# 2015 Sustainability Report





This Sustainability Report reflects our work in Republic's 5 elements of sustainability: Operations, Materials Management, Communities, Safety and People.

This Report reflects year end 2015 amounts, unless otherwise noted.

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### Message from our President & CEO

As stewards of our Blue Planet™...

We believe we have a responsibility to regenerate our planet with the materials we are entrusted to handle every day by driving increased recycling, generating renewable energy, and helping our customers be more resourceful.

Additionally, we must lead by example, working diligently to improve our relationship with the environment and society through decreased vehicle emissions, innovative landfill technologies, use of renewable energy, community engagement and employee growth opportunities. Sustainability contributes to a cleaner world, while also providing opportunities to improve brand awareness, to increase customer loyalty, to grow our business, to motivate our employees and to differentiate Republic Services from our competitors.

These commitments are reflected in the way we do business and guided by the five elements of our sustainability platform:

Operations, Materials Management, Communities, Safety and People.

We believe in the preservation of our Blue Planet for a cleaner, safer and healthier world where people thrive – not just for today, but for generations to come.

Best Regards,

Donald W. Slager



### Our Company

We are an industry leader in U.S. recycling and non-hazardous solid waste. Through our subsidiaries, Republic's collection companies, recycling centers, transfer stations and landfills focus on providing effective solutions to make proper waste disposal effortless for our 14 million customers. We'll handle it from here.™, our brand's promise, lets customers know they can count on us to provide a superior experience while fostering a sustainable Blue Planet for future generations to enjoy a cleaner, safer and healthier world.



\$9.1 billion in 2015 revenue



100 million tons of waste collected annually, primarily from 340 collection operations



15,600 total trucks, the 8th largest vocational fleet in the country



33,000 dedicated employees— 50% are drivers



201 transfer stations optimally located to reduce truck emissions and increase efficiency

#### 16% of our fleet

runs on alternative domestic fuel, powered each night at 38 CNG CNG fueling stations

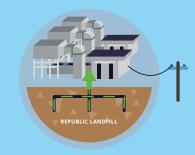
billion in national economic impact (Gross Domestic Product)



The Republic Way — our approach to consistent, durable service

# Recycling Centers

5<sup>t</sup> million tons collected and processed



69 landfill gas-to-energy and 2 solar energy projects, generating enough renewable energy from landfill operations to power over 250,000 homes

domestic jobs impact – 2.3 direct jobs created

for every Republic employee





modern-day, regenerative landfills



ranked among the top 10% in the 2015

CDP S&P 500 Climate Change Report

# 5 Elements of Sustainability



#### **Operations**

We exercise the utmost responsibility in our operations. This includes our fleet, our buildings, our landfill technology and the day-to-day activities we conduct in our communities. We are working hard to understand and measure our impact to the air, water and land to minimize or eliminate any negative consequences, where possible.

#### Materials Management

We recognize the responsibility and opportunity we have in managing the nation's waste stream to provide a source of recovered and renewable materials and energy to the economy. We are innovative and constantly exploring new options to capture value and energy from materials in the waste stream, while ensuring environmental responsibility and sustainability.

#### Communities

We are dedicated to being a good neighbor in the communities in which we live and work. This includes investing back in our communities through customer engagement, philanthropic giving, volunteerism, environmentally responsible infrastructure, and operating in over 240 markets at the highest standards.

#### Safety

Due to the nature of our industry, we prioritize safety above all else. When people feel safe, they can fully participate in the opportunities that are available to them every day.

#### People

We believe that engaged employees are the greatest indicator of our success. We provide ongoing job training, growth and development opportunities for our employees at every level. We are invested in our employees and continue to look for meaningful ways to demonstrate our appreciation for the hard work and dedication they show each and every day.



### Operations

Our commitment to environmental responsibility is resolute. We are making a meaningful difference in every facet of our operations, increasing efficiency while establishing an ever deeper understanding of our impact on air, land and water.

#### CNG: A Cleaner, Quieter & Safer Fleet

At Republic, we are leveraging alternative fuels and fleet innovation to help preserve our Blue Planet. We believe we have a responsibility to lead by example, and we start with a resounding commitment to reduce carbon emissions whenever possible.

As the operator of the 8th largest vocational fleet in the country, we recognize that one major contribution to greenhouse gas emissions originates with our fleet. Nationwide, we operate 15,600 recycling and waste collection vehicles that support 340 collection operations in 39 states and Puerto Rico.

We began deploying Compressed Natural Gas (CNG) vehicles in select markets in 2005 and have significantly expanded our CNG fleet over the past six years. By 2015, approximately 33% of the replacement vehicle purchases we made were vehicles powered by this clean, domestic fuel source.

Today, we proudly operate a fleet of nearly 2,500 CNG-powered vehicles. That represents approximately 16% of our entire fleet. To support this expanding fleet, we have installed 38 natural gas fueling stations at hauling divisions across the country.

Last year, our CNG fleet helped save roughly 21 million gallons of diesel fuel. We believe that by investing in CNG vehicles and technologies, we are creating a competitive advantage through improved air emissions, fuel savings and reduced operating noise in our communities.

It also enables us to reduce our carbon footprint. According to the U.S. Environmental Protection Agency (EPA), the carbon emissions reduction benefits from a new CNG collection truck that replaces an older diesel-powered truck is equal to removing three passenger vehicles from local roads for one year.

# Based on EPA calculations,

the benefits of Republic's CNG-powered fleet are equal to planting approximately

10.7 million trees annually.

Top CNG truck deployments in 2015



8 OPERATIONS 9



CNG fueling station equipment – Gardena, CA

#### Advances in Fleet Automation

Republic is also investing in technologies that advance collection operations. New systems and automated capabilities maximize our fleet efficiencies while reducing our environmental impact.

Approximately 72% of Republic's residential routes have been converted to single driver, automated collection trucks, increasing efficiencies, reducing labor costs, improving driver productivity, and creating an overall safer work environment for our employees. Additionally, communities using automated vehicles have higher participation rates in recycling programs, thereby complementing our initiative to expand our recycling capabilities.

#### Two-Time Fleet of the Year Winner

In Louisiana, Republic has been recognized with the prestigious Fleet of the Year Award by Louisiana Clean Fuels for two consecutive years.

Republic received this special honor in 2014 and 2015 for an extensive CNG fleet expansion. In 2014, Republic introduced 42 CNG-powered collection trucks and installed a new natural gas fueling station to support our expanding fleet in Baton Rouge. We have since added 36 CNG-powered trucks to the Shreveport area.

#### Clean Energy Redeem™

In California, we have made Redeem™ Renewable Natural Gas our choice for powering our local CNG fleet.

