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# ASSESSMENTS

Ball's sustainability management and performance have again been recognized by external experts.

















# ABOUT OUR REPORTING

This is Ball Corporation's sixth biennial sustainability report, covering calendar years 2016 and 2017. It complements our financial reporting and covers the sustainability topics identified by Ball and our stakeholders as most material to our company. Customers, investors, employees and suppliers are the primary audience for our reporting.

Unless otherwise stated, we are reporting sustainability metrics globally covering facilities where Ball has operational control, which includes owned and leased manufacturing facilities, major administrative offices, external warehouses, and research and development facilities. Operations that are outside of these criteria, such as joint venture locations where Ball does not have full authority to introduce and implement its operating policies, are not included in our reporting.

On June 30, 2016, Ball announced the completion of its acquisition of Rexam PLC and required divestitures, which resulted in significant changes to the company's manufacturing footprint.

To ensure information and comparisons are reliable and meaningful over time, and to allow stakeholders to perform consistent trend analyses of our sustainability performance over multiple years, all 2010-2017 sustainability data included in our sustainability reporting is reflective of Ball's company footprint post-close of the Rexam acquisition. In addition to reporting Ball's latest environmental performance data online, Ball annually updates historical environmental performance data as necessary if updated emission factors or more accurate activity data become available.

An external assurance statement by ERM Certification and Verification Services (ERM CVS) and further details on reporting principles, boundaries and data normalization are available on our website. Our reporting was developed in accordance with the Core level of the Global Reporting Initiative (GRI) Standards. A detailed GRI Content Index appears online.

Throughout the online version of this report, click this symbol  $\bigoplus$  for additional web content.

# CONTACT

We welcome your comments and questions on our sustainability efforts. Please direct them to **sustainability@ball.com**.

More details on our sustainability performance, best practices and updates on our progress are available at www.ball.com/sustainability.

# CEO PERSPECTIVE

When we closed on the Rexam acquisition in 2016, we pledged to leverage our larger scale to be more efficient and effective and to set new standards in sustainable growth. As the market leader, we also committed to making Ball cans the most sustainable package in the supply chain and, since then, have ramped up our efforts toward that goal in a meaningful way.

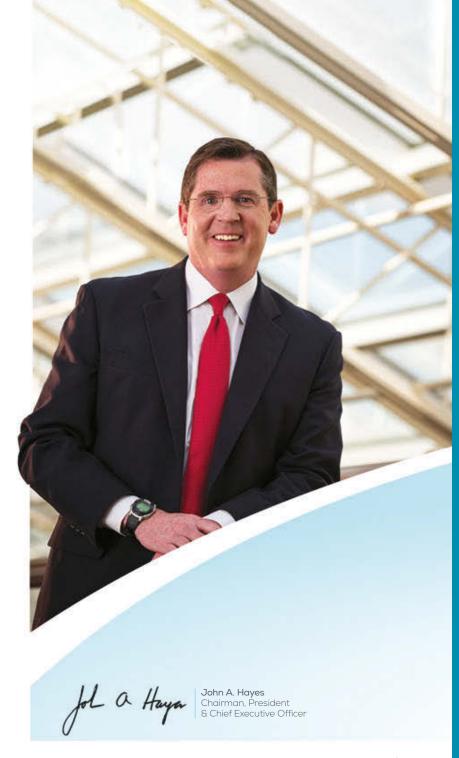
I am often asked why we run a packaging and an aerospace business and how they are connected. Through the sustainability lens, this report provides one powerful answer. Many of the innovative space systems that Ball Aerospace builds support actionable environmental intelligence, and allow scientists and other stakeholders to better understand and address key sustainability challenges, such as the circular economy, climate change, water stewardship and responsible sourcing. Our packaging businesses contribute innovative and sustainable packaging solutions, such as our next generation STARcan and our ReAL® aerosol technology, that help address these challenges and help our customers reduce their product carbon footprints.

Packaging is critical to delivering consumer products safely, conveniently and in good condition, and it preserves and protects beverage, aerosol and other products as

they move through supply chains. From a circular perspective, cans truly are the most sustainable package-economically and environmentally-relative to glass, plastic and other substrates. They are infinitely recyclable, easily collected and sorted, and are the package with by far the highest economic value in the recycling stream. The global recycling rate for aluminum beverage cans is 69 percent and we know that there is still room for improvement. That is why we engage with customers, suppliers and other partners around the world to establish a more efficient collection and recycling infrastructure, and to educate consumers on why every can counts as well as the many benefits of metal packaging recycling.

We are also persistent in improving our operational sustainability performance and throughout this report highlight the ways in which we further increased energy and water efficiencies, decreased our carbon intensity and optimized waste management during the reporting period.

Thank you to all of our employees, customers, suppliers and partners who have contributed to our sustainability achievements so far. We look forward to future progress toward making the can the most sustainable package and to delivering insightful environmental intelligence that will help ensure a successful future for all of us.



# BALL OVERVIEW

**FOUNDED** 

1880

**EMPLOYEES** 

18,300

**LINES OF BUSINESS** 

3

2017 NET SALES (\$ IN MILLIONS)

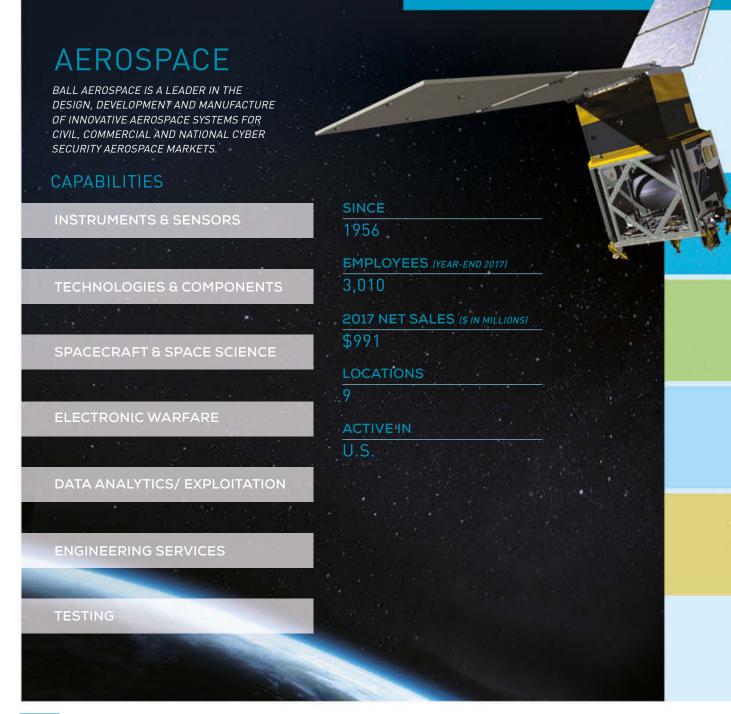
\$10,983

MANUFACTURING LOCATIONS (YEAR-END 2017)

90

### **ACTIVE IN**

- NORTH & CENTRAL AMERICA
- SOUTH AMERICA
- EUROPE
- ASIA
- MIDDLE EAST
- AFRICA





The data captured through Ball-built instruments and satellites enables an enhanced scientific understanding of major sustainability challenges, allowing governments, industry and other stakeholders to effectively address these challenges.

# CIRCULAR ECONOMY

PAGE 04

# CLIMATE CHANGE

PAGF 1

# WATER STEWARDSHIP PAGE 22

# RESPONSIBLE SOURCING

PAGE 2

Ball's packaging businesses face four major sustainability challenges, and are working on effective and innovative solutions to turn them into business opportunities.

# GLOBAL BEVERAGE PACKAGING

BALL IS THE WORLD'S LARGEST BEVERAGE CAN MAKER, SUPPLYING INNOVATIVE SUSTAINABLE PACKAGING SOLUTIONS TO CUSTOMERS AROUND THE GLOBE.

### CAPABILITIES

**BEVERAGE CANS** 

**BEVERAGE ENDS** 

**ALUMINUM BOTTLES** 

SINCE

1969

**EMPLOYEES** (YEAR-END 2017)

12,260

2017 NET SALES (\$ IN MILLIONS)

\$8.854

**MANUFACTURING** 

LOCATIONS (YEAR-END 2017)

69

CANS PRODUCED (2017)

100+ BILLION

**ACTIVE IN** 

 NORTH & CENTRAL AMERICA

SOUTH AMERICA

EUROPE

ASIA, MIDDLE EAST, AFRICA

# **AEROSOL PACKAGING**

BALL IS THE WORLD'S LARGEST ALUMINUM SLUG AND IMPACT EXTRUDED AEROSOL CAN MANUFACTURER. UNTIL JULY 31, 2018, THE COMPANY ALSO MANUFACTURED TINPLATE FOOD AND AEROSOL CANS IN THE U.S.

#### **CAPABILITIES**

**SLUGS** 

**AEROSOL CANS** 

SINCE

1988

**EMPLOYEES** IYEAR-END 20171

2,705

2017 NET SALES (\$ IN MILLIONS)

\$1,138

MANUFACTURING

LOCATIONS (YEAR-END 2017)

19

**CANS PRODUCED** (2017)

4.6 BILLION

**ACTIVE IN** 

 NORTH & CENTRAL AMERICA

SOUTH AMERICA

EUROPE

ASIA

**FOOD CANS & ENDS** 

# CIRCULAR ECONOMY

# BALL AEROSPACE

### INNOVATIVE SPACE SYSTEMS THAT SUPPORT ACTIONABLE ENVIRONMENTAL INTELLIGENCE

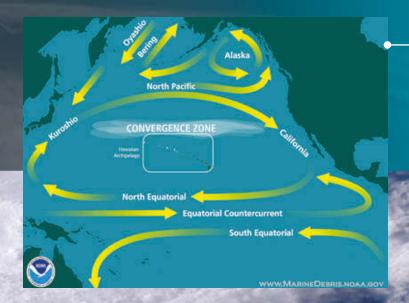
In November 2017, Ball Aerospace was selected as the prime contractor by the U.S. Air Force to deliver the next-generation operational environmental satellite system, Weather System Follow-On-Microwave (WSF-M). Ball is responsible for developing and integrating the entire microwave system, which includes the microwave instrument, spacecraft and system software.

