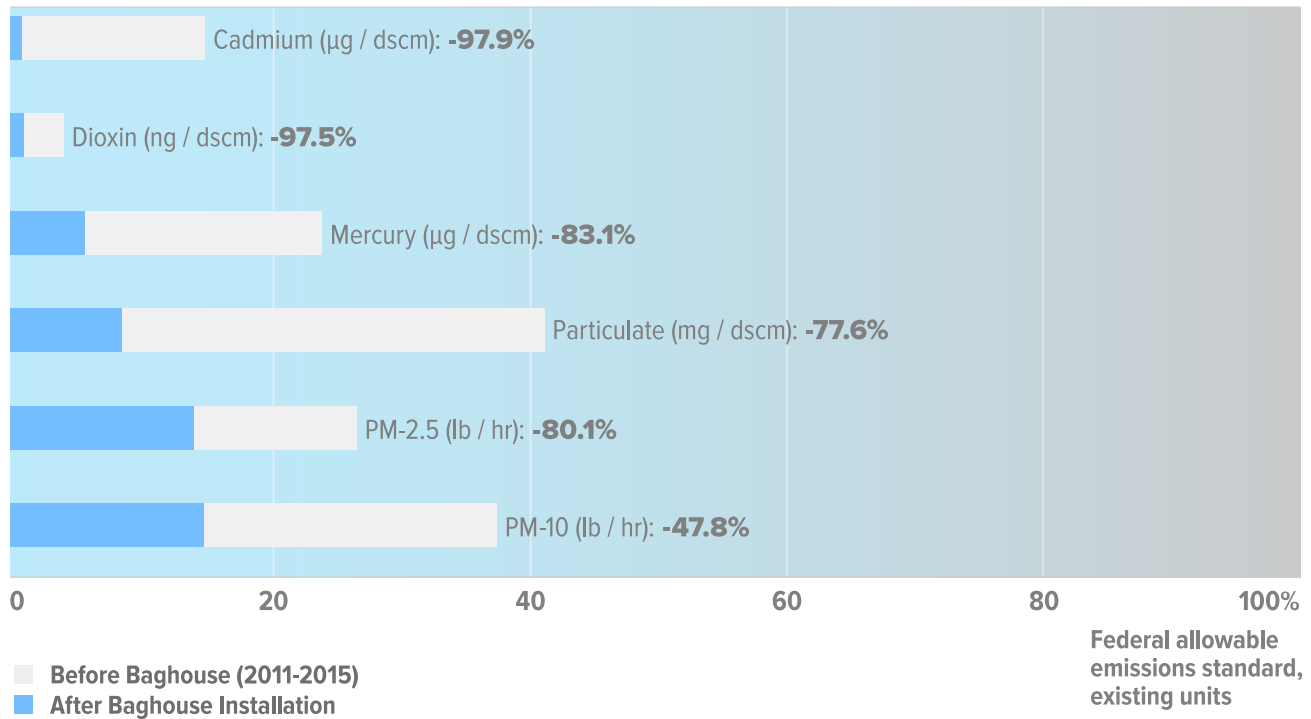
In 2016, we completed a major retrofit of the air pollution control systems at our 26-year-old Essex Resource Recovery Facility in Newark, New Jersey. Covanta operates the plant under a long-term lease with the Port Authority of New York and New Jersey, which owns the facility. Through a voluntary agreement between Covanta, the Port Authority and the New Jersey Department of Environmental Protection, we installed three new baghouses.



Operating like a very efficient vacuum cleaner, a baghouse removes 99.5 percent of the particulate matter from combustion gases. As air is drawn through the baghouse, particulate matter and fly ash are caught on the surface of the bags. Periodically, the bags are cleaned by temporarily reversing the airflow or by pulsing the bags with a strong jet of air. The particulate and fly ash are then removed from the bottom of the baghouse.

The Essex retrofit lowered particulate and metals emissions by up to 90 percent below levels already well below air permit requirements.

Essex County EfW Emissions with Baghouse Compared to Previous APC System



“We are committed to improving the state’s air quality, especially in our urban areas. I commend Covanta and the Port Authority of New York and New Jersey for stepping up to the plate and working cooperatively with us to modernize this facility’s equipment to improve air quality in our largest city and the surrounding region. Ultimately, this project was about improving quality of life and the health of our residents.”

Bob Martin,
New Jersey Department of Environmental Protection Commissioner

Covanta Fairfax: Investing in a Sustainable Future

“Powering Today, Protecting Tomorrow” also means investing in capital for both the present day and for the future. In 2016, we began a project to replace the baghouses at our Fairfax County, Virginia, facility. While the existing baghouses were performing well, they were reaching the end of their useful life. To ensure continued strong environmental performance, reduce the risk of maintenance challenges impacting facility operations and invest in the continued operation of this critical asset, we are completely replacing all four baghouses, one for each boiler. The work will be completed in 2018.

Our facilities use state-of-the-art control technologies to remove air pollutants associated with the EfW process.

Boiler Design:

Our boilers are specifically designed to recover as much energy as we practically can out of the waste resource and ensure complete combustion, including volatile organic compounds (VOCs) and other organic compounds.

Nitrogen Oxides (NOx)

Control:

Most boilers are equipped with selective non-catalytic reduction (SNCR) systems, which inject ammonia or urea into the furnace to chemically convert NOx into gaseous nitrogen, a harmless gas that makes up the majority of our atmosphere. In addition, we have installed Covanta's proprietary low nitrous oxide system (Low NOx™) in more than 20 units, which helps us control NOx emissions and reduce reagent consumption.

Carbon Injection:

After leaving the boiler, combustion gases travel through an extensive air pollution control system. At many of our plants, activated carbon is added to the flue gas stream as it exits the boiler. Gaseous phase contaminants such as mercury and dioxins adsorb to the surface of the carbon so it can be removed downstream in the baghouse.

Scrubber:

A scrubber neutralizes acid gases, including sulfur dioxide and hydrochloric acid, by spraying a lime slurry into the exhaust stream. This process removes more than 95 percent of sulfur dioxide and hydrochloric acid.

Baghouse:

Operating like a very efficient vacuum cleaner, the baghouse removes 99.5 percent of the particulate matter from the combustion gases. As air is drawn through the baghouse, particulate matter and fly ash are caught on the surface of the bags. Periodically, the bags are cleaned by temporarily reversing the airflow or, in other designs, pulsing the bags with a strong jet of air. The particulate and fly ash are removed from the bottom.

Emission Monitoring:

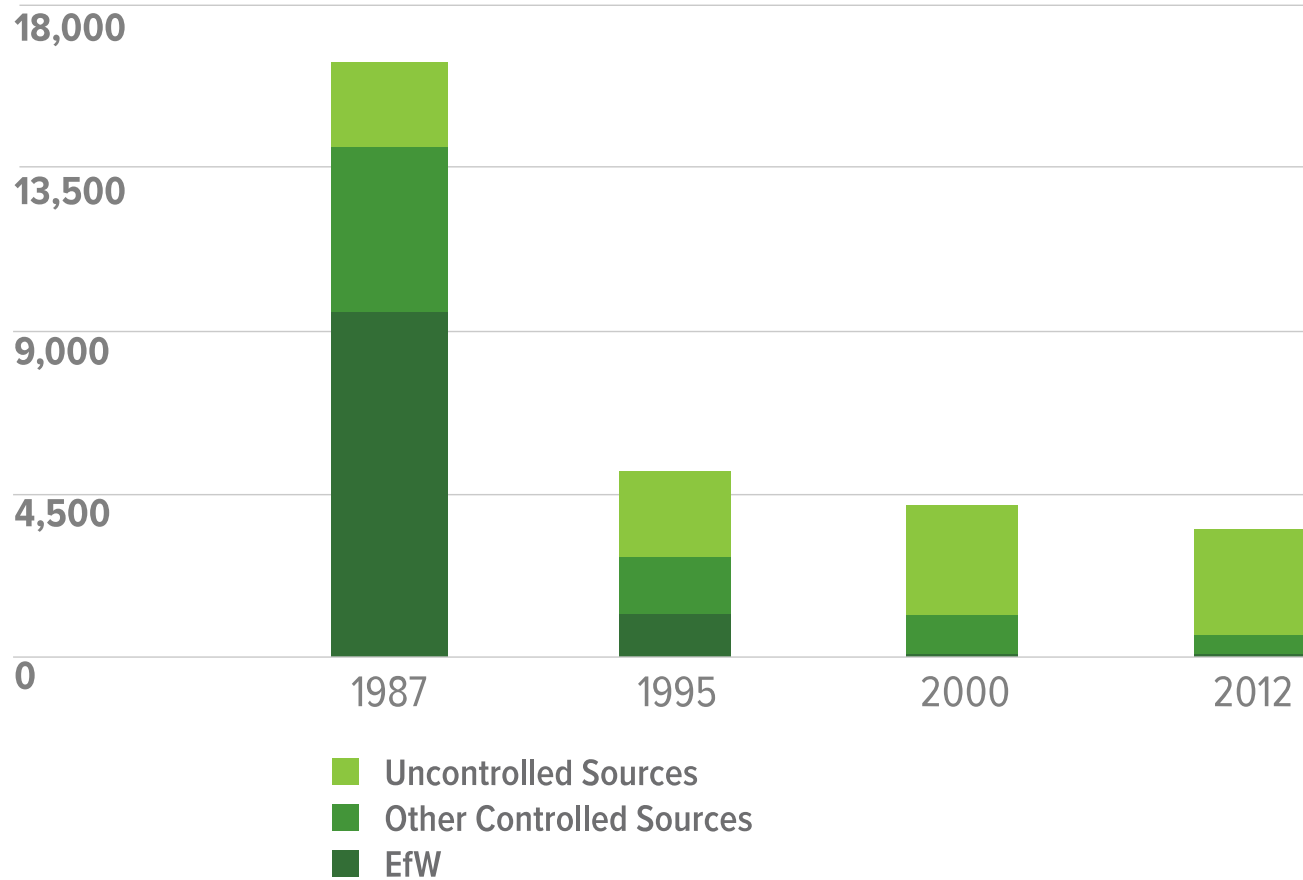
All of our facilities operate under strict air pollutant control limits. To demonstrate compliance, we use a combination of continuous emission monitoring systems and stack tests performed at least annually.

STORIES

WHAT'S THE RISK?

Some of our stakeholders and community members have expressed concern about the environmental and human health impacts of air emissions associated with waste combustion. Recent studies, such as one by [Public Health England](#), have shown that air emissions from well-managed EfW facilities do not significantly contribute to health risk and pollutant load.

U.S. Dioxin & Furan Emissions over Time



- Mercury Emissions.** Mercury emissions from U.S. EfW facilities are a fraction of those from coal plants. From 1990 to 2005, EfW facilities reduced their mercury emissions by 96 percent, representing only 2.2 percent of the total U.S. mercury emissions in 2005. In the years since then, emissions have declined further: Currently, total U.S. EfW facility mercury emissions are estimated to be less than half a ton per year.
- Dioxin Emissions.** Historically, municipal waste combustors were a leading source of dioxin emissions. However, advancements in boiler design, operations and air pollution control equipment have drastically reduced the industry’s footprint. In fact, according to recent peer-reviewed [research by Columbia University](#)

scientists, the total dioxin emissions of all U.S. EfW plants in 2012 represented just 0.54 percent of total controlled combustion sources and just 0.09 percent of total controlled and open burning sources of dioxin.

- **Nanoparticulate Emissions.** Nanoparticles quickly agglomerate into larger particles within minutes of emission. Non-EfW sources of nanoparticulate have been found to be more significant than EfW sources. A 2010 study found nanoparticulate and larger particulate of an EfW facility negligible with respect to a nearby highway. A 2013 study found that reported particulate number counts from EfW were similar to rural background concentrations and four orders of magnitude lower than those measured at the tailpipes of road vehicles.
- **Minimal Health Risk.** Public Health England found negative health impacts associated with well-regulated EfW facilities likely to be very small, if even detectable. Long-term biomonitoring near three Dutch EfW facilities found “no potential risk with respect to human consumption quality of the investigated crops and products in the vicinity.” And the Massachusetts Department of Public Health found prevalence of childhood asthma in the Merrimack Valley—where several EfW facilities are located—was not associated with emissions of particulate matter (PM10) or volatile organic compounds (VOCs) from the local stationary sources.

ENVIRONMENT

IMPROVING OUR PERFORMANCE

At Covanta, we know that maintaining our performance is critical to protecting tomorrow—for our planet, our people and the prosperity of our business. We have committed to a goal of sustaining the emissions performance gains we have achieved in the past while maintaining 100 percent compliance with all discharge limits, including stack tests and the requirements of our continuous emission monitoring system (CEMS). Our challenge is not only to meet these goals, but to meet them efficiently and consistently in the pursuit of continuous improvement.



EfW Continuous Emission Monitoring System Compliance Performance



Our North American EfW facilities averaged 99.93 percent compliant in 2015 and 2016, as measured by our CEMS; we have exceeded 99.9 percent for the past eight years. Our stack test compliance rate in 2015 and 2016 was 99.8 percent.

Environmental Fines



Occasionally, we are subject to proceedings and orders that pertain to environmental permitting and other regulatory requirements, potentially resulting in fines or penalties. Our total environmental-related fines and penalties at our North American facilities were \$56,057, \$203,717 and \$59,219 in 2014, 2015 and 2016, respectively. \$100,000 of our fines in 2015 were for the inadvertent early commencement of construction before the solid waste permit was finalized for our new Fairless Hills metals processing facility. The facility was successfully permitted and is currently operating.



Our Performance in 2015-2016

While we have successfully maintained emissions reductions at our facilities overall, our performance fell short of our expectations in 2015 and 2016. After four exemplary years of no stack test failures, we had three exceedances of air emission standards during stack tests in 2015-2016. In each case, the facilities were found to be in compliance after retesting, and our internal review confirmed that each facility is capable of meeting its limits. Consistent with our environmental management procedures—and our goal to achieve 100 percent compliance with all our discharge limits (including those evaluated through stack tests)—we performed a rigorous root cause analysis for each failure.

The root cause of the failure at our Minneapolis location was found to be the collection of a nonrepresentative sample by the independent test team, resulting from potential contamination or mishandling of sampling bottles. In response, we have implemented new quality assurance / quality control procedures to ensure the analytical results represent real conditions and proper sample management.

In the second case, at our Harrisburg, Pennsylvania, facility, particulate from one of three units was above the permit limit, caused by the process control system. New instrumentation and controls have been added and have helped improve control of the process.

In the third case, at our Durham York facility in Ontario, Canada, dioxin/furan results from one unit exceeded the technology-based permit limit (the most stringent dioxin/furan limit in North America). After consultation with the facility owner and the regulator, we proactively decided to shut down the unit to conduct a comprehensive system-wide equipment inspection and evaluation. Most importantly, the emissions did *not* result in an exceedance of the regulatory upper risk threshold at ground level downwind of the facility. Several potential contributing factors were identified and corrected during our root cause analysis process. Since the exceedance, we have successfully passed several rounds of compliance testing, and dioxin concentrations in the most recent compliance test were 13 percent of the standard.

STORIES

WORKING TOWARD ENVIRONMENTAL EXCELLENCE



We will reach our goal of environmental excellence when every Covanta facility meets or exceeds our strict standards for environmental performance. We address underperforming facilities by enrolling them in our Environmental Improvement Plan (EIP), which takes a similar approach to our Safety Improvement Plan.

Through the EIP, we review operating and environmental metrics and new procedures or ideas on how to improve performance. Periodic calls foster discussion about how facilities can improve on both a quantitative basis—such as environmental results and statistics—as well as qualitatively—such as improving communication. In 2016, two of our facilities that had been under an EIP the previous year made significant performance improvements, enabling them to be cleared from the EIP process.

