



ESG Report 2021

Contents

At PPG, safety is our most important core value. All images and videos within this report have been obtained prior to the COVID-19 pandemic or while adhering to our safety phases and protocols for the location at the time the image/video was taken.

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Introduction

PPG has a steadfast commitment to sustainability, guided by our purpose:
We Protect and Beautify the World®.





To our Stakeholders

A Message From Our Chairman

To our valued stakeholders,

While 2021 presented many challenges, including the ongoing COVID-19 pandemic, global supply disruptions, raw material scarcity, labor shortages and unprecedented cost inflation, one thing remained certain: PPG's steadfast commitment to our sustainability journey, guided by our purpose: *We Protect and Beautify the World.*

As an industry leader for nearly 140 years, we have experienced difficult times before, and we always find a way forward. We know that these challenges often underscore the importance of a sound, sustainable business strategy that includes a comprehensive, well-defined environment, social and governance strategy.

From furthering equity in communities where we live and work, to operating safe, healthy facilities, to developing paints, coatings and specialty materials that help to extend the life of our customers' most valued assets, our commitment to sustainability shone bright last year.

Our more than 50,000 global employees made it happen and helped to deliver against our progress, including the achievement of:

- 38% of sales from sustainably advantaged products, totaling approximately \$6.3 billion;
- 37.5% reduction in waste disposal intensity from a 2017 baseline;
- 40% of locations achieving zero waste-to-landfill status;
- 90% of locations with 50 or more employees with a wellness program;
- \$8.7 million invested in COLORFUL COMMUNITIES® since 2015; and
- \$7.4 million invested to advance racial equity through educational pathways for Black communities and people of color.

While we achieved solid progress last year, I also recognize the many opportunities in front of us during this defining moment to reverse the detrimental effects of climate change. As part of our efforts to help protect the planet from warming more than 1.5 degrees Celsius, we have committed to the Science-Based Target Initiative and plan to announce new, aggressive sustainability targets that will define PPG's decarbonization strategy going forward. As a trusted partner to our customers, we will also continue to innovate and operate in ways that further our customers' sustainability goals, contribute to the circular economy, and continue to reduce our overall environmental impact.

I encourage you to learn more about PPG's progress in our 2021 ESG Report, and I look forward to continuing on this journey. Thank you for your collaboration, partnership and continued interest in PPG.



A handwritten signature in black ink, appearing to read "Michael H. McGarry".

Michael H. McGarry
Chairman and Chief Executive Officer



A Message From Our Vice President, Global Sustainability

To our valued stakeholders,

As I engage with countless employees across PPG's global footprint, I am consistently encouraged and motivated by the many actions taken to make our products and processes – and ultimately our customers, partners and suppliers – more sustainable. While we look back on 2021, it's clear that we have much to be proud of despite the many challenges facing the global business environment.

Last year, we identified new partners to further our use of renewable energy, launched products that provide an added layer of protection against the virus that causes COVID-19, found new ways to contribute to the circular economy, and continued on our journey to further the diversity, equity and inclusion of our workforce and our communities. All of these efforts contribute to our purpose: *We Protect and Beautify the World.*

In addition, we continued to strengthen our governance practices in 2021 by enabling oversight of our ESG efforts from our Board of Directors. We established a dedicated sustainability organization - a team working alongside our businesses and functions to execute a strong global ESG strategy, aligned to our targets. We also launched our first-ever [Diversity, Equity and Inclusion \(DE&I\) report](#), a major milestone in our decades-long journey to cultivate a sense of belonging for all of our employees and to harness the power of diversity to ignite innovation and performance. I encourage you to read that report as well.

As we look ahead to arguably the most critical moment for climate change, we are proud to have committed to the Science-Based Target initiative, which will help define PPG's decarbonization vision and strategy going forward. We are currently working to define and quantify our scope 3 emissions. When this work is complete, we will define new SBTs aligned to the Paris Agreement.

We will continue focusing on the roadmap to accomplish our more near-term 2025 goals, and we plan to establish more ambitious carbon emissions reduction goals for 2030 to do our part in protecting the planet from warming.

While our organization has achieved significant progress in 2021, we recognize the responsibility we have to further the adoption of industry-leading environmental, social and governance practices. Our team is dedicated to continuing to report our progress regularly and transparently.

Thank you for reading our 2021 ESG Report. We welcome your input, and we look forward to sharing our continued progress.



Diane Kappas
Vice President, Global Sustainability



About PPG

We Protect and Beautify the World®

At PPG, we work every day to develop and deliver the paints, coatings and materials that our customers have trusted for nearly 140 years. Through dedication and creativity, we solve our customers' biggest challenges, collaborating closely to find the right path forward. We serve customers in construction, consumer products, industrial and transportation markets and aftermarkets.

Click [here](#) to learn more.

Given the challenges presented by the ever-evolving pandemic, in 2021 we learned to adapt and manage through a myriad of obstacles, including global supply chain disruptions, raw material scarcity, labor shortages and overall cost inflation.

2021 Financial Performance:



We achieved all-time record sales of \$16.8 billion in 2021, up 21% compared to the prior year. This was led by strong organic growth of 10% and several strategic acquisitions. In addition, we delivered record adjusted earnings per share (EPS) with year-over-year growth of more than 10%, despite unprecedented levels of inflation.

We generated \$1.6 billion of cash flow from operations, and deployed cash of about \$2.3 billion on acquisitions and share repurchases. We also further optimized our cost structure in 2021, achieving about \$135 million in cost savings.

We continue to have excellent financial flexibility with cash and short-term investments of about \$1.1 billion at year-end.





Strategically, we continued to strengthen and optimize our portfolio with the completion of several acquisitions in 2021. These acquisitions, which added \$1.7 billion of annualized revenue, expanded our sustainable product offerings and moved us into new markets, were:



VersaFlex, which specializes in polyurea, epoxy and polyurethane coatings for water and wastewater infrastructure, flooring, transportation infrastructure, and industrial applications. [Learn more.](#)



Wörwag, a global manufacturer of coatings for industrial and automotive applications.
[Learn more.](#)



Cetelon Lackfabrik GmbH, a manufacturer of coatings for automotive and light truck wheel applications.
[Learn more.](#)



Tikkurila, a leading producer and distributor of decorative paint and coatings. [Learn more.](#)

The success of our team's work throughout the year has enabled us to continue to reward our shareholders by extending our consecutive annual dividend payments to over 120 years, including raising our annual dividend payout for the 50th successive year. We're among a very small number of companies that have achieved these milestones.

Learn more about our performance in our [2021 Annual Report](#).



COVID-19 Response

Protecting our people,
customers and communities.

The health and safety of PPG employees, partners and customers remains the company's most important core value, aligned with our purpose to protect and beautify the world. The company has enacted protocols to protect our people and manage our business in this evolving environment:

Enhanced Workplace Safety

- Implemented proven, safe operating processes, based on local community transmission data, that have been used around the world to keep PPG people safe, including:
 - Implemented best practice hygiene techniques;
 - Provided personal protective equipment;
 - Enabled social distancing;
 - Required on-site employees and visitors to wear face coverings;
 - Sanitized work areas;
 - Managed significant large gatherings and limited in-person visits from third parties; and
 - Managed work-from-home protocols where possible.
- Launched a new reporting tool for employees to submit their vaccination status.
- Made site-by-site and person-by-person decisions with the safety of our people as our most important core value.
- Monitored the health of our global workforce and took measures to protect PPG employees and customers in accordance with global and regional government requirements.
- Implemented and managed a reporting mechanism to track employees affected by COVID-19.
- Continued to benchmark how other industry leaders were handling the crisis and incorporated best practices.





Vaccine clinics in Colombia, Germany and U.K. provide hope amid pandemic



In 2021, our global employee population saw the importance of receiving the COVID-19 vaccine in order to protect themselves, their colleagues, their families and their communities from infection or severe symptoms. The company hosted various clinics around the world, vaccinating more than 550 employees across nine PPG sites in Germany, more than 350 people in Colombia, and more than 560 employees and local community members in Birstall, United Kingdom.

"Getting vaccinated is an important step to prevent getting sick with COVID-19. Communities with high vaccination levels are seeing a clear correlation in the reduction of severe cases of COVID-19, ultimately saving lives. Having this type of event organized by PPG personnel is a clear example of how important it is to ensure that those who matter the most, our employees and family members, get protected."

Pedro Perez

PPG Regional EHS Director
Europe, Middle East and Africa.

Communicated Frequent Updates to Employees

- Cascaded ongoing communications messages from business leaders across the company, highlighting the importance of practicing good hygiene protocols and getting vaccinated.
- Shared success stories and provided tools and resources for managers.
- Provided a wide array of communications via the company Intranet, employee resource website, e-mail, podcast and video messages, encouraging safe operating practices and hygiene practices both within and outside of the workplace.

Provided Workplace Flexibility

- Managed alternative work arrangements, such as working remotely, staggering shifts and breaks for essential employees who remained on site at essential operations, which included manufacturing facilities and laboratories.
- Regularly modified operational practices to consistently reduce risk to our employees while maintaining operational capability.

Increased Employee Education, Engagement and Recognition

- Increased overall employee engagement, as measured by the Gallup employee engagement surveys and a newly deployed communications effectiveness survey.
- Introduced new digital tools to connect employees through the Microsoft 365 suite.
- Expanded virtual, interactive [leadership](#) and individual contributor training programs and deployed them globally.
- Provided safety and health tools and resources for both frontline and remote workers.
- Deployed a communications effectiveness survey for frontline employees to assess and improve communications.
- Provided a wide array of communications via our intranet, employee resource website, emails, internal podcasts and video messages that encouraged vaccination and safe operating and hygiene practices both within and outside of the workplace.
- Enhanced our Employee Assistance Program (EAP) resources globally, increased visibility of EAP resources and provided wellbeing materials to support employees and their families.
- Provided wellbeing resources through our Abilities First Employee Resource Network, including webinars discussing mental health, stress and anxiety.



Essential Products

Our products continue to play an essential role in a wide range of key industries throughout the ongoing pandemic. Our paints, coatings and specialty materials help create life-critical products for the healthcare, defense, food and beverage, hygiene, agriculture, energy, public works electronics industries and many others. Our products are applied to items that many use or interact with everyday, including coatings used on food and beverage packaging, to assure essential at-home products like canned fruits, vegetables and beverages were safe and protected as families “pantry loaded” and cook more meals at home. Our packaging coatings are used for personal hygiene and aerosol cleaning products, which help reduce the spread of certain bacteria in homes and workplaces. Coatings for computers and mobile devices continue to be in high demand, as many work and learn remotely. Lastly, the planes, ships or trucks that deliver goods to your local grocery store count on protective coatings too, which help to ensure the safety of the pilots, ship crews and drivers.

Most notably, we partnered with Corning to secure U.S. Environmental Protection Agency (EPA) approval for PPG COPPER ARMOR™ paint, an innovative interior coating that uses Corning® Guardian® copper technology to continuously kill viruses and bacteria including Staph, MRSA, E Coli and Sars CoV-2 on the painted surface within 2 hours of exposure for up to 5 years. [Learn more.](#)

We also launched COMEX® VINIMEX® TOTAL Antiviral and Antibacterial paint in Mexico. The new product reduces up to 99.9% of bacteria and viruses responsible for the most common gastrointestinal and respiratory illnesses, including Influenza A H1N1 and SARS-CoV-2, the virus that causes COVID-19. [Learn more.](#)

Additional hygienic PPG products that help protect against bacteria and viruses include:

- [MASTER'S MARK™ LUXURIANT™](#) and [ECO TOUCH™](#) antibacterial interior latex coatings by PPG, which kill 99.99% of E. coli and staphylococcus. They also kill 99.93% of the H1N1 virus under China's National (GB) standards.
- [TAUBMAN'S EASYCOAT PRO™](#) interior paint by PPG in Australia, featuring Microban technology, which works to kill germs on contact and protect against mold, mildew and fungus growth, which are triggers of asthma and allergies.





Strategic Milestones

Acquisitions, achievements, appointments, innovations and investments in 2021.



January 13

Established the Traffic Solutions business unit following the company's December 2020 acquisition of Ennis-Flint. [Learn more.](#)



February 1

PPG and the PPG Foundation announced a commitment to invest \$20 million by 2025 to advance racial equity in the U.S. by funding educational pathways for Black communities and people of color. [Learn more.](#)



February 18

Michael Nally, chief executive officer, Generate Biomedicines, Inc. and CEO-partner, Flagship Pioneering, and Guillermo Novo, chairman and chief executive officer, Ashland Global Holdings Inc., were elected to join the PPG Board of Directors. [Learn more.](#)



February 22

Acquired VersaFlex, which specializes in polyurea, epoxy and polyurethane coatings for water and wastewater infrastructure, flooring, transportation infrastructure and industrial applications. [Learn more.](#)



April 19

Acquired Cetelon Lackfabrik GmbH, a manufacturer of coatings for automotive and light truck wheel applications. [Learn more.](#)



April 22

Achieved a Gold Rating in corporate social responsibility from ECOVADIS™, a leading provider of business sustainability ratings. [Learn more.](#)



May 13

Completed a \$13 million investment in the Jiading, China paint and coatings facility, including eight new powder coating production lines and an expanded Powder Coatings Technology Center that will further enhance PPG's research and development capabilities. [Learn more.](#)



May 17

Acquired Wörwag, a global manufacturer of coatings for industrial and automotive applications. [Learn more.](#)



May 24

Announced Diane Kappas PPG vice president, global sustainability, effective July 1, 2021. [Learn more.](#)



June 10

Acquired Tikkurila, a leading producer and distributor of decorative paint and coatings. [Learn more.](#)



July 22

In partnership with Universal Display Corporation, announced a multi-million-euro capital investment that is expected to create up to 100 high-tech jobs at a new Shannon manufacturing site. [Learn more.](#)



August 2

Completed a \$15 million investment at PPG's Sylmar, California manufacturing facility to expand the development and production of aircraft transparency technologies for military aviation programs. [Learn more.](#)



FTSE4Good

August 3

For the third consecutive year, PPG was named to the FTSE4Good Index Series, which measures the performance of companies' environmental, social and governance (ESG) practices. [Learn more.](#)



August 10

Named one of the "Best Employers for Women 2021" by Forbes magazine, making PPG the top paints, coatings, and chemicals manufacturer included on the list. [Learn more.](#)



October 5

Received U.S. Environmental Protection Agency (EPA) registration for PPG Copper Armor paint, an innovative interior coating that uses Corning® Guardian® copper technology to continuously kill viruses and bacteria including Staph, MRSA, E Coli and Sars CoV-2 on the painted surface within 2 hours of exposure for up to 5 years. [Learn more.](#)



October 12

Announced an agreement with Constellation, a leading competitive energy and energy solutions provider, in which PPG will power its Carrollton, Texas, paint manufacturing facility with clean, renewable energy. [Learn more.](#)



November 3

Announced the opening of PPG's Packaging Coatings Innovation Centre, Europe in Bodelshausen, Germany.

[Learn more.](#)



December 1

Announced the start-up of expanded automotive OEM clearcoat production at PPG's facility in Erlenbach, Germany, which uses advanced manufacturing technology to improve operational efficiency, sustainability and flexibility compared to conventional processes. [Learn more.](#)



December 15

Announced Tim Knavish PPG chief operating officer, effective March 1, 2022.

[Learn more.](#)



December 7

Named to Newsweek magazine's 2022 America's Most Responsible Companies list for the second consecutive year. [Learn more.](#)



Recognition and Awards

Recognitions and awards encourage us to do even better.

As a leader in ESG, we've earned the following recognitions and awards, reinforcing and encouraging our efforts.

MSCI
ESG RATINGS

CCC | B | BB | BBB | A | AA | AAA



Indexes and Rankings

#3 on the 2021 FORTUNE® World's Most Admired Companies list in our industry

#220 on the Fortune 500

#11 in the Materials and Chemical category on Newsweek's America's Most Responsible Companies list 2022

Forbes 2021 Best Employers for Women

Forbes 2022 America's Best Employers

#17 on the ICIS Chemical Business Magazine's Top 100 Chemical Companies list

#531 on the FORBES® Global 2000

#84 on IndustryWeek's U.S. 500

#2 on Coatings World's Top 100 Companies list

AA rating by MSCI for environmental, social and governance practices

ESG Recognition



Going for gold

Ranking among the top 6% of companies evaluated, PPG received a Gold Rating in corporate social responsibility from *EcoVadis*, a leading provider of business

sustainability ratings. We earned high scores for environmental and ethical practices, after recently assessing 1,000 key suppliers on *EcoVadis'* four sustainability categories, which contributed to a 20-point increase in our sustainable procurement score compared to 2019. [Learn more.](#)

Knight in sustainability armor

Recognized as the top paints, coatings and specialty materials manufacturer, we ranked 74th on the Corporate Knights' CLEAN200™ global list. The annual ranking highlights publicly traded companies that are leading the way with solutions for the transition to a clean energy future. [Learn more.](#)



Recognized for good

For the third consecutive year, we were named to the FTSE4Good Index Series. The index, which is compiled by the FTSE Group, measures the performance of a company's environmental, social and governance practices. [Learn more.](#)



Equality for all

We received a perfect score on the Human Rights Campaign (HRC) Foundation's 2022 Corporate Equality Index (CEI), a national benchmarking survey and report on corporate policies and practices related to lesbian, gay, bisexual, transgender and queer (LGBTQ+) workplace equality. PPG has been listed on the index for 19 years. [Learn more.](#)

Transparent leadership

PPG was included in the 2022 JUST Capital ranking, which ranks how America's largest publicly traded companies perform on the top issues that Americans prioritize. We outperformed the industry average in nearly every category, earning an overall improvement of 274 spots since 2020. We earned high marks for environmental and product sustainability and ranked No. 2 for community engagement and No. 1 in transparent communication in its industry.

SDG influencer

ISS Corporate Solutions (ICS) noted PPG as having 'significant positive impact' on its Sustainable Development Goals (SDGs) Impact Report, putting us in the top 10% of evaluated chemical companies. We received our highest score on SDG 13, Climate Action, due to ongoing efforts to reduce greenhouse gas emissions in our operations, primarily by lowering energy consumption and using renewable energy. The ICS SDG Impact Report measures how companies are managing impacts in their operations across the value chain, while making use of existing and emerging opportunities in their products and services to contribute to the achievement of the United Nations SDGs.

Product & Process Awards



Talk the talk, MOONWALK™ the walk

The PPG *MoonWalk* robotic system for mixing automotive refinish coatings earned first place in the Sustainable Innovation category for the British Coatings Federation (BCF) awards, which recognize excellence in companies and individuals in the coatings sector. The product also received the 2020 Technology and Innovation Award from bodyshop magazine. [Learn more.](#)



Changing the game

Three innovations, PPG BFP-SE Battery Fire Protection, PPG ENVIROCRON™ Extreme Protection thermally conductive powder coatings, and PPG HI-TEMP® 1027 HD coating, earned prestigious R&D100

Awards, which honor 100 game-changing technologies and services of the past year. In total, PPG has earned more than 30 R&D 100 Awards. [Learn more.](#)



Signed, sealed, delivered

Operating with the highest levels of compliance, transparency and integrity are only a few of the reasons we were awarded the 2020-2021 Pro-Ethics seal, which is granted by the Brazil Federal Ministry of Transparency and the Comptroller General of the Union in partnership with the Ethos Institute. PPG stood out as the only coatings company to be recognized. [Learn more.](#)



Green stamp of approval

Our coatings manufacturing plant in Sumaré, Brazil was awarded the Green Stamp (Selo Verde) by the sustainability committee of Jornal do Comércio in recognition of the facility's commitment to the environment.

The stamp is awarded to a select group of companies that are conscientious in the areas of water and effluents, energy, raw materials and waste, atmospheric emissions and environmental education.



Top of the class

Of the thousands of companies with operations in Tianjin, only 18 companies are considered "Class A Enterprises." PPG is one of them. Thanks to the facility's environmental control policy, the Tianjin City Ecology and Environment Bureau has determined PPG's Tianjin facility can operate normally during periods of heavy air pollution. This designation allows us to continue producing products to meet customer delivery expectations and avoids unnecessary shutdown costs.



Tree hugger

The largest professional organization of do-it-yourself, gardening and housing development manufacturers in France recognized PPG and our RIPOLIN™ paint brand for its outstanding commitment to sustainability. The Association des Industriels du Nouvel Habitat (IHONA) awarded PPG with its highest corporate social responsibility (CSR) award based on several key achievements, including:

- ISO 14001-certification at our Architectural Coatings manufacturing sites in France. The certification ensures that the facilities meet stringent international environmental management standards.
- Reduced environmental impact of *Ripolin* paint. The paint, launched in 2020, is made almost entirely of bio-based resins that reduce CO₂ emissions in the air by 25%.
- Reduction in *Ripolin* paint's carbon footprint through the use of recycled plastic packaging.

In addition, the panel applauded *Ripolin* paint's efforts to partner with Reforest'Action to plant a tree for every can of paint sold during a special 2021 promotion.

Customer Awards

Strategic supplier

Fiat Chrysler Automobiles (FCA) Latin America recognized PPG as the best raw materials supplier in the region at its Annual Supplier Conference, marking the second time in three years that we have received this recognition.



Employee Recognition



The business of influence

Anne Foulkes, PPG senior vice president and general counsel, and Rebecca Liebert, PPG executive vice president, were named to the Pittsburgh Business Times' 2021 [Women of Influence](#) list. The annual listing honors the Pittsburgh region's most influential women across every industry and profession with a strong track record of performance that have made a difference in Western Pennsylvania and its communities.

Stepping into leadership

In recognition of their exemplary leadership and achievements in the manufacturing industry, Rachel Harris, PPG senior research chemist, and Kristin Nuzzio, PPG group leader, R&D, automotive OEM coatings, earned STEP Ahead Awards from the Manufacturing Institute. [Learn more.](#)



Sustainability @ PPG

We are committed to delivering lasting value for stakeholders and customers.





2021 Progress and Highlights

Our sustainability goals focus on our key challenges and guide our actions, doing better today than yesterday.



At PPG, we pride ourselves on being action oriented. We believe what gets measured gets done, which is why 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.

Originally developed in 2012, these goals focus on key sustainability challenges. We periodically revise these goals to build upon our efforts and better represent the sustainability opportunities currently facing our business and areas of opportunity for our customers, investors, other stakeholders and our global, interconnected business community.

We last updated the goals in 2017 due to the achievement of many of our earlier goals and the changing makeup of our business portfolio following a series of divestitures and acquisitions. PPG is currently working to calculate the broad Scope 3 greenhouse gas emission sources and determine which have the most significant impact. Once defined, we will determine the actions necessary to impact a reduction in emissions as part of an overall decarbonization strategy.

Watch our 2025 goals video [here](#).



Goals

2021 Progress

40% of sales from sustainably advantaged products by 2025	38%
25% reduction in total waste disposal intensity by 2025 from a 2017 baseline	37.5% reduction from baseline
Achieve zero landfill status from process waste at 35% of PPG manufacturing and research and development locations by 2025	40% of locations achieved zero landfill status
Reduce energy consumption intensity by 15% by 2025 from a 2017 baseline	0.5% reduction from baseline
Increase renewable energy to 25% of total electricity usage exclusive of greenhouse gas (GHG) reductions by 2025	24%
Reduce GHG emissions intensity by 15% measured in total tons discharged by 2025 from a 2017 baseline	9.7% reduction from baseline
On our path to eliminating spills, ensure that we achieve at least a 65% improvement in our spills and releases rate by 2025 from a 2017 baseline	30% improvement from baseline
20% reduction in water intensity by 2025 from a 2017 baseline	5% reduction from baseline
Zero injuries. On our path to zero injuries, ensure that we achieve an improvement of at least 5% per year in our injury and illness (I&I) rate	Achieved an annual I&I reduction rate of 4.3% compared to the 2017 baseline
Active wellness programs at 100% of PPG facilities globally by 2025	Approximately 90% of our locations with 50 or more employees had a wellness program in 2021
Implement the community engagement framework globally by 2025	80% of our facilities met the framework requirements in 2021
Invest at least \$10 million by 2025 through the PPG COLORFUL COMMUNITIES® initiative	\$8.7 million invested through 2021
Invest \$20 million by 2025 to advance racial equity in the U.S. by funding educational pathways for Black communities and people of color	\$7.4 million invested through 2021



Data Highlights

Data Highlights

Financial					
	2017	2018	2019	2020	2021
Net sales from continuing operations (millions)	\$14,748	\$15,374	\$15,146	\$13,834	\$16,802
Net income from continuing operations (millions)	\$1,369	\$1,323	\$1,243	\$1,056	\$1,420
Adjusted earnings per diluted share from continuing operations¹	\$5.86	\$5.92	\$6.22	\$6.12	\$6.77
Dividends per share	\$1.70	\$1.86	\$1.98	\$2.10	\$2.26

Environmental ²					
	2017	2018	2019	2020	2021
Percent of sales from sustainably advantaged products	32	32	33	35	38
Total waste disposed (thousand metric tons)	147.10	140.98	106.97	85.77	84.97
Waste disposal intensity (metric tons per 100 metric tons of production)	3.52	3.34	2.69	2.33	2.20
Hazardous waste generated (thousand metric tons)	114.06	112.49	105.86	88.21	89.31
Recycled or recovered hazardous waste (percent)	49	48	46	49	54
Non-hazardous waste generated (thousand metric tons)	115.78	107.89	73.96	62.38	67.94
Recycled or recovered non-hazardous waste (percent)	22	23	33	34	36
Water withdrawn (million cubic meters)	19.30	18.34	17.94	14.50	16.92
Net water consumption (million cubic meters)	11.10	9.65	9.99	7.13	8.48
Water intensity (cubic meters per metric ton of production)	4.62	4.35	4.50	3.94	4.37
Energy consumption (million gigajoules)	13.48	13.66	12.90	10.57	12.35
Total energy intensity (gigajoules per metric ton of production)	3.21	3.23	3.23	2.87	3.20
Direct energy intensity (gigajoules per metric ton of production)	1.89	1.93	1.90	1.66	1.94
Indirect energy intensity (gigajoules per metric ton of production)	1.32	1.30	1.33	1.21	1.27
Total greenhouse gas emissions (million metric tons of carbon dioxide equivalents)	1.00	0.99	0.92	0.77	0.84



Environmental ²					
	2017	2018	2019	2020	2021
Total greenhouse gas emissions intensity (metric tons of emissions per metric ton of production)	0.24	0.23	0.23	0.21	0.22
Direct (Scope 1) greenhouse gas emissions intensity (metric tons of emissions per metric ton of production)	0.09	0.10	0.10	0.08	0.10
Indirect (Scope 2) greenhouse gas emissions intensity (metric tons of emissions per metric ton of production)	0.15	0.14	0.13	0.12	0.12
Spills and releases rate (total spills and releases per 1,000 employees)	1.84	1.32	1.25	1.24	1.28

Social					
	2017	2018	2019	2020	2021
Total employees	47,200	47,300	47,600	46,900	49,300
Fatalities	0	1	0	0	0
PPG injury and illness rate	0.31	0.27	0.32	0.26	0.26
Sites implementing a wellness program (percent of sites with 50 or more employees)	70	58	70	70	90
Charitable contributions (millions)	\$10.50	\$9.10	\$11.80	\$13.00	\$13.30
Sites implementing the PPG Community Engagement Framework (percent)	75	70	65	80	80
Employee volunteer hours ³	17,000	24,802	36,000	3,587	11,750

¹ Beginning in 2021, the Company reports adjusted earnings per diluted share excluding amortization expense relating to intangible assets from completed acquisitions. Adjusted earnings per diluted share for 2020 has been recast to exclude acquisition-related amortization expense. For detailed information regarding these adjustments, see the Regulation G Reconciliation in Item 7 of our 2021 Form 10-K.

² Environmental data changes from prior reporting reflect adjustments for acquired and divested locations from the 2017 baseline onward. Energy data also include adjustments for closed locations.

³ Volunteer hours for 2016 through 2018 are for our COLORFUL COMMUNITIES® program only. Data for 2019 and 2020 is for the *Colorful Communities* program and Charity Partner program in Europe, Middle East and Africa.



Sustainability Vision, Values and Approach

Our sustainability vision, values and approach ladder up to our greater purpose to Protect and Beautify the World.

Vision

To fulfill our purpose to Protect and Beautify the World, we are committed to delivering lasting value for all stakeholders. As One PPG, we operate with integrity, work safely, protect the environment for current and future generations, create a diverse, equitable and inclusive workplace, and engage and support the communities where we operate.



Values

Operate safe, healthful workplaces, promote teamwork and reward performance by trusting our people every day in every way

Cultivate a sense of belonging for all of our employees and harness the power of diversity to ignite innovation and performance

Conduct business and operations in an ethical and compliant manner

Minimize the impact of our operations on the environment

Deliver innovative products and solutions, and partner with our customers to create mutual value that enables them to maximize the performance of their assets and preserve and protect the environment

Partner with suppliers and customers to create value

Deliver positive change in the communities where we operate and conduct business



Driving our environmental performance are measurable [sustainability goals](#) that address our biggest challenges and opportunities. We hold our locations and businesses accountable for achieving these goals, and we are transparent in our progress against each other on a global level.

Our approach to sustainability continues to be influenced by and calibrated against ongoing feedback from customers, investors, regulators and regions of the world that are driving toward carbon neutrality. We are currently evaluating our Scope 3 emissions and we plan to commit to Science-Based Targets before the end of 2022.

In addition, in 2021 we furthered our commitment to creating a more diverse, equitable and inclusive workplace by announcing aspirational DE&I goals that will help keep us accountable. To learn more about our goals, visit our [Diversity, Equity and Inclusion report](#). We also amplified the unique talents of our employees, our products and financial contributions to reach our global communities. In total, we invested \$13.3 million in global giving from PPG and the PPG Foundation in 2021. To learn more about our community engagement efforts, visit the [Community Overview](#) page of this report.

We have a formal structure to ensure continuous improvement in both the sustainability of our global operations and the products we manufacture around the world. Our newly-formed Sustainability organization is responsible for developing and driving our sustainability goals as well as policies, programs

and procedures to address sustainability throughout our business practices. Ultimately, our Board of Directors has oversight of all sustainability efforts. The Sustainability and Innovation Committee, formerly the Technology and Environment Committee, of our Board has oversight of the tracking of our sustainability progress, and defining climate related risks and opportunities. To learn more about governance of our environmental, social and governance practices, visit the [Governance](#) section of this report.

In addition, many of our current sustainability goals and initiatives align with those of the [European Green Deal](#). Among other initiatives, this program by the European Union was designed to significantly reduce greenhouse gas emissions by 2030 and make the EU climate neutral by 2050. We also will seek opportunities to participate in the development of laws, regulations and policies that the European Union and member states will be developing to support the deal's objectives. Leading our efforts is an internal team of leaders and experts that we formed in 2020, alongside our dedicated sustainability team.

Each year through the PPG Sustainability Awards program, we recognize outstanding projects completed by our employees, locations and businesses that significantly contributed to our sustainability progress. In 2021, we presented more than 200 awards in five categories – health and safety, environmental impact, wellness, community engagement and customer solutions. We also recognized programs that improved ergonomics through our separate PPG ERGO CUP® competition.

In 2021, our Architectural Coatings business earned the overall PPG Sustainability Award for its outstanding performance in all five sustainability award categories as well as specific improvements in its injury and illness rate and the launch of industry-leading antiviral and antibacterial paint products, [PPG COPPER ARMOR™](#) and [COMEX® VINIMEX®](#) paint, which are proven to kill or reduce 99.9% of common bacteria and viruses on the painted surface, including the virus that causes COVID-19. In addition, our [HOMAX® TEX>>PRO™](#) product received the 17th annual Ergo Cup award for its breakthrough sprayer system that reduces the weight of the tool by 60% – or nearly 20 pounds – compared to traditional hopper spray guns.



We estimate that projects honored by both awards programs saved PPG and our customers more than \$95 million in 2021. They also helped PPG and our customers reduce energy intensity, waste, greenhouse gas emissions, injuries and spill rate while improving productivity, capacity and our sustainably advantaged product offering.



Stakeholder Engagement

We actively engage with stakeholders to better understand outside perspectives and priorities.

We actively engage with stakeholders to better understand outside perspectives and priorities about our company and the industries and communities in which we operate. This engagement helps us build upon our sustainable business practices and improve our company as a whole.

Each of our locations, businesses and functions is expected to effectively engage its stakeholders, whom we identify as those entities that can affect or be affected by our actions, objectives and policies. This engagement is conducted on an ongoing basis, and the following provides an overview of how we establish and maintain productive relationships with our key stakeholder groups, and the key topics discussed.

PPG Engagement Strategy

Stakeholder Group:
Employees

Typical Engagement Activities:

- Companywide CEO townhalls, video and email messages and informal question-and-answer sessions with leaders
- Daily intranet articles, employee magazines and regional publications
- Regular employee communications and town hall meetings involving executives, business leaders and site managers
- Training and development programs
- Human Resources Service Center
- Family-inclusive activities, such as open houses
- Employee resource networks
- Wellness programs
- Dispute-resolution programs
- Global employee engagement surveys and initiatives
- Open-door programs
- Collective bargaining
- [Ethics helpline](#)
- Quality programs
- Recognition events

Stakeholder Group:
Customers

Typical Engagement Activities:

- Ongoing relationship building
- Account management interaction
- Trade shows
- Industry gatherings
- Technical and application support
- Training sessions and workshops
- Company-owned stores
- Broad distribution channels
- Customer service call centers
- Advertising and marketing communications

Stakeholder Group:
Suppliers

Typical Engagement Activities:

- One-on-one meetings
- Industry and trade group involvement
- [PPG Supplier Network](#)
- Corrective Action Incident Reporting quality communication
- [Supplier Sustainability Policy](#)
- [Global Supplier Code of Conduct](#)



Stakeholder Group:
Investors and analysts

Typical Engagement Activities:

- Quarterly earnings announcements, conference calls and presentation materials
- [News releases](#) and [U.S. SEC filings](#)
- [Annual Report](#) and [overview presentations](#)
- Annual meeting of shareholders
- PPG Industry Deep Dive Presentation
- Presentations by PPG executives at financial and industry conferences
- One-on-one meetings
- [PPG Investor Center](#)
- Provide detailed information about our corporate governance and executive compensation program in our [Proxy Statement](#).
- Proactive ESG outreach meetings with investors
- Annual publication of ESG Report
- Publication of DE&I Report

Stakeholder Group:
Government

Typical Engagement Activities:

- Activities reported to select federal agencies
- Visits with elected officials and agencies and international government officials
- PPG's employee political action committee (PAC)
- [Government affairs website](#)
- Industry and trade association involvement
- Plant tours and site visits for government officials

Stakeholder Group:
Philanthropies, nonprofits and nongovernmental organizations

Typical Engagement Activities:

- Employee volunteering and giving programs
- Global giving programs (Asia Pacific; Europe, Middle East and Africa; and Latin America)
- China corporate social responsibility committee and program
- Canadian charitable contributions and employee programs
- Disaster response
- One-on-one meetings and site visits
- Sponsorships
- News releases and publicity
- Family programs
- PPG *Colorful Communities* Program
- PPG Foundation grants and charitable donations

Stakeholder Group:
Residents of communities where PPG operates

Typical Engagement Activities:

- PPG *Colorful Communities* program
- Charitable giving programs
- Site visits by community emergency services
- Local sponsorships
- Public education support and interaction
- Community boards
- Open houses
- Community meetings and events
- Community volunteerism
- Community steering committees
- Local media relations
- Industrial park membership
- Community advisory panels
- Hazardous waste collection events
- Chamber of commerce memberships
- State or city industrial association memberships
- Permit hearings



Key Topics Raised in 2021

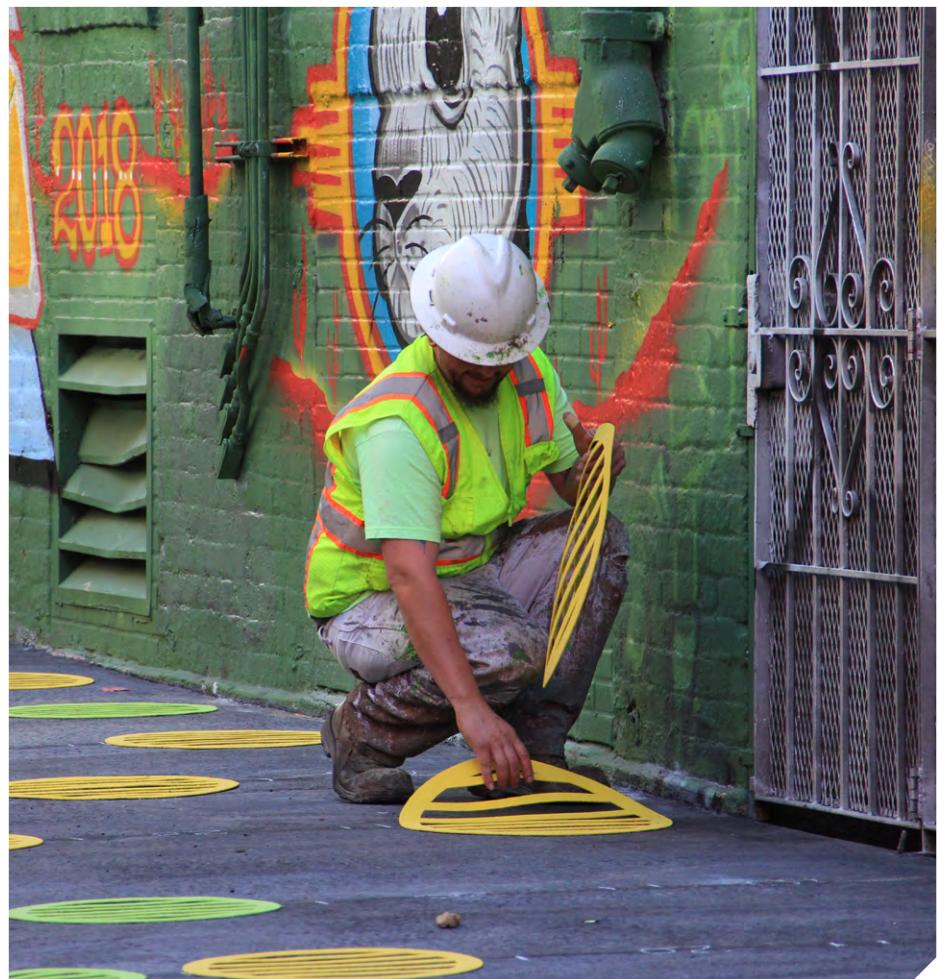
Stakeholder Group	Topics	Response
Employees	Labor shortages, engagement and development	We continue to invest in learning and development to give our employees the knowledge and tools to be engaged at every stage of their careers. Learn more in the People Overview , Learning and Leadership Development and Engagement sections.
	Diversity, equity and inclusion (DE&I)	We continue our focus on DE&I across the company, by developing a vision, structure and commitments, as well as disclosing our most recent diversity data. We continue to make progress against our goals and published our first DE&I report in 2022.
	Safety and health	The safety and health of our employees is our most important core value. We are creating a global culture of health, where our people and their families can prioritize mental and physical well-being. Learn more in the Safety and Health , COVID-19 response and Wellness sections.
Customers	COVID-19: Continuation of operations, product availability, health and safety	Throughout the ongoing pandemic, we have enacted and adjusted protocols to protect our people and manage our business in this new environment. Since the onset of the pandemic in late 2019, we implemented proven operating practices to enhance workplace safety, communicated frequent updates to employees, provided workplace flexibility, increased employee engagement and recognition, and worked with our customers in new ways. In addition, our products played an essential role in a wide range of key industries during the pandemic. Learn more in the COVID-19 response and Product Overview sections.

