# ppg

PPG Corporate Sustainability Report Update

### A Message From the Chairman

S am pleased to present the 2011 Update to PPG's Corporate Sustainability Report. This document provides updates to our 2010 Corporate Sustainability Report and is designed to be read in conjunction with that report.

2011 was an excellent year for PPG by nearly every measure. True to our "Blueprint" values, we made progress on many of our ethics; environment, health and safety; and community engagement programs. In 2011, we revised our Global Code of Ethics to make it even stronger. For the second consecutive year, we reduced our significant spill and release rate and maintained our low level of injuries and illnesses across the corporation. And, we expanded our community and social responsibility initiatives on a global scale.



From an economic perspective PPG delivered record full-year earnings per share of \$6.87 in 2011. This represents an increase of 48 percent over 2010 and easily established a new record for the company. This strong performance was achieved despite global growth rates that were uneven by region and varied by industry. More importantly, these results demonstrate that our mission to continue to be the world's leading coatings and specialty products company, supported by our strategic initiatives to pursue profitable growth and drive operational excellence, is clearly yielding results.

In this update, you'll read about how our businesses are performing; new "green" products we've introduced this year to help our customers solve some of their technical challenges; our progress toward environmental, health and safety goals; and our new efforts to support PPG communities on a global level.

As PPG continues to work to improve our sustainability performance, these annual reports and updates will summarize our efforts and serve to encourage a dialogue about our company that is meaningful and productive.

CBuck

Charles E. Bunch Chairman and Chief Executive Officer

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# Company Profile

PPG Industries' vision is to continue to be the world's leading coatings and specialty products company. Through leadership in innovation, sustainability and color, PPG helps customers in



industrial, transportation, consumer products, and construction markets and aftermarkets to enhance more surfaces in more ways than does any other company. Founded in 1883, PPG has global headquarters in Pittsburgh and operates in more than 60 countries around the world. Sales in 2011 were \$14.9 billion.

#### PERFORMANCE COATINGS

- AEROSPACE. Leading manufacturer of transparencies, electrochromic cabin window shades, sealants and coatings, and provider of surface solutions, packaging, and chemical management services, delivering new technologies and solutions to airframe manufacturers, airlines and maintenance providers for the commercial, military and general aviation industries globally. Also supplies transparent armor for military vehicles.
- ARCHITECTURAL COATINGS AMERICAS AND ASIA PACIFIC. Produces paints, stains and specialty coatings for the commercial, maintenance and residential markets under brands such as PPG Pittsburgh Paints®, PPG Porter Paints®, PPG, Master's Mark®, Renner®, Lucite®, Olympic®, Taubmans® and Ivy®.
- AUTOMOTIVE REFINISH. Produces and markets a full line of coatings products and related services for automotive and commercial transport/fleet repair and refurbishing, light industrial coatings and specialty coatings for signs.
- PROTECTIVE AND MARINE COATINGS. Leading supplier of corrosion-resistant, appearance-enhancing coatings for the marine, infrastructure, petrochemical, offshore and power industries. Produces the Amercoat®, Freitag®, PPG High Performance Coatings and Sigma Coatings®brands.

#### INDUSTRIAL COATINGS

- AUTOMOTIVE OEM COATINGS. Leading supplier of coatings, specialty products and services to automotive, commercial vehicle, fascia and trim manufacturers. Products include electrocoats, primer surfacers, basecoats, clearcoats, liquid applied sound dampeners, bedliner, pretreatment chemicals, adhesives and sealants.
- INDUSTRIAL COATINGS. Produces coatings for appliances, agricultural and construction equipment, consumer products, electronics, automotive parts, residential and commercial construction, wood flooring, joinery (windows and doors) and other finished products.
- PACKAGING COATINGS. Global supplier of coatings, inks, compounds, pretreatment chemicals and lubricants for metal and plastic containers for the beverage, food, general line and specialty packaging industries.

#### ARCHITECTURAL COATINGS – EMEA

ARCHITECTURAL COATINGS – EMEA (Europe, Middle East and Africa). Supplier of market-leading paint brands for the trade and retail markets such as Sigma Coatings<sup>®</sup>, Histor<sup>®</sup>, Brander<sup>®</sup>, Dyrup<sup>®</sup>, Bondex<sup>®</sup>, Balakryl<sup>®</sup>, Boonstoppel<sup>®</sup>, Rambo<sup>®</sup>, Seigneurie<sup>®</sup>, Penitures Gauthier<sup>®</sup>, Guittet<sup>®</sup>, Ripolin<sup>®</sup>, Johnstone's<sup>®</sup>, Leyland<sup>®</sup>, Dekoral<sup>®</sup>, Trinat<sup>®</sup>, Hera<sup>®</sup>, Primalex<sup>®</sup>, Prominent Paints<sup>®</sup> and Freitag<sup>®</sup>.

#### OPTICAL AND SPECIALTY MATERIALS

- OPTICAL PRODUCTS. Produces optical monomers and coatings, including CR-39®, Trivex<sup>®</sup> and Tribrid™ lens materials, high performance NXT<sup>®</sup> sunlenses, optical sheet transparencies, photochromic dyes and Transitions<sup>®</sup> photochromic eyeglass lenses.
- SILICAS. Produces amorphous precipitated silicas for tire, battery separator and other end-use applications and Teslin® substrate used in applications such as radio frequency identification (RFID) tags and labels, e-passports, driver's licenses and identification cards.