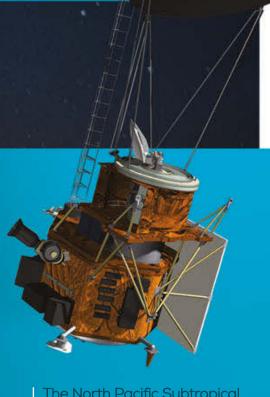
This mission will improve weather forecasting over maritime regions by taking global measurements of the atmosphere and ocean surface. The system is designed to monitor ocean surface vector winds, tropical cyclone intensity and low Earth orbit energetic charged particles.

Measurement of ocean surface wind speed and wind direction will help ocean models predict ocean surface currents. The system's passive microwave radiometer will also provide data

on sea surface temperature, another important element in determining ocean circulation. The National Oceanic and Atmospheric Administration (NOAA) will use this data in its models.

NOAA's Marine Debris Program and scientists around the world continue to research and monitor marine debris and its impacts, and have found that many different ocean features can cause debris accumulation.  $\oplus$ 





The North Pacific Subtropical
Convergence Zone concentrates
food sources for many species, but
also marine debris that comes ashore
on the Northwestern Hawaiian Islands.
The National Oceanic and Atmospheric
Administration (NOAA) and the Navy
will use this data in their ocean and
atmospheric prediction systems.



### A PLASTIC OCEAN

An estimated mere 5 percent of plastics are recycled effectively around the world, while 40 percent end up in landfills and a third in fragile ecosystems such as the world's oceans.

Half of the world's plastic ocean waste collects in five garbage patches. They do not only consist of a layer of trash that floats at the surface, but are rather like soup containing many minuscule suspended particles. In 2014, scientists determined that 5.25 trillion particles of "plastic smog" surface pollution, weighing 269,000 tons, pollute our oceans worldwide. While larger items can threaten sea life such as turtles and seals, which mistake plastic waste for food, microplastics can be digested by fish and end up in the human food chain. The United Nations Environment Programme conservatively estimated the economic costs of these externalities of plastic packaging at \$40 billion—exceeding the plastic packaging industry's profit pool.



According to the Ellen MacArthur Foundation, at least

MILLION TONS

OF PLASTICS LEAK INTO

THE OCEAN EVERY YEAR.

the equivalent of dumping the contents of one garbage truck into the ocean every minute.

If no action is taken, this is expected to increase to two per minute by 2030 and four per minute by 2050. By that time, there could be more plastic in our oceans than fish.

#### SHIFTING PARADIGMS

The majority of corporate product stewardship strategies center around resource efficiency, particularly in terms of lightweighting, sustainably produced materials, recyclability and product carbon footprints. Metal packaging performs well in these categories. For example, beverage cans are fully recyclable and the weight of standard cans was reduced by up to 40 percent over the last 25 years.

However, driven by a more informed and robust discussion around systemic sustainability challenges and holistic product design, product stewardship must move more quickly from small incremental changes on some isolated issues to creating a circular economy. Circularity is about retaining material value and complexity as much as possible and for as long as possible-ideally without any degradation. Instead of focusing on making products as cheap as possible and a little less harmful, products must be designed so that they are recycled easily and infinitely. In a truly circular economy, product production costs, as well as all product life cycle-related costs, should be considered

#### CIRCULARITY BY DESIGN

The old take, make, waste paradigm has created products that are extremely cheap to produce yet very expensive to be recycled. Products made of only one material or designed for easy disassembly, do not require complex processing before the materials are recycled. Recyclability claims suggest that it is a great achievement when a product is

recyclable. The truth is that recyclability is only an achievement when a product is consistently and infinitely recycled and the material can be kept in the loop without loss in material quality.

For many products, technical capabilities are insufficient to fully close the material loop and it is cheaper to use primary instead of recycled materials. Additionally, significant losses in material quality and quantity still exist even in some established recycling processes. Materials that lose some of their inherent properties when recycled prohibit a truly circular economy.

With permanent materials such as metals, the material's inherent properties do not change during use or when repeatedly recycled into new products. Recycling them does not necessarily require the addition of primary material or other additives to enable the basic material function and properties.

A circular economy strives to create favorable conditions for economically viable recycling, rather than developing lowest cost products that are not recycled and require expensive recycling THE FACT THAT BEVERAGE
CANS HAVE THE HIGHEST
REAL RECYCLING RATE OF
ALL BEVERAGE PACKAGING
SUBSTRATES IS A GREAT
ACHIEVEMENT AND
REINFORCES THAT WE
CORRECTLY PICKED THE
RIGHT SUBSTRATE WHEN
WE FIRST INTRODUCED
RED BULL BACK IN 1987.



### **WERNER DEPAULY**

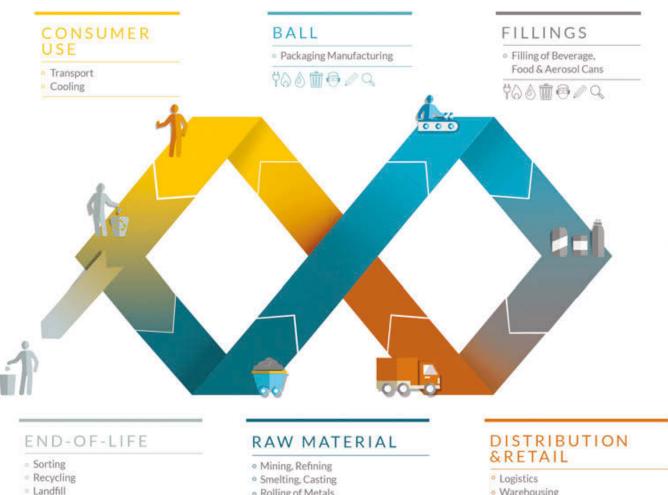
Global Head of Procurement and Sustainability Red Bull

Full statement available online



technologies to be recovered. Instead of trying to develop end-of-the-pipe solutions, businesses must invest in creating truly circular products in the first place. During product design, the following questions should be answered:

- Are all materials used in a product recyclable or only some?
- Is a material actually recycled or only collected for recycling then sent to landfill?
- Can the material be recycled infinitely or is it only recyclable once or twice before it becomes waste?
- Is a product recyclable everywhere or only in a laboratory set-up?
- Is all of the input material available as recycled output or is a significant portion of the material lost during recycling?
- Is a product recycled into something of similar value or is it downcycled into a product of less value that might not be recycled again?





· Rolling of Metals

# Pata & 8 40 ata 9

Warehousing



### **ENVIRONMENTAL, SOCIAL, GOVERNANCE CRITERIA**



Phi Energy & Climate





By-Products & Waste



Land Use & Biodiversity



Safety



Human Rights



Labor Rights



ÃÃ Business Integrity



Transparency

#### LIFE CYCLE THINKING

Metal cans are produced using abundant materials. The earth's crust consists of approximately 8 percent aluminum. It is the third most common element, while iron is the fourth most plentiful element, and metals have been recycled for as long as they have been produced. In fact, nearly 75 percent of all aluminum and 80 to 90 percent of all steel ever produced is still in use today.

Packaging plays a critical role in delivering products to consumers safely, conveniently and in perfect condition. It protects and preserves food, beverages and other products as they move through supply chains. At Ball, we evaluate products through a variety of lenses, including consumer benefits, carbon footprints, costs and the impact on the recycling process. Life cycle thinking demands that our packaging be considered in conjunction with the products and embedded resources it protects.

While we continue to minimize the sustainability impacts of our operations, those of our supply chain are significantly

larger. For example, can manufacturing makes up approximately one-fourth of an aluminum beverage can's energy consumption throughout its life. Most energy consumption and associated greenhouse gas emissions occur during metal production, which our suppliers continue to make more efficient. For example:

- The carbon intensity of primary aluminum production in Europe decreased by 21 percent between 2010 and 2015
- The energy needed to produce a metric ton of aluminum in the U.S. and Canada declined 26 percent between 1995 and 2010



Recycling reduces the energy needed for primary metal production by 95 percent for aluminum and 74 percent for steel, and cuts GHG emissions accordingly. Some organizations promote recycled content as the solution for circularity. However, a product with high recycled content that is not recycled is still an example of a linear economy. For a substrate like plastic with low economic scrap value, and where virgin material is cheaper and easier to use than recycled, introducing mandates on recycled content could create the required end-market for recovered plastic.

For metals where recycling is economically viable, there is no need to incentivize recycled content through legislation or other mandates—the economics of the material already drive recycling. Additionally, by realizing the economic benefits, environmental savings are achieved simultaneously. No matter the application for which recycled metal is used, metal recycling reduces the need for an equal amount of more energy-intensive virgin metal.  $\oplus$ 

### **ECONOMICS OF RECYCLING**

While the materials used in certain products have low, and in some instances no, value at the end of their useful life, metals have high economic value. At the end of 2017, for example, aluminum can scrap from curbside collection in California was worth eight times more than PET, or four times as much on a per container basis (with glass having no economic value).

While metal packaging represents a small share of all household recyclables, it is a significant income for recyclers. In the U.S., for example, aluminum packaging is estimated to be about 1 percent of the recyclable waste stream of households by weight while representing 17 percent of the value. Metals are subsidizing packaging recycling systems, in particular the collection and recycling of materials with little or no economic value.

In many parts of the world, sorting technologies and their deployment did not keep up with the pace of change of the recycling mix, increased contamination and municipal recycling system modifications,

which is one reason why organizations involved in sorting and recycling are facing economic constraints today. Now is the time to discuss what is actually recyclable, and what we as society and governments can afford to recycle.

### **TOWARD 100% RECYCLING RATES**

A recent study confirmed that beverage cans have, by far, the highest global recycling rate of all common beverage packaging substrates (69 percent). Beverage can recycling rates are at or above 90 percent in several developed markets such as Belgium and Germany, as well as in developing markets, such as Brazil, where no formal packaging collection and recycling schemes yet exist.

We believe that society and industry at large should aim for recycling rates close to 100 percent for all products. With that goal in mind, all involved parties should collectively solve product design issues, implement effective circular economy policies, and enhance collection and recycling systems.

**BUSINESSES ARE STARTING** TO DEVELOP AMBITIOUS SUSTAINABILITY TARGETS **AROUND MATERIALS** MANAGEMENT—AND WITH THEIR INNATE INNOVATION AND RESOURCEFULNESS, THERE IS A NEW MOMENTUM IN DEVELOPING SOLUTIONS. WE NEED TO DO MORE. HOWEVER, TO TURN THIS MOMENTUM INTO TANGIBLE, ON-THE-GROUND RESULTS.



