

CABOT CORPORATION

2016 SUSTAINABILITY REPORT



CABOT



# A MESSAGE FROM THE CEO

#### SEAN D. KEOHANE

President and Chief Executive Officer



I am pleased to share Cabot Corporation's 2016 Sustainability Report with you.

2016 marked not only the launch of a new vision and strategy for our company, but we also enhanced our approach to sustainability. We conducted an extensive materiality assessment that enabled the reevaluation of those areas of sustainability that are most important to Cabot. This effort, which included outreach to customers, investors and our employees around the globe, helped us confirm our priorities and sharpen our focus. It also pushed us to look beyond our operational footprint into the value chain, where we believe there are many opportunities to partner with our customers and suppliers in order to make a difference.

Society is demanding more from companies in this area and, in turn, we are demanding more of ourselves. We have a unique opportunity to demonstrate our leadership, improve our connection with our customers and, ultimately, outperform our competition by developing products that are needed to enhance the performance and efficiency of our customers' applications. These products and our application innovation address complex global sustainability challenges such as improved battery performance, lighter automotive materials, superior tire

durability, and clean air and water. This is an exciting time for us as we find new ways to improve our own performance while delivering game-changing solutions to our customers for a more sustainable future.

We believe that integrating sustainability into our business agenda will greatly enhance our ability to deliver superior solutions. As we move forward, we are working to enhance our level of collaboration with our suppliers in an effort to address shared sustainability challenges. Our sustainability efforts are guided by our core values of integrity, respect, excellence and responsibility and we depend on our team of highly skilled and dedicated employees to help us focus on those aspects of sustainability that are most material to our business. As a responsible corporate citizen, we strive to continuously improve our performance in the areas of environmental, social and economic commitments through the delivery of superior products, flawless operations and active engagement with our stakeholders.

I invite you to review the following pages to discover the many examples of our sustainability progress over the past year and to learn more about our goals for the coming years. Our sustainability program is a source of pride for me and all of my Cabot colleagues. It underscores our core values and our ambitions to positively impact the markets we serve, the communities where we operate and the lives of all of our employees. The report also reaffirms our commitment to the Ten Principles of the United Nations Global Compact in the areas of human rights, environment, labor and anti-corruption. I'm thrilled to share our story of how together, we are taking the next step on our sustainability journey and collectively, making a difference.

Thank you,

New & Llan



Our sustainability efforts are guided by our core values of integrity, respect, excellence and responsibility.

# **ABOUT THIS REPORT**

Cabot publishes sustainability reports conforming to the Global Reporting Initiative (GRI) sustainability reporting framework on a biennial cycle, with update reports in the alternating years. Our last sustainability update report was published in June of 2016.

This report has been prepared in accordance with the GRI Standards: Core option. Additionally, this report serves as our annual Communication on Progress in support of our commitment to the United Nations Global Compact.

Data and information covered in this report represent our performance across all significant Cabot locations for which the Company has operational control and majority ownership during the 2016 calendar year, with the exception of financial data which reflects the Company's 2016 fiscal year (October 1, 2015 through September 30, 2016). To ensure the highest level of data integrity, we maintain databases for safety and environmental incident tracking, greenhouse gas emissions, finance and human resources. This data is collected, analyzed and reviewed by subject-matter experts within the organization and in the case of our greenhouse gas emissions, this data undergoes biennial verification by an independent third-party. Most recently, this data was verified according to the ISO-14064-3:2006(E) Specifications with Guidance for the Validation and Verification of Greenhouse Gas Assertions in June 2017 for our 2015 and 2016 data.

\*
GRI 102-12
GRI 102-46
GRI 102-50
GRI 102-51
GRI 102-52
GRI 102-54
GRI 102-56

<sup>\*</sup> Throughout this report, sidebar navigation showcases how Cabot has implemented the GRI Standards. Each marker is numbered according to the relevant GRI General Disclosure or Topic-Specific Disclosure. The GRI Content Index (p. 42) provides a comprehensive list of all GRI disclosures deemed material to Cabot.

## DETERMINING WHAT IS MATERIAL

In keeping with the reporting framework of the new GRI Standards including its Reporting Principles, we took a closer look at what sustainability topics are most important to our business and stakeholders' interests. This was done through a comprehensive materiality assessment in which a broad range of sustainability-related topics were evaluated for their relative significance and our ability to positively influence our value chain. The assessment involved nearly 300 individuals from internal and external stakeholder groups who shared their perspectives. The groups represented diverse experiences across a wide variety of functions, all our business segments and each region where we operate.

GRI 102-46

This process not only aided us in keeping the content of this report focused on our readers' interests, but it has also granted valuable insight into how we can refocus the vision for our sustainability program. In the majority of instances, the results of the materiality assessment did not differ significantly from the sustainability topics that were already being addressed; however, we can now move forward with confidence that we are focusing our efforts in the right areas. This will aid in the development of strategic plans to improve our management practices and performance.

One notable topic that was recognized through the materiality assessment as highly material was our suppliers' sustainability impact. As a resource-intensive manufacturing company, we recognize that environmental and social impacts may also result from the activities and products of our suppliers in addition to our own. As a result, we are in the initial stages of developing a management approach to our suppliers' sustainability. We expect this effort to build on recent measures to improve the tracking of our top-tier suppliers' commitment to our Supplier Code of Conduct and in the coming year, we will review relevant benchmarks and best practices to help guide our next steps. We see this as an opportunity to expand our influence and engage suppliers to improve their environmental and social performance.

GRI 102-9 GRI 102-49 GRI 103-1 GRI 103-2 GRI 308-1 GRI 414-1

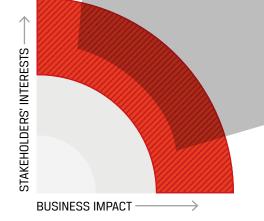


## **Linking Material Topics**

The topics that were deemed most material in the assessment are important beyond the scope of our value chain, which is easily seen when mapping these topics to the United Nations' Sustainable Development Goals (SDGs). The SDGs set forth 17 targets for all organizations and governments to work toward. We believe our renewed sustainability strategy, based on our recent materiality assessment, will help us make valuable contributions to many of these important collective goals.

GRI 102-47

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	HIGHLY MATERIAL TOPICS		Mapping to United Nations Sustainable Development Goals
	Occupational Health & Safety	<b>(</b>	3 MEMBERS 8 SERVERS
	Environmental Compliance	<b>€</b>	11
	Economic Value Generated & Distributed	<u> </u>	8 HOLYCLON
	Emissions	<b>3</b>	11 SOURCE ALL ALL ALL ALL ALL ALL ALL ALL ALL AL
	Energy	<b>5</b>	7 minute. 9 minute. 11 minute. 12 minute. 13 minute. 13 minute. 14 minute. 15
	Product Sustainability		7 manual   9 manual   11 manual   12 manual   13 mm   14 manual   14 manual   15 mm   14 manual   15 mm   15 m
	Employee Retention, Diversity & Development		8 HOLY 10 HOUSE. (=
	Waste & Spills		12 synds Syndronics
	Community Engagement	<u> </u>	4 2007bi
	Suppliers' Sustainability		10 mm. (=) 13 mm (7) mmmm. (***)
	Water	<b>**</b>	6 meaning



Making progress in the areas of these material sustainability topics will also help us in our commitment as a signatory to the United Nations Global Compact.

GRI 102-12











HUMAN RIGHTS ANTI-CORRUPTION

**ENVIRONMENT** We are regularly looking for opportunities to reduce our environmental impact through efficiency and optimization initiatives. Many of our efforts are guided by our environmental goals for the reduction of energy use, greenhouse gas emissions, nitrogen oxide  $(NO_X)$  emissions, sulfur dioxide  $(SO_2)$  emissions and waste disposal. These goals have a target year of 2025 and we are making progress compared to our baseline years. All facilities monitor these metrics and are expected to support these corporate goals. Moving forward, we will look for additional opportunities based on the results of the recently completed materiality assessment.

LABOR Keeping employees safe and treated fairly is of the utmost importance to Cabot as we drive to reach zero injuries. We have no tolerance for discrimination and strive to foster a culture of respect for each other and our individual differences. We recognize the value of a workforce rich in diversity as it provides a broad spectrum of backgrounds and experiences that drive more productive collaboration. We constantly look for ways to make Cabot an even better place to work and in 2016 we piloted a company-wide employee engagement survey that will be rolled out globally in 2017.

**HUMAN RIGHTS** Our employees are our most valuable asset, so meeting their most basic needs and respecting their human rights is a standard across all of our operations and regions. We strive to go far beyond meeting these civic rights by offering our employees a fulfilling place to work. Still, we felt it was important to document our position on human rights in a policy which was introduced in the spring of 2016. This Human Rights Policy captures the practices that we have been adhering to for many years, and helps our employees and partners clearly understand our expectations of them. As we look to gain more insight into our supply chain, we also plan to implement the use of our new Human Rights Policy through our engagements with suppliers.

ANTI-CORRUPTION Upholding a strong sense of responsibility and ethics is deeply embedded in how we do business. All forms of corruption including bribes, kickbacks and improper payments are explicitly prohibited. All employees are required to undergo training annually to ensure that they understand and adhere to our Code of Business Ethics and are able to identify circumstances that could pose a compliance risk. We also conduct additional focused trainings on anti-corruption for employees with certain roles and responsibilities. Our International Anti-Corruption Compliance Manual provides further guidance on how to comply with our high ethical standards and what due diligence measures are required prior to engaging third parties who will act on Cabot's behalf. Our Office of Compliance oversees Cabot's compliance with laws and regulations, the Code of Business Ethics and other Cabot policies. The Office also reviews matters of potential noncompliance and recommends management actions to address any misconduct or noncompliance.

We will also continue to engage with our key stakeholder groups on our material topics. We understand our success depends on meaningful engagements with each of these groups and we diligently work to ensure their respective needs are being met to the best extent possible.

GRI 102-40 GRI 102-42 GRI 102-43 GRI 102-44

Stakeholders	Types of Engagement	Key Topics
Customers	Surveys, technical information, exchanges, plant visits, complaint resolution	Performance, sustainability, satisfaction surveys, technical solutions, production plans, safety data sheets
Investors	Annual report, quarterly disclosures, sustainability report, annual meeting	Performance, strategy, execution, material disclosures, sustainability
Employees	Meetings, executive briefings, training sessions, surveys, regular intranet communication	Performance, strategic initiatives and vision, policy and structure, benefits and compensation, safety data sheets, sustainability
Regulators	Plant visits, training sessions, technical information, exchanges, inspections	Compliance reporting, problem solving, technical information
Communities	Plant visits, open house events, community events, sponsorships, engagement programs	Plant operations, emergency response planning, compliance programs, emissions, community sponsorships, local engagement



# HIGHLIGHTING OUR PROGRESS

MARTIN J. O'NEILL

Senior Vice President Safety, Health and Environment



Thank you for your interest in our 2016 Sustainability Report. This year, we reexamined our sustainability program to ensure we focus our efforts in areas that are most relevant to our business and allow us to make a difference in our communities and the environment. With the support of many of our key stakeholders, we conducted an extensive materiality assessment, which affirmed that our sustainability efforts to date are valued. It also shed light on areas that we must develop further. I look forward to utilizing the learnings from the materiality assessment to accelerate our progress in sustainability and uncover more opportunities to integrate sustainability initiatives into our business.