#### COMMODITY CHEMICALS

CHLOR-ALKALI AND DERIVATIVES. Produces chlorine, caustic soda and related chemicals for use in chemical manufacturing, pulp and paper production, water treatment, plastics production, agricultural products, pharmaceuticals and many other applications.

#### **GLASS**

- FIBER GLASS. Manufactures fiber glass reinforcement materials for thermoset and thermoplastic composite applications, serving the transportation, energy, infrastructure and consumer markets. Produces fiber glass yarns for electronic printed circuit boards and specialty applications.
- FLAT GLASS. Produces flat glass and coated glass that is fabricated into products primarily for commercial construction and residential markets, as well as the solar energy, appliance, mirror and transportation industries.



### Driving Stakeholder Engagement

#### Building a Framework for Community Engagement

In 2011, PPG developed a "community engagement framework" to help define the actions that company locations will implement to develop and maintain strong two-way communications with key community constituents, governmental agencies and appropriate non-governmental organizations (NGOs). While PPG believes that community engagement and strong communication is important at all PPG communities, some facilities because of size, types of operations and potential impacts will have increased engagement opportunities. The chart below provides an example of how PPG sites will be assessed on a progressive scale, or Level 1, 2, 3 or 4. Locations will be asked to implement the types of programs listed as examples below, based on level. PPG intends to complete the site assessments in 2012.

Level 1	Level 2		
Encourage community service among employees Joint planning with community emergency services	Level 1 actions and Site leadership must be active in local community organizations		
Level 3	Level 4		
Level 1 and 2 actions and	Level 1 – 3 actions and		
Community engagement responsibilities assigned PPG Friends employee volunteer team formed to support community projects Relationship established with local government officials	Community Advisory Panel formed Survey completed of community needs that could be met by PPG Develop report to community Relationship established with officials of regional/national governments and key NGOs		

#### Driving Employee Engagement

In June 2011, PPG launched its first global employee engagement survey. More than 20,000 employees – a response of 72 percent – participated and provided feedback on several employment drivers. Specifically, the questionnaire asked employees about five key areas: job satisfaction; organization effectiveness; recognition and career advancement; management and supervisory characteristics; and coworker performance and cooperation.

A key highlight of the survey results is the customer focus of PPG's employees. The survey showed that PPG employees genuinely care about the customer. The survey also revealed three areas for improvement: employee recognition, enabling employees to contribute to the success of the company, and supervisory encouragement of career growth.

The survey results were shared at the manager/supervisor level for feedback and action planning purposes.

### Corporate Governance

Effective June 10, 2011, **David B. Navikas** succeeded Robert J. Dellinger as senior vice president, finance, and chief financial officer. Dellinger announced his resignation for personal healthrelated reasons as of June 30, 2011. Navikas had served as controller since joining the



company in 1995, and had also been vice president and controller since 2000. Navikas retained his position on PPG's Operating Committee and joined the company's Executive Committee.

Effective Sept. 1, 2011, J. Rich Alexander, PPG executive vice president, was appointed to lead all of PPG's architectural coatings businesses. In this role, Alexander is directing the integration of PPG's current architectural coatings – EMEA (Europe, Middle East and Africa) and architectural



coatings – Americas and Asia Pacific businesses to fully leverage strategic and operational synergies. In addition, Alexander assumed executive leadership responsibility for the Asia Pacific region. Alexander continues to be a member of the Operating and Executive Committees.

Also effective Sept. 1, 2011, **Pierre-Marie De Leener**, PPG executive vice president, was appointed to lead PPG's global automotive refinish, protective and marine coatings, and aerospace businesses. De Leener assumed executive leadership responsibility for the Latin



Viktoras R. Sekmakas, PPG senior vice president, industrial coatings, and president, PPG Asia Pacific, was named senior vice president, industrial coatings, and president, PPG Europe on Sept. 1, 2011. Sekmakas continues to be a member of PPG's Operating Committee.



### Ethics and Compliance

S n July 2011, PPG revised its Global Code of Ethics to make it even stronger. Among the updates are enhancements to PPG's trade compliance and anti-corruption policies. PPG's trade compliance policy addresses the export of the company's products, services, technology and technical data around the globe. It also addresses PPG's obligation to comply with all trade and customs restrictions, laws and regulations and internal requirements relating to the import of materials and services. The anti-corruption policy applies to all transactions between PPG and any other party. While the policy prohibits bribery and corruption of any kind in PPG business dealings in every country, it also underlines the stringent prohibitions that apply to any effort to improperly influence government officials. Also, other changes were made to emphasize the company's commitment to operating in an ethical manner and foster compliance. The revised Global Code of Ethics (pictured at right) was translated into Arabic, Brazilian-Portuguese, Czech, Simplified Chinese, Traditional Chinese, Dutch, French, German, Hungarian, Indonesian, Italian, Japanese, Korean, Polish, Romanian, Slovenian, Spanish, Turkish, Ukrainian and Vietnamese, and placed on the company's intranet and website.



### **Business Performance**

S n 2011, PPG delivered record full-year earnings per share of \$6.87. This was an increase of 48 percent over 2010 and established a new record for the company. Net income also was a record at \$1.1 billion, an increase of 42 percent over 2010. Earnings per share in each quarter of the year eclipsed prior quarter records by an average of about 20 percent. Sales for the year were \$14.9 billion, an increase of 11 percent over 2010.

