PPG INDUSTRIES INC
Form 10-K
February 20, 2014
Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2013	Commission File Number 1-1687
PPG INDUSTRIES, INC. (Exact name of registrant as specified in its charter)	
Pennsylvania (State or other jurisdiction of incorporation or organization)	25-0730780 (I.R.S. Employer Identification No.)
One PPG Place, Pittsburgh, Pennsylvania (Address of principal executive offices)	15272 (Zip code)
Registrant's telephone number, including area code:	412-434-3131

Securities Registered Pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock – Par Value $1.66\,^{2}/_{3}$	New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer as defined in Rule 405 of the Securities Act. YES x NO ¨

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES ¨ NO x

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, and (2) has been subject to such filing requirements for the past 90 days. YES x NO ¨

Indicate by checkmark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Date File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES x NO ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer x	Accelerated filer o
Non-accelerated filer o (Do not check if a smaller	Smaller reporting company o

reporting company)

Indicate by check mark whether the Registrant is a shell company (as defined by Rule 12b-2 of the Act). YES o NO ý

The aggregate market value of common stock held by non-affiliates as of June 30, 2013, was $20,847 million.

As of January 31, 2014, 138,511,337 shares of the Registrant's common stock, with a par value of $1.66 $^{2}/_{3}$ per share, were outstanding. As of that date, the aggregate market value of common stock held by non-affiliates was $25,169 million.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Incorporated By Reference In Part No.
Portions of PPG Industries, Inc. Proxy Statement for its 2014 Annual Meeting of Shareholders	III

Table of Contents

PPG INDUSTRIES, INC.
AND CONSOLIDATED SUBSIDIARIES

As used in this report, the terms “PPG,” “Company,” “Registrant,” “we,” “us” and “our” refer to PPG Industries, Inc., and its subsidiaries, taken as a whole, unless the context indicates otherwise.

TABLE OF CONTENTS

Note on Incorporation by Reference
Throughout this report, various information and data are incorporated by reference from the Company’s 2013 Annual Report (hereinafter referred to as “the Annual Report”). Any reference in this report to disclosures in the Annual Report shall constitute incorporation by reference only of that specific information and data into this Form 10-K.

Table of Contents

Part I

Item 1. Business

PPG Industries, Inc., manufactures and distributes a broad range of coatings, optical and specialty materials and glass products. The Company, incorporated in Pennsylvania in 1883, is comprised of five reportable business segments: Performance Coatings, Industrial Coatings, Architectural Coatings – EMEA (Europe, Middle East and Africa), Optical and Specialty Materials and Glass. Each of the business segments in which PPG operates is highly competitive. The Company's diversification of product lines and worldwide markets served tends to minimize the impact on PPG's total net sales and income from continuing operations from changes in demand either for a particular product line or in a particular geographic area. Refer to Note 21, "Reportable Business Segment Information" under Item 8 of this Form 10-K for financial information relating to our reportable business segments.

On January 28, 2013, PPG completed the separation of its commodity chemicals business and the merger of the subsidiary holding the PPG commodity chemicals business with a subsidiary of the Georgia Gulf Corporation ("Georgia Gulf"). Refer to Note 22, "Separation and Merger Transaction" under Item 8 of this Form 10-K for financial information relating to this transaction.

On April 1, 2013, PPG finalized the acquisition of the North American architectural coatings business of Akzo Nobel N.V., Amsterdam, the Netherlands ("North American architectural coatings acquisition"). The acquisition further extends PPG's architectural coatings business in the United States, Canada and the Caribbean. With this acquisition, PPG has expanded its reach in all three major North American architectural coatings distribution channels, including home centers, independent paint dealers and company-owned paint stores. Refer to Note 2, "Acquisitions and Divestitures" under Item 8 of this Form 10-K for further information regarding this acquisition.

Performance Coatings, Industrial Coatings and Architectural Coatings – EMEA

PPG is a major global supplier of coatings. The Performance Coatings, Industrial Coatings and Architectural Coatings – EMEA reportable segments supply coatings for customers in a wide array of end-use markets, including industrial equipment, appliances and packaging; factory-finished aluminum extrusions and steel and aluminum coils; marine and aircraft equipment; automotive original equipment; and other industrial and consumer products. In addition to supplying coatings to the automotive original equipment market ("OEM"), PPG supplies refinishes to the automotive aftermarket. PPG also serves commercial and residential new build and maintenance markets by supplying coatings to painting and maintenance contractors and directly to consumers for decoration and maintenance. The coatings industry is highly competitive and consists of a few large firms with global presence and many smaller firms serving local or regional markets. PPG competes in its primary markets with the world's largest coatings companies, most of which have global operations, and many smaller regional coatings companies. Product development, innovation, distribution,

quality and technical and customer service have been stressed by PPG and have been significant factors in developing an important supplier position by PPG's coatings businesses comprising the Performance Coatings, Industrial Coatings and Architectural Coatings – EMEA reportable segments.

The Performance Coatings reportable segment is comprised of the refinish, aerospace, protective and marine and architectural – Americas and Asia Pacific coatings businesses.

Price, product performance, technology, quality, distribution and technical and customer service are major competitive factors in the following three coatings businesses.

The refinish coatings business supplies coatings products for automotive and commercial transport/fleet repair and refurbishing, light industrial coatings for a wide array of markets and specialty coatings for signs. These products are sold primarily through independent distributors.

The aerospace coatings business supplies sealants, coatings, maintenance cleaners and transparencies for commercial, military, regional jet and general aviation aircraft and transparent armor for specialty applications and also provides chemical management for the aerospace industry. PPG supplies products to aircraft manufacturers and maintenance and aftermarket customers around the world both on a direct basis and through a company-owned distribution network.

The protective and marine coatings business supplies coatings and finishes for the protection of metals and structures to metal fabricators, heavy duty maintenance contractors and manufacturers of ships, bridges and rail cars. These products are sold through company-owned architectural coatings stores, independent distributors and directly to customers.

The architectural coatings-Americas and Asia Pacific business primarily produces coatings used by painting and maintenance contractors and by consumers for decoration and maintenance of residential and commercial building structures. These coatings are sold under a number of brands, including PPG®, GLIDDEN®, OLYMPIC®, DULUX® (in Canada), SIKKENS®, PPG PITTSBURGH PAINTS®, MULCO®, FLOOD®, LIQUID NAILS®, SICO®, CIL®, RENNER®, TAUBMANS®, WHITE KNIGHT®, and BRISTOL®. Architectural coatings – Americas and Asia Pacific products are also sold through a combination of company-owned stores, home centers and other regional or national consumer retail outlets, paint dealers, and independent distributors and directly to customers. Price, product performance, quality, distribution and brand recognition are key competitive factors for these architectural coatings businesses. At the end of 2013, the architectural coatings-Americas and Asia Pacific business operated about 870 company-owned stores in North America, of which 526 stores, net of redundant store closures, were added as a result of the North American architectural coatings acquisition. This business also operates about 40 company-owned stores in Australia.