We also have a rigorous environmental auditing program, designed to identify potential issues before they become noncompliance events and to help share best practices around our fleet of facilities.

ENVIRONMENT

OPTIMIZING WATER USE

As part of our commitment to responsible environmental stewardship, we engineer our facilities to run as efficiently as possible. That means that wherever we can, we minimize potable water use and wastewater discharge. In addition to benefiting the environment, these efforts frequently help us save money.

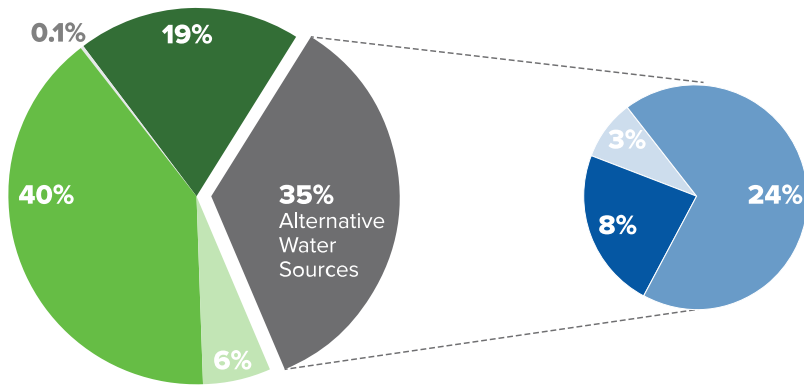


The Lee County Resource Recovery Facility uses treated effluent from a nearby wastewater treatment plant.

Water Consumption

All thermal power plants—including our EfW facilities—use water to generate electricity. In the boiler, water is heated to generate steam, which runs the turbine to generate electricity. Most of this water is condensed and reused in the process of producing power. At some of our plants, we also generate steam that we export to communities and local businesses. While steam generation is a very efficient use of the waste resource, it can increase water consumption because the condensed water produced by the steam we export may not be returned to the facility to produce additional steam.

Water Consumption by Source



- Well Water
- City Water
- River Water
- Stormwater
- Saline Aquifer
- Reclaimed Wastewater
- Cooling Discharge

Our total water use has been fairly steady over the last three years; however, we are increasingly using stormwater and other nonpotable water sources in our operations. For example, alternative water sources, including reclaimed wastewater (which now makes up 24 percent of our water consumption, up from 11 percent in 2007), saline aquifer water and once-through cooling discharge water made up 35 percent of our 2016 water consumption.

In addition to optimizing our water consumption, we also minimize our wastewater discharge, using water internally to the extent possible. A total of 17 of our facilities are zero-process water discharge, meaning that only sanitary wastewater is discharged to the local wastewater treatment plant.

	2014	2015	2016
Total Water Use (millions of gal.)	9,038	9,193	9,129
Percent alternative (nonpotable) water	29.8%	35.6%	35.3%

STORIES

REDUCING WATER CONSUMPTION AT COVANTA



Covanta engineers at our Lancaster facility noticed that manually controlled water drain valves were being left on longer than necessary during plant start-ups, as operators tended to other tasks. Installing new automatic shut-off valves reduced the amount of water that drains to the sewer during start-up by 90 percent. Since the initial installation in 2015, this technology has now been installed at roughly three-quarters of our facilities.

Additionally, as part of a \$240 million capital plan that we initiated in late 2014 at our Pinellas County EfW facility in Florida, we rebuilt the cooling tower, reducing water consumption by 40 percent from 2015 to 2016.



COMMUNITY RELATIONS

GOAL

Expand the number and quality of our community outreach programs.

PROGRESS

We have developed a community programs resource for Covanta facilities and completed at least eight community interactions at 93 percent of our plants.

Covanta has been investing in community outreach programs for more than 20 years. Mutual acceptance and respect between Covanta and our communities is essential to productive operations. We work continually to be a good neighbor and to invest human and financial resources in the communities where our facilities are located.

- 65 percent increase in community interactions in 2016
- 100 percent of our EfW facilities have formal community engagement plans
- We work with our local communities to support numerous initiatives, from safely disposing of medication to helping reduce ocean and waterway pollution

COMMUNITY RELATIONS

ENGAGING WITH OUR COMMUNITIES

We engage with our communities every day. Partnering with communities not only enables us to address local needs, but also to improve our own internal tools and processes for engagement. By sharing these successes and best practices across the company, we continuously enhance our ability to be responsive and create better environmental, social and economic outcomes.

We've achieved a **65 percent increase** in community interactions in 2016.

Covanta in the Communities

Every Covanta EfW facility is involved with its local community in some way. To help our facilities increase and enhance their community involvement, we set a goal that each facility conducts at least 8 interactions annually:



3 related to pollution prevention or environmental stewardship, such as drug-take-back or tree-planting programs;



3 focused on making a local impact, such as sponsoring a Little League team or conducting a food drive; and



2 emphasizing education, such as giving a facility tour or a presentation about EfW or sponsoring a scholarship program.

In line with our Community Outreach and Environmental Justice Policy, our goal is to listen to our community to guide our interaction, so that we can best respond to their needs and interests.

In 2016, we increased community interactions by 65 percent from the prior year, completing 446 activities company-wide, compared to 269 in 2015. We met our goal of eight community interactions per facility at 93 percent of our locations, only falling short of that target at a handful of plants where we can only act in a supporting role due to client constraints. 100 percent of our facilities without client constraints met our goal. In addition to our EfW facilities, transfer stations operated by Covanta employees and associated with an EfW facility began reporting their activities in 2015. The program is currently being expanded to our materials processing facilities.

Establishing and Maintaining a Positive Presence

Community relationships begin early in the drafting of contracts with our municipal clients. We work with neighborhood representatives to solicit their input on contractual performance standards for waste processing,

energy efficiency, energy production, environmental management, delivery hours, odor mitigation and other aspects of our operations.



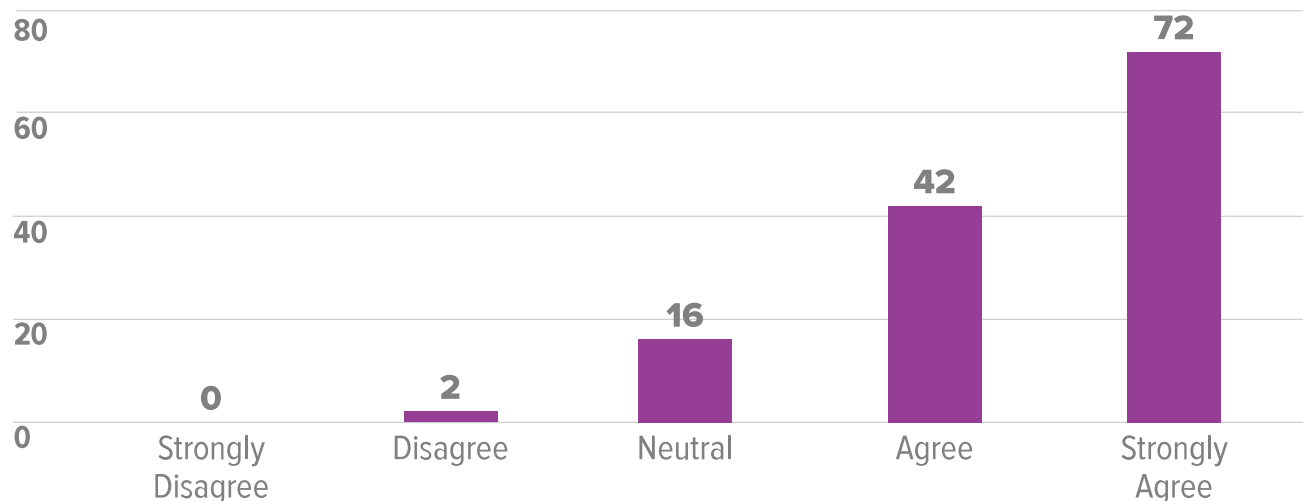
Beyond contractual terms, our operations are governed by stringent environmental, safety and health regulations. We care deeply about the safety and health of surrounding communities and believe it's important to communicate how our innovative technologies and processes provide cutting-edge protection. For example, one of the natural extensions of our safety and health program is emergency preparedness. Covanta has developed an Emergency Action Plan (EAP) for each community in which we operate. All facility personnel complete an exam regarding EAP provisions when they begin working for Covanta and participate in annual certification.

Please see our [Total Health & Safety Policy](#) for more information.

We are also deeply invested in upholding and promoting the principles of Environmental Justice (EJ). This includes our belief that all communities have a fair opportunity to provide input to the decision-making process about matters that affect their local environments. With these objectives in mind, we maintain a robust [Community Outreach and Environmental Justice Policy](#) that outlines our specific commitments to the communities where we have facilities.

Once facilities are up and running, we also stay in touch with key community stakeholders. In 2016, we piloted a small survey to obtain baseline and candid feedback about the effectiveness of our community outreach efforts in three communities where Covanta operates. The survey of representative community stakeholders—including nonprofits, an environmental justice organization and municipal clients—sought to understand how well our programs are being received locally. Designed to lay the groundwork for a more extensive survey in 2017, this initial sample provided a valuable feedback mechanism into our broader stakeholder engagement process. Overall the response was very positive with an overall average of 4.4 out of 5.

Survey Results (8 Responses, Omits Q. 20)



“Strongly Agree” reflects a positive impression of Covanta’s community relations activities and presence

Our support of community programs also extends to local charities. Globally, we donated approximately \$2 million per year in both 2015 and 2016 to local efforts.

Delivering Economic Benefit

Communities benefit economically from the close partnerships we have with them. The jobs we create are among the most direct outcomes, along with indirect social gains in the form of new supplier and vendor contracts. For example, our new 1,500-ton-per-day EfW facility in Dublin, Ireland, has created approximately 375 jobs during its three-year construction period from 2014 to 2017, and the facility is expected to support up to 100 permanent jobs.

Once completed at the end of 2017, the facility will have the potential to generate approximately \$1 billion in direct and indirect economic activity and provide ongoing economic stimulus to the surrounding Dublin region. Covanta will also provide the Dublin City Council’s Community Gain Fund with an estimated €10 million during construction and up to €600,000 annually after that. To learn more about the new Dublin plant, please see [Materials Management](#).

Addressing Outreach Challenges

While we’re pleased with our progress on community engagement, some challenges remain. For example, newer facility managers may have limited experience with community outreach, so we are increasing our training and internal support. In addition, our arrangement at each facility is different: in facilities that are client-owned, the client controls the level of outreach and contact with the community.



We are starting to overcome these challenges. We are now more invested in our communities and excited to work side by side with our neighbors. We encourage our facility managers to identify staff who enjoy getting out into the community so we can match them with volunteer opportunities. We strive to combine resource donations with volunteerism, so that for an event like a litter cleanup, we are donating not only bags and gloves, but also our time.

We aim to meet with our municipal clients and customers face-to-face at least once a year, not just when there's an issue. But when there is, having a solid community interaction strategy in place helps position our facilities to address local grievances quickly and proactively. Every opportunity we get to be more involved with the community is an opportunity for us to become a better neighbor.

Volunteering to Make a Difference



Covanta believes in giving back to the communities where our employees live and work. To demonstrate our commitment to this principle, we created a pilot program, launching in 2017, at one facility in each of our regions called *Covanta Cares*. This employee volunteerism initiative provides Covanta employees with paid time off to participate in volunteer/community service activities with a nonprofit organization of their choice. Employees are given the equivalent number of hours as their regularly scheduled shift to use in a minimum of half-shift increments for volunteer work.

STORIES

EXHIBITING SOLUTIONS TO THE PROBLEM OF MARINE DEBRIS



Grabbing trash out of the ocean with a giant claw isn't exactly how we will solve the issue of marine debris, but a new interactive exhibit at the Mystic Aquarium in Connecticut that models this idea is certainly grabbing the attention of visitors.

In 2016, Covanta partnered with the Aquarium to launch the "Covanta Cove" exhibit that demonstrates how marine waste can be turned into clean energy. The Aquarium's 700,000 visitors of all ages get a chance to collect debris from an "ocean" by picking it up with a mobile crane and depositing it into a scale model hopper leading to an EfW facility. Once delivered to the facility, the homes in the backdrop of the exhibit light up, signifying the energy that has been created from the combustion of waste and distributed.

This interactive exhibit not only brings needed attention to the issue of marine debris, but also demonstrates how sustainable waste management solutions can power neighborhoods.

STORIES

ENVIRONMENTAL JUSTICE



We were honored to be recognized in 2016 for our commitment to Environmental Justice in Chester, Pennsylvania, where we operate our Delaware Valley Resource Recovery Facility. The Chester Environmental Partnership (CEP), of which Covanta is a long-standing member, recognized Covanta Vice President of Environmental Science and Community Affairs and CEP board member John G. Waffenschmidt for leading Covanta to become one of the first companies in the United States to establish a formal EJ policy.

“With John’s leadership, we have been able to improve the lives of Chester residents and further the environmental justice movement on a national level.”

Reverend Dr. Horace W. Strand,
CEP Founder and Chairman

STORIES

LOCAL COMMUNITY RALLIES BEHIND COVANTA



It's gratifying to know that just as we are committed to the communities in which we operate, many communities also see Covanta as an integral part of their local economic engine. In 2016, high operating costs and low profitability put our EfW facility in Pittsfield, Massachusetts—our oldest operating facility—on the brink of closure. The closure could have had a cascading economic impact on other local businesses, including our client Crane Currency, the only manufacturer of paper for U.S. currency, which uses our steam in its production process.

Thanks to a dedicated group of local and state leaders that helped facilitate important ways to make our continued operation financially viable, we were able to keep the facility open. From Pittsfield Mayor Linda Tyer to Massachusetts Governor Charlie Baker, many stakeholders helped secure the measures that made the difference for Covanta, including state energy bill amendments, energy credits and more than \$500,000 in grant funding from the City of Pittsfield. Annually, the facility produces over 450 million pounds of steam, as well as 3.5 million kilowatt hours of electricity used for facility operations.

STORIES

COVANTA HEMPSTEAD REDUCES TRUCK TRAFFIC ON LONG ISLAND



Too many trucks. That was one of the concerns we heard when we were working with the Town of Brookhaven, New York, on a new 10-year agreement for transporting and disposing of the town's municipal solid waste (MSW) and operating the Brookhaven Transfer Station.

Our response: a solution that means more than 6,000 fewer truck trips each year by using newly designed trucks with a 25 percent increase in waste capacity compared to the previous trucks. The trucks can also transport both MSW and ash, enabling them to carry waste from the transfer station to our Covanta Hempstead EfW facility, and then transport the residual ash to the landfill adjacent to the transfer station, instead of returning empty.

The trucks will eliminate approximately 6,400 MSW truck trips between the transfer station and Covanta Hempstead each year while reducing the number of ash loads by approximately 10 percent. What's more, by eliminating more than 560,000 truck miles annually, the system will reduce GHG emissions by over 1,000 tons—equivalent to the annual emissions from over 200 cars.

COMMUNITY RELATIONS

COMMUNITY PARTNERSHIP PROGRAMS

We work with our local communities to support many local initiatives, from supporting educational sustainability initiatives in schools to safely disposing of medication to preventing mercury from entering the waste stream.

Marine Debris



Fishing for Energy, a partnership between Covanta, the National Fish and Wildlife Foundation, the National Oceanic and Atmospheric Association and Schnitzer Steel Industries, provides commercial fishermen with a way to dispose of unusable fishing gear at no charge. The partnership has invested more than \$2.5 million to address the issue of derelict fishing gear across the United States, to remove debris in 10 states, and to generate enough electricity to power more than 2,500 homes for one month. Here's a look at the progress being made in just three states.