This strong performance was achieved despite global growth rates that were uneven by region and varied by industry. In the first half of 2011, the global economy continued to mend from the 2008-2009 recession. And, although year-over-year demand in the developed regions was higher in 2011, it still remained below pre-recession levels. In the second half of the year, economic conditions continued to moderate in response to sovereign debt concerns, primarily in Europe. Growth rates in emerging regions began to moderate. Late in the year, customers were cautious with their inventory levels and order patterns.

For more information on PPG's 2011 financial results, see the

company's 2011 Annual Report and Form 10-K at www.ppg.com

In 2001, coatings and optical products accounted for about 60 percent of PPG's sales. Today, PPG's coatings and optical products sales have more than doubled and now account for about 80 percent of total company sales. In 2001, 74 percent of PPG's sales were in the United States and Canada. Today, it is approximately 45 percent. Over this time, Asia Pacific sales have grown from 3 percent of the company to 17 percent.



### Business Performance... continued

In 2011, each of PPG's 13 business units delivered higher pricing, and PPG gained market share in several end-use markets by leveraging leading technologies and customer service. This enabled PPG to counter persistent raw material inflation. Aggressive cost management also supported PPG's efforts to further lower its cost structure.

During the year, PPG continued to invest cash to strengthen its businesses both organically and through acquisition. Among other projects, PPG completed construction of a new resin manufacturing facility in Zhangjiagang, China, and expanded waterborne coatings manufacturing capability in Tianjin, China. PPG also announced four acquisitions: Equa-Chlor, a chlor-alkali producer in the western United States; Dyrup, a European architectural coatings and wood care business; Ducol, a South African automotive refinish company; and Colpisa, a Columbian automotive coatings producer.

PPG maintained its long tradition of rewarding shareholders by returning \$1.2 billion, or about 85 percent of cash generated from operations, in the form of dividends and share repurchases. PPG has paid uninterrupted annual dividends since 1899, and 2011 marked the 40th consecutive year that the company increased its annual dividend payout. Additionally, the 10.2 million shares of PPG stock repurchased for about \$850 million in the year marked the highest level in company history.

As a major employer, PPG's presence enhances the tax revenue of the nations and communities where it operates. In 2011, PPG paid about \$353 million in taxes globally.





### 2011 Financial Highlights

All dollar amounts except per share data are in millions.





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## Products and Innovation

ew "green" PPG products—those engineered specifically to save energy or otherwise protect the environment—increased in 2011 to account for 47 percent of the projected cumulative five-year sales revenue of new products commercialized. This is a 41 percent increase over 2010.

#### Planes and Automobiles

Many new products launched by PPG in 2011 support the transportation industry's push for "light-weighting" and exceptional corrosion resistance using more environmentally-friendly coatings.

DESOPRIME<sup>™</sup> CF/CA 7502 is a chromate-free primer with a proprietary corrosion-inhibition package. When combined with DESOTHANE<sup>®</sup> HS or *Desothane* HD topcoat systems and DESOGEL<sup>™</sup> EAP-9 metal pretreatments by PPG, *Desoprime* CF/CA 7502 primer becomes part of a complete, "green" exterior coatings system that not only meets the rigors of the aerospace environment, but provides colorful, attractive aesthetics.

In the automotive industry, PPG debuted a *Super High-Throw Electrocoat*, featuring a proprietary formulation that enables coatings to penetrate recessed hard-to reach areas outside, under and inside a vehicle. This significant advance improves the efficiency of the electrocoat process by limiting paint waste, extending metal life and contributes to reducing vehicle weight to improve fuel economy.

For commercial coatings paint distributors, PPG launched the AQUACRON<sup>®</sup> Intermix Tinting System for its Aquacron line of water-based resins, enabling local PPG distributors to mix some 3,000 pre-formulated Aquacron colors right at their store locations. This product offers faster turnarounds on delivering low-VOC, water-based topcoat solutions for a range of commercial and industrial applications.

In the automotive refinish market, PPG launched Envirobase HP EC800 Ultra-Fast Clearcoat for high-volume collision-repair centers. In addition to delivering excellent gloss and appearance, the coatings reduce cycle times and meet all industryrelated volatile organic compound (VOC) emissions regulations. Repair center owners and the environment also benefit from lower energy consumption because EC800 does not require bake time in a paint booth. Additionally, PPG launched HS Express Clearcoat P190-6800, part of the NEXA AUTOCOLOR® line of products designed for use with the AQUABASE® Plus system. The product is also designed to bypass the baking cycle, reducing total process time and necessary energy requirements, and is a "greener" waterborne technology as opposed to traditional solvent-based materials.

#### Research & Development Expenditures



Jazz Aviation LP, Canada, has repainted two regional aircraft with the most advanced, "green" coatings system by PPG's aerospace business. The aircraft were repainted with chromatefree DESOTHANE® HD/CA 9000 basecoat/ clearcoat, DESOPRIME™ CF/CA 7502 epoxy primer and DESOGEL™ EAP-9 metal pretreatment.