Table of Contents

The major global competitors of the Performance Coatings reportable segment are Akzo Nobel N.V., Axalta Coating Systems, BASF Corporation, Hempel A/S, the Jotun Group, Masco Corporation, the Sherwin-Williams Company, Valspar Corporation and RPM International Inc. The average number of persons employed by the Performance Coatings reportable segment during 2013 was about 14,300.

The Industrial Coatings reportable segment is comprised of the automotive OEM, industrial and packaging coatings businesses. Industrial, automotive OEM and packaging coatings are formulated specifically for the customers' needs and application methods.

The industrial and automotive OEM coatings businesses sell directly to a variety of manufacturing companies. PPG also supplies adhesives and sealants for the automotive industry and metal pretreatments and related chemicals for industrial and automotive applications. PPG has established alliances with Kansai Paints and Helios Group to serve certain automotive original equipment manufacturers in various regions of the world. PPG owns a 60% interest in PPG Kansai Finishes to serve Japanese-based automotive OEM customers in North America and Europe and PPG owns a 60% interest in PPG Helios Ltd. to serve Russian-based automotive OEM customers in Russia and the Ukraine. The packaging coatings business supplies coatings to the manufacturers of aerosol, food, and beverage containers.

Price, product performance, technology, cost effectiveness, quality and technical and customer service are major competitive factors in the industrial coatings businesses. The major global competitors of the Industrial Coatings reportable segment are Akzo Nobel N.V., Axalta Coating Systems, BASF Corporation, Valspar Corporation and Nippon Paint. The average number of persons employed by the Industrial Coatings reportable segment during 2013 was about 9,500.

The Architectural Coatings – EMEA business supplies a variety of coatings and purchased sundries to painting contractors and consumers in Europe, the Middle East and Africa. The coatings are sold under a number of brands, including SIGMA®, HISTOR®, SEIGNEURIE®, GUITTET®, PEINTURES GAUTHIER®, RIPOLIN®, JOHNSTONE'S®, LEYLAND®, PRIMALEX®, DEKORAL®, TRILAK®, PROMINENT PAINTS®, GORI®, and BONDEX®. Architectural Coatings – EMEA products are sold through a combination of about 660 company-owned stores, regional home centers, paint dealers, and independent distributors and directly to customers. Price, product performance, quality, distribution and brand recognition are key competitive factors for this business. The major competitors of the Architectural Coatings – EMEA reportable segment are Akzo Nobel N.V., Materis Paints and a variety of regional and national competitors in each country in Europe, the Middle East and Africa. The average number of persons employed by the Architectural Coatings – EMEA reportable segment during 2013 was about 7,900.

Optical and Specialty Materials

PPG's Optical and Specialty Materials reportable segment is comprised of the optical products and silicas businesses. The primary Optical and Specialty Materials products are TRANSITIONS® lenses, optical lens materials and high performance sunlenses; amorphous precipitated silicas for tire, battery separator and other end-use markets; and TESLIN® substrate used in such applications as radio frequency identification (RFID) tags and labels, e-passports, drivers' licenses and identification cards. Transitions lenses are processed and distributed by Transitions Optical, PPG's 51% owned joint venture with Essilor International ("Essilor"). In the Optical and Specialty Materials businesses, product quality and performance, branding, distribution and technical service are the most critical competitive factors.

On July 29, 2013, PPG entered into an agreement to divest its 51% ownership interest in the Transitions Optical joint venture and 100% of PPG's optical sunlens business to Essilor. Transitions Optical is a global supplier of photochromic lenses and a consolidated subsidiary of PPG. The transaction reflects an enterprise value of approximately $3.4 billion, with PPG receiving cash at closing of $1.73 billion pretax or approximately $1.5 billion after-tax. Essilor will also enter into multi-year agreements with PPG for continuing supply of photochromic materials and research and development services. The transaction is expected to close in the first half of 2014, subject to satisfaction of customary closing conditions, including receipt of regulatory approvals. Upon receipt of all required regulatory approvals, PPG expects to report Transitions Optical as discontinued operations.

The major global competitors of the Optical and Specialty Materials reportable segment are Vision-Ease Lens, Carl Zeiss AG, Corning, Inc., Hoya Corporation, Mitsui Chemicals, Inc., Solvay Group, J.M. Huber and Evonik Industries, A.G. The average number of persons employed by the Optical and Specialty Materials reportable segment during 2013 was about 2,900.

Glass

The Glass reportable business segment is comprised of the flat glass and fiber glass businesses. PPG is a producer of flat glass in North America and a global producer of continuous-strand fiber glass. PPG’s major markets are commercial and residential construction and the wind energy, energy infrastructure, transportation and electronics industries. Most glass products are sold directly to manufacturing companies. PPG manufactures flat glass by the float process and fiber glass by the continuous-strand process.

Price, quality, technology and customer service are the key competitive factors in the glass businesses. The Company competes with several major producers of flat glass, including Asahi Glass Company, Cardinal Glass Industries, Guardian Industries and NSG Pilkington, and many major producers of fiber glass throughout the world, including Owens Corning, Jushi Group, Johns Manville Corporation, CPIC Fiberglass, AGY, NEG, 3B and Taishan Fiberglass. The average number of persons employed by the Glass reportable segment during 2013 was about 3,100.

Table of Contents

Raw Materials and Energy

The effective management of raw materials and energy is important to PPG’s continued success. The Company’s most significant raw materials are epoxy and other resins, titanium dioxide and other pigments, and solvents in the coatings businesses; lenses, sand and soda ash in the Optical and Specialty Materials segment; and sand, clay and soda ash in the Glass segment. Coatings raw materials, which include both organic, primarily petroleum based, materials and inorganic materials, including titanium dioxide, generally comprise between 70% and 80% of cost of goods sold in most coatings formulations and represent PPG’s single largest production cost component.

Energy is a significant production cost in the Glass segment, and our primary energy source is natural gas. With the separation of the commodity chemicals business, PPG's consumption of natural gas decreased significantly. Natural gas is expected to remain a competitive fuel source when compared to alternatives, especially on a global basis. We will continue to use competitive sourcing and consumption reduction initiatives to manage natural gas costs.

