

# 2017 Sustainability Report

## Executive Summary



Read the full report at [sustainability.ppg.com](https://sustainability.ppg.com).



We protect and beautify the world™



## To Our Stakeholders,

PPG delivered a solid performance in 2017 both financially and strategically. We continued to enhance and strengthen our sustainable operations and bring life to our purpose and promise: **WE PROTECT AND BEAUTIFY THE WORLD™**.

As evidence, we recognized more than 200 projects through our internal sustainability awards initiative. We also recognized programs that improved ergonomics through our separate Ergo Cup Awards. We estimate that projects honored by both internal awards programs saved more than \$17 million in 2017 and helped us reduce our energy consumption, waste, water use, emissions and injury rate.

Highlights of our 2017 sustainability performance include:

- Zero fatalities and a 6.5 percent reduction in our injury and illness rate;
- 32 percent of sales from sustainable-advantaged products;
- 25 percent reduction in our greenhouse gas emissions intensity;
- 22 percent decline in our energy intensity;
- 4 percent reduction in our total waste disposal intensity;
- 75 percent of our facilities meeting the requirements of the PPG Community Engagement Framework; and
- \$10.5 million in community investments.

As our portfolio continues to evolve, we are evaluating our business and striving to achieve even more. In 2018, we launched new, aggressive sustainability goals that will further guide our company in increasing the use of sustainable business practices.

At PPG, sustainability goes beyond our products and extends to our

communities. Through our COLORFUL COMMUNITIES™ initiative and other community engagement programs, we invested more than \$10.5 million in 2017, supporting hundreds of organizations across 29 countries. Committed volunteers contributed their time and PPG paint products to help transform community assets—from painting classrooms to bringing color to a maternity ward and redesigning a playground.

One of our greatest strengths is the diversity of our people, who represent wide-ranging nationalities, cultures, languages, religions, ethnicities, lifestyles and professional and educational backgrounds. Our ongoing diversity and inclusion efforts begin at the highest levels of our company. We are proud of the diversity represented in our 11-member board of directors, which plays an instrumental role in our focus, strategic direction and path forward.

In 2017, we achieved a 100-percent score on the Human Rights Campaign Foundation's CORPORATE EQUALITY INDEX® and were recognized by FORBES® Magazine on its list of "World's Best Employers."

We firmly believe that our company and communities benefit when we provide equal opportunities for diverse suppliers to compete for our business. Through a variety of supplier diversity programs, we sought out small businesses and businesses owned by veterans, minorities and women that provide quality products and services at competitive prices during 2017.

We have made significant progress in sustainability, but we remain focused on continuous improvement. I encourage you to learn more by reading our full [2017 Sustainability Report](#) and our [2017 Community Engagement Report](#).

**Michael H. McGarry**  
Chairman and  
Chief Executive Officer

# 2017 Sustainability Progress

PPG's sustainability goals serve as a guide for our businesses and locations to embed sustainability into their day-to-day operations. Our 2017 progress demonstrates our commitment to our customers, our communities and the environment.

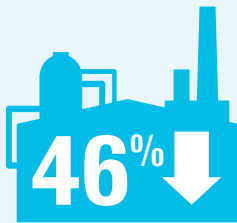


were from **products** that  
**provide our customers**  
with a **SUSTAINABLE  
ADVANTAGE**

Our customers save water, and reduce waste  
and energy use with the help of our paints,  
coatings and specialty materials



reduction in  
**WASTE  
DISPOSAL**  
since 2012



reduction in  
**GREENHOUSE  
GAS** emissions  
intensity  
since 2012



**70%** of locations  
with  
50 or more employees  
had a **WELLNESS  
PROGRAM** in 2017



**6.5%** ↓  
decrease in our  
**INJURY and  
ILLNESS**  
rate

Through **PPG** and the **PPG Foundation**,  
we invested **\$10.5MM**  
in **29 COUNTRIES**  
in communities where our employees  
**LIVE, WORK & PLAY**



