INNOVATION RESEARCH INTERCHANGE

Accelerating Value Creation

Advancing Sustainability: IRI Maturity Model Insights from Eastman, GAF, and PPG

Key Takeaways

- The Innovation Research Interchange Sustainability Maturity Model offers a practical roadmap for organizations to progress from compliance-driven actions to fully embedding sustainability into strategy, culture and innovation.
- Case studies from Eastman, GAF and PPG demonstrate how leading companies integrate sustainability into R&D and market offerings, showing that progress along the maturity model translates into real business impact and industry leadership.
- Sustainability and innovation are increasingly inseparable—advancing along the maturity model not only improves environmental outcomes but also strengthens competitiveness, resilience and long-term growth.
- Partnerships and ecosystems are critical enablers of progress, as collaboration across industries, supply chains and research communities accelerates the scaling of sustainable solutions.
- Clear metrics and benchmarking provide language and tools for alignment, helping organizations track maturity, communicate progress and build credibility with employees, investors and customers.

Introduction

Sustainability can be a core driver of innovation, pushing companies to deliver solutions that are both high-performing and environmentally responsible. This IRI whitepaper draws on the IRI Sustainability Maturity Model, which defines four stages of progress in sustainability—Beginning, Improving, Succeeding and Leading—based on specific behaviors, processes, tools and outcomes (Hynds, et. al, 2015). Developed by IRI members and validated with company data, the model and its assessment tool provide organizations with a structured way to measure their sustainability practices in new product development, identify gaps and chart a clear path toward embedding sustainability as a source of competitive advantage (Hynds, et. al, 2015).

In the analysis that follows, the maturity model will be applied to sustainability initiatives from Eastman, GAF and PPG, finalists for the 2025 IRI Innovation Excellence Award for Sustainability in Innovation. This lens not only recognizes the impressive impact of each project but also situates them within a broader roadmap for sustainability in innovation. These initiatives highlight real-world examples of companies integrating sustainability into their innovation processes and strategy.

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The IRI Sustainability Maturity Model

The IRI Sustainability Maturity Model provides organizations with a structured framework to assess and advance sustainability practices in innovation and new product development. Building on the concept that most maturity models progress through a series of stages, the IRI model defines four levels of advancement: Beginning, Improving, Succeeding, and Leading (see Table 1).

Stage Classification	Description	Examples of Practices	Outcomes
Beginning	Focus on compliance and cost savings; sustainability viewed as obligation	Basic lifecycle assessments, regulatory tracking and energy/waste audits	Risk avoidance, incremental cost savings and limited cross-functional engagement
Improving	Builds capabilities through targeted projects; early integration into R&D and supply chain	Eco-design tools, carbon footprinting, supplier codes of conduct and pilot sustainability initiatives	Demonstrated wins in select product lines, growing internal awareness and initial market differentiation
Succeeding	Broader initiatives that link sustainability to performance; embedded across business functions	Sustainability scorecards, integration into StageGate™/NPD, benchmarking against peers and leadership accountability	Expanded sustainable product portfolio, measurable cost/growth benefits and stronger stakeholder trust
Leading	Fully embedded in culture, strategy and innovation; sustainability as competitive advantage	Circular design and regenerative principles, advanced data/analytics, cross-sector partnerships and global reporting standards	Sustainability as a driver of innovation, recognized industry leadership and scalable impact on global challenges

Table 1 - The IRI Sustainability Maturity Model

At the most basic stage, companies focus largely on regulatory compliance, while at the most advanced level, sustainability becomes fully embedded across the enterprise and shapes strategy, culture and market positioning (Hynds, et. al, 2015). Organizations at the Improving level may still achieve success, but typically with narrower projects and a continued need for capability building. This progression offers a path for integrating sustainability into organizational operations and innovation. One of the model's strengths is that it scales with organizational maturity.

The development of the model is rooted in both research and validation. A group of IRI members from across different industries built the framework around observable behaviors, processes, tools and outcomes that reflect increasing maturity. The maturity model was tested against input from 20 organizations, benchmarked against other sustainability ranking systems and demonstrated its credibility and usefulness as a diagnostic tool (Hynds, et. al, 2015). In doing so, the model not only captures where an organization stands currently, but also highlights the gaps and opportunities that must be addressed to progress toward higher maturity levels. In practice, R&D teams can use the model to assess current practices, identify gaps and prioritize areas for investment.

In addition, the model provides organizations with concrete practices to embed sustainability into daily operations and innovation. For example, R&D teams can use eco-design tools and lifecycle assessments to guide material choices, while supply chain functions may apply supplier codes of conduct or carbon footprinting to evaluate upstream impacts (Hynds, et. al, 2015). At higher maturity levels, companies integrate sustainability metrics into StageGate™ and new product development processes, use scorecards to measure progress and benchmark against peers to identify areas for improvement. Leading organizations go further, embedding circular design principles into innovation pipelines and applying advanced analytics to track environmental impact.

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The projects outlined below from Eastman, GAF and PPG demonstrate how IRI member companies are not only committed to advancing sustainability but are also operating at the higher end of the maturity continuum. Each initiative reflects the characteristics of organizations that are Succeeding or Leading—where sustainability is linked directly to performance, embedded in culture and strategy and leveraged as a source of competitive advantage. These case studies highlight how companies can move beyond compliance and isolated projects to deliver bold, market-shaping innovations.