Stakeholder Group	Topics	Response
Shareholders	Shareholder returns	Despite the challenges presented throughout 2021, our net sales totaled approximately \$16.8 billion. We continued our legacy of returning cash to shareholders by extending our consecutive annual dividend payments to over 120 years, including raising our annual dividend payout for the 50th successive year. Learn more in the About PPG section.
	ESG and sustainability progress	We remain steadfast in our commitment to serve the communities in which we operate and develop innovative products and sustainable solutions that create value for our stakeholders, supported by our high standards of integrity and professional conduct. Learn more in the 2021 Progress , Product Overview , Community Overview and Governance sections.
	Climate-related risks	In 2021 we conducted a climate scenario analysis to evaluate transitional and physical climate-related risks and opportunities. To address climate risks, we maintain systematic business continuity planning and crisis management processes. Learn more in the Climate-Related Risks and Opportunities section.
Suppliers	Continuation of operations, raw material supplies, health and safety	A number of global suppliers were impacted by the weather events in February 2022 and subsequent loss of energy supplies in Texas and other southern U.S. states, as well as recent Hurricane Ida impacts. At the same time, there was a significant increase in demand in some markets we supply due to increased consumer demand for our paint products for residential renovations. PPG continues to take an aggressive approach to securing materials and carriers to minimize the impact to our customers.
		Throughout the ongoing pandemic we have enacted and adjusted protocols to protect our people and manage our business in this new environment. Learn more in the COVID-19 response , Safety and Health and Product Overview sections.



Key Topics Raised in 2021

Stakeholder Group	Topics	Response
Suppliers	ESG and sustainability progress	PPG works with our suppliers around the world to encourage sustainability as a core value, aligned to our high standards of integrity and professional conduct. Learn more in the Supplier Sustainability section.
Communities	Giving in priority areas: Education, community sustainability, employee engagement, and diversity, equity and inclusion	We amplify the unique talents of our employees and the financial contributions from PPG and the PPG Foundation to reach our global communities – helping students connect with science-related inspiration and advanced learning, transforming communities with bright colors and addressing evolving, essential needs around the world. Learn more in the Community Engagement and Community Engagement Framework sections.
Government Agencies	COVID-19: Continuation of operations, product availability, health and safety	Throughout the ongoing pandemic we have enacted and adjusted protocols to protect our people and manage our business in this new environment. We implemented proven operating practices to enhance workplace safety, communicated frequent updates to employees, provided workplace flexibility, increased employee engagement and recognition, and worked with our customers in new ways. Our products played an essential role in a wide range of key industries during the pandemic. Our paints, coatings and specialty materials helped create life-critical products for the health care, defense, food and beverage, hygiene, agriculture, energy, public works electronics industries and many others. Learn more in the COVID-19 response and Product Overview sections.
	Product stewardship	In compliance with all legal and ethical procedures, our Government Affairs team works closely with government stakeholders at the local, state, federal and international level to discuss environmental stewardship, sustainability, transportation, infrastructure, energy and environment related issues. Learn more in the Product Stewardship section.





Industry Engagement

We actively work with the following industry associations by maintaining board and other leadership positions:

- American Chemistry Council
- American Coatings Association (Michael McGarry, PPG chairman and CEO, served as Chair from April 2020 to April 2022)
- Ethics & Compliance Officers Association
- European Council of the Paint, Printing Ink and Artists' Colours Industry (Roald Johannsen, PPG vice president, Automotive OEM Coatings, serves as Chair until September 2024)
- Fédération des industries des peintures, encres, couleurs, colles et adhésives (FIPÉC)
- The National Association of Manufacturers

In addition, we are an active participant in the [RESPONSIBLE CARE®](#) and [COATINGS CARE®](#) initiatives.

Political Contributions

We do not make any political contributions as a company to political parties or candidates.

In the United States, our employees have formed a political action committee (PAC). Under the umbrella of this independent, voluntary, registered committee, employees collect donations to politicians, political parties and associations and make decisions as to how the funds will be used. The PAC Executive Committee has broad employee representation and approves all political contributions made on behalf of the PAC. The PAC is governed by a series of internal policies and adheres to a strict set of by-laws.

In 2021, total PAC contributions totaled \$67,000 to local, state and federal candidates for elected office representing the Republican and Democratic political parties.

Our PPG PAC contributions included those made to individual candidate political campaigns as well as other business PAC's including our trade associations. There was no spending on ballot measures or referendums.

Following the events at the U.S. Capitol on January 6, 2021, the PPG PAC suspended political giving to members of Congress who opposed certification of the Electoral College votes. In September 2021, the PPG PAC resumed political engagement on a case-by-case basis, guided by the key issues important to PPG PAC members. These issues include DE&I, energy and environment, infrastructure, regulatory reform, tax and budget, technology, and trade.

Political contribution receipts and disbursements are reported in detail and disclosed publicly on the [U.S. Federal Elections Commission website](#). A political contributions overview and more information on political activities is provided on the [PAC website](#) and our [Government Affairs](#) website.

The largest public policy advocacy issues for 2021 included our response to the COVID-19 pandemic, infrastructure investment, tax and trade.



Material Issues

We seek to prioritize ESG issues that offer the greatest potential to create shared value.

Our mission and values, the broader impact we seek to achieve and the voices of our diverse internal and external stakeholders inform the priority topics upon which we base our ESG strategy and reporting.

The way we manage our company and the decisions that we make affect a range of stakeholders, including our customers, employees, suppliers and our communities. We regularly use information from various touchpoints with these stakeholders to inform our goals, shape our practices, and enhance our reporting.

We are in the process of updating the ESG materiality assessment of our business and will report those findings in next year's report.

Materiality Assessment

To identify significant topics and set priorities, a variety of sources and standards were used as inputs to this report:

- Reporting standards and frameworks, including the Global Reporting Initiative's (GRI) Standards, the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-Related Financial Disclosures (TCFD);
- Customer feedback on our sustainability performance through both formal and informal means;
- Legal/regulatory aspects affecting the company directly or indirectly;
- Input and feedback from direct ESG outreach meetings with investors;
- Sustainability information that various ranking organizations use to determine PPG's performance;
- Feedback on our prior sustainability reporting;
- Media coverage of our company globally;
- Engagement with our communities;
- Insight from our senior management team; and
- Our sustainability goals.

For more information on our stakeholders and how we engage with them, see the [Stakeholder Engagement](#) section.

The following are the priority topics that form the basis of our 2021 report. Given our continued focus on diversity, equity and inclusion, as well as product stewardship, we added two priority topics in 2021: Diversity, equity, and inclusion, and product marketing and labeling.

Topic	Boundary
Economic performance	All businesses
Energy	All locations
Water	All locations, particularly those located in water-stressed regions of the world
Emissions	All locations
Effluents and waste	All locations
Health and safety	All locations
Local communities	All locations
Diversity, equity and inclusion	All locations
Product marketing and labeling	All products



Sustainable Development Goals

We are contributing to the achievement of the United Nations Sustainable Development Goals (SDGs) through our innovative products, sustainable operations and community investments.

Our research and product development, work with customers and on-the-ground efforts to meet the diverse needs across our communities collectively touch each of the 17 SDGs. However, we focus on a subset of themes, as outlined below, where we believe we have the greatest opportunity to impact change.

Our efforts also reflect the priorities captured in the Chemical Sector SDG Roadmap, an initiative led by a selection of leading chemical companies and industry associations, convened by the World Business Council for Sustainable Development (WBCSD), to explore, articulate and help realize the potential of the chemical sector to leverage its influence and innovation to contribute to the SDG agenda.

In addition to these, we seek to have an impact in other areas where our innovation, resources and interests allow. Although we haven't set specific targets against these goals, we are proud that our work contributes to their achievement.

Below and throughout this report we share how we are creating positive impact across the SDGs.





SDG vision	Commitments	Example impact
  <p>Serve as a good steward of water resources.</p> <p>We seek to conserve water and minimize wastewater across our entire value chain.</p>	<p>In our operations</p> <p>Reduce water intensity 20% by 2025 from a 2017 baseline.</p> <p>On our path to eliminating spills, ensure that we achieve at least a 65% improvement in our spills and releases rate by 2025 from a 2017 baseline.</p>	<p>5% reduction in 2021 versus 2017 baseline.</p> <p>30% improvement in spills in 2021 (1.28 spills and releases per 1,000 employees).</p> <p>PPG's Zero Discharge Project, an initiative intended to reduce yield loss and wash water generation at our Architectural Coatings facilities in the U.S. and Canada, delivered more than \$2 million in savings while reusing more than 1.7 million gallons of wash water.</p> <p>Read more in the Water section of this report.</p>
	<p>With our partners</p> <p>As part of our goal to reach 40% of sales from sustainably advantaged products by 2025, offer products that enable our customers to</p> <ul style="list-style-type: none"> • Use less water in their operations; and • Improve the useful life of pipes and wastewater infrastructure. 	<p>38% of sales came from sustainably advantaged products in 2021, including several focused on reduction of water use.</p> <p>In 2021, PPG significantly expanded its coating solutions for wastewater facilities with an innovative portfolio for a range of processes, including collections, primary and secondary treatment, sludge handling and disinfection.</p> <p>Read more in the Sustainably Advantaged Products section of this report.</p>



SDG vision	Commitments	Example impact
 <p>Reduce energy intensity and use.</p> <p>We are committed to reducing energy use across our entire value chain, from our operations to those of our customers.</p>	<p>In our operations</p> <p>Reduce energy consumption intensity by 15% by 2025 from a 2017 baseline.</p> <p>Increase renewable energy to 25% of total electricity usage exclusive of greenhouse gas (GHG) reductions by 2025.</p> <p>With our partners</p> <p>As part of our goal to reach 40% of sales from sustainably advantaged products by 2025, manufacture coatings that reduce the energy consumption of our customers.</p>	<p>0.5% reduction in energy intensity in 2021 versus 2017 baseline.</p> <p>24% of electricity usage from renewable sources.</p> <p>PPG is also working with Constellation, a leading energy solutions provider, to purchase renewable energy from the 200 MW Big Star Solar Project currently under development in Bastrop County, Texas.</p> <p>Read more in the Energy section of this report.</p> <p>38% of sales from sustainably advantaged products in 2021, including several focused on reduction of energy use.</p> <p>For example, PPG is developing innovative coatings to protect electric vehicle batteries from thermal events while improving performance, solving a potential challenge to the adoption of electric vehicles (EVs).</p> <p>Read more in the Sustainably Advantaged Products section of this report.</p>



SDG vision	Commitments	Example impact
 <p>Create the future of innovative coatings and products, today.</p> <p>We will invest in innovation and research to create breakthrough innovations that decrease energy use, reduce emissions, increase resource utilization and boost standards of living.</p>	<p>In our operations</p> <p>Define strict, consistent standards for sustainable products.</p> <p>With our partners</p> <p>Invest in new technologies and innovation to expand sustainable product portfolio, reaching 40% of sales from sustainably advantaged products by 2025.</p> <p>In our communities</p> <p>In addition to our ongoing programs, advance racial equity in the U.S. by investing \$20 million from 2020 to 2025 in educational programs to close gaps in STEM learning and careers for historically underrepresented communities.</p>	<p>In 2021, we introduced a new two-step methodology to identify sustainably advantaged products by:</p> <ul style="list-style-type: none"> • Systematically validating basic sustainable attributes likely to impact PPG products today and in the future; and • Assessing the value contribution of PPG solution towards the UN Sustainable Development Goals. <p>Read more in the Sustainably Advantaged Products section of this report.</p> <p>38% of our sales came from sustainably advantaged products in 2021.</p> <p>Read more in the Sustainably Advantaged Products section of this report.</p> <p>37% of total investment completed by the end of 2021.</p> <p>Through programs like the STEM Coding Lab's summer camp, CS Explorers and the Michigan Science Center's Explainer's Project, PPG partnerships sparked early interest in exploration and discovery and helped students see the connections between STEM ideas and real-life innovations and careers. The PPG Foundation also supported diverse students entering advanced, post-secondary STEM studies through partnerships with professional organizations, including the National Black MBA Association and the National Society of Black Engineers (NSBE).</p> <p>Read more in the Community Overview section of this report.</p>



SDG vision	Commitments	Example impact
 <p>Reduce our resource use and waste footprint.</p> <p>We are committed to using resources efficiently and driving sustainability throughout our entire value chain to preserve and protect the environment in which we operate.</p>	<p>In our operations</p> <p>Reduce our global waste footprint, including:</p> <ul style="list-style-type: none"> • 25% reduction in total waste disposal intensity by 2025 from a 2017 baseline. • Achieve zero landfill status from process waste at 35% of PPG manufacturing and research and development locations by 2025. <p>With our partners</p> <p>As part of our goal to reach 40% of sales from sustainably advantaged products by 2025, we manufacture coatings that reduce waste and support sustainable consumption, including packaging coatings that prevent food loss and waste.</p>	<p>30% decline in spills and releases per 1,000 versus 2017 baseline.</p> <p>Our Søborg plant in Denmark updated all Architectural Coatings product packaging from virgin plastic to post-consumer recycled plastic (PCR). The project is expected to save more than 308 metric tons of carbon annually once fully implemented in 2022.</p> <p>40% of our manufacturing and R&D facilities had zero process waste to landfill, beating our target of 35% by 2025.</p> <p>37.5% reduction in total waste disposal intensity.</p> <p>Read more in the Waste section of this report.</p> <p>38% of sales from sustainably advantaged products in 2021, including several focused on reduction of waste.</p> <p>For example, our Electrocoat technology uses electrical current to deposit charged paint particles onto an oppositely charged part submerged in a water-based solution to control how much paint is deposited and reduce waste.</p> <p>In addition, our PPG ERGOLUXE™ powder coatings are durable and more sustainable than traditional options. The unique technology offers waste-saving, first-pass transfer efficiency rates of up to 85% and the ability to reclaim and reuse overspray.</p> <p>Several innovative packaging coatings are helping reduce food waste, including PPG NUTRISHIELD® coating, an industry-leading non-BPA internal beverage can spray that helps prolong shelf life and reduce food spoilage.</p> <p>Read more in the Sustainably Advantaged Products section of this report.</p>

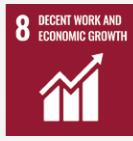


SDG vision	Commitments	Example impact
	<p>In our communities</p> <p>We work together to reduce the environmental impact of our activities and products on our customers and in our communities.</p>	<p>Our commitment to reducing waste goes beyond our operations to the end user. For example:</p> <p>54 million gallons (204 million liters) of paint collected since 2009 via the PAINTCARE™ program, which allows consumers to recycle leftover or unwanted paint. Ten states, as well as the District of Columbia, have adopted the PaintCare program, and PPG has 49 stores that act as recycling drop off sites.</p> <p>100 million kilograms of paint and empty containers recycled through the non-profit ECO-PEINTURE™ since 2001. PPG collaborates with this program, which diverts approximately 7 million kilograms of paint per year from landfills.</p> <p>9 million tons of paint and packaging waste diverted in 2021 from landfills in Australia, thanks to PAINTBACK®, of which PPG is a founding member. <i>Paintback</i> is an initiative designed to divert unwanted paint and packaging from ending up in landfill and vital waterways. The organization's target is to divert 90% of waste paint from landfill.</p> <p>Read more in the Waste section of this report.</p>



SDG vision	Commitments	Example impact
 <p>Support the transition to a low-carbon economy.</p> <p>We are committed to addressing climate change by reducing our GHG footprint in our operations and throughout our entire value chain.</p>	<p>In our operations</p> <p>Reduce greenhouse gas (GHG) emissions, including:</p> <ul style="list-style-type: none"> • Reduce our GHG emissions intensity by 15% measured in total tons discharged by 2025 from a 2017 baseline. • Expand our visibility into Scope 3 emissions and commit to science-based targets. <p>With our partners</p> <p>Invest in new products that help our customers reduce their GHG emissions and meet their carbon reduction and net zero goals.</p>	<p>9.7% reduction in GHG intensity (Scopes 1 and 2) from 2017 baseline, against our target of 15% by 2025.</p> <p>16.1% reduction in absolute direct (Scope 1) and indirect (Scope 2) GHGs from 2017 baseline.</p> <p>Read more in the Emissions section of this report.</p>
		<p>38% of sales from sustainably advantaged products in 2021, including several focused on reduction of emissions.</p> <p>PPG products, such as electrochromic windows, are helping the airline industry reduce aircraft weight and energy use to reach its goal of net-zero greenhouse gas emissions.</p> <p>Read more in the Sustainably Advantaged Products section of this report.</p>

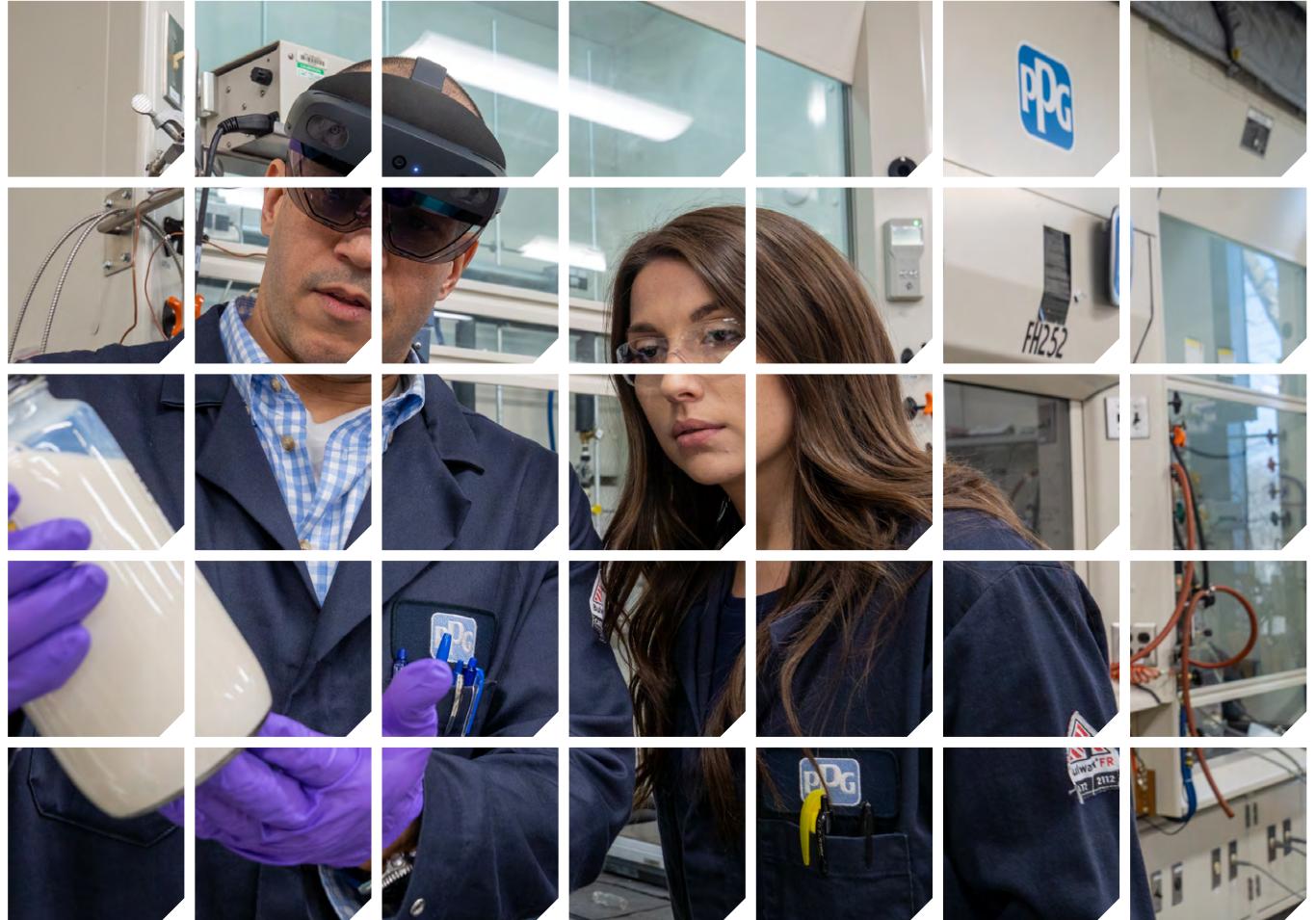


SDG vision	Commitments	Example impact
   	<p>In our operations</p> <p>Increase diversity and inclusion, including achieving a goal of 34% to 36% representation of non-frontline global female professionals by 2025.</p> <p>Protect the well-being, health and safety of our employees, including:</p> <ul style="list-style-type: none"> On our path to zero injuries, ensure we achieve an improvement of at least 5% per year in injury and illness rate. Active wellness programs at 100% of PPG facilities globally by 2025. <p>With our partners</p> <p>Serve industries, from agriculture to automotive, that are bringing new solutions and innovations to people globally.</p> <p>In our communities</p> <p>Implement PPG's community engagement framework globally by 2025.</p> <p>Expand programs to strengthen communities, including investing at least \$10 million by 2025 through the COLORFUL COMMUNITIES® initiative.</p> <p>We seek to strengthen communities through our philanthropic and other engagement efforts.</p>	<p>27% non-frontline global female professionals as of 2021.</p> <p>20+ DE&I ambassadors composed of senior leaders across all businesses and functions.</p> <p>115+ employee resource network (ERN) events in 2021 globally.</p> <p>4,600+ people managers and employees trained on unconscious bias across the organization since 2020. Read more in the Diversity, Equity and Inclusion report.</p> <p>90%+ of locations with 50 or more employees had an active wellness program.</p> <p>0 fatalities in 2021.</p> <p>Read more in the Wellness and Safety and Health sections of the report.</p> <p>Our packaging coatings help food and beverage manufacturers better preserve their products and expand access of canned fresh fruits and vegetables to underserved communities. Our industrial coatings also protect agricultural equipment.</p> <p>80% facilities met requirements of the Community Engagement Framework.</p> <p>\$8.7MM invested total, including \$1.4MM in 2021.</p> <p>56 <i>Colorful Communities</i> projects completed in 2021 in 17 countries. Since the program's inception in 2015, we've completed 386 projects in 42 countries, impacting 74MM+ people.</p> <p>500+ community partners and programs in the U.S. and internationally focused on education, social and racial equity, and community sustainability supported in 40 countries</p> <p>Read more in the Community Overview section of this report.</p>



Product Innovation

We make coatings that are transforming everything—from the places in which we work to the vehicles we drive.





Products Overview

We use a structured and disciplined approach to develop sustainable and safe products and processes.

PPG's purpose to protect and beautify the world drives our approach to developing sustainable solutions and offering unique technologies to customers in a wide range of markets and geographic locations. We manufacture paints, coatings and specialty materials that extend the useful life of products and help our customers reduce energy usage and emissions, protect all people that use or apply our products, and minimize waste and water consumption.

And we have set an ambitious goal for ourselves: We want 40% of our sales to come from sustainably advantaged products and processes by 2025.

2021 Highlights

38%

of sales are from sustainably advantaged products, with a goal of 40% by 2025

36,000+

individual products were identified as sustainably advantaged based on 2021 sales

100%

of raw materials reviewed through our global hazard evaluation (GHE) prior to use in manufacturing

In 2021, we continued to improve our stewardship processes to identify and reconsider the use of certain substances in our products.

In addition to implementing this new methodology to help better determine the sustainable benefits of our products, we also introduced new sustainably advantaged products in 2021 that will help our customers meet their sustainability goals. Furthermore, our new product methodology will provide substantiation for consumers to make buying decisions based on sustainable attributes. And to ensure we continue to build our pipeline of innovation, we expanded our partnerships with government and academic institutions.

Our efforts to improve the safety and sustainability of our products support our ability to contribute to several UN Sustainable Development Goals (SDGs), including 3 (Health and Well-being), 6 (Clean Water and Sanitation), 7 (Clean Energy), 9 (Industry, Innovation and Infrastructure), 12 (Sustainable Consumption) and 13 (Climate Action). As outlined overleaf, we have also begun to assess the value contribution of PPG solutions towards the SDGs.





Game-changing products and innovation

Today, from smart coatings that absorb pollution to heat-reflecting technology borrowed from eggplant biology, we make coatings that are transforming everything—from the places in which we work to the vehicles we drive.

A few snapshots from our journey creating game-changing products follow.

A timeline of select innovation

Electrocoat reduces waste and energy use in the automotive industry and beyond

Opposites do attract. And when they do, a little paint and energy can go a long way.

In 1961, we developed a new technology called electrocoating (Ecoat). Today, Ecoat is considered the gold standard in automotive OEM paint shops around the world, protecting more than 800 million vehicles and counting.

Ecoat uses electrical current to deposit charged paint particles onto an oppositely charged part submerged in a water-based solution. The amount of electricity flowing through the tank tightly controls how much paint is deposited, resulting in reduced product waste.

Ultrafiltration can recover more than 98% of the paint that is carried out of the tank and into the rinse stages. Ecoat technology also provides superior salt spray, humidity and corrosion resistance, and a smooth, defect-free film that enables world-class topcoat finishes.

Since the introduction of Ecoat for the automotive industry, we've refined and expanded this offering to other customers, including those in the industrial and aerospace industries.

Watch our video [here](#).



Waterborne refinish system opens the door for the automotive refinish industry to go greener

Our automotive refinish and OEM customers need solutions that support their need to comply with low volatile organic compound (VOC) regulations—all without sacrificing performance.

In 1986, PPG introduced the industry's first waterborne refinish system for vehicles. Since then, we've introduced several systems that outperform traditional solvent-borne options while delivering sustainability benefits. Refinish waterborne systems, which include the PPG ENVIROBASE®, PPG NEXA AUTOCOLOR® and PPG AQUABASE® systems, replace solvents found in traditional basecoats with water, decreasing odor and improving air quality in the work environment.

For example, PPG Envirobase improves facility air quality by reducing VOCs by 80% compared to solvent-borne paints, all while delivering superior color accuracy and durability.



Compact process B1:B2™ reduces energy consumption up to 50%, emissions up to 35%

In 2006, we introduced our *B1:B2* process, revolutionizing the traditional automotive paint process.

In the traditional automotive paint process, the application of pretreatment and Ecoat is followed by a primer layer. After the primer layer is cured, a topcoat layer of basecoat and clearcoat is applied and cured.

We were the first to introduce a *B1:B2* Compact Paint System, which moves the traditional primer application into the topcoat booth, eliminating the dedicated primer booth and all related processing. The B1 layer provides primer, filling, anti-chip and durability benefits. The B2 layer provides color and additional durability. Both the B1 and B2 layers are applied wet-on-wet and do not require a baking or heated dehydration process in between.

The system reduces a paint shop's energy consumption – which is typically among the highest areas of energy consumption in an auto manufacturing plant – by up to 50% and its carbon footprint by 35%, while simultaneously improving efficiency.

Rethinking coatings in the aerospace industry to support sustainability commitments

Over the last several decades, PPG has continued to introduce new innovations that are helping the aerospace industry improve performance and sustainability.

In 2007, we delivered the industry's first electrochromic passenger and door windows. First used on the Boeing 787 Dreamliner, the windows allow passengers to electronically shade their windows, cooling the cabin and reducing the amount of air conditioning needed, ultimately lowering fuel consumption and increasing energy efficiency.

In addition, leveraging technology originally developed for our OEM customers, PPG introduced the first electrocoat in the aerospace industry. The [PPG AEROCRON®](#) electrocoat primer offers customers the sustainable benefits of being a non-chrome product with virtually 100% material utilization.

Watch our video [here](#).





Case Study: Aerospace Impact

Through our suite of products and technologies, we are contributing to the aerospace industry's net zero journey.

Lighter, faster and cooler: Rethinking coatings in the aerospace industry and supporting net-zero commitments			
Industry challenge	PPG innovations	Impact	SDGs impacted
<p>In 2021, International Air Transport Association (IATA) members committed to achieve net-zero carbon emissions by 2050. Reaching this goal requires targeting causes of excess fuel and energy use, which can be exacerbated by wind resistance, weight and heat.</p>	<p>Numerous PPG innovations are helping the airline industry reduce aircraft weight and energy use to help reach its goal of net-zero greenhouse gas emissions. A few include:</p> <ul style="list-style-type: none"> Our first-to-market heat-management system exterior coating, which reduces air conditioning use and related energy. The exterior skin remains up to 25° F cooler and the interior cabin temperatures are reduced five to seven degrees. Watch our video here. Electrochromic windows: In 2007, we delivered the industry's first electrochromic passenger and door windows. First used on the Boeing 787 Dreamliner, the windows allow passengers to electronically shade their windows, cooling the cabin and eliminating the weight of traditional plastic shades. Structurally loaded composite cockpit windows: transparencies that do not require a frame and therefore reduce aircraft weight by an average of 9%. PPG OPTICOR® advanced transparency material: Optically transparent, the material can be cast in a wide range of thicknesses and shapes to reduce aerodynamic drag and improve aircraft aerodynamic performance. PPG DESOTHANE® HD/CA 9008 basecoat/clearcoat system: This coating system offers improved durability, faster processing times and weight savings for reduced energy and fuel consumption PPG AEROCRON® electrocoat primer, the first in the aerospace industry, offers faster processing times, reduced cost compared to existing spray applied primers, and weight savings for reduced energy and fuel consumption, all while being a waterborne, low-VOC coating. 	<p>Total solar reflectance for darker colors typically increased from 5% to 30% with solar heat management coatings.</p> <p>Read more about how we are helping our aerospace customers meet their sustainability goals.</p>	  

Learn more about some of our innovative and [sustainably advantaged products](#) introduced in 2021.



How We Do It

Our approach to developing safe and sustainably advantaged products and processes is built upon more than a century of research and development and rooted in environmental and product stewardship.

In 2021, we continued to expand our efforts to incorporate safety and sustainability into product development, bringing a more holistic and systematic approach to processes we've built over the last several years. We also created several new positions within our dedicated sustainability organization led by our newly appointed vice president of global sustainability, including customer sustainability business partner roles, responsible for working with commercial, product management and technical functions to explore areas of innovation that drive increased sustainability benefits for PPG's customers, products and services.

Sustainably advantaged products

A central aspect of our product development process is considering how we produce and what we produce. How we produce our products impacts our sustainability goals. What we produce impacts the sustainability goals of our customers and the sustainable benefits of the end product.

Learn more about our latest [sustainably advantaged products](#).

Partnerships for innovation and research

From automotive to aerospace, we invest in partnerships that are revolutionizing coatings and making our products and our customers' products safer, stronger and more sustainable. We partner with customers, suppliers, academic institutions and other public and private entities to advance sustainable initiatives and technologies.

In 2021, we partnered with several government agencies and academic institutions on products that improve safety, reduce weight and fuel use, and protect mission-critical equipment and vehicles under extreme conditions.

Learn more about how we are [working with organizations](#) from all sectors to create new and more sustainable innovations.

Product stewardship

We take responsibility for minimizing the human health and environmental impacts of our products throughout their entire life cycle. We actively seek to avoid using chemicals of concern in new products, and we have been successful in removing these substances from many existing products through reformulation. We publicly communicate transparent and comparable information about our products, including through independently verified life-cycle assessments (LCAs), validated environmental product declarations (EPD) and health product declarations (HPDs).

In 2021, we continued to improve our product stewardship processes and systems. This includes enhancements to our Product Stewardship Management System and review and audit processes based on extensive benchmarking. We also introduced a new system, the Emerging Issues (EI) tool, to stay up to date on compliance and other regulatory issues.

Learn more about how we are [addressing the health and environmental impacts](#) of our products.



Sustainably Advantaged Products

Our products and processes help make our customers – and the world – more sustainable.

PPG has been an industry leader for nearly 140 years, providing its customers with inventive and trusted paints, coatings and specialty materials. And we continue to be a pioneer in developing industry-leading technologies that solve the needs of our customers' biggest challenges year after year.

2021 Highlights



In 2021, we introduced a new two-step methodology to identify sustainably advantaged products to support our ability to:

1. Systematically validate basic sustainable attributes likely to impact PPG products today and in the future; and

2. Assess the value contribution of PPG solution towards the UN Sustainable Development Goals. The assessment provides absolute data pertaining to a product's sustainability attributes, giving PPG credible, objective information to better understand and capture a product's quantifiable sustainability value.

New Methodology to Identify Sustainably Advantaged Products

Value Contribution to UN SDGs



- Food
- Water
- People & health
- Energy
- Infrastructure and cities



Systematic Review of Product Attributes

- Energy use reduction
- Emissions (air, water, soil) reduction
- Toxicity reduction
- Improved use of resources
- Extended useful lifetime



Meet our newest sustainable innovations

Whether our customers want to have a barrier of protection through antimicrobial paint, use our coatings to manufacture furniture, improve road transportation or set out to sea, we continue to provide innovative sustainable solutions that support various industries.

A few of our newest sustainably advantaged products are as follows.

Antibacterial and antiviral products provide an extra layer of protection

The COVID-19 pandemic raised many questions about how the built environment—residential and commercial—could and should do more to protect occupants from harmful pathogens, increasing awareness for the benefits of antibacterial and antiviral coatings.

In 2021, PPG launched two new interior coatings that provide a barrier from common viruses and bacteria. These paints are ideal for application in homes, hospitals, schools, nursing homes, restaurants, processing plants and retail establishments.



- [**PPG COPPER ARMOR™**](#) antimicrobial paint powered by Corning® Guardian® technology is the first paint of its kind in the U.S. It uses naturally-occurring copper to kill 99.9%* of bacteria and viruses within two hours of exposure, including the virus that causes COVID-19, MRSA, Staph, E. coli and others for up to five years.

* Kills 99.9% of bacteria *Staphylococcus aureus* (Staph), *Pseudomonas aeruginosa*, *Enterococcus faecium*, *Klebsiella pneumoniae*, *Acinetobacter baumanii*, *Enterobacter aerogenes*, Methicillin-resistant *Staphylococcus aureus* (MRSA), Vancomycin-resistant enterococci (VRE), *Escherichia Coli* (E. coli), and *Salmonella*, and viruses *Feline Calicivirus* and SARS CoV-2 within 2 hours of exposure to paint surfaces.

- [**COMEX® VINIMEX® TOTAL**](#) antiviral and antibacterial paint reduces 99% of bacteria and viruses responsible for the most common gastrointestinal and respiratory illnesses, including Influenza A H1N1 and SARS-CoV-2. The paint also kills E. coli, Staph, Salmonella and other pathogens. Comex Vinimex TOTAL Antiviral & Antibacterial paint's effectiveness at reducing bacteria and viruses on the dry paint surface within two hours has been verified by independent laboratories using globally recognized testing standards, such as ISO 21702



Safer battery coatings reduce risks and enable the electric vehicle revolution as consumer preferences change

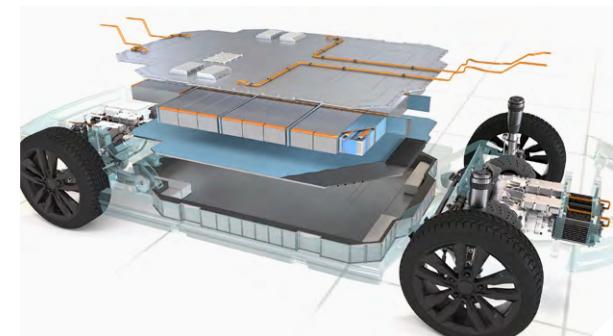
Corrosion, thermal runaway events, arcing, and shorting events in electric vehicle (EV) battery packs can put battery operation and passenger safety at risk. EV and battery manufacturers need coating solutions that balance protection with performance.

PPG has developed a broad range of innovative coatings and specialty materials that advance vehicle manufacturers' electrification strategies and support improved battery safety, performance and lifetime, while simplifying manufacturing and reducing cost, all aligned with PPG and many of our customers' sustainability efforts.

For example, PPG is working on several innovative coatings to protect EV batteries from fire, dielectrically isolate high voltage systems and manage thermal events, including:



- PPG CORACHAR™ SE 4000 Battery Fire Protection material, protects the battery pack components if a thermal event occurs by compartmentalizing the event for a period of time to allow safe egress and response, improving safety for passengers and first responders. These solutions can be efficiently applied in mass production and are suitable for various battery electric vehicle applications.



- PPG ENVIROCRON™ Extreme Protection Thermally Conductive Powder Coatings bring dielectric protection and thermal conductivity together into a single multipurpose coating. PPG's proprietary technology enhances battery thermal management system (BTMS) efficiency while providing exceptional electrical isolation of battery cells and BTMS components, mitigating arcing and shorting events altogether while improving battery performance and passenger convenience and safety.

These 100% solids, solvent free coatings systems are designed to minimize emissions and minimize waste. Watch our videos on mobility coatings developments [here](#) and [here](#).



Pavement solutions help make traffic safer



For safer rides on the road, our Traffic Solutions business developed THERMODROP®, a pelletized thermoplastic road marking paint that is environmentally cleaner to apply and provides better striping production efficiency compared to other products currently used in the industry.

This product's sustainability is made possible through the use of beads that are made of 100% recycled glass. The *ThermoDrop* coating offers quantifiable environmental benefits to our customers based on its cleanliness when transferred to kettles and handliners used to apply the product. Further, this product's safety and health risks are minimal due to minimal dusting during application.

The *ThermoDrop* product makes it possible for our customers to reduce their environmental impact via an estimated 35-45% reduction in fuel costs, 30-40% reduction in labor costs, and 30% increase in productivity and profitability.

LINEGUARD™ Coatings help industrial paint lines improve water conservation and waste generated

Automotive assembly plants and other industrial equipment paint lines need to maintain paint equipment to ensure quality of coatings application and a safe operating environment. These maintenance activities can be both time- and resource-intensive, as removal of applied coatings is difficult to do efficiently and often requires large quantities of water using high pressure cleaning equipment.



Listening to our customers and knowing the challenges of ongoing maintenance, PPG developed and introduced PPG *LineGuard* coatings and application services—a comprehensive line of technologies that are proven to resist adhesion to and buildup of paint. These products were created specifically to help paint lines dramatically reduce the time, cost, risk, excessive water use and waste associated with cleaning and maintaining equipment.

LineGuard coatings:

- Include non-stick properties, so they don't require high water pressure for cleaning, reducing employee exposure to hazards of using high pressure tools; and
- Are suited for a wide variety of paint shop equipment, from vehicle carriers to floor grids.

Through the use of these coatings, customers can see up to a 75% maximum reduction of cleaning cycles, bringing significant savings in labor and materials, energy, water and waste removal.





COMEX® paint made from recycled materials saves 270,000+ tires from landfills



PPG's Comex business is contributing to the circular economy through its new TOP recycled tire paint for DIY and professional painters. Intended for application on roofs, the product provides thermal insulation and waterproofing, resulting in emissions reduction through energy savings.

270,000

tires recycled since the product's inception in 2021.

Ergonomic spraying solutions help reduce stress



Our HOMAX® TEX>>PRO™ product is a breakthrough sprayer system that reduces the weight of the tool by 60% – roughly 15 pounds – compared to traditional hopper spray guns.

When fully loaded, the 10-pound *Homax Tex>>Pro Texture System* eliminates the need to use bulk materials and increase ease of use and convenience for professional contractors and do-it-yourself customers, compared to heavy, traditional hopper spray guns. Last year, because of its ergonomic and innovative design, *Homax Tex>>Pro* sprayer system won PPG's internal [Ergo Cup](#) competition.



GREENGUARD® certified adhesive technology provides initial grip and long-term strength



Builders, contractors and painters can further reduce their environmental impact with our newest adhesive innovation, LIQUID NAILS® FUZE*IT MAX™ product by PPG. Delivering the strongest bond from start to finish, the product offers five times the initial grab and long-term hold of previous products and bonds nearly any material in all weather conditions. *Liquid Nails Fuze*It Max* adhesive offers easy application and can be applied in temperatures ranging from 0 up to 140 degrees Fahrenheit. The adhesive's low volatile organic compound (VOC) formulation enables its Greenguard Gold certification to help contractors attain points under current green building programs.





Architectural solutions help address infrastructure sustainability challenges



Architects have long relied on traditional fluoroethylene vinyl ether (FEVE) powder coatings to protect and visually enhance architectural extrusions and sheet metals. The low transfer efficiency rates in these coatings have forced many to use more product, leading to higher cost.

In addition, standard FEVE powder systems are one-coat solutions in the market with no primer. Corrosion resistance of these systems is highly dependent on metal and surface preparation. CORAFLON® Platinum is formulated to improve adhesion to metal and corrosion resistance as a one-coat solution, leading to significantly improved corrosion protection for all installations, including those in highly corrosive environments, such as seacoast and industrial. This performance reduces metal degradation and the need for frequent reapplication, which is a source of waste and environmental impact.