# 2025 Sustainability Goals

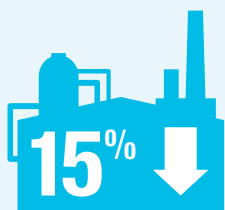
In 2017, we conducted a review of our sustainability goals. The result was a new set of goals for 2018 and beyond, which represent the challenges and opportunities of our current business portfolio. Our new goals include:



from products and processes  
that have **IMPROVED  
SUSTAINABILITY**  
over products being replaced by  
**2025**



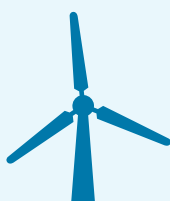
reduction in  
**WASTE**



reduction in  
**GREENHOUSE  
GAS** emissions



**100%** of PPG  
facilities  
with **WELLNESS  
PROGRAMS**



**25%** increase  
in **RENEWABLE  
ENERGY** usage



**15%** reduction  
in **ENERGY  
CONSUMPTION**



**65%** improvement  
in our **SPILLS &  
RELEASE** rate



**20%** reduction  
in **WATER  
CONSUMPTION**

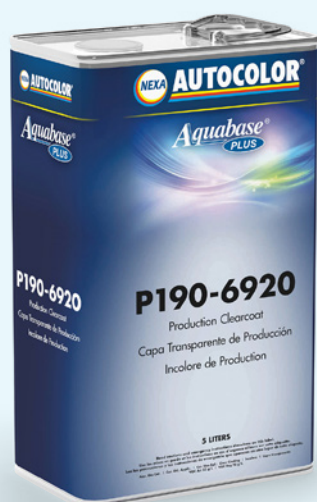
**\$10MM** investment through the **COLORFUL COMMUNITIES** initiative

# PPG Sustainability



## Vision

We are committed to delivering lasting value for shareholders and customers by operating with integrity, working safely, respecting the contributions of our people, preserving the environment and supporting the communities where we operate.



PPG NEXA AUTOCOLOR® P190-6920 Production Clearcoat is an easy-to-use clearcoat designed for exceptional throughput with a minimal bake time of just 20 minutes.

The clearcoat also features an energy-saving lower force-dry temperature of 120° F (49° C), and panels coated with the clearcoat can be reassembled after an air-dry period of 90 minutes to two hours.

## Values

1. Operate safe, healthful workplaces that value diversity, promote teamwork and reward performance.
2. Conduct business and operations in an ethical and compliant manner.
3. Minimize the impact of our operations on the environment.
4. Deliver inventive products and solutions that help our customers maximize the performance of their assets, minimize environmental impact and preserve and protect the environment.
5. Partner with suppliers and customers to create value.
6. Deliver positive change in the communities where we operate.
7. Deliver a superior return on investment to our shareholders.



In San Juan del Rio, Mexico, energy-reduction efforts continued at two of our manufacturing facilities during 2017.

Our AP Resinas Architectural Coatings facility reduced overall energy intensity by 4.8 percent during the year. Projects contributing to the reduction included installing a high-efficiency motor for the cooling tower, increasing the voltage of a water pump, converting 200 fluorescent lamps to LED fixtures, and synchronizing storage tank agitators to turn on and off at specific times of the day.

Our nearby Automotive OEM Coatings facility installed automatic controls for air compressor startup, fitted a steam boiler with automatic combustion control, optimized water chiller equipment, replaced conventional lighting with LED fixtures and installed photovoltaic solar panels for parking lot lighting. The plant achieved a 6.6 percent reduction in energy intensity in 2017.



## Sustainability at PPG

PPG's culture of continuous improvement in every aspect of our business underpins our approach to sustainability. Whether it's increasing the efficiency of our operations or developing our people, our improvement efforts naturally extend to many areas that impact our sustainability performance.