In Europe, PPG introduced *DP3000 Enviro Primer* Surfacer and *Nexa Autocolor* branded *Eco+ Primer* Surfacer, innovative automotive refinish products that are the first to incorporate recycled plastic flakes as a raw material. The development of these products is closely aligned with wider original equipment manufacturer (OEM) targets for increasing the percentage of recycled material used in car manufacture, and it also helps auto bodyshops to demonstrate their commitment to sustainability. By using recycled plastic, specifically PET which is the plastic commonly found in drinks bottles and food packaging, PPG is helping to reduce waste that would otherwise take hundreds of years to decompose in landfill sites.



An auto body technician applies PPG waterborne refinish coatings.

# From plastic bottle to Eco+ Primer Surfacer



Plastic is recycled . . .



converted to clean PET flakes . . .



incorpoated into the innovative *Eco+ Primer* Surfacer

### Products and Innovation ... continued

#### Sun and Wind Energy

Over the last two years, PPG has expanded its leadership in the development of products for renewable energy. In 2011, the PPG Solar Performance Group announced major advances in the performance of its SOLARPHIRE<sup>®</sup> AR and 2XAR anti-reflective glasses. When PPG's new anti-reflective coatings are applied to one or both sides of a *Solarphire* glass substrate, it can achieve a solar transmittance improvement of 3 to 4 percent. In photovoltaic (PV) cells, this can translate to an overall 2 percent gain in unit wattage output.

The company also developed the engineering capability to manufacture its highly-transmissive *Solarphire* PV glass on an oxy-fuel float line in Fresno, Calif., making PPG the first glass manufacturer in the world to produce PV quality low-iron glass using this lower-fuel consuming technology. This also puts the production of PV glass closer to many customers, reducing transportation fuel costs and environmental impact.

PPG made two additions to its line of INNOFIBER<sup>®</sup> fiber glass products in 2011. The first, *Innofiber XM*, features an innovative, high-modulus formulation that enables the manufacture of larger, more efficient wind turbine blades and extends the durability and service life of smaller units, making wind energy generation more efficient. *Innofiber CR* features a proprietary boron-free formulation that inhibits corrosion in oil and gas pipe, extending service life and reducing downtime and replacement cost.





#### TESLIN<sup>®</sup> Biodegradable Substrate

PPG recently introduced *Teslin* Biodegradable substrate, an environmentally progressive version of the popular sheet material PPG developed for printed loyalty cards, maps, menus, tags, labels and other specialty applications. With this new formula, the *Teslin* substrate can provide end-of-life solutions for products, packaging and other items designed for disposability.

Industrial Coatings Around the Globe Two ULTRAX<sup>®</sup> low-temperature immersion cleaners were commercialized for the industrial coatings market in 2011. Both pretreatment solutions effectively remove soil and other contaminants from metal surfaces in temperatures of as low as 85 F. This process reduces energy and water use in coatings facilities and creates safer working environments by eliminating potential exposure to hot chemicals in places where metal

parts are painted for recreational vehicles, tractors, appliances and office furniture.

PPG also developed a low-cure acrylic product for electrocoat applications, providing corrosion resistance to heavy metal parts while reducing the amount of energy consumed in the curing process.

In China, PPG debuted several new "green," waterborne coatings, including a line of clearcoat products for wood and waterborne tints and sealers for flooring.



Below: In Monterrey, Mexico, the headquarters of Bioconstrucción y Energia Alternativa recently became the first building in Latin America to earn LEED Platinum certification for new construction. It uses SOLARBAN® 70XL, SOLARBAN® 60, and STARPHIRE® ultra-clear glasses, as well as SPEEDHIDE® paint and PITT-TECH® DTM industrial enamels.



#### Greener Buildings and Homes

PPG remains a leader in developing environmentallyprogressive glass, coatings and paint products for "green" building.

A new PPG architectural paint technology in Europe keeps buildings cooler by minimizing the absorption of infrared (solar) energy, even in black and other dark, heat-absorbing colors. According to calculations made by the French Scientific and Technical Centre for Building Institute, cool paints developed by PPG have the potential to reduce outside wall temperatures on a sunny day by up to 36 F and cut annual energy costs for the same building by up to 5 percent.

A new range of low-indoor-emission paints produced by PPG in France, SEIGNEURIE® ELYOPUR® paint, was the first top-quality coating on the market to achieve both the highest rating available for indoor air quality and pass the European Ecolabel requirements. In order to achieve this, PPG developed the in-house capability to measure the emission characteristics of architectural coatings. One of the stages of this project involved the building of emission chambers where air quality, flow and humidity are accurately controlled. PPG is using these chambers for the measurement of its current product portfolio and newly developed very low emission coatings. *Elyopur* paints are more than low-VOC paints; emission testing proves these low-emission paints ensure the highest level of indoor air quality for end-users.

PPG also debuted SOLARBAN® 72 STARPHIRE® glass, a solar control, low-emissivity (low-e) glass designed to fulfill "green" building demands for high visible light transmittance, exceptional clarity and superior solar control performance. The coating for this architectural glass was specifically formulated by PPG scientists for application to *Starphire* glass, which is among the world's most transparent architectural glass, helping commercial buildings reduce reliance on artificial, electricity-intensive lighting.

PPG also continues to be the only glass manufacturer in North America to have its entire collection of architectural glass products CRADLE TO CRADLE (CM) CERTIFIED. In fact, three new PPG glass products introduced in the past two years – *Solarban* R100 glass, SUNGATE<sup>®</sup> 400 glass and CLARVISTA<sup>®</sup> shower glass – were *Cradle to Cradle* Certified in 2011.