The business climate was filled with optimism and opportunities in 2016. We continued to focus on keeping our people safe, working with our customers to develop solutions for a more sustainable future, reducing our environmental footprint and giving back to our communities.

We diligently work to maintain some of the best safety standards in the industry. To that end, we have taken positive steps to improve the training of our frontline supervisors that help them execute their work safely each and every day. As

a result, the total number of recordable safety incidents decreased by 17% while our total recordable incident rate decreased by 10% since 2015 and remains well below the industry average. We also had a 50% drop in process safety events as a result of our efforts aimed at improving plant and equipment reliability.

In executing our new corporate strategy, we are specifically focused on finding opportunities to meet our environmental goals while optimizing our operations and enhancing efficiency. In some respects, the challenges we faced from increased production in 2016 affected our ability to make progress on some of our environmental metrics on a year-over-year basis. However, we continue to make progress against our long-term objectives and I remain encouraged that we will be able to achieve our 2025 goals. We continue to invest in our operations to increase efficiency and reduce our overall impact. I expect that we will continue to realize positive results from these investments. We also look forward to making more important contributions in a number of our customers' products that are propelling us all into a more sustainable future.

Finally, an element of our sustainability program that runs deep in our culture is engagement with the communities where we operate. At every one of our facilities, we strive to be a good neighbor and find ways to make a positive impact in our communities. Through our collective philanthropy efforts, Cabot has contributed over \$1.6 million in charitable donations that make a difference.

I hope you find this report helpful in better understanding our commitments, accomplishments and plans for continually improving our sustainability performance. I would like to invite you to share your feedback after reading our report and thank you for your interest in Cabot.

Best regards,

Martyohim

TOTAL RECORDABLE SAFFTY INCIDENTS



PROCESS SAFETY INCIDENTS





We are specifically focused on finding opportunities to meet our environmental goals while optimizing our operations and enhancing efficiency.



# **BOUR COMPANY**



As a global specialty chemicals and performance materials company, we build on our market leadership by collaborating with customers across a broad range of industries such as transportation, infrastructure, environment and consumer goods to address important needs in key applications. We are committed to improving product performance, conducting our operations responsibly, focusing on our customers and innovating for the future. Our commitment to innovation is driven by a passion to advance our customers' businesses through our deep understanding of their industries and the global trends that impact their operations.

Our global network consists of approximately 4,300 employees and 44 manufacturing facilities across 21 countries. All are joined by our commitment and continued dedication to safety, health and environmental leadership and progress. Since our last sustainability report, the scope of our operations was impacted by the closure of our carbon black facility in Merak, Indonesia in January 2016. This difficult decision was driven by a need to consolidate production in Asia to remain competitive and meet market demands. Spurred by similar market demands, we announced a joint venture agreement with Hengyecheng Silicone Co. (HYC) in September 2016<sup>1</sup>, and will break ground on a state-of-the-art fumed silica manufacturing facility in Wuhai, China in June 2017. Through this partnership, we will be better positioned to meet increased demands for our high-quality, high-performance fumed silica for use in growth markets such as automotive, construction and renewable energy.

GRI 102-7 GRI 102-10

# **OUR INDUSTRIES**



#### Consumer

Our performance solutions are an essential part of modern-day life.



#### **Transportation**

We help manufacturers improve the performance, safety and lifespan of vehicles and their components.



#### Environment

We believe that a sustainable future is possible.



# Infrastructure

We provide eco-friendly products that address tomorrow's challenges today.

GRI 102-2 GRI 102-6

# **OUR BUSINESS SEGMENTS**

GRI 102-2

#### **Performance Chemicals**



# **Specialty Carbons and Formulations; Metal Oxides**Specialty additives that enable performance in: plastics, wire and cable, toners,

Specialty additives that enable performance in: plastics, wire and cable, toners, coatings, adhesives and sealants, electronics, batteries, inks, inkjet printing, composites, silicones, building construction materials, industrial insulation



#### **Reinforcement Materials**

#### **Rubber Blacks; Elastomer Composites**

Carbon black to reinforce and optimize the performance of rubber products including: tires, hoses, belts, molded goods



### **Specialty Fluids**

#### **Cesium Formate Brines; Fine Cesium Chemicals**

Advanced cesium products for use in: oil and gas well drilling and completion fluids, catalysts, titanium dioxide, glass, brazing fluxes



## **Purification Solutions**

#### **Activated Carbon**

Activated carbon for purification in various applications including: air and water, food and beverages, pharmaceuticals, catalysts

# **OUR LOCATIONS**

#### NORTH AMERICA

Canada Mexico United States

#### SOUTH AMERICA

Argentina Brazil Colombia

## • EUROPE, MIDDLE EAST & AFRICA (EMEA)

Belgium
Czech Republic
France
Germany
Italy
Latvia
Norway
Switzerland
the Netherlands
United Arab Emirates

**United Kingdom** 

# ASIA PACIFIC (APAC)

China India Indonesia Japan Malaysia Singapore GRI 102-4

1 Although the agreement was confirmed in 2016, production is not slated to begin until 2019 so performance data associated with this facility has not been included in the data presented in this report.



# REFRESHED CORPORATE VISION AND STRATEGY

Recently, we reviewed our vision and corporate strategy to ensure that we are focused on the right things and have a clear direction for the future. We set out to define a new vision and strategy that would make Cabot a more successful and sustainable company grounded in our shared values of excellence, integrity, respect and responsibility. The outcome of this effort was the introduction of a new corporate vision and strategy designed to guide our strategic decisions. Our vision is to be the most innovative, respected and responsible leader in our markets—delivering performance that makes a difference. This vision lays out our destination that guides our strategy to extend our leadership in performance materials by investing for growth in our core businesses, driving application innovation with our customers and generating strong cash flows through efficiency and optimization. This strategy drives our choices, enables us to prioritize our efforts, differentiates us from our peers and will help us build lasting value for our stakeholders.



# CONDUCTING BUSINESS ETHICALLY

We maintain a steady focus on conducting our business ethically. This is rooted in our core company values of respect, responsibility, excellence and integrity. Our Code of Business Ethics provides guidance to all employees on how these values should be upheld in their respective roles. The Code describes the responsibility every employee has to treat each other with mutual respect, engage with customers and other stakeholders ethically, protect our assets and serve as responsible members of our community. It is translated into 13 languages and all employees are required to undergo annual training on its content. Overseeing the Code, along with other policies and compliance with laws and regulations, is the Office of Compliance that reports to the Audit Committee of the Board of Directors.

GRI 102-16



## **ECONOMIC PERFORMANCE**

As a publicly traded company, one of our core objectives is to deliver sustained and attractive total shareholder return through our product sales across the globe. During our 2016 fiscal year, we generated \$2.4 billion in revenue. This strong performance allows us to not only contribute to a healthy economy, but also cascade our value by providing fair wages to employees and offering charitable contributions to the communities in which we operate.

GRI 102-7 GRI 103-1 GRI 201-1 GRI 201-2

As we look for ways to generate increased financial growth, consideration of sustainability-related issues helps to ensure that we consider relevant risks and opportunities in our markets. For instance, as part of our Enterprise Risk Management program, we have identified risks including more stringent greenhouse gas (GHG) regulations in certain regions where we operate and potential physical risks to some of our facilities due to extreme weather events that may be brought on by climate change. We have also identified opportunities with regard to climate change including an increased demand for our products and services that support our customers' needs to meet energy and GHG regulations and improve energy efficiency. How such risks and opportunities are managed depends on a prioritization approach that takes into account timeframe, magnitude of impact, likelihood and financial implications.



# Q CUSTOMERS

It is widely recognized that the environmental and potential health impacts of our products extend beyond the boundaries of manufacturing into how our customers and their customers use these products. Our vision of delivering performance that makes a difference is exemplified by products that provide health, safety, environmental and other sustainable benefits for our customers.

## SUSTAINABLE PRODUCTS

When it comes to developing new products, we implement a stage gate process that aligns with Responsible Care® and our own Safety, Health and Environment (SH&E) Policy by considering the entire life-cycle of the product. Early in development, safety and hazard assessments are conducted to identify potential risks. If risks are identified, mitigation measures are evaluated to determine if development should proceed or cease. For all our products, we are diligent in conducting thorough hazard and regulatory assessments and developing comprehensive Safety Data Sheets, which include details on safe storage and handling.

Going beyond the stage gate process, we also work closely with customers to identify how we can support them in developing sustainable products and solutions beyond what complies with environmental and public health regulations. Often, this means producing solutions that improve energy efficiency or adhere to strict end-user requirements. For example, our conductive carbon blacks and treated silicas have been selected for their ability to improve wind turbine performance and our LP series of carbon black helps our customers adhere to the European Union Commission's limits on polycyclic aromatic hydrocarbons (PAH) for certain applications. We welcome opportunities to collaborate with customers on these types of projects and we are proud of our ability to introduce more innovative solutions to the market.

GRI 103-1 GRI 103-2 GRI 103-3 GRI 416-1



## Effective method for biogas purification

Biogas that is generated by the breakdown of organic matter at landfills and digesters plays an important role as a sustainable source of energy. Our activated carbon products purify biogas by removing undesirable impurities such as hydrogen sulfide and siloxanes from the raw gas. These and other impurities must be removed from the biogas before it can be used to generate electricity or sold as an alternative to natural gas. Our activated carbon products help reduce equipment damage and downtime, ensure emission targets are met and meet gas purity specifications, and they have become a key component in the production of this renewable energy source. With increasing needs for improved, clean biogas for automotive fuel and other applications, we more than quadrupled our sales in the biogas market in 2016 compared to 2015. Our uniquely designed purification technology is poised to become an even more important part of biogas energy production in the future.



# Unlocking cesium from filter waste

Due to a limited global supply of cesium ore and to minimize our environmental impact through mining, we supply cesium to customers through a unique fluid rental model. This model enables customers to return used cesium formate brine to Cabot. When fluid is returned to us it often contains contaminants and additives that need to be removed before the fluid can be utilized again. A number of steps are taken to return the fluid to its original condition, including precipitation reactions and filtration. We recognized that cesium was being lost during this reclamation process and conducted an experimental study to quantify the amount lost and identify the source of the losses to optimize the process. It was determined that significant losses of cesium occurred during filtration. We made a number of changes to the filtration process, including upgrades to our existing equipment and changes in operating procedures. As a result of the changes made, we significantly reduced losses. These savings reduce the volume of raw materials required for production and move us closer to a "closed loop" model.

# **Enabling truckless mining through reinforcement materials**

Our carbon black business in South America is playing an integral part in an innovative project to replace the use of heavy duty trucks with rubber conveyer belts—also known as truckless technology. We provide specialty grade carbon black to two conveyor belt producers for Vale Mining Company to reinforce the rubber compound used to strengthen the conveyor belts against abrasion, cuts and other damages that the ore may cause. Utilizing a 30 kilometer-long conveyor belt, Vale will replace trucks with conveyor belts. In doing so, the consumption of diesel is reduced by about 70% and the annual GHG is reduced by at least 50%, which means approximately 130,000 tons less carbon dioxide equivalents emitted each year.



