

# SUSTAINABILITY

The information contained in our sustainability reporting is supplemented by other Minerals Technologies' reports and documents. These include the Annual Report to Shareholders, the annual Form 10K and SEC filings, which can be found on our website: www.mineralstech.com. We encourage readers to review all these sources to learn more about MTI in addition to our sustainability efforts.

This report may contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, which describe or are based on current expectations. Actual results may differ materially from these expectations. In addition, any statements that are not historical fact (including statements containing the words "believes," "plans," "anticipates," "expects," "estimates," and similar expressions) should also be considered to be forward-looking statements. The company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise. Forward-looking statements in this document should be evaluated together with the many uncertainties that affect our businesses, particularly those mentioned in the risk factors and other cautionary statements in our 2013 Annual Report on Form 10-K and in our other reports filed with the Securities and Exchange Commission.

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#### **PEOPLE**

- We place the health and safety of people ahead of all else.
- We cultivate respect for individuals and for the diversity of cultures, beliefs, and perspectives.

#### **HONESTY**

- We value honest, open and ongoing communications with our employees, customers, shareholders, suppliers and the communities in which we do business.
- We uphold the spirit and intent of the law and conduct our affairs ethically.

#### **CUSTOMER FOCUS**

- We foster relationships with our customers based on trust and mutual benefit.
- We strive to enhance value to customers through improved product quality, customer service and innovation.

#### **ACCOUNTABILITY**

- We deliver profitable growth and higher returns for our shareholders.
- We manage our operations, our capital, and our business opportunities in a sustainable manner.
- We serve as good stewards of natural resources, and we employ sound environmental practices to protect the communities in which we operate.

#### **EXCELLENCE**

- We constantly seek new, innovative technologies and efficient business processes to remain a market leader.
- We drive for success by focusing on continuous improvement in all facets of the business—processes, systems, products, services and people.

## DEAR STAKEHOLDERS:

Since 2007, the employees of Minerals Technologies Inc. have been fully engaged in a process of continuous improvement known as Operational Excellence (OE). These efforts, which are critical to the continued success of MTI, have resulted in a number of significant improvements in the areas of safety, the environment, finance and operations. This, our sixth Sustainability Report, summarizes the results of these efforts.

In 2014, MTI acquired AMCOL International Corporation based in Hoffman Estates, Illinois. AMCOL is the world's leading producer of bentonite, an exceptionally versatile mineral with multiple applications in worldwide markets. This acquisition has doubled our size and has significantly advanced our position as a U.S.-based leader in industrial minerals. The combination will give MTI worldwide leadership positions in both precipitated calcium carbonate (PCC)—a position we have held for many years—and bentonite. As we integrate the former AMCOL businesses, we are introducing those same Operational Excellence processes to our new employees. We have already started with my first priority—Safety. The safety of our employees is paramount at MTI. This 2013 update, however, will be focused only on the heritage MTI businesses, since the acquisition wasn't completed until May of 2014

In 2013, MTI continued to improve our safety performance at all locations and business units. Two thousand thirteen was the fourth year out of the past five in which the recordable injury rate was less than 2.0 injuries per 100 employee-years. More importantly, the lost workday injury rate in 2013 was the lowest in MTI history. The overall rate of 0.386 injuries resulting in lost workdays per 100 employee-years was 20% lower than the 2012 rate. It should be noted that 2013 was the second year in a row that the lost workday injury rate was less than 0.500 and the sixth year in a row that this rate was less than 1.0.

Everyone in this company can be proud of our safety record and our efforts to make MTI a safer place to work. Our goal is for all MTI employees and visitors to return home at the end of their workday in the same condition as they came to work. The improvements in our safety record demonstrate that we are making progress towards this goal in all business units and all regions. However, there is still a lot for every MTI employee to do, and we remain committed to the target condition of zero injuries worldwide with the belief that all injuries can be prevented.

Our efforts to implement Operational Excellence into the company began in 2007 by teaching a number of Lean principles to leaders in the company, who, in turn, trained employees throughout the organization. This approach has ingrained these processes, which include:

- 5S: A foundational way to organize the workplace, epitomized by the phrase: "A place for everything and everything in its place." This process highlights waste and serves as a basis for continuous improvement. The 5 S's are: Seiri (Sort); Seiton (Set in Order); Seiso (Shine); Seiketsu (Standardize); Shitsuke (Sustain).
- Standard Work: A detailed definition of the most efficient method to perform a task to ensure a safe, stable, repeatable and unambiguous process to achieve the reliable output of processes and superior quality.
- Total Productive Maintenance (TPM): A process to optimize equipment effectiveness, eliminate breakdowns and promote autonomous operator maintenance through day-to-day activities involving the total workforce.
- Daily Management Control: A system that supports the ability to manage departments, functions and processes.
   Key operational data is collected, measured and charted for visual tracking. This tracking facilitates rapid responses to sudden operational issues or the adoption of countermeasures to slowly developing adversity.
- Kaizen Events: Highly focused improvement workshops that address a specific process or work area. (Kaizen translates to "change for the better.") The events, which can be a few hours or multi-days, typically involve a cross-functional group and may include suppliers and customers.

#### "OUR RESPONSIBILITY TO PROTECT THE ENVIRONMENT REMAINS A TOP PRIORITY AND ONE WHERE WE HAVE ALSO REALIZED IMPROVED PERFORMANCE. EACH BUSINESS UNIT HAS USED THE OE TOOLS TO REDUCE WASTE AND THE ENVIRONMENTAL IMPACTS OF THEIR OPERATIONS."

In 2010, MTI began merging our focus on Safety with the Lean principles to better leverage both efforts. This approach is illustrated by the combination of the MTI Residual Risk Reduction process to all Kaizen, Standard Work and TPM activities. This integration of Lean and Safety provides an excellent platform for performing tasks and managing our processes in the safest and lowest-cost ways possible.

Today, every MTI employee, whether in a manufacturing operation or a staff function, is engaged in applying these tools and processes in eliminating waste. In 2013, our employees held more than 1850 Kaizen events, which, on average, meant that five continuous improvement events occurred every day somewhere in MTI. Our employees also continued to generate new ideas through a robust suggestion system, which has become an integral part of how we operate. For 2013, our employees generated more than 15,000 ideas of which 70 percent were implemented. The number of both Kaizen events held and employee ideas submitted during 2013 increased by more than 50 percent over 2012. And, the results have been significant, as our sales per employee have improved by more than 30 percent since 2007 while production (as measured in tons per employee) has increased by more than 12 percent since 2007. Clearly, continuous improvement has become a norm of the MTI culture.

Our responsibility to protect the environment remains a top priority and one where we have also realized improved performance. Each Business Unit has used the OE tools to reduce waste and the environmental impacts of their operations. Minteq, our refractory business, now incorporates recycled refractory materials in many products, thus reducing the amount of material sent to landfills as well as the environmental impacts of producing fresh raw materials. The Paper PCC group, the world's largest supplier of precipitated calcium carbonate to the paper industry, has developed new products and processes that reduce the environmental impacts of our paper customers. Performance Minerals, which provides ground calcium carbonate, talc and PCC for non-paper applications has

focused on energy improvements and increasing the ratio of product to mined materials. All of these efforts are providing substantial environmental benefits to MTI and our customers.

On the economic and social fronts, we recorded record earnings for the fourth year in a row. This was the result of some improvement in the economic environment in our major end markets of paper, steel, construction and the automotive industries, but it was also the result of the dedicated efforts of our employees to improve productivity significantly through our Operational Excellence/Lean initiatives. The company recorded operating income of \$124.4 million, which increased by 10 percent over 2012. The operating income as a percentage of sales was 12.2 percent, a 7-percent improvement over 2012. Earnings per share for 2013 were \$2.42, up 12 percent over the \$2.16 per share we recorded in 2012. Net income was \$80.3 million, an 8-percent increase over 2012's \$74.1 million.

We are interested in learning what our stakeholders think about our sustainability efforts so we can improve in the future. Please send your thoughts to: investor.relations@mineralstech.com.