We introduced the new PPG *Coraflon* Platinum FEVE powder coatings designed to address challenges and reduce waste and environmental pollutants.

Coraflon Platinum coating features:

- Significantly high transfer efficiency rates, which are more than 20% higher than standard FEVE powders;
- Improved corrosion resistance backed by years of third-party testing; and
- Designs that stand up to strict environmental Standards.

In addition, the product is specifically formulated without:

- Triglycidyl isocyanurate (TGIC)
- Perfluorooctanoic acid (PFOA)
- Fluorosurfactants
- Volatile organic compounds (VOCs)
- Hazardous air pollutants (HAPs)
- Living Building Challenge (LBC) Red List substances
- REACH compliant – Substance of Very High Concern (SVHCs)

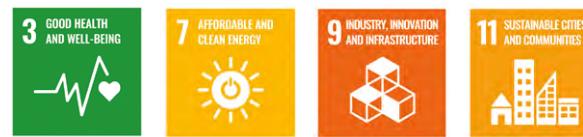




Unique hybrid coating for metal furniture adds styling and sustainability benefits



ErgoLuxe Eco coatings are designed to protect and beautify office furniture and are available in a wide range of colors, textures and metallics. Environmental benefits include lower VOC emissions when compared to traditional liquid coatings, higher first pass transfer efficiency rates up to 85% and overspray reclaim and reuse.



Traditional liquid and solvent-based coatings for metal office furniture may contain harmful substances and VOC emissions. They also have a low transfer efficiency rate, meaning it may require more passes and more product to achieve a complete coating. Additionally, over-sprayed coatings traditionally cannot be captured and reused, therefore creating waste.

Launched in April 2021, PPG ERGOLUXE™ and *ErgoLuxe* Eco powder coatings provide a protective and luxurious finish for office furniture. While both offer the sustainable benefits associated with powder, *ErgoLuxe* Eco powders offers a unique formulation containing up to 14% post-industrial recycled plastic (rPET). Customers have relied on our sustainable rPET technology for years, with more than 6 million pounds used since its introduction in 2017.



Partnerships

We believe in advancing sustainability through collaboration.

We partner with customers, academic institutions and other public and private entities to advance sustainable initiatives and technologies. Here are some highlights of our recent work.

Collaborating with Army Research Lab and academic partners to create more environmentally conscious coatings

In 2021, PPG began a new program with the U.S. Army Research Laboratory to develop enhanced coatings for environmental sustainability. The program has a suite of projects designed to develop high performance polymers for key Army ground applications, including using bio-based materials, reducing the use of toxic compounds such as isocyanates, exploring methods to reduce solvent usage in corrosion protection coatings, and finding novel ways to reduce microbial contamination. These projects are all aimed at extending the useful life of military equipment and protect the health and well-being of service members.

PPG's land-based defense research team is working with the University of Virginia for fundamental understanding of corrosion mechanisms that will help with more sustainable primer and topcoat development. PPG is using star-shaped "hyperbranched" polymers that can lower the viscosity of paints, which in turn reduces the amount of solvents needed in solvent-borne coatings.

We are researching new approaches to reduce microbial contamination on high-touch surfaces, which will improve health and safety while reducing the use of hazardous biocides. In addition to incorporating antimicrobials into our coatings, an alternate strategy is to modify the coatings surface to make it hard for bacteria and fungi to stick. The University of Wisconsin, Madison is partnering with PPG's research team to develop screening and test methods to quantify the

effectiveness of PPG's antimicrobial prototypes. If successful, these coatings would reduce the need to use more hazardous biocides to keep surfaces clean. This research will help to deploy multiple layers of protection against common viruses and bacteria, which is increasingly important in a post-COVID world as customers are aware of the many contaminated surfaces they interact with every day.

Partnering with the U.S. Army to improve vehicles and coatings

For several years, we have been working with the Ground Vehicles Systems Center (GVSC) on a range of mission-critical technologies and innovations, from easy-to-clean coatings for military ground vehicles and mobile robotics systems that keep sensors clean and functioning through extreme conditions, to 3D printing to produce parts on demand.

Recently, PPG has been working with GVSC to develop silica-filled elastomers for Army vehicle track pads which would improve energy management by 20% and improve tire durability by 30% over current compounds. Silica fillers are known to provide better energy management performance compared to traditional carbon black fillers by reducing hysteresis, a measure of the energy lost when rubber deforms. This improved energy management translates to less fuel needed to move a vehicle. Greater durability, reliability and performance have a compelling advantage, enabling troops to reduce maintenance costs and alleviate demands on personnel, all while improving safety.



PPG silicas are already improving the performance of passenger car and truck tires through our AGILON® performance silica and PPG HI-SIL® silica product lines. In this program we are looking at silica's potential to improve rubber durability for much larger vehicles. Tires impact a vehicle's energy efficiency and the driver's overall experience. When paired with PPG's silica-filled elastomers, drivers experience improved energy management, which reduce fatigue, increase tear resistance and toughness, and manage energy and fuel consumption more efficiently.



Rubber track pads on tank treads carry heavy loads in challenging environments. PPG silica has been used in prototype rubber compounds that were scaled up, formed into pads, and tested for durability.

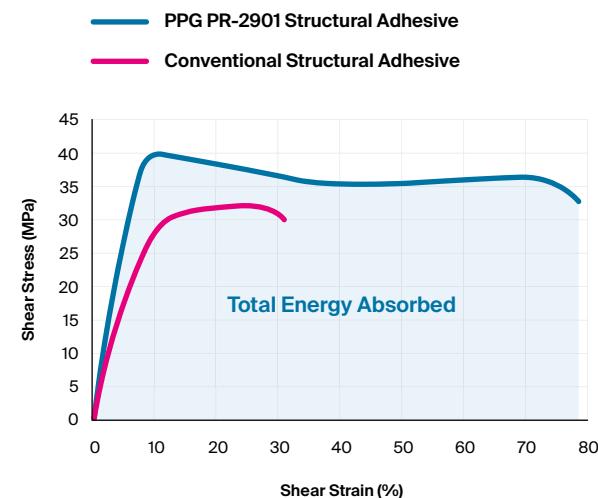
Proving adhesives can be light, flexible and strong

The U.S. military is constantly looking to reduce weight in ground combat vehicle platforms, through a unique design and assembly of alternative materials. Unlike traditional joining methods such as welding and bolting, the lightweight design of PPG-manufactured adhesives reduces stress on a vehicle's joints and minimize the likelihood of corrosion, prolonging its lifespan. Delivering lightweight solutions is as important for commercial and passenger vehicle manufacturers as improved fuel efficiency. According to the U.S. Department of Energy (DOE), a 10% reduction in vehicle weight can lead to a 6-8% improvement in fuel economy.

In order to meet the rigorous performance demands of military vehicles, adhesives also need to be both strong and flexible. In a survey of all available adhesives, Army researchers found that traditional adhesives could be either strong or flexible—but rarely both. They worked with PPG to develop a new adhesive technology, PR-2901, that exceeded their expectations by delivering extreme adhesion while still absorbing the amount of energy necessary to have a blast-resistant bond. It has a 40% increased strength and 80% increase in strain-energy density compared to any previously tested adhesive for armor bonding.

But our R&D team isn't stopping there. Their work continues to improve the adhesive by developing versions that cure at lower temperatures. Lower curing temperatures mean less energy is consumed in the manufacturing process, while also expanding how and where the adhesives can be used.

The ultimate goal is an adhesive that cures at ambient temperature, which will expand potential applications for the adhesive to bonding materials that can't be baked in an oven.



PPG's PR-2901 adhesive can absorb significantly more energy under stress, making it stronger without being brittle.

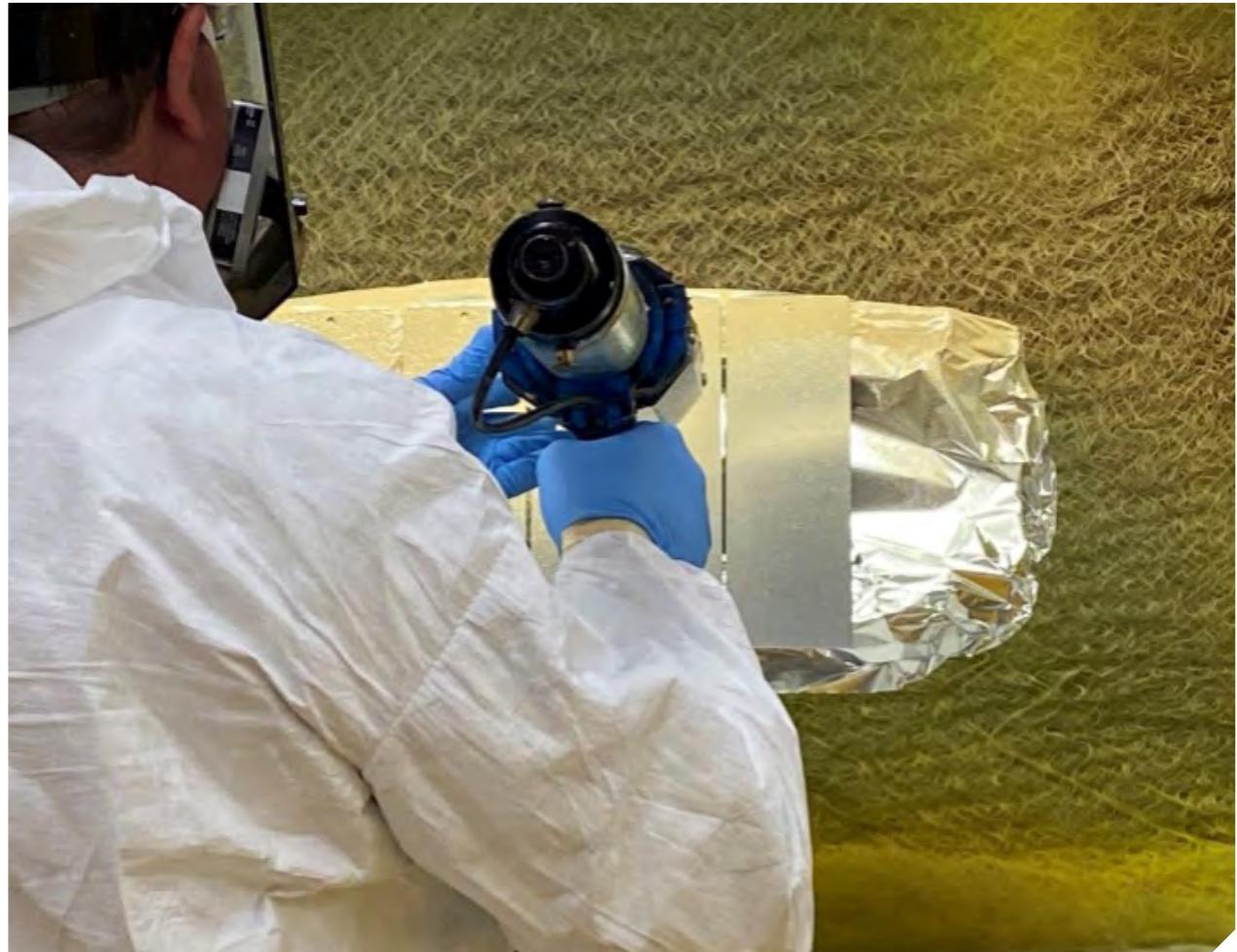


Partnering with the Army's Construction Engineering Research Lab (CERL) to create tough coatings

Protection in extreme environments with applications in less-than-ideal conditions can often be a challenge for customers.

Our partnership with the Army's Construction Engineering Research Lab (CERL) and their Cold Regions Research and Engineering Laboratory (CRREL) furthers our efforts to create innovative coatings that can withstand harsh environments. The CERL is the ideal partner to test our research with its high-quality facilities and weather equipment to simulate harsh terrain.

The ability to store, transport and build products across a variety of weather conditions yields new opportunities for military personnel and companies alike. Our research will develop new applications for civilians in the construction industry looking to paint throughout all four seasons, and for military operations in extreme weather climates. One path to more robust coatings is to modify polymers like polyurea, which is a spray-applied coating system that combines a resin with a cross-linking catalyst to create a tough coating that cures instantly. We will research these and other avenues to create stronger coatings, and also identify opportunities to avoid the logistical complexities and reduce emissions from shipping products in heated trucks or delivering to heated shipping docks.



A researcher sprays a prototype polyurea coating on panels for evaluation of extreme cold weather performance.



Working with Tennessee's Oak Ridge National Laboratory to build a safer, more sustainable vehicle

Through our continued partnership with Tennessee's Oak Ridge National Laboratory, we are developing new methods of manufacturing electrodes for lithium-ion (Li-ion) batteries to improve battery efficiency and reduce a workers' exposure to solvents in battery manufacturing.

We have been using our expertise as the first company to commercialize cathodic electrophoretic deposition – what we call electrocoat, or e-coat – to inform the development of advanced battery materials for electric cars and commercial vehicles.

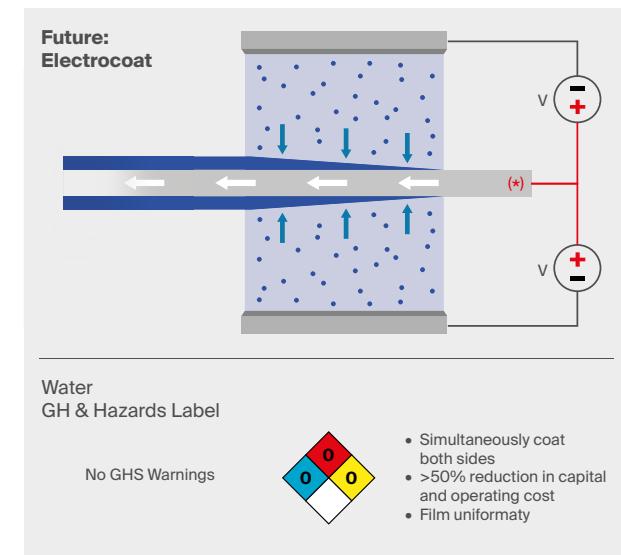
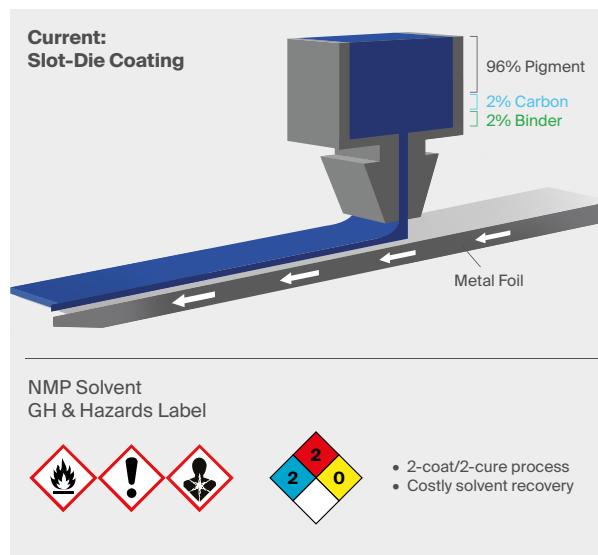
While e-coat technology has been used traditionally to provide corrosion protection for vehicle panels and components, the research will focus on developing two versatile, high-output processes for producing battery electrodes. That, in turn, would help improve the efficiency and lower the cost of vehicle batteries, thus enhancing the commercial appeal of battery-powered electric vehicles (BEVs). The Department of Energy (DOE)-supported project is part of the department's Energy Storage Grand Challenge to create and sustain global leadership in energy storage utilization and exports.

In addition to showing promise for greatly improving battery production efficiency, the new processes would eliminate the use of the solvent N-Methyl-2-pyrrolidone (NMP) in producing the conductive-carbon slurry that forms cathodes for Li-ion batteries. NMP, which is widely used in electrode manufacturing, has been identified as a reproductive hazard by

several global regulatory agencies and was recently identified by the U.S. Environmental Protection Agency (EPA) as an "unreasonable risk" to workers in certain conditions. Through this project, we are also exploring how our NMP-free binders can be used in novel manufacturing processes and methods to create advanced battery electrodes.

Electrodeposition Process

Using new manufacturing processes can increase efficiency and lower the cost of making lithium-ion batteries.



Electrodeposition to overcome current process barriers



Going with the flow: Developing more sustainable resins

Approximately 80% of the global coatings market consists of waterborne technologies, which are considered sustainably advantaged versus solventborne coatings. However, many waterborne coatings still contain and require volatile organic compounds (VOCs) or solvents for product performance. In order to reduce VOCs in our products and expand our waterborne offerings, new resin approaches are needed to maintain performance, remain competitive and continue to evolve the sustainability profile of our products.

A majority of waterborne coatings contain acrylic-based latex resins. These resins give the coatings desired physical properties, ensure shelf-life stability, and enable their aesthetic appearance. Developing latex particles, which provide necessary properties in the absence of solvents, is a significant challenge.

In partnership with Northwestern University, we are researching opportunities to alter the properties of latex particles to reduce VOCs in waterborne coatings. Specifically, we sought to fill a gap in our understanding of how resin design influences the resin architecture, and how the flow properties of materials can impact a number of performance factors—from leveling, to adhesion, to shelf-life stability.

Prior to this project, we were able to impart design features into our resins and test the coatings' response but were unable to see how these modifications changed the overall resin architecture, and how that architecture then changes when exposed to environmental factors. As part of our research with Northwestern, we analyzed latex response to a variety of solvents using small angle x-ray scattering, an analytical technique used to study latex particle structure, to understand how they might be used to reduce solvents. Proof of concept work was completed and the knowledge gained will allow PPG to design resins that will enable the development of low- and zero-VOC systems.





Product Stewardship

We are the stewards of our products throughout their life cycle.

We take responsibility for minimizing the human health and environmental impacts of our products throughout their entire life cycle. The focus areas below outline our multi-faceted approach to product stewardship.

2021 Highlights



In 2021, we continued to improve our product stewardship processes and systems. A few examples of our activities include:

- Enhanced our Product Stewardship Management System and review and audit processes based on extensive benchmarking;
- Introduced a new system, the Emerging Issues (EI) tool, to identify, track and monitor emerging issues from various sources around the world including proposed regulations, non-governmental organizations (NGOs), societal trends, and customers;
- Expanded our use of Substance of Interest (SOI) Scorecards, which include a visual for forecasting the hazards, regulatory status and stakeholder concerns for substances that are critical to our businesses; and
- Continued to increase the number of declarations of substance composition and lifecycle assessment information to support customers achieving certifications and declarations of their products required by green building schemes.

Read on to learn more about product stewardship at PPG.



Continuous Improvement

Our Product Stewardship Management System, which includes product stewardship implementation tools, is the bedrock of our process. To ensure sustainable business practices, the management system's nine elements cover the full scope of the product life cycle, including product development through hazard communication, chemical regulatory compliance, transport of dangerous goods and customer response to end-of-life requirements.

We conduct an annual management review in each business to drive continuous improvement and ensure that any critical gaps are closed by a robust action plan. We supplement this process with compliance assurance audits that focus on key business risks. All businesses are audited on a three-to five-year cycle. In 2021, we were able to complete product stewardship audits on five businesses in three regions.

We continued to conduct extensive benchmarking with industry peers in 2021, and we incorporated significant learnings into our Product Stewardship Management System and review/audit processes.

Hazard Communication

Our centralized Global Product Stewardship (GPS) system manages the data required to author hazard communication documents.

In accordance with Globally Harmonized System for Classification and Labeling (GHS) classification principles, an internationally agreed-upon standard managed by the United Nations, we use a global hazard evaluation (GHE) process to assess and review 100% of our raw materials prior to them being used to safely manufacture our products and before we develop safety data sheets (SDS). Our GHE process reviews a raw material's impact on human health, physical and chemical properties, environmental impact and compliance with global regulations and PPG policies. Each PPG product formula is automatically transferred to our GPS system, which then provides an on-demand GHS-compliant SDS and a hazard warning label. These labels are available in many languages and meet the regulations of the more than 70 countries where we do business.

The GHS classifies substances for health, physical and environmental hazards. In 2021, 80% of PPG products sold globally in 2021 were scored using a new methodology to determine the degree to which they were sustainably advantaged. The methodology includes an assessment for UN GHS Category 1 and/or 2 hazard warnings on products and of the products scored, 42% were not classified with hazards under GHS Category 1 or 2. We consciously choose lower hazards, especially in architectural coatings products due to their heavy use in consumer, commercial and residential projects.

Our automated email distribution for SDS is based on customer orders placed for our products sold around the world. Known as STAN (SDS Transmission and Notification), the system supports region-specific SDS distribution while offering increased functionality. This includes the ability to distribute an SDS for non-PPG manufactured products, automated distribution for the latest SDS after a major version change, and distribution of an SDS to multiple email addresses for customers.



We leverage the GPS data to support many other compliance and customer requirements. These include chemical inventory, PPG and customer restricted substances lists, and customer requests to support their sustainability programs. Using the global data allows us to quickly respond to customers and identify any potentially problematic or concerning substances.

The system is used frequently by many functions throughout PPG, including product stewardship, product development, supply chain, manufacturing and marketing.



Chemical Inventory Compliance

To ensure compliance, we maintain a robust central management system for notifications to the regulatory authorities, including those that oversee Registration, Evaluation, Authorization and Restriction of Chemicals in Europe (EU-REACH).

Much of our technical leadership is based on the development of polymers. Our regulatory team works closely with our polymer chemists, advising them on the design of polymers for regulatory compliance and providing support at all stages of the development process.

This early involvement allows us to complete the registration process in any of the nine country inventories that require polymer notification well ahead of product launch, enabling us to get our products in-market faster.

Regulatory and Emerging Issues

In parallel to our GPS system, we maintain a simple-to-use matrix that details regulatory requirements for all countries where we do business. This is supported by detailed procedures for compliance, including customer use requirements. Examples include food contact, restriction of hazardous substances (RoHS), volatile organic compound (VOC) emissions and items intended for use by children.

Continuous monitoring of emerging issues and regulatory changes and a project management process to implement changes to our compliance procedures ensure that we have no business interruptions. We recently launched a new tool to facilitate the early identification of issues with regulatory and financial impact to our businesses and provide a way to prioritize those that are most impactful. For high-impact issues, we have implemented strategic management plans to manage the impact to PPG related to substance deselection, regulatory changes and end-use restrictions. Combined with improved workflow management and close linkage with the research and development community, this tool will further position us as a proactive business partner to our customers.

Leveraging technology to improve awareness and compliance

In 2021, we launched our Emerging Issues (EI) tool to stay up to date on compliance and other regulatory issues. Because businesses are evolving in a fast-changing and complex environment, we recognized the need to be faster, smarter and more agile. EI helps us anticipate regulatory changes to capitalize on business opportunities while driving early compliance with regulations.

When we receive inquiries from customers, non-governmental organizations (NGOs) or agencies, or when social interest is detected, PPG employees can enter an issue in our EI tool for review. As part of the planning process, members of the EHS Product Stewardship team analyze the issue to determine its risk and potential impact on PPG. From there, the team develops a monitoring or action plan that may include advocacy with trade associations or governmental agencies. Plans can also include business, technical or manufacturing activities to help PPG maintain compliance or explore new business concepts.



Food Contact

The PPG Global Community of Expertise (CoE) for food contact regulatory compliance aligns with our approach to standardize processes and procedures in support of each of our businesses.

The Food Contact CoE leverages existing practices and tools for a fine-tuned approach for our food contact coatings. It is tied into early research and development (R&D) to ensure safety by design, and it will keep sustainability aspects in mind. Additionally, the Food Contact CoE monitors new regulations related to the Green Deal/CSS to ascertain any impacts to the business.

We will continually update our approach with new and relevant information when regulations and public concerns arise. We also provide input for internal stakeholders such as the PPG Substance of Interest (SOI) and Restricted Substance List (RSL) programs.

Toxicology

Toxicology is an integral component of sustainable product development. We endorse the principles of green toxicology, which describe the application of predictive toxicology in the design, manufacture, use and disposal of new materials and chemicals.

Green toxicology complements green chemistry, which has the objective of contributing to the development of products that are safer for humans and the environment by using predictive toxicology testing.

Green toxicology broadly supports green chemistry by providing tools to assess hazards so that more sustainable, less-toxic products can be developed. Green toxicology directly applies to principles 3, 4 and 10 of green chemistry – less hazardous chemical synthesis, designing safer chemicals and design for degradation.

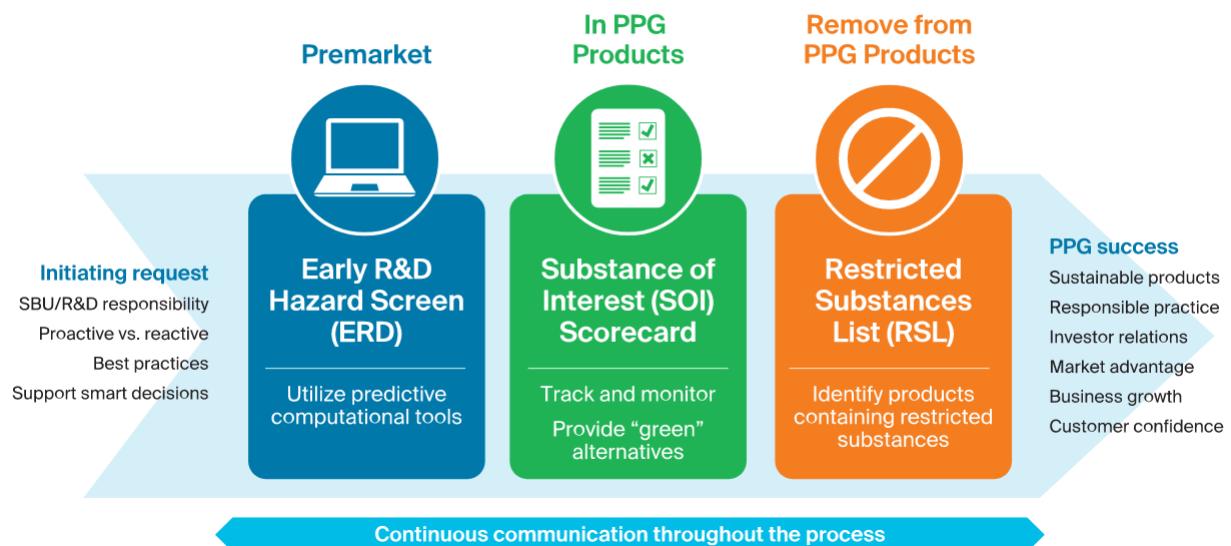
To achieve these goals, chemists must have tools and processes to evaluate hazards. We use various validated methods to assess hazards that can be applied early in product development. An example is new approach methods (NAMs), which include computer-based modeling and cell-line-based testing to assess hazards.

We support global efforts to reduce animal testing, as this is a pillar of ethics-based sustainability. Our animal welfare policy is available on ppg.com.

We use three toxicology processes to evaluate and monitor substances used in our products – Early R&D (ERD) Hazard Screen, Substance of Interest (SOI) Scorecard and PPG RSL.

Driven by global, cross-functional committees, these three processes are linked to monitor and manage health and environmental risks of raw materials throughout the development and commercialization of our products.

Corporate Toxicology Tools – Linking Process





ERD Hazard Screen

During a new product's R&D phase, we assess the hazard of raw materials and potential byproducts using a hazard screen process. In 2021, we completed more than 66 of these early screens to guide our R&D chemists during product development. Following a product's commercialization, we may develop an SOI Scorecard incorporating this assessment and any new hazard information to further guide our businesses.

SOI Scorecard

Our SOI Scorecard includes a visual for forecasting the hazards, regulatory status and stakeholder concerns for substances that are critical to our businesses. Its purpose is to guide responsible product stewardship and build our confidence to further use those substances with low risk for a sustainable product portfolio.

During 2020, we semi-automated the SOI Scorecard with regulatory information to provide more frequent quarterly updates to our stakeholders. By the end of 2021, we had 163 scorecards tracking 228 substances, with some scorecards monitoring numerous substances within the same family. We created an additional 15 scorecards for substances or substance families in 2021.

We continually update our SOI Scorecards with new regulatory, scientific and market developments. When updated, we review substances for placement on the PPG RSL. Linking the two processes enables our technical community to begin the process of product reformulation prior to the inclusion of a substance on the PPG RSL.

PPG RSL

The PPG restricted substances list (RSL) establishes our current requirements for and restrictions on the use of certain hazardous substances in our products. PPG's RSL applies to all PPG products globally, including those sold in areas of the world that do not have chemical regulation programs.

PPG's RSL Program is based on an evergreen process that includes a review through which we evaluate substances for addition to the list and new information about substances already on the list. We also conduct periodic assessments (at least twice per year) of our RSL Program to ensure that it is being implemented in all of our businesses globally.

PPG's RSL Program is based on the principle of addressing the health and environmental risks of substances that we use, produce and sell. We identify substances for inclusion on the PPG RSL based on international conventions, country-specific requirements and substance-specific information. For example, the PPG RSL includes all substances covered by the Stockholm Convention on Persistent Organic Pollutants and industrial substances on the Rotterdam Convention Prior Informed Consent (PIC) list.

When substances are added to PPG's RSL, a target date for restriction or prohibition is established and progress to meet the target date is tracked biannually. Since PPG's RSL is applied to all PPG products globally even in areas of the world where there are no chemical regulation programs, it goes beyond regulatory compliance.

In 2021, we had 1,132 substances that were restricted for all uses in our products and more than 388 substances that were restricted for specific uses, such as in consumer products or medical devices.

The elimination of lead as an intentionally added ingredient in any PPG products is an example of PPG's RSL Program in action. For many years, lead has not been intentionally added to any of PPG's consumer products and in 2019, we achieved our goal of eliminating lead from all non-consumer products as well. PPG's non-consumer products contained lead as an intentionally added ingredient solely to meet the unique specifications of PPG's customers. Over the course of several years, PPG worked with those customers to develop alternative formulations that do not contain lead but achieve the same performance characteristics. We are now focusing on ensuring that lead is not used as an intentionally added ingredient in new products developed, as well as products that are added to PPG's portfolio through acquisitions.



Life Cycle Assessment

A life cycle assessment (LCA) is a scientifically recognized method for assessing the environmental and human health impact of products – from the extraction of raw materials to the disposal of a product at the end of life. An LCA covers a wide range of environmental and human health impacts, including most commonly reported impact categories such as climate change, measured by kg CO₂-eq per functional unit.

PPG's Product Sustainability (PS) CoE serves all businesses globally, enabling each to benefit from a scientifically sound calculation of the environmental and human health impact of its products. The CoE is focused on three areas to increase LCA/Product Sustainability assessment capabilities.

At the corporate level, the PS CoE engages with multiple software vendors and explores possibilities to develop tools, such as an automated LCA tool that can be integrated with everyday business processes and report product LCA information at the individual product level. As the chemical industry faces increasing demand for product specific LCA information along a company's value chain, PPG strives to become an early adopter to apply state-of-the-art system solutions for a more sustainable product.

Second, the PS CoE supports PPG's R&D community to understand a product's environmental and human health impacts during the product development stage.

Our simple recipe screening tool makes it easy for users to assess a formulation's environmental and human health impacts. Product developers can enter up to four formulations into the application and compare the life cycle impact across important environmental and human health indicators. Developers can integrate life cycle analysis into their product design and be proactive to choose a product formulation with the lowest life cycle impact.

Besides corporate level and R&D efforts, the PS CoE also supports our Customer Sustainability team to quantify a product's life cycle benefits that are realized in our customer's operations or in the use of products by our customers. This insight enables us to develop truly customer-focused sustainably advantaged products and avoid shifting environmental burdens to other parts of the value chain. One of the PS CoE's core capabilities related to customer support are generating Environmental Product Declarations (EPD) and Health Product Declarations (HPD). Our EPDs and HPDs are used to support our customers' sustainability efforts around the globe.

Advocacy

We are very active in industry organizations and public forums. We also engage with customers, non-governmental organizations, government agencies and other stakeholders to ensure that we understand their requirements and they, in return, understand our position and requirements for efficient and sustainable business operations.

Our advocacy efforts are global and encompass regulatory matters related to environment, health, safety and product stewardship.

We track and prioritize opportunities for advocacy based on risk and financial impact, and we rely heavily on our businesses to engage in our advocacy efforts.

To ensure alignment among our businesses and to provide direction on engagement, we have established the PPG Advocacy Steering Committee. The committee meets routinely to monitor the progress of current advocacy efforts and review new initiatives. Though there are numerous chemical-specific advocacy efforts underway, the following principles are applied to keep our messaging consistent:

- Sound science;
- Risk-based approach; and
- Practical solutions.

More specifically, we continue to engage with the U.S. Environmental Protection Agency (EPA) on matters related to TSCA implementation under the Lautenberg amendments, such as workplace chemicals management and risk assessment. In Europe, we are closely following the Chemical Strategy for Sustainability under the EU Green Deal to ensure we provide comments to advocate for risk-based, sustainable solutions supported by sound science. In other parts of the world, such as Latin America, we are advocating for a risk-based chemicals management strategy as countries prepare chemical inventories.



Product Stewardship Leadership Development

We have built our product stewardship resources over many years, and we continue to evolve to meet changing business expectations.

Our Product Stewardship organization is a centralized function to support our businesses and customers more efficiently and effectively. There are three main groups:

- Community of Expertise (CoE);
- Regional operations teams; and
- Product Stewardship business partners.

Our CoE experts provide regulatory monitoring and develop company requirements and tools to support the regional operations teams. These teams respond directly to internal and external customer inquiries, striving for efficiencies of scale. The product stewardship business partners focus on driving growth through product stewardship. They work directly with our businesses and have an intimate knowledge of business product portfolios and requirements.

As part of this reorganization, we launched a central workflow tool called Product Stewardship (PS) Pulse. All product stewardship requests are now initiated within the tool by PPG users globally.

PS Pulse provides a collaborative site for users to flow requests between all members of the product stewardship teams and escalate requests based on level of expertise required for response. Users are also provided with a central location for knowledge articles for self-help and education on various topics.

We deploy accessible and relevant training materials for all company stakeholders (technical, marketing, leadership), with on-demand or assigned access to training modules on all aspects of product stewardship.

Our Product Stewardship Training Matrix identifies more than 40 training elements, and the majority are available on-demand from our Evolve learning platform. In 2021, we recorded the completion of more than 5,000 training courses on product stewardship topics through Evolve.

To ensure regulatory compliance requirements are easy for our technical community to understand, we developed and continue to support an EHS Toolbox. This centralized compilation of links to information contained on our intranet makes it easy for users to access the right product stewardship tools.

The EHS Toolbox offers a roadmap of the resources designed for chemists and formulators to support product stewardship needs at every level of product development – from new raw material introductions to formulation changes in existing products – to reduce the risk of delayed product launch.

In addition, the Toolbox helps our chemists determine if their formulation is compliant for shipment to a particular country, find whether a substance in the formulation will likely be deselected from the marketplace and identify those substances that require hazard statements on a safety data sheet.





Green Construction

Coatings are used extensively in the building and construction market for protective and decorative purposes on the building itself and as part of components or machinery installed in the building.

We leverage data from our systems to produce declarations that support the requirements of green building schemes. These include the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®), Europe's Building Research Establishment Environmental Assessment Methodology (BREEAM®) and the WELL BUILDING STANDARD®.

Our LCA capabilities allow the in-house production of environmental product declarations (EPDs), which declare the environmental impact of the product over its entire life cycle.

To support LEED Material Ingredients reporting, we generate Health Product Declarations (HPDs), which outline the substances present and indicate the results of screening these substances against the HPD Priority Hazard Lists and the GREENSCREEN FOR SAFER CHEMICALS®. We also support substance screening and declarations for Cradle-to-Cradle certification of products.

We provide regulatory VOC content data and support in obtaining external emission testing certifications, both of which are part of the green construction programs requirements for identifying products which have a low impact on indoor air quality.

As well as supporting the requirements of green construction schemes, these assessments and certifications enable users to make informed choices on the products they choose in relation to the chemicals used, the impact on indoor air quality and the broader environmental impacts.

Where PPG coatings are incorporated into products destined for the construction sector, we provide declarations of substance composition and life cycle assessment information of the coatings to support customers achieving certifications and declarations of their products required by green building schemes.

PPG SAFEASSURE™ for Sustainable Packaging

Part of our Packaging Coatings new product development process, the PPG SafeAssure program is a stringent protocol for screening both starting chemicals and those migrating into food or beverages to assure the longevity and sustainability of new packaging technologies.

The program goes beyond the legal compliance requirements for packaging coatings to support the market in demonstrating food safety. It builds a dossier of key information to allow the onward supply chain to conduct appropriate risk assessments and build confidence in food or beverage products released to the market.

State-of-the-art methodologies around analytical science and risk assessment and our computer-simulated toxicological assessments support our innovative coating portfolio. We invest substantial time, cost and effort in this area to support our packaging customers.

Recycled Materials

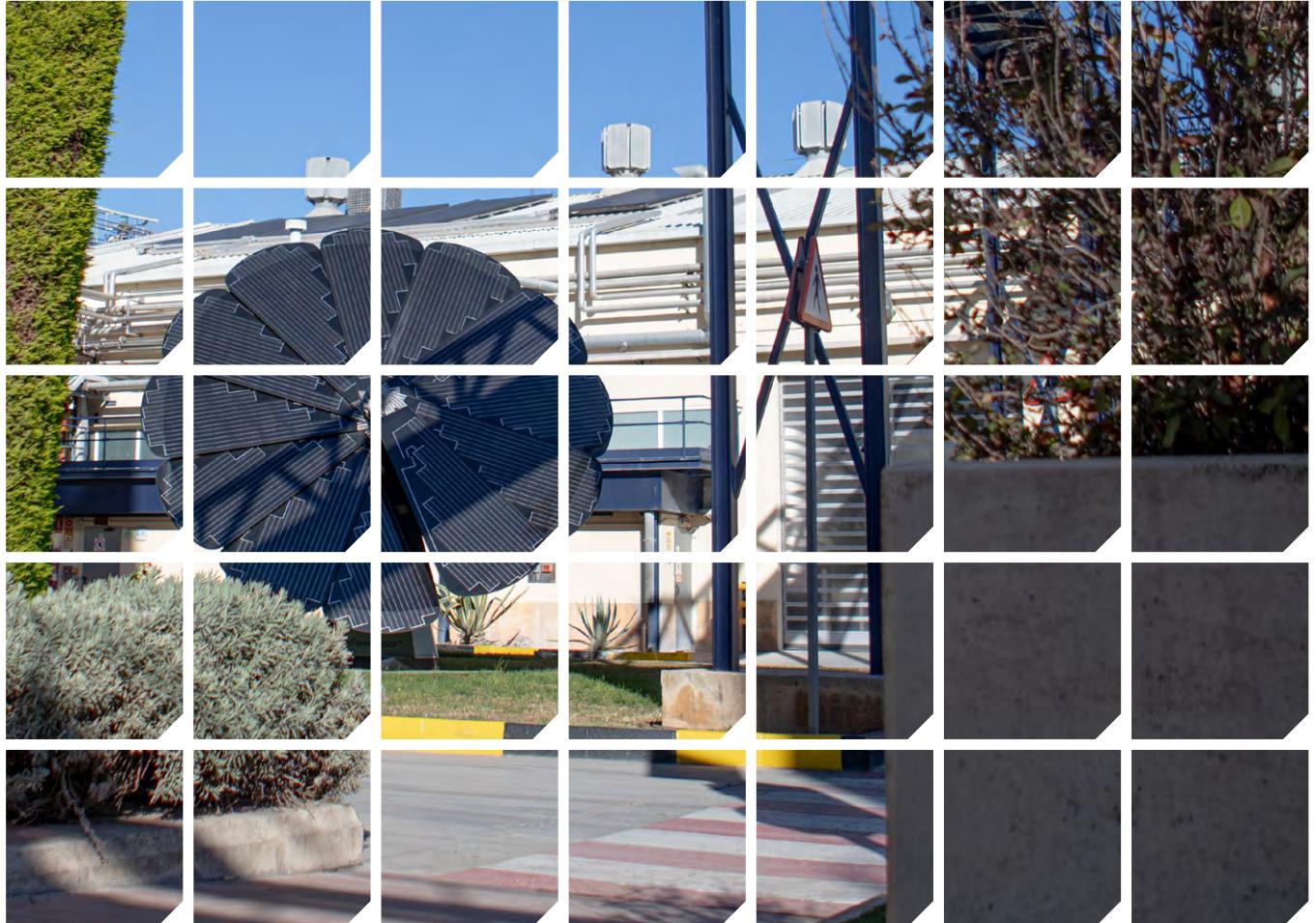
Last year, we found new opportunities to reuse residual product that would otherwise be shipped for disposal and updated packaging from virgin to post-consumer recycled (PCR) plastic, ultimately contributing to the circular economy. Our architectural coatings product packaging, excluding the handle and lid, have up to 100% recycled content in the U.S. and up to 80% in Europe. We are currently testing packaging that uses 100% recycled content for the lid.