Most of the raw materials and energy used in production are purchased from outside sources, and the Company has made, and plans to continue to make, supply arrangements to meet the planned operating requirements for the future. Supply of critical raw materials and energy is managed by establishing contracts, multiple sources, and identifying alternative materials or technology whenever possible. The Company is continuing its aggressive sourcing initiatives to effectively broaden our supply of high quality raw materials. These initiatives include qualifying multiple and local sources of supply, including suppliers from Asia and other lower cost regions of the world and a reduction in the amount of titanium dioxide used in our product formulations. Our products use both petroleum-derived and bio-based materials as part of a product renewal strategy. Our global efforts to reduce titanium dioxide consumption resulted in a 4% reduction and an additional 2% reduction in 2012 and 2013, respectively.

The Company also has undertaken a strategic initiative to secure and enhance PPG’s supply of titanium dioxide, as well as to add to the global supply of this raw material. PPG possesses intellectual property and expertise in the production and finishing of titanium dioxide pigment and has and intends to continue to leverage this and engage potential parties to develop innovative supply solutions through technical collaborations, joint ventures, licensing or other commercial initiatives.

In 2012, PPG signed a license agreement with Henan Billions Chemicals Co., Ltd. ("Billions"), by which PPG will license certain chloride-based titanium dioxide technologies to Billions for use at Billions’ titanium dioxide refinement facilities in China. In addition, PPG has signed a long-term purchase agreement for titanium dioxide with Billions. PPG intends to use the chloride-based titanium dioxide manufactured by Billions for various end-use paint and coatings applications. Billions is also able to sell its chloride-based titanium dioxide to third parties.

In 2013, PPG signed a purchase and supply agreement as well as a research services agreement with Argex Titanium Inc. ("Argex") whereby PPG is providing technical support to Argex in connection with their efforts to develop a unique and low cost process to manufacture pigment grade titanium dioxide.

We are subject to existing and evolving standards relating to the registration of chemicals which could potentially impact the availability and viability of some of the raw materials we use in our production processes. Our ongoing global product stewardship efforts are directed at maintaining our compliance with these standards.

Changes to chemical registration regulations have been proposed or implemented in the EU and many other countries, including China, Canada, the United States, and Korea. Because implementation of many of these programs has not been finalized, the financial impact cannot be estimated at this time. We anticipate that the number of chemical registration regulations will continue to increase globally, and we have implemented programs to track and comply with these regulations.

For 2014, the Company currently expects overall coatings raw material prices to increase modestly, with varied results by region and commodity type. Natural gas pricing remains volatile, although increased output and infrastructure development from shale gas should continue to play a role in muting long-term changes in natural gas pricing.

Research and Development

Technology innovation has been a hallmark of PPG’s success throughout its history. Research and development costs, including depreciation of research facilities, were $505 million, $468 million and $443 million during 2013, 2012 and

2011, respectively. These costs totaled approximately 3% of annual sales in 2013, 2012 and 2011, respectively. We have obtained government funding of a small portion of the Company's research efforts, and we will continue to pursue government funding.

PPG owns and operates several facilities to conduct research and development relating to new and improved products and processes. In addition to the Company's centralized principal research and development centers (See Item 2 of this Form 10-K), our operating segments manage their development regionally through centers of excellence. As part of our ongoing efforts to manage our formulations and raw material costs effectively, we operate a global competitive sourcing laboratory in China. Because of the Company’s broad array of products and customers, PPG is not materially dependent upon any single technology platform.

The Company seeks to optimize its investment in research and development to create new products to drive profitable growth. We align our product development with the macro trends in the end-use markets we serve and leverage core technology platforms to develop products for unmet market needs. Our history of successful technology introductions is based on a commitment to an efficient and effective innovation process and disciplined portfolio management.

Table of Contents

Patents

PPG considers patent protection to be important; however, the Company’s reportable business segments are not materially dependent upon any single patent or group of related patents. PPG earned $48 million in 2013, $51 million in 2012 and $55 million in 2011 from royalties and the sale of technical know-how.

Backlog

In general, PPG does not manufacture its products against a backlog of orders. Production and inventory levels are geared primarily to projections of future demand and the level of incoming orders.

Global Operations

PPG has a significant investment in non-U.S. operations. This broad geographic footprint serves to lessen the significance of economic impacts occurring in any one region. As a result of our expansion outside the U.S., we are subject to certain inherent risks, including economic and political conditions in international markets and fluctuations in foreign currency exchange rates.

Our net sales in the developed and emerging regions of the world for the years ended December 31st are summarized below:

(millions)	Net Sales		
	2013	2012	2011
United States, Canada, Western Europe	$10,977	$9,437	$9,213
Latin America, Eastern Europe, Middle East, Africa, Asia Pacific	4,131	4,075	3,940
Total	$15,108	$13,512	$13,153

Refer to Note 21 "Reportable Business Segment Information" under Item 8 of this Form 10-K for geographic information related to PPG's property, plant and equipment, and for additional geographic information pertaining to sales.

Seasonality

PPG’s income from continuing operations have typically been greater in the second and third quarters and cash flow from operations has been greatest in the fourth quarter due to end-use market seasonality, primarily in PPG’s architectural coatings businesses, the magnitude of which increased in 2013 due to the size of the acquired North American architectural coatings business. Demand for PPG’s architectural coatings products is typically strongest in the second and third quarters due to higher home improvement, maintenance and construction activity during the spring and summer months in North America and Europe. This higher activity level results in higher outstanding receivables that are collected in the fourth quarter generating higher fourth quarter cash flow.

Employee Relations

The average number of persons employed worldwide by PPG during 2013 was about 41,400. The Company has numerous collective bargaining agreements throughout the world. We observe local customs, legislation and practice in labor relations when negotiating collective bargaining agreements. There were no significant work stoppages in 2013. While we have experienced occasional work stoppages as a result of the collective bargaining process and may experience some work stoppages in the future, we believe we will be able to negotiate all labor agreements on satisfactory terms. To date, these work stoppages have not had a significant impact on PPG’s operating results. Overall, the Company believes it has good relationships with its employees.

Environmental Matters

PPG is subject to existing and evolving standards relating to protection of the environment. PPG is negotiating with various government agencies concerning 132 current and former manufacturing sites and offsite waste disposal locations, including 24 sites on the National Priority List. While PPG is not generally a major contributor of wastes to these offsite waste disposal locations, each potentially responsible party may face governmental agency assertions of joint and several liability. Generally, however, a final allocation of costs is made based on relative contributions of wastes to the site. There is a wide range of cost estimates for cleanup of these sites, due largely to uncertainties as to the nature and extent of their condition and the methods that may have to be employed for their remediation. The Company has established reserves for onsite and offsite remediation of those sites where it is probable that a liability has been incurred and the amount can be reasonably estimated.