#### 2017 COLLECTION & RECYCLING PROJECT HIGHLIGHTS

## NORTH & CENTRAL AMERICA

The Recycling Partnership's mission is to educate, inspire and empower stakeholders to strategically strengthen recycling in the U.S. Its broad spectrum of allied partners focus on driving quantity in the recycled materials stream. The partnership has reached more than 29 million households since 2014, supported more than 583 communities, delivered more than 400,000 new recycling carts, achieved 10-point reductions in targeted contamination rates, and diverted 68,000 additional tons of recycled materials. This equates to avoiding 164,000 metric tons of GHG emissions, while adding jobs in the respective

regions and building a pipeline of recovered materials for various industries.

In 2017, The Recycling Partnership worked with the City of Denver, which is close to Ball's headquarters. Denver's residential recycling program is already outperforming the national average in terms of quality of material collected, but there is more material to be recovered. The goal of the three-month pilot was to find the best way to increase the amount of recyclables that residents put in their recycling carts, starting with a focus on aluminum and steel cans. An education program for 4,000 pilot households was implemented and on-the-ground recycling experts tagged trash carts with an information card that instructed residents to put cans in their recycling carts. Residents also received the message through mailers, signs and social media.

The pilot results were tremendous—the City of Denver saw a 25 percent increase in can recycling. As a result, Ball and other can makers are funding the city-wide roll-out (172,000 households) of the campaign in 2018, which will again include capture rate studies to quantify the impacts of the can-specific intervention. If the entire city could achieve the same results, an additional 225 metric tons of used beverage cans would be recovered, saving approximately 1,200 metric 

## **SOUTH AMERICA**

One particular focus area for Ball is promoting the importance of waste pickers (catadores) as environmental agents in Brazil. That is why we support their development through various initiatives. For example, the Re-Circus program focuses on promoting environmental

awareness and sustainability through

socio-cultural activities. In addition to attractions including theatre performances, clowns and jugglers, lectures, storytelling and various workshops, the event also includes collection points for recyclables that focus on leveraging waste sorting awareness.

In 2017, Ball organized two Re-Circus events, one in Recife and one in Salvador, reaching 7,200 people. During the event, Ball also supported the "Pimp my Cart"-initiative, refurbishing 85 waste pickers' carts and providing them with personal protective equipment kits to improve health and safety conditions.

## ALUMINUM BEVERAGE CAN RECYCLING RATES IN MAJOR MARKETS (latest available):















**ARGENTINA** 

**BRAZIL** 

## **EUROPE**

Every Can Counts (ECC) is working to encourage people to recycle beverage cans they use when they are away from home—for example, at work and other "on the go" locations. ECC campaigns associate fun activities with can recycling to interact with consumers, festivals goers and the ones who enjoy life in public spaces and want to make that extra sorting effort to save energy and valuable materials.

Originally developed in the U.K. to target the approximately 30 percent of drinks cans used outside the home, ECC has successfully established itself as the umbrella brand for promoting beverage can recycling away from home, with programs running in 14 countries by early 2018, from Austria

to Benelux, Ireland, Scotland, Greece and Serbia. Exemplary success stories from 2017 include:

- In Spain, Cada Lata Cuenta took part in urban culture festivals and a paragliding race across the Pyrenees, went to colorful Mediterranean beaches and in the trendy design street markets of Madrid. Among other events, ECC launched Pixelata 2.0 during the Farcama festival in October 2017; where visitors became street artists, sprayed the bottom of cans consumed at the festival and created a giant piece of pixel art made of 2,000 cans.
- In the U.K., 2,454 sites had signed up for ECC in early 2018, creating more than 13,630 can collection points. ECC and Drops Cycling Team teamed up at cycling races during the 2017 season. By racing against friends around an infinite recycling loop track, cycling enthusiasts were engaged and encouraged to recycle more.
- Since its inception in 2010, 2,217 participating sites across France and promotional activities at 747 events contributed to Chaque Canette Compte's success in reaching 14 million people and collecting 57 million cans that were consumed away from home. ⊕

# AFRICA, MIDDLE EAST & ASIA

In the United Arab Emirates, Ball partners with the green non-governmental organization
Emirates Environmental Group (EEG). In 2017, Ball became an official sponsor for EEG's Can Collection Drive. Under the motto "Small Actions, Big Impact," Ball employees volunteered to join the EEG's Can Collection Day in February and

October and supported a number of can collection activities.

Having collected almost 10 metric tons of aluminum cans in 2017, and more than 300 tons since the program launch in 1997, Ball and EEG plan to continue their close collaboration by organizing new can recycling campaigns and awareness raising sessions in schools throughout 2018. The partners have also kicked off a waste recycling awareness campaign across selected schools in the Emirates and placed beverage can recycling bins on their grounds. ⊕

## ALUMINUM BEVERAGE CAN RECYCLING RATES IN MAJOR MARKETS (latest available):

















EUROPE (EU-28 AVG.)

FRANCE

ITALY

UNITED KINGDOM

EGYPT

INDIA

SAUDI ARABIA

We support policies which acknowledge that different substrates and combinations provide different enablers for a circular economy in terms of economic value, recyclability, avoidance of downcycling and real recycling rates. Products that perform well in this regard already contribute to the economic health of regional recycling systems. Products that do not yet qualify as circular economy enablers should contribute their fair share to make the system equitable and sustainable.

All stakeholders involved in packaging collection and recycling, including material and packaging suppliers, consumer brands, local governments, waste haulers and recyclers, have a specific interest and, therefore, a role in helping improve recycling rates. That is why we utilize multi-stakeholder partnerships to enhance packaging collection and recycling.  $\oplus$ 

# 18,300 EMPLOYEES LIVING THE CAN LIFE

On our journey to position the can as the most sustainable package in the beverage, food and aerosol supply chains, every Ball employee plays an important role in bringing this vision to life. We have considered ourselves ambassadors for our products for many years. For example, through employee donations and grants by the Ball Foundation, we provided more than \$550,000 to recycling-related projects around the world in 2017. In addition, U.S. employees logged more than 400 hours of volunteer time for cleanups and educational programs.

In 2017, we rolled out a Ball-wide campaign called "Live the Can Life" to inspire employees to take additional steps and proactively promote the economic, environmental and social benefits of cans. The campaign includes:

- Key facts to help our employees talk with family and friends about the can's incredible sustainability story
- Education and advocacy information about recycling in every region where we operate
- Ways our employees can get involved in promoting can use and can recycling





One aspect of Live the Can Life is converting all Ball facilities and events into "can zones," welcoming single-serve aluminum and steel cans and avoiding other substrates at our facilities or Ballsponsored events.

In early 2018, we also launched the Ball Recycling Can Challenge. By mobilizing our employee base at all of our facilities around the world and engaging them in local can recycling initiatives, we strive to increase recycling rates, raise awareness about the infinite recyclability of metal packaging and create a meaningful impact in the communities where we operate.

Through this competition, our facilities can gain financial support for their internal and external can recycling programs. By reaching out to, and working with, local community organizations and schools to promote recycling, and focusing efforts on capturing additional cans that would otherwise not have been collected, we create net economic, environmental and social gains.

### **OPTIMIZING WASTE STREAMS** IN OUR PLANTS

Circularity also plays an important role in our manufacturing processes. Material use and waste volumes are important yardsticks in evaluating the efficiency of our processes. Reducing spoilage and recycling all metal production scrap are the most obvious ways that Ball can conserve resources and generate additional revenue. We focus on systematically reducing the amount of waste generated, increasing recycling rates and eliminating waste sent to landfills.



All of the metal scrap generated in our manufacturing is sent back to our suppliers and remelted so it can be reused in new metal applications. The remaining waste streams totaled 72,683 metric tons globally in 2017, 4 percent less than the total in 2016 and 17 percent less than in 2016 when compared per EVA® dollar generated. We continue to educate our employees about the benefits of recycling, provide a convenient recycling infrastructure in our facilities and cultivate a conservation mindset. While 63 percent of the total waste generated was reused or recycled in 2017, only 13 percent was sent to landfills. Thirty-nine of our 88 packaging manufacturing plants worldwide achieved zero waste to landfill status by year-end 2017.  $\oplus$ 

# CLIMATE CHANGE

# BALL AEROSPACE

INNOVATIVE SPACE SYSTEMS THAT SUPPORT ACTIONABLE ENVIRONMENTAL INTELLIGENCE

Climate change is a top concern around the world, and understanding weather and environmental impacts is critical. Ball Aerospace helps monitor key atmospheric constituents such as ash, smoke and aerosols with long-term effects to life on Earth, including the stratospheric ozone layer, which acts as a shield that protects us from the sun's harmful radiation.

Ball supports the U.S. government's obligation to monitor stratospheric ozone depletion under the 1987 Montreal Protocol—an international agreement to ensure there are no gaps in the protective layer of ozone that surrounds the Earth—with its Ozone Mapping and Profiler Suite (OMPS). This instrument measures how ozone concentration varies with altitude, while helping forecasters predict extreme wind events, track the migration of smoke, pollution, volcanic ash and meteor debris, and helps scientists better understand our dynamic planet.

Scientists know that stratospheric ozone has some effect on the world's climate, and the world's climate affects ozone distribution and concentration. However, these interactions are not well understood because the long-term data record of stratospheric ozone is relatively short, on a climate scale. That is why space-based measurements of ozone, from systems like OMPS, are so critical to continuing the global data record of ozone to help us better understand the processes that impact our climate.  $\oplus$ 







### **OVERVIEW OF BALL'S CARBON FOOTPRINT**

In 2017, Ball emitted 1.4 million metric tons of greenhouse gas (GHG) emissions—directly by burning fossil fuels such as natural gas and diesel on site (Scope 1), and indirectly by consuming purchased electricity, heat or steam generated off site (Scope 2). Compared to 2016, Ball reduced the absolute amount of these GHG emissions by 2 percent.

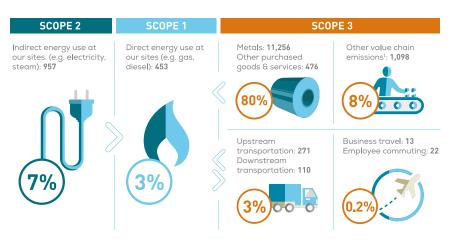
In addition, we caused 13.2 million metric tons of indirect GHG emissions in 2017 (Scope 3). These emissions occurred in our value chain, including both upstream and downstream, from sources not owned or directly controlled by Ball, but related to our activities. Eighty-five percent of these emissions stem from the metals we purchased.