We have a formal structure to ensure continuous improvement in the sustainability of our global operations. Our [sustainability vision and values](#) provide the foundation for all of our sustainability efforts. Our Sustainability Committee establishes policies, programs, procedures and goals to address sustainability in our business practices. Most of the committee's 10 members, who are appointed by our Executive Committee, are officer-level employees, providing leadership support and visibility.

Our sustainability goals serve as a guide for our businesses and locations to embed sustainability into their day-to-day operations and measure their progress. In 2017, we undertook a major review of our goals to ensure they represent the challenges and opportunities of our current business portfolio. We also needed to reset goals that we had achieved earlier than anticipated. The outcome of this effort was a new set of goals for 2018 and beyond.



At our Specialty Coatings and Materials facility in Barberton, Ohio, in the United States, a 99.9 percent recovery and reuse rate for trichloroethylene (TCE) emissions was not good enough. In 2017, the location formed a multifunctional team to implement process improvements and operational best practices to further reduce TCE emitted while manufacturing TESLIN® substrate products. TCE solvent is used to remove oil that is added upstream in the process. New equipment, repairs to existing equipment, and increased operator awareness and engagement delivered a 28.7 percent reduction in TCE emissions in 2017. Due to the increased TCE available for reuse, the plant saved more than \$30,000 in raw material costs during the year.

Existing 2020 Goals	2017 Progress	New Goals
40 percent of sales from sustainable products and processes by 2020.	32 percent	40 percent of sales from products and processes that have improved sustainability over products being replaced by 2025.
10 percent reduction in total waste disposal intensity by 2020 from a 2012 baseline.	15 percent reduction from 2012	25 percent reduction in total waste disposal intensity by 2025 from a 2017 baseline. Achieve zero landfill status from process waste at 35 percent of PPG manufacturing and research and development locations by 2025.
-	-	Reduce energy consumption intensity by 15 percent by 2025 from a 2017 baseline. Increase renewable energy to 25 percent of total electricity usage exclusive of greenhouse gas (GHG) reductions by 2025.
25 percent reduction in GHG emissions intensity by 2020 from a 2012 baseline.	46 percent reduction from 2012	Reduce GHG emissions intensity by 15 percent measured in total tons discharged by 2025 from a 2017 baseline.
On our path to eliminating spills, ensure that we achieve an improvement of at least 10 percent per year in our spills and releases rate.	24 percent increase compared to the 2016 rate and 21 percent reduction from 2012	On our path to eliminating spills, ensure that we achieve at least a 65 percent improvement in our spills and releases rate by 2025 from a 2017 baseline.
Implement water management plans at priority sites.	Three plans implemented in 2017	20 percent reduction in water consumption intensity by 2025 from a 2017 baseline.
Zero injuries. On our path to zero injuries, ensure that we achieve an improvement of at least 5 percent per year in our injury and illness rate.	Rate of 0.29 was 6.5 percent below the 2016 rate	Zero injuries. On our path to zero injuries, ensure that we achieve an improvement of at least 5 percent per year in our injury and illness rate.
Implement the community engagement framework globally by 2020.	75 percent of our facilities met the framework requirements in 2017	Implement the community engagement framework globally by 2025.
Implement wellness programs at 100 percent of PPG facilities globally by 2020.	70 percent of locations with 50 or more employees had a wellness program in 2017	Active wellness programs at 100 percent of PPG facilities globally by 2025.
Invest at least \$10 million by 2025 through the <i>Colorful Communities</i> initiative.	\$3.1 million invested through 2017	Invest at least \$10 million by 2025 through the <i>Colorful Communities</i> initiative.
Eliminate lead from remaining non-consumer coatings formulations by 2020.	Eliminated 43 percent of the remaining non-consumer products that contain lead.	Eliminate lead from remaining non-consumer coatings formulations by 2020.

