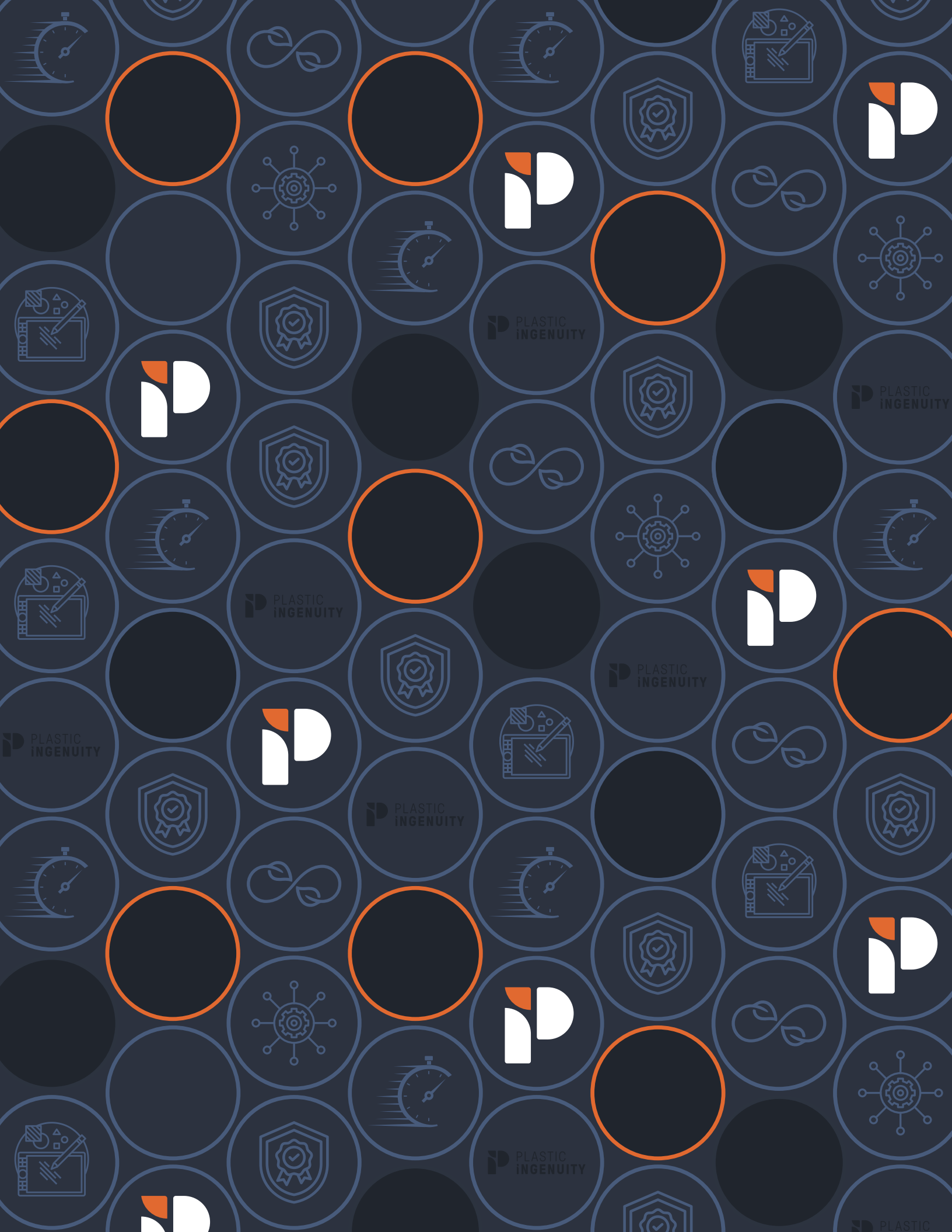


2026

THERMOFORM
Sustainability
REPORT



 PLASTIC
iNGENUITY



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Welcome

Letter from Dan Kuehn President / CEO

As I reflect on another year of growth at Plastic Ingenuity, I'm struck by how often people assume that growth and sustainability sit on opposite ends of the spectrum — as if you can either build a successful business or be a responsible steward of the environment and community. Our experience proves the opposite. At PI, our growth has expanded our ability to invest in our people, strengthen our communities, and accelerate progress toward a more sustainable future.