# Aerogel insulating plasters enable increased energy savings in buildings

Aerogel insulating plasters are a new class of insulation materials that allow high-performance energy renovation of existing buildings. Due to the initial high cost of the product, the spectrum of uses seemed limited at first. Through a joint effort with our partner, Fixit AG, we enabled the next step toward market adoption by lowering the price of the aerogel plaster, thereby making it more accessible to a broader group of users. This change enabled a significant increase in application uses. Specifically, PROCERAM GmbH & Co. KG utilized Fixit aerogel insulating plaster in the renovation of an entire 8-story apartment complex near Berlin, Germany. By applying a 60 millimeter thick layer of the aerogel plaster, the building was able to achieve significant energy savings. Existing facades can now be insulated without changing the appearance of the building while also achieving significant energy savings of up to 70%.

# Battery additives improve performance of energy storage systems

Despite a growing focus on delivering more efficient energy storage systems, India continues to depend heavily on lead-acid batteries for domestic, automotive and industrial energy storage. As such, it is vitally important to make the existing lead-acid batteries more efficient, able to accept a fast re-charge, offer a wide operating temperature range, and have an increased cycle life and stable voltage plateau. Our PBX® carbon additives enable battery developers to improve the durability and performance of batteries. In 2016, we made our first breakthrough in India by offering commercial quantities of our PBX carbon additive for use in batteries that offer improved dynamic charge acceptance and increased cycle life. Our PBX products are now supporting India's quest for sustainable, reliable energy storage systems.





# RECOGNIZED FOR OUR LEADERSHIP

Our ability to partner with customers and deliver valuable contributions to their business does not go unnoticed. We are honored to have been recognized by numerous customers for our commitment to excellence and the superior service we provide.

## Cabot Brazil awarded "Best Carbon Black Supplier"

In May 2016, our carbon black team in Brazil received the "Best Carbon Black Supplier" award from *Paint & Pintura*. This is the twelfth consecutive year that we have received this well-respected award in the coatings and inks industries in Brazil. We received first place with approximately 60% of the total votes. For the silica category, we received fourth place and were noted as one of the "Master Companies."



# Cabot awarded "Core Strategic Supplier" by Linglong Tire

In March, we were the only reinforcement material manufacturer to be awarded "Core Strategic Supplier" by Linglong Tire. In addition to the award, we signed a core strategic supplier agreement to jointly build a global high-end purchasing and supply platform. Both companies will further their cooperation together in standard enhancements, quality improvements, and research and development.

# Kraiburg names Cabot a "Top Supplier"

Kraiburg, a leading European compounder, recently conducted its annual supplier evaluation and graded us with an "A" as one of their best suppliers. This is a great achievement for our commercial supply chain production and customer care teams, recognizing their continuous efforts to focus on customer needs and leverage our expertise in plastics with this innovative player. Future projects with Kraiburg will provide ample opportunity to expand our successful collaboration.

# **ENVIRONMENT**

Environmental laws and regulations establish standards for protecting the environment according to local, national and international norms. We are committed to operating in a responsible manner and adhering to these strict standards. At the same time, we continue to work toward our environmental goals and enhance our data collection processes to track our performance with a high level of accuracy. We regularly examine our site-specific data and engineering estimates to ensure we have the most accurate data possible for monitoring and reporting our performance. A recent reexamination of this data, improvements in our engineering estimates and updates to our facility-specific information resulted in restatements of some of our environmental data. For instance, our 2012 baseline emissions for nitrogen oxide  $(NO_x)$  and sulfur dioxide  $(SO_2)$ , as well as our previously reported 2015 emissions data, have been restated as a result of this review. We have not altered our stated goals for SO<sub>2</sub> and NO<sub>x</sub> emissions intensity reduction, which remain at 40% and 20% by 2025, respectively. We will continue to gather and analyze data with the highest level of accuracy to further enhance the integrity of data wherever possible. In support of this objective, we intend to commission a third party environmental data verification process for future data sets.

GRI 102-48 GRI 103-1 GRI 103-2 GRI 103-3

#### Land remediation leads to redevelopment

Over the years, we have been dedicated to the remediation of our former industrial properties to allow for their reuse. It is shown that redevelopment of these "brownfield" sites prevents sprawl into open space, forests and agricultural land, thereby preserving acres of undeveloped land. When we cease operations, we decommission the facility and perform a comprehensive environmental assessment and conduct appropriate remediation to render the property safe for redevelopment and similar reuse. To date, approximately 12 properties have been returned to beneficial uses through this program and most recently, the redevelopment of our former operating site in Altona, Australia was completed for reuse as an office park in 2016.

# Carbon black industry entry conditions

With growing pressure for further environmental protection, the Chinese government has engaged with the China Carbon Black Industry Association to develop an environmental standard for companies wishing to begin carbon black manufacturing. Initially, only seven board member companies of the Association were eliqible to draft the standard. Due to our global presence in the carbon black industry and strong commitment to safety, health and the environment, we were asked to contribute to the effort. As the only foreign-owned carbon black manufacturer to participate on the team, we worked closely with the Association to develop Carbon Black Industry Entry Conditions and contributed to the topic of emissions control for NOx, SO2, volatile organic compounds and solid waste. The new standard<sup>2</sup> promotes responsible manufacturing practices and will help drive sustainable development of the carbon black industry.

# OUR ENVIRONMENTAL GOALS

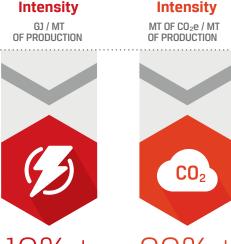
In 2014, we introduced updated environmental goals that included new targets for cutting our nitrogen oxides (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) emissions and waste disposal goals in addition to revised energy and greenhouse gas (GHG) goals.

GRI 103-2

Waste

Disposal

We continue to monitor our progress toward these targets and other environmental metrics. This is complemented by the projects underway at individual facilities to optimize our processes for efficiency and reduce our environmental impacts.



Energy

REDUCTION

**BASELINE YEAR 2005** 

**TARGET YEAR 2025** 



GHG

**BASELINE YEAR 2005** TARGET YEAR 2025

REDUCTION



**Nitrogen Oxides** 

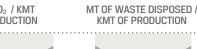
Intensity

MT NO<sub>x</sub> / KMT

REDUCTION

**BASELINE YEAR 2012 TARGET YEAR 2025** 







REDUCTION **BASELINE YEAR 2012 TARGET YEAR 2025** 



REDUCTION **BASELINE YEAR 2012 TARGET YEAR 2025** 



2 The standard, T/CRIA 20001-2016, was issued in January 2017.

# **ENVIRONMENT**

# ENVIRONMENTAL COMPLIANCE

While we are continuously looking for ways to make our operations more efficient and reduce our environmental impacts, we also carefully manage our regulatory obligations to ensure we meet the requirements of the local governments where we operate. We monitor our performance in this area through our environmental non-conformance (ENC) metric, which we define as any event resulting in a reportable spill or release, a notice of violation, a public complaint or a regulatory permit deviation. In 2016, we continued our downward trend and realized a 26% reduction in the number of ENCs and a nearly 50% reduction in the fines paid from 2015 to approximately \$70,000. As part of our "Drive to Zero" initiative, we maintain the philosophy that all ENCs are preventable. We learn from these events, share the results of root cause investigations throughout the organization and continue to reduce the number of ENCs by updating equipment, revising procedures, adopting best practices and training employees on important environmental compliance practices.

GRI 103-1 GRI 103-2 GRI 103-3 GRI 307-1

GRI 103-1

GRI 103-2

GRI 103-3

GRI 302-1

GRI 302-3

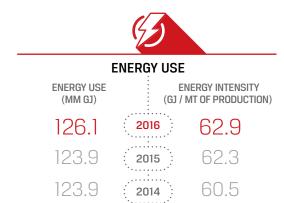
#### **ENVIRONMENTAL NON-CONFORMANCES**



## **ENERGY**

The pursuit of energy efficiency helps us support our corporate strategy of operational optimization by generating cost savings from decreased energy consumption. We are constantly looking for opportunities to introduce energy savings at our facilities including capturing waste heat for production of electricity or producing steam to offset our demands. We deploy state-of-the-art variable speed drives that have reduced our energy demand.

While our long-term energy use and recovery trend continues to decrease, we saw a slight increase in our energy consumption and intensity in 2016 compared to 2015. This is primarily due to decreases in overall yield in our carbon black facilities. However, we were able to capture and utilize more waste energy from our carbon black facilities and saw the energy intensity decrease in our Purification Solutions segment by over 5%, reflecting improved yields in that business based on a greater use of more efficient production units.



**PROGRESS TOWARD GOAL** 33% Progress based on 2016 end-of-year data.

## Energy centers recover 500 megawatts of thermal energy

Throughout our global network of carbon black plants, we have made significant investments to recover energy and reduce our environmental footprint. Currently, 12 of our 18 carbon black facilities recover approximately 500 megawatts (MW) of thermal energy annually in our energy centers from waste heat generated from our processes. In 2016, we developed a performance metric to measure the gap between the actual performance and the theoretically best available recovery performance with our existing assets and available waste energy. The gap was nearly 15% of the energy we could have recovered with existing assets. In order to reduce this gap, we are executing on a series of technical actions, primarily focused on efficiency improvements. This will enable us to further reduce the amount of energy that we and our partners need to purchase to operate our plants, and therefore reduce the associated greenhouse gas (GHG) emissions.

# Franklin facility partners with Cleco Corporation for new clean energy center

In October 2016, crews broke ground on the St. Mary Clean Energy Center at our carbon black facility in Franklin, Louisiana, USA. In partnership with Cleco Corporation, the new center will be able to generate enough energy to power 17,000 homes and will do so without producing any additional emissions. The waste heat captured from our plant will produce steam that will drive a 50 MW turbine generator to produce the electricity, which will offset nearly 150,000 metric tons (MT) of GHG emissions. Together with Cleco, we will help to reduce air pollution while helping to provide reliable, renewable energy generation.



# Botlek reduces tank energy consumption with aerogel coating

Our carbon black manufacturing site in Botlek, the Netherlands has significantly reduced the energy consumption of one of its feedstock storage tanks by applying an insulating coating material that utilizes our ENOVA® aerogel. The site has seven feedstock tanks that are heated by steam. None of the tanks were insulated which resulted in higher energy consumption due to thermal losses. The site coated one feedstock tank with 3 mm of Tnemec's AEROLON® thermal insulating coating. In comparison with the non-insulated tanks, this project resulted in a 55% reduction of energy consumption and achieved an internal rate of return of 28%. With this project, the site predicts a savings of €10,000 on energy per year.



# AIR POLLUTANTS & GREENHOUSE GAS

Given the industrial nature of our operations, greenhouse gas (GHG) emissions and air pollutants including nitrogen oxide (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) are closely monitored. We understand the linkage these emissions have to climate change, we are continuously looking for ways to reduce these emissions.