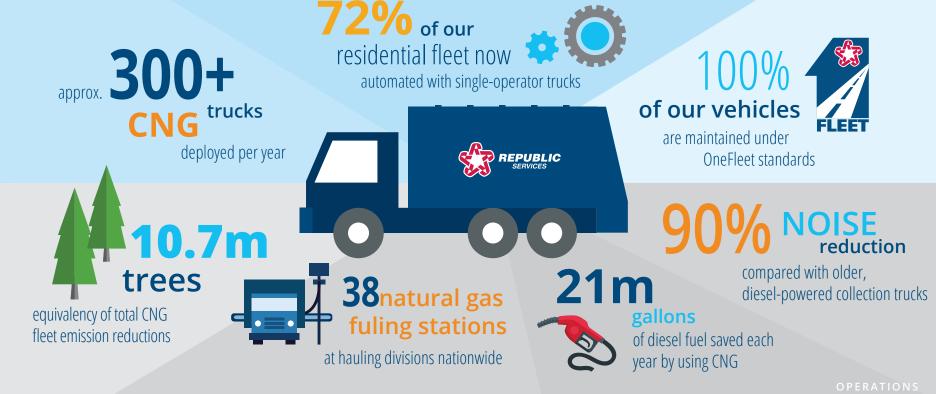
The partnership with Clean Energy harnesses biogenic methane from the decomposition of organic waste, and converts the methane byproduct into a cost-effective, environmentally responsible fuel source. The Redeem™ program allows for as much as 6.3 million gasoline gallon equivalents per year, and will fuel our 230 CNG-powered collection trucks state-wide. Renewable natural gas is among the lowest impact commercially available carbon fuels, and we will begin receiving these benefits in 2016.



### Reducing our Environmental Footprint with Standardized Truck Care

With OneFleet, our standardized vehicle maintenance program, we are minimizing variability in our maintenance processes. This results in higher vehicle quality and a lower environmental footprint, while also extending the average service life of our fleet by one year. We have implemented standardized maintenance programs for our entire fleet, creating a cleaner, safer and more reliable fleet to better serve our customers.

Technician at work – Gardena, CA



10 OPERATIONS



Arlington Landfill – Euless, TX

### Landfills

Responsible landfill management involves the proper handling of landfill gas and liquids, which are byproducts of the decomposition of waste. It also requires science, engineering and technology to manage an evolving waste stream in a manner that is protective of the air, land and water upon which our communities depend.

#### Technology–Enabled Landfills

Society expects landfills to be more environmentally responsible today than ever before. This, of course, involves the proper handling of a dynamic and evolving waste stream. It also increasingly demands greater expertise, more sophisticated capabilities and considerable resources.

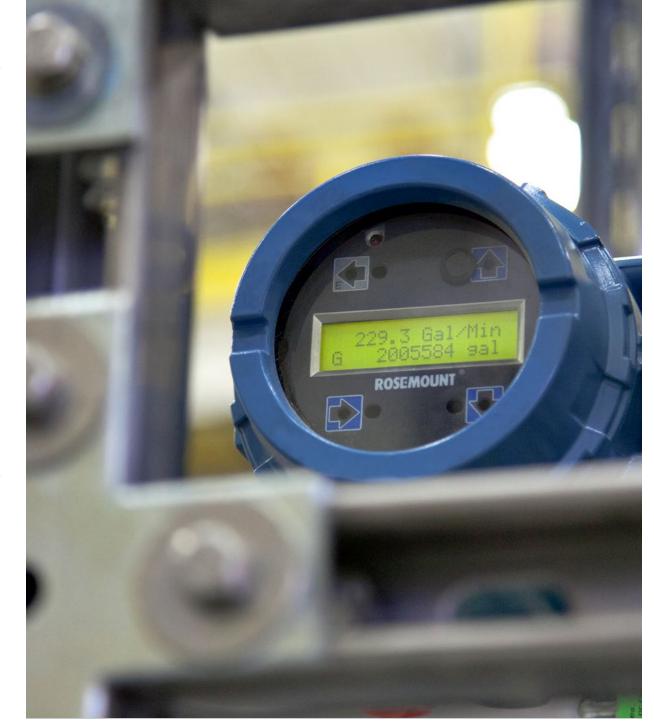
At Republic, we have assembled a highly talented engineering and environmental management team comprised of more than 200 scientists, engineers and technicians. This cadre of experienced professionals uses science and data as the basis for decision making at each of our landfills, and they are broadly incorporating technology to enhance site operations.

#### App-Based Monitoring

At the majority of our landfills, site teams use smart-phone apps for 24/7 monitoring capabilities. This technology continually collects and reports key data on a range of site systems and operations, including landfill gas collection and flow, flare system temperatures and performance, liquids collection and management, and storm water management, as well as power levels to support these systems.

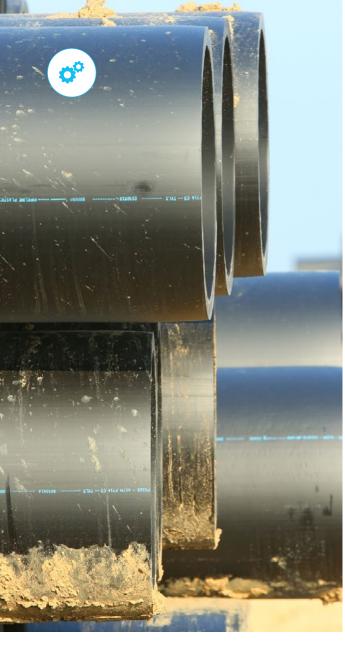
The tool provides engineers and environmental managers with real-time insights into site systems and operations via their mobile device from anywhere in the world. It can equip and prepare landfill operators with important data on site conditions before they arrive at work each morning. It also can provide instant email or text message notifications of any developments outside of normal operating parameters. At some locations, site operators also can access video feeds of landfill operations through the app.

These apps provide our landfill operators with unprecedented visibility, expanded management tools and complete confidence that operations are always conducted in a safe and environmentally responsible manner.



Liquids management gauge at Bridgeton Landfill
– Bridgeton, MO

12 OPERATIONS 13



Arlington Landfill gas extraction piping – Euless, TX

#### **Engineered Containment**

becomes the permanent custodian of that waste. It is the responsibility of the landfill operator to safely contain the waste within a site, protecting the nearby air, land and water.

The nation's waste stream has become increasingly live, work, shop, and consume, as a society, from food waste to electronics, have an effect on an already dynamic waste stream.

At Republic, science and engineering are our foundation for responsible management of the nation's waste.

We place a highly advanced composite liner system at the base of every new landfill, as well as in all new landfill cells. This system typically involves 3 feet of engineered soil liner that is covered by a 60-mil High-Density Polyethylene (HDPE) plastic barrier liner.

The HDPE liner is comprised of panels that are welded together, and every inch is tested during installation for quality assurance. The liner uses a texture system to hold it in place, yet it has the capability to stretch as much as 3.5 times greater than its original size without fail. It constitutes a sophisticated system designed to safely and permanently contain materials in an evolving waste stream.

When waste is placed in a landfill, the landfill 
The practice of engineered containment has other relevant applications for responsible landfill management, including controlling odor.