The Company's experience to date regarding environmental matters leads it to believe that it will have continuing expenditures for compliance with provisions regulating the protection of the environment and for present and future remediation efforts at waste and plant sites. Management anticipates that such expenditures will occur over an extended period of time.

In addition to the $310 million currently reserved for environmental remediation efforts, we may be subject to loss contingencies related to environmental matters estimated to be approximately $100 million to $200 million. These reasonably possible unreserved losses relate to environmental matters at a number of sites, including about one third each related to: i) additional costs at a former chromium manufacturing plant site and associated sites in Jersey City, N.J. ("New Jersey Chrome") ii) legacy glass sites and iii) a number of other sites, including legacy chemical manufacturing sites. The loss contingencies related to these sites include significant unresolved issues such as the nature and extent of contamination at these sites and the methods that may have to be employed to remediate them.

Capital expenditures for environmental control projects were $22 million, $12 million and $15 million in 2013, 2012 and 2011, respectively. It is expected that expenditures for such projects in 2014 will be in the range of $15 million to

Table of Contents

$20 million. Although future capital expenditures are difficult to estimate accurately because of constantly changing regulatory standards and policies, it can be anticipated that environmental control standards will become increasingly stringent and the cost of compliance will increase.

In management’s opinion, the Company operates in an environmentally sound manner, is well positioned, relative to environmental matters, within the industries in which it operates and the outcome of these environmental contingencies will not have a material adverse effect on PPG’s financial position or liquidity; however, any such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized. See Note 14, “Commitments and Contingent Liabilities,” under Item 8 of this Form 10-K for additional information related to environmental matters and our accrued liability for estimated environmental remediation costs.

Public and governmental concerns related to climate change continue to grow, leading to efforts to limit the greenhouse gas (“GHG”) emissions believed to be responsible. While PPG has operations in many countries, a substantial portion of PPG’s GHG emissions are generated by locations in the U.S., where considerable legislative and regulatory activity has been taking place. PPG has, and will continue to, annually report our global GHG emissions to the voluntary Carbon Disclosure project.

Energy prices and availability of supply continue to be a concern for major energy users. Since PPG’s GHG emissions arise principally from combustion of fossil fuels, PPG has for some time recognized the desirability of reducing energy consumption and GHG generation. Effective energy management practices implemented over the 2006 to 2011 time period led to a 10% reduction in PPG's GHG emissions at the end of 2011. PPG's total annual energy consumption and GHG emissions was significantly reduced as a result of the separation of its commodity chemicals business in January 2013.

PPG participates in the U.S. Department of Energy (“DOE”) SAVE ENERGY NOW®, BETTER BUILDINGS®, BETTER PLANTS® Program reinforcing the company’s voluntary efforts to significantly reduce its industrial energy intensity. In September 2011, the DOE changed its approach to energy efficiency in the industrial sector and initiated the Better Buildings, Better Plants program. PPG is currently participating in this new program, which sets energy savings targets and provides a suite of educational, training, and technical resources to help meet those targets. Recognizing the continuing importance of this matter, PPG has a senior management group with a mandate to guide the Company’s progress in this area.

In December 2012, the USEPA issued its final Clean Air Act emissions standards for large and small boilers and incinerators that burn fossil fuels known as the Boiler Maximum Achievable Control Technology (“Boiler MACT”) regulations. These regulations are aimed at controlling emissions of air toxics requiring that covered facilities achieve compliance within three years. At the time the rules were issued, the principal financial impact to PPG was related to

operations within its former commodity chemicals business which was separated in January 2013. The remaining 12 PPG facilities that are subject to these regulations have natural gas-fired boilers, which are subject to minimal regulatory oversight requiring only changes to workplace practices and no capital expenditures for pollution control equipment. The cost impact for PPG's remaining affected facilities is expected to be minimal.

PPG’s public disclosure on energy security and climate change can be viewed in our Sustainability Report at www.ppg.com/sustainability or at the Carbon Disclosure Project www.cdproject.net.

Available Information

The Company’s website address is www.ppg.com. The Company posts, and shareholders may access without charge, the Company’s recent filings and any amendments thereto of its annual reports on Form 10-K, quarterly reports on Form 10-Q and its proxy statements as soon as reasonably practicable after such reports are filed with the Securities and Exchange Commission (“SEC”). The Company also posts all financial press releases, including earnings releases, to its website. All other reports filed or furnished to the SEC, including reports on Form 8-K, are available via direct link on PPG’s website to the SEC’s website, www.sec.gov. Reference to the Company’s and SEC’s websites herein does not incorporate by reference any information contained on those websites and such information should not be considered part of this Form 10-K.

Table of Contents

Item 1A. Risk Factors

As a global manufacturer of coatings, optical and specialty materials and glass products, we operate in a business environment that includes risks. These risks are not unlike the risks we have faced in the recent past nor are they unlike risks faced by our competitors. Each of the risks described in this section could adversely affect our operating results, financial position and liquidity. While the factors listed here are considered to be the more significant factors, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles which may adversely affect our businesses and our results of operations.

Increases in prices and declines in the availability of raw materials could negatively impact our financial results.

Our financial results are significantly affected by the cost of raw materials. Coatings raw materials, which include both organic, primarily petroleum based, materials and inorganic materials, including titanium dioxide, generally comprise between 70% and 80% of cost of goods sold in most coatings formulations and represent PPG’s single largest production cost component.

We also import raw materials and intermediates, particularly for use at our manufacturing facilities in the emerging regions of the world. In most cases, those imports are priced in the currency of the supplier and, therefore, if that currency strengthens against the currency of our manufacturing facility, our margins are at risk of being lowered.

Most of the raw materials used in production are purchased from outside sources, and the Company has made, and plans to continue to make, supply arrangements to meet the planned operating requirements for the future. Supply of critical raw materials is managed by establishing contracts, procuring from multiple sources, and identifying alternative materials or technology whenever possible. The Company is continuing its aggressive sourcing initiatives to effectively broaden our supply of high quality raw materials. These initiatives include qualifying multiple and local sources of supply, including suppliers from Asia and other lower cost regions of the world and a reduction in the amount of titanium dioxide used in our product formulations. Our products use both petroleum-derived and bio-based materials as part of a product renewal strategy.

An inability to obtain critical raw materials would adversely impact our ability to produce products. Increases in the cost of raw materials may have an adverse effect on our income from continuing operations or cash flow in the event we are unable to offset these higher costs in a timely manner.

The pace of economic growth and level of uncertainty could have a negative impact on our results of operations and cash flows.