GRI 103-1 GRI 103-2 GRI 103-3

In 2016, we saw a slight increase in our GHG emissions by 2.3% compared to 2015 and 1.1% on an intensity basis. This result can be attributed to the product mix from our Reinforcement Materials segment, which affects yield and therefore GHG emissions. While the year-over-year results are up, we have realized 32% of our goal to reduce our GHG emissions intensity from our base year emissions.

CO <sub>2</sub>					
GH	IG EMISSIO	NS	GHG I	NTENSITY	
SCOPE 1 (MM MT CO <sub>2</sub> e)		SCOPE 2 (MM MT CO <sub>2</sub> e)	SCOPE 1 (MT CO <sub>2</sub> e / MT OF PRODUCTION)	SCOPE 2 (MT CO₂e / MT OF PRODUCTION)	
4.5	2016	0.3	2.25	2016 0.17	
4.4	2015	0.3	2.21	2015 0.17	
4.6	2014	0.4	2.25	2014 0.20	

GRI 305-1 GRI 305-2 GRI 305-4

PROGRESS TOWARD GOAL

32%

Progress based on 2016 end-of-year data.

Similarly, our SO<sub>2</sub> emissions intensity increased in 2016 by 4.9%, driven largely by a change in the feedstock mix in the Reinforcement Materials segment. While we are up year-over-year, we see an overall downward trend and have realized approximately 20.2% of our goal to achieve a 40% reduction of SO<sub>2</sub> emissions intensity by 2025. While the year-over-year variations are driven by feedstock mix, we continue our efforts to reduce our environmental footprint.

In 2016, our NO<sub>x</sub> emissions intensity decreased by 3.3%, with an overall emissions reduction of 2.1%. We continue to make progress reducing our NOx emissions and have reached 23.1% of our goal to achieve a 20% reduction of NO<sub>x</sub> emissions intensity by 2025. These reductions were achieved by realizing the impact of the first full year of the NO<sub>x</sub> control system implementation at our carbon black facility in Shanghai, China and the completion of the first phase of the implementation of the NOx control system at our Tianjin, China carbon black facility. In 2016, we also completed the construction of the new NO<sub>X</sub> control system at our Pampa, Texas, USA facility<sup>3</sup> and expect to significantly reduce emissions from that facility.

## SO<sub>2</sub> EMISSIONS



NO<sub>x</sub> EMISSIONS NO<sub>X</sub> EMISSIONS NO<sub>x</sub> EMISSION (KMT) INTENSITY (MT / KMT) 2012 2012 7.8 14.9 2015 2015 2016 15.3 7.7

GRI 305-7

**PROGRESS TOWARD GOAL** 

20%

Progress based on 2016 end-of-year data. Baseline and targets were restated to reflect updated information.

#### PROGRESS TOWARD GOAL



Progress based on 2016 end-of-year data. Baseline and targets were restated to reflect updated information.



3 The facility began the full operational shake-down period in March 2017.





# **WASTE & SPILLS**

We acknowledge the potential impact that solid waste disposal or spills of hazardous materials could have on the environment in our local communities, therefore, we take a targeted approach to minimizing waste and working toward zero spills at our facilities. We also see that waste presents opportunities to contribute to a circular economy by finding alternative uses for certain waste types.

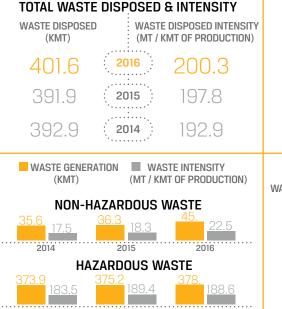
GRI 103-1 GRI 103-2 GRI 103-3

In 2016, our total waste generation intensity increased by 1.6%, which can be attributed entirely to a one-time event involving the generation of waste soil from a construction project at our Franklin, Louisiana, USA carbon black facility. Without this event, our total waste generation intensity would have been slightly lower than 2015. Our total waste disposed offsite per unit of production was also up year-over-year to 200.3 MT/KMT<sub>p</sub>, but we still remain below our 2025 goal of 286 MT/KMT<sub>p</sub> of production.

Our focus continues to be on finding alternative beneficial uses for our waste materials to eliminate or minimize our total waste disposed. In the past year, we have been successful in identifying more opportunities to beneficially reuse both hazardous and non-hazardous waste for energy recovery or as substituted materials. In 2016, we increased our rates of reuse by 9.5% in absolute terms and 8.2% based on our production intensity. This was accomplished at a number of individual facilities that have identified improved recycling and reuse opportunities.

#### Haverhill reduces toxic chemical use

The City of Haverhill, Massachusetts, USA recently agreed to revise our inkjet facility's pH wastewater discharge limits from a range of 6.0 to 9.0 to a new range of 6.0 to 10.0. This change was actually beneficial to both Cabot and the City of Haverhill. Based on new industrial dischargers to the city's Publically Owned Treatment Works, Haverhill was looking to identify sources of high pH wastewater to offset lower pH wastewater expected from the new users. This revision to the upper pH limit enabled us to reduce the amount of sulfuric acid used to control the pH chemistry. Sulfuric acid is listed under the Massachusetts Toxic Use Reduction Act (TURA) program and requires the facility to report on its annual use and identify toxic use reduction opportunities whenever possible. The new pH range has enabled the site to reduce the volume of sulfuric acid used in 2016 by 10%, or 8,000 pounds.





GRI 306-2

PROGRESS TOWARD GOAL

Progress based on

2016 end-of-year data.

While this goal has been achieved, we anticipate

more waste generation as part of pollution control

measures so reduction efforts continue.

100%

#### BENEFICIAL WASTE WASTE BENEFICIALLY USED : WASTE BENEFICIALLY USED INTENSITY (MT / KMT OF PRODUCTION) 21.5 2016 19.6 2015 8.2 16.6 2014

#### WATER

We are dependent on water for many of our manufacturing processes and at the same time, we deeply understand how critical this natural resource is to human life and ecosystems. We therefore strive to conserve water across our operations and ensure that wastewater is properly treated prior to discharge to avoid degradation to the surrounding environment.

GRI 103-1 GRI 103-2 GRI 103-3

In 2016, the volume of water supplied to our facilities was 51.7 million cubic meters (MM m<sup>3</sup>), down 0.2% from 2015, which corresponds to a 1.4% reduction on an intensity basis. Our wastewater discharge totaled 39.9 MM m<sup>3</sup>, up 7.6% from 2015 and an intensity increase of 6.3%. The most significant increase in water use was for once-through cooling at our Botlek, the Netherlands carbon black facility. We did see reductions at our specialty fluid facility in Lac Du Bonnet, Canada, as a result of a reduction in mining activities. We also have several carbon black GRI 303-3 facilities that capture and reuse wastewater, including Cartagena, Colombia; Maua, Brazil; and Xingtai, China that successfully capture and reuse 100% of their wastewater onsite. We are in the final design phase at our facility in Franklin, Louisiana, USA to implement a project for wastewater capture and reuse. We recognize the need for reducing our demand for water and will continue to track changing water supply conditions and regulatory programs.

#### Barry project reduces water and chemical use

Our Barry, United Kingdom fumed metal oxides facility implemented a project to upgrade the chemical treatment system within its cooling towers. The project involved the installation of a new analytical control system, providing more robust analysis of water quality and improved control of treatment chemicals. This ultimately reduced the amount of chemicals needed to maintain tower cleanliness, which both increased efficiency and reduced water consumption. The project is expected to yield both a reduction in chemical use by 20% and wastewater discharges by about 6,400 m<sup>3</sup> or approximately 25%.

WATER SUPPLY & INTENSITY  WATER SUPPLY WATER SUPPLY INTENSITY  (MILLION M³) (M³ / MT OF PRODUCTION)		GRI 303-1 GRI 306-1
51.7 2016 25.8		
51.8 2015 26.1		
57.3 (2014) 28.1		
WASTEWATER DISCHARGE & INTENSITY  WASTEWATER DISCHARGE (MILLION M³) WASTEWATER DISCHARGE DISCHARGE (MILLION M³) WASTEWATER DISCHARGE OF PRODUCTION)	TOTAL WATER USED & INTENSITY*  TOTAL WATER USED TOTAL WATER USED INTENSITY (M³ / MT OF PRODUCTION)	*Water used is the difference between water supplied and waste wate discharged at a facility.
39.9 2016 19.9	11.8 2016 5.9	
37. 2015 18.7	14.7 (2015) 7.4	
43.7 2014 21.4	13.6 <b>2014</b> 6.7	

# e PEOPLE

# OCCUPATIONAL HEALTH AND SAFETY

Safe and healthy working conditions are a fundamental human right and maintaining strong occupational safety and health programs at our facilities is central to our culture. We are committed to industry leadership and excellence in safety, health and environmental (SH&E) performance which is underscored by our executive-endorsed SH&E Policy. Our goal is to be among the top 10% of our industry peers for safety performance. With this top-level management commitment and support, we strive to conduct our business in a manner that minimizes negative impacts on our employees, contractors, the public and the communities in which we operate. As such, all our employees and contractors receive safety training and all our facilities are required to have a safety program that meets all applicable health and safety laws as well as Cabot standards, which often exceed local regulations.

To reinforce the critical importance of safety, we host a company-wide Global Safety Day every year. This is an opportunity to celebrate achievements for excellent safety performance, discuss best practices and remind ourselves of our "Drive to Zero" program. This program challenges us to believe that all incidents are preventable, whether it is a personal safety, process safety or an environmental incident.

While we saw a decrease in the number of total injuries from 2015 to 2016, there was unfortunately an increase in the total number of lost work days due to severe incidents. We conduct a thorough evaluation of every incident, including "high potential near misses," to understand the root cause of such incidents and assess how we may implement measures to avoid similar safety risks in the future across our global operations. Throughout the years, these incident learnings and our strong safety culture have kept us an industry leader in safety performance and we will always focus on continuous improvement to achieve our goal of zero incidents.

Additionally, we remain an active member of the American Chemistry Council's Responsible Care® program. Three years after achieving initial certification in December 2013, all of our North American sites have been recertified according to the program's RC 14001 SH&E Management System requirements. This achievement reinforces our long-standing commitment to SH&E and our ability to maintain, improve and adapt related programs over time to suit the changing needs of the organization. In addition, recertification of the management system validates the successful implementation of our SH&E program not only for our North American facilities but also at the corporate level.

GRI 103-1 GRI 103-2 GRI 103-3

GRI 102-12



# PROCESS SAFETY MEASURES

the number of incidents per 100 employees.