We also expanded our partnerships with organizations focused on circularity and waste reduction, including the PAINTCARE™ program in the U.S., ProductCare in Canada, the ECO-PEINTURE™ non-profit in Quebec, and PaintBack in Australia, all of which allow consumers to recycle leftover or unwanted paint. We are exploring additional paint recycling opportunities globally where available. Learn more in the [Waste](#) section.



Environmental

We are committed to using resources efficiently and driving sustainability throughout our entire value chain.





Environment Overview

We are committed to using resources efficiently and driving sustainability throughout our entire value chain.

We continue to strengthen our efforts across all areas of our footprint, including water, waste, energy and emissions.

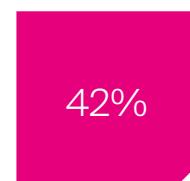
2021 Highlights



new locations certified to environmental management systems



of manufacturing and research and development facilities with zero process waste to landfill, above target of 35% by 2025



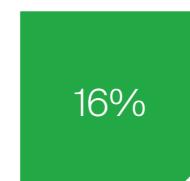
reduction in the quantity of waste disposed from 2017 baseline



reduction in waste disposal intensity from our 2017 baseline, after already meeting our 2025 goal in 2019 – six years ahead of schedule



reduction in spill and release rate from 2017 baseline



reduction in greenhouse gas emissions from 2017 baseline

Minimizing the footprint of our operations is an ongoing focus, and our locations are guided by our 2025 sustainability goals. In 2021, we furthered our commitment to progress through several actions, including:

- Appointed a vice president of global sustainability and developed a dedicated sustainability team;
- Defined oversight for all major elements of our ESG efforts under a respective Board committee;

- Redefined and renamed our Board Technology and Environment Committee to the Sustainability and Innovation Committee, with a key focus on tracking our sustainability progress and evaluating climate risks and opportunities;
- Integrated the Task Force on Climate-Related Financial Disclosures (TCFD) Framework into our business strategic planning process in order to better understand our risks and opportunities; and
- Established groundwork to define and quantify our Scope 3 emissions in order to establish Science-Based Targets, aligned with the Paris Agreement.



We continue to strengthen our efforts across all areas of our footprint, including [water](#), [waste](#), [energy](#) and [emissions](#). In addition to our operations and our customers' operations, PPG takes responsibility for minimizing the environmental impact of our products throughout their entire life cycle. Our Product Stewardship Management System and an updated sustainable product assessment process are the bedrocks of our process. In addition, PPG has launched a number of sustainable offerings for our customers in our efforts to achieve our 2025 goal of 40% of sales from sustainably advantaged products. In 2021, we achieved 38%. Learn more about how we drive sustainability through our [products and processes](#).

Together, our environmental stewardship strategy and efforts across our organization not only reduce our footprint but also help contribute to several United Nations Sustainable Development Goals (SDGs), including SDG 6 (Clean Water and Sanitation), SDG 7 (Clean Energy), SDG 9 (Innovation) SDG 12 (Sustainable Consumption) and SDG 13 (Climate Action).



Managing our Environmental Stewardship

Minimizing the footprint of our operations is an ongoing focus, and our locations are guided by our [sustainability goals](#).

Sustainability roadmaps require each location to identify, quantify and track projects that will enable them to meet each environmental goal by the 2025 deadline.

The [PPG Environment, Health and Safety \(EHS\) Policy](#) provides the guidelines under which we manufacture, market and distribute products globally in a manner that protects our people, neighbors, customers and the environment. The policy incorporates elements from several voluntary global industry initiatives in which we are a participant, including the International Council of Chemical Associations (ICCA)/ American Chemicals Council (ACC) [RESPONSIBLE CARE®](#) program, the British Coatings Federation (BCF) [COATINGS CARE®](#) initiative and the American Coatings Association (ACA) *PaintCare* program.

As members of these trade associations and others, PPG is an active participant in various environmental and sustainability committees within ACA and ACC.

For the first time in 2021, we reported sustainability metrics for certain PPG businesses to ACC in order to validate ACC's sustainability metrics development effort under [Responsible Care®](#), and to help the industry identify thematic risks or opportunities to consider. We intend to submit these data on a regular basis.

Our locations implement our EHS policy through our global EHS management system, ensuring consistent execution against our EHS standards, sustainability goals and strategies worldwide. The system requires locations to conform to not only environmental regulatory requirements but also our global requirements for air emissions, energy management, water discharge, waste management, spill elimination and plant footprint. When new facilities or companies join PPG through acquisition, we implement a defined process to ensure they align with and adopt PPG EHS standards, as well as our EHS management system. In 2021, we invested more than \$3.8 million to upgrade acquired sites to meet these standards and ensure regulatory compliance for EHS matters. Learn more in the [Safety and Health](#) section.

The EHS management system enables us to track our progress on a location, business and global level, with metrics reported monthly to facilitate frequent performance monitoring. (See the [Safety and Health](#) section for additional information.) Financial data for capital projects related to environmental expenditures are tracked through our financial systems rather than the EHS management system.



We continue to seek and adhere to new industry guidelines and certifications, pushing our products and operations to be more sustainable each year. In 2021, we had 56 manufacturing and R&D locations (31.5%) certified to the ISO14001:2015 standard for environmental management systems. Our corporate environmental management system was also certified to the standard. Over the last year, PPG completed a climate-related scenario analysis to evaluate transitional and physical risks as well as opportunities. We continue to embed these insights into our business strategic planning process, with the intent to announce Science-Based Targets as one outcome. To see the full range of initiatives, visit the [Climate-Related Risks](#) section of this report.

As one part of our ongoing focus on reducing our environmental impact, our annual internal Sustainability Awards celebrate achievements in support of PPG's ESG objectives in the categories of safety and health, wellness, customer sustainability solutions, environmental impact and community engagement. In a review of 162 submissions, 47 PPG projects were awarded the internal environmental impact sustainability award. These awardees are comprised of facilities and teams that contributed to reducing PPG's environmental footprint.

PPG facilities are “buzzing” about sustainability

Three PPG manufacturing sites, Saultain, Marly and Genlis, France, have installed multiple beehives, and are monitoring honey production to share with staff and area residents.

The initiative began in 2017 with the installation of three beehives at our Automotive OEM and Industrial Coatings plant in Saultain. By 2020, the three hives produced 90 kgs (nearly 200 pounds) of honey, all of which was sold to benefit Maison de l'Enfance et de la Famille du Valenciennois, a public facility that cares for vulnerable children and serves as the site's Charity Partner. The bees are on track to produce a similar amount of honey this year. A professional beekeeper maintains the hives, and helps promote the project through honey tasting, harvesting and other programs as part of annual Wellness Week activities at the Saultain site. Nearby, employees from laboratories in Marly have installed and are maintaining nine beehives for honey production.

Similarly, three professionally maintained hives have been installed at our Architectural Coatings site in Genlis as part of a sustainable development project between PPG and ID Logistics. The project, designed to protect the black bee, generated 50 kg of honey (approximately 110 pounds) in 2020 and includes bee-focused workshops for employees.



“The beehives are a great way to promote sustainability and biodiversity at our sites and in our communities. They've become a part of our facilities and we look forward to helping the bees continue to thrive in the years to come.”

Sandrine Pleynet
PPG logistics manager, Genlis



Wildlife Team facilitates educational resources on biodiversity

Our Monroeville Specialty Coatings and Materials location has a diverse population of wildlife and plant life – so much so that we have created a “Wildlife Team” dedicated to educating employees, local students and community members about our habitats through hands-on learning programs focused on butterflies and bluebirds. The team reaches more than 500 employees, local students and community members annually through educational initiatives that use the site as an outdoor classroom.

While the Wildlife Team is focused on using our corporate lands for learning through inquiry-based education, it continues to develop links between PPG wellness initiatives and wildlife activities, encouraging the development and use of the site’s nature trails. Because of the team’s initiatives and efforts, the Monroeville site has maintained certification by the Wildlife Habitat Council since 2000 and has been recognized with several awards over the years.





Waste

We are committed to reducing, reusing and recycling our 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.

2021 Highlights

37.5%

decline in waste disposal intensity (waste produced per 100 metric tons of production) versus 2017 baseline, above target of 25% by 2025

40%

of manufacturing and R&D facilities with zero process waste to landfill, above target of 35% by 2025

30%

decline in spills and releases per 1,000 versus 2017 baseline

We acquire raw materials from suppliers and convert them to finished products in our manufacturing process. These products are then transported to customers, where they are applied.

Typical waste streams resulting from these activities include process waste from equipment cleaning, substandard product, by-products and packaging. We evaluate each waste stream for proper management requirements according to internal and legal standards and identify ways to mitigate our impact.

Although we've reached many of our waste disposal and waste-to-landfill goals early, in 2021, we continued to make progress against minimizing our waste. We found new opportunities to reuse residual product that would otherwise be shipped for disposal and updated packaging from virgin to post-consumer recycled (PCR) plastic, ultimately contributing to the circular economy. Our architectural coatings products packaging, excluding the handle and lid, have up to 100% recycled content in the U.S. and up to 80% in Europe. We are currently testing packaging that uses 100% recycled content for the lid. We also expanded our partnerships with organizations focused on circularity and waste reduction, including PAINTBACK® in Australia, an initiative designed to divert unwanted paint and packaging from ending up in landfill and vital waterways.



Waste Stewardship

We employ waste mapping to track waste streams back to their sources in our facilities worldwide. Using lean manufacturing methodologies, each facility eliminates or minimizes the identified wastes one source at a time, typically starting with the highest-volume or highest-cost waste stream identified through the mapping process. We explore reuse and recycling options for wastes that remain.

Our Resource Management Subcommittee of our Sustainability Committee is helping us move beyond manufacturing to other areas in the company, such as product formulation and raw materials management, where waste can be eliminated or minimized.

We are measuring our performance against two goals:

A **25%** reduction in total waste disposal intensity by 2025 from a 2017 baseline.

Achieve zero landfill status from process waste at **35%** of PPG's manufacturing and research and development (R&D) locations by 2025.

We achieved the intensity goal in 2019 but remain focused on waste reduction to ensure continuous improvement. Our 2021 total waste disposal intensity was 2.2 metric tons of waste produced per 100 metric tons of production, which was a 37.5% decline from the 2017 baseline. Reduced production during the pandemic was a significant factor behind this performance.

Globally, we disposed of 84,970 metric tons of waste in 2021, which was a 42.2% reduction from 2017. Of our manufacturing and R&D locations, 40% sent zero process waste to landfill.

In 2021, our regional waste coordinators worked with their top waste-producing sites to develop and implement location-specific waste minimization plans. We also continued cultivating a culture of waste minimization throughout the entire organization using a lifecycle approach and sharing best practices from our top-performing sites with all locations.

Scraping the bottom of the barrel to reduce waste

We look for opportunities to reduce waste wherever we can, including with residual product from customers. In our Automotive OEM adhesives and sealants facility in Adrian, Michigan, reusable product containers returned from customers typically contain approximately 20 gallons of quality material remaining at the bottom of the container. Previously, that material was disposed of as waste. Now, the Adrian facility reclaims this product and stores it for future use. Through close coordination with the Technical and Quality Control (QC) departments, if the reclaimed material is deemed usable, the Adrian operations team reworks the material into future product batches.

In 2021, over 2.4 million pounds of material was reclaimed as a result of this initiative, generating a cost avoidance of approximately 87 waste loads that didn't go to a landfill.



We manage waste disposal using a global waste stewardship process that covers all waste contractors that provide waste treatment, storage, disposal or recycling services. These contractors must undergo an auditing process and satisfy purchasing terms and conditions before being approved for use. Compliance with this program reduces our worldwide waste footprint, assures proper waste disposal practices and supports our overall sustainability targets.

Each of our locations is responsible for collecting its waste data. Waste that is shipped off-site for disposal is reported into a central data system, allowing us to monitor performance, identify areas for improvement, and capture and share best practices.

Post-consumer recycled plastic for a better environment



Our Søborg, Denmark, Architectural Coatings plant recently updated all product packaging from virgin plastic to post-consumer recycled plastic (PCR). In the past, all product was packaged in virgin plastic. Changing to 90% PCR plastic not only helped us lower our carbon footprint but also resulted in lower packaging costs and production time due to greater efficiencies from alignment in packaging sizes. In total, the project is anticipated to save more than 308 metric tons of carbon annually once fully complemented in mid-2022.



Reducing paint waste and promoting circularity

Our commitment to reducing waste goes beyond our operations to the end user. For example, we participate in the [PAINTCARE™](#) program in the U.S., which allows consumers to recycle leftover or unwanted paint.

Ten states, as well as the District of Columbia, have adopted the *PaintCare* program, and PPG has 49 stores that act as recycling drop off sites. Since the program's inception in 2009, *PaintCare* has collected more than 54 million gallons of paint and hosted more than 275 paint drop off events.

We also collaborate with the [ECO-PEINTURE™](#) non-profit in Quebec, Canada. Through this program, approximately 7 million kilograms of paint per year are diverted away from landfills. Since 2001, over 100 million kilograms of paint and empty containers have been recycled through the program. Throughout eight other provinces in Canada, we partner with *ProductCare*, which provides recycling locations

for various types of leftover paint, as well as free leftover paint to the public through its PaintShare program. *ProductCare* estimates that 10.3 million liters of paint were recovered in 2020 – nearly enough to paint the Trans Canada Highway twice.

Lastly, PPG is a founding member of *Paintback* in Australia, an initiative designed to divert unwanted paint and packaging from ending up in landfill and vital waterways. Along with responsibly disposing of unwanted paint, *Paintback* is committed to researching new ways to repurpose unwanted paint materials and help develop a circular economy. Last year, over 9 million tons of paint and packaging waste was diverted from landfills thanks to this program. The organization's target is to divert 90% of waste paint from landfill.

We are exploring additional paint recycling opportunities with trade associations globally where available.

Sumaré facility reduces water waste by 36 tons per year

While our Sumaré facility earned a Green Stamp (Selo Verde) by the sustainability committee of Jornal do Comércio, the plant is not one to rest on its laurels. The plant continues to strive toward a more sustainable future by improving its operations each day, including recently announcing plans to water nearby landscapes and gardens with water discharged during testing for their fire pumps, and reduce water use by implementing a high-pressure wash system for process tanks. This work is projected to reduce their waste by approximately 36 tons per year.



Total Waste Disposal		
	Intensity (metric tons per 100 metric tons of production)	Disposed (thousand metric tons)
2017	3.52	147.10
2018	3.34	140.98
2019	2.69	106.97
2020	2.33	85.77
2021	2.20	84.97

Total waste disposed includes landfilled, incinerated and treated waste. Excludes waste associated with a 2017 furnace rebuild at our Lake Charles, Louisiana, plant. Data changes from prior reporting reflect adjustments for acquired and divested locations from the 2017 baseline onward.

	Waste Generated/Recycled Non-hazardous Waste			Waste Generated/Recycled Hazardous Waste		
	Generated (thousand metric tons)	Recycled (percent)	Disposed (thousand metric tons)	Generated (thousand metric tons)	Recycled (percent)	Disposed (thousand metric tons)
2017	115.78	22%	90.17	114.06	50%	56.93
2018	107.89	23%	82.91	112.49	48%	58.08
2019	73.96	33%	49.92	105.86	46%	57.06
2020	62.38	34%	41.39	88.21	50%	44.38
2021	67.94	36%	43.46	89.31	54%	41.51

Data for hazardous waste recycled include waste that was used to generate energy through direct incineration. We report our hazardous waste data using the regulatory framework of each country where we operate. Data changes from prior reporting reflect adjustments for acquired and divested locations from the 2017 baseline onward.

Solid Waste			
Thousand metric tons			
	Generated	Recycled	Disposed
2017	229.84	82.73	147.10
2018	220.38	79.40	140.98
2019	179.82	72.85	106.97
2020	150.58	64.81	85.77
2021	157.25	72.28	84.97

Disposed waste does not include waste that is recycled, reclaimed or incinerated for energy recovery. Data changes from prior reporting reflect adjustments for acquired and divested locations from the 2017 baseline onward.

Remediation

Some of our past waste-disposal methods, which were authorized and accepted industry practices in their time, can require environmental remediation or land reclamation to meet today's regulations, our stringent internal standards or stakeholder expectations.

We use a lifecycle approach to assess and manage environmental issues and impacts at all of our facilities. A site assessment, which we require at various stages in a facility's lifecycle, provides an environmental evaluation according to standard industry practices.

The assessment determines what, if any, remediation activities or restrictions will be implemented to meet our ultimate goal—each facility is in a condition in which it can be reused safely and productively.

To learn more about our remediation efforts in Jersey City, please refer to our [2021 Form 10-K](#), beginning on page 64.



Supporting conservation efforts and biodiversity at Barberton



In 2021, our remediation project of the Lime Lakes in Barberton, Ohio, was awarded a Silver certification from the Wildlife Habitat Council Conservation, an improvement from previous years' original "certified" status. The Lime Lakes have been continuously certified under this organization as a wildlife habitat since 1995.



In addition to recognition from the Wildlife Habitat Council Conservation, this site has also been listed as an official "hot spot" by eBird, a project of the Cornell Lab of Ornithology, for its spectacular birding potential. Furthermore, the Greater Akron Audubon Society completes their annual breeding bird survey on PPG's Lime Lakes. We plan to continue improving upon this site and others like it as we further our conservation and biodiversity efforts.

"As farms have gotten gobbled up by progress within Summit County, large undisturbed prairie-like settings are few and far between. Places like the PPG Lime Lakes offer a phenomenal reclaimed habitat lacking within the county ... the reclaimed PPG Lime Lakes have been a mainstay over the years as well as a blueprint of how just setting aside some crucial habitat is beneficial to more than just birds, but other flora and fauna, and people as well."

Douglas W. Vogus

Census Coordinator,
Greater Akron Audubon Society



Spills and Releases

Our facilities have strong management practices in place to prevent spills and releases.

Our corporate spill elimination standard requires the establishment, and annual self-assessment, of a spill elimination program at each facility. The program consists of the following steps:

- Assessment of a facility's spill elimination performance;
- Improvement plans based on prioritized assessment of risk;
- Corrective action plan with defined dates; and
- Completion of planned action.

An effective tool used by our locations is spill elimination workshops. During these events, employees from various functions use a rapid improvement process and checklist to assess their facilities to identify areas for immediate improvement, as well as opportunities for longer term action planning. While the pandemic prevented us from holding in-person workshops beginning in 2020 and through 2021, we did conduct virtual assessments and began to reinstate in-person workshops at the end of last year. We plan to fully return to the workshop format once it is safe to do so.

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 internal reporting requirements also include spills that are fully captured by secondary containment and recovered with no environmental impact. Risks associated with spills and releases having off-site environmental impact include clean-up costs, future liabilities and reputational risks.

Our median spill in 2021 was 26.0 pounds (12 kilograms), with 99.4% of spills contained onsite. We had two significant spills during the year that totaled 4,843 gallons (18,333 liters). One of these spills was confined to secondary containment, and the second was contained onsite.

Our goal is at least a 65% improvement in our spills and releases rate by 2025 from a 2017 baseline. Our 2021 rate of 1.28 spills and releases per 1,000 employees was 30.4% lower than the baseline.

We continue to implement ways to improve operations to reduce and eliminate the risk of spills. We focused on sites of higher risk by:

- Requiring overflow protection for stationary process and storage vessels;
- Clearly labeling all lines and connections with contents/destination;
- Securing portable tanks and loose containers on pallets when transported around the facility; and
- Conducting environmental and spill control training at all facilities on an ongoing basis.

Coupled with these efforts, an overfill protection program alerts our operators or delivery person when a given product is reaching a certain level in a vessel. Having an alarm or method of visual observation provides enough time to shut off product flow to avoid a potential release.

Spills and Releases Rate	
	Total spills and releases per 1,000 employees
2017	1.84
2018	1.32
2019	1.25
2020	1.24
2021	1.28



Water

It is our responsibility to optimize water use through conservation and reuse.

The majority of our operations have low water-use impacts and are not subject to restraints. However, we optimize our water use not only in water-stressed regions of the world but in all of our facilities through conservation and reuse.

2021 Highlights

12.3%

reduction in water withdrawn in 2021 compared to the baseline

5.3%

reduction in water intensity from the 2017 baseline

Our water management approach is based on a global mapping process that enables us to identify relative water withdrawal and discharge risks in our portfolio. Water consumption is closely managed and monitored at the site level and periodic reports that evaluate this progress are shared with executive leaders.

At many PPG sites, much of the water consumed is for equipment cleaning. In 2021, we continued to improve our processes to require less cleaning and water use while maintaining high-quality production standards. We also evaluated new opportunities to reuse wash water in our processes and products. For example, we scaled our efforts in support of our Zero Discharge Project, an effort within our Architectural Coatings business to reduce wastewater discharge from its most water-intensive facilities.

Managing water risks

Typically, our water withdrawal risks are associated with sites that have a higher water intensity and operate in water-stressed areas. At these locations, we engage with appropriate stakeholders, such as the local water authority, to assure that we have an adequate water supply for our manufacturing process and respect the needs of the community.

We use the World Resources Institute's Aqueduct Water Risk Atlas to evaluate the water risks at our locations globally. Overall water risk includes water stress, variability from season to season, pollution and water access.

Specific water risks we evaluate include:

- Availability of clean water resources;
- Local water restraints, especially in water-stressed regions;
- Water quality; and
- Regulatory and financial impacts, including constraints from local communities, other water users, the ability to obtain water rights and permits, and regulatory restrictions.



We rank our sites based on water usage, scarcity risk and other factors, and we update the ranking each year to reflect operational changes and sites that are acquired or sold.

To address our water risks, we ensure water consumption is monitored at all plants – not just those considered higher risk – by including the metric in each plant's environmental scorecard. This increases visibility into our water use at the local, regional and global level and encourages our employees to remain engaged and committed to conserving this valuable resource.

Our operations withdraw water from varying sources depending upon availability in the areas in which they are located. These sources include municipal water, surface water and groundwater.

As noted, much of the water we consume is for equipment cleaning, with some used for equipment cooling and as an ingredient in production. We are looking across our product formulations and entire production process to find opportunities to reduce water consumption and water discharge. For example, in our plant in Valencia, Spain, a water-based waste evaporator has been installed to recover water from waste. Recovered water is re-used in the plant cooling tower.

As part of our commitment to environmental stewardship, we set a global goal of a 20% reduction in water intensity by 2025 from a 2017 baseline. More stringent goals can be set at individual sites, depending on water usage and availability.

In 2021, our water intensity was 4.4 cubic meters per metric ton of production, which was 5.3% lower than the baseline. Globally, we withdrew 16.9 million cubic meters of water during the year, which was a 12.3% reduction compared to the baseline. Although water intensity decreased in 2020 as a result of the pandemic and hurricanes impacting our Lake Charles facility, as we expected, once production returned to normal at Lake Charles in 2021, so did the water intensity. However, overall water intensity remained below 2019 levels. We remain optimistic that our water goal will still be achieved by focusing our water efficiency efforts on the limited number of sites that use the majority of our water.



Zero Discharge Project

PPG's Zero Discharge Project is an initiative intended to reduce waste intensity and increase wash water reuse at our Architectural Coatings facilities in the U.S. and Canada. By saving the water used to wash the tank and piping after a batch of paint is made, sites are able to use the recycled water in the production of future paint batches, without disruption to the end product's performance. The wash water recycling also lowers the cost of paint production by requiring less virgin raw materials and reducing treatment and disposal costs.

Over the last two years, the project has delivered more than \$2 million in savings while reusing more than 1.7 million gallons of wash water. Additional sites across our network are exploring implementation of the program as well.

1.7MM

gallon reduction
in wash water
from 2020-2021



We discharge the majority of our wastewater to municipal treatment facilities in compliance with all local regulations, and we monitor and report water quality as needed. In some cases, we are required to treat discharged water prior to release.

We ensure each location complies with all of our internal water discharge management guidelines, which include:

- All water discharge sources are identified, characterized and documented according to regulatory requirements;
- Regulatory requirements for water discharge are identified and documented;
- The facility demonstrates compliance with all regulatory requirements;
- The facility identifies and documents operational control procedures and maintains a written preventive maintenance program for all critical water management equipment;
- Personnel are trained in accordance with regulatory requirements and facility compliance; and
- Documentation and records pertaining to the water discharge management program are maintained according to regulatory requirements.

Some of our operations are located near waterways, such as rivers or streams. To address and mitigate pollution risk, we focus on spill elimination and spill control and response. (See the spills section under [Waste](#).)

Reducing wastewater from equipment cleaning

In some of our plants, scrubbers act as an air emission control device. Contaminated water is continuously removed and replaced with fresh water and then disposed of as a nonhazardous waste.

At our facility in Euclid, Ohio, water blow down from the scrubber was reduced while operation of the scrubber was monitored to understand any potential performance issues. Water blow down was reduced from 3.1 gallons per minute to 1.5 gallons per minute with no impact to performance of the scrubber. This reduction has in turn decreased the volume of wastewater by 228,000 gallons per year, while also reducing cost.

29%

reduction in non-hazardous wastewater at our Euclid facility

Swapping bearings to conserve water in silica manufacturing

More than 80 years ago, PPG was one of the first manufacturers to pioneer the development of synthetic precipitated silica. Today, these products are used by major manufacturers around the world for a variety of applications, from anti-corrosion additives for paints to reinforcing fillers for tires.

In the manufacturing process, silica precipitate is filtered, washed and dried. The traditional drying process can be water-intensive, depending on the drying equipment and process.

At our Lake Charles site in Louisiana, older water-cooled bearings used in the assembly of rotary dryers in the silica manufacturing process were replaced with newer technologies that use sealed-style bearings. Moving to these style bearings not only conserves water but also provides a cleaner and safer walking and working surface around these pieces of equipment.

By switching to the sealed bearings, the site expects to save 40 million gallons of well water each year.



Water Intensity	
Cubic meters per metric ton of production	
2017	4.62
2018	4.35
2019	4.50
2020	3.94
2021	4.37

Data changes from prior reporting reflect adjustments for acquired and divested locations from the 2017 baseline onward.

Water Consumption – All Sources			
	Withdrawn	Discharged	Net Consumption (withdrawn minus discharged)
2017	19.30	8.20	11.10
2018	18.34	8.69	9.65
2019	17.94	7.95	9.99
2020	14.50	7.37	7.13
2021	16.92	8.45	8.48

Water withdrawal and water discharge data are provided by each location on a monthly basis using the best available data, including direct measurements when possible. Data changes from prior reporting reflect adjustments for acquired and divested locations from the 2017 baseline onward.

2021 Water Withdrawn – All Sources	
Source	Amount Withdrawn (million cubic meters)
Surface water	4.68
Groundwater	6.72
Seawater	0
Produced water	0
Third-party water	5.52

2021 Freshwater Consumption	
Source	Amount Withdrawn (million cubic meters)
Municipal water withdrawn	5.52
Fresh surface water withdrawn	4.68
Fresh groundwater withdrawn	6.72
Water discharged	8.45
Net freshwater consumption	8.48

Water Usage in Water-stressed Regions		
	Percent of Total Withdrawn	Percent of Total Consumed
2017	8.0	8.4
2018	9.0	10.6
2019	9.5	10.0
2020	11.4	15.1
2021	10.2	11.7

Included facilities are in North America, South America, Europe, Australia and Asia. Data changes from prior reporting reflect adjustments for acquired and divested locations from the 2017 baseline onward and updated water-stress analysis.

Water Non-Compliances	
	Number
2017	5
2018	3
2019	6
2020	7
2021	6

Data cover non-compliances associated with water quality permits, standards and regulations and is based on the year that PPG is notified of the non-compliance by a governmental authority.

Water non-compliances are typically minor deviations from existing discharge permits. These incidents are thoroughly investigated and corrective actions are implemented to minimize reoccurrence.



Energy

We are creating a culture of energy innovation and conservation.

PPG is committed to fulfilling our purpose to Protect and Beautify the World. As part of this, we are focused on reducing the environmental impact of our operations in part by reducing our energy consumption to minimize our greenhouse gas (GHG) emissions, reducing costs, increasing renewable energy sourcing and maximizing resource efficiencies.

We will do this by:

- Reducing our annual consumption through implementation of innovative energy solutions.
- Ensuring reliable supply of energy and contingency measures in the event of a power failure or gaps in renewable energy generation.
- Renewable energy sourcing through direct investment, power purchase agreements, renewable energy certificates and green tariffs.
- Asset electrification through conversion of technologies that use fossil fuels (coal, oil and natural gas) with technologies that use electricity to control electricity generation resourcing.

We have two long-term energy goals:

15%

reduction in energy consumption intensity by 2025 from a 2017 baseline

25%

increase in renewable energy of total electricity usage exclusive of GHG reductions by 2025

2021 Highlights

In 2021, we continued to find new opportunities to expand our use of renewable energy and install new energy saving technologies, such as launching a partnership with Constellation, a leading energy solutions provider. We began conducting full-scale energy audits at our largest consuming facilities with the U.S. market and as a result implemented energy efficient LED lighting at several facilities, with an additional dozen facilities currently under analysis of further efficiencies.

We also implemented new energy management requirements, based on ISO 50001 and Energy Star, at select priority sites for evaluation and feedback.





The Natural Resources and Climate Change Subcommittee of our Sustainability Committee oversees our energy-reduction strategy and actions, which are focused on developing an energy-conscious culture through communication and awareness building; developing the aforementioned energy management requirements; identifying and focusing resources on locations with the highest energy use; and increasing the use of renewable energy in our operations, which will be critical to supporting our reduction targets for our Scope 1 and 2 emissions.

Key requirements include:

- Identification and characterization of energy usage;
- Identification and documentation of all regulatory requirements for energy usage;
- Compliance with all regulatory requirements;
- Documented operational practices to reduce energy consumption, including identification of equipment with high energy use, a written preventative maintenance program and energy-reduction practices;
- Training on energy use and minimization; and
- Documentation and records pertaining to energy usage.

These efforts are supported by an internal portal for sharing energy management training documentation, tools, resources and best practices. In addition, our tracking system helps gauge performance on a timely basis. We plan to roll out the updated requirements to all locations in 2022.

Switching to solar in Carrollton

PPG is working with Constellation, a leading competitive energy and energy solutions provider, to purchase renewable energy from the 200 MW Big Star Solar Project currently under development in Bastrop County, Texas.

Through a 10-year agreement, PPG will receive energy and project-specific renewable energy certificates (RECs) from Big Star. PPG will procure approximately 4.6 million kilowatt hours of energy per year from the company, avoiding more than 3,200 metric tons of carbon emissions annually, the equivalent of taking more than 700 cars off the road, according to US EPA estimates. PPG intends to expand renewable energy at other PPG locations across the U.S.

We are continuing to explore how to increase our use of offsite renewable energy offerings within the U.S. and Europe in 2022.





Reducing energy use more than 40% in Toronto by switching to LED lighting

Our Toronto facility upgraded to more energy efficient LED lighting in all areas of the building that operate 24 hours a day. This included 540 high bay fixtures in the warehouse as well as an additional 107 fixtures in stairways, hallways, lunchroom, shipping offices and locker rooms. As a result of the LED replacements, the annual total energy consumption has decreased 41%, resulting in annual savings of 38% in energy costs.

Because the vast majority of our coatings are produced at ambient temperatures and pressures, the production processes are not energy intensive. The milling step is the most energy intensive, and we are focused on making this step more energy efficient. We are also shortening cycle times and making other changes to reduce the energy required to manufacture our resins, which we typically produce in reactors that may require heating or cooling.

Generating cleaner energy in Caivano



Last year, PPG's facility in Caivano, Italy, installed a Combined Heat & Power (CHP) unit. CHP is a cleaner approach to generating electrical power and useful thermal energy from natural gas leading to improved sustainability and commercial competitiveness. The unit captures the waste heat that is created when generating electricity to produce steam and hot water for the site. These efforts create an efficiency improvement equating to an annual reduction of approximately 1,100 MT of CO₂ (or 7,200 MT over the project life).

Energy Data

We consumed 12.4 million gigajoules of energy in 2021, which was a 16.9% increase from 2020. Our energy intensity was 3.20 gigajoules per metric ton of production – an 11.4% increase over the prior year. Our direct energy intensity increased 2.5%, and our indirect energy intensity decreased 4.7% since 2017. Like many companies, we experienced sizeable pandemic-related impacts in 2020 that resulted in production operation disruptions across the world at many of our facilities. The change in production mix as well as supply chain interruptions resulted in an unusual energy intensity result for 2020. As operations recovered in 2021, our energy intensity returned to a more traditional level, although our absolute energy reduction in 2021 totaled 8% from 2017. In addition to supply chain abnormalities, many of our associates were working from home, a transition that impacted energy use at our offices.

In 2021, 6.3% of our total energy consumed came from renewable sources. We achieved a significant improvement in our renewable energy use by reaching 23.9% renewable electricity in 2021, nearly to our 25% by 2025 goal. This result demonstrates our continued commitment to identifying renewable energy sources and securing agreements that support our overall decarbonization commitments.



Energy Intensity Gigajoules per metric ton of production			
	Total	Direct	Indirect
2017	3.21	1.89	1.32
2018	3.23	1.93	1.30
2019	3.23	1.90	1.33
2020	2.87	1.66	1.21
2021	3.20	1.94	1.26

Energy intensity includes all types of energy consumed within the organization related to manufacturing and research and development. Data changes from prior reporting reflect updated data and adjustments for acquired, divested and closed locations from the 2017 baseline onward.

Energy Consumption Million gigajoules			
	Total	Direct	Indirect
2017	13.48	7.93	5.55
2018	13.65	8.16	5.50
2019	12.89	7.60	5.30
2020	10.56	6.10	4.46
2021	12.35	7.48	4.87

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. Data changes from prior reporting reflect updated data and adjustments for acquired, divested and closed locations from the 2017 baseline onward.

Energy Consumption by Source Million gigajoules/percent of total energy consumption										
	2017		2018		2019		2020		2021	
	Million Gigajoules	Percent								
Nonrenewable fuels purchased and consumed	7.93	58.85	8.16	59.75	7.60	58.91	6.10	57.74	7.48	60.57
Nonrenewable electricity purchased	2.97	22.07	2.92	21.42	2.75	21.29	2.49	23.61	2.48	20.10
Steam/heating/cooling and Other nonrenewable energy purchased	1.96	14.55	1.92	14.06	1.91	14.79	1.34	12.73	1.65	13.04
Total renewable energy purchased or generated	0.61	4.53	0.65	4.77	0.65	5.01	0.63	5.92	0.78	6.30
Total nonrenewable energy sold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total nonrenewable energy consumption	12.86	95.47	13.00	95.23	12.25	94.99	9.94	94.08	11.57	93.07

Data changes from prior reporting reflect updated data and adjustments for acquired, divested and closed locations from the 2017 baseline onward.

Energy Costs Millions of dollars	
2017	\$141.68
2018	\$155.71
2019	\$135.79
2020	\$113.72
2021	\$165.25

Data changes from prior reporting reflect updated data and adjustments for acquired, divested and closed locations from the 2017 baseline onward.



Emissions

We are focused on reducing greenhouse gas emissions across our operations and value chain.

Climate change is one of the greatest challenges of our time, and we are committed to doing our part to help protect the planet.

2021 Highlights

9.7%

reduction in GHG intensity (Scopes 1 and 2) from 2017 baseline, against our target of 15% by 2025

16.1%

reduction in absolute direct (Scope 1) and indirect (Scope 2) GHGs from 2017 baseline

Our goal is to reduce our greenhouse gas (GHG) emissions intensity by 15% measured in total tons discharged by 2025 from a 2017 baseline. We reduce air emissions globally through improved operating practices, product reformulations and, where necessary, emissions control equipment. The composition of our emissions varies by facility due to the different products produced and manufacturing processes used. Collectively, these goals and the operating changes we are making to meet them are two of the ways that we are contributing to the U.N. Sustainable Development Goals (SDGs) SDG7 (Clean Energy) and SDG13 (Climate Action).

In 2021, we achieved a 9.7% reduction in intensity and a 16.1% reduction in absolute direct (Scope 1) and indirect (Scope 2) GHGs from the baseline.

Our global GHG emissions increased slightly in 2021 versus 2020, primarily in response to more normal levels of production across our facilities and product lines as compared to the first year of the pandemic. However, we continue to seek new opportunities to reduce our GHG emissions in line with our targets and goals.

Our approach to reducing greenhouse gas (GHG) emissions includes lowering our energy consumption (see the Energy section). As such, we are replacing outdated and inefficient equipment, such as boilers, chillers and air compressors. We are undertaking these replacements over time to optimize the impact, focusing on priority sites based on improvement opportunities and resources required to [achieve those reductions](#).

Beyond improved environmental outcomes and performance, these efforts will also reduce our operations costs. The potential financial benefits from reducing our emissions can already be realized at our site in Tianjin, China.



In addition to lowering energy consumption by implementing innovative energy solutions, we are exploring options to:

- Ensure reliable supply of energy and contingency measures in the event of a power failure or gaps in renewable energy generation.
- Source renewable energy through direct investment, power purchase agreements, renewable energy certificates and green tariffs.
- Create asset electrification through conversion of technologies that use fossil fuels (coal, oil and natural gas) with technologies that use electricity to control electricity generation resourcing.

For example, in 2021, our Architectural Coatings plant in Carrollton, Texas, entered an agreement to power the facility through [100% renewable solar power](#), avoiding more than 3,200 metric tons of carbon emissions annually.

Tianjin environmental performance will save PPG millions



Of the thousands of companies with operations in Tianjin, only 18 companies are considered “Class A Enterprises.” PPG is one of them. Thanks to the facility’s environmental control policy, the Tianjin City Ecology and Environment Bureau has determined PPG’s Tianjin facility can operate normally during periods of heavy air pollution. This designation allows PPG to continue producing products to meet customer delivery expectations and avoids unnecessary shutdown costs.

“The Class A Enterprise designation is not the result of a one-time achievement, it is the result of continuous EHS improvement and years of our ‘Raise-The-Bar’ strategy.”

Michael Fu
Tianjin plant manager

Sumaré awarded ‘Green Stamp’ for sustainability



Our coatings manufacturing plant in Sumaré, Brazil, was awarded the Green Stamp (Selo Verde) by the sustainability committee of Jornal do Comércio, a Portuguese newspaper in Rio de Janeiro, in recognition of the facility’s commitment to the environment.

The stamp is awarded to a select group of companies that are conscientious in the areas of water and effluents, energy, raw materials and waste, atmospheric emissions and environmental education. This recognition is the result of the PPG Sumaré team’s steadfast commitment to increasing its use of renewable energy, reducing waste generation and optimizing its manufacturing processes.



In 2021, we experienced increases in all other key emissions sources, also due to a return to more normal levels of production across our business. While we do not report hazardous air pollutants (HAPs) on a global level, we do track those emissions at our U.S. facilities. In 2021, our U.S. operations emitted 165.4 metric tons of HAPs.