Ensuring our stakeholders understand our commitments and how we contribute to our customers' sustainability targets requires a high level of transparency of our sustainability performance, including organizational and product carbon footprints. To ensure the accuracy and reliability of our data, we engaged ERM Certification and Verification Services to provide limited assurance in relation to our 2017 GHG emissions (Scope 1, 2 and 3).  $\oplus$ 

### **TOTAL 2017**

# GHG EMISSIONS (SCOPE 1,2&3):

14.6 MILLION TONS CO₂e



<sup>&</sup>lt;sup>1</sup> Covers capital goods, fuel- and energy-related activities (not in scope 1+2), waste from our sites, processing of sold products, investments; end-of-life treatment of our products is accounted for under metals.

### TRANSITIONING TO A LOW CARBON ECONOMY

For 15 years, Ball has utilized a Carbon Intensity Index (CII) that is calculated based on the total GHG emissions (Scope 1 and 2) of each business in which we operate, normalized by a denominator specific to each business. The normalization factor is a weighted approach based on the differing intensities of production/sales in the base year. It accounts for overall production changes over the goal period, and for changes in production mix between the various business segments.

In the past, we committed to 10- and 5-year CII reduction targets (2002-2012 and 2010-2015), which were achieved on or ahead of time (2010, 2015). At the end of 2017, Ball had achieved a 23 percent reduction in our CII from a 2010 baseline. averaging a 3 percent reduction per year (see page 36 for detailed data).

To help tackle climate change, Ball set a bold new science-based greenhouse gas emission reduction target, in line with the level of decarbonization required to keep the average global temperature increase below 2 degrees Celsius compared to pre-industrial temperatures:

By 2030, we will reduce our absolute Scope 1 and 2 GHG emissions by 27 percent against a 2017 baseline. Per million dollars of value added, this equates to a 56 percent reduction of our carbon intensity over the same period.

In addition. Ball strives to reduce GHG emissions across the value chain-from mining, refining, smelting, casting and rolling, to Ball's manufacturing, logistics, and end-of-life recycling-per can produced by 25 percent over the same period. 🕀

At the time of this report's publication, we were in the process of submitting our target for approval by the Science Based Targets initiative.

We follow a three-pronged approach to achieve our targets:

- Increase efficiency: save energy and materials
- Grow renewables: purchase renewable energy
- Cut embedded carbon: work with partners to reduce upstream impacts

TOGETHER WITH BALL, THE WORLD'S I FADING BEVERAGE CAN MANUFACTURER AND STRATEGIC GLOBAL SUPPLIER TO AB INBEV, WE WILL WORK **CLOSELY TO FURTHER INCREASE** RECYCLING RATES FOR USED BEVERAGE CANS AROUND THE WORLD, PURSUE ACCELERATED CAN LIGHT-WEIGHTING, AND SEEK EFFICIENCIES IN LOGISTICS AND PRODUCTION THROUGHOUT **OUR JOINT VALUE CHAINS.** 



To successfully transition to a low carbon economy, position cans as the most sustainable package and achieve our Drive for 10 vision, we must provide an inclusive workplace and promote diversity to foster creativity and innovation. With different perspectives come different solutions to help our customers and our business succeed.

#### **SMART ENERGY USE**

By using energy more efficiently, we reduce our operating costs and GHG emissions. Every Ball plant commits to annual energy goals supported by detailed action plans. Real-time energy information systems provide higher visibility into our operations at the equipment level so we can better understand, manage, report on and benchmark the performance of energyconsuming processes. At year-end 2017, 22 plants had comprehensive energy monitoring systems in place and we plan to add them in all global beverage plants by 2021.

To leverage our engineering talent around the world, our Global Beverage Packaging business created a global engineering organization in 2017. The new team is developing a platform and processes to identify and exchange best practices

focused on global operational metrics and achieving our sustainability goals.

Our Global Beverage Packaging business accounted for 85 percent of our total energy consumption of 4.5 million megawatt hours in 2017. Measured per unit of production, energy efficiency in this business has improved 3 percent since 2015 (see page 36 for detailed data). Opposing trends such as increasing varieties of can sizes, shapes and labels, resulting shorter production runs, line or plant curtailments, and new line startups, can offset progress toward our energy efficiency goals. To manage these challenges effectively, we continuously invest in our businesses. In 2016/2017, we invested \$11 million in energy efficiency measures. These projects are expected to deliver electricity savings of approximately 34 million kilowatt hours, and natural gas savings of 4 million kilowatt hours, resulting in 9,900 metric tons less of GHG emissions.

From employee engagement to machinery and equipment, heating and cooling, heat recovery, lighting and energy management, we focus on various energy-saving opportunities. The majority of our energy consumption comes from air compressors and ovens in our plants. In a beverage can

plant, air compressors consume between 20 and 30 percent of the electricity. We conduct audits of our compressed air systems and optimize performance by reducing system pressure, minimizing wasteful air use and leaks, and decreasing manufacturing equipment demand. We continued to install more efficient compressors and connected additional equipment to low-pressure systems during the reporting period. At the end of 2017, 55 percent of our beverage can plants operated dual-air systems that supply equipment with either high- or low-pressure air. Compared to traditional systems that rely only on high pressure, low pressure compressed air is 22 percent more energy efficient than high pressure air, and also results in less energy loss through artificial demand.

Within our operations, ovens are used to evaporate water from cans after being washed and to cure external and internal coatings. Ovens account for up to 75 percent of a beverage can plant's natural gas usage and up to 20 percent of its electricity usage. Through oven audits, low-cost optimization projects, and increased employee awareness of oven energy use and associated costs, we have realized natural gas efficiency gains

in our can businesses of 9 percent between 2012 and 2017.

During the reporting period, lighting continued to be a priority for our energy engineers. While it is crucial to provide proper lighting to keep our employees safe and allow them to effectively execute their jobs, lights do not need to be continually at full power. Every Ball plant changed some lighting to LED and several underwent complete conversions. We include adaptive lighting control options to further increase efficiency by matching the light levels to occupancy and daylight availability. Compared to conventional lighting, a completely converted LED plant with both lights and respective controls saves about 75 percent lighting electricity, with 55 percent of this savings from the LED and 45 percent from the controls. In addition to LED lighting, we are installing skylights and additional windows in some of our facilities to better utilize daylight.

Line control optimization provides another opportunity for efficiency gains. When production stops for short periods of time, for example during a label change, not all equipment needs full power. By installing variable frequency drives (VFDs), we slow or shut down certain systems to realize energy savings. By installing VFDs in 11 of our South American plants during 2017,

we realize annual electricity savings of approximately 5 million kilowatt hours, equivalent to 890 metric tons of GHG emissions.

#### STAR: NEXT GENERATION CANS

Weight optimization of our cans contributes significantly to reducing our carbon footprint. The less metal we use per container, the smaller the amount of embedded carbon. We intend to make the lightest possible metal containers while meeting our customers' performance requirements. Weight optimization is also a key contributor to our customers' value chain carbon footprint reduction efforts.

Weight optimization saves significant metal, costs, energy and emissions when multiplied by the more than 100 billion cans Ball produces each year. Through lightweighting, we reduced aluminum use in our beverage and aluminum aerosol packaging businesses by 7,700 metric tons in 2017, which equates to saving 58,000 metric tons of GHG emissions, or the emissions of 12,400 U.S. passenger vehicles per year.

In 2017, we launched STARcan, a next generation beverage can, which leverages technology and our weight optimization know-how. Initially available in Europe on 33- and 50-centiliter cans, STARcan is Ball's most metal-efficient can.

Together with our customers we can jointly drive towards a new standard of performance and the achievement of key sustainability objectives. If we were to switch our entire production volume of 33-centiliter and 12-ounce standard cans to the STAR format with a weight well below 10 grams, we would save approximately 30,000 metric tons of metal, or the equivalent to nearly 200,000 metric tons of GHG emissions. We plan to roll out the STARcan in other sizes around the world in the future as well. ⊕

### A NEW ERA FOR RENEWABLES

By year-end 2017, we installed three 1.5-megawatt windmills at our Findlay, Ohio plant and purchased green electricity at two European sites. The GHG emissions saved through these projects equals more than 25,500 metric tons. Since January 2018, we also converted one of our Scandinavian plants to biogas. In addition to delivering on emission reduction goals and showing leadership on climate change, green power can also help manage fluctuating energy costs, create jobs in local economies, improve reputation and provide energy security.

Building on the positive initial experiences with small-scale renewable energy, Ball joined the Rocky Mountain Institute's

# SUSTAINABLE GREENFIELD PLANTS

Throughout 2017, Ball teams were building greenfield plants in Goodyear, Arizona (U.S.) and near Madrid, Spain. From the beginning, the vision for both facilities was to make them state-of-the-art, sustainable beverage can manufacturing plants.

In Goodyear, Ball implemented a new lighting concept. Next to plant-wide LED lights with adaptive controls, we installed 210 prismatic skylights and additional windows, allowing us to turn off most high bay lights during the day. From ovens to compressed air and vacuum pumps, all equipment was engineered for adaptive demand, minimizing energy and water consumption during downtimes. Due to the hot Arizona climate, we implemented multiple measures to minimize the building's internal heat gain, including the installation of water-cooled compressors.

In Spain, we paid special attention to the design of the compressed air systems: high- and low-pressure compressed air systems, fed by energy efficient compressors with filtration and air leader control systems will simultaneously reduce energy usage and maintenance costs. This plant will be one of the most sustainable can plants with heat recovery, adaptive control systems for vacuum and compressed air, plant-wide LED lighting, ultra-efficient burners on all ovens that save 16 percent of the natural gas compared to standard ovens, and will manufacture the lightest 33-centiliter can body in our European system.



Contributing to the UN Sustainable Development Goals:









Business Renewables Center (BRC) in 2017. The BRC platform streamlines and accelerates corporate purchasing of off-site, large-scale wind and solar energy, making it easier for us to enter the renewable energy market by learning from the first movers.

