

# An Update on Sustainability in the Coatings Industry

By Cynthia Challener, CoatingsTech Contributor

Concepts of sustainability within the coatings industry have evolved since the idea was first introduced decades ago. Today, sustainability aspects are routinely considered when performing most business operations, often on a daily basis. The focus has expanded well beyond reducing volatile organic compounds (VOCs) to include energy and resource conservation, waste minimization, process efficiency enhancement, use of renewable materials, and much more. Companies are also looking to impact the entire value chain and considering the societal impacts of their activities.

*CoatingsTech* asked some coatings manufacturers and raw material suppliers to share their thoughts on the current state of sustainability in the paint and coatings industry. The discussion is presented below.



## How does your company define sustainability today?

**Griffioen, DSM Coating Resins:** DSM believes that business plays a crucial role in creating a sustainable society. Three elements define sustainable thinking at DSM: health, climate change, and circularity. They translate into the following sustainability drivers for DSM Coating Resins: elimination of toxic ingredients, reduction of VOCs to improve and protect indoor and outdoor air quality, reduction of carbon footprint, and an increased use of biobased ingredients.

At its core, DSM is driven to focus on more sustainable solutions and has played a leading role in transforming the industry from solvent- to water-based coatings, and we still continue to do so today. However, the definition of sustainability is certainly broader and more thoroughly defined than it has been in the past. In a way, you could say that it's a journey; the more you consider sustainability as a core driver, the more areas you will identify as providing opportunities for improvement.

**Wendoll, Dunn-Edwards Corporation:** We continue to define eco-efficiency as the ability to satisfy human needs in ways that minimize adverse impacts on energy and material resources, environmental quality, and human health and safety.

**Stranimaier, AkzoNobel:** Sustainability for AkzoNobel means we are taking economical, environmental, and social aspects into account in our daily work with customers, in product development when working on breakthrough innovations, in our own operations, and when working together with our suppliers. Social aspects are becoming more important, not only in our business-to-consumer markets, but also in our business-to-business relationships. In addition, we are striving to change our sustainability activities from case studies towards impact creation, i.e., sustainability embedded in our key processes as a permanent driver for change. In support of this initiative, we are focusing in 2018, for example, on resource efficiency processes and value creation processes to reflect sustainability drivers much more strongly than in the past.

## PARTICIPANTS IN THE DISCUSSION INCLUDED:

**Guy Depauw**—global director of Safety, Health, Environment, and Quality, and **Stéphanie Heng**, global communications director, allnex;

**Camilo Quiñones-Rozo**—market segment manager Architectural Coatings, BASF Corporation;

**Sjaak Griffioen**—director of Innovation Strategy & Sustainability; **Sjoerd Dijkstra**, sustainability marketer; and **Tineke van Woort**, project director Decovery®, DSM Coating Resins;

**Matthew Winokur**—vice president of Sustainability, Axalta Coating Systems;

**Jeff Spillane**—senior manager, Product Training Implementation, Benjamin Moore & Co.;

**Robert Wendoll**—director of Environmental Affairs, and **Tim Bosveld**, vice president of Marketing, Dunn-Edwards Corporation;

**Mark Cancilla**—vice president of Environment, Health and Safety, PPG;

**Kerstin Stranimaier**—Planet Possible director of Sustainable Business Development, AkzoNobel.

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**Cancilla, PPG:** Sustainable product innovation is more than a business strategy at PPG. It is an unwavering commitment to the environment, our customers, and our people. Our sustainability vision and values provide the foundation for all of our sustainability efforts, and our Sustainability Committee establishes policies, programs, procedures, and goals to address sustainability in our business practices. PPG is committed to delivering lasting value for shareholders and customers by operating with integrity, working safely, respecting the contributions of our people, preserving the environment, and supporting the communities where we operate. Our culture of continuous improvement in every aspect of our business underpins our approach to sustainability. Whether it's increasing the efficiency of our operations or developing our people, our improvement efforts naturally extend to many areas that impact our sustainability performance.