This idea isn't new to us. For decades, we've operated with a mindset centered on the long term. Long before sustainability became a headline topic, we were making decisions that balanced financial responsibility with long-term environmental and social impact. That mindset is why we've been willing to invest aggressively in technical expertise and meaningful partnerships. Since the company was founded in 1972, we have shared 42% of our profits with our team members every year: an investment that directly links our success to the prosperity of the people who make it possible. When PI grows, our team grows. When PI is profitable, our team shares in that profitability. In turn, our ability to serve our customers and invest in sustainability grows as well.

The results of that long-term thinking are clear. Our sustainability team, now four full-time professionals and growing, has elevated PI into a leadership position within the thermoforming industry. Their work continues to help our customers navigate evolving regulations, pursue more circular packaging solutions, and make data-driven decisions rooted in practical, real-world considerations. And while sustainability is a complex topic, we've learned that progress accelerates when we combine technical depth with a collaborative, transparent approach.

This approach stands in contrast to some of the industry's largest players, where decision-making is often driven by near-term financial pressures and shareholder expectations. At PI, we've deliberately chosen a different path — one defined not by scale, but by stewardship and the results we deliver to our customers. Our independence, family ownership, and absence of private equity investors allow us to focus on building a company that will endure for future generations, even if that means taking the long road rather than focusing on short-term wins, hitting quarterly profitability metrics, or chasing portfolio company exits. We believe this is one of our greatest competitive advantages, and it's one we plan to protect.



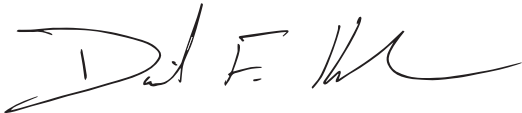
Over the past year, our growth has enabled us to deepen our investments in renewable energy evaluation, improve energy efficiency, expand the use of recycled content, and strengthen our carbon accounting and life cycle assessment capabilities. It has allowed us to develop new materials, support customer transitions to more circular packaging formats, and engage more deeply in policy discussions that will shape the future of our industry. Growth is not the opposite of sustainability — it is the engine that makes accelerated sustainability possible. You can read more about this growth and shared prosperity in these pages; including:

- The 2025 Stakeholder study – highlighting common corporate goals and the impacts of the growing number of EPR schemes throughout the US;
- Detailed information on the interplay between thermoforms and EPR programs; and
- How sustainability considerations are impacting the healthcare segment.

As you read this year's Sustainability Report, I hope you see more than just progress against goals or new initiatives underway. I hope you see evidence of a company that views sustainability as inseparable from its mission, its culture, and its future. I hope you see the impact of a team that cares deeply about doing the right thing. And I hope you see that our success continues to create tangible benefits not just for our shareholders, but for our employees, our customers, our communities, and the environment we all share.

Thank you for your continued partnership and trust. I'm proud of the work we've done — and even more excited for the work ahead.

Sincerely,





About Plastic Ingenuity

7 Strategic Locations Throughout the United States & Mexico

- HQ: Cross Plains, Wisconsin
- Mazomanie, Wisconsin
- Maumelle, Arkansas
- Oxford, North Carolina
- Tooele, Utah
- Monterrey, Mexico
- Guadalupe, Mexico



Strong Organic Growth Rate

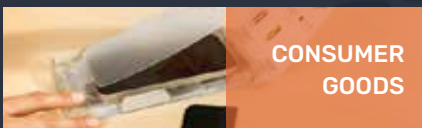
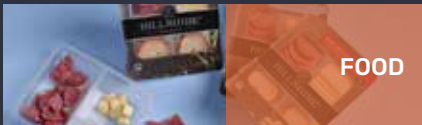


Most Recommended
Thermoforming Supplier



Engaged Team Members

Cross-Industry Experience Individualized expertise



We're not just the largest custom thermoformer in North America—we're built different. With seven strategically placed facilities across the continent, a 53-year legacy of private, family-founded ownership, and a culture rooted in real partnership, we bring more than just scale—we bring heart.