As a next step on our renewables journey, we established a cross-functional renewables team at Ball and engaged a third-party renewable energy consultant in 2017 to explore opportunities to cover a significant portion of our North American electricity load with renewables. We are focusing on North America first because 52 percent of our 2017 global electricity load and 62 percent of our Scope 2 GHG emissions come from North America, and due to the favorable energy market conditions in that region. We expect to conclude the project selection process in the second half of 2018 and then explore further opportunities in Europe and other regions where it makes economic and environmental sense.

### **GHG EMISSIONS ALONG** THE VALUE CHAIN

Detailed insights into our Scope 3 emissions allow us to identify relevant risks and opportunities associated with

our value chain emissions, develop reduction plans and engage value chain partners in meaningful mitigation actions. Ball evaluated Scope 3 emissions from 15 categories covering upstream emissions, like those embedded in the products and services we purchase, and downstream emissions, for example from shipping our products to our customers.

While we continuously seek to optimize logistics, generate less waste and reduce business travel-which will reduce our Scope 3 emissions—we focus our efforts on the carbon embedded in the metals we purchase. Of our 2017 Scope 3 emissions. 11.3 million metric tons are related to metals, with 93 percent stemming from aluminum and 7 percent from tinplate steel.

Primary aluminum produced in Europe generated 21 percent fewer GHG emissions per ton produced in 2015 compared to 2010. The rolling-mill process also became 25 percent less carbon intensive during that same period. In North America, the carbon footprint of primary aluminum production was reduced by 37 percent per ton of aluminum between 1995 and 2010-with 75 percent of the electricity required for aluminum production coming from hydropower.

WE REDUCED OUR CARBON DIOXIDE EQUIVALENT EMISSIONS **INTENSITY BY 46.5 PERCENT BETWEEN THE 2005 BASELINE** AND 2017. IN 2018, ALCOA AND RIO TINTO ANNOUNCED **ELYSIS—A REVOLUTIONARY** PROCESS TO MAKE ALUMINUM THAT PRODUCES OXYGEN AND ELIMINATES ALL DIRECT GREENHOUSE GAS EMISSIONS FROM THE TRADITIONAL SMELTING PROCESS.





To continue this successful track record and achieve additional substantial GHG emission reductions, the metal industry will need to maintain its focus on technology transfer, cross-industry collaboration and breakthrough technologies. To support these efforts, we partner with our strategic metal suppliers and exchange perspectives around how to further reduce the embedded carbon of metals (pages 28-33).

Recycling metals reduces the need to utilize more energy-intensive virgin metal. Recycling aluminum saves 95 percent of the energy needed for primary production, and an equivalent amount of GHG emissions. We estimate that more than half of the aluminum Ball consumed in 2017 was made from recycled material. However, we focus all our efforts on increasing the recycling rates of our products-because only a product that is recycled at the end of its useful life enables climate protection and a circular economy (pages 4-13).

## **EXPANDING DISASTER** RELIEF SUPPORT

Ball and its employees are continuing their strong support of local communities worldwide through a range of activities

that are tied to mitigating the causes and consequences of climate change to increase recycling rates, prepare for and respond to disasters, and support Science, Technology, Engineering and Math (STEM) education.  $\oplus$ 

Global support in 2017 included more than 38.000 volunteer hours and \$5 million, plus in-kind product donations for disaster relief. In partnership with our customers Ball also donated millions of cans for drinking water that assisted massive disaster relief efforts in Mexico. Puerto Rico and in several U.S. states

When disaster threatens or strikes, the International Federation of Red Cross and Red Crescent Societies provides shelter, food, and physical and emotional health services to address basic human needs and assist individuals and families to resume independence and normal daily activities. The Ball Foundation has supported the American Red Cross since 2012 and Ball launched a global partnership with the International Federation of Red Cross and Red Crescent Societies in 2017 to help fund disaster relief all over the world.

As a member of the Red Cross' Disaster Responder Program, Ball pledges

donations on an ongoing basis in advance of major disasters to help the Red Cross ensure an immediate response to meet the needs of those affected by disasters of all sizes, at no cost and regardless of income. In December 2017, for example, a series of wildfires ignited across Southern California (pages 14-15) and led to the evacuation of more than 230,000 people and significant property losses. The fires, which were exacerbated by large amounts of dry vegetation due to an unusually dry rainy season, burned more than 1,200 square kilometers and caused hazardous air conditions and power outages. Leveraging cash and in-kind support from employees and The Ball Foundation, Ball partnered with the American Red Cross to help support work of the disaster responders, making sure those affected had a safe place to stay, food to eat and a shoulder to lean on.



# WATER STEWARDSHIP

# BALL AEROSPACE

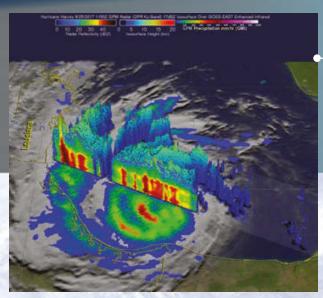
INNOVATIVE SPACE SYSTEMS THAT SUPPORT ACTIONABLE ENVIRONMENTAL INTELLIGENCE

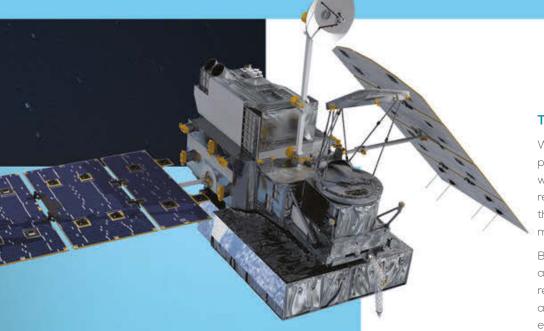
Freshwater makes up less than 1 percent of the Earth's total water. Scientists from around the world are studying how precipitation, climate and weather affect the availability of our water resources, especially in the context of climate change.

The Global Precipitation Measurement (GPM) mission, a joint effort between NASA and the Japan Aerospace Exploration Agency (JAXA), is improving understanding of precipitation patterns around the world. GPM provides data about Earth's water and energy cycles, improves forecasting of events that cause natural disasters, and extends current capabilities for using highly accurate precipitation data.

Ball Aerospace designed, developed and fabricated the GPM Microwave Imager (GMI). The highly accurate GMI instrument now serves as a reference standard for calibrating precipitation

measurements in NASA's GPM constellation. GMI's high frequency channels measure small particles of ice, snow and rain while the JAXA-built Dual-Frequency Precipitation Radar (DPR) instrument gives a 3D view of a column of precipitation. Together, these instruments give scientists an unprecedented view of small precipitation particles with a much higher degree of accuracy.  $\oplus$ 





On August 25, 2017, GPM provided a three-dimensional view of Hurricane Harvey's heavy rainfall. GMI peered through dense storm clouds to reveal the location of intense rainfall bands near the center of the hurricane. GMI data indicated that powerful storms in the hurricane were dropping rain at a rate of more than 2.1 inches per hour. (Credits: NASA/JAXA)

#### THE WATER-ENERGY-CLIMATE NEXUS

Water is one of our planet's most important natural resources. A growing world population with greater demands for water-intensive food and energy, combined with changing ecosystems and severe pollution of water resources in some regions, can pose significant water supply constraints. At Ball, we recognize that water-related challenges can pose major business risks, yet, when well managed, they provide opportunities for improvement and innovation.

Because access to fresh water is vital to consumers, our customers, suppliers and Ball, we hold ourselves accountable for conserving and protecting water resources in our manufacturing plants, the communities where we operate, and along our entire value chain. As our company continues to transform, we are evaluating our resource and operational footprint and the associated risk factors to establish a Global Water Framework. This framework will formalize our global water stewardship efforts and outline a clear strategy for further engagement and conservation.

#### ORGANIZATIONAL WATER FOOTPRINT

Our number one measure to protect water resources is using as little as possible for each product we produce. In 2017, Ball used 9.7 million cubic meters of water worldwide, primarily for forming, washing, rinsing and cooling. Our global beverage packaging business, which accounted for 94 percent of the total, improved water efficiency by 8 percent during 2016 and 2017. We continue implementing projects to better understand and manage regional and local water impacts (see page 36 for detailed data).  $\oplus$ 

Ball's most water-intensive process is washing our cans during manufacturing. On average, washers account for about two-thirds of the total water consumption in a beverage can plant. To create efficiencies, Ball's washer process occurs in counter-current cascades to reuse water at different washing stages. More than 90 percent of the water we use in our can plants returns to the watershed after treatment, with the remainder primarily evaporating.

Our beverage packaging business implemented a global operating model in 2017 to leverage our scale and to strategically utilize our resources and assets. At that time, we created a global operations and engineering function, and formed a washer team comprised of water engineers from Ball's five regions. The team works collaboratively with the aim of helping to deliver our water reduction targets through benchmarking, best practice sharing and process innovation. Additionally, the global innovation team is challenging conventional thinking and examining breakthrough technologies that will allow us to change how and how much water we use in our operations.

Multiple plants have appointed local water champions who analyze water data, control water-consuming equipment and drive enhancements. We conducted an extensive water usage survey during the reporting period to evaluate the water stewardship culture that these champions foster, actual data and process controls. The survey helped us determine best practices and key success factors that reduce water usage. Based on the learnings, we defined criteria for future washer rebuilds and shared successes with the global team.

To better understand, monitor and improve our water usage, Ball continues to invest in water monitoring equipment such as flow meters. In fact, the majority of washers in our North and South American, and our European beverage can businesses are equipped with electronic water meters. Enhanced water monitoring increases the visibility of water consumption, fosters employee awareness and enables us to better understand and optimize our systems. We are also mapping interdependencies between our water and energy usage. For example, more energy efficient compressors generate less waste heat resulting in less water evaporation in cooling towers.

We continue to enhance wastewater treatment technologies, evaluate advanced treatment options for effluents and install pilot systems to enable water reuse. For example, in one of our European plants, we are piloting a Zero Liquid Discharge (ZLD) system, an industrial wastewater treatment system developed to completely eliminate all liquid discharge. The main purpose of ZLD is to recover treated water so the washers can reuse it continuously, subsequently reducing water usage by as much as 90 percent.

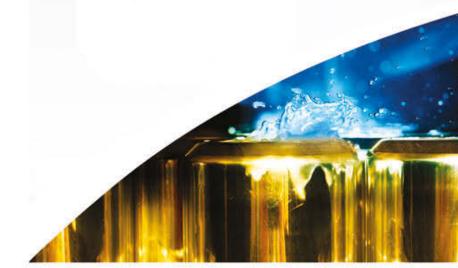
**OUR GLOBAL TEAM OF WATER** ENGINEERS IS LEADING EXCITING **TECHNOLOGY TRIALS AND WE REVIEW AND COMPARE IMPACTS** AND REMAINING CHALLENGES OF THESE TECHNOLOGIES AND THEIR APPLICABILITY ACROSS OUR PLANT PORTFOLIO ON A REGULAR BASIS.