**Quiñones-Rozo, BASF:** BASF is committed to delivering solutions that contribute towards a viable future with enhanced quality of life for everyone. With our sustainable initiatives we aim to add value in the long-term for our company, the environment, and society. Sustainability is at the core of what we do, being a driver for growth, as well as an element of our risk management. We live our corporate purpose "We create chemistry for a sustainable future" by sourcing and producing responsibly, acting as a fair and reliable partner, and connecting creative minds to find the best solutions for market needs.

**Depauw, allnex:** While allnex has always been focused on providing the highest quality resins, over the last few years we have also focused very hard on transforming our identity, formalizing our vision, and sharpening our values. Sustainability is a key part of our continued success and a commitment to our stakeholders. We reap a number of benefits from our sustainability efforts—reducing operational and supply interruption risks, cost savings from resource efficiency, engaging employees,



building our brand, and giving customers the confidence to choose us over our competitors every time.

We have continued our efforts to use energy more efficiently, to map and reduce our business risks, to increase the amount of renewable and recycled content in our products, to reduce waste, and to engage with our local communities.

We're already measuring key performance indicators for the most relevant and manageable aspects of our business, but we won't stop there. We recognize that performance must be incentivized via clear targets to achieve both business and societal goals. We make sure our targets are aligned with global and sector expectations and continually evaluate our priorities and actions to achieve the best results with limited resources.



**How does product stewardship factor into sustainability in the paint and coatings industry?**

**Wendoll, Dunn-Edwards Corporation:** Product performance is a key component of the eco-efficiency of paint, maximizing environmental benefits, while minimizing

total ecological burdens. Product lifecycle analysis of paint shows that high performance—especially in terms of coverage (amount of material needed per application) and durability (length of service life before re-application)—prevents wasteful and inefficient use of energy and material resources from start to finish.

**Heng, allnex:** As a sustainable business, we believe in working safely and protecting the environment. Our commitment to safety, health, and environment values protects our employees, contractors, and the communities in which we operate. Safety, health, environment, and security are our first priorities. This means our full compliance with legal, permit, and other regulatory requirements (e.g., REACH) that apply to our operations.

Safety Data Sheets (SDS) and product labels provide the users with the information required to use our products safely. Our internal standards, performance tracking procedures, and audits are the foundation for our continuous improvement and operational excellence. They are applied globally.

**Winokur, Axalta Coating Systems:** Product stewardship plays an integral role in sustainability along Axalta's entire value chain. It provides confidence that the materials we use meet not only regulatory standards, but also our own quality criteria. It enables us to manage and trace our materials. Our rigorous materials standards contribute to our manufacturing productivity. Finally, we are able to provide our customers with product information via SDS and MSDS information that supports their desire to provide safe workplaces for their employees.

**Cancilla, PPG:** Our Product Stewardship Management System, which includes product stewardship implementation tools, is the bedrock of our process. To ensure sustainable business practices, the system's nine elements cover the full scope of the product life cycle—from 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 risk.

**Stranimaier, AkzoNobel:** Product stewardship plays an important part within our sustainable portfolio. We analyze our total portfolio with regard to its content of hazardous ingredients (to replace) and to identify products that might become critical in the future. We are working very closely with our customers to replace products with critical substances on a continued basis.

**Spillane, Benjamin Moore:** Benjamin Moore has been working to reduce VOC emissions from our paints by reformulating various product lines and discontinuing high-VOC product lines.

**Griffioen, DSM Coating Resins:** Product stewardship is a fundamental part of our sustainability agenda, driving the reduction of the use of toxic materials in our finished products. We see product stewardship shifting from a reactive approach, basically focusing on regulatory compliance, to a more proactive approach where the risk of exposure to chemicals along the entire supply chain is taken into consideration.

**Quiñones-Rozo, BASF:** At BASF, we work diligently to ensure that our products pose no risk to people and the environment when used responsibly and in the manner intended. We have established global standards and have set targets for ourselves that usually extend beyond applicable legal requirements. One example is limiting the use of substances in our architectural latex dispersions that, although not regulated in the United States, have been barred in other regions (e.g., alkylphenol ethoxylate—APEOs—containing surfactants).