Sincerely,

Joseph C. Muscari Chairman and Chief Executive Officer

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#### **EXCELLENCE ACCOUNTABILITY**

## EXCELLENCE ACCOUNTABILITY

- We constantly seek new, innovative technologies and efficient business processes to remain a market leader.
- We drive for success by focusing on continuous improvement in all facets of the business—processes, systems, products, services and people.
- We deliver profitable growth and higher returns for our shareholders.
- We manage our operations, our capital, and our business opportunities in a sustainable manner.
- We serve as good stewards of natural resources, and we employ sound environmental practices to protect the communities in which we operate.



# RISKS AND OPPORTUNITIES

Minerals Technologies Inc. has been an operating entity since 1992, when it was formed through an initial public offering. We have grown from a company that had \$360 million in revenues in 1992 to \$1.02 billion in 2013. The company is dedicated to profitable growth and improving shareholder value

In 2007, the company adopted four longer-term, major initiatives aimed at improving environment, health and safety, operating performance and sustainable growth. These initiatives are guided by cross-functional lead teams for Environmental, Health & Safety (EHS); Operational Excellence; Expense Reduction; and Technology and Innovation. MTI has made significant progress in all of these areas.

MTI's primary goal is to provide a safe workplace for all employees and visitors. As a result of the effort by our employees worldwide, the company's safety performance continued on a strong track in 2013. The 2013 lost workday rate of 0.386 injuries per 100 employees was the lowest in company history and is approaching world class safety levels. The company recordable injury rate declined from the previous year to 1.594 injuries per 100 employees and was the fourth year out of the past five in which the recordable injury rate was less than 2.0 injuries per 100 employee-years.

Our efforts to improve productivity and efficiency in all areas of MTI through Operational Excellence continue to provide huge benefits. Sales per employee have increased from \$367,000 per employee in 2007 to \$483,000 per employee in 2013, a compound annual growth rate of 5 percent.

Our focus on innovation and new product development provides further opportunities for sustaining the financial growth of MTI. The Technology Lead Team put in place a very successful new product development process, which includes employee and customer involvement in generating new product ideas. Since 2007, MTI's three business units have launched 44 new products and have more than 65 in development, thanks to the efforts of this Team. We continue to look for opportunities to penetrate new markets and take advantage of our expertise in crystal engineering.

THE 2013 LOST WORKDAY RATE OF 0.386 INJURIES PER 100 EMPLOYEES WAS THE LOWEST IN COMPANY HISTORY AND IS APPROACHING WORLD CLASS SAFETY LEVELS.

#### ORGANIZATIONAL PROFILE

## ORGANIZATIONAL PROFILE

Minerals Technologies Inc. is a resource- and technology-based company that develops, produces and markets worldwide a broad range of specialty mineral, mineral-based and synthetic mineral products and supporting systems and services. Headquartered at 622 Third Avenue in New York City, the heritage MTI has two reportable business segments and three business units. With the acquisition of the former AMCOL in May of 2014, MTI now has five reportable segments and six business units.

The two reportable segments are Specialty Minerals and Refractories. Specialty Minerals produces PCC and mines and processes limestone and talc. These products are used principally in the paper, building materials, and automotive industries. Refractories, which also include metallurgical wire and application equipment, are used primarily in the steel industry. The business units are: Paper PCC (precipitated calcium carbonate); Refractories, which is operated by Minteq International Inc.; and Performance Minerals, which includes our Processed Minerals and Specialty PCC businesses. The former AMCOL business segments are Performance Materials, Construction Technologies and Energy Services. Products from these businesses are used in the foundry, household and personal care, construction and the oil and gas producing industries.

A technology driven company, MTI places great emphasis on the research and development of technologically advanced new products, which has allowed us to anticipate and satisfy changing customer requirements. This, in turn, has allowed us to create new market opportunities through new product development and product application innovations.

#### Specialty Minerals Segment

#### Paper PCC

MTI is the largest supplier of PCC to the worldwide paper industry. At the end of 2013, the company had more than 55 Paper PCC plants in 17 countries at paper mills owned by the world's largest paper companies. The company's

PCC is used primarily as mineral filler in the production of coated and uncoated wood-free printing and writing papers, such as office papers. MTI also produces PCC used to coat both wood-free and groundwood papers.

MTI manufactures several customized forms of PCC using proprietary processes. Each product form is designed to provide optimum balance of paper properties including brightness, opacity, bulk, strength and improved printability. The company's research and development and technical service staffs focus on expanding sales from its existing Paper PCC plants as well as developing new technologies for new applications.

#### **Processed Minerals**

This business unit mines and processes natural mineral products, primarily limestone and talc. The Performance Minerals operations also manufacture lime, a limestone-based product and Specialty PCC products. Lime is used both as a raw material for the manufacture of PCC and is sold commercially.

Limestone products are mined and processed at Adams, MA, Canaan, CT and Lucerne Valley, CA. Lime and Specialty PCC are produced at the Adams, MA and Lifford, UK facilities. The company mines, beneficiates and processes talc at its Barretts site, located near Dillon, MT. Talc is sold worldwide in finely ground form for ceramic applications and in North America for paint and coatings and polymer applications. In addition, the PCC produced by our Performance Minerals facilities is used as a key ingredient in the polymer, construction, automotive, food and pharmaceutical industries.

The company's natural mineral products are supported by the company's limestone reserves located in the western and eastern parts of the United States, and talc reserves located in Montana. The company estimates these reserves, at current usage levels, to be in excess of 30 years at its limestone production facilities and in excess of 20 years at its talc production facility.

ORGANIZATIONAL PROFILE

#### Refractories Segment

#### Refractory Products and Markets

The Refractories segment operated by Minteq produces and markets a broad range of monolithic and shaped refractory materials, services and application and measurement equipment, and calcium metal and metallurgical wire products. These products are used primarily in high-temperature applications in the steel, non-ferrous metal and glass industries.

Refractory product sales are supported by our Steel Mill Service groups, which provide on-site technical service support and use proprietary application equipment developed and supplied by our application experts. The company's proprietary measurement and robotic application systems allow for precise remote-controlled application of our refractory products. The use of our engineered refractory products and application systems enable Minteq to greatly extend the life of the high-temperature equipment while improving the safety of our Steel Mill Service teams.

#### Metallurgical Products and Markets

The company produces a number of other technologically advanced products including calcium metal, metallurgical wire products and a number of metal treatment specialty products. The metallurgical wire products are injected into molten steel to improve castability and reduce imperfections. MTI manufactures calcium metal and purchases calcium in international markets.

#### MTI LOCATIONS WORLDWIDE

## MTI LOGATIONS WORLDWIDE

Minerals Technologies operates in 26 countries, with 79 plants, seven research facilities and 20 sales and administrative offices worldwide. The company operates in: the United States, Australia, Canada, Belgium, Brazil, China, Finland, France, Germany, The Netherlands, India, Indonesia, Ireland, Italy, Japan, Malaysia, Mexico, Poland, Portugal, Singapore, Slovakia, South Africa, Thailand, Turkey and the United Kingdom.

MINERALS TECHNOLOGIES OPERATES IN 26 COUNTRIES, WITH 79 PLANTS, SEVEN RESEARCH FACILITIES AND 20 SALES AND ADMINISTRATIVE OFFICES WORLDWIDE.



#### MTI's Awards and Achievements

The success of the Performance Minerals safety initiatives has been recognized by the US Mine Safety and Health Administration, which has issued Certificates of Safety to the Adams, MA; Barretts, MT; and Lucerne, CA plants for 2013. The Barretts plant also received the Industrial Minerals Association—North America award for achieving/reaching 200,000 hours in 2013 with no reportable injuries.