Process safety is an intrinsic part of our SH&E policy. By designing and operating our facilities consistent with the fundamentals of a sound process safety management program, we keep our employees, our contractors and our communities safe and ensure we are a reliable supplier to our customers. Our program involves ongoing reviews of our existing facilities through process hazard analyses, management of change and prestart-up safety reviews. For significant facility changes, we conduct operations preparedness reviews using a team of subject matter experts to ensure the change has been fully evaluated and is ready to be placed into safe operation. Through these efforts, we continue to see improvement in our performance as measured by the reduction in our internal measure of significant process safety events, but also in the direct and indirect cost of these events. These events are also categorized using the criteria specified by the Center for Chemical Process Safety (CCPS). In 2016 we had no Tier 1 process safety events and remained flat year-over-year at two Tier 2 events. To ensure our global organization learns from these and other process safety events, our facilities initiate thorough root cause investigations, the outcomes of which are reviewed by the facility with Cabot senior management. These learnings are then broadly distributed to mitigate similar events globally.

GRI 403-2

events are the most severe process safety events.





# Tianjin plant wins "Outstanding Pioneer in Safety Production"

In March, the Tianjin Economic-Technological Development Area (TEDA) held its 2016
Annual Meeting on safety production. The TEDA management committee recognized five "Elite Pioneers" selected from over 14,000 companies. Qiao Yanzhong, facility general manager of our Tianjin, China plant, was awarded this esteemed recognition on behalf of the facility. The TEDA management committee recommended that other TEDA-based companies learn skills such as excellent safety leadership, advanced experience and scientific and strict management from Cabot and the other four companies.



# Managing safety performance training

We continue to invest in our employees through training in a variety of topics including safety. We recently conducted several two-day workshops to teach practical safety leadership skills to frontline supervisors, managers and other individuals. The sessions taught both "what to do" and "how to do it," while providing tools to best manage safety performance and increase employee engagement. Participants learned and were able to practice tangible tools that they can use every day to manage through words and actions, including management by walking around, leading by example, reinforcing positive behaviors, creating stump speeches and more. This training program was initiated in North America in 2016 with the participation of more than half of the frontline leaders and it will be expanded to our global facility leaders in the next two years.





# Improving accessibility to personal protective equipment

Maintaining an adequate inventory of the required personal protective equipment (PPE) in various sizes, and having it readily available, is an important element of an effective injury prevention program. The easier it is for employees to obtain the necessary PPE, the more likely they will be to perform their tasks safely. Several of our facilities in Europe have taken steps to improve employee accessibility to various types of PPE by installing dedicated vending machines that distribute these supplies. Through this solution, PPE is available at any time of the day and night by swiping an employee badge or by entering a personal access code. In addition to safety-related benefits, the vending machines provide direct and controlled availability of proper PPE and industrial consumables at the point where they are needed, delivering savings on consumption and improvements in productivity.

# EMPLOYEE RETENTION, DIVERSITY & DEVELOPMENT

Our employees are the most valuable asset we have for improving social, economic and environmental performance. One of the core principles of our corporate strategy is "talent matters." Our culture is one that emphasizes the full potential of our people, who are fundamental to our continued success. When it comes to hiring new employees, decisions are based on merit and qualifications, regardless of race, color, national origin, religion, gender, sexual orientation, age, disability, veteran status, or any other legally protected status. Moreover, we embrace diversity and equal opportunity as a means to access a broader talent pool and foster innovation.

GRI 103-1 GRI 103-2 GRI 103-3 GRI 401-2 GRI 404-2 GRI 405-1

We understand the importance both for employees and the Company to continuously develop professional skills across the workforce. Our Talent Management Framework guides us in supporting employees to improve their performance. Through the utilization of a Performance Based Management approach, performance reviews are held twice a year for all employees. These reviews include an evaluation of how an employee contributes to the business's regional or corporate objectives through individual goals. This process allows managers to support employees in achieving expectations and identify opportunities for continued professional development. By providing resources to develop employees' knowledge and skills, we offer our people opportunities for advancement, enhance value for our customers and retain talent to further our leadership position.

We are also committed to ensuring all employees have their basic needs met to live a healthy and productive life. Our comprehensive benefits programs are designed to supplement social benefits provided by the countries in which we operate. While our benefits vary by location, typically we offer healthcare, life and accidental insurances, disability, retirement and pension plans, business travel accident insurance, medical travel insurance, vacation, holiday and leave entitlement, educational financial assistance and access to retiree medical coverage.

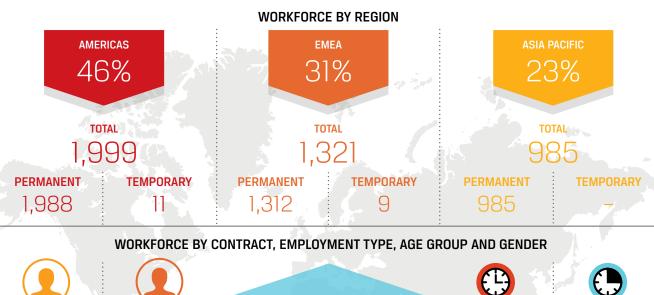


MALE

FEMALE

956







#### **Enhancing employee engagement**

Employee engagement is the extent to which employees feel passionate, energetic and committed to their work. This state is only reached when employees can experience a sense of meaning, autonomy, growth, impact and connection in what they do. Understanding how critically important employee engagement is to developing and maintaining a sustainable workforce, we introduced a project to measure and understand the engagement of our employees. This began with a pilot study in 2016 through which we deployed an employee engagement survey across our Boston and Billerica, Massachusetts, USA sites. Results from the survey were shared with employees, and focus groups were held to gain a deeper understanding of the feedback. As a result, action plans were developed and implemented, focusing on improving communication and creating better employee development, including greater visibility to internal job openings and education on career paths and career conversations. This exercise proved to be a valuable first step to our broader outreach involving a global engagement survey scheduled to launch in 2017.

GRI 102-8

#### RATE OF TURNOVER AND NEW HIRES BY CATEGORY\*



<sup>\*</sup>Rates calculated based on year-end census for each category.

## Transitioning mid-level managers to leadership roles

In 2016, we initiated a pilot training program with 50 mid-level professionals representing diverse functions from all of our regions to develop the necessary skills they would need to transition from being managers to assuming a leadership role. Our "Breakthrough Leadership" program draws from Harvard Business Publishing Corporate Leaders resources which quides participants through self-paced learning, study group activities, on-the-job assignments, virtual classroom sessions led by Cabot leaders and a learning action project over nine months. During this time, participants gained and practiced leadership skills, completed an action learning project with a direct impact on the company, and strengthened their internal network by working with other leaders throughout the organization. We look forward to gathering feedback and lessons learned from the pilot group to optimize and expand the program.

GRI 404-2





The approach we take to giving back to the communities in which we operate is echoed by the good work done by many of our colleagues across the globe. Our employees continue to find meaningful activities in their personal lives that make a difference.



**Gerry Caron** Chief Counsel, Safety, Health & Environment

Gerry is actively involved with the Boston Bulldogs Running Club, a non-profit that provides a community of support for anyone adversely affected by addiction, including those in recovery as well as their families, friends and communities. The club promotes an integrated approach to wellness and selfleadership in recovery. Gerry and his family have been involved with Boston Bulldogs for two years and support for the group's mission is as critical as ever in light of the magnitude of the current opioid epidemic in the United States.



María Luz Mayor Senior Accounting Analyst

Maria donates her time as a volunteer at "We are Diversity," an annual day that recognizes and celebrates the value of diversity as part of the International Day of People with Disabilities. The event features a variety of workshops and activities related to art, sports, recreation and environmental care. Maria also makes regular donations to the Austral University Hospital, an important resource for several local communities. The hospital provides outstanding research and training to its doctors, and its pediatricians donate their time to members of the communities.



Fernando Rosas Specialist, Maintenance Administration

Fernando regularly volunteers his time collecting clothing and medicine for local families in need. He and his wife also offer babysitting services so that the parents can work. They gather and recycle bottles and aluminum cans and use the collected money to help families afford critical medical treatments and prescriptions. In addition, they foster abandoned dogs, providing them with food, medicine and basic care while they search for a family to adopt them.





**George Hostetter Maintenance Mechanic** 

In June 2016, George and his wife led the Smyser Christian Church Youth Group on a mission trip in Belize. The team was comprised of 28 members from their local church, including 21 high school students. As part of the mission, the group built a concrete roof on a three-story building, lifting more than 12 tons of sand and gravel using five gallon buckets on a rope and pulley. Our site in Tuscola, Illinois, USA provided the gloves and safety glasses that the group used during their mission.



**Henrique Santos** 

**IT Infrastructure Coordinator** 

Henrique is a volunteer at his church's "60 Club," a group whose goal is to promote social, physical and leisure activities among older members of the church and community in order to improve their quality of life. The group participates in activities including sightseeing, visits from special guests and informational lectures on relevant topics. Henrique is also a member of the Adventist Solidarity Action, an organization that assists people in need through various activities including collecting food and clothing, providing medical services, visiting orphanages and nursing homes and renovating housing.





Harry Kramer Senior Engineer

Harry has volunteered his time aboard the Dutch passenger ship De Zonnebloem for the past 12 years. The ship, which is specially equipped for the elderly and those who are seriously ill or disabled, provides week-long holidays up to 40 times per year. As one of 60 volunteers on board, Harry is responsible for the personal care of the guests, ensuring their safety both on board and during excursions into city shops and restaurants. He also helps lead activities such as dance and bingo to provide fun entertainment and raise guests' spirits.



Revner Babilonia Dispatch, Shipment and **Foreign Trade Coordinator** 

Since 2015, Reyner has donated his time to the non-profit organization Funvivir whose mission is to support children from low income families as they are battling cancer. Reyner participates in the "Love Plastic Caps Campaign," gathering plastic caps wherever he can find them and delivering them every two months to Funvivir, which then recycles them and uses the funds to further the organization's mission.



Jon Siddall **Process Development Fellow** 

Jon enjoys working with local high schools and universities whenever he has the chance. In 2016, Jon mentored a local student who prepared a project submission for his local high school Science and Engineering Fair and contacted Cabot for help. Jon helped with subject matter knowledge, secured special materials from a supplier and worked with the student as he developed a series of prototype formulations for the project. The student went on to win first place in his local fair and participated in the Massachusetts State Science and Engineering Fair.





Animals have been a passion of Zane's since childhood and she regularly volunteers her time at local animal shelters. She visits often to deliver food, blankets and other needed items, and she spends time walking dogs and assisting the shelter staff. She adopted her first cat more than five years ago, and since then has remained committed to supporting shelters as they continue their mission of rescuing abandoned animals and caring for them until adoption.



**Rhonda Deshotels Capital Coordinator** 

Rhonda has been volunteering for several years for a variety of charitable community programs. She collects can tabs for the Ronald McDonald House and the money raised by recycling them helps offset the organization's operating costs. She also leads a Toy Drive at our Ville Platte plant during the holiday season to benefit children being treated at St. Jude's Hospital in Memphis, Tennessee, USA. She is a committee member of The Gumbo Foundation and through its annual cook-off raises money to defray medical and traveling expenses for a sick child in need. Additionally, Rhonda coordinated a successful clothing drive for a local men's homeless shelter and created a library in a rural community.





Steve recently participated in a house building mission in El Salvador with Shelter Canada, an organization that seeks to provide safe, solid and secure homes for families in need due to extreme poverty. On this trip, Steve and other volunteers worked closely alongside local families, which contributed to a sense of friendship, community and mutual respect amongst everyone involved. Together they tore down old homes, cleared space for the new buildings and constructed brand new houses to help improve the quality of life for these local families.