In addition to our stringent product stewardship processes, BASF evaluates the sustainability standing of its product portfolio using its proprietary Sustainability Solution Steering® assessment. By

identifying key drivers and issues in our customers' industries, we are able to assess the sustainability contribution of each of our products in their specific applications. Based on its contribution to sustainability, each solution is assigned to one of four categories (Accelerator, Performer, Transitioner, Challenged), providing a comprehensive description of the portfolio sustainability performance. Our commitment is to spend over 60% of our R&D budget on Accelerator projects.



What do you see as the key drivers of sustainability in the coatings industry today?

**Griffioen, DSM Coating Resins:** Where in the past regulation (mandatory) was the most important factor driving the sustainability agenda, we see a fundamental shift in the societal demand with respect to sustainability and responsible business behavior. As such, we have adopted the key drivers of health, climate change, and circularity into the core of our strategy.

**Quiñones-Rozo, BASF:** Over the past two decades, the sustainability agenda of the coatings industry was mainly dominated by regulations establishing limits on the level of VOCs present in paint. These regulations triggered a quest for low-VOC formulations that offer the same performance as “traditional” paints. Thanks to outstanding efforts by paint manufacturers and suppliers, that challenge has been conquered, and low-VOC, high-performing paints are the norm.

The industry is now facing a transition where new drivers for sustainability are emerging. While regulations continue to influence the sustainability agenda, some of the new drivers in architectural coatings are triggered by retailer guidelines (e.g., APEO-free products), green building certifications (e.g., life-cycle assessments and sustainable sourcing of raw materials), and supply-demand imbalances introduced by the scarcity of raw materials (e.g., TiO<sub>2</sub> efficiency).

**Wendoll, Dunn-Edwards Corporation:** Regulation is often cited as a key driver of VOC reduction in coatings, but over the past decade we have seen a shift toward greater impact of voluntary standards emerging from the green building movement. LEED v4, for example, requires not only compliance with low-VOC content limits but also low-VOC emission standards verified by independent third-party testing.

**Stranimaier, AkzoNobel:** Key drivers for the coatings industry are, from our point of view, the dependence on fossil fuels, energy (carbon footprint), and water demands. In addition, societal aspects must more significantly be taken into account, i.e., understanding the needs of our customers' customers.

**Heng, allnex:** Key drivers of sustainability in today's coating industry include public awareness, government awareness, and customer demands. The coatings industry can now be seen as an “enabler” for realizing the sustainability requests from end users: it offers solutions to the market.

**Winokur, Axalta Coating Systems:** Drivers of sustainability come from all directions: our communities, employees, investors, and management. The most evident change has been the growing focus among customers who recognize that their commitment to sustainability—and their reputation—is tied to their supply chain. This translates into an obligation for Axalta that we take very seriously.



What is the role of third-party certifications in sustainability within the paint and coatings industry today?

**Quiñones-Rozo, BASF:** The science and processes behind sustainability claims can be difficult to understand by the average consumer. This can lead to lack of awareness and/or skepticism towards these claims. Independent, third-party certifications can play a valuable role when objectively evaluating a product

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sustainability performance and indicating to the end consumer whether said product contributes towards an end goal.

**Depauw, allnex:** Sustainability aspects achieve greater importance when combined with certifications, both for “traditional” ones and newer types of certifications. The trend in the industry is towards greater linkages of different performance aspects with sustainability in the various certifications.

**Griffioen, DSM Coating Resins:** Voluntary third-party certification schemes are playing a vital role in changing the market in several ways, and their impact has certainly grown over the last decade. The first, and we believe most crucial, role of certifications is to facilitate the making of informed decisions. Whether they target architects and building owners with certifications such as LEED and WELL, or end users such as painters and consumers with standards like EU Ecolabel, Nordic Swan, UL Greengard, or Cradle to Cradle, these certifications facilitate a relatively easy way to make choices about products with improved sustainability profiles. Additionally, third-party certifications improve the competitiveness of products on the market, and, therefore, encourage members of the paint and coatings industry supply chain to integrate sustainability elements into the core value propositions of their products.