During 2012 and 2013, overall economic trends remained mixed among the major global economies, with major coatings end-use markets also experiencing similar variations. Given these economic conditions, overall aggregate PPG

global sales volume for 2013 was flat with the prior year. Entering 2014, we expect modest global growth. We anticipate growth will be the broadest in the U.S. economy, spanning across several coatings end-use markets as favorable market conditions continue in automotive OEM, architectural coatings and aerospace. We expect emerging regions growth to remain mixed, but we expect PPG to post solid growth based on the end-markets the Company supplies. In Europe, economies appear to be improving but remain fragile.

PPG provides products and services to a variety of end-use markets and in many geographies. This broad end-use market exposure and expanded geographic presence lessens the significance of any significant or rapid decrease in activity levels; nonetheless, lower demand levels may result in lower sales, which would result in reduced income from continuing operations and cash flows.

We are subject to existing and evolving standards relating to the protection of the environment.

Environmental laws and regulations control, among other things, the discharge of pollutants into the air and water, the handling, use, treatment, storage and clean-up of hazardous and non-hazardous wastes, the investigation and remediation of soil and groundwater affected by hazardous substances, and regulate various health and safety matters. The environmental laws and regulations we are subject to, including those in the U.S. as well as in other countries in which we operate, impose liability for the costs of, and damages resulting from, cleaning up current sites, past spills, disposals and other releases of hazardous substances. Violations of these laws and regulations can also result in fines

and penalties. Future environmental laws and regulations may require substantial capital expenditures or may require or cause us to modify or curtail our operations, which may have a material adverse impact on our business, financial condition and results of operations.
As described in Note 14, "Commitments and Contingent Liabilities," under Item 8 of this Form 10-K, we are currently undertaking environmental remediation activities at a number of our facilities and properties, the cost of which is substantial. In addition to the amounts currently reserved, we may be subject to loss contingencies related to environmental matters estimated to be as much as $100 million to $200 million. Such unreserved losses are reasonably possible but are not currently considered to be probable of occurrence.
We are involved in a number of lawsuits and claims, and we may be involved in future lawsuits and claims, in which substantial monetary damages are sought.
PPG is involved in a number of lawsuits and claims, both actual and potential in which substantial monetary damages are sought. Those lawsuits and claims relate to contract, patent, environmental, product liability, antitrust and other matters arising out of the conduct of PPG's current and past business activities. Any such claims, whether with or without merit, could be time consuming, expensive to defend and could divert management's attention and resources. We maintain insurance against some, but not all, of these potential claims, and the levels of insurance we do maintain may not be adequate to fully cover any and all losses. We believe that, in the aggregate, the outcome of all current lawsuits and claims

Table of Contents

involving PPG, including asbestos-related claims in the event the settlement described in Note 14, “Commitments and Contingent Liabilities” under Item 8 of this Form 10-K does not become effective, will not have a material effect on PPG’s consolidated financial position or liquidity; however, such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized. Nonetheless, the results of any future litigation or claims are inherently unpredictable, but such outcomes could have a material adverse effect on our results of operations, cash flow or financial condition.

For over 30 years, we have been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos.

Most of our potential exposure relates to allegations by plaintiffs that PPG should be liable for injuries involving asbestos containing thermal insulation products manufactured by Pittsburgh Corning Corporation (“PC”). PPG is a 50% shareholder of PC. Although we have entered into a settlement arrangement with several parties concerning these asbestos claims as discussed in Note 14, “Commitments and Contingent Liabilities,” under Item 8 of this Form 10-K, the arrangement remains subject to court proceedings and, if not approved, the outcome could be material to the results of operations of any particular period.

We are subject to a variety of complex U.S. and non-U.S. laws and regulations which could increase our compliance costs.

We are subject to a wide variety of complex U.S. and non-U.S. laws and regulations, and legal compliance risks, including securities laws, tax laws, environmental laws, employment and pension-related laws, competition laws, U.S. and foreign export and trading laws, and laws governing improper business practices, including bribery. We are affected by new laws and regulations and changes to existing laws and regulations, including interpretations by courts and regulators. These laws and regulations effectively expand our compliance obligations and potential enforcement actions by governmental authorities or litigation related to them.

New laws and regulations or changes in existing laws or regulations or their interpretation could increase our compliance costs. For example, regulations concerning the composition, use and transport of chemical products continue to evolve. Developments concerning these regulations could potentially impact (i) the availability or viability of some of the raw materials we use in our product formulations and/or (ii) our ability to supply certain products to some customers or markets. Import/export regulations also continue to evolve and could result in increased compliance costs, slower product movements or additional complexity in our supply chains.

Our international operations expose us to additional risks and uncertainties that could affect our financial results.

PPG has a significant investment in global operations. This broad geographic footprint serves to lessen the significance of economic impacts occurring in any one region. Notwithstanding the benefits of geographic diversification, our ability to achieve and maintain profitable growth in international markets is subject to risks related to the differing legal, political, social and regulatory requirements and

economic conditions of many countries. As a result of our expansion outside the U.S., we are subject to certain inherent risks, including political and economic uncertainty, inflation rates, exchange rates, trade protection measures, local labor conditions and laws, restrictions on foreign investments and repatriation of earnings, and weak intellectual property protection. Our percentage of sales generated in 2013 by products sold outside the U.S. was approximately 59%.

Fluctuations in foreign currency exchange rates could affect our financial results.

We earn revenues, pay expenses, own assets and incur liabilities in countries using currencies other than the U.S. dollar. Because our consolidated financial statements are presented in U.S. dollars, we must translate revenues and expenses into U.S. dollars at the average exchange rate during each reporting period, as well as assets and liabilities into U.S. dollars at exchange rates in effect at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against other major currencies will affect our net revenues, operating income and the value of balance sheet items denominated in foreign currencies. We use derivative financial instruments to reduce our net exposure to currency exchange rate fluctuations related to foreign currency transactions. However, fluctuations in foreign currency exchange rates, particularly the strengthening of the U.S. dollar against major currencies, could materially affect our financial results.

Business disruptions could have a negative impact on our results of operations and financial condition.

Unexpected events, including supply disruptions, temporary plant and/or power outages, work stoppages, natural disasters and severe weather events, computer system disruptions, fires, war or terrorist activities, could increase the cost of doing business or otherwise harm the operations of PPG, our customers and our suppliers. It is not possible for us to predict the occurrence or consequence of any such events. However, such events could reduce demand for our products or make it difficult or impossible for us to receive raw materials from suppliers or to deliver products to customers.

Failure to successfully integrate acquired businesses into our existing operations could adversely affect our financial results.