Here, everyone's invested. Literally. 42% of our profits are bonused back to the team, so every project gets treated like it's personal. The result? A culture of ownership that permeates everything we do. When expertise and incentive align, big things happen.

Vertical Integration



Reflections on a Legacy of Sustainability and Innovation



Sustainable from the Beginning

When Plastic Ingenuity (PI) was founded in 1972, its mission was straightforward: to deliver quality packaging and exceed customer expectations while remaining mindful of the environment. Environmental focus was unusual in the packaging industry at that time. Yet **founder Joe Kuehn** envisioned a company where innovation and responsibility would grow together. Nearly five decades later, that vision continues to guide the organization.

PI began modestly, launched from a garage by Joe, a University of Wisconsin–Madison engineering graduate. Like many new ventures, the first years were uncertain. Joe’s insistence that growth happens in balance with the environment distinguished the business from the start.

The phrase *“being ever mindful of our natural environment”* was written into the company’s first mission statement. That idea shaped decisions large and small, from material choices to production methods. Long before “sustainable packaging” was widely discussed, efforts were already underway to reduce impact and encourage better practices.

In 1995, Joe’s life ended tragically in a plane crash. Leadership then passed to his brother, Tom, who carried forward the same values. Under his guidance, PI expanded capabilities while keeping sustainability and innovation central. What began as one person’s vision gradually developed into a shared culture of responsibility.

Leading with Sustainable Innovation

The principle that packaging innovation and environmental stewardship belong together remains a steady guide. Over the years, this approach has translated into ongoing initiatives such as:

- **Recycled Materials:** Early adopters of post-consumer recycled content to support a more circular economy.
- **Material Innovation:** History of developing materials with circularity and efficiency in mind.
- **Process Efficiency:** Designing operations that carefully conserve energy, reduce waste, and manage resources.
- **Conservation:** Protecting local ecosystems through measures like rain gardens and zero-pellet-loss systems.

Across the organization, sustainability has become part of daily practice. Engineers design for efficiency, designers prioritize circularity, and teams recognize their role as stewards of the environment and packaging manufacturers. This perspective has helped build strong partnerships with others working to lessen their environmental impact and move toward a more sustainable future.

Connecting to Today

The packaging industry today is undergoing rapid transformation, driven by new regulations, rising consumer expectations, and urgent environmental challenges. Conversations about extended producer responsibility, circular economies, and climate impacts shape how packaging is designed, manufactured, and recovered. The values instilled at PI’s founding align closely with these shifts, offering a reminder that sustainability is not a passing trend but a long-term necessity. What began as forward-thinking decades ago is now at the center of industry-wide change.

The belief that growth and environmental responsibility must go together is even more pressing today than it was in 1972. That outlook continues to guide decisions, shape innovations, and influence how challenges are approached.

Joe’s legacy is one of corporate responsibility alongside growth. Nearly fifty years after PI’s founding, that legacy remains at the heart of its work: to innovate while contributing to a more sustainable and resilient future.

PI’s 5 Core Values



Friendly & Genuine



Resourceful



Collaborative



Total Customer Focus



Dependable Doer

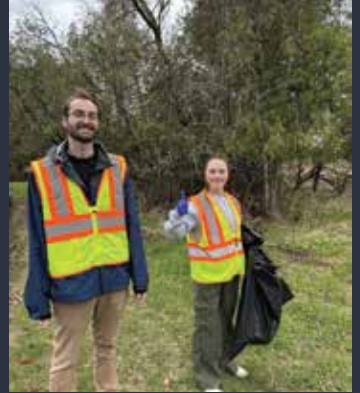


Bennett D.