As a responsible operator and good neighbor, we place a technologically advanced Ethylene Vinyl Alcohol (EVOH) liner on top of the vegetative complex in recent decades. Changes in how we or ground surface level, should circumstances warrant. This synthetic liner, or cap, is comprised of two layers of HDPE with an EVOH liner in the middle. It effectively caps everything beneath it and, along with other infrastructure, it has proven to be highly effective in controlling odor.

> We know from experience that we will, as a society, continue to grow, evolve and innovate. Changes in how we live will continue to manifest in the waste stream. Whatever the changes, engineered containment systems embody the planning and preparation we take to ensure we are safely and permanently containing the nation's waste.

200+ environmental managers, scientists, engineers, and technicians ensure the responsible management of Republic's

active and closed landfills nationwide.

#### **Cooling Systems**

Landfills can be tremendous insulators of heat. the waste mass. This innovative heat extraction Once waste is deposited in a landfill, the waste is compacted to maximize space and prolong the amount of time the landfill can continue serving the surrounding community. One aspect of responsible landfill management involves monitoring subsurface temperatures over an extended period of time as waste decomposition occurs.

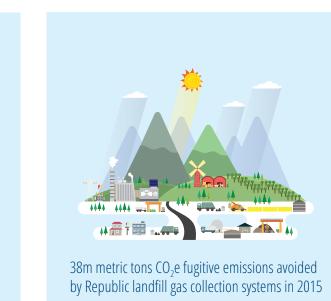
In recent years, elevated subsurface temperatures and heat-producing chemical reactions have periodically presented a new management dynamic for owners and operators at landfills across the country.

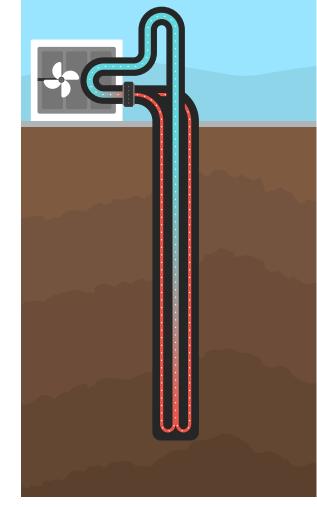
At one of our closed landfills in Missouri, we developed and installed a patent pending, proprietary technology to reduce subsurface temperatures by extracting heat from within

system is engineered to circulate temperaturetreated water through a closed loop line, extending to depths of 120 feet within the landfill. The cooler water extracts heat as the water circulates through a closed loop, returning warmer water to a chiller for re-cooling and re-circulation.

Our technology, also referred to as a cooling system, has been extraordinarily effective to date. This system has helped to reduce subsurface temperatures by 50% in near by locations at the Missouri landfill. In fact, it has been so successful that regulators have approved the system's expansion on three occasions.

This innovation is extraordinary, and its application in Missouri will benefit both the academic community, and owners and operators dedicated to responsible landfill management for decades to come.





Cooling Systems

Innovative technology to reduce subsurface heat

1.4b gallons of treated water from Republic landfills returned to the nation's watersheds in 2015

OPERATIONS 15 14 OPERATIONS



Southern Nevada Recycling Center – North Las Vegas, NV

### Facilities

Our commitment to sustainable practices extends throughout our operations and into our facilities. When we build new facilities, we adhere to the U.S. Green Building Council's Leadership in Energy and Environmental Design standards. This includes using sustainable materials to facilitate energy and water conservation, as well as design principles to enhance employee and guest comfort. With these standards at the forefront of our facility projects, we are making our working spaces more environmentally responsible and welcoming to all.

#### **Customer Resource Centers**

Everything we do is for our customers. To make it easier for our customers to do business with us, we are opening three Customer Resource Centers located in Charlotte, NC, Indianapolis, IN, and Phoenix, AZ. These centers are equipped with modern communications capabilities that enable customers across the country to interact with us on their terms.

We have incorporated sustainable principles throughout each of these facilities. In our Charlotte location, 67% of the materials used within the facility are made from recycled or reclaimed elements, to include office furniture. The work space was planned with advanced ergonomics and employee wellness in mind, including sit-to-stand desks and outdoor views. The facility also uses Light Emitting Diode (LED) lighting throughout, as well as automated lighting controls to conserve energy when lighting is not needed.

#### **Facilities Standardization**

Last year, we opened the Southern Nevada Recycling Center, the largest and smartest residential recycling center in North America. Sustainability was a priority throughout the design and construction of the facility.

Located in the City of North Las Vegas, more than 75% of the 110,000 square foot building was made from recycled or remanufactured steel. The building captures the area's abundant sunshine with 1,776 solar energy panels placed on the rooftop. This system is expected to generate enough renewable energy to fulfill 15% of the building's power requirements.

Outside the building, the natural desert landscape was preserved and repurposed for flood channel mitigation.

Inside the facility, we added automatic low-flow water fixtures to reduce water consumption by more than 20%. We even included a learning center, which incorporates sustainable materials into every facet of the space and educational

displays, for customers and community members to experience and enjoy.

We are using the same rigorous environmental standards at each of our new construction projects, including hauling facilities. This includes various environmentally responsible features, such as LED exterior lighting, high efficiency gas boilers to fuel radiant floor heating systems, and high efficiency gas furnaces for heating, ventilation and cooling throughout the building. We are also toilets, high efficiency water coolers and high efficiency gas water heaters.

Our flagship hauling facility for environmental responsibility is located in Elyria, OH. At this new facility, we were able to repurpose more than 100 tons of materials into building construction and design. In addition, we prioritized the use of materials that could be harvested within 500 miles of the construction site, including wall sheeting, roofing materials and structural beams.

#### Phoenix Headquarters

We believe in leading by example, which is why we also are introducing multiple sustainability standards throughout our headquarters building.

We started by repurposing or recycling older office furniture and equipment, and replacing those items with new office and guest chairs made from 60% post-consumer recycled material. We removed and recycled our older carpet and flooring as well, replacing them with new options made from 75% recycled materials.

quality in a manner that reduces energy and maintenance costs throughout the building. This involved removing 1,130 fluorescent light bulbs and automated lighting control systems, and introducing new LED lighting and modernized

Our new, more environmentally responsible lighting systems are expected to reduce energy usage by as much as 80%, which in turn lowers our overall energy consumption.

In addition, we replaced two cooling towers with more efficient units. This, too, is projected to further reduce energy consumption and utility expenses.

Combined, these facility enhancements create a more environmentally responsible, efficient and welcoming work space.

Solar roof panels at Southern Nevada Recycling Center – North Las Vegas, NV

conserving water with low consumption flush We also wanted to provide better lighting

lighting control systems.



# Materials Management

We understand the considerable importance that is associated with materials management, as well as the complexities of an evolving waste stream. We recognize the responsibility we have to continually innovate our materials management processes, and further enable our customers and communities to achieve their sustainability goals.

#### Circular Economy

We operate within a circular economy. It is restorative and regenerative in nature, whereby participants endeavor to keep products, components and materials at their highest utility and value, at all times. This means producers, growers and manufacturers can incrementally minimize their respective impacts on the environment. While these benefits are value chain.