#### Packaging Coatings

PPG is developing solutions that meet or exceed global regulatory requirements for food safety by creating an innovative next generation of coating for beverage and food cans that, among other advances, addresses consumer concerns related to bisphenol A. In 2011, PPG developed and introduced INNOVEL® brand coatings to provide a sustainable solution to meet current and future regulatory needs. In addition, *INNOVEL* coatings deliver value attributes beyond the previous generation of coatings through cost savings or other operational advantages.

### Energy and the Environment



#### Global Energy Intensity

PPG measures energy intensity, or the number of million British thermal units (BTUs) of energy used per short ton of product manufactured. In 2011, PPG's energy intensity was 8.9 million BTUs per ton of product, which was lower than 2010 but higher than the company's target goal. In 2006, PPG established a 10-year goal to reduce energy intensity by 25 percent and has reduced energy intensity by 4 percent through 2011. PPG continues to make progress towards that goal and seeks ways to reduce overall energy consumption.

#### Direct and Indirect Energy Consumption

PPG reported lower total and direct energy consumption in 2011 versus the prior year. PPG's total energy consumption was 77.71 trillion BTUs in 2011, compared with 79.21 trillion BTUs in 2010. PPG's direct energy consumption, which is the amount of primary energy combusted on-site by PPG, was 66.63 trillion BTUs in 2011, compared with 69.27 trillion BTUs in 2010. PPG's indirect energy consumption, which is energy consumed by PPG that is generated by and purchased from external suppliers, increased year-over-year to 11.08 trillion BTUs in 2011, compared with 9.94 trillion BTUs in 2010.

PPG, the City of Jersey City, N.J., and the New Jersey Department of Environmental Protection (NJDEP) reached an agreement in 2009 on a PPG proposal to excavate and remove chromium waste from PPG's former plant location on Garfield Avenue and surrounding sites. Since then, PPG has removed nearly 75,000 tons of chromium-contaminated soil from the Garfield Avenue site in an initial cleanup, and excavation at the site will continue in 2012 at an accelerated rate. In 2012, PPG will submit to the NJDEP the final cleanup plan for all of the Garfield Avenue sites, based on extensive environmental investigations and analysis. Soil excavation will continue in early-to-mid 2012 at the Garfield Avenue site, with a target completion for all Hudson County, N.J., sites by the end of 2014.

#### Reducing Waste in the U.K.

Over the last five years PPG's architectural coatings business in the United Kingdom has been working on reducing the amount of waste that goes to the landfill and made good progress by identifying recycling outlets. In 2011, the business identified a company that will recycle



#### Greenhouse Gas (GHG) Emissions

In 2007, PPG set a corporate goal of a 10 percent absolute reduction in carbon dioxide (CO2) equivalent emissions from 2006 to 2011. In 2011, PPG achieved this demanding five-year GHG reduction goal due to effective energy management practices. PPG's 2011 CO2 equivalent emissions were 5.68 million metric tons, meeting the goal of 5.7 million metric tons, and compared with 6.34 million metric tons in 2006. In 2012, the company will review its GHG emissions reduction progress to determine the scope of a potential new goal.



Waste data: all of its waste. Tonnage (metric) of waste sent to landfill Year **Birstall AC plant** Morley AC plant 2008 257 63 2009 244 74 2010 196 42 2011 0 0 The EHS management system used throughout PPG's global manufacturing sites helps locations such as the architectural coatings plant in Birstall, England, prioritize EHS challenges.



#### Life Cycle Assessments for Architectural Coatings - EMEA

In 2011, PPG's Architectural Coatings – EMEA (Europe, Middle East and Africa) business began the process of developing Life Cycle Assessments for its products using newly acquired software. The assessments also produce Environmental Product Declarations, which are becoming a key component of "green" building standards. These capabilities play a crucial role in developing "green" solutions for customers, enabling them to reduce their environmental footprint. In addition, life cycle assessments are a powerful tool to promote PPG's high-quality products and create value for its brands.

#### Reducing GHG Emissions in France

In 2011, PPG's architectural coatings business in France established and subsequently met a target of reducing its carbon footprint linked to energy usage by 3 percent. The business used the *BILAN CARBONE* assessment tool and increased awareness of the importance of saving energy among the workforce. For 2012, the business is aiming for a reduction of 5 percent of the ratio of carbon footprint per ton of produced paint.

#### Beneficial Reuse of Paint and Resin Plant Distillation Bottoms

PPG's Delaware, Ohio, coatings and resin plant supplies the Lexington Paint company in Nicholasville, Ky., with the perfect raw material for their Fencecoat Paint business. When paint is produced at Delaware, residual paint and solvent are pumped into a reclamation system, where the material is "cooked" to recover solvent for reuse in the plant. The remaining "cooked" paint solids are known as a "distillation bottom." These distillation bottoms are collected and shipped to Lexington Paint where carbon black pigment is added to create a coating for fencing for the race horse farming industry. These distillation bottoms would have been otherwise sent for incineration, but are instead reused as a raw material by another paint company.

#### **Global Product Safety**

In 2005, PPG began an initiative called the Global Product Stewardship (GPS) system to consolidate and standardize EHS data about products as well as the procedures for generating Material Safety Data Sheets (MSDS), hazard label content and other regulatory documents. By the end of 2011, the GPS system was operational in Australia, China, Thailand, Taiwan, Vietnam, Malaysia and New Zealand as well as Europe, North America and Brazil. As a result, approximately 95 percent of PPG's current production is included in the system. All PPG facilities will be using the GPS system by the middle of 2012.