Lloyd's Register Quality Assurance provided limited assurance on our Scope 1 and Scope 2 GHG data. [View the assurance report.](#)

Greenhouse Gas Emissions Intensity Metric tons of emissions per metric ton of production			
	Total	Direct (Scope 1)	Indirect (Scope 2)
2017	0.24	0.09	0.15
2018	0.23	0.10	0.14
2019	0.23	0.10	0.13
2020	0.21	0.08	0.12
2021	0.22	0.10	0.12

Total intensity data include direct and indirect emissions. We report greenhouse gas as carbon dioxide equivalents for carbon dioxide, methane and nitrous oxide. Data changes from prior reporting reflect updated data and adjustments for acquired and divested locations from the 2017 baseline onward. Total may not equal the sum of direct and indirect due to rounding.

Greenhouse Gas Emissions Million metric tons of carbon dioxide equivalents			
	Total	Direct	Indirect
2017	1.00	0.39	0.61
2018	0.99	0.41	0.58
2019	0.92	0.38	0.54
2020	0.77	0.31	0.46
2021	0.84	0.39	0.45

Our plants are not significantly impacted by emission-limiting and/or emissions reporting-based programs or regulations. In 2021, we had zero direct emissions that were covered under an emissions-limiting regulation or program.

Air Emissions Intensity Metric tons of emissions per 1,000 metric tons of production				
	Particulates	Volatile Organic Compounds	Nitrogen Oxides	Sulfur Dioxide
2017	0.10	0.51	0.28	0.02
2018	0.10	0.53	0.27	0.02
2019	0.10	0.63	0.24	0.02
2020	0.08	0.50	0.17	0.02
2021	0.10	0.49	0.27	0.01

Data changes from prior reporting reflect updated data and adjustments for acquired and divested locations from the 2017 baseline onward.

Air Emissions Metric tons				
	Particulates	Volatile Organic Compounds	Nitrogen Oxides	Sulfur Dioxide
2017	412.67	2,126.21	1,158.74	86.11
2018	427.57	2,247.74	1,153.96	93.97
2019	383.12	2,527.91	937.24	86.26
2020	311.62	1840.88	616.58	73.59
2021	374.47	1,876.77	1,048.88	42.20

Data changes from prior reporting reflect updated data and adjustments for acquired and divested locations from the 2017 baseline onward.



Climate-Related Risks

We use a systematic approach to manage climate risks.

Climate change is one of the most pressing global issues today, threatening the livelihood of billions of people now and in future generations. From extreme weather to continued environmental degradation, the effects of global warming are felt across all regions and industries.

At PPG, we seek to protect and beautify the world. We couldn't achieve this mission without committing to do our part to combat climate change. And we are doing this across our value chain—from the sustainability standards we set for our suppliers, to efforts to reduce our own internal environmental footprint, to the solutions we provide for our customers that in turn help them pursue their environmental objectives.

We have a global manufacturing footprint and are committed to continuing our efforts to reduce the environmental impacts of our PPG operations. We will continue to focus on the actions necessary to improve our resource efficiency and operate our facilities sustainably. To that end, we have set sustainability targets to reduce energy, waste, water and greenhouse gas emissions. We are focused on energy efficiency actions and increasing our renewable electrical energy sourcing to drive down greenhouse gas emissions thereby reducing the impact on the earth's climate. By committing to set Science-Based Targets and seeking to better understand our Scope 3 emissions, we are making headway as we continue to reduce our impact across our supply chain.

To expand our understanding and refine actions related to climate change, PPG proactively undertakes planning and scenario analysis. We performed scenario analyses in 2021 to evaluate broad risks and opportunities to our business associated with climate change and have incorporated those evaluations into the business risk and planning process. The program reflects guidance from the Task Force on Climate Related Disclosures (TCFD) and resulted in a high-level, qualitative perspective on climate change stressors with potential to affect PPG's global portfolio of facilities. We continue to build on these efforts by assessing and prioritizing sites with the greatest climate risk impacts and depending on forecasted climate impact timing, defining resiliency planning actions to ensure sites are prepared.

Our products, processes and innovations can also help consumers live more sustainably and help industries reduce their impact on the planet. We also continue to pursue supplier management strategies that help us make more sustainable choices in what we buy and from whom. Creating sustainably advantaged products and supporting more responsible processes along our supply chain are just a few of our tools to combat climate change over the long term.



Overview of Climate Risks And Opportunities And How We Are Addressing Them

Risk/ Opportunity	Climate Change Risk Type	Issue	Potential Impact	Optimizing the efficiency of our operations and logistics	Climate change impact facility assessments	Increasing the use of renewable energy	Supplier sustainability initiatives	Increase in sustainably advantaged products and services
Risk	Physical	Increase severity and frequency of severe weather	Disruption to supply chain and manufacturing locations	X	X		X	
Risk	Transition	Increased government regulation and carbon pricing	Increased operating costs	X		X		
Opportunity	Transition	Transition to Lower Carbon Economy	PPG products designed for the low carbon markets (EVs, energy storage, Green Buildings)			X		X
Opportunity	Transition	Increased Sustainability Demands from Customer	PPG products that allow our customers to meet their climate goals					X
Opportunity	Transition	Shift in consumer preferences	PPG products that provide consumers with a low carbon choice					X



Evaluating Climate Risks and Opportunities

To address the physical risks associated with climate change, we maintain systematic emergency and crisis management processes. Through these processes, we coordinate the efforts of our local emergency management teams at each location with our regional and global crisis management leadership.

Global, regional and local plans consider the risk of natural disaster, infectious disease, supply chain interruptions, employee safety, asset protection, customer impacts and other business continuity requirements. As one example, we implemented plans in 2021 to manage the hurricanes that impacted our facility in Lake Charles, Louisiana.

Each year, the local emergency management team at each of our facilities around the world must review and update its emergency response plan to reflect current conditions and changes in risk. Each site also performs an emergency response exercise, and our global leadership monitors conformance with these requirements through our internal corporate auditing processes. In addition, our regional and global crisis management teams conduct similar crisis response exercises annually.

Beyond physical risks, we also evaluate the potential impact of climate change risks on regulatory, legal, technology, market and reputational issues.

Climate Scenario Analysis: Assessing Risks and Opportunities Over the Longer Term

In 2021, we initiated a broader assessment using the Task Force for Climate-Related Financial Disclosure (TCFD) framework, we evaluated six transitional risks and four physical risks to identify significant impacts and opportunities related to climate change, with the business incorporating the results into its annual strategic planning process. We used the IEA Sustainable Development scenario and the Inevitable Policy Response Forecast Policy Response scenario for transition risks and the IPPC RCP 8.5 and RCP 6.0 scenario for physical risks. The assessment included 700 participants representing all business units in 40 countries and multiple functions including commercial, operations and science and technology. Feedback was entirely qualitative and will be reviewed and considered as each business conducts an annual strategy review. Additional work is needed to better understand the overall [risks and business opportunities](#) as a result of climate change.

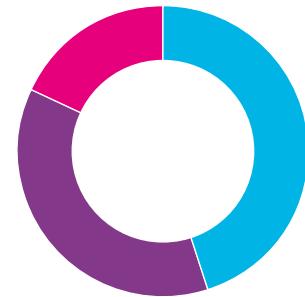
TCFD Assessment Participants



700+
participants



40+
countries



■ Commercial

■ Operations

■ Science and Technology



Building on the TCFD climate change analysis we started in 2021, we continue to work to identify and analyze potential climate impacts, in particular physical risks. In the first of a two-phase plan, we developed a Global Portfolio Climate Change Risk Assessment which includes over 250 PPG locations around the world. With a third party, we used global climate models to assess the relative risk of each facility against six climate change stressors: drought, flooding potential, extreme heat, extreme seasonal precipitation, sea-level rise and high wind speeds.

Using an interactive dashboard developed from the assessment, we can further explore these results, evaluate the climate risks for all sites and filter by type of risk, business unit, region, country and type of facility. Through these filters, we can conduct a deeper scenario analysis as far as the year 2100. This assessment will allow us to better understand and plan for potential physical risks associated with climate change, for example, by investing in our facilities. With this work, we can build resiliency that addresses the specific climate risk from the assessment.

We will expand our analysis of potential risks and opportunities to include a quantitative evaluation of our global enterprise. This analysis will be broader in scope and incorporate location-level data as well as data about our facilities.

Our Climate Change Scenario Analysis Process

To identify how we can reach our goals and adapt to the changing climate, we follow the TCFD's recommended guidance to conduct a climate change scenario analysis. Those steps are as follows:

1

Engage key stakeholders

Identify and engage all relevant internal stakeholders, gather input on key issues, and identify additional stakeholders to participate in the analysis.

2

Assess climate-related risk priorities

Evaluate technology shifts, reputation and physical risks and policy and legal standards to understand PPG's potential exposures to climate-related risks.

3

Identify and define a range of scenarios

Use scenarios to identify our risks and opportunities.

4

Evaluate business impacts

Capture potential effects on the organization's operations and financial position.

5

Identify potential responses

Identify realistic adjustments to strategic and financial plans to manage the risks and opportunities.

6

Document and disclose

Throughout the process, document, communicate to relevant parties and disclose our key inputs and responses.



Developing New Products to Respond to Climate Risks and Opportunities

Climate change presents not only risks but also opportunities to develop sustainably advantaged products that help our customers reduce their environmental footprint, among other benefits. By continuing to develop sustainably advantaged products and processes, we can move the needle on new solutions to tackling climate change while minimizing our own impact on the environment.

To identify and capture these opportunities, we conduct assessments of products in our existing portfolio while pursuing new product development initiatives that contribute positively to both climate change and the U.N. Sustainable Development Goals (SDGs), in particular SDG6 (Clean Water), SDG7 (Clean Energy), SDG12 (Sustainable Consumption) and SDG13 (Climate Change). These sustainable attributes also benefit our supply chain, operations, customers' sustainability and product end-of-life impact. See the [Product Stewardship](#) and [Product Overview](#) sections for additional information.

Advocating For The Planet

In addition to our internal and product development efforts, we seek to effect industry-wide change through our advocacy efforts.

Through our Government Affairs department and membership with trade associations and coalitions, we engage directly and indirectly on an ongoing basis with policymakers at the local, state and national levels on issues related to climate change. Two key focus areas are energy efficiency and clean energy generation.

We are a strong supporter of energy efficiency, innovation and sustainability. As such, we are supportive of bipartisan energy-efficiency legislation.

We also support legislation on clean energy generation that provides manufacturers with access to a range of energy resources. We support an “all-of-the-above” approach to energy generation, which includes clean energy generation methods such as wind and solar. We believe that clean energy generation must occur in a measured way, without significant price fluctuations and without harming our production, suppliers and business customers.

As a producer of advanced coatings that go into clean energy generation, we closely follow the advanced energy manufacturing industry. We frequently support the advocacy efforts of wind, solar and other clean energy stakeholders.





Transportation

Internal experts, mandatory practices and effective processes help ensure our products are transported safely.

Each day, our products are transported by land, sea and air around the world. The combination of internal experts, mandatory practices and effective processes helps ensure they arrive at their destination safely.

Globally, about 85% of our transportation is by truck. While we have a small fleet of company-owned trucks and vans for local delivery from our stores, the vast majority of our shipments are handled by third parties. We work with these carriers to ensure our products are transported safely and compliantly so incidents do not occur.

Before engaging the services of a third-party transport provider or renewing an existing contract, we assess the company's safety record, financial security and other factors. We do not contract with any company that does not meet our requirements.

Each carrier we do engage must sign our transportation agreement, which includes specific requirements related to safety and valid operating authority. These include:

- Maintaining a "satisfactory" U.S. Department of Transportation (DOT) safety rating or its foreign equivalent. Should a carrier's safety rating change, the carrier must notify us in writing within five days of receiving notification from the respective government authority.
- Ensuring drivers and employees are fully trained and hold the qualifications, permits and licenses required by law or regulation to perform the services.

- Training drivers in the proper handling of our shipments from point of origin to point of delivery.
- Ensuring employees and drivers comply with all applicable safety laws, PPG environment, health, and safety requirements, facility standard operating procedures, and any rules, policies and procedures in effect at PPG or customer facilities.
- Promptly reporting any incidents to PPG and, when required, governmental agencies.

We have additional layers of assessment, evaluation and periodic review for carriers that transport hazardous materials or dangerous goods. We manage this mandatory practice through our transportation of dangerous goods management system.

In 2021, there were 561 incidents reported via a U.S. DOT 5800 incident report or PPG transportation incident report. Of these incidents, 16 were considered significant based on our internal criteria and that of the Sustainability Accounting Standards Board (SASB). Of these 16, 12 occurred internationally and four were within the U.S. The latter considers significant transport incidents as those that require immediate notice of a hazardous materials incident to a governmental authority.



Our transportation of dangerous goods management system establishes criteria for reporting significant incidents via our EHS incident reporting system. We investigate each significant incident and implement appropriate corrective actions to minimize their recurrence.

Transport Emissions

In addition to the safe transportation of our products to their destination, we are also committed to identifying additional actions we can take to ensure sustainable transportation. While PPG operates a localized manufacturing model – meaning paint and coatings products manufactured in a country are often sold in that same market – we are continuously looking for additional ways to manufacture product closest to our customers, resulting in lower transportation costs and emissions. Our supply chain teams encourage high truck utilization as well as substantial use of train transport, with lower carbon emissions as a result. While integrating the acquisitions we completed in 2021, we also began an initiative to consolidate shipments to ensure larger amounts of product are on a truck at any given time, therefore reducing the total miles required to deliver our products.

Furthermore, in Birstall, United Kingdom, we replace vehicles every six years to ensure fuel efficiency, and recently replaced 18 vehicles in our fleet as part of the initiative. We also train drivers on safe and fuel-efficient driving, then monitor their efficiency on a weekly basis. In the Czech Republic and Slovakia, we provide incentives for fuel-efficient driving.





Social

We are an employer of choice who cares for our employees and seeks to strengthen our communities.





People Overview

PPG people make it happen.

Our people and talent strategies provide the foundation for our team members to thrive, deliver and grow, enabling them to deliver exceptional performance and live our purpose to protect and beautify the world. We are committed to ensuring everyone can bring their whole self to work by being safe, healthy, celebrated, engaged and valued for the diverse talents they bring to PPG.

2021 Highlights

85%

participation rate on our Gallup Employee Voice survey, our highest yet

24,500+

digital learning and leadership development courses available to PPG employees

8

employee resource groups globally support our diversity, equity and inclusions efforts

- Forbes 2021 Best Employers for Women
- Forbes 2021 America's Best Employers
- Perfect score on Human Rights Campaign Foundation Corporate Equality Index for LGBTQ+ workplace equality

In 2021, we kept these objectives in mind as we continued to face significant, global disruptions resulting from the COVID-19 pandemic, a tightening labor market, changing labor reform and evolving employee expectations on flexible work models. We continued to address and navigate these challenges as part of our efforts, in addition to making progress along our continued journey to enhance and evolve our culture.

Our Journey, the PPG Way

Watch the PPG Way video [here](#).

The PPG Way, which includes six tenets around a culture of ownership, empowerment and inclusiveness, remained our north star, providing continuous guidance as we navigated an ever-changing environment. Every single day at PPG, these tenets enable, empower and engage employees across the world to deliver world-class performance.





Whether developing a sustainable solution, solving a customer's challenge, participating in a community engagement project or implementing a new technology for our customers, our employees are demonstrating The PPG Way and making today better than yesterday – every day.

Through 2021, we focused on solving near-term challenges while planning for the long term. A few examples include:

- We developed resources and actions to address the ongoing labor shortage, ensuring improvements to how we hire, onboard and retain our talented employees. We increased the number of same-day hiring events and sourcing tools, as well as streamlined and expedited our pre-employment process to bring employees on board more quickly.
- We launched a new hybrid work model. Created through robust employee input and our goal to create a modern work experience, this model enables managers and employees to balance their personal lives and job responsibilities.
- We built out areas of expertise and filled key leadership positions focused on our comprehensive talent strategy, leadership capability and development, and diversity, equity & inclusion efforts.
- We launched a 'One PPG' sales framework to ensure we hire, train, promote and reward our sales team consistently.
- We integrated five acquisitions, bringing new perspectives, talent and opportunities to the organization.

Although these are significant milestones, they are only a few of the many activities we prioritize in order to continue enhancing employee engagement, belonging, performance and leadership development. We believe that supporting all employees with modern, world-class human resources technology and operations, building strategic capability and creating the best place to work will be the difference in their ability to make meaningful contributions and fulfill their potential.

By fostering inclusiveness, welcoming diverse perspectives and empowering employees from all walks of life, PPG becomes more innovative, productive and competitive. Learn more about our commitment in the [Diversity, Equity and Inclusion](#) report.

People Data Number of Employees

2017	47,200
2018	47,300
2019	47,600
2020	46,900
2021	49,300

Numbers are the average for the full year.

People Data

2021 Employees by Region

	AP	EMEA	LA	USCA	Total
Female	1,649	4,787	2,184	4,742	13,362
Male	5,313	11,729	6,382	12,636	36,060
Non-binary	0	0	0	10	10
Not specified	0	62	1	0	63
Total	6,962	16,578	8,567	17,388	49,495

Numbers are as of Dec. 31, 2021.

People Data

2021 Employees by Employment Type

	Full-Time	Part-Time
Female	12,611	751
Male	35,548	512
Non-binary	8	2
Not specified	63	0
Total	48,230	1,265

Numbers are as of Dec. 31, 2021.



Diversity, Equity and Inclusion

One of PPG's greatest strengths is the diversity of our people.

Recent events—from watershed moments in racial and social justice, to challenges from an ongoing pandemic that continue to disrupt employees and communities, including women and historically underrepresented groups—have furthered our commitment to find new ways to amplify the voices of our underrepresented employees and renewed the focus behind our DE&I efforts.

2021 Highlights

15,000+

global participants in employee resource network (ERN) events in 2021

4,600+

people managers and employees trained on unconscious bias across the organization since 2020

\$20MM

committed by 2025 to advance racial equity

We have a duty to improve the future of work and support historically excluded perspectives. Not only is this the right thing to do for our people and society, it is also the smart thing to do for our business, because diverse teams perform better. At PPG, we are bona fide believers that in order to say the right things, we first need to do the right things.

Our DE&I efforts include just a few of the ways that we are contributing to the U.N. Sustainable Development Goals (SDGs) that support more inclusive and sustainable opportunities and economic growth, including SDG5 (Gender Equality), SDG8 (Decent Work), SDG10 (Reduced Inequalities) and SDG11 (Sustainable Cities and Communities).





Our Most Recent Progress

We have made significant progress in further cultivating a sense of belonging for all of our employees and harnessing the power of diversity to ignite innovation and action. We have developed a DE&I vision statement, structure, commitments, strategy and scorecard to drive change and measure our performance. Each is inclusive across our colleagues, customers, suppliers and communities. While we recognize that there's much work to be done, we continued to make progress in 2021. The following are highlights from the past year:

Colleagues

- We now have more than 20 DE&I ambassadors composed of senior leaders across all businesses and functions. These ambassadors will help us cascade our strategy throughout the company.
- Expanded and enhanced benefits in the U.S. to better meet the diverse needs of our employees.
- Achieved meaningful improvement in inclusion in our 2021 Employee Voice Survey. Specifically, employees indicated substantial improvement in our commitment to building the strengths of each employee.
- Launched a pilot program in the U.S. that allows us to use labor market data to build data-driven diverse candidate slates.
- Extended our unconscious bias training efforts across the organization, with a primary focus on people managers. In recent years, we have trained more than 4,600 people managers and employees.

- Partnered with diversity-focused organizations, including [DiversityInc](#), [National Association of Asian American Professionals](#), [National Society of Black Engineers](#) and [National Black MBA Association®](#) to increase the diversity of our talent pool, provide opportunities for career development and leverage leading practices to enhance the sense of belonging across the enterprise.

Customers and Suppliers

- Delivered multiple DE&I-related projects for customers, such as rainbow crosswalks in cities to celebrate Pride Month and large murals of leaders in the social justice movement on exterior building facades.
- Evaluated our paint color names to make them more inclusive and reflective of our values. Our Architectural Coatings global color team renamed 41 PPG PAINTS™ and 36 DULUX™ paint and stain colors.
- Hosted a virtual discussion on why diverse teams perform better through our Black Employee Network. The event connected our employees with customers, as representatives from Toyota and Marriott joined the impactful conversation.
- Over the last two years, we have completed acquisitions of Tikkurila, Ennis-Flint, VersaFlex, Wörwag and Cetelon. While these companies not only strengthened our global coatings portfolio, they also brought us many new employees with fresh ideas, different backgrounds and new perspectives.

Communities

- Invested \$13.3 million in our communities globally in 2021.
- Saw the PPG Foundation and Neighborhood Academy in Pittsburgh, Pennsylvania, team up for Female Focus, which is a 14-week program designed to inspire high school girls to engage in hands-on STEM activities and career exploration.

A full discussion of our DE&I strategy and process is available in our inaugural [PPG DE&I Report](#), which we published in March 2022.





DE&I Vision Statement

At PPG, we aim to champion all employees, empowering them to show up as their authentic selves, and allowing everyone to reach their full potential. We know that diverse teams perform better – period. Providing equitable experiences for all our people results in higher engagement, increased business performance and more opportunities for all. We will continue to elevate and celebrate underrepresented communities while combating intolerance in all forms, both inside and outside our workplaces. We do so with a spirit of humility, authenticity and vulnerability. We may not always get it right, but we aim to do better today than yesterday – every day.

[Learn more.](#)



Structure

Our DE&I efforts are championed by our chairman and chief executive officer and have full and complete support from our Board of Directors and Operating Committee. Our business leaders are held accountable to initiating real, demonstrated progress, and their results are a consideration in their year-end performance evaluations.

Our global head of DE&I is responsible for designing, leading and executing our global DE&I vision and strategy and leveraging data-driven insights to accelerate our agenda. This position is supported by our DE&I team, which reflects the diversity in gender, race, age, ethnicity, religion, sexual orientation and more that we aim to achieve across our workforce.

In 2021, we launched an internal DE&I ambassador group composed of leaders who are members of our strategic business unit and function global leadership teams. These global ambassadors serve as change agents across the company, helping embed a sense of belonging for all.

Our eight global employee resource networks (ERNs) are a cornerstone of our DE&I strategy. They provide employees of diverse backgrounds with a greater voice and more pathways for connection and understanding. Just as importantly, they provide an opportunity for all of our employees to step up as allies, gain cultural dexterity, and build and strengthen relationships. Our ERNs also aim to harness our employees' creativity and innovation to drive business value. This makes DE&I a more integral part of how we do business at PPG.

PPG Employee Resource Networks

- Abilities First Network
- Asian Employee Network
- Black Employee Network
- Latinx Employee Network
- Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ+) Network
- Veterans Employee Network
- Women's Leadership Network
- Young Professional Network

Membership and participation in the ERNs are open to all employees in all countries and at all levels. Members are offered opportunities to participate in ERN events or lead efforts to drive career advancement, foster empathy through personal storytelling, organize volunteer events in their local communities or offer solutions on PPG's business challenges.



Celebrating Black History Month at PPG: Honoring iconic visionaries

Marking the start of Black History Month, PPG's Black Employee Network (BEN) hosted a global webinar with Dr. Bernice King, daughter of Martin Luther King, Jr. Dr. King shared her perspectives on the social justice movement, how she plans to carry her father's legacy forward, and what it means to "Be the change."

A global thought leader, strategist, orator, peace advocate and CEO of the Martin Luther King, Jr., Center for Nonviolent Social Change (The King Center), Dr. Bernice King continues to advance her parents' legacy of nonviolent change.

In addition to the webinar, BEN highlighted the PPG paint color Visionary (PPG1210-3) in the famous Wynwood art district in Miami. As part of a mural, artists Kyle Holbrook and Lil Baby memorialized iconic visionaries such as Dr. King, August Wilson, Dr. Maya Angelou, and the first Black fashion designer for Louis Vuitton, Virgil Abloh. The soft yellow was inspired by Dr. Martin Luther King Jr. and his dream of diversity, equity and inclusion for all people.

"The work of diversity, equity and inclusion is important, because equity is the one place where we're falling short. Equity doesn't mean sameness. It means that the resources that are needed so people are on an 'equal playing field' is what's critical."

Dr. Bernice King
during a webcast with PPG employees

PTSD Awareness Day

Our Veterans Employee Resource Network (VERN) provides veterans at PPG with support and networking opportunities, such as mentoring, community outreach, career development and cultural awareness activities. To educate employees about post-traumatic stress disorder (PTSD) on PTSD Awareness Day, our VERN and the Abilities First Network (AFN) sponsored a video featuring employees who shared their personal experiences with PTSD. A goal of the program was to raise awareness and destigmatize the conversation around PTSD for all employees – veteran and non-veteran alike – while also providing a voice to employees who may be struggling with PTSD-related issues, regardless of the source.



Project Pronoun

Imagine if your team referred to you by the wrong pronoun every day. How would you feel? Would you feel like you were truly bringing your whole self to work?

Members of the LGBTQ+ community globally have dealt with this challenge for years. That's why members of our LGBTQ+ ERN are driving action to help others feel included, valued and respected across the spectrum of gender identities.

Named Project Pronoun, the initiative encourages employees to include their pronouns in emails, presentations and other communication avenues to raise awareness of the power of pronouns and the importance of gender identity. The team also hosted a webinar and created easy-to-use resources to help educate the organization on the power of pronouns and provide a breakdown of key LGBTQ+ terms.

New uniforms ensure comfort, inclusiveness for female employees

Female-fit garments are typically fitted to the waist, chest and length for comfort and performance as well as a professional appearance. Ill-fitting garments can impact employee confidence as well as performance due to discomfort.

Thanks to an initiative from our Women's Leadership Network (WLN), employees in the U.S. and Canada now have the option of two types of female-fit pant styles to accommodate differing body shapes. Female-specific shirts will be available in both standard and flame-resistant options.

"The unisex uniforms are uncomfortable because they can be too tight, too loose or too long in the torso. They can be distracting, causing you to not be able to focus on what you're doing because you are pulling on your clothing. The female-fit uniforms are a lot more comfortable."

Alyssa Fulwider

PPG optical quality control laboratory supervisor, Barberton

Commitments

We believe that what gets measured gets done. We approach DE&I as we do any other business opportunity – with aspirational goals, a strategy, a scorecard and accountability.

Colleagues

- Achieve 34% to 36% representation of non-frontline global female professionals by 2025. Achieved 29.6% as of December 31, 2021.
- Increase the headcount of Black, Latinx and Asian employees by 45% to 55% across our non-frontline, U.S.-based employee population (using January 1, 2021, as our baseline). At the end of 2021, we increased our non-frontline headcount of Black employees by 12.8%, Latinx employees by 9.0% and Asian employees by 8.4%.
- Achieve total global employee resource network and DE&I capability-building participation of 50% by 2025. As of December 2021, we had achieved 32.6% of this goal.



Customers and Suppliers

- Amplify the diversity of our workforce to be representative of the global customers we serve every day.
- Engage with our customers and suppliers in DE&I dialogues to learn from one another and advance our collective efforts to benefit our stakeholders.
- Through our Supplier Diversity Program in the United States and Canada, actively identify and include qualified diverse suppliers in our purchasing process for products and services that meet our requirements.

Communities

- We are investing \$20 million by 2025 to advance racial equity in the U.S. by funding educational pathways for Black communities and people of color, with a goal of helping to address the race and gender gaps in science, technology, engineering and mathematics (STEM) education and career paths.
- We respect the dignity and human rights of all people and hold our contractors, suppliers and other business partners to the same commitment.
- We will continue to hold COLORFUL COMMUNITIES® projects in areas across our global footprint.
- As legislation is introduced at the local, state, federal and international levels of government, we will work to determine if the proposed policies align with our position on DE&I.

Our DE&I Strategy

We know that it will take intentional, relentless action and focus to achieve our aspirational commitments. We leveraged a data-driven approach to develop our strategy, delving into company data to better understand demographic and culture opportunities across our workforce. We also benchmarked against best-in-class processes, programs and partnerships to help accelerate our impact. We aim to enhance the elements of our strategy as we advance in our journey.

Colleagues

- Continue updating our DE&I scorecard and embed accountability mechanisms to drive results.
- Enhance our recruiting processes with a DE&I lens, including scaling our diverse slates process globally for non-frontline roles.
- Foster partnerships with external organizations that will diversify our talent pool.
- Nurture a DE&I ambassador group composed of senior leaders who serve as change agents for our strategic business units and functions.
- Build and execute a strategy to grow DE&I capabilities for all employees globally.
- Grow and elevate our ERNs to support career development and provide business value.
- Build and launch site-activation kits to allow our frontline employees to participate in global ERN events.
- Develop and deploy a mentoring program specifically for our ERN members.
- Scale a sponsorship program for women, Black, Latinx and Asian non-frontline top talent to build a more diverse leadership pipeline.

- Engage in regular global employee self-identification campaigns to validate employee representation data, identify gaps and inform future tactics.
- Develop and share DE&I data and an impact summary internally and externally on an annual basis.

Customers and Suppliers

- Further embed DE&I into our environmental, social and governance (ESG) and stakeholder engagement strategies.
- Share and collaborate with our suppliers and customers regarding our respective DE&I journeys.
- Review and enhance our Supplier Diversity Program on a regular basis.

Communities

- Execute a community engagement strategy to create pathways and impacts that advance social justice. [Learn more](#) about how we support our communities and neighbors.
- Continue our global *Colorful Communities* program to unite the power of our paint products and our employee volunteers to brighten neighborhoods and transform the way people think and feel about their surroundings and experiences. [Learn more](#) about how we transform diverse communities around the world.



Our Data

Our employee data provide valuable insights into our performance and progress. As our data change over time, our goals and strategy will evolve to address gaps and capture emerging opportunities. Our goals are aspirational, and we recognize that they are challenging yet achievable with intent and rigor.

The following data do not include all employees who joined our company through recent acquisitions. Our numbers could vary in future reports as we continue finalizing various integrations of new employees into our human resource systems, as employees continue to provide or update their self-identification status, and more.

As we develop future DE&I reports, we also will share new employee details, such as turnover, representation by more employee levels and other disclosures.

Employee Designations

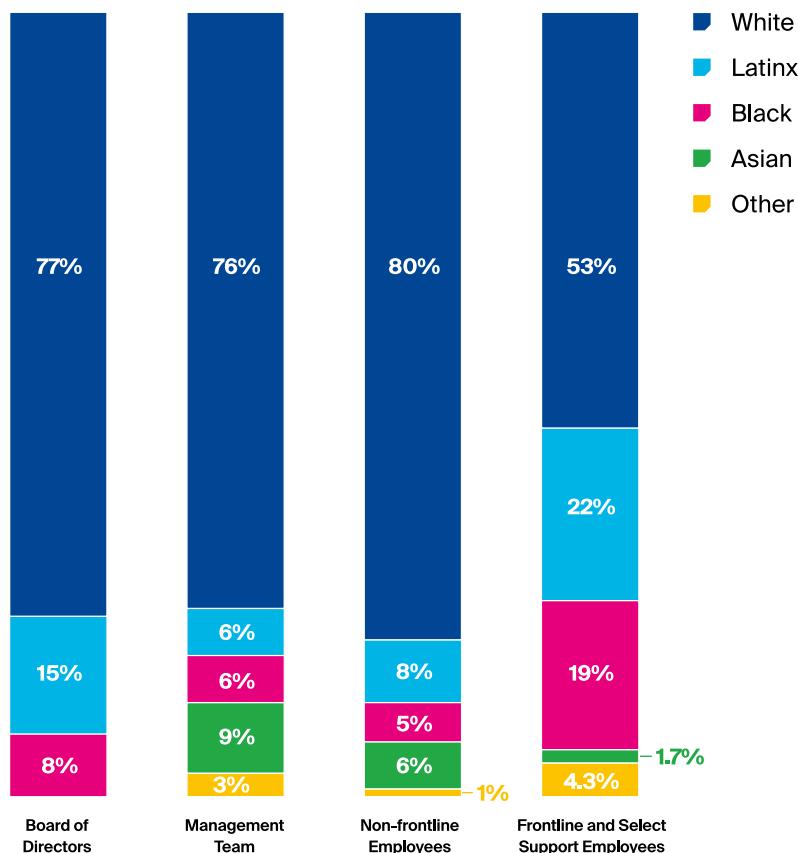
Frontline and select support employees encompass a wide range of critical operational roles. These include plant and manufacturing employees, store employees, custodial employees, clerks, assistants, customer service representatives, electricians, technicians, drivers and color matchers.

Non-frontline employees cover a variety of roles, including chemists, engineers, corporate function employees, managers, directors and executives.

Management team comprises employees who are vice presidents and above.

2021 U.S. Employee Race and Ethnicity Representation

As of December 31, 2021

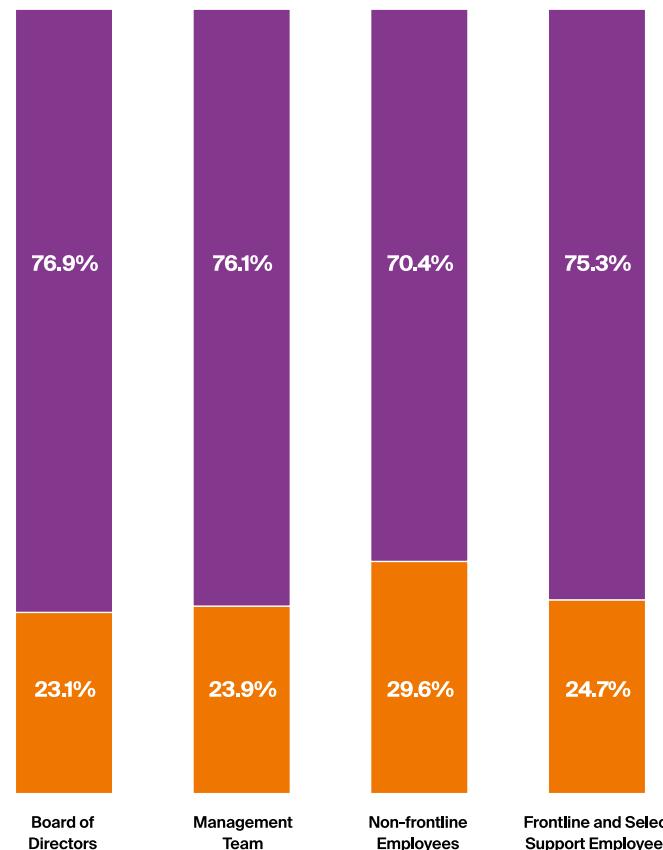


“Other” category includes employees who are two or more races, Native Hawaiian or Pacific Islander and Native American or Native Alaskan.



2021 Total Global Gender Representation

As of December 31, 2021



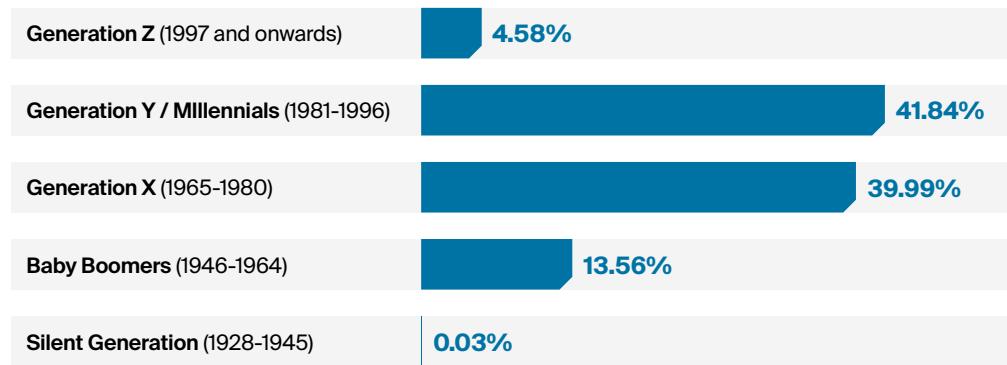
2021 U.S. Non-Frontline Black, Latinx and Asian Employee Headcount Changes

As of December 31, 2021



2021 Total Global Generational Overview

As of December 31, 2021





Engagement

PPG people do better today than yesterday.

Simply put, PPG people make it happen. We do better today than yesterday. We run it like we own it. The guiding principles of The PPG Way have allowed us to further our engagement journey and create a company where everyone can learn and grow, while making us more innovative, productive and competitive.

Despite the ongoing challenges of the pandemic, we have continued to prioritize our commitment to engagement and measuring our performance.

In 2021, we led several initiatives to further our culture through The PPG Way, driving significant gains in employee engagement. We addressed the critical role of leaders and people managers to ensure they are able to foster engagement and model our culture. We also focused on recognizing and connecting with employees at all levels to understand what they need in order to do their best work while balancing their personal commitments.



Culture: The PPG Way

The PPG Way aims to enable, empower and encourage each employee to embrace the tenets of our company culture. It serves as a cultural roadmap for all employees as we strive to achieve our purpose of protecting and beautifying the world.

In 2021, we continued highlighting The PPG Way with manager-led sessions that helped teams find meaningful ways to embed our culture in their everyday work. The outcomes of these efforts are visible in our annual employee engagement survey results, which showed marked improvement on all items tied to fundamental tenets of The PPG Way.

Beginning in late 2020 and continuing throughout 2021, we invited managers looking to increase engagement and drive performance in alignment with our culture to participate in The PPG Way Sprint. This seven-week program, which included a daily micro-challenge to build new habits aligned to The PPG Way, engaged about 3,000 employees in 2021, and has reached nearly 5,000 since its inception.



The PPG Way

Every single day at PPG:

We partner with customers to create mutual value.

We are insightful, dedicated and proactive. We have intimate knowledge of the market and our customers. We focus on practical solutions that make a difference.

We are “One PPG” to the world.

We are better and stronger together. We leverage our scale to reach new markets and introduce innovative technologies as we differentiate and disrupt our markets.

We trust our people every day, in every way.

We enable and empower our people to make the right decisions. We are inclusive, transparent and respectful. Our feedback is clear and actionable.

We make it happen.

We have a passion for winning. We achieve. We deliver with discipline and integrity. We bring our best energy to our work. We decide and act intelligently and quickly.

We run it like we own it.

We respect one another by being responsible and accountable. We always act in the best interest of our company, customers, shareholders and our communities.

We do better today than yesterday – every day.

We continuously learn. We develop our people to grow our businesses.

Employee Engagement

Employee engagement is a measure of how authentically we are living our culture.

One way we measure engagement is through our annual Gallup Employee Voice surveys. Following several years of increased participation, in 2021 we had our highest ever participation rate at 85%. According to the engagement survey, our employees were more engaged than ever, and we continued to make meaningful progress amid a challenging year.

Key results and outcomes of the survey include:

- Improvement in our engagement scores on all measured core engagement and The PPG Way items compared to 2020;
- Substantial improvement in our leader accountability index, reinforcing the importance of quality engagement conversations and action planning by leaders with their teams;
- An increase in our percentile ranking as we delivered greater progress than most industry peers; and
- Noteworthy progress in our inclusion index.



Focused action increases engagement at Saint Just

With its employees communicating frequently and openly, the operations team at PPG's Automotive OEM adhesives and sealants manufacturing facility at Saint Just en Chaussée, France, improved its score in the latest Employee Voice Pulse Survey. This included a nearly 30% increase in its accountability index, which focuses on sharing survey results and developing an effective action plan.

After reviewing results of the 2020 survey, Carlos Gonçalves, plant manager, Saint Just, and his team created a plan to close the gaps, including:

- Creating a dedicated team website to disseminate work information;
- Holding at least one team meeting per month to share employees' feelings and discuss issues;

- Participating in The PPG Way Sprint, which is a seven-week program that engages employees through a daily micro-challenge to learn and implement new habits aligned with The PPG Way attributes;
- Using "WhatsApp" to build personal relationships and voluntarily share information, such as vacation photographs; and
- Holding a monthly team activity outside of work.

These efforts were reflected in the team's May 2021 pulse survey results. For each item surveyed, the team scored higher than prior year and was above the overall PPG mean. The biggest improvement was a 28% increase in the accountability index.