Spotlight on GAF: Raising the Roof on Sustainability

GAF has undertaken pioneering work in sustainable roofing that highlights how the company is redefining performance, aesthetics and environmental responsibility. As North America's largest roofing and waterproofing manufacturer, GAF set out to solve a longstanding challenge in the roofing industry: cool roof shingles that meet energy-efficiency standards (GAF, 2025, IRI Excellence Awards Submission). Homeowners seeking darker and more modern tones had to sacrifice reflectivity and energy savings. Recognizing this need, GAF launched the Timberline HDZ® Reflector Series in 2025 (GAF, 2025, IRI Excellence Awards Submission). The product line combines high solar reflectance with rich colors, made possible through proprietary EcoDark granule technology. The result is shingles that meet or exceed solar reflectance requirements while maintaining curb appeal.

On the IRI Sustainability Maturity Model, GAF demonstrates a strong Succeeding level of maturity. The Reflector Series is part of a broader sustainability strategy tied to measurable performance goals, which include diverting 1 million tons of roofing waste annually and achieving 80% waste diversion at manufacturing sites. The product has been gaining momentum since its launch, and GAF is anticipating nearly 50% growth in sales in 2025, indicating a rising interest in roofing materials that combine sustainability with performance. These commitments show that sustainability is not a side project but increasingly linked to business metrics and customer value. GAF's combination of breakthrough product innovation, large-scale recycling initiatives like RoofCycle and ambitious 2030 targets reflect an organization moving decisively from project-level success toward enterprise-wide integration. GAF's Reflector Series initiative has proven to be more than a product launch—it is a tangible step toward building a future where sustainability, durability and aesthetics are all part of the same solution.

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Spotlight on Eastman: Scaling Circularity Through Innovation and Partnership

Sustainability is more than just a goal at Eastman; it's a guiding principle that is central to the organization's entire innovation strategy. Eastman's enterprise-wide A Better Circle initiative accelerates the transition toward a circular economy through innovative materials science (Eastman, 2025, IRI Excellence Awards Submission). Central to this effort is the 2024 completion of the world's largest molecular recycling facility in Kingsport, Tennessee. The facility uses methanolysis, a process that breaks down hard-to-recycle plastic waste into reusable molecular building blocks (Eastman, 2025, IRI Excellence Awards Submission). This facility is capable of processing 250 million pounds of waste per year.

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Spotlight on PPG: Rethinking Marine Coatings for Ocean and Climate Health

PPG is redefining sustainability in marine coatings through the development of advanced fouling-release technologies that eliminate harmful biocides while enhancing vessel performance. Long known for its expertise in high-performance coatings, PPG has introduced SIGMAGLIDE 2390, a breakthrough solution that addresses the dual challenge of marine biofouling and environmental harm (PPG, 2025, IRI Excellence Awards Submission). Traditional antifouling coatings rely on biocides—chemicals that leach into seawater and disrupt marine ecosystems. In contrast, SIGMAGLIDE 2390 is a 100% biocide-free coating that leverages a silicone-based matrix to create an ultra-smooth surface, making it difficult for marine organisms to attach in the first place (PPG, 2025, IRI Excellence Awards Submission). Central to the product's innovation is HydroReset Technology™, which uses the natural movement of water across the hull of a ship to dislodge organisms during vessel operation. This reduces drag and delivers measurable benefits, including fuel savings of up to 20% and greenhouse gas emission reductions of up to 35% (PPG, 2025, IRI Excellence Awards Submission).

Within the IRI Sustainability Maturity Model, PPG's efforts align with the Leading level of maturity. The company is integrating sustainability not only into its product development but also into application processes, such as electrostatic spraying, which improves worker safety and reduces waste. These solutions reflect a systemic approach—addressing lifecycle impacts, customer performance needs and global environmental challenges. Furthermore, PPG has also engineered SIGMAGLIDE 2390 for more efficient application through electrostatic spraying, which reduces overspray, improves material transfer and enhances safety for workers (PPG, 2025, IRI Excellence Awards Submission). This method supports more sustainable shipyard practices by minimizing material waste and environmental exposure. Notably, this innovation aligns with PPG's broader sustainability strategy, which includes designing products that reduce lifecycle impacts, expand circular material use and extend asset longevity. Through this work, PPG is demonstrating that sustainable coatings can lead the industry toward cleaner, smarter solutions. By combining scientific rigor with a deep understanding of industry needs, PPG is helping to accelerate the transition to greener operations in one of the world's most emissions-intensive sectors.

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Conclusion

The experiences of Eastman, GAF and PPG demonstrate that advancing along the IRI Sustainability Maturity Model not only delivers environmental benefits but also unlocks business value through growth, efficiency and market leadership. For organizations still early in the journey, these examples highlight a practical roadmap: start with compliance and targeted projects, then build the capabilities and partnerships needed to embed sustainability across the enterprise. Ultimately, the model underscores that sustainability is not a parallel effort but a driver of innovation, resilience and long-term competitiveness.

References

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