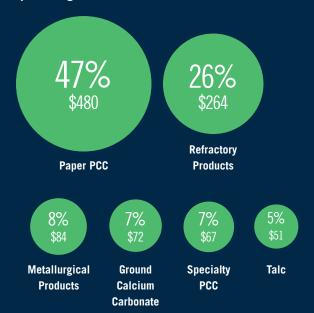


As of December 31, 2013, the company employed 1,978 persons. Worldwide net sales for 2013 were \$1,018.4 million, a 2 percent increase from the \$996.8 million recorded in 2012.

At the close of 2013, the company had \$874.47 million in equity and \$88.7 million in debt. Total market capitalization for the company was approximately \$2.06 billion.

#### **2013 NET SALES BY PRODUCT LINE**

(percentage/millions of dollars)



#### **2013 NET SALES BY GEOGRAPHIC AREA**

(percentage/millions of dollars)



## REPORT PARAMETERS

In 2007, MTI established the Environmental, Health and Safety (EHS) Lead Team with the purpose of significantly improving MTI's safety program and environmental performance. The team was given the charge of providing guidance and deploying effective policies, practices, procedures and standards to enable each location to achieve these breakthrough improvements. Currently, the team currently is led by the Vice President of Performance Minerals and includes representatives from each of the company's geographic regions and business units.

In 2009, the EHS Lead Team published the first MTI Sustainability Report summarizing the relevant sustainability aspects of the company's activities. The team used the Global Reporting Initiative (GRI) Level C guidelines as the guide for the report. The EHS Lead Team recognized that the process of collecting and summarizing the information necessary for this report would result in a better understanding of the impacts of the activities of each business unit and location.

This sixth update reviews the key sustainability topics that are relevant to MTI's activities. We used both an internal process and feedback from MTI's stakeholders to identify and evaluate the Indicator Aspects listed in the GRI guidelines.

The data for 2013 should be compared to the baseline period of 2006 to 2008. The report is updated on an annual basis. Questions, comments and suggestions about this Sustainability Report should be directed to the following address:

#### Investor Relations

Minerals Technologies Inc.
Corporate Communications

622 Third Avenue

New York, New York 10017 USA

Phone: +1-212-878-1831

Email: investor.relations@mineralstech.com

## SCOPE OF REPORT

The major goal of this report is to identify and quantify the key topics and indicators relevant to the company's activities. The content of this sixth update is based upon input from routine discussions with customers and investment companies as well as a formal process for soliciting input from key selected stakeholders.

This update of the MTI Sustainability Report summarizes the environmental activities of all mining and manufacturing operations owned and operated fully or in part by any of the business units operating as of December 31, 2013, including joint ventures. The report also reviews the economic and social impacts of our manufacturing, administrative, research and Steel Mill Service locations—those steel mills where our employees provide service. These boundaries cover all operations over which MTI exercises direct control. The report does not include the activities of suppliers, nor does it cover the activities of tolling (outsourced) manufacturers. A small number of U.S. and European tolling operations provide finished product and intermediates to MTI. MTI does not direct the activities of these tolling operations.

#### REPORT LIMITATIONS

#### This update has the following limitations:

 Some manufacturing operations do not record specific environmental metrics. Where data was not available for the reporting period, estimates were made based on similar operations or historical information. We continue to improve the process of gathering the pertinent environmental metrics from all operations.

- The company's administrative and research locations do not record energy use, water or wastewater flows or solid waste. As the total impacts from these operations are not significant compared to those of the manufacturing operations, this information has not been collected.
- No data on energy use, water use or solid waste is collected for the Minteq International Inc. Steel Mill Service locations, which are located within customers' steel mills. Typically, the Steel Mill Service crews rely upon the customer to provide energy, water and waste disposal at the application site within the steel mills. These activities are a small fraction of the overall impacts associated with those of the steel mill and have no significant effect upon the data contained in the MTI sustainability report.
- This update includes the greenhouse gas impacts of the electrical use at the Performance Minerals and Minteq manufacturing operations. At this time, MTI does not have site-specific greenhouse gas emission factors from the Paper PCC host paper mills that supply these operations with electricity. Due to the fact that the paper mills often use co-generation systems rather than public electrical suppliers, the emission factors must be gathered on an individual site basis.

THE CONTENT OF THIS SIXTH UPDATE IS BASED UPON INPUT FROM ROUTINE DISCUSSIONS WITH CUSTOMERS AND INVESTMENT COMPANIES AS WELL AS A FORMAL PROCESS FOR SOLICITING INPUT FROM KEY SELECTED STAKEHOLDERS.

## GOVERNANCE, COMMITMENTS ENGAGEMENT

Minerals Technologies' governing body is its seven-member Board of Directors. Joseph C. Muscari is Chairman of the Board. In addition to Mr. Muscari, the Board consists of six independent directors. In order to maintain and reinforce alignment of leadership between management and the Board, the chairman is also the chief executive officer. The Board of Directors has three committees—Compensation, Audit, and Corporate Governance & Nominating.

#### Mechanisms for shareholders and employees to provide recommendations or direction to the Board include:

- Stockholders and any other interested parties may communicate by e-mail with the independent members of the Board at the following address:
  - independent.directors@mineralstech.com. The independent members of the Board have direct access to all messages sent to this address; the messages are monitored by MTI's office of the General Counsel. No message sent to this address will be deleted without the approval of the chair of the committee of the Board with primary responsibility for the principal subject matter of the message.
- To propose items of business for consideration at the company's Annual Meeting, written proposals must be made through the process laid out in the company's Proxy. If intended to be considered at an Annual Meeting, the nomination or proposed item of business must be received not less than 70 days nor more than 90 days in advance of the first anniversary of the previous year's Annual Meeting.

- An Investor Relations contact is provided on the MTI website.
- The company has an MTI Hotline, which allows employees to report any corporate governance concerns.
   These concerns go to the General Counsel and are then presented to the Audit Committee of the Board.

#### The primary duties of the Audit Committee are:

- To assist the Board of Directors in its oversight of (i)
  the integrity of the company's financial statements, (ii)
  the company's compliance with legal and regulatory
  requirements, (iii) the qualifications and independence of
  the company's independent registered public accounting
  firm, and (iv) the performance of the company's internal
  audit function and independent registered public
  accounting firm;
- To appoint, compensate, and oversee the work of the independent registered public accounting firm employed by the company (including resolution of disagreements between management and the auditors concerning financial reporting) for the purpose of preparing or issuing an audit report or related work. The independent registered public accounting firm shall report directly to the committee; and
- To prepare the report of the committee required by the rules of the SEC to be included in the company's annual proxy statement.

### The primary duties of the Compensation Committee are:

- To participate in the development of the company's compensation and benefits policies;
- To establish, and from time to time, vary the salaries and other compensation of the company's employee-directors and other elected officers; and
- To participate in top-level management succession planning.

## The primary duties of the Corporate Governance and Nominating Committee are:

- The identification of individuals qualified to become Board members and the recommendation to the Board of nominees for election to the Board at the next annual meeting of stockholders or whenever a vacancy shall occur on the Board.
- The establishment and operation of committees of the Board: and
- The development and recommendation to the Board of corporate governance principles applicable to the company.

#### STAKEHOLDER GROUPS

## STAKEHOLDER GROUPS

MTI used both formal and informal methods to identify stakeholders and obtain input regarding the topics and indicators that are material to the company's activities. Those stakeholders who provided input include:

- Customers
- Employees
- Shareholders
- Suppliers
- Board of Directors

## **ENVIRONMENTAL**

The information provided in this section is a summary of the metrics developed to assess the environmental impacts of our manufacturing operations. Data for the period 2006 to 2008 serves as a baseline for comparison against the improvements that have been realized as a result of the efforts by everyone in the company.

The various environmental metrics applicable to operations are presented individually. Each of the metrics is presented on the basis of tons of production. This allows one to identify improvements in specific environmental measures (such as water use and electrical consumption) that are independent of production changes.

## **ENERGY**

#### Fossil Fuel

The Performance Minerals and Refractory facilities use a variety of liquid and gaseous fuels, including natural gas, propane, diesel oil and Number 6 oil in process dryers, kilns and for mobile equipment. The Paper PCC process does not involve any combustion or other fuel-using operations. The only fuel used at these facilities is a very small amount for forklifts and space heating equipment. The amount of fuel used within Paper PCC would have a negligible impact on the overall company usage and thus this information is not included in these metrics.