# Minimizing our environmental impact



## Sustainable-advantaged products

Environmental stewardship has driven our research and development portfolio for more than a century. That rich history has embedded the commitment to innovate products and processes that provide environmental and other sustainability benefits to our customers.

In 2017, 32 percent of our total sales were derived from sustainable-advantaged products and processes. Our goal was to achieve 40 percent by 2020 after meeting our initial 30 percent goal five years ahead of schedule in 2015. Our new goal for 2018 onward is to achieve 40 percent of sales from sustainable products and processes by 2025.



SIGMA® Air Pure is a revolutionary bio-based product that protects indoor air quality while it beautifies. The product filters 70 percent of the harmful formaldehydes in indoor air, and uses a high-tech bio-based acrylic binder that contains renewable, plant-based ingredients that contribute to a safer, healthier environment.

## Waste

The more efficient we are in using materials to make our products, the less waste we produce, the fewer resources we consume and the more money we save. That is why we first work toward absolute material utilization throughout our manufacturing processes followed by eliminating, minimizing, reusing and recycling the waste materials we do produce.

In 2017, we disposed of 169,382 metric tons of waste, which was a 19 percent reduction from prior year and 8 percent from 2012. Our total waste disposal intensity declined 4 percent from 2016 and 15 percent from the 2012 baseline.

### Total Waste Disposal Intensity

Metric tons per 100 metric tons of production

	Total
2012 Baseline	4.70
2013	4.26
2014	4.87
2015	4.50
2016	4.16
2017	4.01

Excludes waste associated with coating application processes and a 2017 furnace rebuild at our Lake Charles, Louisiana, plant. We divested our flat glass and European fiber glass businesses in 2016 and remaining fiberglass operations in 2017.

## Spills and releases

Our facilities have strong management practices in place to prevent spills and releases, and our corporate spill-elimination standard requires the establishment of a spill-elimination program at each facility.

We track our progress by measuring total spills and releases per 1,000 employees. Our thresholds for reporting a spill are stringent, allowing us to identify issues before they become significant. These thresholds vary by material and government-reportable levels, with the lowest threshold at 11 pounds (5 kilograms). Our median spill in 2017 was 550 pounds (249 kilograms), with 99 percent contained onsite.

### Spills and Releases Rate

Total spills and releases per 1,000 employees

	Total
2012	2.32
2013	2.13
2014	2.08
2015	1.66
2016	1.48
2017	1.84

## Water

We feel it is our responsibility to optimize water use not only in water-stressed regions of the world but in all of our facilities through conservation and reuse.

Our 2017 water goal was to implement management plans at facilities with the highest water-scarcity risk by 2020. Three of our plants completed their plans in 2017.

Our global operations used 18.6 million cubic meters of water in 2017, a 4 percent reduction compared to 2016 and a 35 percent increase since 2012. Our water usage intensity was 4.39 cubic meters per metric ton of production, which was 14 percent higher than 2016 but 9 percent lower than 2012.

### Water Usage Intensity

Cubic meters per metric ton of production

	Total
2012	4.85
2013	4.39
2014	4.20
2015	4.23
2016	3.85
2017	4.39



Featuring a one-coat application, PPG DURASTAR® ultra-durable industrial spray coating for aluminum extrusions meets stringent exterior durability requirements. To help manufacturers comply with environmental mandates, the coating is lead-free and features low volatile organic compounds and low hazardous air pollutants.

## Energy

Most of our manufacturing processes are not energy-intensive, but we are committed to reducing our energy consumption to minimize our greenhouse gas emissions, reduce costs and create more efficient facilities.

We consumed 14.3 million British thermal units (BTUs) of energy in 2017. Our energy intensity was 3.39 million BTUs per metric ton of production, a 22 percent decrease over 2016 and a 50 percent decline since 2012.

We also saw corresponding reductions in our direct (31 percent) and indirect (3 percent) energy intensities compared to 2016.