**Winokur, Axalta Coating Systems:** Opportunities to use third-party certifications may be on the increase. Certifications for ISO standards and Responsible Care Management Systems, for example, have been the norm. As our industry and other sectors continue to globalize, we can appreciate that third-party verification can ensure that claims have standing and that everyone is playing to the same set of rules.

**Wendoll, Dunn-Edwards Corporation:** Third-party certifications seem to carry greater credibility for some consumers in certain market segments than others. Retail

consumers and paint specifiers tend to rely on them more than professional painting contractors, who are more familiar with coatings through direct experience.

**Q** How does your company position itself with respect to sustainability in the paint and coatings industry?

**Cancilla, PPG:** Our coatings, materials, and technologies protect and beautify the world by reducing corrosion, extending the life of our customers’ products, and providing a broad color offering. We help our customers reduce energy usage and emissions, protect their employees, and minimize waste and water consumption through the use of our sustainable products and practices.



**Winokur, Axalta Coating Systems:** Axalta has been in the business of sustainability for decades. After all, the fundamental role of coatings is to enable the materials that are coated to last longer and perform better—and look beautiful in the process. From the vantage point of our customers, we support sustainability by offering both traditional products that may be solventborne and the latest low-VOC, waterborne, and powder products. Within our operations, being sustainable translates into providing safe and healthy workplaces with minimal impact to the environment to protect our employees and our communities, respectively.

**Stranimaiier, AkzoNobel:** We offer a large sustainable portfolio that comprises eco premium solutions and eco-performer products. We also have highly effective product stewardship radar to identify materials of concern at a very early stage. We translate the key sustainability aspects of our products into value propositions for our customers. In addition, we have defined key materiality aspects for our company that are driving product development and innovation. In our operations, we are constantly improving our resource efficiency to decrease our impact on the environment.

**Bosveld, Dunn-Edwards Corporation:** Dunn-Edwards continues to position itself on the forefront of green issues by examining the overall environmental impacts of paint—from raw materials, through formulation and production, to end use and end-of-life management. For example: recognizing the burdens that unwanted leftover paint imposed on city and county “household hazardous waste” programs, Dunn-Edwards joined a national paint dialog organized by the Product Stewardship Institute and the American Coatings Association in 2003. This dialog led to a pilot state-wide paint stewardship program in Oregon in 2009, and to the creation of PaintCare—an industry-run program for consumers to recycle or dispose of leftover paint. By 2013, California established a PaintCare program, and Dunn-Edwards became one of the first companies to set up PaintCare drop-off sites at all its retail locations in the state.

**Spillane, Benjamin Moore:** Benjamin Moore maintains a relentless commitment to innovation and sustainable manufacturing practices. One example of such innovation is the introduction of our patented Gennex® waterborne colorant system, which uses proprietary ingredients that optimize performance making our products a win-win—reduced impact on the environment without compromising quality and performance.

**Heng, allnex:** We embrace the responsibility of transparently communicating the sustainability risks and opportunities we

face and our progress in managing them. Moreover, the environmental, social, and governance aspects of sustainability are increasingly being considered in investment and purchase decisions. Our core values have long influenced our achievements in this area. Allnex is seen as a pioneer in the development of waterborne and 100% resin technologies and continues to invest in these areas.

**Quiñones-Rozo, BASF:** BASF offers solutions that allow meeting sustainability requirements with no or minimum compromise on performance. BASF brings its holistic approach to formulations to help paint manufacturers master their sustainability challenges, whether it is attaining solventborne/high-VOC type performance with waterborne/low-VOC technologies, using raw materials more efficiently, improving manufacturing conditions, reducing overall carbon footprint, or meeting increasingly strict government regulations.

Through its significant R&D resources and technical know-how, BASF is constantly evaluating innovative approaches to deliver more sustainable solutions and introducing new business opportunities for our partners. Finally, thanks to our global footprint, BASF can leverage sustainability trends and insights developed in a specific region and tailor them to address the needs of customers in other regions.