No MTI facility uses coal or other solid fuel, nor does any MTI facility burn hazardous wastes as a fuel.

The reported fuel use for each site has been converted into million BTUs per ton of total production and then combined into business unit and company-wide metrics. This information is presented in Figure 1.

During 2012 and 2013, the Processed Minerals business unit in Adams, MA, completed a project to convert fuel used in the primary lime kilns from No. 6 oil to natural gas. The conversion has already resulted in reduced energy costs for the facility and a significant reduction in carbon dioxide and other pollutant emissions. The full impact of the conversion will be evident in 2014, the first full year of operating the two kilns on natural gas.

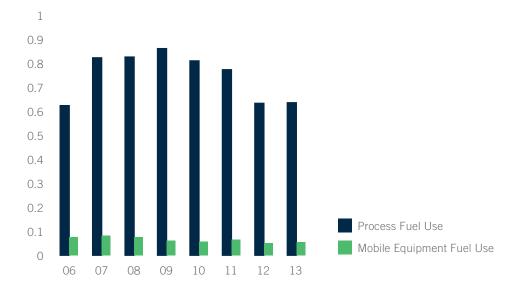
NO MTI FACILITY USES COAL OR OTHER SOLID FUEL, NOR DOES ANY MTI FACILITY BURN HAZARDOUS WASTES AS A FUEL.

#### FIGURE 1.

#### Combined Fuel Use for Performance Minerals and Minteg

(Million BTUs per Ton of Product)

Note: Paper PCC does not use process fuel and uses only an insignificant amount of mobile equipment fuel. Therefore, the fuel use and production values for this chart are limited to Performance Minerals and Minteg operations.



#### Electricity

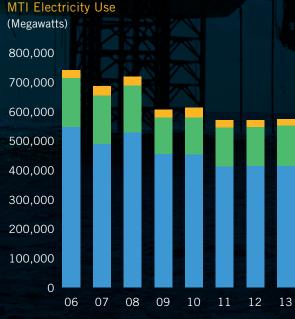
The majority of the company's production operations record annual electrical usage. Where data is missing, the electrical use has been estimated using ratios of electrical use to production rates. Figure 2 presents electrical use in megawatt hours while Figure 3 presents the same information compared with total production.

MTI has used the Lean processes, particularly Kaizen and TPM events, as well as employee suggestions, to identify and implement a number of energy reduction projects at our locations. These range from lighting improvements in our offices, production areas and warehouses to installing

more efficient motors and drives in our operations to implementing best maintenance practices at our production facilities. As a result of these efforts, all of the business units experienced a reduction in electrical use per-ton-of product from the base period of 2006 to 2008.

MTI continues to evaluate other options for reducing energy consumption and impacts, including the use of alternative energy. To date, on-site wind and solar options (primarily at the Performance Minerals sites) have not proven economically viable. However, MTI will continue to explore these and other opportunities as the technology improves.

#### FIGURE 2.



Paper PCC

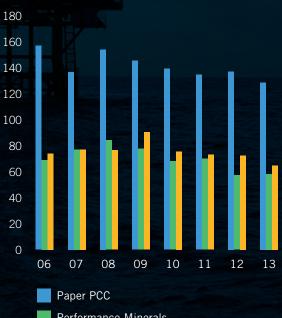
Minteg

**Performance Minerals** 

#### FIGURE 3.

MTI Electricity Usage

(Kilowatts of Electricity Used per Ton of Product)



Performance Minerals

Minteq

#### WATER AND EFFLUENT

## WATER AND EFFLUENT

Figures 4 and 5 present summaries of the amount of water used and discharged by the Performance Minerals and Paper PCC operations. These Business Units use water for process and cooling purposes. The Minteq operations use only a small amount of water in preparing cast shapes and small amounts of specialized products. The total amount of water used by Minteq is insignificant (less than 0.1%) compared to the water used by Performance Minerals and Paper PCC. Therefore, Minteq operations are not included in these graphs.

The difference in water use and effluent for Paper PCC is due to the fact that much of the water used in the PCC process is either transferred to the customer with the final product (typical filler PCC products contain 80 percent water; typical coating products contain approximately 20 percent water) or is lost via evaporation. The process effluent from the onsite PCC plants is discharged to wastewater treatment plants operated either by the host paper mills or by local municipalities. Cooling water from PCC plants is managed in a variety of ways, including return to the host mill for use in their systems, direct discharge of clean cooling water to surface water and discharge of cooling tower blow-down to treatment operations. Water that is returned to the host mill for reuse is not considered wastewater.

The majority of the water used by the Performance Minerals' facilities is associated with the production of Specialty PCC and talc. The effluent from these operations is discharged to surface water after treatment. A portion of the water used by Performance Minerals is reused, drains to groundwater through settling ponds or is lost through evaporation.

It should be noted that the wastewater discharged from the Performance Minerals facility in Adams, MA, includes a large amount of storm water or snow melt runoff that accumulates in the quarry and other areas of the site. Due to the topography of the site, much of this water joins the plant process effluent in settling and cooling ponds before being discharged to the Hoosic River. During periods of heavy rainfall, the amount of wastewater produced may often exceed the water used at this location. This affects the ratio of water use and effluent for Performance Minerals as shown in Figures 4 and 5.

IT SHOULD BE NOTED THAT THE WASTEWATER DISCHARGED FROM THE PERFORMANCE MINERALS FACILITY IN ADAMS, MA, INCLUDES A LARGE AMOUNT OF STORM WATER OR SNOW MELT RUNOFF THAT ACCUMULATES IN THE QUARRY AND OTHER AREAS OF THE SITE.

FIGURE 4.
MTI Total Water and Effluent Volumes
(Million Gallons Per Year)



FIGURE 5.
Paper PCC and Performance Minerals Water and

(Gallons per Ton of Product)

**Effluent Volumes** 



#### AIR EMISSIONS



Figures 6 and 7 summarize the greenhouse gas emissions resulting from MTI processes, mobile equipment and the indirect use of electricity, as explained below.

#### Greenhouse Gas Emissions from MTI Processes

Direct greenhouse gas emissions are reported by two locations (Lifford and Adams) using site-specific methods approved by regulatory officials. The greenhouse gas emissions from the other MTI facilities that burn fuel are calculated using the World Resources Institute (2008) Greenhouse Gas (GHG) Protocol Tool for Stationary Combustion (Version 4.0). This tool uses emission factors from the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories and the amounts of fuel used to calculate direct emissions of carbon dioxide, methane and nitrous oxide (the three principal greenhouse gases resulting from fuel combustion). The tool then converts the emissions of each of the gases into carbon dioxide equivalents (CO<sub>2</sub>e), which convert the emissions of each greenhouse gas into a common unit.

The total tons of direct carbon dioxide equivalent emissions resulting from Minteq and Performance Minerals are presented in Figures 6 and 7. Recently, this information was updated to include mobile fuel usage at the Paper PCC and Minteq operations (forklifts, front-end loaders etc.). This data also includes the amount of carbon dioxide released from the calcination of lime and magnesia<sup>1</sup>. It should be noted that the Paper PCC facilities do not use fuel in any production operations nor does Paper PCC have any combustion processes. As a result, air emissions from Paper PCC are not included in this section.

The amount of process greenhouse gases emitted from the Minteq operations increased significantly between 2006 and 2007 due to the purchase of the Refractory facilities in Turkey. Both use significant amounts of fuel and the Kutahya facility produces calcined magnesia, which results in emissions of carbon dioxide from the magnesium carbonate feed.