For example, over time, the dynamics of recycling in America have changed. The value of recovered materials is no longer greater than the costs to produce them. The original business model is no longer economically sustainable. Yet, recycling is without question good for the planet, and consumers and communities want it.

This has been an evolving trend over the last decade, and it is not unique to certain pockets of the country or select recycling companies. It is a nationwide issue that needs an industry-wide solution.

Republic is proud to be taking a leadership role with customers, municipalities and governments across the country. We are doing this to ensure the viability of our sustainability initiatives because without profitability there cannot be long-term sustainability.

Sorters at the Southern Nevada Recycling Center - North Las Vegas, NV

#### Thought Leadership that Strengthens the Circular Economy

Republic is collaborating with the U.S. Chamber of Commerce Foundation and other leading companies as thought leaders on the circular economy. In 2015, we hosted business leaders and sustainability officials from several leading Fortune 500 companies and the U.S. Chamber at our Lander Recycling Center in Seattle, WA. We also indisputable, there are challenges within the are contributing essays and articles to Chamber publications, lending our unique perspective and sustainability expertise to the nation's business community.

### **According to the** EPA, we save 15 million tons of

carbon dioxide equivalent (CO<sub>2</sub>e) through our recycling operations, which is nearly as much as Republic's entire carbon footprint.



MATERIALS MANAGEMENT 19 18 MATERIALS MANAGEMENT



Recycling Center – Jacksonville, FL

### Recycling Capabilities

While a number of factors have affected the recycling model in the U.S. in recent years, the consumer demand for effortless, All-in-One™ or single-stream recycling programs has never been greater. We know through market research that 9 out of 10 Americans want recycling services, and they are willing to pay for it. We are listening, and have been hard at work to grow our recycling capabilities in several markets across the country.

#### California

We invested in a major expansion at our Anaheim Recycling Center with a new, state-of-the-art, 100ton per hour commercial recycling system. The enhancements represent the second of a multiphase modernization project designed to enable more than 50 communities throughout southern California to reach their bold sustainability goals.

The expansion represents a significant investment in Republic's local recycling capabilities and infrastructure, and will more than triple the recycling capacity at the 250,000 sq. ft. complex.

#### lowa

In 2015, we acquired City Carton Recycling, based in Iowa City, IA. The expansion into Iowa involves seven recycling centers state-wide, which when added together ranks them among the 20 largest paper recycling operations in the country.

#### Virginia

Also in 2015, Republic made a substantial investment in the Northern Virginia Recycling Center — purchasing both the land and facility and began a substantial revitalization project.

The Northern Virginia Recycling Center, located in Manassas, processes as much as 14,000 tons of recyclables each month. We are committing additional recycling infrastructure and technologies that will increase capacity by another 8,000 tons per month.

The expanded capabilities will serve more than 140,000 households and 5,000 commercial and industrial businesses each month, and position us to improve recycling participation and efficiencies in an environmentally conscientious part of the country.

#### Nevada

The new Southern Nevada Recycling Center is our flagship recycling center and serves approximately 550,000 households throughout the area. It is capable of processing 2 million pounds of recyclables per day, or 70 tons per hour, and is expected to double recycling capacity in the area.

The 110,000 sq. ft. facility features several state-ofthe-art recycling technologies, including five optical sorters that use 2D and 3D technologies to make material separation decisions in milliseconds. Its smart systems provide operators with a highly automated, touch-screen control system, as well as industry-leading, tablet-based capabilities that allow for real time management and monitoring, data acquisition and remote access.

The Southern Nevada Recycling Center is capable of processing the recyclables in one fully loaded collection truck within 3 minutes, and is ready to enable the community to achieve its recycling and sustainability goals.

### We collect and process roughly 5 million tons

of recyclables per year at our 67 recycling centers nationwide. In 2015, we invested \$36 million in expanded recycling capabilities.

Republic collected and processed over 5 million tons of recyclables in 2015, consisting of the following materials:



bi metal/tin cans..... 2%

\*wood, textiles, tires, copper, etc.

MATERIALS MANAGEMENT 21 20 MATERIALS MANAGEMENT



#### Metals Recovery

Since the Industrial Revolution, our nation's power producers have relied on various sources of fuel to generate electricity. Whether the original source was coal, wood or incinerated municipal solid waste, the power generation process produces an ash byproduct that has been landfilled for generations.

For our part, we have responsibly managed ash byproduct, utilizing advanced liner systems and monofill containment techniques for many years.

At the Roosevelt Regional Landfill in Roosevelt, WA, we partnered with Lab USA to reach a new plateau in the management of ash byproduct. Together, we deployed an innovative technology that extracts and recovers metals previously lost with disposal.

This promising technology is expected to help recover and recycle more than 46,200 tons of ferrous metals and 42,900 tons of non-ferrous metals from Roosevelt Landfill alone, over the next 10 years. That constitutes enough reclaimed iron to build six Eiffel Towers, as well as enough reclaimed copper to construct piping that extends from Roosevelt Landfill to New Orleans, LA, and back again.

In addition, according to the American Iron and Steel Institute and the International Copper Association, the process of recycling iron and copper metals into new products reduces greenhouse gas emissions by 20% and 60%, respectively, when compared to the use of virgin materials.

Employees at Pacific Region Compost - Monmouth, OR

#### Organics

Organics represents another sustainable solution 
At our Pacific Region Compost site, near Corvallis, for an evolving waste stream. According to the EPA, food waste is the second largest category of municipal solid waste sent to the nation's landfills, accounting for approximately 18% of the overall waste stream. Together with yard waste, organic materials represent nearly 30% of what Americans throw away each day. Diverting food and yard waste can help conserve limited landfill space for materials that must be landfilled, while reducing greenhouse gas emissions from the area food banks. decomposition of organics within landfills.

Alternatively, during the composting process, micro-organisms naturally break down organic waste into a nutrient-rich byproduct that can be beneficially used in residential and commercial gardens, landscaping and agriculture.

To process this material, our teams use a composting method that consists of piling organic matter in long rows, called windrows. These rows are monitored for temperature, moisture and oxygen levels to ensure there is sufficient oxygen to allow the micro-organisms to breathe, and break down the material. Each week, our teams use large machines, known as windrow turners, to rotate the rows and maintain an optimal composting environment. The final phase of composting involves screening and testing the material before it is deemed ready for market.

OR, we process more than 100,000 tons of residential yard debris, residential organics and commercial food waste into compost each year. This enables many of our customers to close the loop with organics material, going from kitchen to garden, and back again. We take considerable pride in this operation and donate more than 150 cubic yards of compost each year to area community gardens, who in turn produce fresh produce for

Nationwide, we converted organics into more than 1-million tons of compostable material for various types of commercial and residential re-use.

In 2015, we accepted more than 1.8 million tons of green waste and **255,000** tons of food waste.



Fresh compost at Newby Island Resource Recovery Park – Milpitas, CA



Landfill gas-to-energy infrastructure at Sunshine Canyon Landfill – Sylmar, CA

### Renewable Energy

In many cases, landfills constitute a renewable energy source. By applying advances in technology, we can harness energy from yesterday's waste and convert it to meet tomorrow's energy needs.