We know that a leader influences a team's engagement. Given the critical role of leadership, we continue to find new ways to build leadership capabilities to engage employees. For example, in 2021, leaders at all levels held a series of sessions with their teams, looking to uncover and commit to adopting specific behaviors that strengthen everyday engagement.

We also invited regional leaders to participate in our annual Inspire U meeting series, which is aimed at aligning and inspiring employees with a consistent message across the organization. The meetings feature conversations about PPG's strategies, priorities and the role our leaders play in addressing engagement challenges. In 2021, the focus remained on building understanding and connections between leaders and their teams.

We believe that a highly engaged environment is best created and sustained through candid and continuous dialogue. As part of our listening strategy, we gathered company-wide feedback on several occasions to understand the prolonged pandemic impact, concerns and uncertainty our employees were feeling in 2021.



We also learned that employees' expectations for where and how work is done have evolved as a result of remote work throughout the pandemic. Through employee surveys, we validated that employees desire flexible work arrangements to manage professional and personal commitments, such as childcare, eldercare and their own health and wellbeing. In response, we continued to evolve the global flexible work arrangement program that we launched in 2020.

Our new global guidelines for hybrid work, grounded in The PPG Way, enable our people to balance on-site and remote work and determine where and how work is best done. The flexibility to address business and team needs enables our employees to 'run it like they own it' and develop a way of working that best fits their unique situation, while meeting the needs of all PPG stakeholders. Our flexible work arrangements also provide opportunities for compressed work weeks, job sharing and other solutions for employees to balance their personal and professional lives.

Pandemic was a catalyst to look at new ways of working: Q&A with Nick Manjerovic

As PPG's senior manager of global real estate, Nick Manjerovic and his team have closely examined redesign trends and what the 'office of the future' may look like. He provides a quick update and shares perspectives on his own flexible work schedule.

Based on your experience, what are the key benefits of a flexible schedule?

For me, saving time is the top benefit. Working from home saves me at least 90 minutes a day in commuting time. I'm putting those hours back into the workday, yet still have time to be there to welcome my children home from school or take them to practice. It's the best of all worlds.

What are some of the challenges?

Setting boundaries was my biggest challenge. I never knew when to 'turn off.' Creating a separate workspace at home and learning how to use digital tools effectively has made it a lot easier. I also make it a priority to take care of my physical and emotional health.



Looking ahead, we need to consider how to keep things equitable when some colleagues are in the office and others are virtual. That's a challenge that businesses around the world are beginning to address.



Recognition

To recognize employees for the impact of their contributions, we have a range of formal award programs focused on excellence in sales, sustainability, health, wellness and other core areas.

In 2021, we continued our formal employee recognition program, the One PPG Recognition & Rewards Program. This global program allows employees to recognize their colleagues with a simple thank you or rewards points that employees can redeem for gift cards or other items. Recognition continues to rank highly among engagement factors and showed a meaningful increase in 2021, with total points awarded increasing by 29%, and unique awardees increasing by 26%. Since the program was relaunched in July 2020, we've seen a 325% increase in use.

In addition to the results of our engagement surveys and ongoing focus on recognition, another measure of our engagement is our turnover rate. While engagement is improving across the enterprise, the biggest opportunity is among frontline employees in retail and manufacturing environments who have been most impacted by the pandemic. In 2021, our voluntary turnover rate increased 29% over the prior year. The circumstances of the pandemic drove a higher level of voluntary turnover, with the most significant turnover in our frontline retail and manufacturing workers. This group of PPG employees may be required to work shifts other than normal daylight business hours, making personal and home care responsibilities more challenging to manage, especially throughout the pandemic.

Voluntary turnover for this employee population was much higher than pre-pandemic levels and finding replacement employees remains difficult. PPG continues to leverage agencies and all forms of recruitment to attract replacements, offering competitive and attractive salaries and wages. It's also important to note that we take a holistic view of retention, with engagement being one driver, in addition to benefits, compensation, working environment, growth opportunities and more.

Turnover Rate Percent			
	Overall	Voluntary	Involuntary
2018	23.74	13.15	10.59
2019	18.16	13.02	5.14
2020	17.61	11.74	5.87
2021	20.00	15.20	4.80



Learning and Leadership Development

Our people are our most important competitive advantage.

Our ability to increase our global footprint, grow organically and create breakthrough innovations is built on the diverse knowledge, skills and commitment of our people living The PPG Way.

2021 Highlights

24,500+

digital courses available to PPG employees

4,150+

facilitated learning opportunities provided to employees in multiple languages globally

2,000

employees participated in unconscious bias training



We continuously invest in learning and development initiatives to ensure our employees are properly trained, productive and engaged at every stage of their careers. We prioritize internal promotions to leverage skills across businesses, while also onboarding new talent to bring diverse ideas into the business.

Our approach to training and leadership development focuses on experience, exposure and education. This model, which emphasizes on-the-job experience, caters to the varied requirements of the organization and teams while still accommodating individual interests and needs. As part of this, we offer a wide array of development opportunities that include:

- Performance and learning plans;
- Extensive on-the-job training;
- Ongoing formal and informal feedback;
- Structured development programs;
- Virtual classroom training;
- World-class online training;
- Peer learning opportunities;
- Coaching; and
- Mentoring.

We seek to develop capabilities in three main areas: engaging the organization, cultivating a customer-focused culture and driving growth and profitability. We focus our strategy on delivering our training to the right people, at the right place and at the right time. This umbrella approach develops organization-wide capabilities while also catering to individual needs and interests.



Throughout 2021, we continued to expand virtual learning opportunities across the organization, including a range of virtual facilitator-led workshops and external learning platforms. We also continued to optimize Evolve, our Learning Management System (LMS) available through Workday.

In 2021, different facilitators offered more than 4,150 learning opportunities to employees in multiple languages globally. In total, we have nearly 25,000 digital courses that employees can access on various topics ranging from technical training to leadership skills. When they've completed a course, our employees have the option to rate each training, giving our dedicated training team an indication of how we can improve the platform over time.

Learning Space

As part of our One PPG learning approach, we continued with the Learning Space initiative. This initiative consists of a series of short webinars to help employees adapt and embrace the changing workplace. The 45-minute interactive modules provide practical tips on flexible/hybrid working and return to office that could be applied to any work environment. This was especially helpful when managing the challenges of work-life balance related to the pandemic. Our global learning team delivered more than 40 Learning Space sessions to more than 1,000 managers. We will host these initiatives into 2022 as we continue to build our capability to lead a hybrid workforce.

External Global Learning Platforms

In 2021, employees took advantage of access to global learning platforms. This enabled a focus on personal and professional development, such as language skills. Looking forward to 2022, we will begin to explore creator platforms, which are e-learning platforms where industry experts can upload content for a global audience.

LinkedIn Learning

LinkedIn Learning is one of the world's largest online learning platforms featuring topic-specific content created by leading experts. Courses offered cover many aspects of professional and personal development. To date, approximately 10,000 PPG employees worldwide have utilized LinkedIn Learning. In 2021, 54% of learners were repeat users viewing an average of 30 videos per month, for a total of nearly 1.5 hours per month per learner. Top skills that learners looked to develop included leadership, time management, Microsoft Excel and enhanced communication. We continue to focus on building adoption for LinkedIn Learning as we progress our learning offering.

Rosetta Stone

Rosetta Stone, known for its immersive, best-in-class language programs, is also available to PPG employees. Currently, employees can participate in eLearning and live tutorials covering 24 languages. Last year, children of PPG employees were also offered free access to Rosetta Stone for three months to supplement their remote learning resources.

To date, 10,455 employees have accessed Rosetta Stone, with English being the most popular language. In 2021, 78% of learners were based in Latin America, Europe and the Middle East. We are focused on building user adoption for the learning platform moving forward.

Unconscious Bias Training

As part of our overall efforts to further drive [diversity, equity and inclusion](#), more than 4,600 people managers and employees attended facilitator-led, interactive workshops on unconscious bias. These sessions focused on understanding the harmful prejudices that stem from the tendency to organize social worlds by categorizing groups and people. Sessions were offered in four languages.





Sales Capability Building

Throughout 2021, we continued to build the capability of our sales teams via virtual learning. We adapted our best-in-class sales training programs to digital learning modules and virtual instructor-led sessions, which we launched across all regions. More than 1,000 colleagues on the sales team took the Selling Skills learning module, and 130 sales leaders completed Professional Sales Coaching.

Leadership Development

Essentials of Leadership

In 2021, we launched our first virtual facilitator-driven Frontline Leadership Program: Essentials of Leadership (EOL). EOL focuses on ensuring global alignment and consistency in developing managers and supervisors. Delivered in six modules, EOL provides new leaders with the right mindset, skillset and toolset to lead more effectively, which ultimately builds employee engagement. Twelve internal facilitators completed the certification to deliver courses that support our program in three different languages. More than 800 managers have registered for EOL, of which 363 had completed all six modules by the end of 2021.

Reflections on the Essentials of Leadership (EOL) Program

“Several of my direct report managers took part in EOL. They are applying some of the skills that they learned to their day-to-day work and in managing their teams, specifically around delegation, empowerment, team engagement and communication. ... Without a doubt, participating in EOL increased the engagement of my collaborators within PPG and with their working teams. EOL also helped my direct report managers reinforce knowledge in areas where they were already competent and develop or acquire new skills in other modules. Finally, EOL means the managers take ownership of their own development at their own pace and have organized space away from the day-to-day activities.”

Jerome Jean-Bernard

PPG People Pulse support center leader,
Global Service Delivery, Latin America

Emerge

Our unique Emerge Leadership Program focuses on project-led learning to equip emerging leaders – our largest leadership talent pool – with the skills needed to lead in today's uncertain and complex world.

The curriculum consists of a 10-month virtual journey accompanied by four facilitated sessions including action learning projects, peer coaching sessions, mentorship from the leadership team and networking online. We had 89 global participants across all businesses and functions in 2021.





Safety and Health

PPG is committed to operating safe and healthful workplaces.

The most important PPG value is the safety and health of all employees. We seek to ensure that our employees and contractors return home safely each and every day by:

- Engaging with them to improve our operating practices around the world;
- Investing in a safe work environment; and
- Running our business with sound operating practices.

PPG seeks to market, distribute and manufacture products globally in a responsible manner that protects employees, neighbors, customers and the environment. To that end, our PPG EHS Process, our environmental health and safety management system, is integrated within each of our strategic business units and emphasizes our commitment to continuous improvement and sustainability. In addition, we prioritize integrating acquired businesses and facilities using a best practice EHS audit process.

2021 Highlights

0 fatalities

4.3% annual reduction rate in illness and injury compared to the 2017 baseline

In 2021, we implemented new training to make sure that our managers and operations leaders around the world were continually educated on process safety. We also spearheaded several new initiatives to standardize expectations for handling five-gallon pails, launched regional pilots for measuring progress of EHS culture and established a partnership with a third-party vendor to provide standardized EHS training content to implement globally. We also developed a new data visualization tool to more easily report and garner insights from EHS metrics that will help us implement ongoing process improvements.

We look to our environmental health and safety (EHS) policy and standards to define our expectations, and we implement programs and initiatives to reduce health and safety risks across PPG's business activities. To ensure progress against our goal of zero injuries, we strive to achieve an improvement of at least 5% per year in our injury and illness rate.

As a result of our efforts, we had no fatalities in 2021. In addition, by the end of 2021, we have realized an annual injury and illness reduction rate of 4.3% compared to the 2017 baseline.

The injury and illness rate for contractors was 0.17 in 2021, up from the 2020 rate of 0.15.

We continue to be diligent in our commitment to health and safety through effective management and tailor-made initiatives that respond to the various workplace environments of our global workforce.



Wuhu employees shoot for forklift safety, skills



It's a given that the annual forklift skills competition at the coatings manufacturing plant in Wuhu, China, reinforces employee safety knowledge, improves driver skills and encourages more effective work. While 2021 marked the facility's seventh annual competition, there was a twist to test the mettle of the forklift drivers — a round of forklift basketball.

Eleven forklift drivers from the manufacturing plant enthusiastically took part in the half-day event. Drivers were able to showcase their skills in two acts: a written exam and on-site practice drills with the forklift. Other employees, including the warehouse manager, supervisors, coordinators, the EHS engineer and members of the plant's functional teams acted as judges. Through the written exam, which comprised 40% of the total score, participants could demonstrate their theoretical knowledge of topics such as safe forklift operation and forklift maintenance.



But the largest share of the score was awarded for displays of dexterity through two on-site activities:

- Stacking and threading steel nuts on a thin steel strip on the forklift; and
- Dribbling and shooting basketballs with the forklift.

Driver Yun Yuanbao came out on top, scoring the highest number of total points to be named the site's 2021 forklift skills champion.

"These activities are designed to encourage employees to do better today than yesterday – everyday. That's The PPG Way."

Jerry Gu
Plant Manager, Wuhu



Health and Safety Management

We implement our EHS policy throughout our company globally using the PPG EHS management system, which we developed in accordance with Coatings Care, Responsible Care and ISO standards. The standardized principles and requirements established by our management system drive EHS integration into our purpose and business strategy. The system covers all people, including contractors who work at PPG-owned and -operated facilities, as well as PPG employees working in third-party facilities.

We hold an ISO14001/45001 integrated global certificate, which covers 55 sites. Many of our sites are also certified to the standard for their location-level management systems.

Our 12 EHS elements form the cornerstone of the management system and contain underlying principles and defined requirements.





To ensure the requirements in our EHS management system remain effective at protecting our people and the environment, comply with current regulations and incorporate experiences within our facilities, we have established more than 70 topic teams. Each team focuses on a specific requirement, with an expectation for the team to meet at least two times a year.

An internal subject matter expert leads each topic team, which comprises permanent members from each region to maintain engagement with the site subject matter champions. Ad hoc members are added to develop and provide additional subject matter expertise.

Our EHS management system requires all of our locations to evaluate compliance with PPG and other requirements through assigned self-assessment tools and the completion of risk assessments, including job safety analyses, process hazard analyses and chemical risk assessments. These assessments must be conducted by experienced personnel, including experts outside of PPG, when appropriate.

When new facilities or companies join PPG through acquisition, we deploy a best practice compliance and integration process to ensure they align with and adopt PPG EHS standards and our EHS management system. Prior to the purchase of an acquisition, we begin a regimented, four-phase due diligence and integration process to evaluate the acquired company's EHS and product stewardship compliance practices as well as their EHS maturity. From the initial assessment and after the purchase, a detailed action plan is developed to address any deficiencies and implement PPG's EHS management system and related programs. The implementation of the action plan generally spans 24 months, with priority placed on regulatory compliance and key risk management topics. At the end of the 24-month period, the acquired operations undergo a corporate audit to validate the integration plan effectiveness and verify compliance with any identified regulatory gaps. After the first audit, new operations are incorporated into the corporate audit cycle based on their risk profile and historic EHS and product stewardship performance. As part of the acquisition integration and ongoing corporate audit process, we identify and monitor the need for capital expenditures to improve compliance and reduce risks to operations. Last year, we audited 12 acquired sites and invested \$3.8 million to upgrade the facilities to meet these standards and ensure regulatory compliance for EHS matters.

In addition, we maintain an oversight audit plan conducted as part of our Corporate Compliance Assurance Program. Each of these efforts promotes a continuous improvement process to protect employees, neighbors, customers and the environment and to achieve mature EHS performance levels.

As part of our EHS management system, each of our locations has an active EHS leadership team that provides oversight, governs decisions and drives continuous improvement regarding the implementation of our EHS management system and other PPG and legal requirements. This team is expected to be led by top management, such as business leaders and the plant manager, and have cross-functional membership that includes the location's leadership team, department representation and hourly employees. Ultimately, this team meets either on a monthly or quarterly basis to shape necessary plans and take required actions to realize our EHS policies and principles.

In addition, in 2021 we modified our internal organizational structure to establish EHS directors in all four major regions in which PPG operates. This reorganization ensures that our EHS approach is guided with a One PPG mentality. The regional directors, key business EHS directors and global directors, who are charged to continuously advance PPG's EHS expertise, report to our vice president of EHS, who has ultimate oversight.

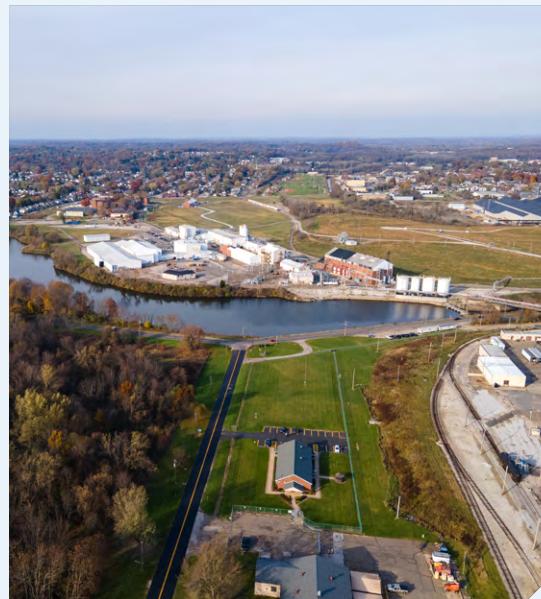


Throughout 2021, we continued to develop and test new opportunities to improve PPG's EHS culture through a series of regional pilots focused on measuring the maturity of the EHS culture at our sites. The pilots assessed our management system, with particular attention on the perception and engagement of employees at all levels in the process. The initial pilot was replicated across another region and is being refined for further implementation in 2022.

Our EHS management system also establishes a clear expectation that all employees actively participate in the implementation of the EHS management system and be engaged in the EHS implementation process, through interactions such as peer-to-peer observations and membership in focus teams that are dedicated to implementing or improving aspects of the EHS management system.

We continued developing standardized procedures for life-critical requirements in 2021. Our EHS data system includes a suite of modules to streamline the collection, tracking and dissemination of this critical information.

Cleveland and Barberton, Ohio, facilities receive safety awards from industry council



Excellence in EHS practices come through big and small wins. Several recent examples can be seen in PPG facilities in Cleveland and Barberton, Ohio. These facilities recently received multiple Awards for Excellence from the Ohio Chemistry Technology Council (OCTC) for initiatives to eliminate spills and protect employee health.

The Barberton plant was honored for its "Walk the Line program," which requires team members to inspect every valve and connection before performing any of several procedures, including transferring material and returning equipment to service. Since implementation of this procedure in 2020, the plant has experienced an 84% reduction in significant spills and releases to secondary containment. Barberton also received an Award for Excellence in 2019.

The Cleveland facility received four OCTC Awards for Excellence for the following reasons:

- Elimination of injury risk by installing a pneumatic valve in place of a difficult-to-operate mechanical valve;
- 70% spill reduction in warehouse by relocating excess material to a more efficient site;
- Development of a pail holder to refill automated dispense tanks, reducing the potential for spills and risk of ergonomic and musculoskeletal injuries; and
- Improved disposal methods for small paint cans, which reduce hazardous waste volume, use of plastic, transportation expenses and disposal fees.



Preventing injury and illness

PPG tracks injuries and illnesses against our internal standard and U.S. Occupational Safety and Health Administration requirements. We also track against the ASTM E2920-19 record-keeping standard, which allows us to easily benchmark our performance against other companies. While our rate is fairly low compared to the majority of our benchmarked companies, we do have opportunities for improvement, specifically in the areas of slips, trips, falls and ergonomics.

We use a global electronic data management system for all EHS incidents. This system provides the tools to identify, report, record and investigate incidents, analyze root causes and trends, correct deficiencies and share and adopt relevant lessons learned.

Historically, motor vehicle accidents are one of our highest severity injury risks. We offer safe driver training and education programs to ensure our operations in every country have the tools and resources to manage this safety risk. All company vehicles have excellent crash ratings, and we invest in advanced safety features such as collision-avoidance systems and backup cameras. Learn more in the [Transportation](#) section.

Strains and sprains are another leading type of injury among our employees. Our focus on ergonomics includes training, monthly knowledge sharing and our annual PPG ERGO CUP® competition, which recognizes initiatives that minimize or eliminate ergonomic risks within our operations. Projects are submitted from all business units and functions across PPG globally. Top entries go on to compete in the Ergo Cup competition presented by the Institute of Industrial and System Engineers.

In 2021, our 17th annual internal Ergo Cup competition identified opportunities for PPG and our customers to save money and minimize risk of injuries through ergonomic ingenuity. We received more than 160 submissions. After a review by a global PPG team, we identified opportunities for injury prevention and financial savings for PPG and for customers. The HOMAX® TEX>>PRO™ sprayer system received the 17th annual Ergo Cup award for its lightweight design, which reduces weight up to 60% compared to traditional hopper spray guns.

Safety 365, which is our safety awareness and communications initiative, continued to empower our people to be safe and speak up if they see something that could be made safer. Each year, the program centers around a monthly safety theme that is supplemented with weekly tips which are reviewed at all levels of the organization for application regardless of location or activity.

We continued to implement human and organizational performance (HOP) at our locations during 2021, rolling out the program to eight more sites and training additional internal consultants to help drive implementation. We also conducted virtual best-practice sharing sessions. At year's end, more than 20 sites globally were using HOP to teach employees how to predict, prevent and manage errors that could result in injury.

Although the pandemic presented challenges with HOP implementation, we introduced HOP tools globally that included:

- A focus on high-risk tasks with a pre-task brief;
- Stop and seek out help as a tool when one is unsure;
- Three-part communication to increase our effectiveness;
- Procedure writing enhancements and step-by-step procedure adherence; and
- Verbalize, point and touch as a tool in conjunction with Walk the Line activities aimed at reducing spills and releases.

A HOP maturity matrix is incorporated into our standardized site scorecard. This scorecard includes both leading and lagging EHS indicators, and each site must use a risk prioritization tool annually to rank 80 EHS aspects and incorporate the top aspects into the new year's scorecard and work plan.



To increase leadership engagement and dialogue about our health and safety efforts, our leaders are asked to ensure 20 measures are in place when visiting a site. These include traditional items such as clearly marked emergency exits, proper use of personal protective equipment and appropriate machine guarding. Other checklist items include safety awareness communications and the effective use of the standardized EHS management system site scorecard.

Our global EHS Advisory Council brings together talented young EHS professionals for development and engagement opportunities with their peers from around the world. In 2021, council members targeted establishing a global sustainable and standardized EHS/product stewardship training for all levels of management and supervision, with a focus toward line supervisors. A second project explored EHS/product stewardship mentorship programs and aimed to standardize career planning tools for EHS/product stewardship professionals.

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
	Number	Rate				
2016	0	0	0.35	1.47	0.98	0.07
2017	0	0	0.31	1.26	0.90	0.05
2018	1	0.0019	0.27	1.25	0.85	0.09
2019	0	0	0.32	1.29	0.47	0.15
2020	0	0	0.26	0.99	0.37	0.12
2021	0	0	0.26	1.14	0.82	0.17

The fatality rate is the number of fatalities multiplied by 200,000 and divided by the number of work hours. A PPG injury and illness (I&I) is defined as an injury or illness that is significant enough that it is unlikely to go unreported, regardless of the reporting culture in the region or site. PPG I&Is include fatalities, fractures, surgeries, hospitalizations, 30 or more days of lost work and other similar criteria. The PPG I&I rate is the number of injuries and illnesses that meet this definition multiplied by 200,000 and divided by the number of work hours. Total recordable incident rate is the number of Occupational Safety and Health Administration (OSHA) recordable injuries multiplied by 200,000 and divided by the number of work hours. Lost workday rate is the number of injuries and illness that resulted in days away from work or restricted activity multiplied by 200,000 and divided by the number of work hours. Occupational disease rate is the number of illnesses multiplied by 200,000 and divided by the number of work hours.



2021 Health and Safety Performance by Region

Employees and supervised workers

	Fatalities	PPG Injury and Illness Rate	Total Recordable Incident Rate	Lost Workday Rate	Occupational Disease Rate
Asia Pacific	0	0.12	0.71	0.56	0.23
Europe, Middle East and Africa	0	0.15	0.94	0.72	0.15
Latin America	0	0.05	0.28	0.08	0.06
North America	0	0.56	2.03	1.45	0.21
Global	0	0.26	1.14	0.82	0.17

2021 Contractor Health and Safety Performance

	Fatalities	PPG Injury and Illness Rate	Total Recordable Incident Rate	Lost Workday Rate	Occupational Disease Rate
Asia Pacific	0	0.00	0.13	0.13	0.00
Europe, Middle East and Africa	0	0.22	0.89	0.45	0.00
Latin America	0	0.49	1.62	0.49	0.00
North America	0	0.43	1.51	0.43	0.00
Global	0	0.17	0.76	0.31	0.00

Industrial Hygiene

PPG protects the health of our employees and supervised workers through our comprehensive industrial hygiene program, which has been in place for more than 50 years. The program centers on the anticipation, recognition, evaluation and control of long-term (chronic) and acute occupational health risks.

We employ credentialed toxicologists and industrial hygienists to oversee all aspects of our global program, and we continually improve it as knowledge of potential hazards and risk-control processes evolve.

We use formal processes to identify potential occupational health hazards by reviewing and analyzing information provided by suppliers of raw materials used in our manufacturing processes, as well as publicly available scientific literature. We also regularly review changes to published exposure limits from suppliers, governmental bodies and organizations, such as the American Conference of Governmental Industrial Hygienists (ACGIH), to determine the basis for assessing exposure to chemical substances. We use exposure-limit changes and risk assessments of process tasks to define annual exposure monitoring plans for each manufacturing location.



Our manufacturing facilities are required to assess exposures to a defined list of substances and tasks where potential health risks are presented. We evaluate the results of these assessments to identify the need for improvements in manufacturing processes, facilities, training, personal protective equipment and medical surveillance.

We also work to eliminate substances of concern from our products and processes. Additional information can be found in the [Product Stewardship](#) section.

Our internal industrial hygiene laboratory analyzes air monitoring samples and is accredited by the American Industrial Hygiene Association (AIHA). We also use contract laboratories accredited by AIHA or applicable national governmental bodies. We maintain our exposure measurement results in a centralized data management system used by our operations teams globally. This system tracks our compliance with the annual sampling plans, results relative to applicable exposure limits and implementation of any corrective actions necessary to reduce exposures.

'Plant Hygiene CoE' offers best practices for clean production

Water and water-based raw materials can sometimes be the source of contamination such as fungi, mold or bacteria, but our new Plant Hygiene Center of Excellence (CoE) takes care of that.

A new CoE has been established in Europe, Middle East and Africa (EMEA) to help PPG production facilities maintain high hygienic standards and meet growing regulatory requirements related to clean production.

The virtual CoE began as a 2017 project to help our Architectural Coatings (AC) facilities in EMEA prepare for a European Union legislative mandate requiring manufacturers to significantly reduce the amount of a specific preservative used during the production process. This led to a renewed focus on effective hygiene methods at PPG that could reduce contamination exposures and protect our AC products against bacteria or fungi.

Since then, the CoE team has worked with colleagues across 23 AC production sites in EMEA to develop and promote effective plant hygiene strategies. The Plant Hygiene Maturity Model, developed by PPG with support from an outside consultant, anchors these efforts and serves as a best practice to help PPG facilities improve and measure plant hygiene levels throughout the production process. The CoE team is also exploring rapid testing methods to check the quality of incoming raw materials in real-time.

We are currently exploring options to make our Plant Hygiene CoE a global effort.



Process Safety

Elements of process safety management are incorporated into PPG's global EHS Management System.

This approach provides a consistent set of requirements to all facilities globally in addition to any applicable regulatory requirements. The result is continuous improvement in safety, environmental performance and operational effectiveness. Our approach also benefits newly acquired facilities by allowing them to reach performance expectations more quickly.

In 2021, we had 0.04 tier one and 0.06 tier two process safety incidents per one million hours worked. We contained all of these incidents onsite without damage to the environment, and no permanent injuries were sustained. Per our process, we thoroughly investigated each incident to determine the root cause and ensure corrective actions were applied systematically and sustainably.

More than 67% of the 2021 incidents were primarily caused by equipment design or condition, which we resolved by redesigning processes, modifying maintenance methods or working with suppliers to improve equipment. A quarter of the incidents resulted from system-driven error, which we resolved by revising work methods, standardizing procedures and training all involved employees using HOP principles.

We further analyzed the incidents to identify common causes across businesses, such as whether they occurred while moving materials by truck, transferring materials by pipe or performing maintenance tasks. We used these data to develop improved methods and training to enhance and track performance. Our use of HOP continues to improve the interface between people and equipment to eliminate errors and other obstacles to effective performance.

We train our plant managers and operations directors globally to recognize the importance of a strong process safety culture and understand and abide by PPG's requirements for process safety.

These activities drive the mindset for process safety culture within facilities by helping teams understand why process safety should be incorporated into practices. Through trainings, managers also assess the process safety culture of their sites.

Our training courses offer pre-work and interactive in-class activities to understand regulatory standards, process safety management requirements and recognition and tools to sustain a healthy culture of process safety.

Process Safety Performance
Per million hours worked

	Number of Tier One Incidents	Tier One Incidents per Million Hours Worked	Process Safety Total Incident Rate	Process Safety Incident Severity Rate
2019	23	0.20	0.04	0.02
2020	13	0.02	0.07	0.07
2021	5	0.04	0.06	0.09

Process safety total incident rate is the number of incidents multiplied by 1,000,000 and divided by the total annual hours worked by employees, contractors and subcontractors. Process safety incident severity rate is the total severity score for all process safety incidents multiplied by 1,000,000 and divided by the total annual hours worked by employees, contractors and subcontractors.



Process Safety Incidents			
Type of Event	Root Cause	Corrective Actions	Tier Level
Spill/Release during manufacturing process	Equipment-corrosion, wear & tear	Modify equipment design	II
Spill/Release during manufacturing process	Equipment-corrosion, wear & tear	Modify equipment design	I
Spill/Release during manufacturing process	Equipment-hose and pump failure	Modify equipment design	I
Flash fire with property damage	Equipment design/failure	Modify equipment design, revise packaging process	II
Spill/Release during manufacturing process	Human error	Revise procedures and retrain	II
Spill/Release during manufacturing process	Equipment design/failure	Modify equipment design	II
Spill during movement of containers	Personal medical event	N/A	II
Chemical splash with injury	Human error	Contained; procedures revised, Re-training (HOP)	I
Chemical splash with injury	Human error	Contained; procedures revised, Re-training (HOP)	I
Spill/Release during manufacturing process, flash fire with property damage	Equipment-corrosion, wear & tear	Contained; repaired pipe	II
Flash fire with property damage	Inadequate procedure	Contained; procedures revised, Re-training (HOP)	II
Spill during manufacturing process	Equipment-corrosion, wear & tear	Contained; new global program developed to address deficiencies	I

Customer Health and Safety

Our commitment to health and safety extends to our customers. Our products are not only manufactured safely in our facilities, but also transported, used and disposed of safely by our customers. Safe use and disposal instructions and [safety data sheets](#) are available for all products. Our product stewardship and technical experts are also available to provide one-on-one consultation on safe product use and disposal.



Wellness

Our vision is to create a global culture of health.

We are advancing our vision of creating a global culture of health, where our people and their families can prioritize mental and physical well-being through informed, active participation in health and wellness activities. Empowering our locations to determine the best wellness initiatives based on employee needs, sharing their successes globally, and recognizing their achievements are the cornerstones of our culture of wellness.

Our goal is to have active wellness programs at 100% of our facilities globally by 2025.

2021 Highlights



Achieving Our Vision for Wellness

We provide ongoing support for and development of local wellness programs, in order to:

- Foster greater employee engagement in the process;
- Provide a mechanism for active disease management;
- Reduce the incidence of chronic diseases among our people;
- Increase worker productivity;
- Provide ways for our people's families to become involved and educated;
- Keep our people healthy and productive; and
- Improve quality of life after retirement.

Our approach to wellness is based on our Four Wellness Absolutes – nutrition, exercise, health screenings and mindfulness/stress management – 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.

Each of our sites is encouraged to have a wellness committee, program and champion to communicate our wellness messages and implement the various global, regional and local programs. The corporate PPG Wellness Council and the Wellness Subcommittee to our corporate Sustainability Committee set the overall strategy and track our progress globally.



Guiding our sites to wellness excellence and recognizing superior performance is the following suite of tools:

- **Global Wellness Council:** We formed a team of enthusiastic employees to make up our Global Wellness Council. Meeting monthly, the group is focused on developing wellness resources, sharing leadership responsibilities and cascading expectations to teams.
- **Wellness Culture of Health Catalog and Program Strategy:** This collection of wellness programs offered at our sites around the world allows our people to share successful ideas and describe how best to implement them. The catalog features sections for each of the Four Wellness Absolutes. Program examples include the hydration challenge (nutrition), stretching sessions (exercise), know your numbers (health screenings) and massage therapy (mindfulness/stress management).
- **Wellness Scorecard:** Our sites can register their wellness activities and track progress over time using our Wellness Scorecard, providing accountability through visibility. A point value is assigned for each wellness program offered, such as weight-loss challenges, health screenings, fitness classes and better sleep programs. In 2021, approximately 67% of our locations achieved the highest level – diamond – on the annual scorecard even while continuing business operations during the pandemic, an increase of over 50% compared to 2020.

- **Wellness Awards:** This annual recognition is based on the number of points a site earns on the Wellness Scorecard in each calendar year and is part of PPG's global Sustainability Awards. In addition, many regions offer locally tailored programs, which can include gifts or other recognition for wellness activities.
- **Wellness Communications Tools:** In addition to fostering ongoing dialogue with employees about wellness, we created a dedicated wellness email alias that gives PPG People improved, dedicated support for wellness programs and launched an intranet site specific to global Wellness resources.





Our Employee Resource Networks (ERNs) are uniquely poised to have a direct impact on our wellness initiatives. Intended to provide employees of diverse backgrounds with a greater voice and more pathways for connection and understanding, many ERNs have stepped up over the past year to provide webinars and other resources to ensure wellbeing and belonging for a number of employees.

A critical component of wellness is mental health. We recognize that the last two years precipitated dramatically different work and home experiences for our employees, many of whom continue to juggle new and expanded responsibilities. To meet the evolving needs of our employees, we developed and offered new mental health initiatives, including enhancing our Employee Assistance Program (EAP) resources globally, increasing visibility of EAP resources and providing wellbeing materials to support employees and their families.

Moving forward, we will continue to improve platforms for wellness challenges, increase sharing of regional and local best practices, and deploy an enhanced health and wellness catalog, with the intent to drive further participation and track effective programs that better reach our employees' and their families' needs.

Promoting a healthy mind with the Abilities First ERN

In 2021, our Abilities First Employee Resource Network (AFN) hosted a webcast for Mental Health Awareness month focused on stress, anxiety, and other mental health conditions.



The webcast featured Dr. Alicia Kaplan, an Allegheny Health Network psychiatrist who specializes in the treatment of anxiety and related stress conditions. She highlighted the impact that the ongoing COVID-19 pandemic has had on individuals worldwide, and shared coping strategies for those experiencing stress and anxiety due to return-to-work protocols or assimilating to "normal" social interactions.

The webcast also featured discussions from PPG employees across the world from multiple business units and functions, including Aerospace, Architectural Coatings, Corporate Law and Compliance and Data Management Operations.

Panelists discussed their own experiences ranging from anxiety to postpartum depression and multiple personality disorders. They encouraged listeners to remove the stigma associated with mental illness and create an accepting culture – inside and outside of PPG – in which those struggling with mental health conditions can be treated with the same inclusivity as individuals with physical disorders.

"This isn't easy to do, but this conversation is going to have ripple effects. My hope is that this is the first of many conversations like this we can have across PPG."

Marvin Mendoza

PPG Global Head, Diversity, Equity and Inclusion



A holistic approach to health and wellness in Brazil



During ever-evolving times, we continue to take on a holistic approach to our employees' wellness by providing resources that support the physical and emotional care of each employee.

Our Brazil facility recently launched the “+ Health and Wellness,” initiative for employees and their families to access holistic care for physical and mental health.

As part of the initiative, a mobile application enables employees to schedule appointments with a family doctor who provides support for their physical, mental and social wellbeing. Appointments are virtual, with free services to employees and for a small charge for family members.

A second application focuses on mental and emotional health through chats, audio recordings and exercises to alleviate or prevent anxiety, depression and burnout. By responding to a quick survey, PPG employees and their families can receive personalized guidance.

“Even if we are physically healthy, we can’t just leave our emotional problems at home when we come in to work. Besides being employees we are fathers, mothers, husbands, wives, sons and daughters. You can’t separate one part of us from another.”

Patricia Pires

PPG senior people operations specialist,
Latin America South

Promoting physical activity with Cycling Months



In 2021, one of our most successful wellness events was “Cycling Months” in Lewkowiec, Poland, which took place from May to August. To encourage physical activity, the facility offered every employee who cycled to work ten times within each month a gift card to EMPIK, a shop with books, music and movies. The initiative was well-received: in July 2021, 31% of local employees participated in cycling month, and many participants reported weight loss and accomplishment from cycling to work. Their efforts likely also reduced employees’ individual carbon footprints while not using traditional combustion engines to commute.



Community Overview

We bring color and brightness to our neighbors and communities.

Our purpose to Protect and Beautify the World guides our actions in serving our communities and neighbors. PPG and the PPG Foundation collaborate with our global colleagues, community partners and other stakeholders to help our communities thrive.

Visit the [Communities](#) section of the PPG website for more information about how we are creating vibrant communities around the world.



2021 Highlights

\$13.3MM

giving by PPG and the PPG Foundation

7.4MM

people impacted through *Colorful Communities* since its launch in 2015

11,750+

employee volunteer hours¹

\$20MM

by 2025 pledged to address racial equity in the U.S.

¹ Includes volunteer hours for the global COLORFUL COMMUNITIES® program and Charity Partner program in EMEA.



We are honored to be recognized for our efforts in 2021.

- We earned the [American Red Cross ‘Distinguished Leadership Award’](#) for our contributions and leadership during some of the largest disasters. These efforts include work to assist when [COVID-19 first impacted China and throughout the pandemic](#), the [wildfires that devastated Australia](#), following Hurricanes Dorian, Florence, Harvey, Irma and Matthew in the U.S. and the [winter storms in Texas](#).
- A PPG employee was recognized at the [Union Rescue Mission’s \(URM\) Angels of Hope Gala](#). Jennifer Addison, PPG final assembly operator, Aerospace, and former resident and counselor at URM’s Hope Gardens Family Center, participated in PPG’s job training program in 2019. She never imagined it would lead to a full-time career and new way of life for her and her children after her time at Hope Gardens. For more than 130 years, URM has been helping to transform the lives of those experiencing homelessness on Skid Row in downtown Los Angeles, California, with food, shelter, education, counseling and long-term recovery programs.



- PPG received the [Corporate Leadership award](#) from our partners at the Carnegie Science Center, which recognizes accomplishments that have led to significant economic or societal benefits for the Western Pennsylvania region.

Community Engagement Strategy

We amplify the unique talents of our employees and the financial contributions from PPG and the PPG Foundation to reach our global communities. We help students connect with science-related inspiration and advanced learning, transform communities with bright colors and address evolving, essential needs around the world.

In all that we do, we integrate and uphold our values of diversity, equity and inclusion. Together with our community partners, employees and investments, we work to create pathways and impacts that ensure support to underrepresented groups around the world.

In 2021, we committed to offsetting the heavy tolls of pandemic-caused learning challenges and met the significant needs our communities faced with meaningful commitments by focusing on how we can do the most good.

On an ongoing basis, we align our giving and community engagement resources in powerful ways to catalyze positive influences in our communities in three priority areas where we can make the greatest impact:

- Education;
- Employee engagement; and
- Community sustainability.