- **New Jersey:** Fishing for Energy and the Conserve Wildlife Foundation (CWF) of New Jersey have recycled approximately 26,000 pounds of derelict crab pots and other marine debris. Covanta Union in Rahway, New Jersey, processes the gear from nearby New Jersey ports. During 2016, the facility accepted and processed approximately 8,800 pounds of gear from the project.
- **Florida:** During 2016, more than 3,000 pounds of old fishing gear, such as traps, and other marine debris was removed from Florida's waterways and coastlines, recycled and converted into energy at the Pinellas County Resource Recovery Facility (Covanta Pinellas). "We are proud to partner with Covanta to properly dispose of the derelict traps providing both conservation and socioeconomic benefits to the community," said Devin Sanderson, founder and president of ReelCycle, a Florida-based nonprofit that develops sustainable recycling programs for fishing gear.
- **Washington:** In collaboration with The Nature Conservancy and the Quinault Indian Nation, Fishing for Energy has removed more than 1,000 abandoned crab pots from the Washington Coast through the port community of Westport. Since 2009, Covanta Marion has helped remove and process 240 tons of fishing gear and marine

debris from the Pacific Northwest coast and has played an integral role in preventing abandoned fishing gear from harming wildlife.



Go Green Initiative



We support the Go Green Initiative (GGI), a nonprofit whose mission is to provide schools and communities with the tools and training they need to create a “culture of conservation.” Many schools are required to recycle, but too often recyclables are mixed in with garbage. We’re proud of our role in introducing the GGI into many schools in the areas in which we operate.



A fourth-grade class at Wiggins College Preparatory Lab Family School in Camden, N.J., holds up the caterpillars they are observing as part of the butterfly garden their teacher purchased with the proceeds from a mini-grant for environmental education.

“Thanks to organizations like the Go Green Initiative, students are able to have hands-on learning experiences while also giving back to the environment. We truly appreciate all you do.”

Ms. Sakeena Bentley,

Fourth-grade teacher, Wiggins College Preparatory Lab Family School in Camden, NJ

In 2016, we introduced the program to the following communities:

Camden, New Jersey. In 2015, the Camden City School District’s 22 schools were informed that they would be inspected by the county for compliance with local recycling ordinances, and potentially subject to fines of up to \$3,000 per school per day (or \$12.1 million in a school year) for noncompliance. In partnership with GGI, Covanta worked with the district’s facilities department to conduct free waste audits at multiple schools and to help get recycling programs started through education and outreach with the staff and students. GGI trained 60 teachers from eleven different schools, representing pre-K through twelfth grade as well as principals, green teams and food service vendors. We also helped teachers apply for \$100 mini-grants for classroom supplies to enhance environmental education. Along with two other community partners, our effort pooled \$6,000 to give mini-grants to 60 teachers. We are now working with GGI to replicate this successful model in Newark, New Jersey.

In June 2017, the Camden Collaborative Initiative recognized Covanta with an Environmental Hero Award in recognition of Covanta’s work on the recycling program for the local school district. Presented by the City of Camden Mayor, Dana Redd, the award honors efforts that have made a positive impact on the city’s environment.

Newark, New Jersey. We worked with a private school, St. Benedict’s Prep, to focus the student body on the environment and sustainability. We had support from the Dean of Faculty, who initiated sustainability initiatives such as recycling the plastic clamshells used in the lunchroom. Noreen Connolly, a faculty member, formed the Green Bees, a student group training the entire student population on more sustainable behavior. We supported the program by donating funds for receptacles in all classrooms and helped the school improve recycling and systems in general. Read more about the [graphic novel on climate change and recycling](#) that a St. Benedict’s Prep student was inspired to create.



As an outgrowth of our work in Camden and Newark, we launched an e-newsletter, *Catching Up with Covanta*, to highlight the innovative projects and partnerships we're involved with in communities across New Jersey. We send the newsletters to community members and local businesses, with an invitation to contact our Community Liaison to learn more about our outreach activities and facilities.

Chester, Pennsylvania. The Chester Upland School District is located in an economically challenged area where grocery store options are often limited to small corner markets with a narrow variety of foods. Working with GGI, we sponsored a program called Nourishing Breakfasts for Chester's Children, which was supported by Albertson's Foundation, the Entertainment Industry Foundation and Fair and Square grocery stores. What started as a single breakfast on a Saturday in November 2016 ended up being a full-day event where participants learned how to make healthy meals based on what was available in local convenience stores. The program was so successful, the school district held a second event in May 2017.

Rx4Safety



Covanta's Prescription for Safety Program (Rx4Safety) provides for the safe disposal and destruction of medications collected at community events. Since its launch in 2010, Rx4Safety has safely destroyed more than four million pounds of unwanted medications, with almost one million pounds destroyed in 2016 alone.

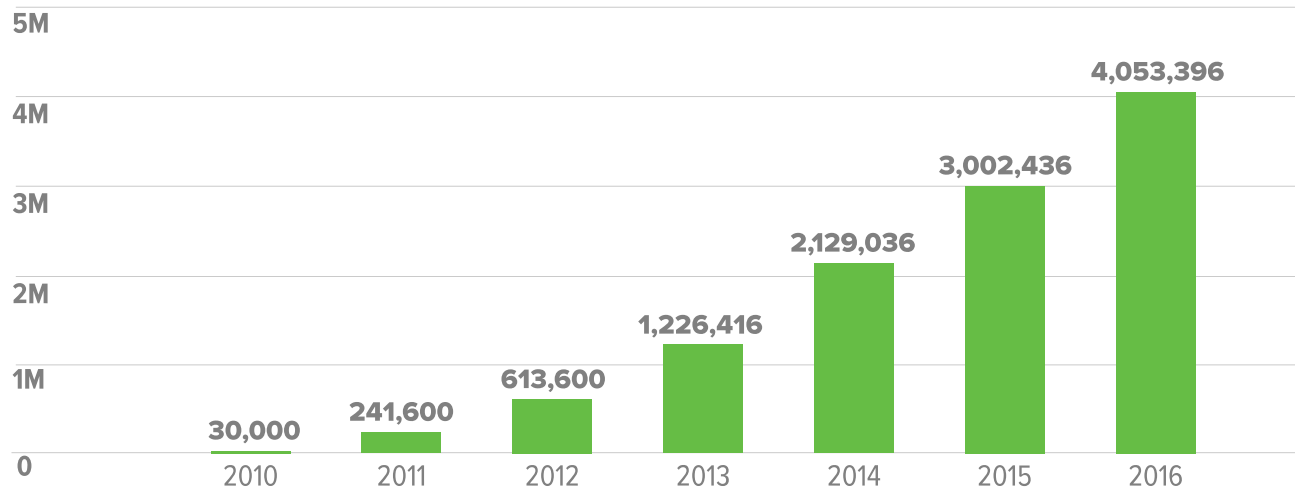
We launched this program in response to evidence of prescription drug abuse as well as pollution in our waterways. Rx4Safety disposal is offered free of charge to residential take-back programs conducted in conjunction with local law enforcement. Our EfW facilities enable us to recover energy from the disposal of prescription medications, over-

the-counter drugs, veterinary medications and nutritional supplements while assuring destruction of complex organic pollutants, preventing their release into the environment.

Through a broad range of partnerships—including with the Department of Justice, local police forces, state-level administrators and environmental groups—we've helped build a powerful coalition to address a serious social and environmental concern. These partnerships have enabled us to make substantial progress in eliminating pharmaceuticals from improper use and disposal in the communities we serve.

Cumulative Collection, Rx4Safety Program

Rx (in millions of pounds)



Mercury Collection



Our EfW facilities use sophisticated air pollution control equipment that removes over 95 percent of mercury. We believe that the best strategy for preventing releases of mercury and other toxins is to reduce its use in consumer products. To help achieve that goal, we are a sustaining partner of the Product Stewardship Institute, a nonprofit focused on minimizing the negative impacts of consumer products and packaging. We also support legislation that would eliminate the use of mercury in consumer products. If mercury must be used, we believe the manufacturer should be responsible for its proper disposal.

As a testament to the efficacy of reduction efforts, we have seen a continued decrease in the amount of mercury that reaches our plants. We hope this trend continues. In the absence of a nationwide initiative to reduce or manage mercury in consumer products, we have conducted mercury awareness and collection programs since 2000. Through these efforts, we have helped divert more than 3,300 pounds of mercury from the waste stream, which is roughly equal to the amount of mercury found in 1.5 million thermostats.

STORIES

ADVANCING RECYCLING IN THE CAMDEN CITY SCHOOL DISTRICT



STORIES

PARTNERING WITH ST. BENEDICT'S GREEN BEES



COMMUNITY RELATIONS

COVANTA EMPLOYEES MAKING A DIFFERENCE



Michael Elia, Joseph Nuzzi, Brian Palmer

Assorted Titles
Hempstead

Michael has been a volunteer fireman for the Levittown Fire Department for the past 15 years. Joseph is another 20 year volunteer fire fighter for the Levittown Fire Department along with colleagues Brian Palmer and Michael Elia. This trio works together and volunteers together! Brian has been a volunteer Fireman for the Levittown Fire District for 20 years!



Hank Clements, Lynval Dyer, Juan Sepulveda, George Wilson

Assorted Titles
Dade

These four guys put in months of practice to compete in a two-day, 175 mile bicycle ride to raise money for the [Multiple Sclerosis Foundation](#). With the help of family and friends, they raised over \$6,000. All four rode bicycles from Doral, FL, to Key Largo, FL, and back for a total of 700 miles in two days with strong winds.



Sonia Young

Administrative Assistant
Lee

Sonia is one of the [Salvation Army's Angels](#). She volunteers to help make Christmas better for disadvantaged children in the area.



Darlene Watson-Calvert

Manager, Material Profile Compliance
Corporate, Remote TX

Darlene and her husband are thirteen-year volunteers at the [Houston Livestock & Rodeo show](#), which raises funds for the Texas Youth Education Scholarships, Grants, Graduate Assistantships, and more.



Jennifer Turner

Business Manager
Durham York

Jennifer has been volunteering for the [Rotary Club of Bowmanville](#) during her free time since she was 16. She participates weekly in a variety of fundraising activities and educational programs, all designed to help the local community.



Bob Telless

Supervisor, Safety & Training
SEMSS

Bob is making sure everyone knows CPR/AED and First Aid Training, whether it's the scouts, family, or friends, by volunteering his personal time.



Sylvie Satre

Regional Accounting/ Finance Director
for NE Region
Plymouth

Since 2014, Sylvie has participated in a three-day, 60 mile walk organized by the Susan G Komen breast cancer organization. Not only does she walk, but she also raises funds for the group both locally and nationally.



Jeff Ruoss

Facility Manager
HPOWER

Jeff and his family help clean the beaches of Oahu multiple times a year. Jeff also teaches an energy lab to STEM students.



Michael Riley

Shift Supervisor
Onondaga

Along with two friends, Michael started the non-profit Friends of Wildlife and works with the Anglers Association of Onondaga to provide outdoor programs for anyone who wants to visit Webster's Pond. He also mentored an Eagle Scout applicant and helped build an ADA compliant rain shelter.



Bill Perkins

Solution Sales Manager
NY/NE

After he's done with work for the day, Bill volunteers for a variety of organizations including the [National Ski Patrol Board](#), the [Greek Peak Ski Patrol](#) and other ski and toboggan organizations. He's also active in the American Cancer Association, St. Catherine's Parish Center Building Committee and as an assistant Scoutmaster in Ithaca.



Alan Paschedag

Manager, Process Engineering
Corporate

Alan organizes a group of about 20 volunteers from the [Jersey Shore Running Club](#) to work the finish line at the NYC Marathon. His team of volunteers manage the reunion area and help non-English-speaking runners feel welcome.



Tom Mueller

Facility Administrator
Lee

Tom puts in his volunteer hours at [Keep Lee County Beautiful](#), [Rotary South](#) and the [Foundation for Lee County Public Schools](#). All three organizations are fortunate to have Tom helping to raise funds, select grant winners and interview scholar athlete candidates, among many other volunteer duties.



Patrick Miller

Regional Engineer, Boiler Reliability
Corporate

Patrick and his wife, Dawn, both volunteer for [Troop 1208 BSA](#) and the [Butler \(FL\) County Schools](#). In both instances, the Miller's volunteer to the max!



John McCurdy

EH&S
York

John has been busy teaching English as a second language for the past 3 years at [Trinity Presbyterian Church](#).



Sandra Jackson

VP, Diversity & Employee Engagement
Corporate

Sandra has stayed active in the [Alpha Kappa Alpha Sorority](#) and volunteers as a board member at the Grace Smith House, a domestic violence shelter in Poughkeepsie, N.Y. She and her sorority sisters participate in many different charitable activities to benefit the community. Recently, they paid tribute to "Living Legends" at the local assisted living center.



Nate Ihrig

Sr. Project Manager
Fox Valley

Nate is super busy volunteering his time to the [Masonic Lodge](#), [Winneconne Sovereign State](#) and the local Men's Club. Lodge and Men's club activities include a variety of fundraisers to help those in need, while the Sovereign State activities are just too many to list! Please visit their website :-).



Amanda Huxter

Environmental Specialist
Durham York

Amanda likes to share physics with the Girl Guides during National Engineering Month through her volunteer work with [EngSpire](#).



Megan Holt

Account Executive
Corporate

Megan volunteered last year for the [New York Road Runners](#), an organization whose mission is to help and inspire people of all ages through running. She learned that running is more than just a sport, it's a way to prove to yourself that no dream is out of reach!



Andrew Heglund

Auxiliary Engineer
Huntington

Alan is a volunteer fire fighter, Assistant Chief in fact, for his hometown of Centerport NY. He's been doing fire and rescue for the past 20 years!



John Frotton

Manager, EH&S Area
Corporate

John is a sports coach in his town, currently focused on youth football, but he's coached youth baseball, soccer, wrestling, lacrosse and basketball too during the past five years in Montville. Player safety is a key part of John's interaction with the kids and the coaches.



Brian Foster

Manager, Environmental
Indianapolis

Brian volunteers for the Military Department of Indiana Ceremonial Unit where he stands honors during funerals of military personnel as well as presenting the flag to the serviceperson's family. It is always a very moving experience.



Bob Foley

Fuel Control Room Operator
SEMSS

Bob spends his volunteer time on the road, driving back and forth 3-4 times a month between the Sacred Heart Food Pantry to the Greater Boston Food Bank.



Steve Deduck

Manager, Tech Operations
Corporate

Steve has served as a Scoutmaster for the past 14 years, demonstrating leadership and character skills for between 50 and 60 Boy Scouts.



Daniel Davila

Shift Supervisor
Warren

Daniel has spent the last 10 years coordinating the Bethlehem Township Athletic Assoc. soccer. With his help, they've grown from 7 teams to 18, with over 500 children participating.



David Cubit

Non Bulk Specialist
CES Portage

David not only volunteers, but founded the Canine Knights Foundation, which has been instrumental in raising awareness about canine cancer. The organization provides financial support when needed, as well as emotional and moral support for dog owners.



Kim Crawford

Storekeeper
Springfield

Kim spent her volunteer hours at the Enfield Hazardous Waste Collection Day helping fellow citizens to get rid of their hazardous waste.



Kathy Carroll

Business Manager
Onondaga

Kathy serves on the Board of Webster Pond, is an active volunteer, and donates her hair to Locks of Love to make wigs for women with cancer.



Keith Burbridge

Safety Coordinator
Tulsa

Keith and his wife have helped to build 18 Habitat for Humanity houses in the Tulsa area.



Richard Broughton

Maintenance Mechanic
DeVal

Richard spends some of his spare time volunteering at his local fire department, the Thorofare Volunteer Fire Department #1.



Wanda Brehm

Storekeeper
Harrisburg

Wanda and her daughter, Billie Joe, donate their time to the Michele Parson Breast Cancer Fund, which hosts drives to raise money for Penn State College of Medicine cancer research and this year they met their goal of \$28,000!