**HUMBERTO DARLIM** 

Chemical Process Manager Ball Beverage Packaging Europe

Full statement available online



During 2017, 49 percent of our 88 manufacturing plants optimized water efficiency, with 16 percent improving by 10 percent or more, through a variety of projects: flow meters, training and building awareness, washer audits, process water pre-treatment, minimizing washer drag-out volumes while optimizing counterflow efficiencies, installing new coalescers to better separate oil and water that can be repurposed, and developing models to determine contamination profiles based on various parameters such as can type and line speed. In our Vsevolozhsk, Russia, plant, we also installed a new rainwater harvesting system that contributes to the plant successfully cutting their normalized water usage in half within two years.



Plants that improved water efficiency in 2017 by 5% or more

#### WATER IN OUR VALUE CHAIN

Water is crucial in aluminum production and can manufacturing. It is also a primary ingredient in our customers' products, from growing crops such as barley, hops and sugarcane, to the actual drinks manufacturing, which is why we maintain an open dialogue with our suppliers, customers and the communities where we operate.

According to data by the International Aluminum Institute, about 16 cubic meters of fresh water and 11 cubic meters of sea water are consumed per metric ton of aluminum ingot produced. Water is used to process bauxite, manage dust emissions, generate hydroelectric power and for cooling. The rolling process consumes another 7 cubic meters of water on average. The environmental impacts associated with these uses vary significantly and must be evaluated in terms of their relative contribution to water scarcity in the respective region, as well as the extent to which water discharge differs from the intake as far as temperature, effluents and the total amount are concerned.

The same principles apply to the products that fill our cans. With beer, for example, water footprint studies indicate that one liter of beer produced in, and with a majority of agricultural ingredients from, the Czech Republic has a total water footprint of 45 liters. In South Africa, it is 155 liters. The difference is driven primarily by the evaporative demand for crops due to meteorological conditions and the reliance on irrigated crops in some regions. Per 12-ounce can, metal production uses approximately 12 times more water (1 liter) compared to can manufacturing (86 milliliters). The combined water footprint of these processes is 14 times smaller than the footprint of the beer the can containswhen considering that ingredients come from a region with favorable crop water consumption.

### **UNDERSTANDING** WATER-RELATED RISKS

Water scarcity, quality and discharge are operational and reputational risks for Ball and our value chain partners. Flooding is an example of our physical water-related risks (see case study). Water scarcity caused by drought or user over-allocation, and pollution that renders water unfit for use can also impact us and others. We continue to develop a deeper and more dynamic understanding of the water context in which we operate. For example, we assess the degree of water stress in the river basins where we have manufacturing plants.

Since 2013, we have utilized tools to map our facilities against watershed stress areas. As of year-end 2017, 10.2 percent of Ball's packaging manufacturing locations were located in water-stressed areas (less than 1,700 cubic meters of renewable water per person per year). We continue to focus on reducing water usage in plants where overall water-related risks are already high or are expected to increase over the next decade. We also use these insights when planning new sites or introducing more water-intensive products at existing ones.

For example, the two greenfield plants Ball is building in Goodyear, Arizona, and near Madrid, Spain, are located in regions with high baseline water stress. In Goodyear,

we added an extra heat exchanger to the cooling tower, which increases the water efficiency of this process by 25 percent over the standard, saving 55,000 cubic meters of fresh water per year in addition to the water saved through outdoor xeriscaping, landscaping that eliminates the need for supplemental irrigation water.

#### SUPPORTING DISASTER RELIEF

The Ball Foundation provides more than \$500,000 in funding annually to the Disaster Relief Emergency Fund of the International Federation of Red Cross and Red Crescent Societies (IFRC). the world's largest humanitarian network, to expand its global support of disaster preparedness and relief efforts. Our commitment builds on Ball's long-time support of the American Red Cross, and will help IFRC and its member societies to more quickly deliver humanitarian aid to people in need. It supports the work of 190 National Red Cross and Red Crescent Societies, including the American Red Cross, empowered by a network of more than 17 million volunteers worldwide.

In 2016 and 2017, we supported exemplary water-related disaster relief efforts. including: Hurricane Matthew, which caused severe flooding in the southeastern U.S.; devastating wildfires in Tennessee and Southern California (pages 14-15); and Hurricane Harvey, which hit the U.S. Gulf Coast in August 2017.

Following heavy rain in June and July 2017, the Indian state of Gujarat, where Ball has a manufacturing plant, also was affected by severe flooding. The local Ball team came together to support flood victims and supplied used and new clothing, household items and cash donations to support rebuilding in the area. Employees of our Ahmedabad plant also put together a personal hygiene awareness event for a nearby rural village, visited the village to host health awareness talks, and were accompanied by doctors who offered health checks to the residents.

# RALLYING FOR DISASTER RELIEF

Hurricane Harvey (pages 22-23) is one of the two most costly tropical cyclones on record, inflicting at least \$125 billion in damage. Over a four-day period, many areas received more than 1 meter of rain as the system slowly meandered over eastern Texas and adjacent waters, causing unprecedented flooding. The floods displaced more than 30,000 people and prompted more than 17,000 rescues.

The hurricane impacted some of our employees' homes.

Because flooded roadways made travel dangerous, we temporarily closed our Conroe, Texas manufacturing plant in the interest of safety. Several customers also experienced downtime at their filling plants for a few days, leading to demand and supply challenges for us. More significantly, the freight costs went up in the floods' aftermath because trucks were needed during the rebuilding of the affected areas.

Thanks to Ball's support of the Disaster Responder program,
American Red Cross volunteers and workers were on the ground
in Texas, preparing strategic shelter and warehouse locations,
and stocking food, cots, blankets and other relief supplies to help
affected people. Ball employees also donated through Ball's
matching gifts program, raising more than \$60,000 to help with
Hurricane Harvey relief efforts. In addition, in partnership with
several of our customers such as MillerCoors and Oskar Blues,
Ball donated more than a million cans of fresh canned drinking
water to relief efforts during 2017.



Contributing to the UN Sustainable Development Goals:









# RESPONSIBLE SOURCING

# BALL AEROSPACE

INNOVATIVE SPACE SYSTEMS THAT SUPPORT ACTIONABLE ENVIRONMENTAL INTELLIGENCE

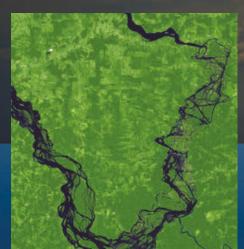
For more than 45 years, Landsat Earth-observing satellite missions have gathered highly calibrated multispectral imagery from space, helping scientists understand our ever-changing planet. This constant monitoring of land changes allows us to see the impact of human activity and natural events and to identify corrective actions where necessary.

Ball Aerospace significantly advanced Landsat sensor technology with the Operational Land Imager (OLI), which enhanced the satellite program with a more reliable design and overall

performance improvements while enabling objective comparisons with the entire Landsat data record.

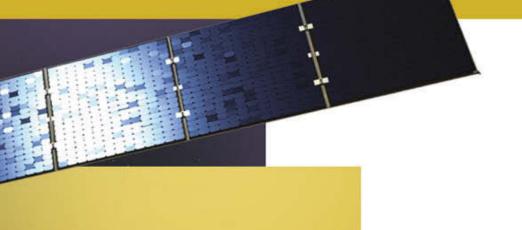
OLI's sensors image the entire Earth every
16 days, enabling decision makers to responsibly
source resources and understand our impact on
the planet. From assessing forest change to monitoring
the environmental impact of mining, Landsat technology
encourages responsible sourcing. 

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In a span of six years, Landsat captures the changing course of the Xingu River and surrounding landscape in Northern Brazil. Construction began in 2011, and the complex began producing hydropower in 2016. When fully operational in 2018, it will have a maximum capacity of 11 gigawatts and will be the world's fourth largest hydropower plant. It will also supply electricity to the country's thriving aluminum sector, among many other users. Landsat's infrared bands distinguish water and land. This band combination displays the rain forest in green and deforestation in faded green.



#### SUSTAINABLE SUPPLY CHAINS FOR FUTURE GROWTH

Around the world, more than 18,000 companies supply goods and services to Ball. Roughly 93 percent of our supply chain partners globally support our packaging businesses. The top 100 suppliers represent the majority of our spend, in primarily three categories: aluminum, steel and other direct materials (ODM) such as inks and coatings. The supply chains for these categories are complex, global and diverse.

From resource scarcity to human rights and environmental degradation, the sustainability issues impacting our supply chains—as well as potential risks and opportunities—continue to evolve.

#### STRATEGIC AND RESPONSIBLE SOURCING

Working with our suppliers is an important aspect of our product stewardship efforts. We utilize strategic, rather than tactical, sourcing and the long-lasting partnerships we have developed as part of our strategic sourcing process enable us to discuss our sustainability-related expectations with suppliers, and to collaborate successfully on new manufacturing technologies, product innovations, recycling programs and transparency.

Most metal and some ODM suppliers are significantly larger than Ball, and their business activities can have major environmental, social and governance impacts. Based on extensive research, including life cycle assessments in which Ball has been involved since the mid-1990s, we know that the majority of metal packaging's impacts occur in metal production. Mining, for example, is associated with safety, biodiversity and human rights issues. Metal smelting, casting and rolling require large amounts of energy, which results in considerable amounts of greenhouse gas emissions.

Due to the scale of their impact and risk exposure, many of our strategic suppliers established formal sustainability programs prior to the year 2000. Eighty-five percent of our metal suppliers, for example, publish environmental and social metrics as part of their sustainability reporting.

In line with our global sourcing strategy, our responsible sourcing efforts help us to:

- Utilize lean supply chains that support our Drive for 10 and sustainability strategies
- Enhance our products' sustainability profile
- Create shared value and reduce risk for our business and relevant stakeholders, including customers, suppliers and shareholders
- Build sourcing solutions in line with stakeholder expectations

#### SUPPLIER COLLABORATION

Exchanging information and ideas on sustainability issues with our suppliers is critical to improve the performance of our products. To further optimize can weights, for example, we must collaborate with our metal suppliers to develop alloys that allow us to minimize container weight while maintaining package integrity. This exchange of ideas and capabilities creates opportunities for Ball and our supply chain partners to invest in research and development of lighter, yet structurally sound, containers and reduce our products' environmental footprint.