Greenhouse gases from the Minteq operations per ton of product have increased since 2010 primarily as a result of production decreases at locations that do not use significant amounts of process fuel. The Turkish facilities account for more than 90% of the fuel use and therefore, produce more than 90% of the greenhouse gas emissions for Minteq. Production at these two locations has increased since 2010. However, production at other Minteq sites has declined, resulting in an increased amount of total emissions per total tons of Minteg product. It should be noted that this is offset in part by the use of recycled refractory. This process, developed by the Minteq R&D group, uses spent refractory recovered from steel mills as a substitute for a portion of the virgin magnesia in specific products. Use of recycled material avoids the energy and environmental impacts of producing fresh calcined magnesia.

The lime kilns at the Performance Minerals facilities in Adams, MA, and Lifford, UK, transform calcium carbonate (CaCO3) to calcium oxide (CaO) with the resulting emission of one molecule of carbon dioxide from the limestone. In a similar manner, the magnesia kilns at the Minteq operation in Kutahya, Turkey, transform magnesium carbonate (MgCO3) to magnesia (MgO) with the resulting emission of one molecule of carbon dioxide. These non-fuel process CO<sub>2</sub> emissions are included in the data presented in Figures 6 and 7.

#### Greenhouse Gas Emissions Resulting from MTI Electrical Use

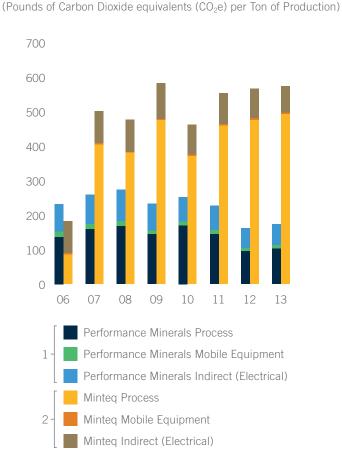
MTI has calculated the indirect greenhouse gas emissions resulting from the production of purchased electricity provided by public utilities using the World Resources Institute 2009 GHG Emissions from Purchased Energy spreadsheet (Version 21 (1)). This tool uses a variety of emission factors for specific regional or national electrical suppliers to calculate indirect greenhouse gas emissions. The tool then converts the emissions of each of the gases into carbon dioxide equivalents ( $CO_{\sigma}e$ ).

The data only includes information for Performance Minerals and Minteq. The Paper PCC facilities typically use electricity generated by the host paper mill. These facilities increasingly use co-generation systems and/or burn biomass materials (such as wood bark) to produce electricity. As a result, the emission factors for each of these facilities must be gathered on an individual site basis, and will change significantly year to year based on the mill's fuel mixture. At this time, MTI is unable to obtain site-specific greenhouse gas emission factors from the Paper PCC host paper mills that supply these operations with electricity.

## FIGURE 6. MTI Greenhouse Gas Emissions (Tons of Carbon Dioxide Equivalents (CO<sub>2</sub>e))



#### FIGURE 7. Greenhouse Gas Emissions per Ton Production



#### Emissions of Criteria Air Pollutants.

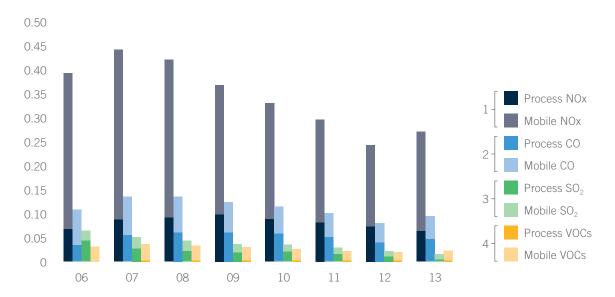
The emissions of nitrogen oxides (NOx), sulfur dioxide, carbon monoxide and volatile organic hydrocarbons (VOCs) from Performance Minerals and Minteq operations have been calculated using total fuel usages and US EPA's AP 42 emission factors. Total emissions are provided in Figure 8 for both stationary combustion sources and mobile sources.

As mentioned previously, the Processed Minerals facility in Adams, MA, has installed a new burner system in the site's primary lime kilns that use natural gas rather than Number 6 fuel oil. This change has greatly reduced the direct and indirect (transportation related) air emissions for the facility.

Since the Paper PCC process does not include any combustion or other fuel-using operations, these operations are not included in the following graphs. Paper PCC plants do not generate new emissions, but instead use combustion gas from a host paper mill source (typically a lime kiln) as the source for carbon dioxide (a raw material in the PCC process). As a result, the PCC process reduces the amount of carbon dioxide and sulfur dioxide originally contained in the combustion gas. Unfortunately, there is no data available to accurately calculate the amount of sulfur dioxide removed for all of the Paper PCC operations.

FIGURE 8.

Criteria Pollutant Emissions from Minteq and Performance Minerals (Pounds of Pollutant Emitted per Ton of Product)



#### SOLID WASTE



Many MTI locations keep records of the amount of process waste produced from the operations using a variety of means for calculating waste production. Where data is unavailable, the amount of waste is calculated using data from material balances or from similar operations. The amount of process waste produced by each business unit per ton of product is provided in Figure 9. Note that the waste volumes for Minteq increased significantly in 2012 and 2013 due to the disposal of a large amount of unusable raw material at one location. The chart also shows the adjusted waste volume per ton of product for Minteq with the impact of this one location deleted (refer to the columns labeled "2012 Adjusted" and "2013 Adjusted"). This activity has ceased and waste volumes should return to pre-2012 levels in 2014.

MTI has limited the definition of wastes to include only process wastes that are sent to final treatment or disposal, either onsite or offsite. MTI is not including maintenance wastes (such as used oil), packaging wastes or office trash in this section, as there are no records of these materials. MTI also does not consider unprocessed mining materials that are returned to the mine site to be process waste. These materials have not been chemically altered and are typically not regulated substances. Finally, we are not including materials that are recycled in offsite applications in the quantities of process wastes. The primary example of this is the alkaline screenings ("grit") produced by several PCC plants, which is used as a replacement for agricultural limestone. Since this material is a product rather than a waste, it is excluded from the calculation of process waste volumes.

The various inorganic mineral process wastes produced by MTI facilities are, for the most part, inert materials and are not regulated as hazardous or dangerous materials by the regulatory agencies. Typical process wastes produced by MTI locations include the following:

- Alkaline screenings from the PCC process that are composed of calcium carbonate, calcium hydroxide and inert minerals;
- Waste limestone and talc materials from the mining and minerals operations;
- Wet calcium hydroxide and calcium carbonate solids from the settling operations at the two lime/PCC plants (Adams, MA and Lifford, UK); and
- Floor sweepings, discarded material and waste materials resulting from equipment clean out produced from the Minteq refractory sites. These wastes contain magnesium oxides, aluminum oxides, and other components of the monolithic refractory products.

Performance Minerals has reduced the amount of solid waste produced and increased the ratio of product to mined materials by focusing on the sale of byproducts and overburden rock. Improvements such as these provide environmental and economic benefits to the mines.

As mentioned earlier, Minteq is now using recovered magnesia from spent refractories to replace a portion of the virgin calcined magnesia. This reduces the amount of material sent to landfill as well as the air impacts of producing unused calcined magnesia.

Many Paper PCC locations reuse the alkaline screenings, commonly referred to as grit. This material can be used either in agricultural applications as a substitute for agricultural lime, or in other applications where the alkalinity is beneficial. Options for grit use depend on local conditions such as the need for agricultural lime at nearby farms, the distance from the grit source to potential market, local regulations, the nature of the lime and the PCC grit and other factors. Figure 10 compares the amount of grit that is reused to that which is land filled.



# ENVIRONMENTAL INCIDENTS & COMPLIANCE

In 2007, MTI adopted revised procedures to ensure consistent and prompt reporting of all situations that may have significant environmental impacts. Information on the number and impact of significant spills to the environment, presented in Table 1, is based on the information collected under these procedures.

The total number of environmental incidents and episodes (near misses) reported during this time is presented in Table 2. Note that environmental episodes were not reported until late 2007; thus 2008 is the first year for which data is available.