Eric Brabec

Shift Supervisor
Tulsa

Eric is a volunteer Scout Master, helping Scouts to develop leadership, outdoor and first aid skills, as they journey towards Eagle Scout.



Rebecca Bigari

Environmental Manager
Pinellas

Rebecca has chosen to work with [Divine Bliss International](#) and spends her volunteer hours both indoors and out, helping with administrative tasks and gardening.



Jay Baronowski

Director, Energy Mkts.
Corporate

Jay has been involved with the [Pan Mass Challenge](#) for the past 18 years by riding its distance and being an active photographer. The event donates 100% of its funds to cancer research and treatment at the Dana Farber Cancer Institute.



Frank Baldwin

Sales Mgr.
CES Ashboro

Frank and family volunteer at the Promise House, a shelter for "at risk" families. They purchase and prepare multiple meals yearly for people less fortunate.



Ken Armellino

Director, ES&CA
Corporate

Ken volunteers his time through the [Knights of Columbus St. John's Council 1345](#) where he has been an officer for the past three years. The council focuses its fundraising events on services for the elderly, special needs children, scholarships, fire department and ambulance services.

While the Covanta facilities participate in more broad community outreach, many of our employees individually volunteer their personal time to individual causes in their communities. Click on their photo for more information about some of the causes they support.



SAFETY AND HEALTH

GOAL

Achieve world-class safety and health performance through disciplined continuous improvement, safety leadership at all levels, full employee engagement and an integrated, interdependent world-class safety culture.

PROGRESS

As a result of a review of our root cause analysis program in early 2017, we've implemented a new tool for selected incidents, Failure Mode and Effect Analysis, to systemically reduce the potential for additional incidents.

At Covanta, safety and health are not simply programs or metrics. They're part of a culture of teamwork, peer support, open communication and trust that extends across every facility and worksite.

- Greater than 50 percent of Covanta facilities were injury free in 2016
- 37 Voluntary Protection Program Star locations at the end of 2016
- Consistently outperform industry benchmarks

SAFETY AND HEALTH

ENSURING SAFETY IN THE WORKPLACE

Often, when people think of “sustainability,” they think about “protecting the environment,” but sustainability is also about protecting people. If we think about ourselves and our co-workers on a personal level, it’s clear that injuries and accidents are *not* sustainable. As part of our safety program in 2016, Covanta focused on the “*Why?*” behind safety: that is, our purpose, cause or belief that inspires us to work safely. In almost every case, our *whys* come down to protecting *our* tomorrow, for our colleagues, friends, families and communities.

At Covanta, we believe that all accidents and injuries are preventable, not inevitable. Our employees and contractors, through their awareness of hazards and their actions on the job, are the key to our safety and health performance.

We model our Safety Management System on the stringent provisions of the U.S. Occupational Safety and Health Administration’s (OSHA) Voluntary Protection Program (VPP). The VPP is a management system program recognizing employers and employees who demonstrate exemplary achievement in the prevention and control of occupational safety and health hazards.

We are among the top 10 companies in the United States with a majority of operating locations recognized as STAR Worksites. Our participating facilities promote effective worksite-based safety and health performance through hazard prevention and control, worksite analysis, training, management commitment and worker involvement.



The OSHA VPP recertification process gives us the opportunity to discuss safety issues, processes and systems with a team from OSHA or with safety experts from other

companies, helping strengthen the capabilities of our own employees and facilities. In 2016, eight facilities successfully completed VPP recertification.

Stepping Up for Safety, Health and Environment Core Values

STEP-UP is Covanta's internal safety and environmental awareness, leadership and structured safety, health and environment (SHE) management program. STEP-UP stands for "Safety Today and Every day is Paramount—Unleash the Power." Our STEP-UP program helps us move to our next level of safety performance. We continue to use the STEP-UP safety program for employees and contractors, emphasizing communications surrounding safety and health in the workplace.



Investing in SHE Training

Our "Red-Yellow-Orange Safety Partner Training" is one element of our STEP-UP program. All corporate employees must receive three to nine hours of safety training, coded red-yellow-orange, depending on their job function. Annually, corporate Supply Chain (e.g., operations, maintenance and engineering) employees also receive 24 hours of SHE training. Likewise, field employees receive at least 24 hours of training per year.

We continually invest in updating our SHE training and involve our employees in developing fresh and relevant content. For example, over the past few years, we've rolled out new resources for safety awareness and training with the overall goal of enhancing performance by bringing safety information and awareness to employees in an accessible, fun and engaging way. SHE videos developed by Covanta facility employees cover specific safety topics pertinent to operations, such as safety and health leadership, behavioral safety and technical topics. In 2016, we invested in specialized cloud-based software to make these videos both easier to develop and more accessible over a wider variety of platforms, including mobile devices. Committed safety leadership across all levels of the company is imperative to developing an interdependent world-class safety culture. In 2017, we expanded the latest version of SHE training throughout our regions, where it will eventually touch the entire workforce.

Empowering Covanta Employees to Take Ownership of Safety



- **Leadership training.** This six-part series is required to be completed by all Facility Management, Supervision and all Corporate employees within six months of hire or promotion. It is designed around developing safety leaders.
- **Peer mentoring and feedback.** Peer mentoring and support coupled with positive self-coaching are key elements of our safety programs. For example, when there is a near-miss incident, rather than taking punitive action, we focus on examining the behavior behind the event.
- **Guidance for Personal Safety (GPS).** As part of the GPS program, all new Covanta employees literally wear green hard hats for their first year so that fellow employees can provide guidance on safe behaviors and protocols.
- **Tailgate Meetings.** 10-15 minute “Tailgates” are held weekly, at the beginning of shifts, and led by shift supervisors. Topics may include new processes, regulatory changes or some of the video or written resources developed by other Covanta employees. Tailgates help us keep our SHE focus day in and day out.
- **Communicating best practices.** Our company intranet includes a safety page with articles based on current events or monthly awareness programs, such as fire protection month in September. *Direct Current*, our monthly internal employee newsletter, notes special accomplishments. Each Covanta facility focuses safety discussions on a Monthly Main Topic, a current company or industry event that is discussed at facility meetings.

Contractor Safety and Health Performance

Over the span of a year, thousands of contractors work at our facilities, particularly for maintenance. Our contractors’ safety and health performance is just as important as our own. We have implemented a six-factor contractor safety program around qualification, mentoring, safety and health performance assessment, communication, outreach and training.



We qualify every contractor we work with for safety excellence through a third-party qualification organization called ISNworld. This partnership allows us to standardize contractor management across 10 geographic regions. The ISN infrastructure and contractor portal enables us to communicate and monitor safety, insurance, training requirements and expectations of contractors, as well as to retrieve safety statistics. To identify safety-conscious contractors and manage our own risk, we work with “A-grade” contractors, which means their safety metrics are lower than their industry-specific index or benchmark.

STORIES

WHAT'S YOUR WHY?

At Covanta, our “why” is the fundamental reason our safety program exists and the underlying motivation for working safely and promoting a safety culture. So, we asked our employees: “What’s your why?”



“Safety’s the most important thing, and it’s not just words. You want your employees to go home the same way that they came in.”

Steve Bossotti,
SVP, Covanta Metals Management



“When you’re talking about sustainability and safety, people are your most important resource. How can you focus on something like sustainability and not include your most important resource that you want to protect, like your employees?”

Erin DeKorte,
Safety, Health and Environmental Training Specialist



“Safety is a core value. It’s our paramount value.
There’s nothing better than sending everybody home
safe every night.”

Paul Gilman,
SVP, Chief Sustainability Officer



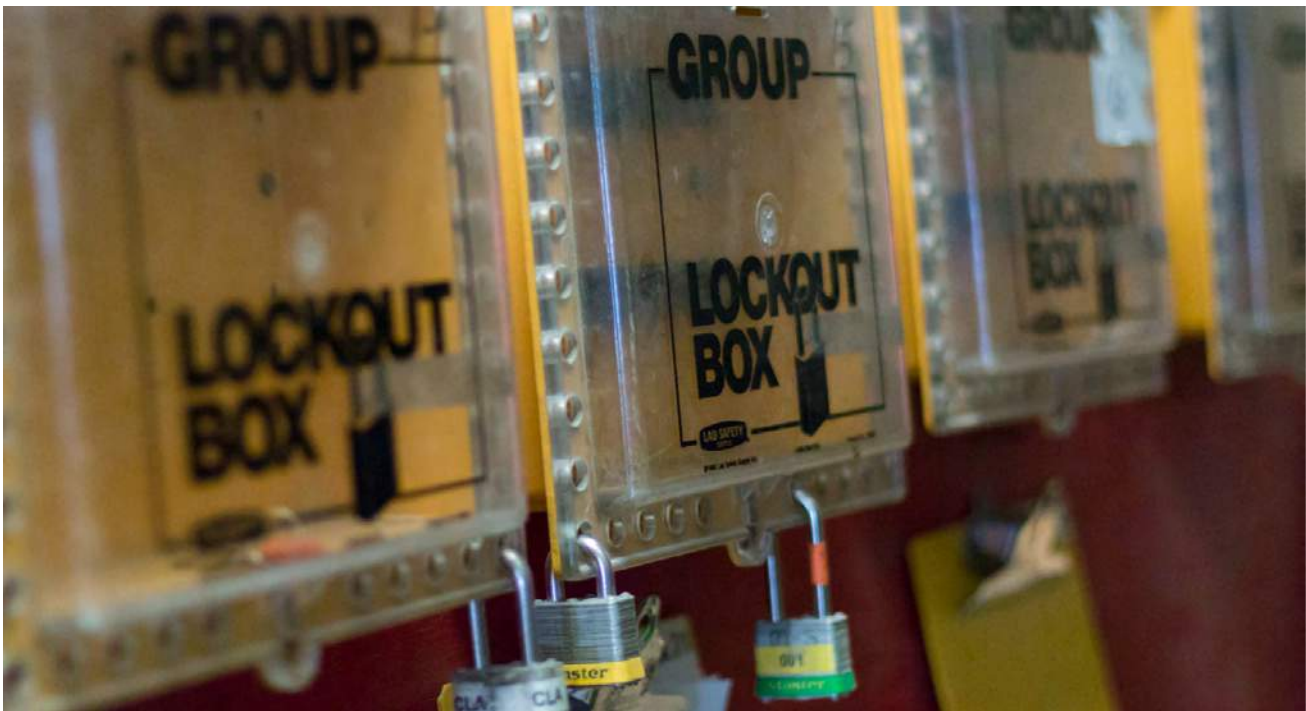
“I think that goes through most people’s minds.
They’re looking at a job and it doesn’t quite look
right, but they’re also not sure of themselves
whether they should question it or not. And what we
say is, Question it. Trust your judgment, ‘question it’.
The best thing is that you could be wrong.”

Frank Miller,
VP, Maintenance Technology

SAFETY AND HEALTH

PROMOTING A SAFETY CULTURE

We know that the key to protecting safety and health is by building an interdependent safety culture throughout Covanta. We work to build that culture through our overall safety programs, including training, communication and leadership. The challenge is that “culture” can be difficult to quantify and measure. Moreover, while incident rates and other safety and performance metrics are easier to measure, they are lagging indicators, meaning that we can’t measure them until after an injury has already occurred. Knowing that culture drives our performance, we’ve set an ambitious sustainability goal to develop and assess a set of metrics that can help us monitor our culture.



Tracking culture will give us insight into a *leading* indicator for safety performance, so we can improve how we are doing before the accident occurs. At the same time, we have been reviewing our root cause analysis and corrective action process to ensure the process adequately evaluates and resolves issues once they’ve been identified.

Evaluating the Efficacy of Our Safety Culture

As part of our effort to protect safety and health, we are establishing a set of new metrics to help us evaluate culture as a leading indicator of safety performance. In this way, we can make improvements before an accident occurs.

We have started to develop leading safety metrics by collecting objective feedback from our facilities. We contracted with the National Safety Council (NSC), an independent, nongovernmental organization, to gather this feedback, evaluate the current state of employee safety and identify specific areas in need of improvement.

The NSC Safety Barometer Survey comprises 50 questions in six safety categories to measure employees’ perception of Covanta’s safety and health management processes and systems. We began this survey in early 2017

with three facilities from the South region (Lee, Miami Dade and Tulsa) and three facilities from the Mid-Atlantic region (Alexandria, Delaware Valley and Montgomery Mass Burn). Each facility developed action plans to address the survey's results, and we are currently in the process of evaluating the findings.

SAFETY AND HEALTH

DELIVERING ON SAFETY PERFORMANCE

Covanta experienced an increase in occupation injuries and illnesses in 2015 as compared to 2014; however, we improved our overall safety and health performance in 2016. Specifically, in 2016, we sustained 41 recordable injuries versus 47 in 2015—even with the addition of several new business acquisitions to our reporting pool.

More than 50 percent of facilities were injury free in 2016.



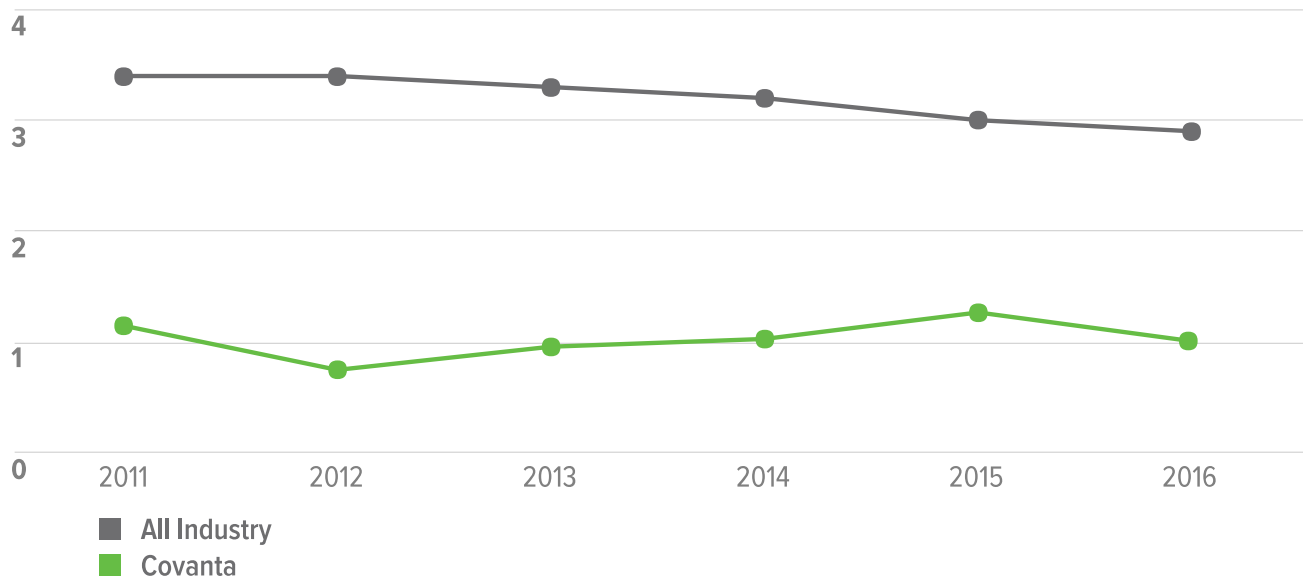
Progress in 2015-2016

15 percent improvement in our OSHA recordable safety metrics.