Kevin Braun holds a section of tire tread reinforced with PPG AGILON® performance silica while Raphael Kollah, associate director of research and development, silicas (left), holds a container of silica and discusses how the product improves tire performance – leading to greater fuel efficiency in automobiles.



Hazardous Waste: Hazardous waste disposal was 5 percent higher in 2011 vs. 2010, due primarily to changes in manufacturing processes. Also, data in this report are different than previously reported as a result of more accurate data collected.

Nonhazardous Waste: PPG's level of nonhazardous waste disposal decreased by 4 percent from 2010 to 2011. This was due in part to a rebricking project at a glass furnace at the Wichita Falls, Texas, glass plant and site clean-up projects at the Circleville, Ohio, resins plant, that occurred in 2010 and inflated results for that year. Improved reporting also impacted that data. Data in this report are different than previously reported as a result of more accurate data collected.

#### Hazardous Waste (metric tons)



#### Non-Hazardous Waste (metric tons)



#### Product Stewardship

In support of the American Chemistry Council's Global Product Strategy, PPG has committed to make relevant product stewardship information for priority chemicals in the Commodity Chemicals segment publically available through the development of product stewardship summaries. Six summaries have been completed and are available on the Chlor-Alkali & Derivatives website, www.ppg.com/PSSummaries, including chlorine, membrane/diaphragm liquid caustic soda, mercury cell liquid caustic soda, PELS® caustic soda, *PELS* PLUS caustic soda, and muriatic acid. The remaining summaries will be completed by the end of 2012.

### Energy and the Environment... continued

#### Water

Since 2006, PPG has taken efforts to conserve water and has successfully reduced overall amounts of water consumed and water discharged.

Water Consumed: PPG's overall level of water consumed increased in 2011 over 2010, due primarily to the acquisition of chlor-alkali manufacturer Equa-Chlor and its Longview, Wash., site. The Longview site added more than 16 million cubic meters of water to the 2011 total. In addition, water consumption levels for the Architectural Coatings-EMEA sites were higher in 2011 due to more complete reporting.

Water Discharged: Total water discharged was higher in 2011 than in 2010, attributable in part to the newly-acquired Longview chlor-alkali plant, which added about 11 million cubic meters. Additional rainfall at the Lake Charles, La., chemicals complex also added to the total.



Water Consumed (million cubic meters)



#### Water Discharged (million cubic meters)



#### Spills and Releases

PPG rates the significance of spills according to the potential severity they pose to employees and the environment, with Category One spills being the least severe and Category Three being the most severe. Category Two and Three spills represent more significant spill events. PPG's Category Two and Three spill and release rate decreased in 2011 and surpassed the company's goal. In recognition of the improvement in reduced spills and releases since 2006, PPG re-set its Category Two and Three spill and release spill and release rate goal in 2011 to continue to drive reductions throughout its global facilities.

### PPG Spills & Releases (per 1,000 employees)







#### Air Emissions

Since 2006, PPG has reduced its overall air emissions in the areas listed below. In general, PPG's air emissions were generally lower in 2011 than in 2010, with the exception of ozone-depleting compounds. The specific results are:

Emissions of ozone-depleting chemicals at PPG facilities rose e by about 12 percent in 2011 over 2010 levels, primarly due to increased fugitive emissions and increased repair requirements on chillers at the Lake Charles, La., chemicals complex.

#### Ozone-Depleting Compounds (metric tons)



PPG reduced emissions of volatile organic compounds (VOCs) in 2011 over 2010 as a result of several factors. The Saultain, France, coatings plant implemented a solvent recovery process, which reduced VOC emissions, and some PPG facilities reported reduced VOCs due to the use of improved methodologies and calculations of emissions factors.

#### Volatile-Organic Compounds (metric tons)



Sulfur dioxide (SOx) emissions were slightly lower in 2011 vs. c 2010 primarily due to the reduced production rates and new emission testing results at PPG's Carlisle, Pa., and Fresno, Calif., flat glass plants.

#### Sulfur Dioxide (metric tons)



Levels of particulate matter (PM) were lower in 2011 vs. 2010 primarily due to reduced operating hours at a portion of the Lake Charles, La., chemicals complex.

#### Particulate Matter (metric tons)



Nitrogen oxide (NOx) emissions were lower in 2011 vs. 2010 due • to the implementation of NOx-reduction controls at the Carlisle, Pa., flat glass plant and lower natural gas consumption there, as well as reduced production hours at several facilities.

### Nitrogen Oxide (metric tons)

20	06				22,042
20	07				20,820
20	08				19,412
20	09				16,156
20	10				18,234
20	11				17,089
0	5,000	10,000	15,000	20,000	25,000

### Employees and the Workplace

#### Safety & Health

Since 2000, PPG has reduced its injury and illness rate by 68 percent, far exceeding internal improvement goals. In 2009, the company established new goals for the 2009–2013 time period that expand on its previous plan. Since that time, PPG has experienced a flat trend in its injury rates. As such, injury reduction strategies are being adjusted to help resume the downward trend. PPG estimates that its risk-reduction efforts since 1999 have prevented more than 2,850 PPG injury and illness cases globally. Unfortunately, in 2011, a PPG employee at the Busan, Korea, site died when his fork lift truck was struck by a vehicle while crossing a public road.