### Energy Intensity

Million BTUs per metric ton of production

	Total	Direct	Indirect
2012	6.75	4.78	1.96
2013	6.15	4.35	1.80
2014	5.67	3.99	1.69
2015	5.20	3.57	1.63
2016	4.33	2.90	1.43
2017	3.39	2.00	1.39

Direct energy consumption is the amount of primary energy we combust on site. Our direct energy sources may include coal, natural gas, fuel distilled from crude oil, propane, biofuels, ethanol and hydrogen. Indirect energy refers to the energy we consume that is generated by external suppliers. We consume indirect energy through electricity, heat, steam and electricity generated from renewable energy sources, such as solar and wind.

## Emissions

The composition of our air emissions is unique to each PPG facility due to the varying products produced and manufacturing processes used. For all emissions, we are focused on reduction through improved operating practices, product reformulations and, where necessary, emissions control equipment.

We are reducing our greenhouse gas (GHG) emissions primarily by lowering our energy consumption.

We emitted 1.17 million metric tons of

GHGs in 2017, which is a 42 percent reduction since 2012 and 37 percent below 2016. This equals a reduction of 854,000 metric tons and 676,000 metric tons, respectively.

Our GHG emissions intensity decreased 25 percent in 2017 and 46 percent from the 2012 baseline, again exceeding our 2020 goal of a 25 percent reduction. Key factors behind the declines were the sale of energy-intensive businesses and a long-term focus on energy conservation at all of our locations.

### Greenhouse Gas Emissions

Million metric tons of carbon dioxide equivalents

	Total
2012	2.02
2013	2.05
2014	2.08
2015	2.02
2016	1.84
2017	1.17

Data includes direct and indirect emissions. We divested our flat glass and European fiber glass businesses in 2016 and remaining fiberglass operations in 2017.



PPG ENVIROBASE® EC520 High Performance Clearcoat supports high-volume collision repair centers focused on cutting refinish cycle times while still delivering premium quality finishes. The product dries at temperatures as low as 120° F (49° C) in as little as 20 minutes and only 90 minutes to two hours if air dried, allowing shop owners to save on energy consumption and costs.

# Operating safe and healthful workplaces



## Health and safety

PPG is committed to operating safe and healthful workplaces.

We had zero fatalities in 2017. Our injury and illness rate of 0.29 was the lowest in our history and 6.5 percent below our 2016 rate of 0.31, exceeding our goal of at least a 5 percent improvement over prior year.

In 2017, we continued our multi-year safety awareness and communications initiative called Safety 365 that empowers our people to be safe and speak up if they see something that could be made safer. We also continued the rollout of human performance to our locations globally in 2017. Six additional sites

implemented the program, which teaches employees how to predict, prevent and manage errors that could result in injury.

## Global Health and Safety Performance

Employees and supervised workers

	Fatalities	PPG Injury and Illness Rate	Total Recordable Incident Rate	Lost Workday Rate	Occupational Disease Rate
2013	1	0.37	1.70	1.15	
2014	0	0.35	1.86	1.35	
2015	0	0.31	1.41	0.91	
2016	0	0.31	1.47	0.98	0.07
2017	0	0.29	1.26	0.90	0.05

A new data management system enabled a more comprehensive collection of occupational disease data beginning in 2016.

## Wellness

Our vision is to create a global culture of health, where our people and their families become responsible for their individual well-being through informed, active participation in health and wellness activities.

Supporting this vision in 2017 was our goal to implement wellness programs at 100 percent of our facilities by 2020. During the year, 70 percent of our

locations with 50 or more employees had a wellness program. The slight decline from 2016 was due to acquired locations that had not yet fully implemented a program.

Our approach to wellness is based on our Four Wellness Absolutes—nutrition, exercise, health screenings and mindfulness/stress—that research identified as key to our people's

overall well-being. Every wellness program and tool we offer addresses one or more of these absolutes to help our people benefit from lifestyle improvements.