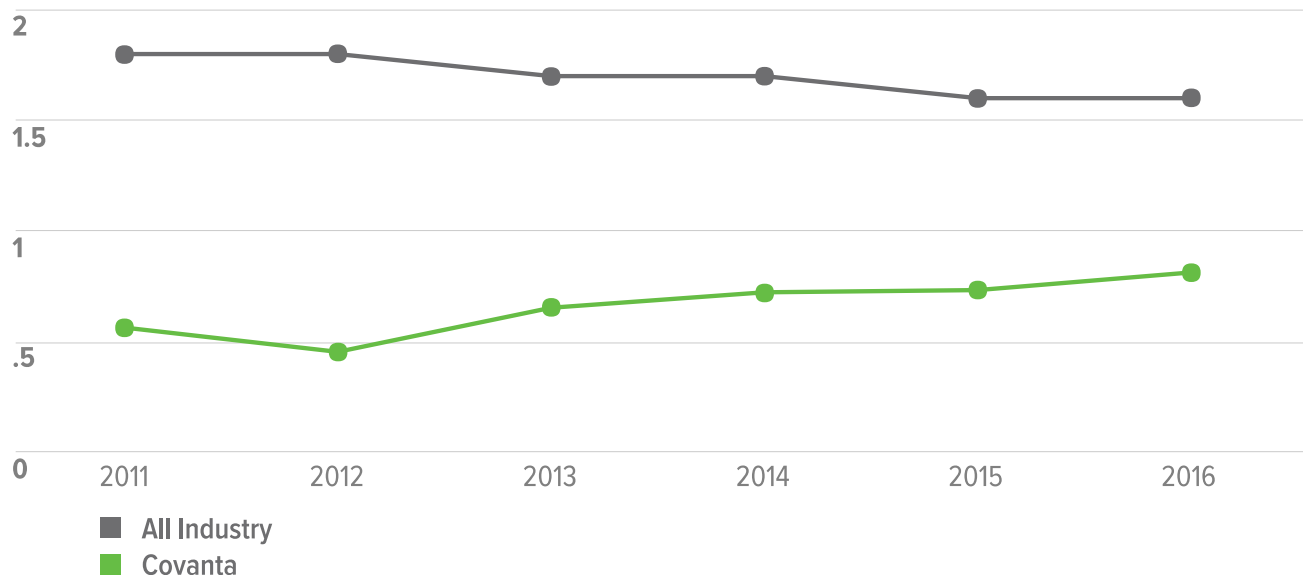
21 percent improvement in Total Case Incidence Rate (TCIR).

Injury rates significantly below U.S. all-industry average.

Total Case Incident Rate



Days Away, Restricted, Transfer Rate



Regrettably, we have had two employee fatalities in the last two years, one a motor vehicle accident in 2016 and the other a heavy equipment accident in 2017. These two events challenge other successes we've had and remind us of the need to continually evaluate program execution in the field and constantly measure effectiveness. In response, we have hired a third-party organization to review our safety programs top to bottom across the company. As they complete their work, we have already initiated key changes with both our truck fleets and mobile equipment operations to address the specific root causes that led to these two accidents.

Making Driver Safety a Priority



Covanta's expanding waste management business brings with it a larger fleet of vehicles and a significant team of drivers. Despite our prioritization of driver and fleet safety, we unfortunately had a driver fatality in April of 2016. In response to this event, we immediately established a relationship with a third-party provider to implement:

- **Driver Qualification Files:** All drivers must comply with basic requirements, such as a pre-job application and annual physical.
- **OSHA and DOT compliance training:** Because our drivers are very mobile, we established an online computerized training program to help us stay in compliance.
- **Drug and alcohol testing:** We standardized this testing so it is consistent across the company.

Heavy Equipment Safety

The recent fatality of one of our heavy equipment operators has led us to completely reevaluate our safety programs around heavy equipment operations. We have hired third-party experts to review our safety programs top to bottom across the company. We have replaced the seats in our heavy equipment to incorporate three and four-point safety belt systems incorporating bright webbing to both provide superior protection relative to customary lap belts and to provide a better means of verification of compliance with our seat belt policy. Several of our facilities are piloting RFID systems to alert heavy equipment operators of pedestrians in the area of their equipment. Lastly, we are evaluating all procedures for our tipping areas at all of our facilities.

Additional Continuous Improvement Measures

Safety performance requires constant vigilance. Work demands, new facility leadership, new processes and new business lines are just some of the reasons that can divert focus from safety and health programs to other issues.

To ensure that we align our resources and attention to those areas that present heightened safety and health risks, we have two significant initiatives in place:

- **Safety Improvement Plans (SIP) for at-risk facilities.** We develop comprehensive, actionable Safety Improvement Plans for certain facilities that need additional help in advancing safety performance or building a

stronger safety culture. Each month, these facilities update senior management on their progress concerning action items laid out in their SIPs. When facilities improve their safety performance, they can leave the SIP program by mentoring another facility. This approach is working: Three Covanta facilities are mentoring other facilities, and one group mentors two contractor organizations.

- **Monthly injury and Serious Near Misses leadership review calls.** Each month, all recordable injuries and Serious Near Misses (SNM) that occurred in the previous month are reviewed and discussed on a conference call with senior management. All facilities are encouraged to join these calls to learn from one another. They can share ideas on how to make our facilities safer and prevent the same or similar SNMs or injuries from occurring again.

Occasionally we develop company-wide safety initiatives due to these calls. For example, in an SNM event, a high-voltage electrical line was intercepted by the bucket on a piece of mobile equipment. There was no injury and only slight damage—but it could have been a lot worse. This event led to an improved process for demarcating electrical wires.

Recognition for Safety Excellence

Twenty-six Covanta facilities and/or groups were awarded with the Occupational Excellence Achievement Award 2016 by the National Safety Council (NSC), an organization devoted to promoting safety in U.S. industry for more than 100 years. This award recognizes companies and facilities with lost-time injury rates equal to or less than half the rate of other companies within the same industry.

Integrating New Acquisitions into Covanta's SHE Management System

Over the past two years, our company has grown significantly by acquiring other businesses. After acquisition, we quickly move to integrate these new businesses into our safety program.

As part of the integration process, we review all previous safety-related items—such as reportable injuries—and develop a matrix to identify our weakest areas and track progress. The disparate nature of the acquired businesses, from small shops to large established facilities, reflects a wide range of maturity regarding systems and processes.

With acquisitions also come distinct cultures and expectations. At Covanta, safety is an utmost priority, and we expect work to be done correctly and safely. We extend that expectation to our acquisitions as well.

In 2016, we had a 69 percent overall reduction in recordable incidents associated with those acquisitions made in 2014 or 2015.



WORKFORCE ENGAGEMENT

GOAL

Create and maintain an inclusive, respectful and equitable environment that leverages the unique talents, perspectives and experiences of our diverse workforce.

PROGRESS

In 2016, we developed a new mentoring program, kicked off a three-year program of diversity and inclusion training for all full-time employees and instituted a new requirement for diversity in management position candidate pools.

Our employees drive our business. We can position the company for success by working to attract and train the best talent, hire and retain a diverse workforce and foster inclusion of all employees and their ideas. By investing in our employees, we'll also encourage innovation, reduce costs via continuous improvement and grow revenues through the development of new businesses and services.

- 85 percent participation rate in two of our key training programs for two consecutive years
- Completed diversity training for approximately two-thirds of our full-time workforce through 2017
- 15 percent of our workforce are veterans, contributing to a diverse workplace

WORKFORCE ENGAGEMENT

BUILDING A GREAT PLACE TO WORK

At Covanta, building a better world starts by building a great place to work. Because developing an engaged workforce leads to a productive and profitable company, one of our most important priorities is attracting and retaining dedicated, skilled and knowledgeable employees. That's why we offer competitive benefits, training, recognition for excellence and opportunities for career advancement.



But we also know that today's employees want more than a job: They want to make a positive difference in the world. We welcome their ideas for Protecting Tomorrow and foster employee creativity and collaboration in developing sustainable solutions for society and the environment.

Measuring Employee Engagement

Since our last full employee survey in 2012, we have begun gathering employee input and suggestions in other meaningful ways. For example, in 2016 we conducted diversity and inclusion (D&I) awareness training that reached approximately 1,100 employees—about 30 percent of our workforce. During small group conversations, where we can often get more direct and interactive feedback compared to a written survey, many employees provided excellent ideas on how to improve employee engagement. We consolidated these ideas and presented conclusions to senior management. We will continue to refine our ways of working based on these insights.

We're also seeking ways to use technology to conduct short employee pulse surveys in the coming year. We will use these surveys to collect insights and data on ways to improve our engagement.

Promoting Employee Growth

All full- and part-time Covanta employees receive annual performance reviews. Through our Performance Management process, managers and employees together determine performance strengths and development

opportunities. We then help employees address competency gaps through targeted training to strengthen communication, improve interpersonal and management skills or learn new workplace processes. Our human resources department also offers programs to improve employee relations and promote a workplace free of harassment and discrimination.

In addition, our education assistance program provides financial support to employees who want to broaden their knowledge base, develop further professional skills and take external classes to prepare for other positions within Covanta.

Sharing in Our Success

Our employees drive our business and our success. Therefore, we believe it is important to share our success as a company with our employees. All full-time employees at Covanta not part of collective bargaining agreements are eligible to participate in our Annual Incentive Program (AIP). When we succeed as a company, the AIP provides bonuses based on performance.

STORIES

SUMMER HOURS BRIGHTEN THE WORKWEEK



Given the importance of work/life balance and flexibility, we piloted a new program in 2017 to give employees more time to enjoy the summer season. Our Summer Hours program now allows employees to work a longer day up to four days per week during the summer months, in return for a half day off that week. The program was piloted at three facilities in 2017 and customized to account for the unique challenges and complex schedules that exist at our facilities. We hope to expand this program to additional locations in the future.

WORKFORCE ENGAGEMENT

INVESTING IN TRAINING AND DEVELOPMENT

Employees have said that opportunities for individual professional development are important to them—and their response to our training and development program proves it. For the past two years, we have had an 85 percent participation rate in two of our training programs, *Four Essentials of Supervisory Success* and *Principles of Performance Management*. We have built the curriculum to equip managers to do their jobs better and have trained more than 350 first-line managers to date.



Our industry-leading operator and maintenance qualification programs also help ensure that our employees are equipped to perform their jobs safely and efficiently. Our areas of focus for these programs include electrical qualification, boiler operations and power generation fundamentals. Beyond assuring that we meet local, state and federal certification requirements, these programs establish a clear, consistent path to personal development and career advancement.

Believing in the unique power of mentoring relationships, we set a goal in our last sustainability report to initiate a new ongoing mentoring program. We kicked off our first wave of the program in 2017, with a group of 40 mentor/mentee pairs representing a diverse cross section of Covanta employees and locations. Mentoring benefits the mentor, the mentee and the entire organization. We're excited to add this additional type of training to Covanta.

We have also recently developed our Early Career Development Program, designed for recent college graduates with less than three years of relevant work experience. Participants will gain valuable knowledge and skills, make meaningful contributions and have an opportunity to determine the career path that's right for them. The program offers candidates world-class experience and training through rotational assignments across the company.

WORKFORCE ENGAGEMENT

PROMOTING DIVERSITY AND INCLUSION

Upholding a diverse and inclusive work environment is an important key to our success. Studies show that diverse groups of employees enable companies to have stronger collaboration and achieve better business performance. In the crucial skill sets of problem-solving, conflict resolution, idea vetting and creativity, diversity always wins.

By embracing diversity, we foster a work community that opens minds and opportunities, helping Covanta grow stronger as a company. We pledge to create a culture of acceptance, tolerance and individuality so we can all learn and grow together.

Building a Diverse and Inclusive Workforce

Covanta's D&I mission is to create and maintain a diverse, inclusive environment that respects the unique talents, perspectives and experiences of our employees. In pursuing this mission, we are applying our D&I strategy across the organization, while ensuring that it aligns with our key business objectives. Because we know that D&I starts at the top, we are engaging Covanta's senior executives to lead the D&I strategy. We're also advocating for a culture of inclusion by establishing an Executive D&I Council.

In building our workforce, we strive to "stay local" so we can reflect the ethnic diversity of the communities where our facilities are located. We also focus our efforts on attracting qualified female applicants since we believe the physical nature of our work should never be a barrier to women entering the field. We were recently named to the Executive Women of New Jersey's "A Seat at the Table" Honor Roll that recognizes publicly traded companies in the state that have appointed three or more women to their corporate boards.

We also value the diversity in our workforce as reflected by age and experience. Nearly 25 percent of our U.S. workforce is 55 or older. As these employees look toward retirement, we provide them with financial planning services, along with an employee assistance program. We have also developed succession plans to avoid employment gaps and to ensure that new hires are equipped with the tools—and the institutional knowledge—they need to perform their jobs.

Finally, because education is an essential part of D&I, we're providing training to help Covanta employees enhance their cultural competencies across multiple levels of D&I. We're tracking our progress using several measures, including recruitment targets and mentoring program participation. For example, at the management level—director and higher—we now require the presentation of a diverse slate of candidates for every opening. This approach is leading to definitive changes in the hiring process and making a difference in the composition of our executive ranks.



Supporting Our Veterans

Covanta has historically employed many veterans as we look for professionals that not only possess exceptional technical skill sets, but also exemplary qualities such as teamwork, dedication and integrity. That's why we continued our strong veteran recruiting efforts in 2016 by participating in more than 10 veteran-focused events, including on-site career fairs and a Covanta-exclusive virtual fair. In addition to hosting veteran-focused career fairs at our facilities, we have also organized an internal group of employees who are also veterans to help hiring managers translate military titles and responsibilities into the needs of our business. These Talent Ambassadors play a very engaged role in our talent acquisition, onboarding and retention strategy.

As a result of efforts such as these, we added over 150 veterans to the company in 2015 and 2016. Veterans now make up about 15 percent of our workforce.



STORIES

DIVERSITY & INCLUSION WORKSHOPS



Between April and June 2016, Covanta offered Diversity & Inclusion Workshops at Covanta facilities in New Jersey, Massachusetts and Florida. The workshops focused on building a respectful D&I culture that recognizes the importance and unique contributions of every employee to Covanta's overall success.



We provided four-hour on-site training sessions and delivered two to three workshops per day. The training was intensive and focused on the practical ways and outcomes of leveraging different ages, experience and races to be more effective as a team. We delivered training to 1,100 of our 3,500 employees.

In 2017, we plan to expand the engagement and D&I messaging to a larger group and tap “diversity ambassadors” and other volunteers to assist in the effort. Our goal is to embed a D&I mind-set into the fabric of the company.

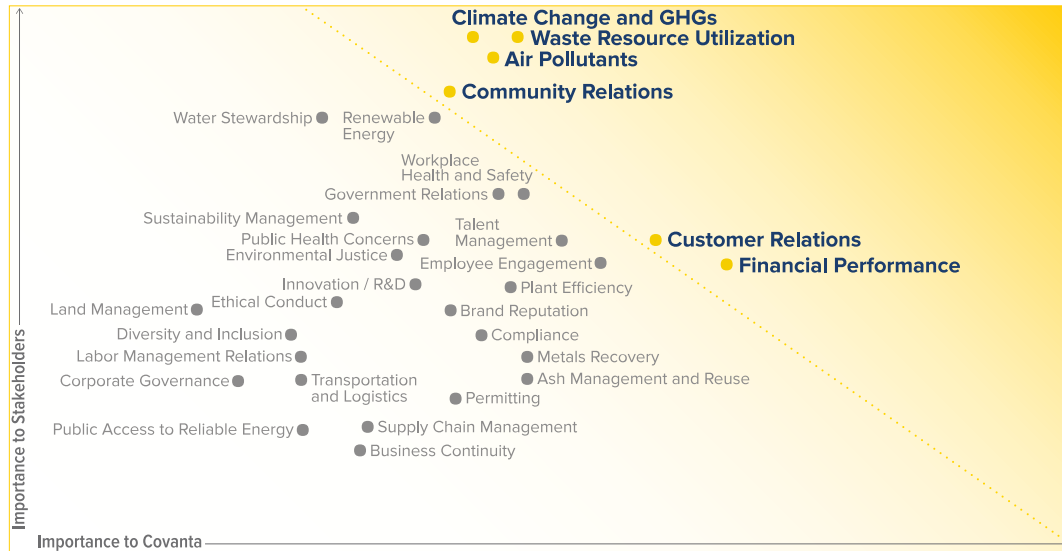
ABOUT THIS REPORT

This is Covanta's fourth comprehensive sustainability report, covering our global operations in 2015 through the end of the 2016 calendar year. Our reporting objective is to be comprehensive and transparent in our disclosures regarding Covanta's sustainability management approaches, strategies, activities and performance. This report has been prepared in accordance with the **GRI Sustainability Reporting Standards: Core option**.