### 2011 PPG Workforce by Region

Average number of PPG employees in 2011: **38,400** 



Workplace Ergonomics

In 2011, PPG's ergonomic injury rate was 0.13 cases per hundred workers. This was flat versus the previous year. In an effort to further improve, more than 500 people have been trained using global ergonomics software. In addition, PPG's Ergo Cup competition had a record 62 projects submitted in 2011, which save the company more than \$3 million annually in injury prevention and production efficiency costs.



#### Promoting a Culture of Health

PPG continues to build on its internationally benchmarked employee wellness initiatives. In addition to providing an assortment of easy-to-use online tools - including the "health risk assessment" to gauge individual employee health and tailor steps for improvement – PPG has expanded its educational initiatives, including "10 Keys to a Healthier Lifestyle," "Four Wellness Absolutes," and the "Mediterranean Path to Wellness." Those efforts were augmented by an eight-week series of health-improvement webinars ("It Takes Eight to Feel Great"), and an eight-week series of webinars regarding healthy cooking. Based on its U.S. "Wellness Summits," PPG planned summits for Europe and Asia aimed at promoting the wellness initiative among regional and local leaders. A highly successful "Not One Ounce" weight-maintenance campaign was conducted during what is for some in the United States a calorie-laden holiday span of October through January. More than 3,100 of the 4,600-plus participants in that program maintained or lost weight.

#### Fostering Diversity

PPG's diversity initiatives continue to grow and expand around the company's global operations. The Diversity Leadership Team comprises members from PPG businesses and regions around the world. The Women's Leadership Council, which celebrated its 10th anniversary in 2011, has grown to now have chapters across the United States, and in the Asia Pacific, Latin America and Europe, Middle East and Africa (EMEA) regions. Other diversity councils include the Minority Leadership Council; Lesbian/Gay/Bisexual/Transgender Council; and the Generational Diversity Council, launched in 2011. The councils collaborated on webinars – open to all employees – on career management, networking and executive presence.

Participants in the "Leadership Journey" training seminar conducted in Hong Kong by the Asia Pacific Women's Leadership Council



Badminton, soccer and massive tug-ofwar tournaments are favorites at PPG's Tianjin, China, coatings plant. So is taking advantage of the site's yard and warehouse to congregate for daily calisthenics.

"We have a large workforce (more than 700 members)," said Shan Qi, manager of PPG's largest manufacturing complex in China. "Many of our employees love to exercise and compete, so tournaments are always fun. And the daily calisthenics are simply a way of life here and in many other places in China. Putting time aside for daily exercise can be enjoyable – and always a wise investment."





Above: Participating in a tug-of-war are (from front) Chen Baojun, Zhang Yujie, Liu Shusen, Wu Xuchen and Zhang Yusheng.

Left: Apple He participates in a recent "rope-skipping" competition.



Sponsored by the Women's Leadership Council (WLC) and the Ohio Women's Leadership Council (OWLC), more than 100 PPG employees participated in the annual Susan G. Komen Race for the Cure in Columbus and Cleveland.



### Community Involvement and Social Performance



and CEO Charles Bunch joins Bev Elliott, chair of Pittsburgh Zoo & PPG Aquarium's board, and Dr. Barbara Baker, zoo president and CEO, in watching Clark the king penguin ink a renewal agreement for the partnership between the zoo, PPG Industries and PPG Industries Foundation.

### Renewing PPG's Partnership with the Pittsburgh Zoo and PPG Aquarium

In August 2011, PPG Industries and the Pittsburgh Zoo & PPG Aquarium announced a renewal of the partnership they started in 2001 that was set to expire in 2012. The renewal includes a \$6.9 million contribution from PPG over 10 years and the establishment of the PPG Conservation and Sustainability Fund, which will enable the zoo to support research and conservation work around the world, especially in countries where PPG operates. The 10-year agreement also supports expansion projects at the zoo, such as the Animal Health and Education Center and a new Top of the World reptile and mixed-species habitat.



#### PPG U.S. Political Action Committee (PAC) Disbursements

#### Participating in the Political and Public Policy Process

PPG believes in participating in the governmental processes in the nations and communities in which it operates. PPG supports policies related to "green" buildings, wind and solar energy, and the responsible exploration and development of onshore and offshore energy resources. PPG's commitment also includes participating in the political process, from engaging government officials to educating PPG employees. PPG's U.S. federal lobbying expenditures for 2011 were \$866,831. In addition, PPG's "Better Government Team," a U.S. political action committee (PAC) that is fully funded by voluntary contributions from PPG employees, made disbursements in 2011 that totaled \$80,975, as detailed at left. All contributions to various political candidates and parties are approved by a committee of PPG executives.

### PPG Partners with the University of Akron's Corrosion Squad

In 2011, PPG employees Dave Thaman, Mario Narbutaitus, Mike Kelly, Dan Rusnock, and Tom Meyer participated in activities with the University of Akron's "Corrosion Squad," which engages students in the study of corrosion reduction/control in industry. Approximately 50 students and faculty were involved in a panel discussion in September, and then in November, the students visited PPG's Barberton, Ohio, facility. During Corrosion Squad activities, students are able to interact with industry representatives through mentoring, project work and attendance at conferences specific to their field of study.