# COMMUNITIES

We understand the value of partnering with the communities in which we operate, and recognize that thriving and resilient communities are essential for a sustainable future. Community engagement not only benefits our neighbors, but supports our mission to be a responsible industry leader and good corporate citizen. With the generosity of our dedicated employees who offer their time and skills, we are able to go beyond charitable giving and actively support our neighbors.



# **COMMUNITY ENGAGEMENT**

Our philanthropic activities take the forms of volunteerism, monetary gifts from our local facilities and grants distributed from our charitable giving arm, the Cabot Corporation Foundation, Inc. About two-thirds of our facilities have identified local organizations and projects to receive charitable contributions. These teams carefully consider the needs of the people and environment around them, and in 2016, these local facilities made a total of approximately \$500,000 in-kind donations. With oversight from the Cabot Foundation Board of Directors, an additional total of approximately \$1.1 million was pledged or donated to organizations. Preference is given to activities and organizations focused on science and technology education, community relations and civic improvements that positively impact our communities. The Foundation Board regularly evaluates the impact of this giving to ensure funds are used in ways that align with the Company's overall values and addresses the needs of our communities.

GRI 103-1 GRI 103-2 GRI 103-3 GRI 413-1

# HIGHLIGHTS FOUNDATION-SUPPORTED ACTIONS



# Aiding disadvantaged youth in Riga

Our EMEA Business Service Center team in Riga, Latvia provided a generous donation to support the educational needs of children at the SOS Youth House. This organization provides long-term family-based care for youth coming from disadvantaged families that need to learn how to live productively and independently. Throughout the year, our employees worked closely with the organization through the donation of clothes, books and food items while also engaging in social activities such as bowling, table games and a barbeque party.

# Supporting children's rehabilitation in Shanghai

For almost ten years, our team in Shanghai, China and the Cabot Foundation have supported the Boai Children's Rehabilitation Center, which provides treatment and rehabilitation for children with disabilities. In addition, the team in Shanghai has remained involved at the center over the years. In 2016, over 40 employee volunteers accompanied a group of children from the center to the Shanghai Zoo. This recreational outing provided the children with the ability to leave the center to experience nature and various animals, while also exercising their social skills so that they can better reach their goal of going home.







# Supporting children with congenital heart disease

In January, a team of volunteers from our Tianjin, China facility visited children with congenital heart disease being treated at the TEDA Cardiovascular Hospital. The team gave a donation to the hospital on behalf of the Foundation and delivered gifts and well-wishes for the New Year. To date, we have helped 20 children from underprivileged families through these donations.



## **Combining charity and sport**

Our team of 14 employees in Valmez, Czech Republic continued its charity cycling tradition by raising funds for the Together by Bike for Charity initiative. From April through October, in groups of two or more, the participants conquered 20 mountain peaks. They took photos after reaching each peak and the company made a donation for every picture taken. A larger donation was made for those cyclers who conquered all 20 peaks. The money raised will provide assistance services and respite weekend stays for four disabled children.

# HIGHLIGHTS FACILITIES IN ACTION

# Engaging young girls in science, technology, engineering and mathematics (STEM)

In May 2016, a group of seven engineers from our inkjet manufacturing facility in Haverhill, Massachusetts, USA volunteered for Expanding Your Horizons, a nonprofit organization dedicated to providing middle and high school girls with STEM experiences to foster interest in future STEM careers. The team sponsored a workshop titled "Ink It Up" that taught the girls about the different types of ink, including the chemistry of inkjet ink and a demonstration on the science of surface tension that involved dropping water and isopropanol on coins. They also created a greeting card using inks that they mixed themselves.







# Delivering earthquake relief in Japan

In April 2016, several earthquakes hit Kumamoto, Japan. The earthquakes and subsequent aftershocks caused deaths, injuries and widespread damage to the area's residences and infrastructure. Our team in Japan donated time and funds to the prefecture of Kumamoto. In addition to funds, the team spent time visiting different establishments in the city to further support this popular tourist destination as the city recovered.



# Suppo Our team organiza which e social prineed. W

# Supporting children's health in Cartagena

Our team in Cartagena, Colombia supports the charitable organization Fundación Mamonal and its Fondo Unido program, which encourages employees and companies to carry out social projects for the benefit of community members in need. We donate a monthly contribution that provides lunch for 75 girls and boys from Nuestra Señora del Buen Aire. This educational institution evaluates the health and nutritional conditions of vulnerable children and provides workshops on healthy eating and hygiene habits to help prevent disease.



As a leader in the industry, we are always striving to act as a responsible corporate citizen. We are proud of our accomplishments and honored to be recognized by organizations, publications and customers from all around the world. Below is a selection of awards we received in 2016.

# Shanghai plant receives Clean and Green Advanced Technology Honor

In August, the Shanghai Resource Comprehensive Utilization Association and Shanghai Economic and Information Technology Commission conducted a survey of chemical enterprises in Shanghai, China that "adhere to green development, promote green manufacturing and develop green industry." Our Shanghai plant was selected from 29 other companies to be honored for its advanced clean technology and equipment for carbon black production and flue gas treatment. The energy-saving combustion technology has helped our Shanghai plant successfully achieve higher production efficiency. Furthermore, we have also set up an energy center which allows for the desulfurization and denitrification of tail gas and the steam produced is delivered to neighboring enterprises for resource utilization, offsetting the use of fossil fuels at those facilities.





# Cabot Colombiana named "Leading Company"

In May, Cabot Colombiana was recognized as a "Leading Company" among 42 companies during the annual meeting of the Colombia Chapter of Integral Responsibility. This recognition is the result of our contributions to sustainable development through excellent performance in the protection of our people, the community, the environment, process and product safety and security in our logistics chain.

# **AWARDS AND RECOGNITION HIGHLIGHTS 2016**

- ◆ Gold Level Recognition Cabot Corporation, given by EcoVadis
- Outstanding Pioneer in Safety Production Tianjin, China, given by the Tianjin Economic-Technological Development Area (TEDA)
- ◆ Best Carbon Black Supplier São Paulo, Brazil, given by Paint & Pintura
- ◆ Top Supplier Cabot Corporation, given by Kraiburg
- ◆ Core Strategic Supplier Cabot Corporation, given by Linglong Tire
- ◆ Annual Green Operation Award Shanghai, China, given by the 2016 Corporate Social Responsibility and Innovation Shanghai Summit
- Clean and Green Advanced Technology Award Shanghai, China, given by the Shanghai Resource
   Comprehensive Utilization Association and Shanghai Economic and Information Technology Commission
- ◆ 12 FYP Model Enterprise in Environment Protection Shanghai, China, given by the China Petroleum and Chemical Industry
- Outstanding Enterprises for Tax Contributions Xingtai, China, given by the Party Committee of Xingtai
   County and the government of Xingtai County
- ◆ Top Ten Credible Production Enterprises Cabot Corporation, awarded at the 2016 Ninth China Coal Market Seminar
- Harmonious Labor Relation Enterprise Award Tianjin, China, given by the Tianjin Economic-Technological Development Area (TEDA)
- ◆ Advanced Enterprise of Safety Production Management Jiangxi, China, given by the People's Government of Jiujiang City
- Advanced Technical Enterprise with Foreign Investment in Shanghai Shanghai, China, given by the Shanghai Municipal Commission of Commerce
- ◆ Advanced Enterprise for Donating to Schools Xingtai, China, given by the Xingtai County Party Committee and Xingtai County Government
- ◆ Best Enterprises with Social Responsibility in Shanghai Minhang District Shanghai, China, given by the government of the Shanghai Minhang District
- ◆ Gold Seal Cabot Brasil Industria e Comercio Ltda., given by the Mutual Assistance Plan (PAM) Capuava



# **GENERAL DISCLOSURES**

#### **GRI 102: General Disclosures 2016**

Disclosure Number / Disclosure Title	Page / Response
102-1 Name of the organization	Cabot Corporation
<b>102-2</b> Activities, brands, products, and/or services	pp. 12, 13
<b>102-3</b> Location of headquarters	2 Seaport Lane, Suite 1300 Boston MA 02210 USA
<b>102-4</b> Location of operations	p. 13
<b>102-5</b> Ownership and legal form	Cabot Corporation is a publicly traded corporation (NYSE: CBT)
<b>102-6</b> Markets served	p. 12
<b>102-7</b> Scale of the organization	Refer to p. 12 for the number of employees and operations.  Net revenue is listed p. 15.  Total capitalization can be found in Cabot's Form 10-K filed November 23, 2016 (cabotcorp. com/2016annualreport). Part II Item 8. Financial Statements and Supplementary Data.
<b>102-8</b> Information on employees and other workers	<ul> <li>p. 32</li> <li>Non-employee workers do not perform a significant portion of our activities. Only 0.5% of our workforce are on temporary contracts and we employ a small number of interns and apprentices as part of our talent acquisition process.</li> </ul>
<b>102-9</b> Supply chain	P. 6 Cabot's supply chain predominantly consists of vendors providing raw materials, chemical additives, process equipment, vehicles, packaging materials, logistics services and temporary contractors.
<b>102-10</b> Significant changes to the organization and its supply chain	p. 12
<b>102-11</b> Precautionary Principle or approach	Throughout our operations and our product development, we are guided by the precautionary principle and carefully take into account effects on the environment and health and safety.
<b>102-12</b> External initiatives	pp. 5, 8, 28 In addition to the UNGC, Cabot participates in the Carbon Disclosure Project, and we are implementing the American Chemistry Council's (ACC) Responsible Care® program as part of our commitment to safety, health and environment (SH&E).