- The [Progress on Goals](#) section highlights our performance toward our goals.
- The [Performance Tables](#) provide economic, operational, environmental and workforce data. The scope of data coverage is described in footnotes to each table.
- The [GRI Index](#) provides detailed information on our adherence to the GRI Sustainability Reporting Standards.
- View [Awards and Recognition](#) received by Covanta for Environmental, Safety and Business performance.
- Visit the [Report Archive](#) to download our past sustainability, progress and other relevant reports in PDF format.

ABOUT THIS REPORT

MATERIALITY ANALYSIS



Waste resource utilization refers to the responsible management of the many products and materials that become waste streams around the world. The issue encompasses a focus on finding the most sustainable next step for each waste in order to lessen, to the extent possible, impacts on the environment and society.

Related GRI topics: Procurement Practices 2017 and Materials 2017

Air pollutants (non-GHG air emissions) can pose risks to people and may cause other damages to the environment. This issue also covers management and regulation of air emissions, including improved air quality through technological innovation, advanced equipment and robust process management.

Related GRI topic: Emissions 2017

Community relations refers to our communications and activities with local community organizations and individuals. Included are impacts on the economy, taxes, job creation, noise and odor, air pollutants and community engagement, as well as support of local initiatives through philanthropy and monetary and service donations.

Related GRI topics: Indirect Economic Impacts 2017, Local Communities 2017 and Customer Health and Safety 2017

Climate change and greenhouse gas emissions (GHGs) include all issues related to man-made activities that can either increase or avoid GHGs, which consequently can generate related climate risks or opportunities.

Related GRI topic: Emissions 2017

Customer relations with both municipalities and corporate customers encompasses customer satisfaction, day-to-day customer support, service pricing and business and operational excellence.

Related GRI topic: Customer Privacy 2017

Financial performance includes the financial health of the company and strategic planning to provide long-term value creation for the company's stakeholders.

Related topics: Economic Performance 2017 and Market Presence 2017

A materiality analysis brings to the surface those issues that matter most to our internal and external stakeholders and to our company's long-term business success.

We conduct materiality analyses to better inform the depth and breadth of our disclosure and strategic planning. Our analyses meet the requirements of the Global Reporting Initiative's (GRI) Principles for Defining Report Content.

Our first analysis was completed in 2009 and our third materiality analysis in 2015. Given the robust nature of our process, we are confident that the results of the 2015 analysis remain relevant to this reporting cycle. As part of the 2015 analysis, we:

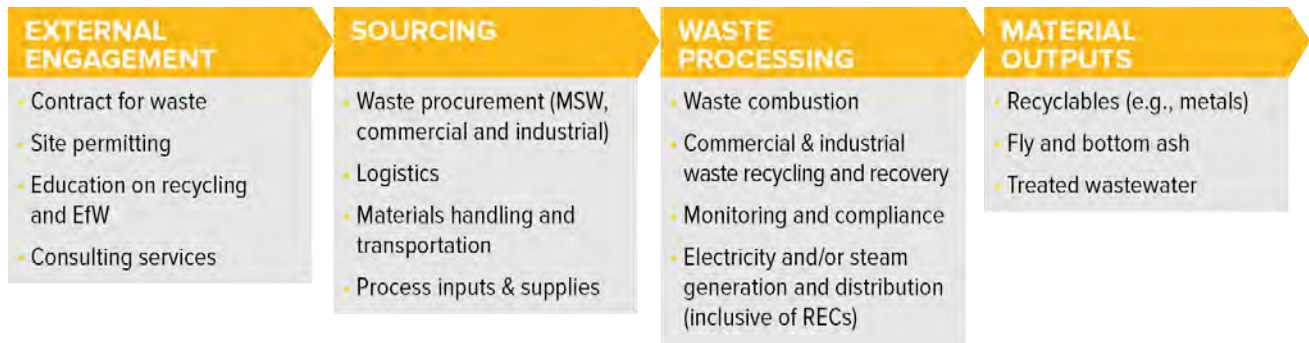
- analyzed a comprehensive array of stakeholder source documents, representing input from our key stakeholder groups;
- convened a diverse and representative stakeholder panel to utilize their expertise and hear their insights;
- gathered internal feedback from Covanta managers and employees on priority topics to understand perceptions of potential impacts across our value chain;
- used all input to develop and review an extensive list of environmental, social, governance and economic topics relevant to our business operations;
- mapped each topic onto a matrix to identify the highest-scoring issues for both our stakeholders and company; and
- shared the materiality analysis results with our stakeholder panel, reviewed their feedback and confirmed our final material issues internally (see diagram).

For a complete description of the materiality process and issues, please refer to our [2014-2015 Sustainability Report](#).

ABOUT THIS REPORT

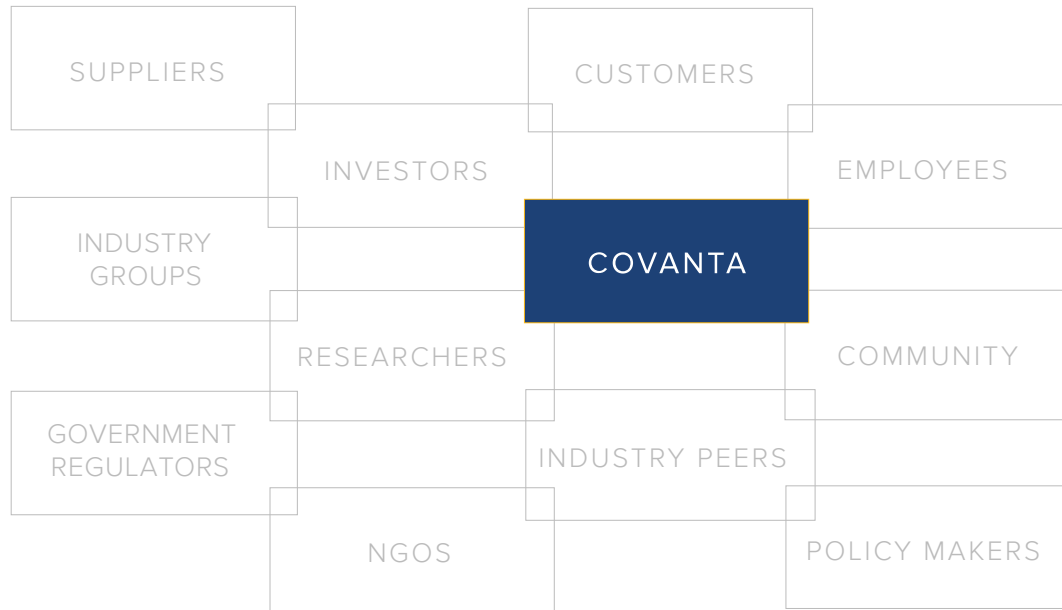
COVANTA’S VALUE CHAIN

We examine our material issues from a value chain perspective to better understand the economic, environmental and social risks and opportunities associated with our business operations. Covanta’s value chain extends from initial external engagement with customers and community stakeholders, through the life-cycle of sustainable waste management, resulting in primarily reusable material outputs.



ABOUT THIS REPORT

LISTENING TO OUR STAKEHOLDERS



We engage with key stakeholders to understand and address their interests and concerns that are related to our business. We communicate on a regular basis with individuals, groups and organizations to better achieve our mission: providing sustainable waste and energy solutions to ensure no waste is ever wasted.

Suppliers help us deliver solutions sustainably and successfully around the world. We conduct business in a fair and professional manner. We are in regular communication with our suppliers, from initial screening and vendor selection through the fulfillment of procurement activities. We strive for the highest possible standards of business ethics, professional courtesy and competency in our engagements with suppliers. We are always looking for more sustainable sources of raw materials.

Researchers and equipment suppliers investigate new technologies. These technologies can help reduce emissions and improve the efficiency of Covanta processes. We support research conducted by academic institutions and the U.S. EPA, including those through the EPA's Cooperative Research and Development Agreement mechanism. We also subcontract third parties to study various topics related to our industry. Engagement is monthly, quarterly or annually, depending on the scope of the project, project phase and project manager.

Industry groups focus on energy, climate change and other environmental issues. These industry groups include the Energy Recovery Council, Business Council for Sustainable Energy, Biomass Power Association and the Ontario Waste Management Association. Covanta plays a leadership role or actively contributes to these engagements, with our executives serving on the boards or as association members.

Investors and shareholders support and invest in our business. We communicate on a regular basis through conversations, quarterly calls, an annual roadshow and individual contact with investors, as needed. We hosted our first ever Analyst Day in 2015. We also make announcements and file financial statements about a variety of topics, including news about our company's financial health and plans about our growth. We have also made a concerted effort to communicate our sustainability strategy and performance to our investors through disclosure in our 10-K reports and proxy statements. Please visit our Investor Relations webpage to access investor news, presentations and financial filings.

Policy makers shape policy surrounding our materials management and energy solutions, including EfW and our Materials Processing Facilities (MPFs). We strive to ensure that the economic, environmental and societal benefits of EfW are taken into consideration when new policies are formulated. We do this by taking part in workgroups and other meetings or commenting on proposed changes in current policies. We engage with policy makers across our global operations.

Employees drive the creation of business value and deliver innovative and sustainable solutions to our customers. We have used periodic employee engagement surveys to gather information about employee interests, satisfaction and concerns. More recently, we have gathered feedback more directly through our Diversity & Inclusion (D&I) training sessions. We also engage with employees through team meetings, individual performance reviews, skills development, professional training and other frequent activities and communications. Read more about engagement with employees in the Workforce Engagement section of this report.

Municipal and corporate customers engage us to handle their waste resources in a sustainable manner. Each of our facilities has designated management personnel responsible for interacting with our customers and partners. We meet with our municipal partners at each facility either monthly, quarterly or when deemed appropriate.

Community members live near our facilities and/or benefit from our services. Engagement with the community starts at the beginning of a facility's development. We inform interested parties about the basic scope, objectives and operational aspects of a project. We also provide forums for community members to discuss concerns they may have about our facilities' operations. Our outreach to communities may include in-person meetings, phone calls and informational publications. At our EfW facilities, we have standardized our community engagement process as part of our facility-specific Community Outreach Plans (COPs). Our Community Outreach and Environmental Justice Policy is the foundation on which our plans are built. Visit the Community Relations section of this report for more information.

Government regulators ensure we meet all our legislative requirements. We also partner with regulators to conduct research and help develop innovative technologies that will increase the efficiency, safety and effectiveness of our sustainable solutions, including EfW. Project management meetings related to specific research initiatives may take place on a monthly, quarterly or annual basis, as appropriate.

Suppliers help us deliver solutions sustainably and successfully around the world. We conduct business in a fair and professional manner. We are in regular communication with our suppliers, from initial screening and vendor selection through the fulfillment of procurement activities. We strive for the highest possible standards of business ethics, professional courtesy and competency in our engagements with suppliers. We are always looking for more sustainable sources of raw materials.

Nonprofit and nongovernmental organizations (NGOs) help us address issues related to environmental stewardship and social justice. We collaborate and interact with select organizations, including the Go Green Initiative and the Ocean Conservancy Trash Free Seas Alliance, to strengthen our policies, activities and performance. Through our Community Outreach and Environmental Justice Policy, we work to understand and resolve issues and concerns of our local community members.

Industry peers help drive our industry toward greater sustainability leadership. We interact with our peers and competitors through industry groups and at industry conferences or events. Working with peers can help promote more sustainable waste management and energy solutions.

ABOUT THIS REPORT

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this online Corporate Sustainability Report may constitute “forward-looking” statements as defined in Section 27A of the Securities Act of 1933 (the “Securities Act”), Section 21E of the Securities Exchange Act of 1934 (the “Exchange Act”), the Private Securities Litigation Reform Act of 1995 (the “PSLRA”) or in releases made by the Securities and Exchange Commission (“SEC”), all as may be amended from time to time. Such forward-looking statements involve known and unknown risks, uncertainties and other important factors that could cause the actual results, performance or achievements of Covanta and its subsidiaries, or general industry or broader economic performance in global markets in which Covanta operates or competes, to differ materially from any future results, performance or achievements expressed or implied by such forward-looking statements. Statements that are not historical fact are forward-looking statements. Forward-looking statements can be identified by, among other things, the use of forward-looking language, such as the words “plan,” “believe,” “expect,” “anticipate,” “intend,” “estimate,” “project,” “may,” “will,” “would,” “could,” “should,” “seeks,” or “scheduled to,” or other similar words, or the negative of these terms or other variations of these terms or comparable language, or by discussion of strategy or intentions. These cautionary statements are being made pursuant to the Securities Act, the Exchange Act and the PSLRA with the intention of obtaining the benefits of the “safe harbor” provisions of such laws. Covanta cautions investors that any forward-looking statements made by Covanta are not guarantees or indicative of future performance. Important assumptions and other important factors that could cause actual results to differ materially from those forward-looking statements with respect to Covanta, include, but are not limited to, the risk that Covanta may not successfully grow its business as expected or close its announced or planned acquisitions or projects in development, and those factors, risks and uncertainties that are described in periodic securities filings by Covanta with the SEC. Although Covanta believes that its plans, intentions and expectations reflected in or suggested by such forward-looking statements are reasonable, actual results could differ materially from a projection or assumption in any forward-looking statements. Covanta’s future financial condition and results of operations, as well as any forward-looking statements, are subject to change and to inherent risks and uncertainties. The forward-looking statements contained in this press release are made only as of the date hereof, and Covanta does not have or undertake any obligation to update or revise any forward-looking statements whether as a result of new information, subsequent events or otherwise, unless otherwise required by law.