PPG awarded scholarships to eight women chemistry students at Pusan National University (PNU), South Korea. Funded through PPG's newly launched Global Charitable Contribution Program, each of the scholarships is worth 2,306,000 Korean won (about US\$2,000).

#### The Center of Science and Industry

PPG Industries Foundation helped to fund the Innovation Showcase: Innovations in Energy exhibit at COSI, the Center of Science and Industry located in Columbus, Ohio. PPG experts contributed knowledge and materials to this Home Weatherization display, which enables visitors to use a thermal imaging camera to perform a "home energy audit" comparing a regular glass window with a window that has energyefficient PPG glass.

#### PPG's Charitable Contributions Go Global

In 2011, PPG took its philanthropic activity to a higher level by establishing a formal "Global Charitable Contributions Program" and contributing \$500,000 to be divided equally between the Asia Pacific and Europe, Middle East, and Africa (EMEA) regions. The global program, while separate from the PPG Industries Foundation that provides grants to organizations in the United States, ascribes to the same mission to demonstrate PPG values by enhancing the quality of life in communities where PPG has a presence. The program targets resources based on local priorities and in areas where it can have the greatest impact, and seeks to fund causes that advance education in science, mathematics, and technology; human services; culture and arts; and civic and community affairs. At the same time, funding is aligned with PPG's business interests and corporate sustainability goals and initiatives. Grants can be provided directly to non-profit organizations or non-governmental organizations at the regional level, or might be awarded to communitylevel programs of those organizations. As a result of globalizing PPG's charitable contributions program, the company made contributions matching employee donations to the Japan Red Cross for earthquake/ tsunami relief; provided funding to support PPG China employees' participation in a fundraising walk for the World Wildlife Federation;

and approved 25 grants in the EMEA region for causes ranging from children's cancer charities in Wroclaw, Poland, to community improvement projects in Uithoorn, Netherlands, and Le Havre, France.

#### Phipps Conservatory & Botanical Gardens - Tropical Forest India Exhibit

Thanks to a grant from the PPG Industries Foundation, a new exhibit at the Phipps Conservatory in Pittsburgh, Pa., will proudly display the plant life, habitat, people and natural wonders of one of the planet's most significant tropical forests – the Western Ghats mountain region of India – in tandem with a three-year cycle of education programming,

public performances and special events which will highlight the diverse cultural palette of the entire Indian sub-continent. This exhibit provides a newly robust view of the world and the vital stewardship role we each must assume within it.





#### PPG's Shelby Farm

#### In 2011, PPG employees Sandi Brown,

Tommy Melton, Tom Field and a core group of 15 other employees at the company's Shelby, N.C., fiber glass facility, gave their time and planted a 3/4-acre garden with the intention of teaching gardening skills and supporting local non-profit charities. During the summer, children from the local YMCA came to the garden to learn and help harvest vegetables. A quarter-acre of the garden was dedicated to growing potatoes as part of "The Cleveland County Potato Project." The remainder of the garden was dedicated to tomatoes, green beans, cucumbers, field peas, peppers, herbs, squash, corn and many other vegetables. To date, the garden has produced,

harvested, and delivered approximately 96 bushels of vegetables to six local non-profit charities organizations. Also, approximately 1,400 pounds of potatoes were harvested and donated to the Salvation Army and Greater Cleveland County Baptist Association. Lettuce, broccoli, collard greens and cabbage were picked and boxed with pinto beans, onion and corn bread mix and delivered to Greater Cleveland County Baptists Association, U-Can, Kings Mountain Crisis Ministry and Salvation Army for distribution to needy persons throughout Cleveland County.

### Awards and Recognition



PG received a \$3.1 million grant from the U.S. Department of Energy for the development of glass coatings technology that will enable performance gains in power-generating photovoltaic fields. These fields are expected to have a power-producing lifetime of 30 or more years, helping to reduce U.S. reliance on foreign fossil fuels, improve national security and protect the environment.



PG's Tianjin, China, coatings facility earned "Outstanding Enterprise with Environmental Excellence" recognition for the 2010-2011 year from the Tianjin TEDA Environmental Protection Bureau. This honor acknowledges the site's public disclosure of environmental information for three years, promotion of corporate social responsibility programs among other enterprises in TEDA, and full support for the establishment of a regional environmental protection mechanism.

 ${igcap}^{\sf PG's}$  packaging coatings business in South America earned two of the top four supplier awards bestowed by Rexam PLC, a leading global consumer packaging and beverage-can manufacturer.

PPG was named the "Supplier of the Year" and also winner of an award for "Supply Chain Excellence." The award criteria included overall performance, quality, cost, supply and innovation, according to Rexam. PPG has packaging coatings manufacturing facilities at Cajamar and Sumaré, Brazil.

PPG's award-winning performance for Rexam in Argentina, Brazil and Chile includes an on-time-in-full delivery record of 97 percent; development of a new over-varnish technology for aluminum cans that provides faster curing and reduced costs by decreasing natural gas consumption; and high levels of customer service and flexible manufacturing to serve emergency supply requests. Rexam produces 60 billion cans each year mainly for Europe, the United States and South America.



Wagner Polli (center), sales manager, Cajamar, proudly accepts the "Supplier of the Year" from Andre Balbi, president of Rexam Beverage Can Americas, as PPG's Walmir Rodrigues, production and technical manager at Cajamar, looks on.

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