The EHS Lead Team reviews each environmental incident and episode on a monthly basis to identify trends and opportunities to prevent future situations and to ensure that appropriate investigations into the causes of the situation are conducted. This information is provided to all employees through company bulletins. Specific information about situations that may affect similar operations is passed directly to these sites to ensure that preventive measures are implemented.

#### Example of MTI's Sustainability Efforts: MTI Presents Papers on Life Cycle Analysis of PCC

The worldwide Pulp and Paper industry, our largest market for our PCC products, is intently focused on Sustainability. As a supplier of a major raw material for that industry, MTI has engaged in public discussions to address some of the information needs on our products. MTI accepted an invitation by TAPPI (the American Paper Makers Association) in May 2008, to delegate Ludo Schyvinck, Director of Sales and Marketing for PCC, to take part in a panel discussion on Sustainability for suppliers of the paper industry. Other suppliers included DOW, BASF, and Imerys. At that occasion, MTI presented information on the carbon footprint of its products and processes. In December 2008, the German Industry Magazine IPW—a trade publication for the European paper industry—published an interview with Mr. Schyvinck on Sustainability.

#### **ENVIRONMENTAL INCIDENTS & COMPLIANCE**

TABLE 1.
Significant Spills from MTI Locations

Year	# of Spills	Oil/Antifreeze	PCC Slurry	Other
2006	4	120 gallons/3 spills	1500 gallons/1 spill	None
2007	6	60 gallons/3 spills	5075 gallons/2 spills	Volume unknown from one spill of calcium hydroxide solution
2008	12	50 gallons/5 spills	2800 gallons/5 spills	50 gallons/2 spills from process waste haul truck
2009	8	< 50 gallons/3 spills	None	Wastewater Release to soil (volume unknown); Alkaline release to treatment plant (300 gallons); Two acid releases to containment or treatment (estimated 1000 gallons)
2010	4	None	More than 10,000 gallons/ 3 spills	Less than 1000 pounds of dry calcium oxide during delivery operation
2011	4	None	None	Approximately 27,000 gallons of calcium hydroxide released to treatment plants (two incidents)  Approximately 1000 gallons of acidic material released to wastewater treatment plant in one incident.  Unknown amount of propane released in one incident.
2012	6	Less than 1000 gallons in 4 incidents	None	Small amount of lime dust released to air in one incident. Levels of mercury in plant wastewater have periodically exceeded permit limits at one location. Facility is working with treatment plant to resolve issue.
2013	8	Less than 20 gallons in 1 incident	More than 31,000 gallons in 4 incidents	More than 5200 gallons of slake in two incidents Levels of mercury in plant wastewater have periodically exceeded permit limits at one location. Facility is working with treatment plant to resolve issue. Unknown amount of acidic condensate spilled to soil. Material sent to approved waste handler.

TABLE 2.
Total Number of Reported Environmental Situations

Year	2006 200	7 2008	2009	2010	2011	2012	2013
Total Environmental Incidents	8 2	3 15	11	7	7	2	2
Total Environmental Episodes	Not Tracked before 200	8 24	23	22	19	16	12

## MINIMIZING ENVIRONMENTAL IMPACT

MTI has always been sensitive to the environmental impacts of our activities at the operating facilities and the services and products provided to our customers. Two of the company's Value Statements exhibit this concern:

We manage our operations, our capital, and our business opportunities in a sustainable manner.

We serve as good stewards of natural resources, and we employ sound environmental practices to protect the communities in which we operate.

Each of the business units that make up MTI continues to implement measures to minimize the environmental impacts of our operations, products and services as well as those of the customers we supply.

The Performance Minerals unit has developed a calcium carbonate product (EMforceTM Bio additive) that is designed to improve the physical characteristics of new biopolymers that are being developed to replace petroleum-based plastics.

All of the Performance Minerals mining operations have active reclamation programs underway. These operations also are reusing and marketing byproducts such as lime kiln dust and crusher fines to minimize the production of waste materials. Performance Minerals is also continuing local initiatives such as the Mohave Desert Sustainability Project and the Bighorn Sheep Monitoring program at the California mine and community educational programs at the Massachusetts operation.

The Paper PCC business unit recognizes that its customer, the paper industry, is keenly focused on reducing the overall environmental impacts of the industry. The individual PCC plants have taken many initiatives to reduce the usage of water and electricity as well as reducing the amount of process waste sent to landfill. In addition, the

Paper R&D department has developed new processes to provide improved filler products which have environmental advantages. In 2010, Paper PCC introduced the Fulfill® High-Filler Technologies, a series of solutions designed to provide the paper industry with the ability to increase the amount of filler content in paper. Less fiber use means lower costs and less energy consumption for the paper mill customer.

Recently, Paper PCC announced the NewYield™ Process Technology, a breakthrough technology that converts a paper and pulp mill waste stream into a functional pigment for filling paper. NewYield™ process technology eliminates the cost of environmental disposal and remediation of certain waste streams to papermakers.

Through these and other efforts, the Paper PCC business unit is focused on the sustainability issues of their key customers as well as the MTI operations.

Minteq's monolithic refractory products allow steel mills to extend the life of the steel furnaces, thus reducing wasted energy for frequent shutdowns and start-ups of the furnaces. Minteq's calcium and powdered wire products also allow the steel mill to better control the quality of the finished product with less wasted material. During 2010 and 2011, Minteq devoted significant research and development resources towards the use of recycled magnesia recovered from spent refractories. The products that have been developed using recycled magnesia enable Minteq to reduce the use of calcined magnesia (thus reducing global air emissions) and recover a waste material that would otherwise go to a landfill. Minteq has ensured that the quality of these products continues to meet the same high standards as our products made with calcined magnesia.

MTI has a number of other ongoing initiatives designed to address specific environmental concerns. Specialty Minerals Inc. is also evaluating the use of alternative lime sources in the production of various PCC products for the paper industry. The research and development teams in Bethlehem, PA, and Suzhou, China, are coordinating efforts to more fully integrate the PCC and kraft pulp processes. These efforts have the potential to offer significant environmental improvements to our paper mill customers.

MTI has conducted a series of life cycle assessments for specific ground calcium carbonate and precipitated calcium carbonate products to support the sustainability efforts of our customers. The results of these studies have been published and presented at industrial seminars by company representatives.

#### Penalties & Sanctions

The number of environmental and safety sanctions, citations and penalties issued by various regulatory agencies is presented in Table 3.

The majority of the safety issues are citations and penalties assessed by the U. S. Mine Safety and Health Administration (MSHA) which has jurisdiction over the four U.S. mining operations (Adams, MA; Barretts, MT; Canaan, CT; and Lucerne Valley, CA). MSHA conducts multi-day inspections of each of the mining operations at least twice each year. In the past two years, MSHA has increased both the level of scrutiny and the amount of penalties assessed.

TABLE 3.

MTI Compliance Summary	2008	2009	2010	2011	2012	2013
Notices of Violation / Compliance Issues - Environmental	2	5	1	5	3	1
Penalties Assessed - Environmental	\$4,688	\$4,320	\$6,600	\$63,360	\$24,000	\$-
Notices of Violation / Compliance Issues - Safety	109	127	68	39	87	89
Penalties Assessed - Safety	\$78,736	\$39,393	\$10,609	\$85,774	\$26,089	\$39,578

## SOCIAL

### Labor Practices and Decent Work

Minerals Technologies, as of December 31, 2013 employed 1,978 persons, of whom 1,010 were employed outside of the United States. Of these, 522 were professionals; 213 were in Administration; and 1,243 were direct labor.

All manufacturing, Research & Development and Steel Mill Service operations have active safety programs in place. These programs are administered by site safety committees that include both management and worker representation. The individual safety programs are based on Corporate Health and Safety Standards. Facility personnel complete self-assessments to ensure that site programs meet MTI standards. Site personnel also conduct routine site safety inspections, training, emergency planning and reporting of all injuries and near misses. We have experienced significant improvements in plant working conditions as a result of the 5S program that is practiced by all of our business units. We are also identifying

and addressing the risks present at our sites using our risk reduction and lean operating tools. As shown below, these programs have been highly effective in reducing the rates of injuries at our locations.