PROGRESS ON GOALS

SAFETY AND HEALTH			
GOAL		PERFORMANCE INDICATORS	PROGRESS IN 2015–2016
<p>Achieve world-class safety and health performance through disciplined continuous improvement, safety leadership at all levels, full employee engagement and an integrated, interdependent world-class safety culture.</p>	<p>Financial Linkage Organizations with an integrated and interdependent safety culture are more likely to achieve and sustain injury free workplaces and demonstrate outstanding safety management and performance. Safety leadership, teamwork, peer support, trust, open and honest communication, employee engagement at all levels and organizational pride are hallmarks of integrated and interdependent safety cultures. While incident rates and other safety metrics ultimately demonstrate performance, they are lagging indicators and ineffective at tracking the efficacy of cultural development.</p>	<p>Develop and assess the efficacy of safety culture performance metrics. Implement, track and report these metrics to demonstrate measurable improvements in Covanta’s safety culture through the end of 2020.</p>	<p>In Progress: Pilot of safety culture survey began at six facilities in early 2017. Each facility has developed action plans and evaluation of findings is under way.</p>
		<p>Complete a review of our root cause analysis and corrective action process and implement changes as necessary by the end of 2016 to ensure the process adequately evaluates and resolves issues as identified.</p>	<p>In Progress: A review of our root cause analysis and corrective action process was completed in early 2017. In response, we are currently integrating a Failure Mode and Effect Analysis (FMEA) into our process for selected incidents as a continuous improvement tool to systemically reduce the potential for future incidents.</p>

ENVIRONMENT

GOAL		PERFORMANCE INDICATORS	PROGRESS IN 2015–2016
<p>Energy-from-Waste (EfW) facilities are subject to stringent regulatory standards that are currently being reviewed by the U.S. Environmental Protection Agency. In addition, acquisitions and organic growth are also creating new challenges. We are committed to 100% compliance with all discharge limits (air, water, etc.) at all facilities while also maintaining emissions at levels consistent with past performance, which are well below existing standards.</p>	<p>Financial Linkage 100% compliance with discharge limits avoids fines and other monetary penalties. More importantly, we view full and continual compliance with all applicable laws, regulations and permits to be a basic condition of responsible operation. By demonstrating and continuing full compliance, we build our reputation and garner intangible value as a responsible member of the local community.</p>	<p>100% compliance with stack test standards and continuous emission monitor (CEM) reporting limits at all EfW facilities.</p>	<p>In Progress: 99.90% compliance with stack test standards and 99.93% compliance with CEM limits at our EfW facilities for 2015-2016.</p>
		<p>100% compliance with discharge limits at Covanta Environmental Solutions (CES) and other new facilities within one year of acquisition.</p>	<p>Achieved: 100% compliance achieved at the eight CES facilities reaching one year milestone in 2015-2016.</p>
		<p>Maintain EfW emissions performance gains achieved.</p>	<p>Achieved: All EfW emissions performance gains were maintained as of the end of 2016.</p>

MATERIALS MANAGEMENT

GOAL	PERFORMANCE INDICATORS	PROGRESS IN 2015–2016
<p>Advance sustainable waste management and life cycle greenhouse gas reductions through increased landfill diversion, greater operational efficiency, and expansion of waste reduction, reuse, and recycling.</p>	<p>Financial Linkage Reducing landfill management of wastes from energy recovery, through finding new ash beneficial reuse opportunities and recovering more usable materials (e.g., metals) prior to disposal, reduces costs and generates new revenue streams. Increasing the tons of wastes avoided, recycled or reused for our clients expands our service offerings and helps meet our clients' needs, thereby generating additional sources of revenue and potentially longer-term client relationships.</p>	<p>In Progress: 2016 overall tons processed down 3.5% relative to baseline, largely driven by divestiture of equity stake in China projects. However, start up of the Dublin facility in 2017 and future development of the Rookery project will add significantly to capacity. Growth of our Covanta Environmental Solutions business remains strong.</p>
	<p>Climate Change Linkage More sustainable waste and materials management can be a significant source of GHG emissions mitigation. Growing landfill diversion and moving up the waste hierarchy, both for our own operations and for our clients', are our most powerful drivers in reducing GHG emissions.</p>	<p>Achieved: In 2016, we avoided, recycled or reused over 900,000 tons of waste, a 60% increase in just two years, meeting our goal four years early.</p>
	<p>Achieve additional energy efficiency improvements at our energy recovery facilities of 60,000 MWh in total by the end of 2020.</p>	<p>In Progress: 19,300 MWh of additional energy efficiency improvements, roughly one-third of our goal of 60,000 MWh, has been completed.</p>

COMMUNITY RELATIONS

GOAL		PERFORMANCE INDICATORS	PROGRESS IN 2015–2016
<p>Expand the number and quality of our community outreach programs.</p>	<p>Financial Linkage Covanta has been investing in community outreach programs for more than two decades. This comprehensive outreach translates to improved business opportunities, including renewal of existing contracts and favorable permitting terms, strong relationships and better operational standing.</p>	<p>Develop a community programs resource for Covanta's facilities by the end of 2016 to help facilitate effective and quality community interactions.</p>	<p>Achieved: Resource guide completed in 2016 and in use by facilities.</p>
		<p>Perform, at a minimum, eight community interactions per year, beginning in 2016, at each EfW facility, that deliver demonstrative impact to our Protecting Tomorrow programs, local community programs and sustainable solid waste management education.</p>	<p>In Progress: 446 community interactions were completed in 2016, representing a 65% increase over the prior year and an average of over 10 per facility per year. 93% of our EfW facilities met the minimum goal. Fully meeting the goal is constrained by several client-owned facilities that manage community interactions. 100% of our facilities without these constraints met the goal.</p>

WORKFORCE ENGAGEMENT

GOAL		PERFORMANCE INDICATORS	PROGRESS IN 2015–2016
<p>Create and maintain an inclusive, respectful and equitable environment that leverages the unique talents, perspectives and experiences of our diverse workforce to help retain top talent and meet and exceed our business objectives and the expectations of our diverse client communities, business partners and shareholders.</p>	<p>Financial Linkage Our employees drive our business and our success. Attracting the best talent; hiring and retaining a diverse workforce with regard to age, race, gender, ethnicity, and other dimensions of diversity; and the inclusion of all employees and their ideas helps foster innovation and continuous improvement, thereby contributing to reduced costs and revenue growth, including through the development of new businesses and services. A low attrition rate, especially for top performers, means that we can retain qualified and talented individuals, preserve institutional knowledge and reduce recruiting and training costs.</p>	<p>Develop diversity and inclusion educational awareness training for employees and managers. Complete training with 30% of the workforce by the end of 2016 with full completion in the following year.</p>	<p>In Progress: In 2016, we delivered training to 1,100 of our 3,500 total employees, or over 30%. We are on track to complete the training by 2019.</p>
		<p>Create and initiate a mentoring program by the end of 2016 to facilitate the retention, development and advancement of our workforce. Develop and monitor metrics to drive diversity and senior management participation in the program.</p>	<p>In Progress: Mentoring program charter developed in 2016. The first wave of the program began in 2017 with a group of 40 mentor/mentee pairs representing a diverse cross section of Covanta employees and locations.</p>
		<p>Attract the best talent and increase the diversity of our external and internal candidate pools by 2018 as measured by the percentage of diverse new hires relative to the overall U.S. workforce and the percentage of diverse promotions into management relative to the U.S. management workforce.</p>	<p>In Progress: As of 2016, we now require the presentation of a diverse slate of candidates for every management opening. The percentage of diverse new hires in 2016 was 32%. The percentage of diverse promotions into management in 2016 was 48%.</p>

PERFORMANCE TABLES

Economic Data¹

(data for Covanta Holding Corp., including all global operations, in millions USD)²

	2016	2015	2014	2013	2012
OPERATING REVENUE					
Waste and service revenue	1,187	1,104	1,032	1,008	1,010
Recycled metals revenue	61	61	93	73	72
Energy revenue	370	421	460	431	394
Other operating revenue	81	59	97	118	167
Total operating revenue	1,699	1,645	1,682	1,630	1,643
OPERATING EXPENSE³					
Total operating expense	1,590	1,536	1,528	1,395	1,339
INCOME TAX					
Income tax expense (benefit)	22	(84)	15	43	31
NET INCOME					
Net (loss) income attributable to Covanta Holding, continuing operations	(4)	68	(2)	43	136
NON-GAAP FINANCIAL MEASURES					
Adjusted EBITDA	410	428	474	494	507
Free Cash Flow	172	147	240	245	277
DIVIDENDS					
Annualized Cash Dividends per Share	\$1.00	\$1.00	\$0.86	\$0.66	\$0.60
COMMUNITY INVESTMENT					
Total donations	1.9	1.7	2.2	2.1	1.8

¹ For complete information, please refer to Covanta's Form 10-K filings.

² For the years ended December 31.

³ Certain amounts have been reclassified from Operating Expense to conform to current presentation.

Workforce Data

	2016	2015	2014	2013	2012
EMPLOYEES					
Total employees	3,582	3,539	3,224	3,269	3,142
Salaried	1,157	1,142	1,033	1,048	998
Hourly ⁴	2,425	2,397	2,191	2,221	2,144

GLOBAL HEAD COUNT					
North America	3,537	3,511	3,202	3,244	3,108
United States	3,454	3,431	3,122	3,193	3,060
Canada	83	80	80	51	48
Asia	15	21	21	21	18
Europe	30	7	1	4	16
SAFETY & HEALTH ⁵					
DART (Days Away/ Restricted/ Transfer Rate)	0.81	0.73	0.72	0.65	0.45
TCIR (Total Case Incident Rate)	1.00	1.26	1.02	0.95	0.74
Number of sites in OSHA VPP program	37	38	41	43	40
Contractor DART ⁶	0.89	0.70	0.78	0.88	0.93
Contractor TCIR ⁶	1.48	1.22	1.31	1.49	1.65
DIVERSITY					
Women (% of total workforce)	10%	10%	9%	10%	10%
Minorities (% of total workforce)	26%	25%	28%	27%	29%

2016 Employee Data

	Total	Female ⁷	Male ⁷
Employees	3,582	362	3,220
Part-Time	24	9	15
Full-Time	3,558	353	3,205
Contract Personnel	270	–	–
COLLECTIVE BARGAINING			
Employees	288	–	–
Percent of Workforce	8%	–	–
EMPLOYEE GEOGRAPHY			
Americas	3,454	343	3,111
Mid-Atlantic	519	17	502
West Central	369	22	347
Northeast	528	31	497
NY/ NJ	456	24	432
South	522	20	502
Covanta Field Services	107	2	105
Corporate Headquarters	659	184	475
Covanta Environmental Solutions	294	43	251
Asia	15	5	10

Canada	83	11	72
Europe	30	3	27

2016 Diversity by EEO Category

RACE/ ETHNIC COMPOSITION OF OUR EMPLOYEES

	American Indian	Black	White	Hispanic	Asian	Pacific Islander	Two or more races	Total
Executives	0	4	60	1	1	0	0	66
Managers	0	16	415	23	35	1	8	498
Professionals/ administrative	1	50	507	48	40	1	9	656
Hourly ⁴	8	264	1,477	223	104	48	32	2,156

AGE COMPOSITION OF OUR EMPLOYEES

	Executives	Managers	Professionals/ administrative	Hourly ⁴
Under 30 years old	0	5	54	362
30-50 years old	17	245	351	1,132
Over 50 years old	52	288	296	772
Total	69	538	701	2,266

GENDER COMPOSITION OF OUR EMPLOYEES

Female	9	98	200	54
Male	60	440	501	2,212
Total	69	538	701	2,266

2016 Governance Body Diversity

GENDER COMPOSITION WITHIN OUR BOARD OF DIRECTORS

Female	3
Male	8

AGE COMPOSITION OF OUR BOARD OF DIRECTORS

Under 30 years old	0
30-50 years old	0

2016 Employee Statistics

2016 EMPLOYEE TURNOVER STATISTICS

	Salaried	Hourly ⁴	Total	Average Service (years)	# of Voluntary Separations	# of Involuntary Separations	Total # of Separations	Total Rate (%)
Total	1,157	2,425	3,582	10	302	193	495	14%
Female	194	168	362	9	32	16	48	13%
Male	963	2,257	3,220	11	270	177	447	14%
Age less than 30	40	381	421	2	68	35	103	24%
Age 30-50	551	1,201	1,752	8	159	88	247	14%
Age over 50	566	843	1,409	15	75	70	145	10%
United States	1,097	2,357	3,454	11	296	193	489	14%
Asia	15	0	15	6	0	0	0	0%
Canada	27	56	83	8	6	0	6	7%
Europe	18	12	30	1	0	0	0	0%

2016 NEW HIRE STATISTICS

	Salaried	Hourly ⁴	Total
Total	130	439	569
Female	20	36	56
Male	403	110	513
Age less than 30	10	154	164
Age 30-50	79	227	306
Age over 50	41	58	99
United States	113	421	534
Asia	0	0	0
Canada	3	6	9
Europe	14	12	26

2016 Employee Human Resource Training⁸

AVERAGE TRAINING HOURS ⁷	
Salaried	9-13
Hourly ⁴	2-6

2016 Employee Safety and Health Training

AVERAGE TRAINING HOURS ⁷	
Field Employees	24

⁴ Hourly = Technicians/ sales workers/ admin support workers/ craft workers/ operatives/ laborers/ helpers.

⁵ Safety & Health data is U.S. and Canada only.

⁶ Contractor safety performance rates reflect the overall safety performance of the contractors employed by Covanta, not their specific performance on Covanta's sites.

⁷ Not tracked for contract personnel.

⁸ For employees receiving training. Upper end of range reflects those who participated in diversity & inclusion (D&I) training during the year alongside other training programs.

Operations Data

	2016	2015	2014	2013	2012
FACILITIES (OWNED, EQUITY INVESTMENTS IN, AND/ OR OPERATED)					
Number of EfW operations	43	46	46	46	44
Total capacity (MW)	1,557	1,541	1,587	1,522	1,483
Total capacity (TPD)	58,249	59,288	60,908	57,418	55,988
Number of wood waste energy projects	2	7	7	7	8
Total capacity (MW)	75	165	165	165	191
Number of water energy projects	2	2	2	2	4
Total capacity (MW)	17	17	17	17	48
Number of landfill gas projects	1	1	1	1	1
Total capacity (MW)	2	2	2	2	2
Number of fossil-fuel power plants	0	1	1	1	1
Total capacity (MW)	0	24	24	24	24
Number of material-processing facilities	15	12	1	0	0
Number of transfer stations	17	18	18	18	13
Number of landfills	4	4	4	4	4
Number of electronic waste-recycling facilities	1	1	1	1	1
WASTE PROCESSED					
Total waste processed (million tons)	20.0	21.2	20.7	20.3	20.6
Commercial & industrial waste (thousand tons)	1,416	1,292	881	812	670

Metals recovery ⁸ (thousand tons)	513	496	489	441	432
E-waste recycled (million lbs.)	16.0	13.2	13.6	6.2	2.0
ENERGY GENERATION					
Net electricity exported to the grid (million MW hours)	9.1	9.8	9.8	9.5	9.9
Steam exported (billion lbs.)	9.1	12	12.6	11	10.6
RECs, value recognized (\$M)	11.5	22	22	17	5
OPERATIONAL INVESTMENTS					
R&D Expenses (Capital expenditures associated with technology development, in millions USD)	(2)	(3)	(3)	(5)	(27)

⁸ Metals recovery reported for U.S. and Canadian operations only.