# Bringing color and brightness to our communities



Every day, PPG and the PPG Foundation collaborate and engage with employees, community partners and other stakeholders to make our vision of bringing color and brightness to communities a reality. We dedicate our financial contributions, apply our products and use the power of our employee volunteers to address the needs of our local communities and transform lives.

Our global giving totaled more than \$10.5 million in 2017, supporting hundreds of community organizations across 29 countries. To ensure this investment had the greatest impact, we focused our resources on the areas that we are best positioned to support:

- **Education:** Helping young people develop the skills needed to succeed in manufacturing, research and development, information technology and other science, technology, engineering and mathematics professions.
- **Community sustainability:** Revitalizing local buildings, updating community spaces and meeting other pressing needs.
- **Employee engagement:** Supporting and encouraging our talented employees as they seek to make a meaningful difference every day in the communities where they live and work.

We also actively engaged with all stakeholders to ensure we are meeting their expectations and needs and that they better understand our commitment to corporate citizenship and sustainability.

Learn more on the [PPG Community Engagement](#) website.

## Colorful Communities Program

A facility in the Netherlands that trains guide dogs for those who can benefit from canine assistance is a brighter, cheerier space for both two- and four-legged visitors. Three-dimensional notes from Vivaldi's The Four Seasons concertos help visually impaired children in Wuhu, China, experience the change of seasons through touching the melody. A revitalized fire station in San Juan del Río, Mexico, provides a more colorful space for those who risk their lives for the good of the community.

These are just a few examples of how we brought color and vitality to more than 65 schools, playgrounds and other shared community spaces in 2017 through the *Colorful Communities* program. The program provides PPG volunteers, paints, coatings, specialty materials and financial contributions to brighten communities where we operate around the world.

In 2017, we reached an important

milestone of completing 125 projects around the world since the launch of the *Colorful Communities* program in 2015. We donated more than 13,000 gallons (49,000 liters) of our paint and coatings and provided \$3.1 million in funding for these projects. Additionally, nearly 6,000 PPG and community volunteers have donated in excess of 34,000 volunteer hours to help brighten communities by painting, repairing, cleaning and helping in other ways. The program has positively impacted more than 4 million people in 23 countries.

Read more about our *Colorful Communities* projects around the world at [ppgcolorfulcommunities.com/projects](http://ppgcolorfulcommunities.com/projects).



## Colorful Communities Program Impacts

as of Jan. 1, 2018

**125** projects completed, transforming playgrounds, classrooms and community spaces in need of brightness

**23** countries where PPG employees live and work

**6,000** enthusiastic employee and community volunteers

**34,000+** volunteer hours

**\$3MM+** in PPG funding to support the program

**13,000+** gallons (more than 49,000 liters) of PPG paint products used to protect and beautify our communities

**4MM+** students, seniors, teachers, patients and community members impacted!



## Educating tomorrow's leaders

**\$4.3MM** in global STEM education grants

**120+** global STEM education partners

**900** local science mini-grants to classrooms across the U.S.

## Strengthening communities

**20,000+** employee volunteer hours tracked worldwide

**\$700,000** of PPG funding to volunteer grants and matching gifts program in the U.S.

**22** Charity Partners across EMEA received nearly \$112k in contributions (reflects employee donation and PPG match)



In 2017, PPG and the PPG Foundation invested more than

**\$10.5MM**

in communities around the world.

Read the full report at [sustainability.ppg.com](https://sustainability.ppg.com).

We encourage you to provide feedback on this report and our sustainability performance via email, a short online survey or a letter.

**Email:** [mediarelations@ppg.com](mailto:mediarelations@ppg.com)  
Subject: 2017 PPG Sustainability Report and Performance Feedback

**Survey:** [surveymonkey.com/r/PPG2017sustainability](https://surveymonkey.com/r/PPG2017sustainability)

**Letter:** PPG, Corporate Communications, One PPG Place, Pittsburgh, PA 15272, USA

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