**Dijkstra, DSM Coating Resins:** As our mission says: "We are shaping a sustainable future, together." This means that we see ourselves driving the transformation to a more sustainable paint and coatings industry. And actually, DSM played a pivotal role in transforming the industry away from solvent-based to water-based technologies without sacrificing technical performance or cost.



How does your company promote the sustainability of its activities, products, etc.?

**Dijkstra, DSM Coating Resins:** We recognize that we must take a step up in marketing efforts to take our

customers and our customers' customers along on our journey of sustainability. Performance and cost are still the main drivers in the industry. Adding a third element requires thinking and acting differently, which means that more often we collaborate with our customers on how to best introduce their products to the market. By closely working together, we often see joint opportunities to highlight product and the sustainability benefits together.

**Spillane, Benjamin Moore:** Benjamin Moore promotes the sustainability of its activities and products through its Corporate Responsibility Report. This report outlines how Benjamin Moore makes a difference through its Research & Development, Products, People, and more. The report can be found at <https://www.benjaminmoore.com/en-us/corporate-responsibility-sustainability>.

**Cancilla, PPG:** PPG promotes its sustainability focus in a variety of ways. We set strict sustainability goals and hold our locations and businesses accountable for these goals, and ensure that we share and celebrate progress along the way. We publish an annual sustainability report, the cornerstone of our efforts, which outlines goals, milestones, and key activities from that year. The report also outlines progress toward our sustainability goals, because we understand that what gets measured gets done. This report is then utilized as a resource for various PPG stakeholders including but not limited to, customers, investors, community members, and employees.

**Bosveld, Dunn-Edwards Corporation:** We include references to our Greener by Design approach in various marketing communications collateral and platforms, such as on *DunnEdwards.com* and through email and social media activities, throughout the year.

**Heng, allnex:** We published our first sustainability report in late 2017 (see [http://allnex.com/uploads/2017/10/allnex-Sustainability-Report-2016\\_FINAL.pdf](http://allnex.com/uploads/2017/10/allnex-Sustainability-Report-2016_FINAL.pdf)). We will continue to publish such reports on a regular basis and promote

our efforts through our different communication channels.

**Winokur, Axalta Coating Systems:** We promote the sustainability of our products by clearly identifying product attributes that support sustainability goals as part of their value propositions. Our handheld spectrophotometer, the Acquire Quantum, is designed to accelerate color match and reduce waste in a body shop. Our Harmonized Coating Technologies like 3-Wet are formulated to take entire drying ovens out of the application process, which saves energy, space, and capital. We tell these stories on our web properties, in product collateral, and at trade shows, wherever we're able to reach our customers, as well as our sustainability reports.



If you had to give just one example of something your company has done that would be highly representative of how you are addressing sustainability in the paint and coatings industry, what would it be?

**Winokur, Axalta Coating Systems:** Sustainability has been a theme that runs through Axalta's operations, products, supply chain, and customer benefits every day, creating a vibrant mosaic of initiatives. In 2017, we took a significant step by establishing a Board committee whose charter includes sustainability and creating a new sustainability function. Providing governance oversight for sustainability and an executive resource to help integrate and communicate what Axalta is doing in the multifaceted sustainability arena will take us to the next level.

**Wendoll, Dunn-Edwards Corporation:** In 2011, Dunn-Edwards opened the world's first LEED-certified paint manufacturing facility in Phoenix, AZ. The 336,000-sq.-ft. facility was custom designed to be the greenest and most efficient in the coatings industry. This ultra-modern building encompasses manufacturing, product development, quality control laboratories, a distribution center, a retail outlet, and office space.

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**Stranimaier, AkzoNobel:** Dulux Forest Breath Interior emulsion with air purifying technology enhances air quality, captures and purifies harmful air pollutants in the home, and keeps indoor air healthy and fresh.