**GRI 102: General Disclosures 2016** continued Disclosure Number / Disclosure Title Page / Response 102-13 Cabot is an active member of the following national and international industry/advocacy groups Memberships of associations and associations: ◆ American Chemistry Council (ACC) Association of Synthetic Amorphous Silica Producers (ASASP) ◆ China Petroleum & Chemical Industry Federation (CPCIF) ◆ Corporate Environmental Enforcement Council (CEEC) ◆ Environmental Law Institute • essenscia (Belgium) European Masterbatchers and Compounders (EuMBC) ◆ European Plastics Converters - Food Contact Regulatory Experts Panel (EuPC FREP) ◆ International Carbon Black Association (ICBA) ◆ Manufacturers Alliance for Productivity & Innovation (MAPI) Society of Toxicology ◆ Synthetic Amorphous Silica and Silicate Industry Association (SASSI) United Nations Global Compact (UNGC) 102-14 p. 4 Statement from senior decision-maker 102-16 p. 14 Values, principles, standards, and norms of behavior 102-18 The Board of Directors has five standing committees: Audit, Compensation, Executive, Governance Governance structure and Nominating, and Safety, Health and Environmental Affairs. For additional details on the Board's composition, refer to (<u>cabotcorp.com/2016proxystatement</u>). 102-40 p. 9 List of stakeholder groups 102-41 Across all Cabot operations, 16% of employees are covered by collective bargaining agreements. Collective bargaining agreements The terms of collective bargaining agreements are fully aligned with Cabot's Code of Business Ethics (cabotcorp.com/codeofbusinessethics) and Human Rights Policy (cabotcorp.com/ humanrightspolicy). 102-42 p. 9 Identifying and selecting stakeholders p. 9 Approach to stakeholder engagement 102-44 p. 9 Key topics and concerns raised Refer to Cabot's Annual Report Form 10-K filed November 23, 2016 Entities included in the consolidated financial statements Part I Item 1. Business for a description of our operations and entities in which Cabot has ownership interest and exhibit 21 of Cabot's Form 10-k for a list of Cabot's subsidiaries. 102-46 pp. 5, 6 Defining report content and topic boundaries

p. 7

102-47

List of material topics

#### **GRI 102: General Disclosures 2016** continued

Disclosure Number / Disclosure Title

Page / Response

#### 102-48

Restatements of information

p. 20

This report reflects restated values for some of our historical environmental data. We regularly examine our site-specific data and engineering estimates to ensure we have the most accurate data possible for monitoring and reporting our performance. In conducting a review of the baseline (2012) and 2015 calculated emission estimates of sulfur dioxide and nitric oxides, we determined that the original reported data did not include emissions associated with all sources at selected facilities, most notably flare emissions. After reviewing facility mass balance equations, we are able to better quantify the total emissions, which are reflected in the numbers presented in this report. All of our current emission estimates were then compared to mass balance data to ensure the revised emissions estimates were reflective of actual emission data for all of our facilities. Water supply and wastewater data were also reviewed and updated to reflect more accurate assignment of cooling water supplied to our neighbor from our system for 2015. The remainder of the changes are not considered material. Details of the changes are shown in the table below:

Metric	Previously Reported		Updated Value		% Change	
	Absolute	Intensity	Absolute	Intensity	Absolute	Intensity
Energy (MM GJ) - 2015	124.2	-	123.9	_	-0.2%	_
GHG Intensity (MT CO₂e/MT) Scope 1 – 2015	-	2.20	-	2.21	-	0.5%
GHG Intensity (MT CO₂e/MT) Scope 2 - 2014	-	0.19	-	0.20	-	2.3%
SO <sub>2</sub> (KMT)   Intensity (MT/KMT) Baseline - 2012	30.2	17.0	43.2	22.6	43.1%	32.9%
2015	28.9	14.5	39.2	19.8	35.6%	36.6%
NO <sub>x</sub> (KMT)   Intensity (MT/KMT) Baseline - 2012	8.8	5.0	14.9	7.82	69.3%	56.4%
2015	8.9	4.5	15.3	7.70	71.9%	71.1%
Non-Hazardous Waste (KMT)   Intensity (MT/KMT) - 2014	-	17.3	-	17.5	-	1.2%
2015	34.8	17.5	36.3	18.3	4.3%	4.6%
Hazardous Waste (KMT)   Intensity (MT/KMT) - 2014	374.5	182.0	373.9	183.5	-0.2%	0.8%
2015	374.8	188.0	375.2	189.4	0.1%	0.7%
Water Supply (MM m³) / Intensity (m³ / MT) - 2014	-	27.9	-	28.1	-	0.7%
2015	56.8	28.5	51.8	26.1	-9.7%	-8.4%
Water Supply (MM m³) / Intensity (m³ / MT) - 2014	-	21.2	-	21.4	-	0.9%
2015	42.4	21.3	37.0	18.7	-12.7%	-12.2%

There were no restatements of financial or other information.

<b>102-49</b> Changes in reporting	p. 6
<b>102-50</b> Reporting period	p. 5
102-51 Date of most recent report	p. 5

GRI 102: General Disclosures 2016 continued		
Disclosure Number / Disclosure Title	Page / Response	
<b>102-52</b> Reporting cycle	p. 5	
<b>102-53</b> Contact point for questions regarding the report	Inquiries or comments concerning the content of this report may be directed to <a href="mailto:sustainability@cabotcorp.com">sustainability@cabotcorp.com</a> .	
<b>102-54</b> Claims of reporting in accordance with the GRI Standards	p. 5	
102-55 GRI Content Index	This complete GRI Content Index meets the intent and format required by the GRI Standards.	
102-56 External assurance	p. 5	

# MATERIAL TOPICS — ECONOMIC

#### ◆ ECONOMIC PERFORMANCE

#### GRI 103: Management Approach 2016

Disclosure Number / Disclosure Title	Page / Response
103-1 Explanation of the material topic and its boundaries	Refer to p. 15 for a description of the materiality and boundaries of economic performance. The Board of Directors has the primary objective of protecting long-term interests of shareholders by seeking opportunities for growth in Cabot's core business. With support from the Management
<b>103-2</b> The management approach and its components	Executive Committee, the Board oversees financial performance and strategy, capital structure and market exposure, as well as the Company's overall risk profile. Our approach is guided by Cabot's Code of Business Ethics (cabotcorp.com/codeofbusinessethics). Cabot's financial performance is evaluated closely by our investors and the broader investment community. Cabot's annual statements are audited annually by an independent registered public accounting firm.
<b>103-3</b> Evaluation of the management approach	Grievance mechanisms include the Cabot open door policy for employees to raise concerns and report violations of corporate policies or the law. Employees may approach supervisors, the Office of Compliance, or use the Cabot hot-line. Stockholders or other interested parties may contact the Board of Directors with accounting or other concerns ( <a href="mailto:cabotcorp.com/company/about-cabot/governance">cabotcorp.com/company/about-cabot/governance</a> ).

#### **GRI 201: Economic Performance 2016**

Disclosure Number / Disclosure Title	Page / Response
201-1 Direct economic value generated and distributed	p. 15 For additional information, refer to Cabot's 2016 Annual Report on Form 10-k (cabotcorp.com/2016annualreport).
201-2 Financial implications and other risks and opportunities for the organization's activities due to climate change	p. 15 For additional information, refer to Cabot's 2016 Carbon Disclosure Project filing ( <u>cdp.net</u> ).
201-4 Financial assistance received from	Cabot does not receive financial support from governments.

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government

# MATERIAL TOPICS — ENVIRONMENT

#### **GRI 103: Management Approach 2016**

Disclosure Number / Disclosure Title

Page / Response

#### 103-

Explanation of the material topic and its boundaries

#### 103-2

The management approach and its components

#### 103-3

Evaluation of the management approach

Cabot's approach to environmental topics focuses on operations under our direct control. See pp. 20, 21, 22, 24, 25, 26, and 27 for an overview of materiality, our management approach, and evaluation process for environmental topics. This management approach applies to the following topics: energy, water, effluents and waste, emissions, and environmental compliance. The SH&E Committee of Cabot's Board of Directors oversees environmental issues at the highest governance level. The Senior Vice President for SH&E is responsible for the technical guidance on all matters related to SH&E performance and oversees a global team of SH&E professionals including regional SH&E directors. Cabot's SH&E Policy lays out guidelines for environmentally-responsible practices, and company-wide performance goals have been established for environmental nonconformances, energy, air emissions and GHG, and waste.

Grievance mechanisms include the Cabot open door policy for employees to raise concerns and report violations of corporate policies or the law. Employees may approach supervisors, the Office of Compliance, or use the Cabot hot-line. Our manufacturing facilities have opportunities to engage the local community, including the use of a Community Advisory Panel (CAP), and "Open Days" where community members may visit sites and speak directly with Cabot employees regarding their concern. In addition, Cabot welcomes feedback from suppliers and customers should they have any concerns or questions about our products and practices.

#### ENERGY

#### GRI 302: Energy 2016

Disclosure Number / Disclosure Title

----

Page / Response

#### 12.1

Energy consumption within the organization

Energy use is managed at several levels throughout the organization, including corporate-level strategy, analysis, goal-setting, capital programs designed to build and invest in energy efficient facilities, waste energy capture and plant-level management practices to optimize operations and implement efficiency measures as new technologies become available. Data is collected through energy use monitoring and analyzed using standard factors and methods including U.S. Environmental Protection Agency, Chemical Engineering Handbook, and Cabot-specific engineering calculations.

Our total energy consumption in 2016 was 126.1 MM GJ which was sourced from natural gas (3.6%), liquid fuels (0.05%), raw materials (94.4%), purchased electricity (1.9%) and steam (0.09%). For more information about our fuel sources refer to our 2016 CDP disclosure (cdp.net).

#### 302-3

**Energy Intensity** 

p. 2

Our total energy intensity for 2016 was 62.9 GJ / MT of production. Energy consumption includes all forms of energy consumed by facilities under Cabot's operational control, as reported under Disclosure 302-1.

#### ◆ WATER

#### GRI 303: Water 2016

Disclosure Number / Disclosure Title	Page / Response
303-1 Water withdrawal by source	p. 27 Sources of water included purchased municipal water, surface water, ground water, and gray water. Gray water is a new metric included in our data collection as of 2016 and represents water recovered from offsite sanitary systems.
	Sources by Percent of Total Volume Used Surface 72% Purchased 23% Ground 4% Gray 1%
303-3 Water recycled and reused	p. 27 Three of our facilities have zero wastewater discharge, reusing wastewater which would otherwise be discharged in the process. The supplied water to these facilities is among the lowest in our carbon black manufacturing operations.

Disclosure Number / Disclosure Title Page / Response

#### 306-1

Water discharge by quality and destination

p. 27

The majority (94%) of the water discharged is to surface discharge, the remaining volume is discharged to public or private sewers (5%) or groundwater/other (2%). For all water discharged from our facilities, we carefully monitor the quality and if needed, treat outgoing water to meet local regulatory standards.

## ◆ AIR POLLUTANTS / GHG

#### **GRI 305: Emissions 2016**

Disclosure Number / Disclosure Title	Page / Response
<b>305-1</b> Direct (Scope 1) GHG Emissions	p. 24 Our greenhouse gas calculations were completed in accordance with The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standards (Revised Edition), and drawing guidance from the IPCC Guidelines for National Greenhouse Gas Inventories - 2006, and The Climate Registry: General Reporting Protocol. Emissions were calculated using the operational control approach and IPCC Second Assessment Report 100-year global warming potentials, and included emissions of $CO_2$ , $CH_4$ , $N_2O$ . We maintain databases that track monthly usage volumes of feedstock materials, and fossil fuels, as well as production volume. Our 2015 and 2016 GHG emissions were verified in alignment with the principles of ISO-14064-3:2006(E) Specifications with Guidance for the Validation and Verification of Greenhouse Gas Assertions under a Limited Level of Assurance by Cameron-Cole.
<b>305-2</b> Indirect (Scope 2) GHG Emissions	p. 24 See Disclosure 305-1 in the GRI Content Index for a description of GHG monitoring methods.
<b>305-4</b> GHG emissions intensity	p. 24 GHG intensity is calculated as MT CO₂e emissions / MT of product. The intensity of our GHG emissions is calculated for all Scope 1 and 2 emissions produced by facilities under Cabot's operational control, as reported under Disclosure 305-1 and 305-2.
<b>305-7</b> Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> )	p. 25 Data reported has been calculated using actual test measurements based on country specific or U.S. EPA methods, Cabot engineering estimates, U.S. EPA or similar emission factors.