Business
Development
Manager
Cross Plains, WI

“Plastic can be polarizing, and Plastic Ingenuity understands this. PI could shy away from the narrative, but instead, we lean into it. Having worked on both sides (against and for), a critical question becomes how one overcomes the structural enablers while meeting/exceeding the functionality of the package.

PI was founded on a mentality of finding a better way. Now with over 50 years in the industry, PI’s broad and intimate knowledge & innovative spirit enable PI to be a leader to create the change from within. The resources and human energy this company puts towards sustainability are incredible. This spirit of the people that work at PI are what make it a special place to be part of!”



COMMUNITY IMPACT



PI team members wore pink to honor survivors and remind one another that no one fights alone.



Plastic Ingenuity hosted a community blood drive, where team members rolled up their sleeves to help save lives.



The PI team celebrated Earth Day by picking up trash and planting wildflowers.



During the holidays, the PI team donated gifts to local children, spreading joy and supporting families in need.



Our entire PI team celebrates National Safety Month, ensuring we all look out for each other.



To support our Net Zero Waste goal, PI team members conducted a trash audit to ensure all recyclables were properly sorted.

We are dedicated to giving back to the communities we serve through **community events, mentorship moments, and peer-driven experiences**. We believe what matters to our community, matters to us.

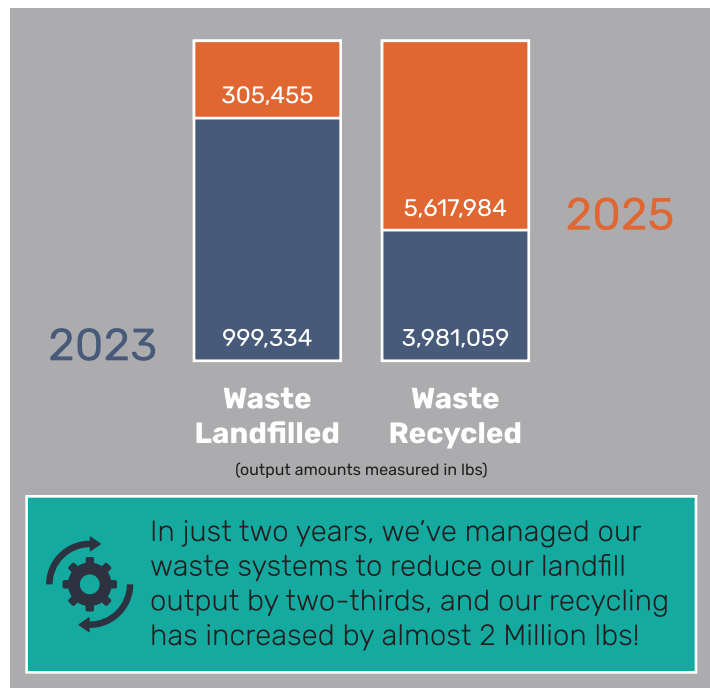


AWARDS AND RECOGNITION

Plastic Ingenuity is proud to be recognized for our ongoing commitment to excellence in sustainability, workplace culture, and environmental responsibility. In 2025, we were named a **Top Workplace** for the third consecutive year—a reflection of our team’s dedication, collaboration, and shared drive for success. We also received a **Silver EcoVadis Rating**, an acknowledgment from a globally recognized leader in sustainability assessments that evaluates companies on their environmental and social performance. This recognition underscores our strong management systems and our commitment to continuous improvement. Additionally, we are honored to be part of the **PLASTICS Zero Net Waste Program**, demonstrating our dedication to landfill diversion, waste reduction, and the responsible use of resources. We’re also proud to be recognized as an **APR Demand Champion**—highlighting our role as a trusted manufacturer of products made with post-consumer recycled (PCR) content and our commitment to strengthening demand for recycled plastics. Together, these honors celebrate our people, our progress, and our purpose as we continue to lead with integrity and sustainability.