MTI has recorded safety statistics, including injury rates and lost days, since the company was formed in 1992. In 2007, the company's commitment to providing a safe workplace and safe products was given more emphasis with the adoption by management of a vision of zero injuries. As shown in Figures 11 and 12, this renewed focus on safety and improved work practices has resulted in breakthrough safety improvements.

Total Recordable Injuries include fatalities and any injury that requires medical treatment by a physician or other medical professional (including restricted work cases). Note that medical treatment does not include first aid. The Total Recordable Injury Rate (TRIR) is a calculated statistic that describes the rate of lost time injuries, injuries requiring medical attention and restricted work cases per 100 full-time employees in one year, as shown in Figure 11.

FIGURE 11.

Business Unit Recordable Injury Rate History as of December 31, 2013 (Recordable Injuries per 100 employee years)

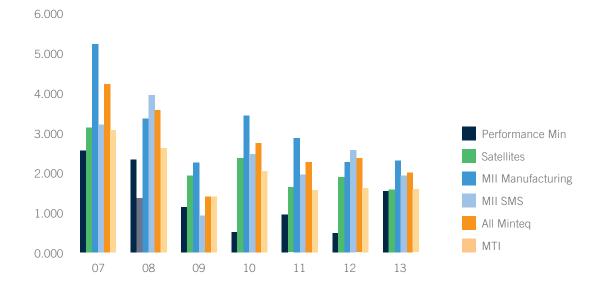
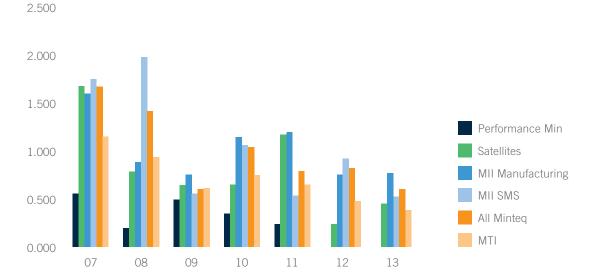


FIGURE 12.

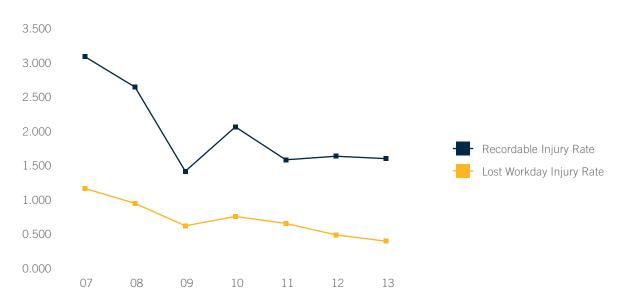
Business Unit Lost Workday Injury Rate History as of December 31, 2013 (Lost Workday Injuries per 100 employee years)



A Lost Workday Injury is defined as any work-related injury that renders the injured person temporarily unable to perform any regular job or restricted work activity on any normally scheduled workday after the day on which the injury occurred. The Total Lost Workday Injury Rate (LWIR) indicates the number of lost time injuries per 100 full-time employees in one year, as shown in Figure 12.

MTI has manufacturing and Steel Mill Service operations in 26 countries. Regional injury data for Asia, the Americas, and Europe (which includes operations in South Africa) is presented in Tables 4 and 5.

FIGURE 13.
MTI Injury Rates
(Injuries per 100 employee-years)



#### SOCIAL

FIGURE 14.

Recordable Injury Rate - Regional Comparison (Recordable injuries per 100 employees-years)



TABLE 4.

Recordable rate - injuries/100 employee-years

Regions	2006	2007	2008	2009	2010	2011	2012
Americas	4.404	4.581	2.875	1.928	2.528	2.290	1.983
Europe	1.070	2.638	2.890	1.203	1.831	0.487	1.272
Asia	2.490	2.721	0.910	0.000	0.989	1.465	1.005
MTI Total	3.776	3.079	2.630	1.414	2.056	1.694	1.629

FIGURE 15. Lost Workday Injury Rate - Regional Comparison (Lost workdays per 100 employees-years)

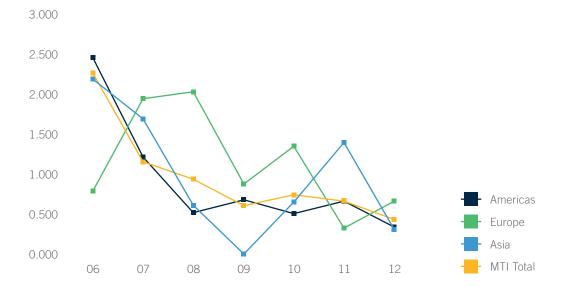


TABLE 5. Lost workday rate - injuries/100 employee-years

Regions	2006	2007	2008	2009	2010	2011	2012
Americas	2.447	1.195	0.511	0.671	0.506	0.654	0.345
Europe	0.779	1.944	2.023	0.859	1.331	0.325	.636
Asia	2.214	1.701	0.607	0.000	0.659	1.465	0.335
MTI Total	2.251	1.155	0.939	0.613	0.748	0.659	0.431



#### **Human Rights**

It is, and has been, the policy of Minerals Technologies Inc. to conduct our business activities in a lawful and ethical manner. As a "corporate citizen" of the countries in which we do business, we have a responsibility not only to obey the law, but also to promote high standards by conducting our affairs in a clearly ethical manner. MTI has implemented corporate policies concerning legal and ethical behavior in various specific areas. These policies were established in the firm belief that it is both right and in the interest of the company, its employees, its shareholders, industry in general, consumers and the public, to act in accordance with them.

Integrity is, and must continue to be, the basis of all our corporate relationships. The corporate policies reflected in the booklet "Summary of Minerals Technologies Inc. Policies on Business Conduct" are expected to be understood and followed by every employee who acts on behalf of MTI. The policies are designed to maintain and enhance MTI's integrity and reputation as an outstanding corporate citizen.

Violation of these polices could, in many instances, subject the company and the individuals involved to criminal or civil actions, fines, and lawsuits for damages. On doubtful matters, employees are encouraged to seek and receive advice in advance of taking action. Employees can obtain advice concerning these policies from the persons to whom they report, from the General Counsel of MTI, or from their designated representative.

The company entered into a contract for on-line compliance training, and the MTI Code of Business Conduct is a part of the training. Employees are required to read the policy and then verify acceptance through the training software. There are modules on a variety of compliance topics—discrimination, Foreign Corrupt Practices Act, antitrust, etc.

In addition, Group/Division heads and all elected corporate officers are to annually attest to (1) personal compliance, (2) communication of the policies to all their employees, and (3) being unaware of any violations. Group/Division heads may ask other key individuals in their organization to sign similar statements.

The company has not recorded total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained. We do not condone child labor, forced labor or discrimination, and have not identified any operations that pose a significant risk for incidents of child labor, or forced or compulsory labor.

#### Society

As a matter of corporate policy, Minerals Technologies has a prohibition against unrecorded funds or assets; false or artificial entries in books or records; and misappropriation of assets of the company and its subsidiaries.

In addition, the company expects its employees to comply with the Foreign Corrupt Practices Act, which prohibits the making or offering of any payment to any foreign official to induce that official to affect any government act to assist the company in obtaining or retaining business.

The company has not analyzed its business units for risks related to corruption, but, as stated above, it is the responsibility of group and division heads and corporate officers to communicate these policies to all of their employees.

The company has had no actions, nor has it been fined, for any incident of corruption.