#### **Energy Project of the Year**

Last year, the EPA recognized the renewable energy project at our Sand Valley Landfill in Collinsville, AL, as the "Electricity Project of the Year." The landfill gas-to-energy project has a generating capacity of 4.8 megawatts and supplies power to to power nearly 25,000 area homes. approximately 3,000 homes in the area.

Renewable power generated at the site is sold to the Tennessee Valley Authority, and exported through an interconnection with Sand Mountain Electric Cooperative. The project is believed to be the largest renewable energy project in Alabama.

#### Adding Megawatts of Capacity

At Sunshine Canyon Landfill, near Los Angeles, CA, we introduced another renewable energy project in 2015. This 20-megawatt renewable energy project is capable of generating enough electricity

In South Carolina, Republic introduced a third landfill gas-to-energy project last year. The Upstate Regional Landfill in Union County is home to a renewable energy project that can generate 3.2 megawatts of energy, or enough electricity to power more than 1,800 area homes.

#### Fueling the Production of Electric Vehicles

At the Orion Assembly Plant in Lake Orion, MI, General Motors relies upon renewable energy from Oakland Heights Development Landfill for more than half of the plant's energy needs. General Motors is using power from our landfill gas-toenergy project at the plant to manufacture the 2017 Chevrolet Bolt EV, its latest electric vehicle.

Republic operates **69** landfill gas-to-energy projects, which taken together generate enough renewable energy to power **250,000+** homes, or every household in the city of Atlanta, GA.



Landfill gas-to-energy infrastructure at Sunshine Canyon Landfill – Sylmar, CA



Example of a petroleum well in operation on the Permian Basin

### Evolving Waste Stream Materials

Everyone is familiar with municipal solid waste, or the trash generated in daily life. But, far fewer people are familiar with other specialized aspects of the waste stream. At Republic, we are applying technology and forward-thinking processes to responsibly manage these types of waste too.

#### Exploration and Production (E&P)

Domestic oil reserves and alternative fuel sources for transportation are at the heart of a national conversation about energy security and independence. As energy companies explore for and produce domestic fuel sources, from the mid-Atlantic to the Midwest, and from Texas to North Dakota, they generate liquids and solids that must be responsibly disposed of and managed.

In 2015, Republic acquired a leading environmental waste solutions provider, serving U.S. oil and natural gas producers, with a footprint in some of the most attractive domestic basins, including Permian, Eagle Ford and Bakken.

The acquisition included treatment, recovery and disposal facilities; engineered landfills; and salt water disposal injection wells. It has introduced an oil recovery service, whereby we recover oil from solids by applying pressure and heat. And, it has enabled Republic to establish a significant platform for operations and environmental responsibility within the E&P sector.

We operate **4** E&P landfill disposal sites, **8** treatment, recovery and disposal facilities, and **12** salt water disposal wells.

#### Coal Ash

When electricity plants burn coal to generate power, the process produces a coal combustion residual, or coal ash. Historically, power companies using coal to make electricity would manage ash disposal independently, often depositing the ash into large settlement ponds, leaving the material to break down over time.

In 2015, the EPA issued technical requirements for the safe disposal of coal combustion residuals. The new regulations affect disposal operations, requiring that coal combustion residuals be landfilled and managed in compliance with Subtitle D, or modern landfill, requirements.

Many of our landfills are already equipped to safely receive and contain coal ash. These sites typically employ a highly engineered, 60-mil composite liner that sits above 3 feet of engineered soil liner. Together, they comprise a secure, environmentally responsible containment system.

As a responsible landfill operator, we go further to provide the communities we serve with peace of mind. This includes the capability to use a monofill technique, whereby dedicated cells are constructed to exclusively contain a specialty material, such as coal ash.

The EPA's new regulations are expected to generate additional coal ash disposal demands among many of our nation's power producers. Our responsible landfill management practices, including the monofill technique, are designed to provide solutions for our customers and assurance for the communities we serve.

#### **Medical Waste**

When health care facilities generate waste, the waste could be contaminated. For that reason, medical waste is highly regulated by states and cannot be landfilled until it has undergone processing to eliminate any potential infectious agents.

We are proud to serve hundreds of hospitals, healthcare providers and medical professionals nationwide, meeting their solid waste and recycling needs. In doing so, we partner with third-party providers that treat medical waste prior to disposal at our landfills.

Those treatment methods include incineration and autoclaving. The process of incineration involves burning medical waste in a dedicated medical waste incinerator, where it becomes sterilized and is converted into ash, flue gas and heat.

Alternatively, autoclaving involves closed chambers that apply heat and pressure, and sometimes steam, to medical waste. The waste is then subjected to a compaction process, similar to shredding, to ensure that the material cannot be reused or repurposed in any way.

Last year, we accepted more than 414,000 tons of treated medical waste, helping the medical community to responsibly dispose of its waste.

#### **Electronics Waste**

Outdated electronics such as TVs, computer monitors, laptops, tablets, keyboards, and copiers represent the fastest growing aspect of the waste stream in the world. According to the EPA, the average U.S. household uses roughly 28 electronic products, the majority of which ends up in a landfill.

At Republic, we have introduced configured solutions for electronics waste in markets across the country, providing customers with secure, flexible, environmentally responsible options.

Electronics Waste is anything with a plug.



26 MATERIALS MANAGEMENT 27



### Communities

Serving our 14 million customers goes beyond handling their recycling and waste needs. Service is about being a Good Neighbor to the communities where we live, work and raise our families. Whether we are volunteering or donating our time or resources, our willingness to give back is yet another way we make a difference.

#### Community Education

There is no better place to start recycling education than at schools. That is why we are committed to educating children and young adults on the importance of recycling.

But education goes beyond the classroom. To be a true partner, we must provide our communities with opportunities to learn more about the impact of recycling. Whether it is through community events, like recycling drives, or providing tours of our recycling centers, engaging our communities is critical to protecting our Blue Planet.

#### Los Angeles Unified School District

Each year, Republic Recycling Coordinators and Trainers in Southern California visit nearly 1,000 schools in the Los Angeles Unified School District (LAUSD) to educate students, teachers and staff on the importance of recycling. Through interactive presentations, videos and visits from our fully automated recycling education robot, the team makes sure the students are as excited as we are about recycling.

But that's not all. In addition to providing recycling education to the nearly 650,000 students in LAUSD, we, as a community partner, helped LAUSD take its recycling to the next level with the launch of the new lunchtime recycling

How can you be a better recycler?

Make sure your recyclables are

Empty, Clean & Dry.

program. With a goal of reducing food waste, the program was rolled out to 17 pilot schools and focused on making food waste recycling both fun and educational for the students. Due to the commitment of the students, teachers and volunteers, the schools have reduced their food waste to an average of 7 tons per week while also providing the students with more hands-on recycling education.