Waste Systems



Endorsing the U.N. Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) provide a framework for organizations and governments to follow to ensure the development of new goods and services is as sustainable as possible. This is a holistic, people-centered approach with categories ranging from “no poverty” to “peace and justice.” Plastic Ingenuity is committed to aligning with the SDG framework. The following information details our alignment and progress to date.

1 NO POVERTY



End poverty in all its forms everywhere

We are committed to providing fair compensation for all of our team members and partners. In addition to competitive wages, team members share 42% of Plastic Ingenuity's profits through our discretionary profit-sharing program.

2 ZERO HUNGER



End hunger, achieve food security and improved nutrition and promote sustainable agriculture

The custom thermoformed packaging we create plays a critical role in preserving and protecting food products. Effective packaging is essential to combat the issue of food waste, ensuring food reaches people safely and efficiently.

3 GOOD HEALTH AND WELL-BEING



Ensure healthy lives and promote well-being for all at all ages

We are committed to providing a safe and secure work environment for our team members and visitors. Our goal is to have zero reportable injuries in the workplace. Our Occupational Health & Safety management system is ISO 45001 certified by a 3rd party. We are committed to supporting the emotional and mental well-being of our team members with an Employee Assistance Program, amongst other support mechanisms. In addition to internal measures, the products we make for the healthcare industry protect the medical devices and medicines trusted to save lives

4 QUALITY EDUCATION



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

All team members are eligible to participate in our Educational Assistance Plan. The purpose of the Educational Assistance Plan is to help any team member who so desires to enhance his or her capabilities to the greatest extent possible within their career at Plastic Ingenuity.

5 GENDER EQUALITY



Achieve gender equality and empower all women and girls

We remain committed toward equal opportunities for all genders. We will treat all people equally and nurture talent, regardless of gender. We support women's professional, academic, and general growth. We advocate for equality through community engagement.

6 CLEAN WATER AND SANITATION



Ensure availability and sustainable management of water and sanitation for all

We will be responsible stewards of the water we consume and discharge as part of our operations. We monitor our water consumption and strive for ways to reduce usage. As an example, we installed a closed-loop cooling system for our thermoforming machines to reduce water consumption by over 250,000 gallons per month.

7 AFFORDABLE AND CLEAN ENERGY



Ensure access to affordable, reliable, sustainable and modern energy for all

We are committed to increasing the energy efficiency of our operations. We are implementing an energy management system that conforms to the ISO 50001 standard. In addition to efficiency, we will continue to generate renewable energy for our operations from on-site solar panels.

8 DECENT WORK AND ECONOMIC GROWTH



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

We provide team members with an environment to grow and feel pride in their work. We prioritize safe working conditions for all of our team members and partners. Our unique profit-sharing program creates a sense of ownership and fosters unparalleled teamwork. Unmatched employee tenure is a driver of our sustained growth. For example, the average tenure of PI design engineers is 28 years. We also provide a yearly cost of living adjustment to all team members, ensuring wages are modified to match the rising costs of living. Plastic Ingenuity participates in paid apprenticeship programs, featuring both youth apprentices and journeyworker apprentices.



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

We leverage our design and innovation expertise to create sustainable thermoformed packaging solutions. These innovations result in optimized material usage, reduced waste, and increased circularity. We invest in infrastructure improvements through our partnerships and associations, to recover more plastic waste so it can recirculate in our economy as recycled material.



Reduce inequality within and among countries

We are committed to a diverse and inclusive workplace, as we know that each of our team members helps to make us better. We welcome people from all backgrounds and walks of life. We are diligent in our effort to eliminate discrimination and harassment, ensuring the entire team completes necessary yearly training.



Make cities and human settlements inclusive, safe, resilient and sustainable

We are aligned with the shift to a circular economy, which will improve the sustainability of our communities. We abide by the Association of Plastic Recyclers Design Guide to create custom thermoformed packaging that is compatible with residential recycling systems. We collaborate with associations, like The Recycling Partnership, focused on increasing equitable access to recycling in our communities. We provide educational resources for stakeholders through newsletters, video series, eBooks, and PI courses, promoting the transition to a circular economy.