We align our efforts with business partners inside and outside of the packaging industry and with certain trade associations, including those of aluminum and steel producers. By encouraging this dialogue, we are able to deliver more sustainable products to our customers and consumers. We also engage in various cross-industry collaboration platforms such as the Aluminum Stewardship Initiative (page 33) to develop and implement sustainability standards, and to combine different stakeholders' resources and expertise to achieve common goals like increasing metal packaging recycling rates.

In 2013, we introduced our Responsible Sourcing Framework, a four-step approach that allows us to systematically evaluate and engage our suppliers:

# 1 CATEGORY SUSTAINABILITY PROFILES

Our Category Sustainability Profiles serve as a first filter and describe potential environmental, social and governance (ESG) related risks and opportunities for aluminum, steel and other direct materials (ODMs), particularly inks and coatings. We generate the profiles based on industry standards such as the Standard for Responsible Mining, with life cycle





assessment experience, and media and stakeholder monitoring. They list high-risk countries because certain ESG risks, like human rights abuses or climate change impacts, tend to be more prevalent in certain regions.

### 2 ONBOARDING **REQUIREMENTS**

With our Onboarding Requirements, we communicate and align the way our suppliers consider ESG aspects, and aim to receive written confirmation that responsible business practices are maintained throughout our supply chain and that our direct suppliers abide by all applicable laws and regulations.

For example, we require our suppliers to comply with Ball's Supplier Guiding Principles. The principles were developed with input from key customers, suppliers and socially responsible investment analysts, and require that our suppliers certify and demonstrate compliance with them. They cover employment practices, human rights, environment, health and safety, antitrust, bribery and corruption. Ball provides the principles to all suppliers and incorporates them as part of all new contractual relationships.

New contracts also include clauses on human trafficking. Ball's Conflict Minerals Policy includes information on how we support laws related to ending the violence and human rights violations in the mining of certain minerals in the Democratic Republic of the Congo and surrounding countries. Our annual Conflict Minerals Reports detail the due diligence we perform to determine the origins of tin used by our steel suppliers as required in Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. (+)

## 3 | SUPPLIER SUSTAINABILITY **PROFILES**

Supplier Sustainability Profiles of all critical metal and ODM suppliers are based on site-specific online self-assessments, which we began to roll out globally in 2017. The Sedex platform enables us to evaluate performance around labor rights, health and safety, the environment and business ethics. Management proficiency risk scores are combined with inherent risk scores based on country, products, sector profile and site functions. By mapping sites against a variety of risk indices and multiple indicators to populate a scorecard for each supplying site, we can identify and ultimately mitigate risk by engaging with the sites that need the most support within our supply chain.

In early 2018, we already had more than 50 percent of our metal and major ODM suppliers globally assessed through the platform and we will continue the roll-out of the Sedex platform to our metal and ODM suppliers during the year. By the end of June 2018, 35 percent were found to have overall low risk profiles with the remainder showcasing a medium overall risk. While almost all assessed suppliers showed good scores in terms of their own management systems and performance, several suppliers received higher inherent risk ratings due to the geographies in which they operate, and prevalent sustainability risks in that region. Some of these suppliers already granted us access to site-specific results of ethical audits.

### 41 CONTINUOUS **IMPROVEMENT**

If a supplier scores below expectations, we jointly develop a Continuous Improvement plan and we may recommend a social audit when there is no evidence for improved scores in the following calendar year. By developing and approving cooperative programs and timetables, both partners can be successful for the long term. Ball may terminate business relations if a supplier violates a fundamental aspect of our requirements and is unwilling to change.

Contributing to the UN Sustainable Development Goals:









# SUPPLIER COLLABORATION

Cross functional teams from Ball and aluminum supplier Novelis have worked together on an improvement project since 2017. The ultimate goals are to achieve excellent sustainable metal performance on our production lines and to build trust between the two partners by establishing effective communication and collaboration.

Joint process audits helped establish a common understanding of all processes from melting to rolling and can making. Novelis took primary data from our plants and related it to data from their rolling process, allowing the team to identify the origin of multiple problems and improvement opportunities. The application of the eight disciplines (8D) problem-solving model helped frame specific coil quality issues and enabled measurable improvements, including fewer cupper jams in our can body plants and eliminating stain defects in our end plants. The result is a reduction in the amount of metal we consume and fewer line stoppages, which increases employee safety as well as the energy and water efficiencies of our lines.

We also shared detailed performance data on coil and can quality characteristics, initiated a study on metal input and process variables, implemented a joint risk assessment, and ran trials of optimized metal. These steps benefit our downgauging program and ensure that Novelis can optimize their process for the targeted gauges, allowing Ball and its customers to further minimize the weight of their cans and associated environmental impacts.

WITH THE LAUNCH OF ASI'S **NEW STANDARDS IN 2017.** WHICH BALL HELPED TO **DEVELOP. OUR EXPECTATIONS** FOR THE COMPANY ARE TO EMBRACE THESE BEST PRACTICES AND ACHIEVE ITS GOAL OF WORKING WITH SUPPLIERS TO CERTIFY THE ENTIRE VALUE CHAIN ACCORDING TO THE **NEW STANDARDS.** 



**EMILY DWYER** ESG Equity Research Analyst Brown Advisory Full statement available online



Two percent of the aluminum produced annually around the world is used for packaging. From beverage cans to aluminum slugs and aerosol cans, Ball converted more than 1.7 million metric tons of aluminum in 2017. While aluminum offers many advantages such as light weight, high strength, impermeability and infinite recyclability, it also causes environmental, social and governance impacts.

To encourage and recognize responsible production, sourcing and stewardship of aluminum. Ball has been a member of the Aluminum Stewardship Initiative (ASI) since 2013. The ASI standards, launched in December 2017, were developed and designed to be applied throughout the aluminum value chain to enable producers and users of aluminum to demonstrate responsible production and sourcing practices. ASI provides independent assurance of performance, and reinforces and promotes consumer and stakeholder confidence in aluminum products.  $\oplus$ 

The ASI Performance Standard defines environmental, social and governance principles and criteria to address

sustainability issues in the aluminum value chain. It covers various aspects, including material stewardship, energy and greenhouse gas emissions, biodiversity and labor rights. The ASI Chain of Custody Standard sets requirements for the creation of a Chain of Custody for CoC material, including ASI aluminum, which is produced and processed through the value chain into diverse downstream sectors.

ASI members include organizations from different sectors, including production and transformation, industrial users and civil society. Several of our suppliers and some customers, as well as the World Wildlife Fund for Nature (WWF), the International Union for Conservation of Nature (IUCN). and the Institute for Human Rights and Business (IHRB) are ASI members as of May 2018.

Since 2017. Ball has conducted ASI self assessments for two of its Global Beverage Packaging regions and we are committed to having an entity certified according to the ASI Performance Standard by the end of 2019. We are exploring opportunities with our suppliers to bring ASI-certified cans to market, and we are in conversations with various customers to understand their strategies around upstream responsible sourcing practices.

# SUSTAINABILITY MANAGEMENT

At Ball, we believe in our people, our culture and our ability to deliver value to our stakeholders. Like uncompromising integrity and customer focus, being sustainable is part of our Drive for 10 vision, which leverages Ball's strengths to achieve continued long-term success. 

We aspire to create a competitive advantage by making cans the most sustainable package in the beverage and aerosol value chains, and ensuring customers and consumers recognize the outstanding sustainability credentials of cans.

Our triple bottom-line approach to sustainability has evolved since it was formalized in 2006. After initially focusing on Operational Excellence, we broadened our scope to cover the entire life cycle of our products, and added Product Stewardship, Talent Management and Community Ambassadors to our set of four sustainability priorities. Our strategy is supported by several global policies, position statements, and tools for performance monitoring, continuous improvement and best-practice sharing. We also embedded sustainability into our strategic planning, and committed to mid- and long-term sustainability goals. We strive to put the right people, processes and partners in place to help us create long-term shared value and achieve our sustainability vision.

### SUSTAINABILITY GOALS

Governments around the world officially adopted the United Nations Sustainable Development Goals (SDGs) in 2015 to end poverty, protect the planet and ensure prosperity for all by 2030. At Ball, we focus our efforts on four SDGs where we can have the highest impact: Responsible Consumption and Production, Climate Action, Clean Water and Sanitation, and Partnerships for the Goals.

We made good progress toward the 10 ambitious 2020 goals we first published in 2016 (see next page). The goals are backed by detailed, shorter-term goals in each business, region and at the plant-level.

### ONGOING STAKEHOLDER **DIALOGUE**

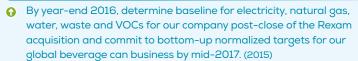
Engaging our stakeholders is essential to how we do business. By listening to their ideas and needs, we better understand their expectations and can identify emerging opportunities and challenges in our markets. In turn, stakeholders can

IN OUR VIEW, BALL CORPORATION'S HOLISTIC APPROACH TO SUSTAINABILITY. **GROUNDED IN MANAGEMENT'S EXPLICIT CONSIDERATION** OF VARIOUS STAKEHOLDERS. INCLUDING ITS CUSTOMERS. **EMPLOYEES, COMMUNITIES** AND THE ENVIRONMENT. HAS BEEN A KEY DRIVER OF **GROWTH AND PROFITABILITY** FOR ITS INVESTORS. DAN CROWE, CFA Partner, Portfolio Manager William Blair Full statement available online

#### **BALL'S 2020 SUSTAINABILITY GOALS**

- Cut the carbon footprint of our beverage cans by 25% (considering goals on multiple issues, including weight optimization, energy in can making and metal production, recycling rates). (baseline 2010)
- Achieve industry recycling rates targets for metal packaging products in developed markets, and work toward measurement and improvement of metal packaging recycling in emerging markets.
- O Deliver three major aerospace programs that will provide significant benefits in areas such as climate change, weather, drought, pollution and biodiversity measurements.