Part of the Company's strategy is growth through acquisitions, and we will likely acquire additional businesses and enter into additional joint ventures in the future. Growth through acquisitions and the formation of joint ventures involve risks, including:

- difficulties in assimilating acquired companies and products into our existing business;
- delays in realizing the benefits from the acquired companies or products;
- diversion of our management’s time and attention from other business concerns;
- difficulties due to lack of or limited prior experience in any new markets we may enter;
- unforeseen claims and liabilities, including unexpected environmental exposures or product liability;
- unexpected losses of customers or suppliers of the acquired or existing business;

Table of Contents

- difficulty in conforming the acquired business' standards, processes, procedures and controls to those of our operations; and
- difficulties in retaining key employees of the acquired businesses.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and joint ventures could cause us to fail to realize the anticipated benefits of such acquisitions or joint ventures and could adversely affect our results of operations, cash flow or financial condition.

Our ability to understand our customers' specific preferences and requirements, and to innovate, develop, produce and market products that meet customer demand is critical to our business results.

Our business relies on continued global demand for our brands and products. To achieve business goals, we must develop and sell products that appeal to customers. This is dependent on a number of factors, including our ability to produce products that meet the quality, performance and price expectations of our customers and our ability to develop effective sales, advertising and marketing programs. Future growth will depend on our ability to continue to innovate our existing products and to develop and introduce new products. If we fail to keep pace with product innovation on a competitive basis or to predict market demands for our products, our business, financial condition and results of operations could be adversely affected.

The industries in which we operate are highly competitive.

With each of our businesses, an increase in competition may cause us to lose market share, lose a large regional or global customer, or compel us to reduce prices to remain competitive, which could result in reduced margins for our products. Competitive pressures may not only impair our margins but may also impact our revenues and our growth which could adversely affect our results of operations.

The security of our information technology systems could be compromised, which could adversely affect our ability to operate.

Increased global information technology security requirements, threats and sophisticated and targeted computer crime pose a risk to the security of our systems, networks and the confidentiality, availability and integrity of our data. Despite our efforts to protect sensitive information and confidential and personal data, our facilities and systems may be vulnerable to security breaches. This could lead to negative publicity, theft, modification or destruction of proprietary information or key information, manufacture of defective products, production downtimes and operational disruptions, which could adversely affect our reputation, competitiveness and results of operations.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The Company's corporate headquarters is located in Pittsburgh, Pa. The Company's manufacturing facilities, sales offices, research and development centers and distribution centers are located throughout the world. As of February 20, 2014, the Company operated 139 manufacturing facilities in 47 countries, and the principal manufacturing and distribution facilities were as follows:

Performance Coatings:	Carrollton, Texas; Clayton, Australia; Delaware, Ohio; Dover, Del.; Huntsville, Ala.; Huron, Ohio; Irvine, Calif.; Kunshan, China; Little Rock, Ark.; Milan, Italy; Mojave, Calif.; Oakwood, Georgia; Stowmarket, United Kingdom; Sylmar, Calif.; about 870 company-owned stores in North America and about 40 company-owned stores in Australia
Industrial Coatings:	Cieszyn, Poland; Cleveland, Ohio; Oak Creek, Wis.; Sumaré, Brazil; Tianjin, China; Zhangjiagang, China; Quattordio, Italy; San Juan del Rio, Mexico; and Busan, South Korea
Architectural Coatings—EMEA:	

	Soborg, Denmark; Moreuil, France; Budapest, Hungary; Amsterdam, Netherlands; Wroclaw, Poland; Birstall, United Kingdom and nearly 660 company-owned stores, including 211 stores in France and 188 stores in the United Kingdom
Optical and Specialty Materials:	Barberton, Ohio; Bangkok, Thailand; Lake Charles, La. and Manila, Philippines
Glass:	Carlisle, Pa.; Hoogezand, Netherlands; Lexington, N.C.; Shelby, N.C. and Wichita Falls, Texas

Including the principal manufacturing facilities noted above, the Company has manufacturing facilities in the following geographic areas:

United States:	38 manufacturing facilities in 20 states.
Other Americas:	14 manufacturing facilities in 5 countries.
EMEA:	58 manufacturing facilities in 29 countries.
Asia:	29 manufacturing facilities in 12 countries.

The Company’s principal research and development centers are located in Allison Park, Pa.; Harmarville, Pa.; Monroeville, Pa.; Shelby, NC; and Burbank, Ca.

The Company’s headquarters, certain distribution centers and substantially all company-owned paint stores are located in facilities that are leased while the Company’s other facilities are generally owned. Our facilities are considered to be suitable and adequate for the purposes for which they are intended and overall have sufficient capacity to conduct business in the upcoming year.

Item 3. Legal Proceedings

PPG is involved in a number of lawsuits and claims, both actual and potential, including some that it has asserted against others, in which substantial monetary damages are sought. These lawsuits and claims, the most significant of which are described below, relate to contract, patent, environmental, product liability, antitrust and other matters arising out of the conduct of PPG’s current and past business activities. To the extent that these lawsuits and claims involve personal injury and property damage, PPG believes it has adequate insurance; however, certain of PPG’s insurers are contesting coverage with respect to some of these claims, and other insurers, as they had prior to the asbestos settlement described below, may contest coverage with respect to some of the asbestos claims if the settlement is not implemented. PPG’s lawsuits and claims

Table of Contents

against others include claims against insurers and other third parties with respect to actual and contingent losses related to environmental, asbestos and other matters.

The results of any future litigation and claims are inherently unpredictable. However, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG, including asbestos-related claims in the event the settlement does not become effective, will not have a material effect on PPG's consolidated financial position or liquidity; however, such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized.

For over 30 years, PPG has been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos. For a description of asbestos litigation affecting the Company and the terms and status of the proposed asbestos settlement arrangement, see Note 14, "Commitments and Contingent Liabilities" under Item 8 of this Form 10-K.

In the past, the Company and others have been named as defendants in several cases in various jurisdictions claiming damages related to exposure to lead and remediation of lead-based coatings applications. PPG has been dismissed as a defendant from most of these lawsuits and has never been found liable in any of these cases.

Executive Officers of the Company

Set forth below is information related to the Company's executive officers as of February 20, 2014.