#### Las Vegas, NV

In 2015, we opened an interactive learning center at our Southern Nevada Recycling Center. Featuring educational displays, community videos and even a live video stream of our recycling operations, the Center provides our visitors with the ability to not just see or read about recycling but to actually experience it.

Also in Las Vegas, our friends at The Mirage Hotel & Casino invited us to collaborate on a recycling exhibit inside their Sustainability Discovery Center at Siegfried & Roy's Secret Garden and Dolphin Habitat. The new exhibit informs visitors of all

ages about the recycling process and provides practical tips on ways to become a better recycler in everyday life.

We also work together behind the scenes at most MGM Resorts, including The Mirage Hotel & Casino, on recycling operations. To their credit, MGM Resorts has achieved an impressive 42% recycling rate, diverting more than 50,000 tons of material in 2015.

Additionally, Republic partnered with the University of Nevada Las Vegas (UNLV) for the first annual Recyclathon, a campus-wide initiative and contest encouraging faculty and staff to recycle.

More than 760 faculty and staff participated in the competition, recycling roughly 53.5 pounds per person. They also shredded, composted and donated other items that could be reused or repurposed by UNLV or within the community.

Each day, UNLV and Republic collect more than 3 tons of materials throughout UNLV's facilities.



Recycling exhibit at The Mirage Hotel – Las Vegas, NV

28 COMMUNITIES 29



Responding to an influx of water bottles – Flint, MI

#### Rallying for Flint

During the recent water emergency in Flint, MI, our local team rallied with community leaders and organizations to aid a city we are proud to serve. The dramatic influx of water bottles and containers into Flint meant that residents would need additional, immediate recycling and disposal options.

Our local team established a hotline for residents to request additional recycling containers, which were delivered within 48 hours and at no cost to residents. At the height of the crisis, we were delivering an average of 200 new recycling containers to Flint residents each day.

We also partnered with local leaders to increase recycling collection services at no additional cost to the city. This included donating extra containers at water distribution sites throughout Flint and issuing more than 14,000 plastic bags to residents at these sites to assist with their increased recycling and disposal needs. We even teamed up with student athletes from Michigan State University and other community partners to inspire residents to recycle at a recycling and water distribution event.

#### Teaming up to Deter Crime

Republic drivers are out and about at all times of the day and night, and may know when something is out of place in their communities. In two states, we have teamed up with local law enforcement, taking our role as a community partner one step further.

In select cities in California and Virginia, we have launched community watch programs, in cooperation with local police departments.

Our collection drivers, dispatch operators and team supervisors are trained by local law enforcement to observe and report any suspicious activity, traffic accidents or other emergency situations. In the event that Republic personnel identify suspicious behavior, they use their existing two-way radio communications systems to alert dispatch of any unusual circumstances. Republic dispatch personnel then communicate with the appropriate authorities.

#### Fostering a love for science

Our landfills can be an optimal setting for people of all ages to discover science and witness its real world applications. We routinely host youth groups, community groups, school field trips, science academies, and STEM (Science, Technology, Engineering and Math) teachers at our landfills. The educational tours we offer at our landfills provide community leaders with a deeper appreciation for responsible landfill management, reinforce a love of science among aspiring scientists, and expose bright minds to new career paths and possibilities.

At Old Dominion Landfill, near Richmond, VA, our site team hosts youth groups and community groups throughout the year. They show visitors a unique ash processing facility at the site, where conveyor belts and other infrastructure form incinerated ash into stone. Like at many other locations, site team members will take a break from daily operations to discuss the science behind ash processing and landfill operations over lunch with visitors of all ages.

#### **Creating Healthier Places**

Players from the Indianapolis Colts volunteered along with local Republic team members to build a playground that serves more than 300 students at Floro Torrence public school in Indianapolis, IN.

Colts players and Republic volunteers also built a walking trail lined with outdoor fitness equipment for Floro Torrence faculty and staff members, as well as residents from inner city neighborhoods within Indianapolis.



Youth group tour at Old Dominion Landfill – Richmond, VA

Employees and Indiana Colts players at a community betterment project – Indianapolis, IN



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Employees volunteer for Habitat for Humanity – York, PA

In the last year, we donated approximately \$5 million in cash and in-kind donations as well as countless volunteer hours to non-profit organizations across the country. We invested in research and awareness of deadly diseases, we promoted academic opportunity and enrichment for underprivileged youth; and we helped to improve the health and well-being of our nation's veterans.

In addition to charitable donations, Republic is dedicated to playing an integral role in our communities through local sponsorships of community organizations. Last year, we invested approximately \$6.7 million in these event-driven sponsorships.

As a company, we are dedicated to protecting the environment. Through the donations of land grants and other conservation efforts, we are able to provide our communities with space and resources that will benefit the areas for generations to come.

#### Providing Land for Public Enjoyment

The Sunshine Canyon Landfill has proudly served businesses and municipalities throughout Los Angeles County since 1958. Since 2002, Republic has donated nearly 1,500 acres of undeveloped land in Elsmere, East and Upper Bee Canyons, near Sunshine Canyon Landfill, to the Los Angeles County Mountains Recreation and Conservation Authority. This land has helped to create permanent open space for public parks and recreational activities such as hiking, biking, and horseback riding. Perennial springs and creeks provide water sources for mountain lions, black bears and other wildlife.

In addition, we have grown **over 20,000 oak trees on-site** and donated many of these trees to local parks, cities and community organizations.

#### **Protecting Natural Habitats**

Located between Chicago and Milwaukee, Kestrel Hawk Landfill in Racine, WI, takes responsibility to protect natural wildlife in an urban setting. The National Wildlife Federation has certified the entire site as a wildlife habitat, and multiple species, including Kestrel Hawks, deer and coyotes, naturally inhabit the area surrounding the Landfill. Additionally, in 1995 the Landfill set aside 12.5 acres as a designated prairie. To this day, the local Landfill team maintains this area and is working with neighbors to create **bluebird and monarch butterfly habitats**, so that the prairie is more accessible for the community and wildlife.

#### **Restoring Wetlands**

For more than two decades, Broadhurst Landfill in Wayne County, GA, has been a champion for wetlands preservation to include caring for a creek that passes through the site that is vital to the area's ecosystem. Approximately 25% of the Landfill's entire property, or 516 acres, has been dedicated to **wetlands creation, conservation and protection**. Another 600 acres of the site have been devoted to managing a Plantation Pines forest. Over the years, the Broadhurst team has planted more than 115,000 natural hardwood species on property grounds, including native bald cypress, green ash, red maples, water tupelo, mayhaw, and sweet bay trees.



Nursery manager at Sunshine Canyon Landfill – Sylmar, CA

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# Safety

Safety is the foundation of our business and the cornerstone upon which Republic's initiatives and programs are built. Day-in and day-out, we keep safety top-of-mind, providing peace of mind to our customers and employees alike.



#### Together for Safer Roads

As the operator of the 8th largest vocational fleet in the country, with an industry leading safety record, we have a direct effect on roadway safety each day. While our strong safety performance is significant in the communities we serve, we aspire for more.