- 1 Improve energy efficiency by 5% (2016)
- Reduce total waste generation per unit of production by 6% (2016)
- O Determine a science-based greenhouse gas emission reduction target by mid-2018. (2015)
- Enhance overall employee engagement and talent retention by assessing and continuously improving the processes that support the way we acquire, onboard, develop and move talent at Ball.
- Roll out diversity and inclusion tools globally, expand our Ball Resource Groups company-wide, and meet the criteria required to secure a place on the Diversity, Inc. Top 50 Companies for Diversity.
- Global roll out of Community Ambassadors program.
- Establish 2030 global volunteer goal that is aligned with the UN Sustainable Development Goals.





























deepen their understanding of Ball and

how we can work together to create

such as customers, employees, investors, suppliers, trade associations, governmental representatives, regulatory authorities and nongovernmental organizations. Because many of the sustainability challenges we encounter, such as water scarcity and packaging recycling, are too complex for one organization to tackle alone, we participate in several multi-stakeholder partnerships that allow us and others to bundle resources and expertise to develop effective solutions.

We conducted another materiality survey in early 2018, and nearly 500 stakeholders participated and provided their perspectives. While our four sustainability priorities have not changed, survey results help us fine-tune our approach and reporting.

### **OVERSIGHT**

Accountability for our sustainability performance is monitored at various levels of the organization. It is overseen by the Nominating/Corporate Governance Committee, a committee of Ball Corporation's board of directors chaired by a non-executive Ball board member.

Since 2009, Ball's Sustainability Steering Committee (SSC) ensures that sustainability is fully aligned with, and integrated into, our strategies, as well as balanced with stakeholder expectations. Composed of corporate and senior executives from our businesses, the SSC meets twice a year and steers the implementation of our sustainability strategy.

We utilize a global data monitoring system to assess the monthly sustainability performance against goals at the plant, as well as regional, business and corporate levels. This transparency informs decision making, helps prioritize projects and makes sustainability relevant for employees at all levels of the organization.

#### **RISK MANAGEMENT**

We systematically identify and assess risks in all of our businesses so we can develop management plans, including supply chain, commodity and currency volatility, human capital, financial risk and legislative action. Sustainability issues addressed within this framework include risks related to natural resources, climate change, water, human rights, and packaging and packaging waste regulations.



# DATA

We cover five calendar years in our sustainability reporting to enable stakeholders to perform trend analyses. An interactive charting tool on our website allows users to filter, analyze and display data on our environmental and safety performance.  $\oplus$ 

Environmental data covers all Ball sites globally, including owned and leased manufacturing facilities where we have operational control, major administrative offices, external warehouses and research and development facilities. The data was validated centrally and externally assured. Any differences discovered or reported at a later date are corrected retroactively. Because our company is constantly evolving (acquisitions, divestitures, new plant start-ups, closing of sites), the number of sites contributing data changes accordingly. Environmental metrics for all years shown include plants we acquired through the acquisition of Rexam PLC in June 2016 and exclude facilities we were required to divest. We also report progress as an intensity index which considers different normalization factors for different businesses. Detailed information about normalization factors and the external assurance statement are available online.

All social statistics represent year-end values and cover 100 percent of our employee base.

FINANCIAL DATA		2013	2014	2015	2016	2017	Change vs 2013
Net Sales	\$ in millions	8,468	8,570	7,997	9,061	10,983	30 %
Comparable Operating Earnings <sup>1</sup>	\$ in millions	874	920	801	976	1,220	40 %
Free Cash Flow <sup>1</sup>	\$ in millions	461	621	479	(412)	922	100 %
EVA dollars <sup>1,2</sup>	\$ in millions	149	191	181	199	240	61 %
Diluted earnings per share (comparable b	1.64	1.94	1.74	1.74	2.04	24 %	
Cash dividends per share <sup>3</sup>		0.26	0.26	0.26	0.26	0.365	40 %

<sup>1</sup> Non-U.S. GAAP measures should not be considered in isolation and should not be considered superior to, or a substitute for, financial measures calculated in accordance with U.S. GAAP. Further discussion of non-GAAP financial measures is available in Item 7 of the Annual Report on Form 10-K 2 Net operating earnings after tax less a capital charge of 9% after tax on average invested capital employed 3 Amounts in 2016, 2015, 2014 and 2013 have been retrospectively adjusted for the 2-for-1 stock split that was effective on May 16, 2017.

ENVIRONMENTAL DATA	UNIT	2013	2014	2015	2016	2017	Change absolute	vs 2013 index
Energy Consumption	MWh	4,647	4,628	4,646	4,6371	4,601	-1 %	-5 %
- Direct energy <sup>2</sup>	in thousands	2,305	2,280	2,277	2,248	2,259	-2 %	-5 %
- Indirect energy <sup>3</sup>		2,342	2,349	2,369	2,390	2,342	0 %	-5 %
Greenhouse gas emissions	tons CO <sub>2e</sub>	1,503	1,494	1,499	1,422	1,410	-6 %	-10 %
(Scope 1+2) - Scope 1 <sup>4</sup>	in thousands <sup>8</sup>	466	462	465	451	453	-3 %	-5 %
- Scope 2 <sup>5</sup>		1,037	1,032	1,034	971	957	-8 %	-13 %
- Scope 3 <sup>6</sup>		-	-	_	-	14,657	_	-
Water consumption	m³ in thousands	10.006	10,270	10,273	10,103	9,794	-2 %	-8 %
Waste generation <sup>7</sup>	tons in thousands	60	66	69	73	73	21 %	15 %
- Waste recycled/reused <sup>2</sup>		33	39	41	42	46	37 %	5 %
VOC emissions	tons in thousands	9.6	10.4	10.7	9.5	9.5	-1 %	-5 %

<sup>&</sup>lt;sup>1</sup> Product group-specific normalization factors are used to calculate a consolidated intensity index for Ball. The index accounts for overall changes in production over a period, and for changes in production mix between business segments. It is set at 100 for the reference year 2013 (see www.ball.com/normalization). <sup>2</sup> Natural gas, propane, diesel, jet fuel <sup>3</sup> Electricity, hot water, steam <sup>a</sup> Direct GHG emissions from sources sowned or controlled by Ball, primarily from fossil fuels, such as natural gas and diesel, burned on site. <sup>5</sup> Indirect GHG emissions from the generation of electricity, heating, cooling and steam generated off site and purchased by Ball <sup>6</sup> Indirect GHG emissions from sources not owned or directly controlled by Ball, but related to our activities (e.g., purchased goods and services, business travel). <sup>7</sup> All waste streams other than metal manufacturing scrap, all of which is sent back to our suppliers and remelted. 8 All tons refer to metric tons

SOCIAL DATA	UNIT	2013	2014	2015	2016	2017	Change vs 2013
Employees (year-end) 1,2	#	14,500	14,600	15,100	18,700	18,300	26 %
- Male	% of total workforce	82 %	82 %	83 %	83 %	84%	2 %
- Female		18 %	18 %	17 %	17 %	16%	-11 %
- <30		13 %	13 %	13 %	15 %	15 %	15 %
- 30-50		54 %	53 %	54 %	57 %	57%	6 %
- >50		34 %	34 %	33 %	28 %	28%	-18 %
Employee turnover <sup>3</sup>	% of total workforce	14 %	10 %	11 %	13 %	14%	0 %
Total recordable incident rate	recordable incidents /200,000 hours worked	1.70	1.60	1.23	1.06	1.00	-41 %
Severity rate	lost work days /200,000 hours worked	10.37	10.54	7.42	9.18	9.63	-7 %
Work-related fatalities	#	0	0	0	0	0	0 %

<sup>1</sup> Numbers have been rounded. The increase in 2016 was as result of our acquisition of Rexam PLC. 2 We strive to create an environment that unlocks qualities, values and potential of each employees and leverages diverse perspectives, experiences, competencies, cultures and aspirations. With our global diversity and inclusion efforts further maturing, we expect to report other D&I metrics than gender and age in the future.

3 Included are voluntary departures and those due to dismissal, retirement and passing.

# CONTACTS

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You can download this report along with additional sustainability information at www.ball.com/sustainability



#### FORWARD-LOOKING STATEMENTS

This document contains "forward-looking" statements concerning future events and financial performance. Words such as "expects," "anticipates," "estimates," "believes," "targets," "likely" and similar expressions typically identify forward-looking statements, which are generally any statements other than statements of historical fact. Such statements are based on current expectations or views of the future and are subject to risks and uncertainties, which could cause actual results or events to differ materially from those expressed or implied. You should therefore not place undue reliance upon any forward-looking statements and any of such statements should be read in conjunction with, and, qualified in their entirety by, the cautionary statements referenced below. The company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Key factors, risks and uncertainties that could cause actual outcomes and results to be different are summarized in filings with the Securities and Exchange Commission, including Exhibit 99 in our Form 10-K, which are available on our website and at www.sec.gov. Additional factors that might affect: a) our packaging segments include product demand fluctuations; availability/cost of raw materials; competitive packaging, pricing and substitution; changes in climate and weather; competitive activity; failure to achieve synergies, productivity improvements or cost reductions; mandatory deposit or other restrictive packaging laws; customer and supplier consolidation, power and supply chain influence; changes in major customer or supplier contracts or a loss of a major customer or supplier; political

instability and sanctions; currency controls; changes in foreign exchange or tax rates, including due to the effects of the 2017 U.S. Tax Cuts and Jobs Act: and tariffs or other governmental actions in any country affecting goods produced by us or in our supply chain, including imported raw materials, such as pursuant to section 232 of the U.S. Trade Expansion Act of 1962; b) our aerospace segment include funding, authorization, availability and returns of government and commercial contracts; and delays, extensions and technical uncertainties affecting segment contracts; c) the company as a whole include those listed plus: changes in senior management; regulatory action or issues including tax, environmental, health and workplace safety, including U.S. FDA and other actions or public concerns affecting products filled in our containers, or chemicals or substances used in raw materials or in the manufacturing process; technological developments and innovations; litigation; strikes; labor cost changes; rates of return on assets of the company's defined benefit retirement plans; pension changes; uncertainties surrounding geopolitical events and governmental policies both in the U.S. and in other countries, including the U.S. government elections, budget, sequestration and debt limit; reduced cash flow; ability to achieve cost-out initiatives and synergies; interest rates affecting our debt; and successful or unsuccessful joint ventures, acquisitions and divestitures, including with respect to the Rexam PLC acquisition and its integration, or the associated divestiture; the effect of the acquisition or the divestiture on our business relationships, operating results and business generally.



# **BALL CORPORATION**

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