Name	Age	Title
Charles E. Bunch	64	Chairman and Chief Executive Officer since July 2005
Michael H. McGarry [a]	55	Executive Vice President since September 2012
Viktoras R. Sekmakas [b]	53	Executive Vice President since September 2012
Frank S. Sklarsky [c]	57	Executive Vice President and Chief Financial Officer since August 2013
Glenn E. Bost II [d]	62	Senior Vice President and General Counsel since July 2010
David B. Navikas [e]	63	Senior Vice President, Strategic Planning and Corporate Development since August 2013
Richard C. Elias [f]	60	Senior Vice President, Optical and Specialty Materials since July 2008
Cynthia A. Niekamp [g]	54	Senior Vice President, Automotive Coatings since August 2010

(a) Mr. McGarry is responsible for leading the Architectural Coatings EMEA (Europe, Middle East and Africa) segment, the architectural coatings Americas and Asia Pacific businesses, the flat glass business and the Europe, Middle East and Africa (EMEA) region. His responsibilities continue to include the global Information Technology, Environmental Health and Safety and Corporate Quality functions. From September 2012 until February 2013, he was responsible for the global aerospace and automotive refinish businesses. Mr. McGarry led the Commodity Chemicals segment from July 2008 until the separation of that business on January 28, 2013. He was appointed Executive Vice President in September 2012 and held the position of Senior Vice President, Commodity Chemicals from July 2008 until August 2012. Mr. McGarry previously served as Vice President, coatings, Europe and Managing Director, PPG Europe from July 2006 through June 2008.

(b) Mr. Sekmakas is responsible for leading the industrial coatings, packaging coatings and protective and marine coatings businesses. In February 2013, he became responsible for the fiber glass business, the Asia Pacific region and the Purchasing and Logistics function. From September 2012 until February 2013, he was responsible for the EMEA region. He was appointed Executive Vice President in September 2012. Previously, he held the following leadership positions: Senior Vice President, industrial coatings and President, Europe from September 2011 until August 2012; Senior Vice President, industrial coatings and President, Asia Pacific coatings from August 2010 until September 2011; Vice President industrial coatings and President, Asia Pacific coatings from March 2010 until August 2010; President PPG Asia Pacific from July 2008 until March 2010; and Vice President and Managing Director Asia Pacific from July 2006 until July 2008.

(c) Mr. Sklarsky was appointed Executive Vice President, Finance, in April 2013 when he joined PPG. Prior to joining PPG, Mr. Sklarsky was Executive Vice President and Chief Financial Officer of Tyco International, Ltd. from December 2010 until September 2012 and was Executive Vice President and Chief Financial Officer of Eastman Kodak Company from November 2006 until December 2010.

(d) Mr. Bost held the position of Vice President and Associate General Counsel from July 2006 through June 2010.

(e) Mr. Navikas held the position of Senior Vice President, Finance and Chief Financial Officer from June 2011 until August 2013. From March 2000 until June 2011, he held the position of Vice President and Controller.

(f) Mr. Elias held the position of Vice President, Optical Products from April 2000 until June 2008.

(g) Ms. Niekamp is responsible for the automotive OEM coatings business and the Latin America regions. Ms. Niekamp was appointed Vice President, Automotive Coatings in January 2009 when she joined PPG from BorgWarner, Inc. She previously served as President of BorgWarner's TorqTransfer Systems business from 2004 until 2008.

Item 4. Mine Safety Disclosures

Not Applicable.

Table of Contents

Part II

Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

The information required by Item 5 regarding market information, including stock exchange listings and quarterly stock market prices, dividends and holders of common stock is included in Exhibit 13.1 filed with this Form 10-K and is incorporated herein by reference. This information is also included in the PPG Shareholder Information on page 5 of the Annual Report to shareholders.

Directors who are not also officers of the Company receive common stock equivalents pursuant to the PPG Industries, Inc., Deferred Compensation Plan for Directors ("PPG Deferred Compensation Plan for Directors"). Common stock equivalents are hypothetical shares of common stock having a value on any given date equal to the value of a share of common stock. Common stock equivalents earn dividend equivalents that are converted into additional common stock equivalents but carry no voting rights or other rights afforded to a holder of common stock. The common stock equivalents credited to directors under this plan are exempt from registration under Section 4(2) of the Securities Act of 1933 as private offerings made only to directors of the Company in accordance with the provisions of the plan.

Under the PPG Deferred Compensation Plan for Directors, each director may elect to defer the receipt of all or any portion of the compensation paid to such director for serving as a PPG director. All deferred payments are held in the form of common stock equivalents. Payments out of the deferred accounts are made in the form of common stock of the Company (and cash as to any fractional common stock equivalent). The directors, as a group, were credited with 16,770; 30,491; and 20,575 common stock equivalents in 2013, 2012 and 2011, respectively, under this plan. The values of the common stock equivalents, when credited, ranged from $138.55 to $183.92 in 2013, $85.12 to $124.55 in 2012 and $68.68 to $94.64 in 2011.

Issuer Purchases of Equity Securities

Month	Total Number of Shares Purchased	Avg. Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs [1]	Max. Number of Shares That May Yet Be Purchased Under the Programs
October 2013				
Repurchase program	626,438	$176.18	626,438	5,229,404
November 2013				
Repurchase program	2,986,238	$190.55	2,986,238	2,243,166
December 2013				
Repurchase program	—	$—	—	2,243,166
Total quarter ended December 31, 2013				
Repurchase program	3,612,676	$188.06	3,612,676	2,243,166

[1] These shares were repurchased under a 10 million share repurchase program approved in October 2011. This repurchase program has no expiration date.

No shares were withheld or certified in satisfaction of the exercise price and/or tax withholding obligation by holders of employee stock options who exercised options granted under the Company's equity compensation plans in the fourth quarter of 2013.

Item 6. Selected Financial Data

The information required by Item 6 regarding the selected financial data for the five years ended December 31, 2013 is included in Exhibit 13.2 filed with this Form 10-K and is incorporated herein by reference. This information is also reported in the Five-Year Digest on page 86 of the Annual Report to shareholders.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Separation of PPG's commodity chemicals business and acquisition of the North American architectural coatings business of Akzo Nobel N.V.

In 2013, PPG completed two additional steps in its strategic transformation into a more focused coatings and specialty materials company.

PPG completed the first step on January 28, 2013 with the separation of its commodity chemicals business and the merger of the subsidiary holding the PPG commodity chemicals business with a subsidiary of the Georgia Gulf Corporation ("Georgia Gulf"). Refer to Note 22, "Separation and Merger Transaction" under Item 8 of this Form 10-K for financial information relating to this transaction.

The second step was completed on April 1, 2013 with the completion of the acquisition of the North American architectural coatings business of Akzo Nobel N.V.. The acquisition included the purchase of a number of leading brands and 526 paint stores, net of redundant store closures, in the U.S., Canada and the Caribbean. Refer to Note 2, "Acquisitions and Divestitures" under Item 8 of this Form 10-K for financial information relating to this transaction.