Community Engagement Governance

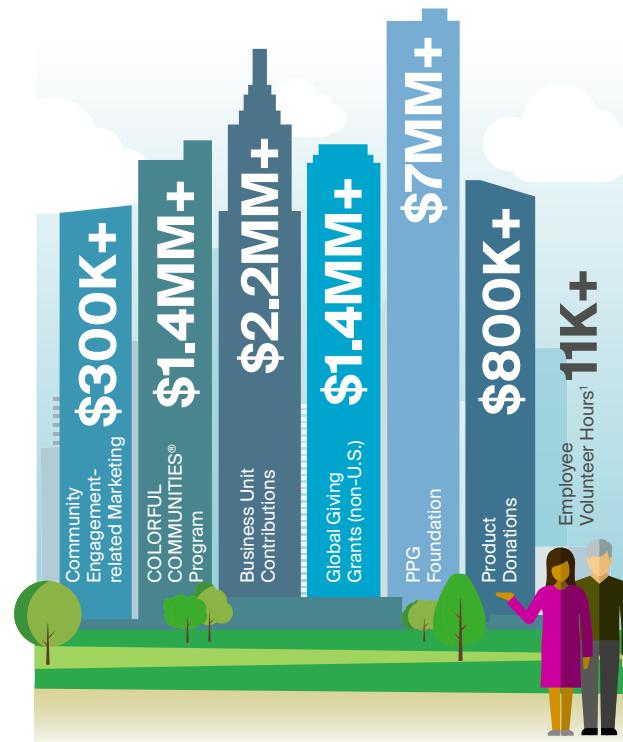
Our global community engagement strategy is overseen by the executive director of the PPG Foundation and global social responsibility. The executive director also leads grantmaking efforts in the U.S. through the PPG Foundation, with support from internal foundation agents who are based in local communities.

Global giving is directed by regional communications leaders in EMEA, Latin America and Asia Pacific. They are supported by local, in-country staff who execute the activities.

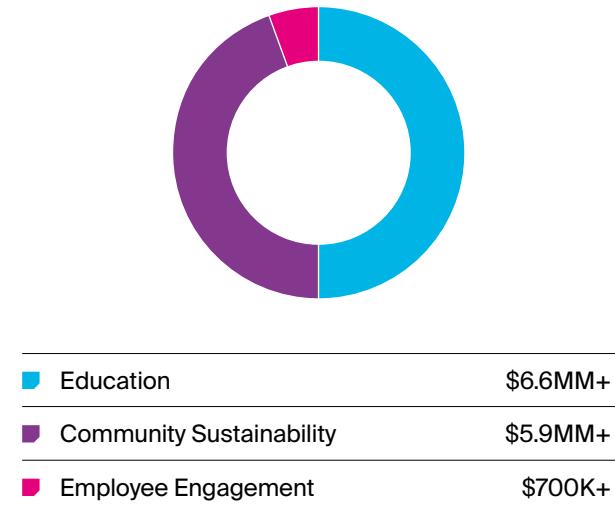
The foundation is governed by a board of directors, and global giving is governed by a committee comprised of PPG's CEO and leaders from the legal, human resources and finance functions, as well as a business representative.

[Learn more](#) about our PPG and PPG Foundation giving in 2021.

2021 Community Investments



2021 Giving by Priority Area



¹ Includes volunteer hours for the global COLORFUL COMMUNITIES® program and Charity Partner program in EMEA.



Global Priority Areas

Education



Activating our commitment to Diversity, Equity and Inclusion

In 2021, PPG and the PPG Foundation announced a commitment to invest \$20 million by 2025 to address racial equity in the U.S. by funding educational pathways for Black communities and people of color. The commitment strengthens our focus on education and furthers our support of science, technology, engineering and math (STEM) education.

Throughout 2021, PPG and the PPG Foundation collaborated with our Employee Resource Networks to identify and support programs that encouraged STEM exploration in talented young students from historically excluded groups, removed limits to hands-on science learning, and targeted historically excluded populations with a focus on inclusion, peer mentoring and professional development to help students thrive during their post-secondary studies. [Learn more.](#)

Knowing the important role that occupations in STEM play in driving economies and innovation, we support programming that makes STEM learning accessible to all, and support efforts to provide young students from historically excluded populations with engaging STEM learning opportunities.

We invest in programs that seek to remove barriers to hands-on science learning. This includes creating educational pathways for Black communities and people of color, empowering future female STEM leaders with opportunities for girls to explore science-based learning, and ensuring diverse students and underrepresented communities have opportunities to uncover new horizons in science-related fields.

From supporting early introductions to STEM experiences to higher learning support, we partner with organizations fostering future career successes to build the next generation of diverse STEM leaders. We inspire learning and cultivate careers by funding hands-on immersive learning opportunities that enable young students to learn, have fun and understand how STEM concepts relate to our daily lives.

With a particular focus on middle and high school, we invest in engaging STEM programs that spark an early interest in exploration and discovery and encourage curiosity in the possibilities of STEM studies.

To help students see the connections between STEM ideas and real-life innovations and careers, the PPG Foundation continued its support of Pittsburgh DataWorks' [Data Jam](#). Through the program, the

students were introduced to statistical analysis software to find resolutions to community problems using data, then presented their findings to PPG data scientists.

We support organizations that expand opportunities for students around the world and accelerate pathways for diversity in STEM fields, including Junior Uni, a nationwide teaching and research organization in Germany that offers young people access to scientific exploration through hands-on exercises in chemistry, physics, computer programming and more.



DIVERSITY, EQUITY AND INCLUSION

\$20MM by 2025

committed to address systemic racism and advance racial equity in the U.S.

37% progress

toward DE&I goal, focused on programs targeting Black communities and people of color in the U.S.



Creating exposure to STEM career possibilities

We support programs for young students that highlight career options from a STEM education and introduce them to role models and mentors who can help them visualize a future in STEM. We know that exposure to STEM careers at an early age helps to inform and shape future choices, such as choosing STEM classes in high school. We encourage our employee volunteers to share their science talent as mentors, to connect with students and demonstrate their personal career and education paths.

That's why our employees engage with programs such as [CoolTech Girls](#), a regional organization that works to ignite girls' passion in science and technology through workshops and role models. In 2021, PPG volunteers joined their color science virtual roundtable event. Demonstrating the chemistry behind a paint recipe, PPG chemists helped the attendees understand career paths in color science, chemistry, engineering and supply chain.

In Brazil, we partner with Junior Achievement on initiatives such as a personal finance program for high school students and an entrepreneurship program about globalization and STEM careers possibilities, among others.

Supporting innovation programming in science centers.

We bring science and discovery to life by partnering with leading science centers.

One example is the [National Museum of Science and Technology Leonardo da Vinci](#) in Milan, Italy, where learning takes place within a state-of-the-art, interactive laboratory designed for programs such as color-based chemistry workshops. In 2021, as part of a longstanding partnership with the museum, PPG helped fund the design and renovation of the lab as well as its equipment and content development.

Watch our video [here](#).



In Dallas, Texas, the PPG Foundation and the [Perot Museum of Nature and Science](#) teamed up for the third annual year to take the TECH Truck program on the road. Through TECH truck, the Perot Museum seeks to reach and inspire young minds from under-resourced communities. TECH Truck offers interactive programming including the Crash Test Car Engineering Challenge, which is designed to allow participants to explore Newton's Laws of Motion and other principles of physics that come into play when two objects, such as cars, collide.



Ensuring that students pursuing higher learning have the support they need to reach their career dreams.

With the world's leading universities and training institutions, we establish scholarships and fund skill-building programs that prepare STEM scholars for future career paths.

In China, the [PPG University Talent Power Program](#) and the [Career Intelligence Class](#) provide financial assistance to help students complete their education and explore scientific research while offering active mentorship and career exposure opportunities.

In partnership with the [Flora Stone Mather Center for Women](#) at Case Western Reserve University, the PPG Foundation supports a community space that empowers women and advances gender equity through research. Here women students have access to a re-imagined, inclusive space that removes social and economic barriers placed by society and enables them to discover and explore their ideas.

To meet the demand for skilled workers in manufacturing and the painting industry, we support workforce development initiatives that provide training and opportunities. We joined the [Rosedale Technical College's Collision Repair](#) program's efforts to stay at the forefront of advancing automotive technologies and industry standards and train students for employability that is compatible with the forward-focused standards and requirements needed in the collision repair industry.

Enabling Possibilities with Education

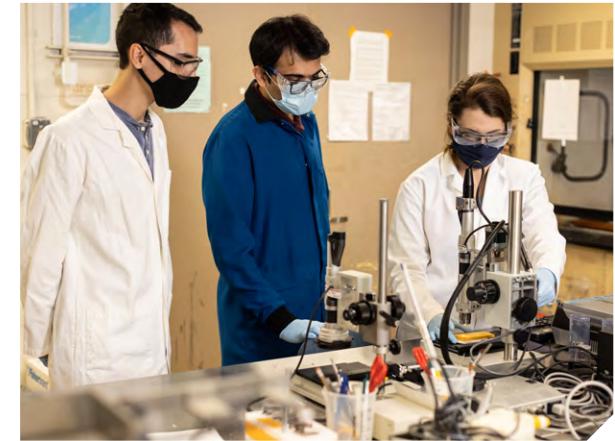
Learn more about how we help community partners provide opportunities for STEM discovery and advanced learning, and create more engaging classrooms with bright color:

- [University relationships](#): Advancing innovation and supporting STEM scholars.
- [Science Center partnerships](#): Expanding science discovery.
- [Colorful classrooms](#): Enhancing the physical readiness of learning spaces.

"We truly value the support of PPG in our work to create an innovative laboratory design and training resources that help people, particularly the younger generations, develop a positive relationship with the sciences. With the laboratory dedicated to chemistry, it is possible to build a new relationship with this scientific field, favoring an intuitive, relational and creative vision of science in connection with the surrounding world. It is a fundamental service for schools, universities and business."

Fiorenzo Galli

General Director, the National Museum of Science and Technology Leonardo da Vinci



EDUCATION

\$6.6MM+
total invested
globally
in education

2MM+
students
reached

\$2.6MM+
applied to university
partnerships
and scholarships

\$875K+
to science
centers



Employee Engagement

From sharing science know-how to hosting career panels, to painting classrooms, our employees play an active role in building better communities. To support these efforts, PPG and the PPG Foundation offer ideas, opportunities and financial support to bolster employee community service.

Each region offers tailored opportunities for employees to volunteer with our nonprofit partners and to amplify the reach and impact of our PPG Foundation grants and global giving.



In the U.S., eligible employees can participate in community-minded programs, such as Matching Gifts and the GIVE volunteer grant program. Eligible employees also can access eight hours of paid volunteer time off per calendar year for non-company sponsored activities. [Learn more.](#)

As part of our [Charity Partner program](#), employees in EMEA can identify and collectively support a charitable organization through the year with fundraising efforts and volunteering. PPG provides matching funds.



We seek to activate the time and talent of our employees to make a difference in our local communities, encouraging them to volunteer and support causes they believe in. In 2021, our employees were inspired to improve the lives of others and embodied our commitment to protect and beautify the world through activities such as:

- **Making a difference on #GivingTuesday:** From hosting a virtual raffle in support of pregnant women and mothers in need in Brno, Czechia, to collecting and holding a bake sale benefitting Charity Partner AJ's Legacy in Stowmarket, United Kingdom, our employees across 20 countries took part in interactive and creative activities that supported multiple non-profit organizations in their local communities on [#GivingTuesday](#).
- **Feeding the mind:** PPG employees and the [Center of Science and Industry](#) in Delaware, Ohio teamed up for a day of STEM community outreach to educate, demonstrate and distribute 500 "lunchboxes" equipped with five science activities to feed the students' minds for a week.

- **Sharing business skills:** In Brazil, our employees continued a long-standing partnership with Junior Achievement to equip young people with employment and entrepreneurship skills. Through several virtual and in-person sessions, PPG volunteers met with more than 1,100 students preparing to enter the workforce and shared insights on career planning, STEM career paths and workplace ethics. During 2021, more than 3,000 young people were reached through this relationship.
- **Inspiring STEM:** PPG volunteers in East Point, Georgia served nearly 600 elementary students with immersive Science, Technology, Reading, Engineering, Arts and Mathematics (STREAM) learning experiences, creating [PPG STREAM Academy](#). Students participated in 13 interactive stations, including a mini-robot station where they learned about coding and how it relates to the cell phones and computers they use.
- **Igniting colorful careers:** In Spain, female PPG volunteers joined [STEM Talent Girl](#), a program led by the ASTI Talent And Technology Foundation, to inspire, encourage and empower girls and young women to pursue careers in STEM through the opportunity to explore professions and virtually talk with women in various STEM fields.



Community Sustainability



As students returned to classrooms and neighbors reunited in 2021, PPG addressed the diverse and urgent needs in the communities where we operate. Whether brightening neighborhoods through our global *Colorful Communities* program, helping those facing hardships caused by natural disasters or the pandemic, or supporting partners addressing racial injustices, we always aim to create happier, healthier, more united communities.

Colorful Communities Program Powers Change with Transformative Color

Across the world, the *Colorful Communities* program unites the power of innovative PPG paint products and our employee volunteers to brighten neighborhoods and make a positive impact. In 2021, the program sought to beautify classrooms and to provide effective learning environments and educational experiences for students despite the increasing educational impacts due to the lingering pandemic.

Each region works with its local communities to identify partners and projects that need a refresh, such as a school with dreary corridors and dull, uninspiring classrooms. Through this program, we strive to enhance quality of life and leverage the impact of color to bring happiness and a sense of pride to these community organizations. Since the *Colorful Communities* program launch in 2015 and through 2021, PPG employees have positively impacted more than 7.4 million people and completed 386 projects in more than 42 countries.

We empower our employees to identify opportunities to host *Colorful Communities* revitalization projects that impact diverse communities including:

- **Welcoming students with color:** In [Tianjin, China](#), PPG volunteers united at the TEDA preschool to bring oranges, yellows and other joyful shades to a weathered building. The school was transformed into a creative and thriving facility in time for the young students to return following their summer break.

- **Surrounded with color:** PPG volunteers in [Cairo, Egypt](#), created vivid murals and applied calming, comforting colors to the walls of FACE for Children in Need - Maadi Center. FACE assists and protects orphans, homeless children and their families through multiple programs designed to protect, care for and educate vulnerable children in Egypt. [Watch the video here.](#)



- **Colorful creations:** In Santa Ana, California, the Orange County Educational Arts Academy, a public, independent charter school serving more than 600 students with Spanish Dual Language immersion, received a colorful makeover of the school's playground space. The playground features 10,000 feet of immersive, one-of-a-kind artwork to create a unique educational experience outside of the classroom.
- **Creating hope:** PPG volunteers in Las Piedras, Uruguay, added cheerful yellows and teals to the exterior of La Huella, a home for children experiencing homelessness. Volunteers also refreshed social and common areas inside of the home, providing a welcoming, comfortable environment.



Responding to Disasters



As parts of the world faced hurricanes, tornadoes and other natural disasters, or unforeseen hardships due to the ongoing pandemic, in 2021, PPG and the PPG Foundation provided immediate and long-term support to help respond and rebuild across our global communities. We provided time and financial resources through employee volunteers, monetary grants and products.

From education programs and supplies to providing nutritious meals for food insecure families, we supported efforts in 2021 to address the immediate needs in our communities, including the following:

- PPG provided financial assistance and employee matching donations to support relief efforts in the wake of the [F4 tornado](#) that impacted the South Moravia region of the Czech Republic, the [catastrophic floods](#) that swept through Germany, Belgium and the Netherlands, and fires impacting areas of Turkey.

- As the pandemic brought unprecedented challenges to food bank operations across Europe, PPG grants enabled partners such as Banco Alimentare in Italy, Tafel in Germany and Secours Populaire Français in France with resources to support food insecure families. Through 2021, PPG provided [financial support to more than 50 organizations](#) in Europe, Middle East, Africa, French Overseas and Suriname that offer pandemic-related food, education and mental health support to those in need.
- In Brazil, PPG supported several organizations in 2021 that provided food for vulnerable families affected by the pandemic.

- When the COVID-19 Delta variant created unprecedented hardship in India, PPG provided donations and an employee contributions match program to support Give2Asia, a non-profit group that works directly with local organizations to offer immediate, emergency local relief support. PPG's donation was directed to the Hand in Hand India organization to help underserved individuals affected by COVID-19 access quality health care. Funds were also provided to five hospitals within the New Delhi, Pune and Ahmedabad, India, districts for the purchase of 50 medical oxygen concentrators.
- When devastating winter storms impacted Texas, the PPG Foundation joined the relief efforts of the [American Red Cross and Feeding Texas](#), partnering with nearly two dozen food banks throughout the state as a part of the Feeding America network.
- In response to floods causing damage throughout Tula Hidalgo, Mexico, PPG provided cleaning kits to the community to assist with response efforts.

Green quizzes support the World Wildlife Fund

As part of our activation around Green Week in EMEA, PPG's team activated "green" quizzes in 11 languages that attracted nearly 2,000 employee participants over the week-long period. We donated 5€ to World Wildlife Fund (WWF) for every quiz, generating almost \$11,000 for the global conservation organization. The funds were directed toward protecting the Eurasian lynx in Slovakia, which are threatened by hunting and habitat loss.

"The funding that we at Casa Buna Association received helped us in the past year to continue our online educational activities and to expand to new families that need our help. With PPG support, we were able to continue school and online education for over 270 vulnerable children from Bucharest and rural areas, because we had the necessary IT equipment and technical support to make it happen."

Eliza Trăistaru

Executive Director, Asociatia Casa Buna



Supporting a more equitable society

To help advance a more equitable society, we support social justice efforts that expand access to opportunities across our communities worldwide. In 2021, our grantmaking in the U.S. included social justice initiatives that focus on civil rights, criminal justice reform and the cultural heritage of Black communities and people of color. These grants were made through relationships with organizations such as the NAACP Legal Defense Fund and Asian Americans Advancing Justice.

Outside the U.S., we work with a range of nonprofit organizations that seek to expand opportunities to underserved groups.

Learn more about how we give back at communities.ppg.com.

Watch our *Colorful Communities* 2021 recap video [here](#).

COMMUNITY SUSTAINABILITY



COLORFUL COMMUNITIES®



From 2015-2021

386 projects completed in 42 countries	18,000+ employee and community volunteers
7.4MM+ students, seniors, teachers, patients and community members impacted	38,000 gallons of PPG paint products (143,000+ liters)
\$8.8MM+ in funding	120,000+ volunteer hours



Community Engagement Framework

Our vision to bring color and brightness to communities around the world guides our global community engagement activities.

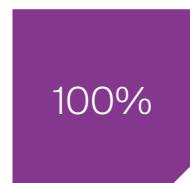
At PPG, the vision guiding our global community engagement activities is to bring color and brightness to communities around the world where we have a presence.



2021 Highlights



facilities met requirements of the Community Engagement Framework



Framework implementation target by 2025



volunteer hours¹

We seek to strengthen communities through our philanthropic and other engagement efforts. However, we also recognize our obligation to remain a good community citizen by complying with local regulations that might govern the relationship between PPG sites and the community, and by recognizing and addressing how our operations may impact the communities in which PPG operates. Because many of these impacts arise outside of our community engagement efforts, we address potential risks to our communities through many of our operating policies, for example, in those for [product stewardship](#) and [human rights](#).

To advance our vision, the PPG Community Engagement Framework sets the priority actions for community engagement that our facilities and sites are expected to implement. These actions are designed to develop and maintain relationships with key community constituents, governmental agencies and charitable organizations, as well as encourage employee involvement in our host communities.

The framework serves as both a policy document and practical resource for site leaders. Sites are assigned one of four program levels based on their size, type of operations and potential impacts on their host communities.

During each year, a site is asked to fulfill certain community engagement actions that align with its corresponding level. For each expectation, the framework provides suggested implementation actions and resources available to assist with the execution.

¹ Includes volunteer hours for the global COLORFUL COMMUNITIES® program and Charity Partner program in EMEA.



In 2021, our sites began using an adjusted framework that elevates community engagement expectations for each program level and provides increased implementation guidance and resources for site managers.

Our goal is to have 100% of PPG facilities meet the framework requirements by 2025.

Each year, we survey our sites to measure the degree to which they implemented the items associated with their program level. In 2021, 80% of our facilities met the requirements of the framework, which was flat from 2020. We will use the results of the survey to continue emphasizing community engagement at our locations in 2022.



Community Engagement Expectations			
Program Level 1	Program Level 2	Program Level 3	Program Level 4
<ul style="list-style-type: none"> • Make information available to employees about the existence of the various employee programs, including GIVE and Matching Gifts, and how to participate (U.S. only) • Make information available about the Charity Partner program and how to participate (EMEA only) • Execute a minimum of one community engagement activity during the calendar year • Engage in site emergency planning activities in partnership with appropriate community services 	<ul style="list-style-type: none"> • All Level 1 expectations • Execute a minimum of two community engagement activities during the calendar year • Ensure site leadership is active in community 	<ul style="list-style-type: none"> • All Level 1 and 2 expectations • Execute a minimum of three community engagement activities during the calendar year • Incorporate community engagement items or actions into the performance and learning plans of site leaders • Assign community engagement responsibilities to a point person • Make a financial donation to a charitable organization that aligns with PPG priority areas of education and community sustainability • Coordinate with government affairs to establish and maintain relationships with local government officials 	<ul style="list-style-type: none"> • All Level 1, 2 and 3 expectations • Hold two leadership meetings each calendar year to discuss site's community engagement strategy



A few examples of the Framework in action: Creating avenues to success around the globe

China: Reaching 200+ students in Tianjin with new opportunities



Employees at PPG's Tianjin, China facility prioritized opportunities to help build foundations for students' success. In 2021, the site facilitated the PPG Scholarship Program at 10 local schools through a partnership with nonprofit organizations Give2Asia and Live2Give. Through this program, 200 students benefitted from the scholarships and an opportunity to interview for PPG's internship program. Employee volunteers also transformed learning environments for young students at two local schools through the *Colorful Communities* program. Creating encouraging, engaging spaces with fresh paint and color, PPG volunteers produced brilliant and refreshed campus environments at the TEDA Nursery School and TEDA Xingyoubaobei Autism Rehabilitation Center.

United States: Supporting innovation and STEM education in Huntsville



In Huntsville, Alabama, PPG employees sought opportunities to support their neighbors throughout 2021. From assisting with educational programs like Space Camp and the Aviation Challenge at the U.S. Space and Rocket Center to facilitating scholarship opportunities through the Women's Economic Development Foundation, local employees forged partnerships in the areas of STEM education and engaged in local beautification efforts. To help students thrive, Huntsville employees championed more than 50 Innovative Classroom Grants in support of local school STEM projects and initiated grants to organizations such as Madison County Career Tech Center, Alabama Aviation Education Center and the Earnest Pruett Center of Technology.

Suriname: Building community and beautifying community spaces

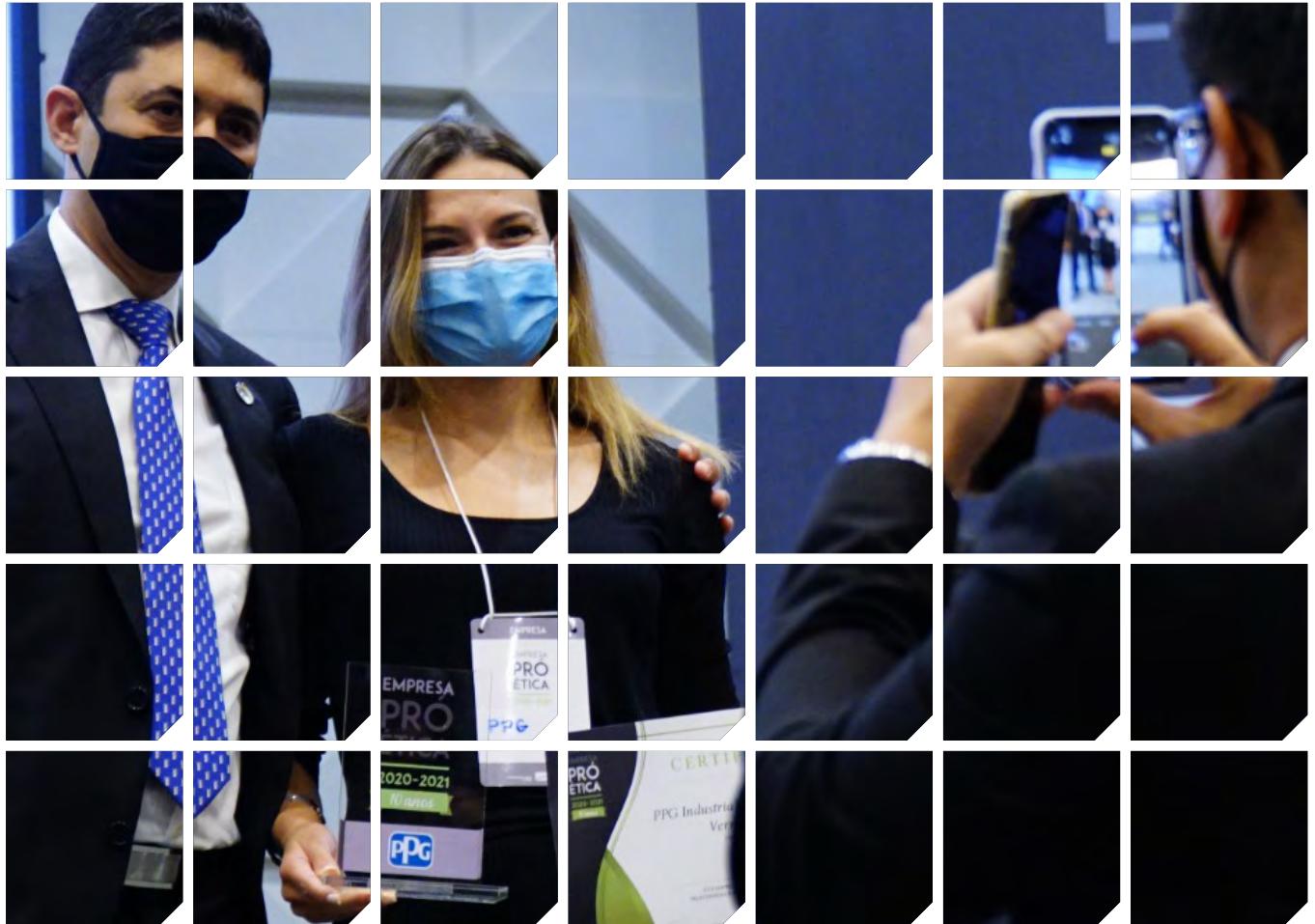


In Winti Wai, Paramaribo, Suriname, PPG Stiwewa employees completed a *Colorful Communities* project to paint interior and exterior walls and vibrant murals at the new PPG Stiwewa Buurtcentrum (Community Center) in Suriname. The building, which is the backyard of our manufacturing site, was designed to provide social support for area residents, including educational and employment assistance for young people and fun, recreational programs for all. PPG Stiwewa also provided financial support to build the community center. Read more about this [transformative partnership](#).



Governance

We have an unwavering commitment to strong corporate governance, ethics and compliance.



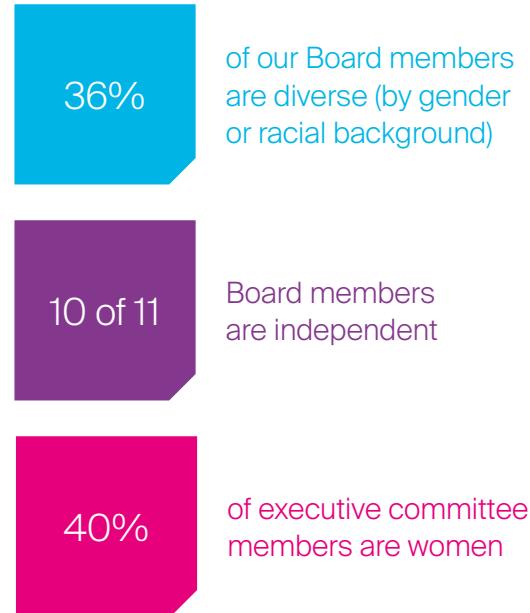


Governance Overview

We have an unwavering commitment to strong corporate governance, ethics and compliance.

At PPG, we hold ourselves to a high standard of integrity and professional conduct. This means not only ensuring compliance with the law, rules and regulations, but also upholding our values, code of business ethics and voluntary commitments.

Highlights



The Pro-Ethica seal from the Brazil Federal Ministry of Transparency and the Comptroller General of the Union recognizes companies that demonstrate lawful business practices and operate with the highest level of fairness, transparency and integrity. For the second year in a row, PPG earned this designation and is the only coatings company in Brazil to have this distinction in 2021.

It is imperative that each Board member, employee and business partner knows, understands and fully abides by our commitments. Because we own and operate the vast majority of our global footprint, we have direct control over, and visibility into, our operations. This facilitates our ability to instill an ethical culture and monitor compliance to our codes and policies.

Highlights of our governance approach include:

- **Board accountability for ESG.** ESG is overseen by our Board, with support from other Board-level committees depending on the issues and risks involved. The Board engages with management on the broad range of ESG strategy, risks and opportunities. In 2021, the Board conducted a comprehensive review of its oversight of the Company's ESG programs and practices to ensure that the Board or one of its committees has oversight responsibility for each of the ESG programs and practices significant to PPG. As a result of this review, the Board in 2021 revised our Corporate Governance Guidelines and the charters of each committee to more clearly specify the ESG programs and practices overseen by the Board and each of its committees. Our 11-member Board includes 10 independent members. Currently 36% of our Board members are diverse by gender or racial background.
- **Executive-level oversight and incentives.** In 2021, we appointed a vice president of global sustainability to strengthen executive-level oversight and visibility of PPG's ESG efforts. In addition, PPG executive officers have ESG goals included in the individual performance component of their annual incentive plan. Each executive officer has specific DE&I and sustainability and governance goals that are aligned with company strategies and targets.



- **Established robust risk management practices.**

We are focused on embedding ESG considerations into our broader enterprise risk management (ERM) and business planning processes. For example, our newly appointed vice president of global sustainability is a risk owner within the [Enterprise Risk Committee \(ERC\)](#), which was formed in 2021 and focuses on bringing a holistic approach to managing top-tier ESG risks across PPG.

- **Individual accountability supported by robust policies and a speak-up culture.**

Through our various policies, such as our [Global Code of Ethics](#), and our established practices and training across [human rights](#), ethics and personal conduct, employees become familiar with how to embed our values and expectations into their day-to-day decision making. We also continue to encourage employees to embrace the right and the responsibility to report any concerns over, or potential violations of, our values or policies without fear of retaliation.

- **Risk-driven supplier management.** Globally, we are committed to compliance with evolving regulations that impact the sustainability of our operations, and we expect the same of our suppliers. PPG is committed to ethical business conduct and responsible sourcing, including in areas of [conflict minerals](#) and [human rights](#). Learn more about how we prioritize [supplier sustainability](#).

This graphic illustrates the ESG programs and practices overseen by the Board and each of its committees.



Structure

PPG is governed by an 11-member Board of Directors in accordance with our [Corporate Governance Guidelines](#) and oversees ethics and compliance through its Audit Committee. The Sustainability and Innovation Committee, formerly the Technology and

Environment Committee, of our Board has oversight of the tracking of our sustainability progress, and defining climate-related risks and opportunities. We report sustainability-related progress to the Sustainability and Innovation Board Committee three times per year, and the full Board of Directors one to two times per year.



We continue to seek new opportunities to enhance our ESG corporate governance. The newly formed Sustainability organization is responsible for developing the corporate sustainability strategy and working alongside our businesses and functions to execute that strategy. The organization is focused on reducing PPG's environmental impact through our operational activities, including Scopes 1 and 2 emissions, and working with the businesses and science and technology organization to innovate new product and service solutions to enable customer sustainability (Scope 3).

The company's overall ERM process and annual risk assessment is overseen by the Audit Committee. The ERC is comprised of the Executive Committee and will oversee the active management of risks. The vice president of global sustainability will serve as the risk owner for ESG and will:

- Work with other risk owners and across the organization to facilitate and drive action on the top-tier ESG risks;
- Define and monitor appropriate leading and lagging indicators associated with these risks; and
- Bring other insights that might be considered relevant to the ERC for holistic, integrated management of ESG risk across PPG.

In addition, we maintain an executive-level Global Ethics and Compliance Committee chaired by our CEO, as well as regional committees chaired by our regional business leaders.

Our compliance office is headed by our chief compliance officer (CCO), who directly reports to our senior vice president and general counsel. The CCO also reports progress to the Audit Committee two times per year.

In 2021, we had 24 full-time employees in our global compliance office. Located around the world, these employees oversee general ethics and compliance matters, investigations, export compliance, training and more. They are supported by hundreds of employees worldwide who help implement specific codes, policies and initiatives.

Codes and Policies

The [PPG Global Code of Ethics](#), which is available in 28 languages, sets forth the principles that apply to all employees – everywhere and in every circumstance.

Supplementing the code are specific policies and procedures that include our Global Export Control Policy, [Export Compliance Alert](#), [Anti-Corruption](#), Due Diligence Procedure for Third Party Intermediaries and Denied Country Policy.

In early 2021, we continued making substantial progress on our Anti-Corruption Due Diligence Procedure for Third Party Intermediaries, adding 800 in-scope third parties (including many associated with companies that PPG acquired in 2021) and renewing 167 others through a refreshed due-diligence process.

Other developments during the year included a new workplace policy and training focused on how to protect non-public and proprietary information. An average of 25,000 employees were enrolled in online training on compliance topics.

Legal and Compliance Risk Assessment

We conduct a global legal and compliance risk assessment every two years. We survey more than 200 country, regional and global leaders representing all our functions and business units regarding 44 legal and compliance risks across the following nine risk categories:

- Anti-corruption;
- Corporate compliance and culture;
- Safety and protection of assets;
- Export practices;
- Proprietary information;
- Employee relations;
- Records management/retention;
- Data privacy; and
- Third-party management.

In 2022, we will begin executing risk mitigation plans for the most commonly cited risks from our 2021 assessment across each of the regions.



Training and Communications

Our employees have access to online trainings in multiple languages that cover, among other topics, anti-corruption, competition law, conflicts of interest, export compliance and the PPG Global Code of Ethics. We also deliver in-person training in every region, with particular focus in higher-risk regions and for higher-risk topics.

In 2021, 65% of our employees completed either online or in-person training on ethics and compliance issues. Through PPG's new global training platform, we offered six courses within our ethics and compliance curriculum in 2021. These cover:

Export control and trade sanctions

PPG's Global Code of Ethics

Creating a harassment-free workplace

Anti-corruption

Appropriate use of social media

Data protection and privacy

Additionally, new employees receive an onboarding curriculum of these trainings each quarter.

We communicate with all employees on ethics and compliance topics throughout the year via:

- Virtual meetings highlighting ethics and compliance topics;
- Manager toolkits including presentation materials and discussion points;
- Topic-specific flyers and materials distributed to U.S. manufacturing locations; and
- Discussion guides designed to help managers lead brief conversations on ethics and compliance topics.

Additionally, our "Speak Up Challenge" provides a high-level review of our ethics and compliance investigations in the prior period, offers an in-depth look at a specific ethics or compliance issue and encourages employees to report concerns. The 2021 challenges covered diversity, equity and inclusion, and workplace violence/sexual harassment.

In 2021, we conducted two virtual roundtables within each of our businesses to review the status of the business' ethics and compliance training, ethics investigations, [PPG Ethics Helpline](#) activity and third-party due-diligence program. We also held virtual roundtables for all of our corporate functions. In addition, our ethics intranet site provides information on policies, procedures and more, as well as an avenue to report ethics and compliance concerns.

Reporting and Investigating

The PPG Ethics Helpline is available for all employees and third parties, including customers and suppliers, to ask ethics and compliance questions or report a concern anonymously.

Individuals also can contact several management resources, including our human resources staff or CCO, to report concerns. It is against PPG policy to retaliate against anyone for making a good-faith report of a violation of law or the PPG Global Code of Ethics.

The helpline is managed by an independent, third-party firm with multilingual representatives who are trained to listen carefully, ask questions and document the situation accurately and anonymously.

Our compliance office handles all reported issues, with each taken seriously and appropriately addressed.

Each case is assessed by an appropriately assigned functional or regional investigator or team. Actions include reviewing and preserving relevant documentation, conducting interviews, communicating relevant findings, preparing a final report, and identifying and ensuring the completion of any appropriate corrective actions. Disciplinary actions are the responsibility of the human resources team in conjunction with legal, compliance and the business.

Although the complexity of any allegation may necessitate an extensive investigation, our goal is to close the investigation and case report in a timely manner. The person who reports the issue through the helpline is given a case number to anonymously check the status of their report throughout the process.



Beginning in 2020, we implemented processes to better track post-investigation corrective actions, including piloting a survey to seek feedback from people who reported an issue that was substantiated. In 2021, we reconfigured our survey to focus on understanding complainants' satisfaction with the handling of the investigation process. Specifically, the survey sought to understand if the respondents felt that they were treated with respect in the process and that their concerns were handled in a professional and timely manner. We received 48 responses to this survey. Of the responses we received:

- 81% of survey participants felt that their investigation was completed in a fair, unbiased and confidential manner;
- 85% of survey respondents said that they were treated with respect throughout the investigation;
- 83% of respondents said they were satisfied with the timeliness of the investigation; and
- 83% of respondents said they would recommend the Helpline to a colleague.

In 2021, we opened 657 investigations encompassing 837 allegations of employee misconduct. We had 49% of these reports come through the PPG Ethics Helpline in the form of both phone and internet submissions. We received the remainder through internal sources, including direct communications to management, human resources and/or the legal and compliance department. Of the allegations closed as of year's end, 56% were substantiated and resulted in 456 disciplinary actions.

We experienced an increase in cases between 2020 and 2021 due to acquisitions and continued efforts to communicate to our employees on the importance of reporting concerns. To encourage involvement and promote transparency, we provide information and data on reported ethics concerns to our employees throughout the year.

Investigations by Region			
	2019	2020	2021
Asia Pacific	50	56	83
Europe, Middle East and Africa	53	72	74
Latin America	117	120	124
United States and Canada	326	335	376
Total	546	583	657

Previous years' numbers were adjusted due to data cleanup, resulting in more accurate reporting and based on cases that were closed after the reporting cycle.

Disciplinary Actions			
	2019	2020	2021
Warning	175	165	200
Counseling	201	155	119
Financial	16	6	7
Suspension	18	11	3
Termination	94	119	127

A single allegation may be made against multiple individuals and could result in multiple disciplinary actions. The 2021 data include only investigations closed as of Jan. 31, 2022. Previous years' numbers were adjusted due to data cleanup, resulting in more accurate reporting and based on cases that were closed after the reporting cycle.

Substantiation Rate (Percent)		
	PPG	Benchmark
2020	51	43
2021	56	45

Benchmarks represent comparisons to other manufacturing companies with 50,000+ employees. Data for 2021 are as of Jan. 31, 2022. Previous years' numbers were adjusted based on cases that were closed after the reporting cycle.

Anonymous Reports (Percent)		
	PPG	Benchmark
2020	40	50
2021	36	47

Benchmarks represent comparisons to other manufacturing companies with 50,000+ employees. Data for 2021 are as of Dec. 31, 2021. Previous years' numbers were adjusted based on cases that were closed after the reporting cycle.

Case Intake Method		
	Helpline	Proxy
2018	282	206
2019	282	268
2020	318	275
2021	326	331

Previous years' numbers were adjusted due to data cleanup, resulting in more accurate reporting and based on cases that were closed after the reporting cycle.



Human Rights

We respect the dignity and human rights of all people.

As stated in our [Global Code of Ethics](#), we are committed to compliance with all laws pertaining to freedom of association, privacy, collective bargaining, immigration, working time, wages and hours in our operations throughout the world. We also uphold laws prohibiting forced, compulsory and child labor, human trafficking and employment discrimination.

We are committed to valuing differences among us in experience, perspective, background, race, age, national origin, religion, sex, sexual orientation, gender identity and/or expression, culture, interests, geography and style. We strive for a collaborative environment in which everyone is embraced for their differences and has the chance to succeed.
(See our [Diversity, Equity and Inclusion](#) report.)

We base employment decisions on job qualifications and merit, which include education, experience, skills, ability and performance. We give equal employment opportunity to – and will not discriminate against – individuals on the basis of any status protected by applicable laws.

A key PPG value is to ensure our people return home safely each day. We are actively working toward a goal of zero injuries by engaging with our employees to improve our operating practices around the world, investing in a safe work environment and running our business with sound operating practices.
(See the [Safety and Health](#) section.)