#### **Product Responsibility**

#### Workplace Safety

The first item addressed under MTI's Value Statements is:

#### We place the health and safety of people ahead of all else.

The safety of our workforce, visitors, customers and neighbors is the primary concern of MTI. Responsibility for health and safety is shared by all employees. In 2010, management adopted a goal of becoming a world-class leader in safety by 2014, as evidenced by a lost workday injury rate of less than one injury per 100 employee-years (a rate of less than 0.1). In order to achieve this goal, MTI has combined the benefits of a strong safety program with the improvements realized by the Lean initiatives to identify and reduce risks and promote safe work behaviors. MTI is using Lean and Safety as complimentary systems, such as combining 5S and safety audits, conducting joint Standard Work and Job Safety Analysis exercise and including a Residual Risk Reduction activity in every Kaizen event. Risks associated with existing activities, processes and materials are also identified and controlled through fatality prevention assessments, residual risk reduction programs, job safety analyses and development of standard work practices. These initiatives help sites reduce the hazards of existing operations and allow new employees to perform their functions safely. As mentioned previously, these efforts are producing substantial reductions in injury rates.

#### Raw Material and Process Safety

MTI sites conduct a detailed environmental, health and safety review of all new chemicals proposed for use at the facility. In addition, new or modified processes or operations at new or existing locations are evaluated to identify potential issues during the design phase. As a result of these reviews, the sites are able to implement appropriate control and prevention measures to address potential concerns.

#### **Product Stewardship**

MTI has long supported research efforts to evaluate the health and safety impacts of the minerals that form the basis of our industry. MTI continues to support the work of the North American Industrial Minerals Association and the American Chemical Council's Crystalline Silica Coalition to improve the basic science and understanding of the health effects of exposure to minerals, crystalline silica and similar materials which are found in all naturally occurring substances. MTI also supports efforts by these organizations and ASTM International to improve the analytical methods used to define and measure levels of crystalline silica and other substances in mineral products. Accurate measurement and identification methods are essential tools used to assist health agencies and industrial organizations develop standards for safe levels of exposure to mineral products.

#### Regulatory Approvals

MTI manufactures products for applications that require approvals from regulatory bodies for their use in direct and indirect contact applications. Specific precipitated calcium carbonate, ground calcium carbonate/limestone, and talc products are approved for applications in food, pharmaceuticals, nutritional supplements, medical devices, as well as in the manufacture of materials that come into contact with these consumer products.

Where applicable, MTI's products are strictly monitored for compliance to regulatory requirements, such as those of the U.S. Food and Drug Administration (FDA), United States Pharmacopeia (USP), European Pharmacopeia (EP), Japanese Pharmacopeia (JP), Clean Water Act, California Proposition 65, European Directives, Food Chemical Codex, CONEG Model Legislation (Heavy Metals), Chemical Inventory Lists, NAFTA, and many other regulations.

#### **REACH**

MTI has completed the registration of all applicable substances under the European REACH (Registration, Evaluation, Authorisation and Regulation of Chemicals) regulation. Mineral products which are exempt from registration (Section 7 of Annex V) have not been registered.

Both Specialty Minerals and Minteq played leading roles in the registration of calcium carbonate and calcium metal, respectively. MTI accepted the responsibility to act as the President of the Consortium of Calcium Carbonate manufacturers as part of the EU regulation known as REACH. Ludo Schyvinck from the Brussels office of Specialty Minerals acted as the Chairman of the Board of the Consortium. In addition, Minteq registered and acted as the lead registrant for calcium metal (both manufacturer and importer). In this manner, MTI assumed a key leadership role in ensuring that the customers and other downstream users of these products are fully aware of any environmental, health or safety concerns associated with the use of the products throughout the life cycle chain.

#### Customers

MTI has a process in place for monitoring customer loyalty and overall satisfaction. This system is designed to listen to the Voice of the Customer and identify opportunities for improvement related to our products and services. The satisfaction surveys are designed to capture relevant information related to how MTI is meeting customer expectations, as well as gaining a better understanding of the customer's future needs. Through the effective analysis of the data received, our main goal is to identify value added solutions for our customers. Below are some key characteristics of our system:

- Customer surveys are issued electronically.
- Surveys are issued on a monthly basis.
- Surveys are issued to multiple contacts within a customer to ensure that the opinion of different functions is properly captured.
- The organization has established a performance goal of >75% (Scale 0-100).
- Account managers are directly responsible for follow up with customers.
- The survey results are evaluated on a quarterly basis and summary reports are reviewed with senior management.

## **ECONOMIC**

MTI understands the importance of the economic value we provide for our shareholders, customers, employees and those communities in which we operate. In 2013, thanks to a dedicated work force, we were able record our fourth consecutive annual record earnings in company history.

Following are some highlights of our financial performance for 2013:

- Diluted earnings per share of \$2.30
- Net income of \$80.3 million.
- Maintained Sales & Marketing Administrative and R&D expenses below 2006 levels.
- Debt to capital ratio of approximately 9 percent.
- The company paid out approximately \$6.95 million in dividends to shareholders in 2013.

Financial implications and other risks and opportunities due to climate change.

A portion of the company's businesses are affected by regulations designed to combat climate change. Europe in particular has engaged in commitments under the Kyoto protocol to drastically reduce its greenhouse gas emissions. One of the instruments designed to reduce emissions is a Cap and Trade system called the ETS (Emission Trading Scheme for Carbon). Lime manufacturing (a major supplier of raw materials for MTI) and pulp and paper making (Specialty Minerals' primary customer) are both regulated under this scheme which has been in place since 2005. The principle of that scheme is that installations receive a certain amount of rights (Allowances) for CO<sub>2</sub> emissions.

Depending on the amount of effectively emitted  $\mathrm{CO}_2$ , such an installation has to buy or can sell Allowances on a Trade Market. MTI monitors on an on-going basis to what extent changes in the European Regulations, reduction of allocated Allowances and the price of carbon on the market can have a financial impact on its business in Europe.

Until recently, climate change regulations in the United States have been limited to state and local authorities rather than at a federal level. Since 2009, however, the US Environmental Protection Agency (EPA) has issued a number of regulations dealing with climate change. EPA requires the reporting of greenhouse gas emissions from major existing operations. The only MTI facility that meets the greenhouse gas reporting requirements is the Performance Minerals plant in Adams, MA. EPA has also issued regulations that require facilities to obtain approvals before installing projects which result in significant increases of greenhouse gas emissions. No MTI facility has met the criteria for these permit requirements

The paper industry is one of the industries that has been especially affected by the ETS and other environmental regulations in place throughout the world. MTI's Paper PCC operations have provided a significant benefit by permanently sequestering a portion of the fossil fuel based carbon dioxide emissions produced by the host paper mills where the PCC plants are located. MTI has estimated the total amount of carbon dioxide removed from the paper mill emission sources (primarily the pulp mill lime kilns and recovery boilers) which is then converted to PCC. In order to estimate the amounts of biomass and fossilfuel carbon dioxide that are converted to PCC, we have assumed that the one-third of the emissions from pulp mill lime kilns is fossil-fuel CO<sub>2</sub> while the remainder is biomass CO<sub>2</sub><sup>1</sup>. Specialty Minerals has also assumed that all of the emissions from recovery boilers or other sources at paper mills that use wood process fuels are biomass emissions. Figure 16 illustrates the amount of carbon dioxide absorbed from biomass and fossil fuel sources, as well as the amount of liquid carbon dioxide used in the PCC process. This table is based upon production data and the sources of carbon dioxide at our host paper mills.



#### **ECONOMIC**

The Paper Research and Development team is currently exploring potential technologies that would allow Specialty Minerals to produce PCC filler and coating products in a manner that reduces or eliminates the requirement to use calcined lime as a raw material. While these efforts are at a very early stage, they offer opportunities to continue to reduce the overall environmental footprint of both the SMI operation and that of our host mill and customers.

FIGURE 16.
Carbon Dioxide Absorbed by Paper PCC Plants (Tons of Carbon Dioxide Absorbed)



## **SUMMARY**

MTI is reaping the economic, safety and environmental benefits of the Operational Excellence and safety changes that have been implemented since 2007. The continuing improvements in safety, environmental impact and productivity are evidence of the efforts of all of our employees. Looking farther ahead, we are excited about the potential of developing new processes to produce mineral products for our customers that result in additional environmental and process improvements.

Investor Relations
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