Performance in 2013 compared with 2012

Performance Overview

Net sales increased $1,596 million, or 12% from the prior year, to $15,108 million primarily due to sales of acquired businesses, which increased net sales by approximately 10%. The AkzoNobel North American architectural coatings business acquired in April 2013 contributed approximately $1,165 million in net sales while the acquisitions of Deft, an aerospace coatings business acquired in May 2013, and the Spraylat coatings business acquired in December 2012, contributed approximately $166 million combined.

Overall sales volumes, excluding acquisitions, were level with the prior year as sales volume growth in the Industrial Coatings, Optical and Specialty Materials and Glass segments as well as the aerospace business was offset by volume declines in the remaining segments and other businesses. Sales volumes were inconsistent by region. The U.S. and Canada and the Latin America regions' sales volumes were up nearly 3% year over

Table of Contents

year. Growth occurred in many end-use markets in Asia Pacific, although total sales volumes for the region were nearly level year over year due to declines stemming from lower marine new-build end-use market demand. Sales volumes in Europe were down 4% year over year due to weak demand that occurred in the first half of the year. The 2013 volume decline in Europe continued the trend experienced since the recession began in 2009. Aggregate PPG coatings volumes in that region have declined over 20% versus year 2008 pre-recession levels. Whereas combined PPG coatings volumes in the remaining regions are higher in comparison to year 2008 pre-recession levels, as growth in emerging regions of nearly 20% has been partially offset by a 5% decline in the U.S. and Canada. Higher selling prices added just over 1% to net sales which included the carryover impact from 2012 price increases to offset current year inflation in certain cost components, including increases in transportation, energy and labor costs. The impact of foreign currency translation on net sales was flat for the year, although results were mixed by currency.

Cost of sales, exclusive of depreciation and amortization, increased $731 million, or 9% from the prior year, to $8,636 million primarily due to the inclusion of cost of sales from acquired businesses partially offset by lower manufacturing costs. Cost of sales as a percentage of sales in 2013 was 57.2% compared to 58.5% in 2012. This decrease is largely due to shifts in sales margin mix related to the businesses acquired.

Selling, general and administrative expenses increased by $499 million, or 16% from the prior year, to $3,699 million principally related to the inclusion of acquired businesses and overhead cost inflation partly offset by the impact of our continued focus on cost management, including savings from restructuring actions initiated in 2012. As a percent of sales, selling, general and administrative expenses increased slightly to 24.5% in 2013 from 23.7% in 2012 primarily due to the addition of acquired businesses which have higher distribution related costs.

Depreciation expense increased $44 million, or 14% from the prior year, to $356 million primarily due to the depreciation of the acquired businesses.

The restructuring charge of $98 million relates to a restructuring plan approved in the third quarter of 2013 focused on achieving cost synergies, through improved productivity and efficiency, related to the acquired North American architectural coatings business, but also includes smaller targeted actions for PPG's legacy architectural business, as well as other businesses where market conditions remain very challenging, most notably protective and marine coatings and certain European businesses such as architectural coatings and fiber glass.

Other charges decreased $34 million, or 15% from the prior year, to $190 million primarily due to lower legacy environmental remediation charges in 2013. In 2013, the largest charge included in other charges relates to a pretax charge of $89 million for the environmental remediation at a former chromium manufacturing plant and associated sites in New Jersey and a pretax charge of $12 million related to environmental remediation at a legacy chemical manufacturing site. The 2012 other charges included a pretax charge of $159 million, related primarily to the environmental remediation at the former

chromium manufacturing plant and associated sites in New Jersey.

Other income decreased $8 million, or 6% from the prior year, to $131 million primarily due to lower equity earnings, primarily from our Asian fiber glass joint ventures as a result of a decline in demand in the personal computer market and lower licensing earnings in the Glass segment.

The effective tax rate on income before income taxes was 22% and 21% in 2013 and 2012, respectively. See the Regulation G reconciliation below for details of PPG's adjusted effective tax rate from continuing operations.

Diluted earnings-per-share for 2013 were $22.27 per-share, comprised of net income from continuing operations of $7.13 per-share and discontinued operations, net of tax of $15.14 per-share. The increase in diluted earnings-per-share resulted from higher net income and a reduction in the number of shares outstanding as a result of the 10.8 million PPG shares tendered to the Company in the exchange offer in connection with the separation and merger of the Company's former commodity chemicals business as well as the approximately 5.7 million shares repurchased during 2013. For more information about the separation and merger of the Company's former commodity chemicals business, see Note 22, “Separation and Merger Transaction,” under Item 8 of this Form 10-K.

Regulation G Reconciliation - Results from Operations

PPG Industries believes investors’ understanding of the Company’s operating performance is enhanced by the disclosure of income before income taxes, PPG's effective tax rate, tax expense, net income from continuing operations and earnings per diluted share adjusted for nonrecurring charges. PPG’s management considers this information useful in providing insight into the company’s ongoing operating performance because it excludes the impact of items that cannot reasonably be expected to recur on an ongoing basis. Income before income taxes, the effective tax rate, tax expense, net income from continuing operations and earnings per diluted share adjusted for these items are not recognized financial measures determined in accordance with U.S. generally accepted accounting principles ("GAAP") and should not be considered a substitute for income before income taxes, the effective tax rate, tax expense, net income from continuing operations or earnings per diluted share or other financial measures as computed in accordance with U.S. GAAP. In addition, adjusted income before income taxes, adjusted effective tax rate, adjusted tax expense, adjusted net income from continuing operations and adjusted earnings per diluted share from continuing operations may not be comparable to similarly titled measures as reported by other companies.

Table of Contents

Income before income taxes is reconciled to adjusted income before income taxes below:

Years-ended December 31 (Millions, except per share amounts)	2013	2012
Income before income taxes	$1,489	$1,057
Income before income taxes includes:		
Charges related to business restructuring	98	208
Charges related to environmental remediation	101	159
Charges related to business acquisitions	42	11
Legacy pension settlement costs	18	
Adjusted income before income taxes	$1,748	$1,435

The effective tax rate from continuing operations is reconciled to the adjusted effective tax rate from continuing operations below:

Year-ended December 31, 2013

(Millions, except per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	
Effective tax rate, continuing operations	$1,489	$333	22.4	%
Includes:				
Charges related to environmental remediation	101	37	36.6	%
Charges related to business restructuring	98	25	25.5	%
Charges related to business acquisitions	42	14	33.3	%
Legacy pension settlement costs	18	5	27.8	%
U.S. tax law changed enacted in 2013		10		
Adjusted effective tax rate, continuing operations, excluding certain charges	$1,748	$424	24.3	%

Year-ended December 31, 2012

(Millions, except per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	
Effective tax rate, continuing operations	$1,057	$221	20.9	%
Includes:				
Charges related to business restructuring	208	45	21.6	%
Charges related to environmental remediation	159	60		