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#### **◆WASTE & SPILLS**

#### GRI 306: Effluents and Waste 2016

Disclosure Number / Disclosure Title Page / Response Waste by type and disposal method Disposal methods for waste generated by Cabot in 2016 include 88% disposed of through deep well injection at one location, 5% reused or recycled for use or energy, 6% landfilled, 0.3% incinerated without energy recovery, 0.3% other disposal methods. 306-3 In calendar year 2016, there were two reportable spills of hazardous materials to the environment Total number and volume of significant spills at our Franklin, Louisiana, USA facility. One spill involved a release of 1,512 gallons of carbon black feedstock which was contained on-site and cleaned up. The second spill involved the release of 178.5 pounds of hydrogen sulfide and 97.6 pounds of carbon disulfide from raw carbon black tailgas vented to the atmosphere.

#### **◆ ENVIRONMENTAL COMPLIANCE**

#### **GRI 307: Environmental Compliance 2016**

Disclosure Number / Disclosure Title Page / Response

307-1

Non-compliance with environmental laws and regulations

Adhering to local environmental laws and regulations is the responsibility of facility general managers as well as site environmental managers located at each facility. In support of compliance efforts, resources include a robust database to track near-miss and ENC events and corrective actions, as well as over \$30MM in capital spending in FY 2016 which was dedicated to improving facilities and reducing ENCs.

#### **◆ SUPPLIERS' SUSTAINABILITY**

#### **GRI 103: Management Approach 2016**

Disclosure Number / Disclosure Title

Explanation of the material topic

and its boundaries

103-2

The management approach and its components

103-3

308-1

Evaluation of the management approach

Page / Response

Cabot indirectly contributes to upstream impacts through our relationships with suppliers. The sustainability performance of our suppliers is a topic recently identified as material and therefore an area we will be looking to evolve over the coming years. Cabot's Supplier Code of Conduct provides additional details on supplier expectations (cabotcorp.com/suppliercodeofconduct). Cabot's Global Purchasing Department is responsible for ensuring that suppliers receive and agree by the terms of the Supplier Code of Conduct.

Grievance mechanisms include the Cabot open door policy for employees to raise concerns and report violations of corporate policies or the law. Employees may approach supervisors, the Office of Compliance, or use the Cabot hot-line. In terms of supplier-specific grievances, employees are also encouraged to provide feedback on supplier performance criteria through a dedicated platform on the Company intranet. We also have an open door policy for suppliers and welcome their feedback should they have any concerns or questions.

#### **GRI 308: Supplier Environmental Assessment 2016**

Disclosure Number / Disclosure Title

Page / Response

Omission

New suppliers that were screened using environmental criteria

Because this topic was first identified as highly material in 2016, systems have not yet been put in place to accurately report this information. We will explore the development of a screening process for critical suppliers that includes assessments of environmental and social criteria.

Information unavailable

#### **GRI 414: Supplier Social Assessment 2016**

Disclosure Number / Disclosure Title

Page / Response

p. 6

**Omission** 

New suppliers that were screened using social criteria

Because this topic was first identified as highly material in 2016, systems have not yet been put in place to accurately report this information. We will explore the development of a screening process for critical suppliers that includes

assessments of environmental and social criteria.

Information unavailable

#### ◆ PRODUCT SUSTAINABILITY

#### **GRI 103: Management Approach 2016**

Disclosure Number / Disclosure Title

Explanation of the material topic and its boundaries

103-2

103-1

The management approach and its components

Evaluation of the management approach

p. 16

Page / Response

Product health, safety, and environmental impacts occur primarily downstream from Cabot's operations through the activities of our customers and in some cases through end-use by consumers, and for an overview of materiality, our management approach, and evaluation process for product sustainability. The key responsibility for this effort resides with Cabot's Product Support and Toxicology Group of the Safety, Health, and Environment (SH&E) Department, as well as the business and research and development teams.

Grievance mechanisms include the Cabot open door policy for employees to raise concerns and report violations of corporate policies or the law. Employees may approach supervisors, the Office of Compliance, or use the Cabot hot-line. In addition, Cabot welcomes feedback from customers should they have any concerns or questions about our products and practices.

#### **GRI 416: Customer Health and Safety 2016**

Disclosure Number / Disclosure Title

Page / Response

416-1

Assessment of the health and safety impacts of product and service categories

p. 16

100% of significant product categories are assessed for health and safety impacts using best available information.

#### MATERIAL TOPICS - SOCIAL

#### ◆ EMPLOYMENT, DIVERSITY, & TRAINING

#### **GRI 103: Management Approach 2016**

Disclosure Number / Disclosure Title

Page / Response

103-1

Explanation of the material topic and its boundaries

103-2

The management approach and its components

Evaluation of the management approach

evaluation process for the following topics: employment, training and education, diversity and equal opportunity, and non-discrimination. Reporting to the CEO and senior executive management committee, the Senior Vice President and Chief Human Resources Officer oversee programs to recruit, retain and support employees at Cabot. The Human Resources Department assists managers across the company with the performance review process, and implementation of Cabot's Code of Business Ethics and Human Rights Policy, which establish expectations for professional conduct, strict adherence to labor practices and human rights laws, and creation

Refer to p. 31 for an overview of materiality and boundaries, our management approach, and

of a safe and healthy workplace. Refer to Cabot's Code of Business Ethics (cabotcorp.com codeofbusinessethics) and Human Rights Policy (cabotcorp.com/humanrightspolicy) for details.

Grievance mechanisms include the Cabot open door policy for employees to raise concerns and report violations of corporate policies or the law. Employees may approach supervisors, the Office of Compliance, or use the Cabot hot-line.

#### GRI 401: Employment 2016 Disclosure Number / Disclosure Title Page / Response 401-1 p. 33 New employee hires and employee turnover p. 31 Benefits provided to full-time employees

#### **GRI 404: Training and Education 2016**

Disclosure Number / Disclosure Title Page / Response 404-1 Average training hours are tracked by three main employee function categories: ◆ Clerical / Technical: 24 hours/employee Average hours of training per year per employee ◆ Professional / Supervisor: 27 hours/employee Management / Experienced: 19 hours/employee 404-2 Programs for upgrading employee skills Our training program is managed on a site-by-site basis, according to the unique mix of each and transition assistance programs

employee's experience and skill set, career interests, and the core business objectives of the company. Our Developing Leaders and Plant Engineer Development programs offer flexible online learning modules to promote mentoring and management skills, technical abilities, and cross-functional learning between different disciplines. Career transitioning is handled with sensitivity and commonly includes outplacement services for future employment opportunities or retirement.

Percentage of employees receiving regular

73.4% of employees received performance and career development reviews in 2016:

#### By Gender:

◆ Male: 69.3% ◆ Female: 87.6%

#### By Employee Category:

- ◆ Clerical / Technical: 58.3%
- Professional / Supervisor: 89.4%
- ◆ Management / Experienced: 93.4%

#### **GRI 405: Diversity and Equal Opportunity 2016**

performance and career development reviews

Disclosure Number / Disclosure Title

For a description of our approach to diversity of employees, refer to p. 31. Diversity of governance bodies and employees Diversity of employees at the end of 2016:

Page / Response

By Gender:

◆ Male: 78% ◆ Female: 22%

By Age Group:

◆ Under 30: 11% ◆ 30-50: 58% ◆ Over 50: 31%

Diversity of the Board of Directors at the end of 2016:

Bv Gender:

◆ Male: 82% ◆ Female: 18%

By Age Group:

◆ Under 30: 0% ◆ 30-50: 9% ◆ Over 50: 91%

#### **GRI 406: Non-discrimination 2016**

Disclosure Number / Disclosure Title Page / Response

406-1

404-3

Incidents of discrimination and corrective actions taken

No incidents of discrimination were reported in 2016.

#### **◆OCCUPATIONAL HEALTH AND SAFETY**

#### **GRI 103: Management Approach 2016**

Disclosure Number / Disclosure Title Page / Response

Explanation of the material topic and its boundaries

103-2

The management approach and its components

103-3 Evaluation of the management approach p. 28

Cabot's approach to occupational health and safety encompasses all direct impacts occurring in facilities under our operational control, including employees, contractors, and visitors. Refer to p. 28 for an overview of materiality, our management approach, and evaluation process for occupational health and safety. Within our Board, the SH&E Committee oversees the safety of products and manufacturing processes. The Senior Vice President of SH&E provides day-to-day management of SH&E programs and also regularly reports to the SH&E Committee. Cabot's SH&E Policy lays out our guiding principles (cabotcorp.com/SHEpolicy).

Grievance mechanisms include the Cabot open door policy for employees to raise concerns and report violations of corporate policies or the law. Employees may approach supervisors, the Office of Compliance, or use the Cabot hot-line. Our manufacturing facilities have formal processes to engage the local community, including the use of a Community Advisory Panel (CAP), and "Open Days" where community members may visit sites and speak directly with Cabot employees regarding their concern.

#### **GRI 403: Occupational Health and Safety 2016**

Disclosure Number / Disclosure Title Page / Response

Workers representation in formal joint management - worker health and safety committees

403-2

Types of injury and rates of injury (IR), occupational diseases (ODR), lost days (LDR), absenteeism (AR), and number of work-related fatalities

Methods for calculating each metric are provided below:

committees represent all workers and contractors.

◆ Total Recordable Incident Rate (TRIR): Number of injuries (employees and contractors) per 100 employees

Lost Time Incident Rate (LTIR): Number of lost time injuries (employees and contractors) per 100 employees

All manufacturing locations, regional offices, and service centers have joint health and safety

committees operating at the site level and reporting up to the corporate SH&E department. These

• Severity Rate: Number of lost work days (employees and contractors) per 100 employees

• Process Safety Events (PSE): Defined by the Center for Chemical Process Safety as a "release of material or energy from a process that resulted in injury, fire or explosion, or release of flammable, combustible or toxic chemicals." PSEs are subdivided into tiers: a Tier 1 event is a loss of containment resulting in consequences including worker injuries that require lost days, fatalities, or direct monetary loss of \$25,000 due to a fire or explosion. A Tier 2 event is a loss of containment resulting in less severe consequences such as a recordable injury or loss of \$2,500 due to fire or explosion.

Explanation of the material topic and its boundaries

103-2 The management approach and its components

103-3

Evaluation of the management approach

Refer to p. 36 for a description of Community Engagement materiality and boundaries, management approach, and evaluation.

Grievance mechanisms include the Cabot open door policy for employees to raise concerns and report violations of corporate policies or the law. Employees may approach supervisors, the Office of Compliance, or use the Cabot hot-line. Our manufacturing facilities have formal processes to engage the local community, including the use of a Community Advisory Panel (CAP), and "Open Days" where community members may visit sites and speak directly with Cabot employees regarding their concerns.

#### **GRI 413: Local Communities 2016**

Disclosure Number / Disclosure Title

Page / Response

413-1

Operations with local community engagement, impact assessments, and development programs p. 36