Today, we are proud to be the only recycling and waste services provider associated with Together for Safer Roads. This innovative coalition brings together global private sector companies across industries to collaborate on improving road safety and reducing deaths and injuries caused by road traffic crashes. The Coalition's mission to provide guidelines and processes to keep employees, partners and contractors safe on the road closely aligns with our continuous work in fostering an environment that provides ongoing road safety education. To demonstrate our support, our drivers placed new decals on their trucks, heightening the expectation that all Republic vehicles continuously exhibit safe and courteous driving.



#### Think. Choose. Live.

Every day, drivers face a multitude of challenges and are required to make decisions that can greatly impact their safety, as well as the safety of those in the communities we serve. It is why we have established a best-in-class driver training program that enables our more than 15,000 drivers to continually improve. In fact, in 2015 every new driver received more than 100 hours of training.

Our Think. Choose. Live. philosophy helps navigate these situations by encouraging employees to *Think* about what they're doing, *Choose* the safe answer and *Live* to go home to their families.



#### Focus 6

Our Focus 6 program provides employees with tips and techniques to reduce the frequency of our six most common types of serious accidents. This industry-leading program, which involves inclass training and a practical skills course exercise, helped to reduce accidents by 22% in 2015.

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# **42%** better safety performance



42% better safety performance record than the industry average, based on Occupational Safety and Health Administration (OSHA) data, for the past 8 years.



18 of 24 Driver of the Year winners since 2009.















**12,000** employees earned Republic's Dedicated to Safety (DTS) award in 2015. This award recognizes employees who meet all safety requirements for the year, including no preventable accidents and no safety warning letters.



**5,000** employees received Republic's Dedicated to Excellence (DTE) award in 2015. This recognizes employees who earned the DTS award and met criteria for customer service, attendance and other performance factors.



#### Driver of the Year

We believe strong safety records should be acknowledged and celebrated. Each year, drivers who meet our stringent safety criteria are eligible for the National Waste and Recycling Association's Driver of the Year Award. The Driver of the Year program honors drivers who uphold the field of solid waste management as an honorable occupation, and have conducted themselves and operated their vehicles in a safe and responsible manner. With more than 1,000 nominations each year, this award is the most coveted in the industry and demonstrates winners' commitment to safety. Since 2009, we have had 18 winners out of 24 in the large company categories.

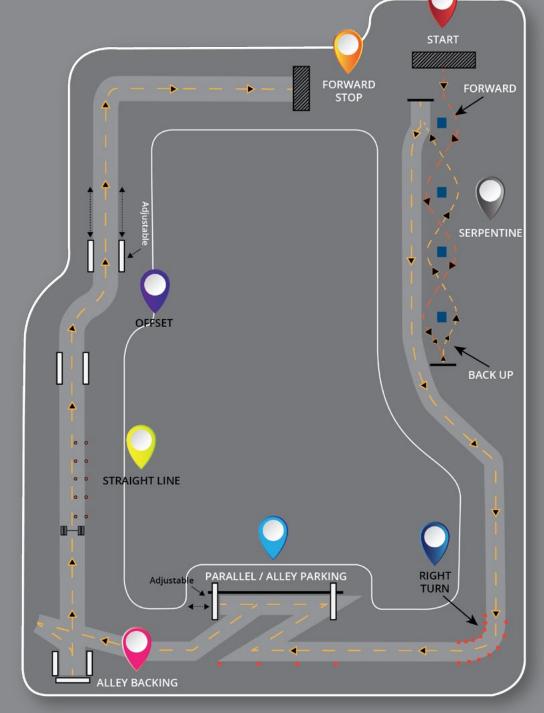
In 2015, Republic's winner was Todd Colarusso, a tenured driver with more than 22 years of experience. Todd, of Scottdale, PA, drives an average of 832 miles each week in service of roughly 450 customers.



#### Republic Services Truck ROAD-EO

believe in celebrating the people and talent that enable our strong safety record.

The Truck ROAD-EO involves a rigorous, best of the best.



SAFETY 37 36 SAFETY



# People

Our Company cannot thrive without great people devoted to serving customers, the community and the planet. We hire the best people to make Republic a great place to work. We are focused on attracting talented individuals across professions who are a committed to serving customers and protecting the planet as we are.

#### Growing our Talent Pipeline

In 2015, we joined the 100,000 Opportunities Initiative – a coalition of the largest employer-led, private sector companies committed to creating pathways to employment for young people ages 16-24. Companies engaged in the Initiative help launch careers for young people entering the work force. Through this new partnership, we are helping young people gain new skills with internships, apprenticeships and on-the-job training. This forward-thinking approach not only launches careers for young people, but it also fuels our talent pipeline for years to come.

#### **Engaging our Workforce**

We are actively creating an environment in which all individuals are welcomed and valued. Through *Mosaic*, our approach to diversity and inclusion, we are developing new strategies and activities aimed at creating a more diverse workforce and inclusive work environment. This allows us to more fully engage our workforce and better serve our customers.

Our annual Republic Listens Employee Engagement survey is just one more way we connect with our employees to make Republic a great place to work. In 2015, our employee engagement score was 82—one point up from our 2014 score. We continue to leverage the insights from our surveys to implement programs and workplace improvements.



#### **Embracing Learning**

We are deeply invested in the ongoing learning and development of our people. Whether it is our drivers on the road servicing customers, the front-line supervisors keeping the operations running smoothly, or our support teams at the Area offices and Phoenix headquarters, Republic is focused on giving our people the training and tools to be the best they can be on the job and off.

In 2015, we launched the Driver Training Center, Supervisor On-Boarding, the Sales Acceleration Program, the Leadership Trainee Program, Leadership Fundamentals, and the Executive Institute — among others.

#### Providing Total Rewards

Our compensation model provides more than just a paycheck; it's a meaningful total rewards package for the work employees perform day-in and day-out to represent the Republic brand and serve our customers. From comprehensive health care options to a robust 401(k) program with a partial Company match, we are partnering with employees to provide significant resources to support good health and build wealth.

#### Hiring Our Heroes

There's no better way to protect our planet than to recruit and hire the heroes who have protected our country. We actively recruit and hire veterans – those transitioning from military life as well as those long discharged from active duty. We value the skills, experience and operational excellence they bring to our organization – along with their commitment to a better tomorrow.

Historically, we have had great success hiring veterans. In 2015, for example, 28% of general managers, 27% of operations managers, and 35% of maintenance managers that we hired self-identified as having served in the U.S. Army, Marines, Navy, Air Force, or Coast Guard.

### Building an Inclusive and Meaningful Environment

Republic earned a score of 80 out of 100 on the 2016 Corporate Equality Index, a national benchmarking survey and report on corporate policies and practices relating to lesbian, gay, bisexual, and transgender (LGBT) workplace equality. The Human Rights Campaign Foundation administers the annual scorecard. This was the first year Republic participated in the Corporate Equality Index.

Also in 2015, Republic was listed as one of the 30 Most Meaningful Companies to Work For in America by Business Insider. The accolade recognizes how companies offer employees the opportunity to engage in meaningful work.