**Cancilla, PPG:** PPG is constantly researching and exploring solutions that allow our products to be more sustainable or environmentally conscious. One recent example is Sigma Air Pure, a biobased innovation that can help improve indoor air quality. Available in the Netherlands and Belgium in 2017 and additional European markets in 2018, Sigma Air Pure uses a high-tech biobased acrylic binder that contains renewable, plant-based ingredients that contribute to a safer, healthier environment.

**van Woort, DSM Coating:** DSM launched its plant-based acrylic resin Decovery® into different markets. Produced using up to 50% renewable raw materials, Decovery is less dependent on fossil feedstocks and consequently has a significantly lower carbon footprint. We have worked closely with key customers to launch paints based on Decovery. For instance, PPG launched in The Netherlands and Belgium an air purifying paint called Sigma Air Pure, and Italian paint manufacturer ICA Group launched the new sustainable paint Iridea Bio. By developing high-performance resins that are plant-based, we aim to positively impact the world for people today and generations to come.

**Quiñones-Rozo, BASF:** BASF's biomass balance approach contributes to the use of renewable raw materials in our integrated production system and can be applied to the majority of the products we produce. It was developed in conjunction with TÜV SÜD and involves replacement of fossil resources in the current Production Verbund with renewable resources with sustainability certification. Renewable raw materials are used as feedstock at the very beginning of production in the Verbund, and allocated to the respective sales products using the novel certification method.

The certified products are produced with the same quality and properties as those produced from raw materials derived from fossil fuels, but contribute to sustainable development by saving fossil resources and reducing greenhouse gas emissions. As a result, this approach provides our customers with ready-made, more sustainable solutions. In February 2018, we launched the first automotive refinish products (Glasurit® and R-M® refinish paint brands for the European market) manufactured according to the certified biomass balance approach.

**Depauw, allnex:** We are addressing sustainability by improving our production processes—using energy in an efficient manner, increasing the amount of renewable and recycled content in our products, reducing waste and VOCs, improving overall efficiency, replacing hazardous substances with non-hazardous compounds, and producing higher-purity end products. In addition, we are working to help our customers transition from solventborne to waterborne technologies.



Is there anything else about sustainability in the paint and coatings industry today that readers should know about?

**Cancilla, PPG:** At PPG, we know that sustainability goes beyond product innovation and operations to the communities in which we live, work, and play. There is no better example than the investments we are making in communities across the globe. Through our Colorful Communities global program, we identify community spaces in need of a bright renovation, and put the power of our employee volunteers and PPG products to work. Since the inception of the program in 2015, we've completed more than 125 projects impacting more than four million people in 23 countries—from painting classrooms, to bringing color to a maternity ward, and redesigning a playground.

**Griffioen, DSM Coating Resins:** Often sustainability is seen as a burden instead of an opportunity. It's often believed that sustainable solutions are less economical and sacrifice performance, while in reality that is certainly not the case. We no longer have to sacrifice performance for the sake of the environment. The paints and coatings industry should realize that sustainability is not just our joint responsibility; it is also a clear business opportunity. Once sustainability is taken along, one will soon realize that having a positive impact, whether it is on the health of individuals or the environment, is actually very rewarding—on both a personal level and for the performance of the business.

**Stranimaier, AkzoNobel:** Sustainability for the paint and coating industry means to work closely together with suppliers and customers to improve our activities across the value chain. As a result, new partnerships and alliances will be created that can lead to new business models and as such to the creation of new business opportunities.

**Winokur, Axalta Coating Systems:** Sustainability is a tremendous engagement platform for our industry. Of course, we need to perform well across all the traditional ESG metrics. But the role of coatings in enhancing customer productivity and making the substrates we coat last longer helps reduce the demand for natural resources. That's a special role of the coatings industry that many other industries can't share.

**Wendoll, Dunn-Edwards Corporation:** With continuing emphasis on eliminating various things from paints and coatings, it is easy to lose sight of their inherent green nature. Paints and coatings protect and preserve the substrates they are applied to, thus conserving energy and material resources—and performance is the key. Everything else is aimed at making a green product greener. ✱