This commitment extends into the communities where we operate. We dedicate financial contributions, apply our products and use the power of our employee volunteers to address the needs of our local communities and transform lives.
(See the [Community Overview](#) section.)

We are also committed to preserving and protecting the environment in which we operate at all our locations around the world. Minimizing the footprint of our operations is an ongoing focus, and our locations are guided by our sustainability goals.
(See the [Environment Overview](#) section.)

Our vigorous product stewardship program aims to minimize the human health and environmental impacts of our products throughout their entire life cycle and to eliminate substances of concern from our products. We have standards and processes in place to help ensure our products are developed, used and disposed of safely.
(See the [Product Stewardship](#) section.)

Our Business Partners

We expect all of our contractors, suppliers and other business partners to respect and uphold our commitment to human rights in their operations. In particular, our suppliers are a core focus of our human rights due-diligence process. We evaluate their commitment and adherence to human rights through our supplier onboarding process, assessments of our high-risk suppliers globally and annual audits of selected suppliers.



Our [Global Supplier Code of Conduct](#) clarifies our expectations in the areas of business integrity, labor practices, employee health and safety, and environmental management. Specific requirements relating to human rights include:

- Treating employees fairly, including with respect to wages, working hours and benefits;
- Prohibiting all forms of forced or compulsory labor;
- Prohibiting the use of child labor;
- Respecting employees' right to freedom of association and collective bargaining, consistent with local laws;
- Providing safe and healthy working conditions;
- Conducting operations with environmental diligence and complying with all applicable environmental laws and regulations; and
- Delivering products and services meeting applicable quality and health and safety standards.

With the launch of our global eProcurement (ePro) platform beginning in 2021, our suppliers now use the ePro supplier portal to do business with PPG. This includes completing an electronic acknowledgement of our Global Supplier Code of Conduct and [Supplier Sustainability Policy](#) and indicating compliance with [data privacy laws](#) as they pertain to any relationship with PPG. Since the launch in the United States and Canada, and in Europe, the Middle East, and Africa, over 10,000 suppliers, more than a third of our supply base, have acknowledged that they adhere to the aforementioned policies.

We expect our suppliers to immediately report any suspected violations of our Global Supplier Code of Conduct through the [PPG Ethics Helpline](#) or other specified channels. In the event of any non-compliant activity or violation of the Code, the supplier may be required to provide a detailed corrective action plan to address the deficiency. We reserve the right to terminate our relationship with any supplier that cannot demonstrate compliance with the Code.

Our [Supplier Sustainability Policy](#) builds upon our Global Supplier Code of Conduct by establishing expectations for sustainability within our supply chain. This policy reinforces our expectations that our suppliers, as well as their subcontractors, will comply fully with applicable laws and adhere to internationally recognized environmental, social and corporate-governance standards.

Each supplier must evaluate and maintain sustainable processes and raw material sources throughout their supply chain and supplier base. We also encourage our suppliers to innovate and develop new products requiring less intensive material and energy consumption, along with leveraging their collective strengths to help us meet our sustainability goals.

To support this, we engage with [ECOVADIS™](#), a leading global corporate social responsibility and sustainability ratings company, to leverage assessment processes, tools, resources and insights to drive sustainability standards and practices throughout our global supply base. Key assessment areas include labor and human rights, which cover employee health and safety, working conditions, child labor, forced labor, human trafficking, diversity, discrimination and harassment.





EcoVadis sustainability intelligence provides broad-scale supply chain risk screening and mapping, supplier sustainability metric scorecards with actionable ratings, and audit and improvement management capabilities. The average score of PPG suppliers who have had their labor and human rights programs rated by EcoVadis through December 31, 2021, was above EcoVadis' market average score. This information will help us ensure our suppliers around the world are equally committed to sustainability as we are.

Our high standards for supplier sustainability are embedded in our acquisition integration process. For all of our recent acquisitions, we are incorporating their supply base into our processes, which includes our expectations that these suppliers comply with PPG's Supplier Sustainability Policy and ethics standards. We are also planning to merge the PPG and Tikkurila platforms hosted by EcoVadis to create additional synergy. The transitioning of acquired companies' suppliers into our process is a standard part of our integration approach and a critical strategy to ensure all PPG suppliers understand and meet our standards.

We are also a founding member of the [RESPONSIBLE MICA INITIATIVE®](#) (RMI), which aims to mobilize the supply chain to eradicate child labor in India's mica mines through traceability efforts and community-building activities. RMI's holistic approach implements three program pillars simultaneously:

- Mica supply chain mapping and workplace standards for mica collection and processing;
- Community empowerment, including improved educational resources and alternative means of livelihood, in villages that provide the mica workforce; and
- Legal frameworks for the mica sector.

See the [Supplier Sustainability](#) section for additional details on how we address human rights as part of our procurement process.

Additional information about the steps we have taken to ensure human rights are respected in our own operations and within our supply chain also can be found in our [California Transparency in Supply Chains Act Statement](#) and [Modern Slavery and Human Trafficking Statement](#).



Reporting Human Rights Violations

Employees, suppliers and other third parties can anonymously report suspected human rights violations within our operations and those of our suppliers through the [PPG Ethics Helpline](#). The helpline is managed by an independent, third-party firm, and we investigate each allegation thoroughly and fairly.

Additional information on the helpline and our expectations for a high standard of integrity and professional conduct for employees and business partners can be found in the [Governance Overview](#) section.



Conflict Minerals

PPG is committed to ethical business conduct and responsible sourcing.

PPG is committed to ethical business conduct and responsible sourcing. We work diligently with our global supply chain partners to ensure compliance with the U.S. Securities and Exchange Commission's rule on conflict minerals.

The international supply chain for these minerals is complex, however, and tracing them is challenging. Many of the raw materials we use that contain conflict minerals pass through a variety of intermediaries before reaching our company. We do not purchase directly from the smelters that produce the minerals. Therefore, we must rely on our suppliers to identify the sources of conflict minerals and to declare the conflict-mineral status of their products, as stated in our [Conflict Minerals Policy](#).



Consistent with our commitment to social responsibility and sustainability, we expect each of our suppliers to:

- Conduct due diligence on its supply chain in accordance with the Organization for Economic Co-Operation and Development's Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas;
- Determine the source of any conflict minerals or products containing conflict minerals that are supplied to us;
- Provide the conflict minerals source information that is necessary to support our due diligence and reporting obligations under the SEC's Conflict Minerals rules; and
- Notify us if a supplied product contains conflict minerals originating in the Democratic Republic of Congo (DRC) or surrounding countries.

Suppliers that are not able to provide adequate information about the source of any conflict minerals in their products or that supply products containing conflict minerals from the DRC or surrounding countries shall be evaluated by our Procurement Department and may be denied future PPG business.

To learn more, read our most current [Conflict Minerals Report](#).



Cybersecurity and Data Privacy

Ensuring the protection of information and systems.

Ensuring the protection of our information and systems and that of our customers and other stakeholders is of critical importance. We have stringent protocols and practices addressing both cybersecurity and data privacy.

Cybersecurity

Our cybersecurity program is designed to protect and preserve the confidentiality, integrity and continued availability of all information that we own or is in our care. Our program is compliant with applicable industry standards as well as standards from the U.S. National Institute for Standards and Technology (NIST).

Our program includes a cyber incident response plan that provides controls and procedures for timely and accurate reporting of any material cybersecurity incident. For example, we provide our employees with easy-to-use tools to report potential phishing emails. Employees also receive annual security training, and we conduct periodic phishing testing to ensure our employees remain vigilant and compliant with our expectations. In addition, we are currently refining our external vendor security practices to focus on day-to-day security hygiene, in addition to point-in-time certifications.

Our vice president (VP) and chief information officer (CIO) oversees our cybersecurity program. The PPG Board of Directors' Audit Committee, which has oversight of cybersecurity risk, receives bi-annual reports from the CIO and also briefs the full Board on these matters. In addition, the full Board receives periodic briefings from the CIO on cyber threats and our cybersecurity program to enhance director literacy on cyber issues.

The full Board and the Audit Committee also periodically receive updates about the results of exercises and response readiness assessments performed by outside advisors that provide a third-party independent assessment of our cybersecurity program and internal response preparedness.

We maintain insurance covering certain costs that we may incur in connection with cybersecurity incidents that we may experience.

Data Privacy

Our internal data privacy policies are designed to prevent unauthorized access to, and disclosure of, personal information using a range of operational and technological safeguards. Our employees also receive training on data privacy concepts to prevent any misuse of personal information. We closely monitor evolving data privacy and data protection legislation around the world and update our policies and procedures to comply with current regulations. In 2021, the company appointed a global privacy manager to oversee compliance.

Our privacy notices and statements outline how we collect, use and protect personal information provided to PPG. When personal information is no longer required, we destroy, anonymize or dispose of it using secure methods in accordance with applicable requirements.



Supplier Sustainability

Commitment to sustainability as a core value extends to our suppliers.

In addition to prioritizing sustainability within our company, we also work to ensure our suppliers around the world are equally committed to sustainability as a core value.

2021 Highlights

10,000+

suppliers have formally acknowledged our governing policies

67%

of invited suppliers have already responded to and been rated by EcoVadis

99%

of Indian Mica providers covered by the *Responsible Mica Initiative*, with plan to continue closing the gap

In 2021, we spent over \$10 billion with more than 30,000 suppliers globally for raw materials, indirect products and services, and the transport of goods. We expect these suppliers and their subcontractors to fully comply with all applicable laws and to adhere to internationally recognized environmental, social and governance standards. Our Global [Code of Ethics](#), [Supplier Sustainability Policy](#) and [Global Supplier Code of Conduct](#) clearly state our expectations for every supplier.

Throughout the year we continued to pursue initiatives to assess risk among our suppliers. This includes the expansion of our use of *EcoVadis*, a third-party ratings organization that assesses responsible practices of more than 60,000 companies worldwide. We also continued to monitor the performance of our suppliers using a variety of tools, including more than 130 on-site or remote audits. Finally, we found new ways to engage with suppliers to investigate and work together to provide more environmentally conscious products, recycle packaging used to ship materials to our facilities and offer more fuel-efficient transportation services.

Details on some of our efforts throughout 2021 to improve the sustainability of our supply base follow.





Increasing Visibility Across Our Supply Base

With the phased launch of our global eProcurement (ePro) platform, our suppliers will use this supplier portal to do business with PPG. This includes completing an electronic acknowledgment of our Global Supplier Code of Conduct and Sustainability Policy. Suppliers also must indicate compliance with [data privacy](#) laws as they pertain to any relationship with PPG.

Since the platform went live in the United States and Canada, and in our Europe, Middle East and Africa (EMEA) regions, more than 10,000 suppliers have acknowledged these policies. We intend to extend ePro into the remaining Latin America and Asia Pacific regions.

In 2021, challenges from the ongoing COVID-19 pandemic, weather-related disruptions and supply challenges led us to increase evaluation of our suppliers on ethical and regulatory performance in addition to financial solvency, business stability and operational capability. Our global spend visibility database, first introduced in 2020, has continued to increase transparency across our supply chain, enhancing our capabilities to identify and manage potential at-risk suppliers.

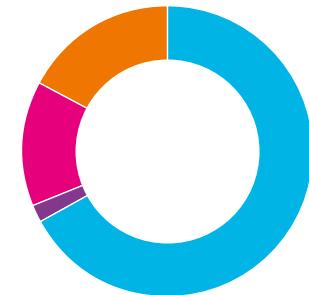
Our approach to assessing the sustainability of our supply base improved significantly over the past three years. Historically, we assessed the top 100 suppliers globally that represented approximately 25% of our annual procurement spend. We continue to target our top spend raw material suppliers, and more recently, we shifted our focus to evaluating and monitoring 1,000 high-risk suppliers based on geographic position, participation in the mining industry, and other category factors to better gauge current or potential risk with existing suppliers.

Through our supplier assessment in partnership with *EcoVadis*, we can evaluate four key segments of sustainability across our supply base:

- **Environment:** Energy consumption, product use, customer health and safety, and biodiversity;
- **Labor and human rights:** Employee health and safety, working conditions, child labor, forced labor, human trafficking, diversity, discrimination and harassment;
- **Ethics:** Corruption and anticompetitive practices; and
- **Sustainable procurement:** Supplier environmental and social practices.

The *EcoVadis* scorecard allows assessed companies to benchmark against industry peers, and it provides an overall corporate social responsibility (CSR) performance rating on a scale from increasing risk to best in class. The average score of the PPG suppliers who have had their labor and human rights programs rated by *EcoVadis* through December 31, 2021 was above *EcoVadis'* market average score.

We have continued to roll out the *EcoVadis* assessments in waves. In 2021, we included approximately 200 suppliers each quarter. At the end of 2021, 816 suppliers had been contacted. More than 67% have already responded and have been rated as of March 2022.

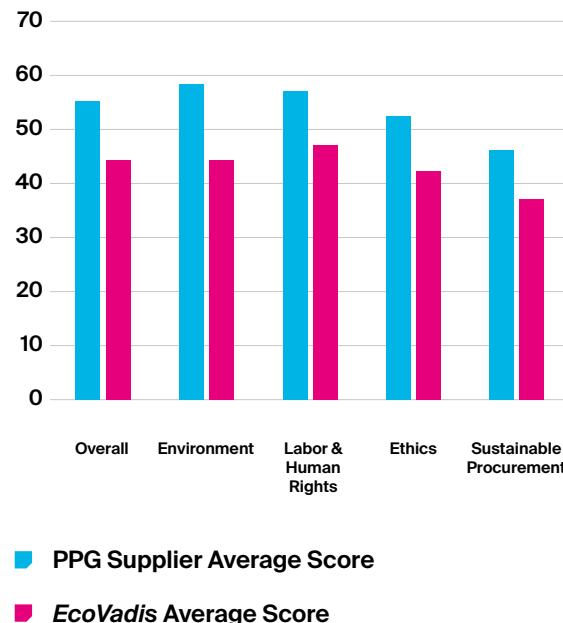


■ Assessment complete - ratings available	67%
■ In progress	2%
■ Declined	14%
■ Invited but not responded	17%



We are pleased that our suppliers who responded and have received ratings tend to perform above the *EcoVadis* average across all four segments.

Average Score of 545 Suppliers Completing the Assessment as of March 2022



PPG Supplier Average Score

EcoVadis Average Score

Our plan is to achieve a year-over-year increase in both response rate and average rating, then use that information to improve practices within the supply base.

Procurement plays a fundamental role in our commitment to sustainability, and it is critical to drive those responsibilities into our global supply base as an extension of our values and expectations of the way we do business. To evaluate our own maturity and understand how we can improve upon our success, PPG also carried out an assessment with *EcoVadis* at the end of 2021. It showed that PPG's strengths include:

- Strong leadership;
- Advanced policies;
- Established procedures and processes; and
- Articulated sustainable procurement vision and goals.

In 2021, PPG earned a Gold rating from *EcoVadis*. Only 6% of evaluated companies met the qualifications for this rating.

We also participate in the *Responsible Mica Initiative* (RMI) and have taken a number of steps to assure the responsible sourcing of Indian mica. For example, RMI has taken action to ensure that our major mica pigment suppliers are active members of RMI. Currently, 99.4% of our spend volume in this category is covered by suppliers that are RMI members, which is more than an entire percentage point improvement from the 2019 report. We continue to align spend with trusted sources and/or onboard suppliers to RMI in order to close the gap to 100%.

RMI is working collaboratively with various stakeholders including several government agencies, civil society organizations, local mica businesses and sector experts. Some of our customers are now represented in RMI, demonstrating that this is a growing and critical sustainability program throughout the supply chain.

Monitoring Supplier Performance

Asia-Pacific

In Asia Pacific, we conducted onsite audits with eight raw material suppliers – seven new and one existing – during 2021. We select existing suppliers for onsite audits based on an established schedule or when a new product will be produced in a supplier facility. New suppliers are selected for onsite visits based on their impact on our business, formulations or supply chain.

Evaluation criteria for both groups of suppliers include:

- Product review;
- Production process: Incoming raw materials, quality control, packaging and shipping;
- Quality system: Key controls, inspection/testing, abnormality reporting, continuous improvement and training;
- Environment, health and safety performance; and
- Corporate social responsibility: Human rights and regulatory performance.



For the onsite audits, we will stop business or development with suppliers that achieve a score of less than 50 on a 100-point scale. A score between 50 to 64 results in suspension until the supplier meets our requirements by implementing corrective action plans that we closely monitor. A final evaluation of 65 or higher enables the supplier to be moved to or remain in the approved supplier pool. The approved suppliers are subject to ongoing audits to ensure their performance level is sustained or improved.

EMEA

In the Europe, Middle East and Africa (EMEA) region, we conducted 28 on-site audits and three remote audits in 2021 for suppliers identified as critical, based on an assessment that considers product category, quality risk and supply risk. This activity spanned both new and existing suppliers that represented 17 raw material vendors, six packaging suppliers and eight service providers. The number of assessments continues to be scaled back from previous years due to impacts from the pandemic.

The evaluation criteria included quality systems, product and process review and contamination prevention. It also included a questionnaire requesting supplier certifications, sustainability processes and contingency plans. Five of the suppliers had minor non-conformities related to quality and delivery requirements that will require corrective actions for improvement.

In the event suppliers have major non-conformities, we put them under surveillance status until the corrective action is closed. If corrective actions are not implemented, we may elect to end our relationship with those suppliers.

U.S. and Canada (Aerospace)

Our Aerospace business in the United States and Canada (USCA) maintains a similar approach for supplier development and quality as the EMEA region to ensure alignment with the AS9100D aerospace standard. The standard provides guidelines for implementing a quality management system for both PPG and suppliers operating in the aerospace industry.

We evaluate suppliers to our Aerospace business based on their ability to meet technical requirements, financial stability, quality management systems and sustainability practices utilizing audit/risk assessment worksheets. In 2021, over 100 qualified suppliers underwent either an on-site assessment or a remote/desktop audit to ensure standards were met. If the standards are not met, we do not do business with that supplier.

Aerospace supplier risk assessments are based on complexity and the level of impact on product performance. Suppliers are classified and we regularly monitor the number and frequency of approved suppliers via on-site or remote audits, process control oversight and report and system evaluations to ensure policy and program compliance.

We work closely with these suppliers to improve key performance indicators, drive continuous improvement initiatives and establish opportunities for supplier development. Supplier on-time delivery and defects are monitored on a monthly basis.

Latin America

In Latin America, we conducted 63 audits in 2021 to comply with ISO9001, Minimum Automotive Quality Management System (MAQMSR), International Automotive Task Force (IATF) and Verband der Automobilindustrie (VDA) standard requirements, primarily on raw materials suppliers. Selection criteria were based on previous performance, follow-up on previous audit results and a continuous need to develop new suppliers.

The regional team worked on standardizing all metrics and criteria used to evaluate suppliers, and to ensure proper alignment and consistency when assessing performance. This new process creates a more standardized evaluation – especially for suppliers with a regional or global scope. The evaluation criteria include four major focus areas:

- Quality, which ensures raw material adherence to PPG specs;
- Service and Delivery, which assess suppliers' commitment on lead times, and timely and active responses to nonconformities when applicable;
- On-time in-full (OTIF) metrics; and
- Supplier initiatives, which promote innovation and continuous process improvement.



Engaging With Our Suppliers

Globally, we work to comply with evolving regulations that impact the sustainability of our operations, and we expect the same from our suppliers. These regulations include the Modern Slavery Act of 2015; General Data Protection Regulation (GDPR); Registration, Evaluation, and Restriction of Chemicals (REACH); and other third-party due-diligence screenings for compliance purposes.

In addition to helping suppliers evaluate and improve their sustainability performance, we seek their help in improving our own. Examples include asking suppliers to provide more environmentally friendly products, recycling packaging used to ship materials to our facilities and offering more fuel-efficient transportation services.

Earlier in 2022, PPG's Procurement team launched an internal Sustainability Tracker to capture all sustainability actions and initiatives taken by the organization. The benefits of this include increased awareness of efforts for others to leverage similar ideas for their categories or globalize the benefit, and further demonstrate our commitment to this increasing focus area. Procurement sustainability actions will be shared during quarterly town hall meetings delivered by our Chief Procurement Officer.

Below are a few examples of sustainability actions and initiatives:

- PPG is working with Constellation to purchase renewable energy from the 200 MW Big Star Solar Project currently under development in Bastrop County, TX. In addition, we're generating on-site electricity with natural gas at our Caivano, Italy, facility, which will equate to an annual reduction of approximately 1,100 metric tons of CO₂. Learn more about these projects in the [Energy](#) section.
- Last year, we teamed up with Chemours in order to improve our process used to determine the sustainable benefits of PPG products. Helping to fast track our journey, Chemours shared best practices from their sustainable offerings assessment methodology, Evolve 2030. Key learnings from this partnership set the groundwork for our new sustainable product assessment process, outlined in the [Product Stewardship](#) section.

- Within our e-catalogs, suppliers can flag products as green, recycled, Energy Star and safer choice products. These include environmentally conscious products that are widely recognized as having lower environmental impacts than comparable items. Safer choice items advance the mission of the U.S. Environmental Protection Agency (EPA) to protect human health and the environment by helping users choose the safest functional ingredients possible. During the fourth quarter of 2021, we contacted suppliers based in USCA with e-catalogs, requesting that they review and appropriately flag their sustainable items. Such designations will give us increased visibility into a product's impact and help employees make more sustainable decisions. The same effort will be initiated for the EMEA region during the first half of 2022.

We strive to continuously improve our supplier sustainability programs. Actions include benchmarking, expanding program parameters, improving our reporting and program visibility, providing organizational training and creating a long-term plan on joint sustainable initiatives with third-party organizations.

For more details about our supplier sustainability initiatives and policies, visit our [Supplier Sustainability](#) section.



Supplier Diversity

We believe that our company and communities benefit when we provide equal opportunities for diverse suppliers to compete for our business. By including qualified diverse suppliers in our purchasing process for products and services that meet our requirements, we will strengthen our business position and that of our suppliers and customers.

We actively seek suppliers that are recognized by certifying entities and government agencies. These suppliers include small businesses and businesses that are owned by veterans, minorities, members of the lesbian, gay, bisexual, transgender and queer (LGBTQ+) community, people with disabilities and women.

Our [Supplier Diversity Program](#) is aligned with our One PPG philosophy and built on four focus areas:

- Data and technology;
- Operational program;
- Resources to drive results; and
- Effective outreach.

Used in conjunction with our global spend visibility database, ePro, we will be able to identify new diverse suppliers, maintain accurate records and use that information for enhanced reporting.

Examples include:

- Potential suppliers can self-register for business opportunities with PPG;
- Existing suppliers can self-identify as diverse suppliers by including certification evidence;
- Tier 1 program reporting is improved for internal and external purposes; and
- Generating e-catalogs of diverse suppliers to increase visibility.

During 2022, we will be partnering with a third party to promote program growth. Two of the main benefits are:

- Data enrichment services of our supply base to detect unflagged diverse suppliers and further refine their classification; and
- Utilization of their search engine to identify potential new sources by category, industry or geography.

Operationally, we continually look to embed qualified diverse suppliers into our sourcing strategies and projects and channel more spend volume to existing and new suppliers using market information, references, tools and other reports to expand the program.

Program success hinges on leadership support and cross-functional and business awareness, collaboration and execution. Our procurement team is strengthening its internal relationships through alignment on requirements, target achievement and value-add impact. In 2022, we will be conducting program training to improve awareness and goals for both our existing functions and businesses, but also our recent acquisitions.

Effective outreach encompasses myriad ways in which we can expand the Supplier Diversity Program's footprint. Within our business and corporate functions, select employees maintain memberships and associations with key diverse supplier organizations, participate in matchmaker events and perform benchmarking activities. We are beginning to leverage our DE&I organization, including the Employee Resource Networks, to help identify potential suppliers or perform benchmarking activities. Learn more in our [Diversity, Equity and Inclusion](#) report.

We recognize outstanding performance from our suppliers through the PPG Excellent Supplier Award for the category of Supplier Diversity. Last year, we presented the award to a meeting and event planning company that helped PPG save and avoid costs due to cancellation and postponement penalties as a result of the pandemic. The organization was highly innovative and responsive in communication between the venues and PPG stakeholders.

Overall, we look to play a part in the business growth and success of diverse suppliers, drive economic and social benefits with targeted businesses and local communities, and enhance community relations. We recognize the strategic value of supplier diversity initiatives and strive to have a sustainable program.



Transparency

We align to global standards and share our performance transparently to encourage accountability.





About this Report

We are committed to transparent reporting on our ESG performance.

PPG's annual ESG Report underscores our commitment to transparent reporting on our sustainability and environmental, social and governance (ESG) performance.

This report has been prepared in accordance with the newly updated Global Reporting Initiative (GRI) standards, which continue to guide the evolution of our reporting on ESG performance. We also provide disclosures under the Accounting Standards Board's (SASB) guidelines for the Chemical Industry. This year we also published our first index referencing the Task Force on Climate-Related Financial Disclosures (TCFD) framework, further illustrating our commitment to understanding and managing climate-related risks and opportunities.

We have attempted to be as inclusive as possible. Unless otherwise noted, the information and data contained in this report cover all employees, PPG locations and joint ventures where we maintain at least 50% ownership.

In 2021, we once again engaged Lloyd's Register Quality Assurance (LRQA) to provide limited assurance on our Scope 1 and Scope 2 greenhouse gas data. We will continue to explore assurance options for other aspects of our report, but we are confident our internal processes provide sufficient oversight regarding the accuracy of the information we present.

This report, inclusive of the 2021 reporting year, includes [forward-looking statements](#) about our business plans, initiatives and objectives, which may change based on subsequent developments. We encourage you to provide feedback on this report and our sustainability performance via [email](#), a short [online survey](#) or a letter sent to PPG, One PPG Place, Pittsburgh, PA 15272, Attention: Corporate Communications.





GRI Index

PPG Industries, Inc. has reported in accordance with the GRI Standards for the period January 1, 2021 - December 31, 2021.

GRI 1 used: GRI 1:

Foundation 2021

Applicable GRI Sector Standard(s):

None



GRI Standard/Other Source	Disclosure	Location/Response
General Disclosures		
GRI 2: General Disclosures 202		About PPG 2021 Annual Report & Form 10-K (pages 3-9) Worldwide Operations
	2-2 Entities included in the organization's sustainability reporting	PPG's 2021 ESG Report covers all of the entities included in its consolidated financial reporting. Material Issues About This Report
	2-3 Reporting period, frequency and contact point	About This Report
	2-4 Restatements of information	Indicated when necessary throughout the report.
	2-5 External assurance	Emissions GHG Assurance
	2-6 Activities, value chain and other business relationships	About PPG 2021 Annual Report & Form 10-K (pages 3-9) Products Overview Supplier Sustainability
	2-7 Employees	People Overview
	2-8 Workers who are not employees	Omitted. This information is not tracked at a global level.
	2-9 Governance structure and composition	Governance Board of Directors 2022 Proxy Statement (page 14-15) Corporate Governance Guidelines
	2-10 Nomination and selection of the highest governance body	Nominating and Governance Committee
	2-11 Chair of the highest governance body	Board of Directors
	2-12 Role of the highest governance body in overseeing the management of impacts	Sustainability and Innovation Committee
	2-13 Delegation of responsibility for managing impacts	Governance Overview
	2-14 Role of the highest governance body in sustainability reporting	Our ESG Report is reviewed by our Board of Directors.



GRI Standard/Other Source	Disclosure	Location/Response
General Disclosures		
GRI 2: General Disclosures 202	2-15 Conflicts of interest	Corporate Governance Guidelines Global Code of Ethics
	2-16 Communication of critical concerns	Governance
	2-17 Collective knowledge of the highest governance body	Governance Overview Our Sustainability Committee's work is reviewed by our Board of Directors' Sustainability and Innovation Committee. The Sustainability Committee establishes policies, programs and procedures, including metrics, to help us better understand and address sustainability in our business practices in order to remain a leader in the business segments in which we participate.
	2-18 Evaluation of the performance of the highest governance body	Corporate Governance Guidelines
	2-19 Remuneration policies	2022 Proxy Statement (pages 39-76)
	2-20 Process to determine remuneration	Human Capital Management and Compensation Committee
	2-21 Annual total compensation ratio	2022 Proxy Statement (page 76)
	2-22 Statement on sustainable development strategy	To our Stakeholders Sustainability Vision, Values, Approach
	2-23 Policy commitments	Governance Supplier Sustainability Human Rights Environment Safety and Health Product Stewardship Global Code of Ethics Code of Ethics for Senior Financial Officers Global Anti-Corruption Policy
	2-24 Embedding policy commitments	Governance Supplier Sustainability Human Rights Environment Safety and Health Product Stewardship Global Code of Ethics
	2-25 Processes to remediate negative impacts	Global Code of Ethics



GRI Standard/Other Source	Disclosure	Location/Response
General Disclosures		
GRI 2: General Disclosures 202	2-26 Mechanisms for seeking advice and raising concerns	PPG Ethics Helpline Chief Compliance Officer Stakeholders and other interested parties may send communications to the Board, the independent directors (individually or as a group) or the lead director in writing by sending them in care of our corporate secretary at PPG, Inc., One PPG Place, Pittsburgh, Pennsylvania 15272.
	2-27 Compliance with laws and regulations	2021 PPG Annual Report & Form 10-K, Legal, Regulatory, and Tax Risks (page 11), Item 3, Legal Proceedings (page 13) Environmental Matters (page 64-66) Waste, Spills and Releases Water, Water Non-Compliances
	2-28 Membership associations	Stakeholder Engagement
	2-29 Approach to stakeholder engagement	Stakeholder Engagement
	2-30 Collective bargaining agreements	2021 PPG Annual Report & Form 10-K, Employee Relations (page 7)
Material Topics		
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Material Issues
	3-2 List of material topics	Material Issues
Economic performance		
GRI 3: Material Topics 2021	3-3 Management of material topics	2021 Annual Report & Form 10-K (pages 34-37)
	201-1 Direct economic value generated and distributed	2021 Annual Report & Form 10-K (pages 34-37)
GRI 201: Economic Performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	Climate-Related Risks TCFD
	201-3 Defined benefit plan obligations and other retirement plans	2021 Annual Report & Form 10-K (pages 34-37)
	201-4 Financial assistance received from government	2021 Annual Report & Form 10-K (pages 34-37)



GRI Standard/Other Source	Disclosure	Location/Response
Energy		
GRI 3: Material Topics 2021	3-3 Management of material topics	Energy
GRI 201: Economic Performance 2016	302-1 Energy consumption within the organization	Energy
	302-3 Energy intensity	Energy
	302-4 Reduction of energy consumption	Energy
	302-5 Reductions in energy requirements of products and services	Sustainably Advantaged Products Product Overview
Water and Effluents		
GRI 3: Material Topics 2021	3-3 Management of material topics	Water
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Water
	303-2 Management of water discharge-related impacts	Water
	303-3 Water withdrawal	Water
	303-4 Water discharge	Water
	303-5 Water consumption	Water
Emissions		
GRI 3: Material Topics 2021	3-3 Management of material topics	Emissions
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Emissions GHG Assurance
	305-2 Energy indirect (Scope 2) GHG emissions	Emissions GHG Assurance
	305-4 GHG emissions intensity	Emissions GHG Assurance
	305-5 Reduction of GHG emissions	Emissions



GRI Standard/Other Source	Disclosure	Location/Response
Waste		
GRI 3: Material Topics 2021	3-3 Management of material topics	Waste
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Waste
	306-2 Management of significant waste-related impacts	Waste
	306-3 Waste generated	Waste
	306-4 Waste diverted from disposal	Waste
	306-5 Waste directed to disposal	Waste
Occupational Health and Safety		
GRI 3: Material Topics 2021	3-3 Management of material topics	Safety and Health
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Safety and Health
	403-2 Hazard identification, risk assessment and incident investigation	Safety and Health , Preventing injury and illness Governance , Codes and Policies
	403-3 Occupational health services	Safety and Health
	403-4 Worker participation, consultation and communication on occupational health and safety	Safety and Health
	403-5 Worker training on occupational health and safety	Safety and Health
	403-6 Promotion of worker health	Safety and Health
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Safety and Health
	403-8 Workers covered by an occupational health and safety management system	Safety and Health



GRI Standard/Other Source	Disclosure	Location/Response
Waste		
GRI 403: Occupational Health and Safety 2018	403-9 Work-related injuries	Safety and Health
	403-10 Work-related ill health	Safety and Health
Local Communities		
GRI 3: Material Topics 2021	3-3 Management of material topics	Community Engagement Framework
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments and development programs	Community Engagement Framework
Diversity, Equity and Inclusion		
GRI 3: Material Topics 2021	3-3 Management of material topics	Diversity, Equity and Inclusion
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	2022 Proxy Statement, (page 16) Diversity, Equity and Inclusion EEO-1 (United States)
Product Marketing and Labeling		
GRI 3: Material Topics 2021	3-3 Management of material topics	Product Stewardship
GRI 413: Local Communities 2016	417-1 Requirements for product and service information and labeling	Product Stewardship



SASB Index

Information pertaining to the Sustainability Accounting Standards Board standards for the chemical industry.



Topic	Accounting Metric	Category	Code	Location/Response
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	RT-CH-110a.1	Emissions
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets and an analysis of performance against those targets	Discussion and Analysis	RT-CH-110a.2	Emissions
Air Quality	Air emissions of the following pollutants: (1) NOX (excluding N2O), (2) SOX, (3) volatile organic compounds (VOCs) and (4) hazardous air pollutants (HAPs)	Quantitative	RT-CH-120a.1	Emissions
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy	Quantitative	RT-CH-130a.1	Energy
Water Management	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with high or extremely high baseline water stress	Quantitative	RT-CH-140a.1	Water
	Number of incidents of non-compliance associated with water quality permits, standards and regulations	Quantitative	RT-CH-140a.2	Water
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and Analysis	RT-CH-140a.3	Water
Hazardous Waste Management	Amount of hazardous waste generated, percentage recycled	Quantitative	RT-CH-150a.1	Water
Community Relations	Discussion of engagement processes to manage risks and opportunities associated with community interests	Discussion and Analysis	RT-CH-210a.1	Community Engagement Framework
Workforce Health & Safety	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Quantitative	RT-CH-320a.1	Safety and Health
	Description of efforts to assess, monitor and reduce exposure of employees and contract workers to long-term (chronic) health risks	Discussion and Analysis	RT-CH-320a.2	Safety and Health
Product Design for Use-phase Efficiency	Revenue from products designed for use-phase resource efficiency	Quantitative	RT-CH-410a.1	5.2% of our 2021 product sales represents revenue from use-phase efficiency. Sustainably Advantaged Products



Topic	Accounting Metric	Category	Code	Location/Response
Safety & Environmental Stewardship of Chemicals	(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	Quantitative	RT-CH-410b.1	Product Stewardship
	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact			
	Percentage of products by revenue that contain genetically modified organisms (GMOs)	Quantitative	RT-CH-410c.1	Not applicable to PPG products.
Genetically Modified Organisms	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Discussion and Analysis	RT-CH-530a.1	<p>As a global manufacturer of paints, coatings and specialty materials, we operate in a business environment that includes risks.</p> <p>To identify these risks, we annually employ an enterprise risk assessment framework that involves PPG executives and Board members to prioritize the risks based on magnitude and likelihood of occurrence. Management is responsible for the development and execution of mitigation plans for key risks on a continuous basis.</p> <p>2021 Form 10-K, Item 1A (page 9) 2022 Proxy Statement (page 27) Product Stewardship Climate-Related Risks Stakeholder Engagement Government Affairs</p>
Management of the Legal & Regulatory Environment	Process safety incidents count (PSIC), process safety total incident rate (PSTIR) and process safety incident severity rate (PSISR)	Quantitative	RT-CH-540a.1	Safety and Health
	Number of transport incidents	Quantitative	RT-CH-540a.2	Transportation
Operational Safety, Emergency Preparedness & Response				



TCFD Index

This index provides links to PPG's disclosures on climate-related risks and opportunities as recommended by the TCFD.



Requirement	Link or reference
Governance	
Governance (a) – Describe the board's oversight of climate-related risks and opportunities	2022 Proxy Statement, Framework for Board Oversight of ESG Environment Overview
Governance (b) – Describe management's role in assessing and managing climate-related risks and opportunities	2022 Proxy Statement, Framework for Board Oversight of ESG Governance Sustainability Vision, Values and Approach Environment Overview Climate-Related Risks Sustainably Advantaged Products Supplier Sustainability
Strategy	
Strategy (a) – Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term	Environment Overview Climate-Related Risks Sustainably Advantaged Products Supplier Sustainability
Strategy (b) – Describe the impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning	Environment Overview Climate-Related Risks Sustainably Advantaged Products Supplier Sustainability
Strategy (c) – Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Environment Overview Climate-Related Risks



Requirement	Link or reference
Risk Management	
Risk Management (a) – Describe the organisation's processes for identifying and assessing climate-related risks	Climate-Related Risks Materiality Product Stewardship Supplier Sustainability
Risk Management (b) – Describe the organisation's processes for managing climate-related risks	Environment Overview Products Overview Sustainably Advantaged Products Product Stewardship Supplier Sustainability
Risk Management (c) – Describe how the processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management	Sustainability Vision, Values and Approach Climate-Related Risks Product Stewardship Supplier Sustainability
Metrics and Targets	
Metrics and Targets (a) – Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	Environment Overview Climate-Related Risks Sustainably Advantaged Products Supplier Sustainability
Metrics and Targets (b) – Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and related risks	Emissions Climate-Related Risks
Metrics and Targets (c) – Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets	Environment Overview Emissions Energy Sustainably Advantaged Products Supplier Sustainability



Previous Reports

2021
Annual Report
& Form 10K

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Forward-Looking Statements

This ESG Report contains forward-looking statements that reflect PPG's current views with respect to future events and financial performance. These statements involve risks and uncertainties. You can identify forward-looking statements by the fact that they do not relate strictly to current or historic facts. Forward-looking statements are identified by the use of the words "aim," "believe," "expect," "anticipate," "intend," "estimate," "project," "outlook," "forecast" and other expressions that indicate future events and trends. Many factors could cause actual results to differ materially from PPG's forward-looking statements.

Such factors include statements related to the expected effects on our business of COVID-19, geopolitical events, global economic conditions, increasing price and product competition by our competitors, fluctuations in cost and availability of raw materials, the ability to achieve selling price increases, the ability to recover margins, customer inventory levels, our ability to maintain favorable supplier relationships and arrangements, the timing of and the realization of anticipated cost savings from restructuring initiatives, the ability to identify additional cost savings opportunities, the timing and expected benefits of our acquisitions, difficulties in integrating acquired businesses and achieving expected synergies therefrom, economic and political conditions in the markets we serve, the ability to penetrate existing, developing and emerging foreign and domestic markets, foreign exchange rates and fluctuations in such rates, fluctuations in tax rates, the impact of future legislation, the impact of environmental regulations, unexpected business disruptions, the effectiveness of our internal control over financial reporting, the results of governmental investigations, and the unpredictability of existing and possible future litigation. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements.

This ESG Report also includes forward-looking statements regarding our sustainability; safety and health; cybersecurity; culture; diversity, equity and inclusion; community engagement; and related goals, commitments and strategies.

Our actual future results, including the achievement of our targets, goals or commitments, could differ materially from our projected results as the result of changes in circumstances, assumptions not being realized, or other risks, uncertainties and factors.

Consequences of material differences in the results compared with those anticipated in the forward-looking statements could include, among other things, lower sales or income, business disruption, operational problems, financial loss, reputational harm, legal liability to third parties, other factors set forth in our most recently filed periodic reports on Form 10-K and Form 10-Q, current reports on Form 8-K and subsequent Securities and Exchange Commission filings, any of which could have a material adverse effect on PPG's consolidated financial condition, results of operations or liquidity. Any forward-looking statement speaks only as of the date on which such statement is made, and PPG undertakes no obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise. You are advised, however, to consult any further disclosures we make on related subjects in our reports to the Securities and Exchange Commission.



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