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Employee at Coffin Butte Landfill – Corvallis, OR

# Ethics & Compliance

At Republic, we act with high integrity. In fact, it's a top Company priority. Each and every employee is committed to operating our business with the highest levels of ethics and compliance.

#### Ethics

We make it easy for our people to do the right thing – all the time. It all begins with Republic's Code of Business Ethics and Conduct, a detailed document outlining the expectations we have for our employees. We support the Code with an Open Door policy, which provides a safe and welcoming environment for employees to express concerns to management, and the AWARE Line, which allows any employee to report a potential violation via a toll-free, confidential phone call. Maybe most important, we hire people who have the same commitment to integrity as we do.

#### Compliance

We operate in a highly regulated industry, which requires a deep understanding and commitment to federal, state and local laws. We hire the best and brightest scientists, engineers, environmentalists, and operations and legal teams to make sure we not only operate within the guidelines set for our business, but also lead the way for best practices within the industry. Compliance is not just a box we check, it is an essential part of who we are.



Employees at Broadhurst Landfill – Wayne County, GA

## Sustainability Goals

Goal O1



#### Commodities

Our goal is to add an additional 150,000 ton per year or more of recycling capability by 2018

Goal O2



#### Energy

Our goal is to develop at least two landfill gas-to-energy projects per year through 2018.

Goal O3



#### Fleet

Our goal is to reduce fleet emissions from our lirect operational impacts (Scope 1 emissions\*) by 3% by 2018.

\* For more details on our goals, please refer to the 2015 GRI Report

Goal O4



#### Safety

Our goal is to reduce our OSHA recordable rates by 7% year-over-year.

# Appendix

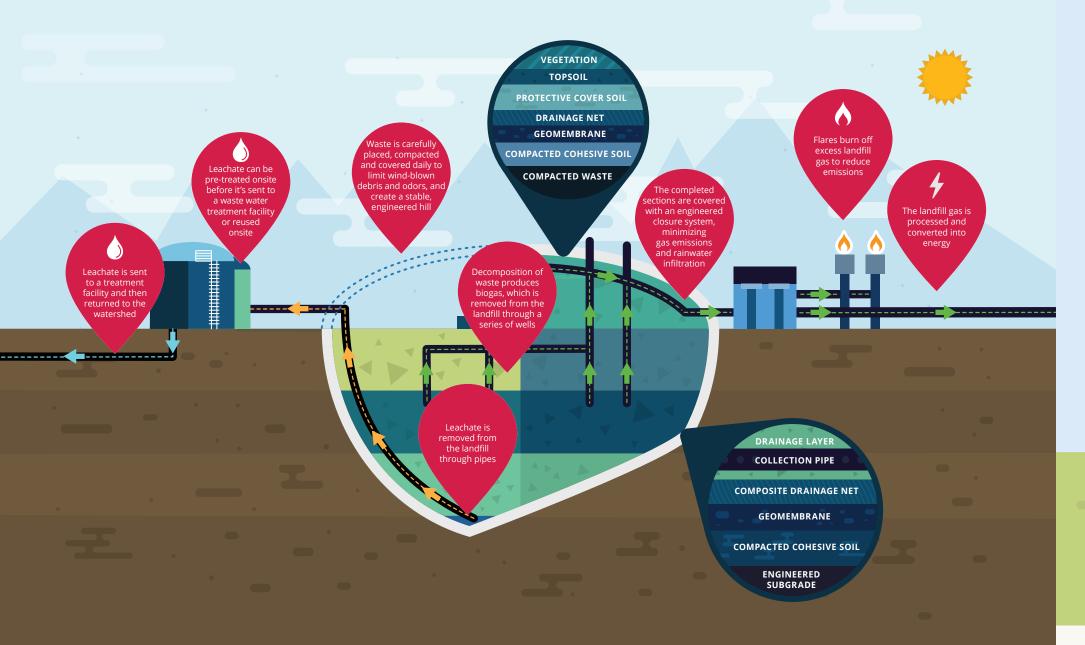
Republic's vision is to be America's preferred recycling and waste services partner. We know we will achieve this by providing our customers with simple solutions, reliability and environmental responsibility, wrapped with a level of service that is unmatched anywhere else in the industry.

We know a big part of helping our customers be better stewards of the planet, is to help educate them on the waste process. Because...when there is better understanding, people can make better, informed decisions.

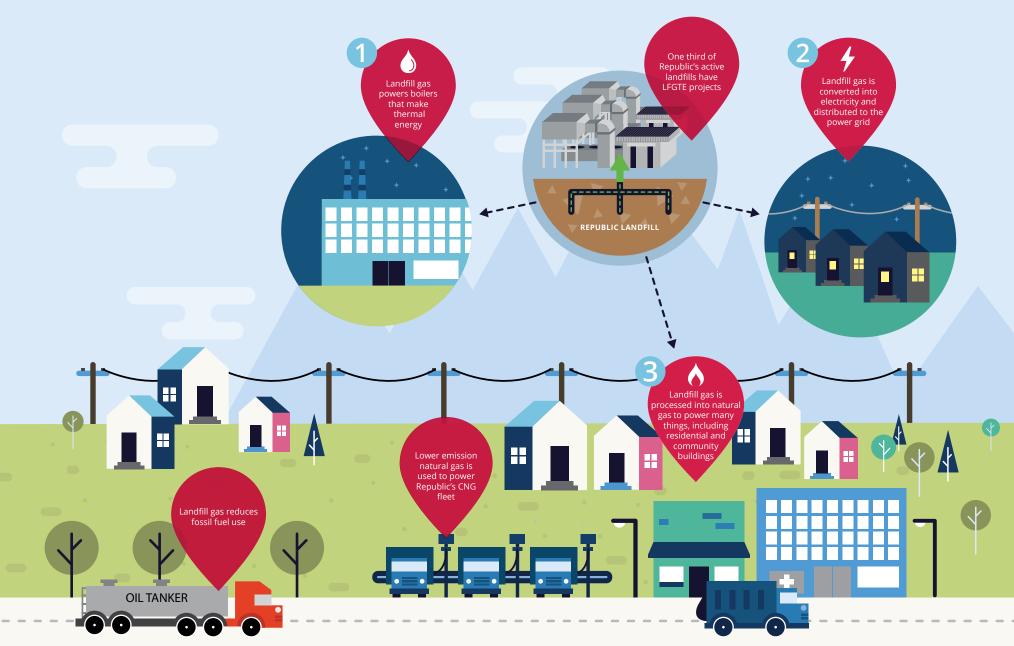
To aid in this education, we have created four infographics, located on the following pages, that visually show the Landfill, Recycling, Landfill Gas-to-Energy and Organics waste processes. We hope these images will help further grow your understanding of how the waste that society creates every day is environmentally managed by Republic to preserve our Blue Planet.

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# Regenerative Landfill



# Landfill Gas-To-Energy



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# Recycling



# Organics



APPENDIX 47









We'll handle it from here.™