Environmental Data

EfW Monetary fines and compliance frequency	2016	2015	2014	2013	2012
EfW CEM fines	\$48,707	\$25,917	\$34,871	\$54,719	\$45,000
EfW Stack test fines	\$10,512	–	–	–	–
Other environmental fines, including biomass & other facilities	–	\$177,800	\$21,186	\$67,500	\$2,392
Percent compliance—stack tests (EfW facilities)	99.87%	99.93%	100.0%	100.0%	100.0%
Percent compliance—CEMs (EfW facilities)	99.95%	99.92%	99.95%	99.94%	99.97%

	Federal Standard	2016	2015	2014	2013	2012
WATER						
Total water use (Mgal.)	–	9,129	9,193	9,038	8,440	–
Reclaimed water use (Mgal.)	–	2,136	2,244	1,684	1,238	–
Reclaimed water use as % of total	–	23.4%	24.4%	18.6%	14.7%	–
NET EFW LIFE CYCLE GHG BENEFIT (THOUSAND TONS CO₂E REDUCED, NET BASIS)						
Equity-share basis	–	10,600	11,100	11,300	11,070	10,980
Operational control basis	–	17,800	18,800	18,200	18,000	18,100
GHG EMISSIONS (THOUSAND TONS CO₂E) (EQUITY SHARE BASIS)						
Total Scope 1, 2 and 3 GHG emissions	–	4,530	4,865	5,066	4,757	4,357
Scope 1	–	4,379	4,744	4,912	4,615	4,204

Scope 2	–	34	8	23	19	25
Scope 3	–	118	112	131	124	128
Biogenic CO ₂	–	5,954	7,099	8,052	7,660	7,585
GHG emission intensity (tons CO ₂ e/ \$ revenue)	–	0.0026	0.0026	0.0028	0.0030	0.0029
AIR EMISSIONS						
Lead (µg/ dscm)	400.0	12.1	12.3	11.2	12.1	10.9
Cadmium (µg/ dscm)	35.0	1.2	1.3	1.3	1.1	0.9
Mercury (µ/ dscm)	50.0	2.7	2.5	5.9	2.5	2.5
Total dioxins & furans (ng/ dscm)	30.0	3.4	2.4	2.4	2.2	2.7
Particulate matter (mg/ dscm)	25.0	2.8	3.0	2.6	2.7	2.7
Hydrogen chloride (ppm)	29.0	6.8	6.7	7.2	6.9	7.4
Carbon monoxide (ppm)	100.0	29.1	29.3	29.3	30.9	25.7
Sulfur oxides (ppm)	29.0	7.5	8.0	8.2	8.4	8.1
Nitrogen oxides (ppm)	205.0	136.4	138.1	140.4	143.0	142.7

**Non-GAAP Reconciliation
(Adjusted EBITDA & Free
Cash Flow—Continuing
Operations) (\$ in Millions)**

	2016	2015	2014	2013	2012	2011
Net Income (Loss) from Continuing Operations Attributable to Covanta Holding Corporation	\$(4)	\$68	\$(2)	\$43	\$136	\$93
Operating loss related to insurance subsidiaries	–	–	2	2	10	3
Depreciation and amortization expense	207	198	211	209	194	192
Interest expense, net	138	134	147	159	145	122
Income tax expense (benefit)	22	(84)	15	43	31	60
Reversal of uncertain tax positions related to pre-emergence tax matters	–	–	–	–	–	(24)
Non-cash liability to pre-petition creditors	–	–	–	–	–	15
Gain related to trust distribution	–	–	–	(4)	–	–
Impairment charges	20	43	64	15	(57)	–
Defined benefit pension plan settlement (gain) expense	–	–	–	(6)	11	–
Loss on extinguishment of debt	–	2	2	1	3	1
Gain on asset sales	(44)	–	–	–	–	(9)

Net income (loss) attributable to noncontrolling interests in subsidiaries	–	1	1	(1)	2	5
OTHER ADJUSTMENTS:						
Debt service billings in excess of revenue recognized	4	1	2	9	9	22
Severance and reorganization costs	3	4	9	2	–	–
Capital type expenditures at service-fee operated facilities ¹	39	31	–	–	–	–
Non-cash compensation expense	16	18	17	15	16	17
Other	9	12	6	7	7	15
Total adjustments	414	360	476	451	371	419
Adjusted EBITDA	\$410	\$428	\$474	\$494	\$507	\$512
Cash paid for interest, net of capitalized interest	(135)	(131)	(119)	(122)	(112)	(101)
Cash paid for taxes	(6)	(2)	(11)	(11)	(8)	(13)
Capital type expenditures at service-fee operated facilities ¹	(39)	(31)	–	–	–	–
Working capital/ other	52	(15)	(4)	(37)	(30)	(22)
Cash flow provided by operating activities from continuing operations	\$282	\$249	\$340	\$324	\$357	\$376
Plus: Cash flow provided by operating activities from insurance subsidiaries	–	–	1	8	5	2
Less: Maintenance capital expenditures	(110)	(102)	(101)	(87)	(85)	(80)
Free Cash Flow	\$172	\$147	\$240	\$245	\$277	\$298

¹ Adjustment for impact of adoption of FASB ASC 853 – Service Concession Arrangements

GRI INDEX

* We have reported additional disclosures not related to material GRI topics. These additional disclosures are denoted with an asterisk.

GRI 102: General Disclosures 2017		
DISCLOSURES	DESCRIPTION	CROSS-REFERENCE OR ANSWER
ORGANIZATIONAL PROFILE		
102-1	Name of the organization	Covanta Holding Corporation
102-2	Activities, brands, products and services	Materials Management 2016 10-K, pp. 5-6
102-3	Location of headquarters	445 South Street, Morristown, NJ 07960
102-4	Location of operations	United States, Canada, Ireland, Italy and China 2016 10-K, p. 5
102-5	Ownership and legal form	Covanta is wholly owned by Covanta Holding Corporation, which is listed and publicly traded on the New York Stock Exchange under the ticker symbol CVA.
102-6	Markets served	Materials Management 2016 10-K, pp. 5, 8-12
102-7	Scale of the organization	Performance Tables/ Operations Data 2016 10-K, pp. 5, 8-14, 19
102-8	Information on employees and other workers	The vast majority (over 90%) of the organization’s activities, as measured by full-time equivalents, are performed by Covanta employees. We consider contractors that perform periodic work at our facilities, particularly for maintenance, to be outside of our regular activities. There are no significant variations in employment numbers. Performance Tables/ Workforce Data Performance Tables/ Employee Data
102-9	Supply chain	2016 10-K, pp. 8-11
102-10	Significant changes to the organization and its supply chain	2016 10-K, pp. 5-6
102-11	Precautionary Principle or approach	Community Relations/ Engaging with Our Communities
102-12	External initiatives	Covanta does not currently subscribe to or endorse any externally developed

		sustainability charters or principles.
102-13	Membership of associations	<p>These industry groups include the Energy Recovery Council, Business Council for Sustainable Energy, Environmental Research and Education Foundation, Biomass Power Association and the Ontario Waste Management Association. Covanta plays a leadership role or actively contributes to these engagements, with our executives serving on the boards or as association members.</p> <p>We collaborate and interact with select organizations, including the Go Green Initiative and the Ocean Conservancy Trash Free Seas Alliance, to strengthen our policies, activities and performance. Through our Community Outreach and Environmental Justice Policy, we work to understand and resolve issues and concerns of our local community members.</p>
STRATEGY		
102-14	Statement from senior decision-maker	CEO Letter
ETHICS AND INTEGRITY		
102-16	Values, principles, standards, and norms of behavior	Protecting Tomorrow
GOVERNANCE		
102-18	Governance structure	Governance Documents
STAKEHOLDER ENGAGEMENT		
102-40	List of stakeholder groups	About This Report/ Listening to Our Stakeholders
102-41	Collective bargaining agreements	Performance Tables/ Employee Data Of our total employees as of the end of 2016, approximately 8% are covered by collective-bargaining agreements.
102-42	Identifying and selecting stakeholders	About This Report/ Listening to Our Stakeholders
102-43	Approach to stakeholder engagement	About This Report/ Listening to Our Stakeholders
102-44	Key topics and concerns raised	About This Report/ Listening to Our Stakeholders
REPORTING PRACTICE		
102-45	Entities included in the consolidated financial statements	2016 10-K, p. 5

102-46	Defining report content and topic boundaries	About This Report/ Materiality Analysis
102-47	List of material topics	About This Report/ Materiality Analysis
102-48	Restatements of information	<p>Monetary Fines–Environmental</p> <p>Fine data for 2014 was updated to reflect fines received in 2017 for past CEMS-related issues. In 2017, the Pennsylvania DEP issued an assessment, which covered CEMS-related issues from 2014-2016. Monetary penalties are allocated to the time period during which an event occurred.</p> <p>Contract Personnel</p> <p>Prior to this report, contract personnel regularly working at Covanta facilities was not reported. Contract personnel represent approximately 7% of the overall workforce at Covanta’s facilities. This does not include contractors brought on-site for construction, maintenance and other intermittent outage work.</p>
102-49	Changes in reporting	None.
102-50	Reporting period	About This Report
102-51	Date of most recent report	About This Report
102-52	Reporting cycle	About This Report
102-53	Contact point for questions regarding the report	Contact
102-54	Claims of reporting in accordance with the GRI Standards	About This Report
102-55	GRI content index	About This Report
102-56	External assurance	We currently do not assure our sustainability report; we may consider seeking external assurance for specific indicators in the future.

**ELECTRIC UTILITY
SECTOR SUPPLEMENT**

G4-EU1	Installed capacity, broken down by primary energy source and by regulatory regime	2016 10-K, pp. 10-11
G4-EU2	Net energy output broken down by primary energy source and by regulatory regime	Performance Tables/ Operations Data
G4-EU5	Allocation of CO2e emissions allowances or equivalent broken down by carbon-trading framework	Environment/ Reducing Greenhouse Gas Emissions Materials Management/ Recovering Energy-from-Waste Materials Management/ Recovering Materials

GRI 103: Topics and Topic Boundaries 2017

MATERIAL TOPICS	MANAGEMENT APPROACH CROSS-REFERENCE	RELEVANT EXTERNAL ENTITIES
ECONOMIC		
GRI 201: Economic Performance 2017	2016 10-K, p. 8	Communities Customers Investors Regulators
GRI 202: Market Presence 2017	Community Relations	Communities Customers
GRI 203: Indirect Economic Impacts 2017	Community Relations	Communities
GRI 204: Procurement Practices 2017	Protecting Tomorrow	Communities Customers Investors Regulators
ENVIRONMENTAL		
GRI 301: Materials 2017	Materials Management 2016 10-K, p. 12	Communities Customers Investors
GRI 305: Emissions 2017	Environment/ Reducing Greenhouse Gases Environment/ Minimizing Air Emissions 2016 10-K, pp. 15-18	Communities Regulators
SOCIAL		
GRI 413: Local Communities 2017	Community Relations	Communities Regulators
GRI 416: Customer Health and Safety 2017	Community Relations	Communities Customers Regulators

GRI 200-400 Topic-Specific Disclosures 2017

GRI TOPICS	DISCLOSURE	DISCLOSURE DESCRIPTION	DISCLOSURE CROSS-REFERENCE, EXPLANATION OR OMISSION
ECONOMIC			
GRI 201: Economic Performance 2017	201-1	Direct economic value generated and distributed	Community Relations/ Engaging with Our Communities Performance Tables/ Economic Data 2016 10-K, pp. 63-69 We report North America and totals, but not by specific country (e.g., Italy, China).
	201-2*	Financial implications and other risks and opportunities due to	Environment/ Reducing Greenhouse Gases

		climate change	2016 10-K, p. 5
GRI 202: Market Presence 2017	202-2	Proportion of senior management hired from the local community	Covanta strives to hire senior management from the local community. Many of our facility managers have come up through the ranks at the facility, helping to ensure long-term ties to the community. With regard to recent hiring at facilities outside the United States, all of the senior management at the newly opened Durham York Energy Centre in Ontario, Canada, are from Canada. All staff, except for the facility manager, working at the Dublin Waste-to-Energy Project are local to the area and indeed 40% of all staff live within 6 miles of the facility. The facility manager was required to have 10 years of Waste-to-Energy experience by our operating license, experience not readily available in Ireland.
GRI 203: Indirect Economic Impacts 2017	203-1	Infrastructure investments and services supported	Community Relations/ Engaging with Our Communities
	203-2*	Significant indirect economic impacts	Community Relations/ Community Partnership Programs
GRI 204: Procurement Practices 2017	204-1	Proportion of spending on local suppliers	A portion of Covanta's nationwide supply chain budget is also assigned to local suppliers. More information can be found in the Partners & Suppliers section of our website.
GRI 205: Anti-corruption 2017	205-2*	Communication and training about anti-corruption policies and procedures	100%. All of our employees (management and non-management) are expected to read and comply with our Policy of Business Conduct. The policy covers topics such as financial reporting, corruption, copyrights, and environmental safety and health.
ENVIRONMENTAL			
GRI 301: Materials 2017	301-1	Materials used by weight or volume	Performance Tables/ Operations Data 2016 10-K, p. 10
GRI 303: Water 2017	303-1*	Water withdrawal by source	Environment/ Optimizing Water Use

			Performance Tables/ Environmental Data
GRI 305: Emissions 2017	305-1*	Scope 1 GHG emissions	Performance Tables/ Environmental Data
	305-2*	Scope 2 GHG emissions	Performance Tables/ Environmental Data
	305-3*	Scope 3 GHG emissions	Environment/ Reducing Greenhouse Gases Performance Tables/ Environmental Data
	305-4*	GHG emissions intensity	Performance Tables/ Environmental Data
	305-5	Reduction of GHG emissions	Environment/ Reducing Greenhouse Gases Performance Tables/ Environmental Data
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx) and other significant air emissions	Environment/ Minimizing Air Emissions Performance Tables/ Environmental Data
GRI 307: Environmental Compliance 2017	307-1*	Noncompliance with environmental laws and regulations	Environment/ Improving Our Environmental Performance
SOCIAL			
GRI 401: Employment 2017	401-1*	New employee hires and employee turnover	Performance Tables/ Employee Turnover and New Hires
	401-2*	Full-time benefits not provided to temporary/ part-time employees	Workforce Engagement/ Building a Great Place to Work Benefits
GRI 403: Occupational Health and Safety 2017	403-1*	Workers representation in formal joint management–worker health and safety committees	At our operating facilities, these committees are run by our hourly employees. In all cases, these teams provide feedback to, and collaborate with, facility and regional safety leads, as well as the Covanta safety management team.
	403-2*	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism and number of work-related fatalities	Safety and Health/ Delivering on Safety Performance Performance Tables/ Workforce Data
GRI 404: Training and Education 2017	404-1*	Average hours of training per year per employee	Workforce Engagement/ Investing in Training and Development
	404-2*	Programs for upgrading employee skills and transition assistance programs	Workforce Engagement/ Building a Great Place to Work

	404-3*	Percentage of employees receiving regular performance and career development reviews	Workforce Engagement/ Building a Great Place to Work
GRI 405: Diversity and Equal Opportunity 2017	405-1*	Diversity of governance bodies and employees	Performance Tables/ Diversity by EEO Category Performance Tables/ Governance Body Diversity
GRI 407: Freedom of Association and Collective Bargaining 2017	407-1*	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Covanta has no operations in which employees' rights to exercise freedom of association or collective bargaining are at risk.
GRI 411: Rights of Indigenous Peoples 2017	411-1*	Incidents of violations involving rights of indigenous peoples	None. The vast majority of Covanta's facilities are not cited among indigenous regions. There are no known incidents of violations involving rights of indigenous peoples and actions taken.
GRI 413: Local Communities 2017	413-1	Operations with local community engagement, impact assessments and development programs	Community Relations
GRI 415: Public Policy 2017	415-1	Political contributions	Covanta reports all political contributions as required by law. In addition, Covanta reports its annual political contributions to the Public Policy Committee of its Board of Directors and provides a summary report of its annual political contribution on its corporate investor relations website.
GRI 416: Customer Health and Safety 2017	416-1	Assessment of the health and safety impacts of product and service categories	Our primary services are sustainable waste management and electrical generation at our energy-from-waste (EfW) plants. The emissions of EfW facilities are closely regulated through federal and our state permit requirements and limits. All EfW facilities operate well below these limits, and we continue to improve our performance, as indicated in our section on environment performance of this report. Health impacts associated with emissions from EfW facilities have been studied extensively. For example, one major study from the UK Health

			Protection Agency concluded that the negative health impacts associated with well-regulated EfW facilities are likely to be very small, if even detectable. More information on these studies is provided in Environment/ Minimizing Air Emissions/ What's the Risk?
GRI 418: Customer Privacy 2017	418-1*	Substantiated complaints concerning breaches of customer privacy and losses of customer data	None. There have been no complaints regarding breaches of customer privacy and losses of customer data.
GRI 419: Socioeconomic Compliance 2017	419-1*	Noncompliance with laws and regulations in the social and economic area	The total amount of safety-related fines and penalties at our North American facilities were \$49,360, \$19,715 and \$17,500, in CY 2014, 2015 and 2016, respectively. Nearly 90% of the 2014 penalty amount resulted from one extensive three-week long inspection at one facility where despite the penalty amount, the regulators complimented the facility on the strong safety and health management system. No other fines, penalties or nonmonetary sanctions were received for the social and economic area in the period from 2014-2016.

CONTACT

You are invited to send us questions or comments regarding the information provided in this report. Please contact:

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