Ensure sustainable consumption and production patterns

We support the sustainable management of natural resources with pride. We seek to use more recycled and bio-based content in our products to lessen our dependence on fossil fuel-derived materials. We design our packaging to be recycled so its valuable material can be recovered for reuse at the end-of-life. We leverage our design expertise to use the minimal amount of plastic while offering utmost product protection. We deploy lean manufacturing principles and continuous improvements to efficiently use the resources required in operations. Our Cross Plains and Mazomanie, WI facilities are Net Zero Waste Recognized.



Take urgent action to combat climate change and its impacts

The phrase “we will be ever mindful of our natural environment” is embedded in Plastic Ingenuity’s mission statement. We quantify and independently verify our Scope 1 and Scope 2 emissions, along with a detailed Scope 3 screening. This enables identification of opportunities to reduce our greenhouse gas intensity. We are evaluating ways to further bolster the use of renewable energy in our operations. We report our impacts through CDP.



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Our Corporate HQ in Cross Plains, WI borders the Black Earth Creek, a world-class trout stream. To protect this ecosystem, we developed five rain gardens that reduce storm water run-off. We are members of Operation Clean Sweep, a stringent program designed to eliminate resin loss to the environment.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

We are committed to natural environment preservation. We have reduced our landfill contributions by focusing on diverting our operational waste through recycling and reuse. Our ISO 14001 environmental management system ensures we are reducing the risk of polluting our natural environment from our operational activities.



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

We hold ourselves to the highest legal and ethical standards. We serve our internal and external stakeholders with honesty and integrity. We are dedicated to eradicating all forms of corruption within our company.



Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

We support a variety of collaborations and initiatives whose objectives are in line with the Sustainable Development Goals. In order to lessen our impact on the environment, enhance the circular economy, and encourage climate action, we collaborate with trade groups, NGOs, and other key stakeholders. Organizations and associations include The Recycling Partnership, Association of Plastics Recyclers, Sustainable Packaging Coalition, NAPCOR (National Association for PET Container Resources), Healthcare Plastics Recycling Council, the Associated Recyclers of Wisconsin, and the Polymer and Food Protection Consortium.



Sustainable Products & Services

Plastic Ingenuity partners with brands, retailers, and healthcare manufacturers to design and manufacture packaging solutions that advance sustainability. Our portfolio of sustainable products and services helps customers meet their environmental objectives while promoting thoughtful, responsible design.



Sustainable Product Solutions

With a proven portfolio of sustainable packaging innovations, Plastic Ingenuity enables brands, retailers, and healthcare manufacturers to lead the way toward a more resilient future.



Bio-Based Plastic Packaging

Bio-based plastic is an ideal solution for packaging professionals looking to reduce virgin plastic usage and the carbon footprint of their packaging. We offer bio-based PP thermoformed packaging using ISCC PLUS chain-of-custody certified bio feedstocks, such as used cooking oil. We also provide bio-based PLA for brands seeking an industrial compostable solution.



Post-Consumer Recycled Materials

PCR is an ideal material for packaging professionals seeking a solution to reduce virgin plastic usage, decrease carbon footprint, and increase their packaging circularity. We offer a portfolio of post-consumer recycled materials options for PET and PP packaging that have FDA No Objection Letter (NOL) status for use in food-grade applications. PCR derived from recovered thermoforms can be specified for enhanced circularity. Plastic Ingenuity offers PCR from mechanically recycled sources and advanced recycled sources using ISCC PLUS mass balance allocation. Third-party certified PCR options are available for optimized sourcing transparency.



OPS and PVC Elimination

Oriented Polystyrene (OPS) and Polyvinyl Chloride (PVC) have been identified as problematic plastics by the U.S. Plastics Pact and major retailers like Walmart and Target. Our PET thermoformed tray structures offer an alternative solution to PVC and OPS. This solution is ideal for packaging professionals seeking alternative material solutions to replace their OPS or PVC packaging. Cookie trays made from OPS and blister packs made from PVC are ideal candidates to transition to PET with recycled content.



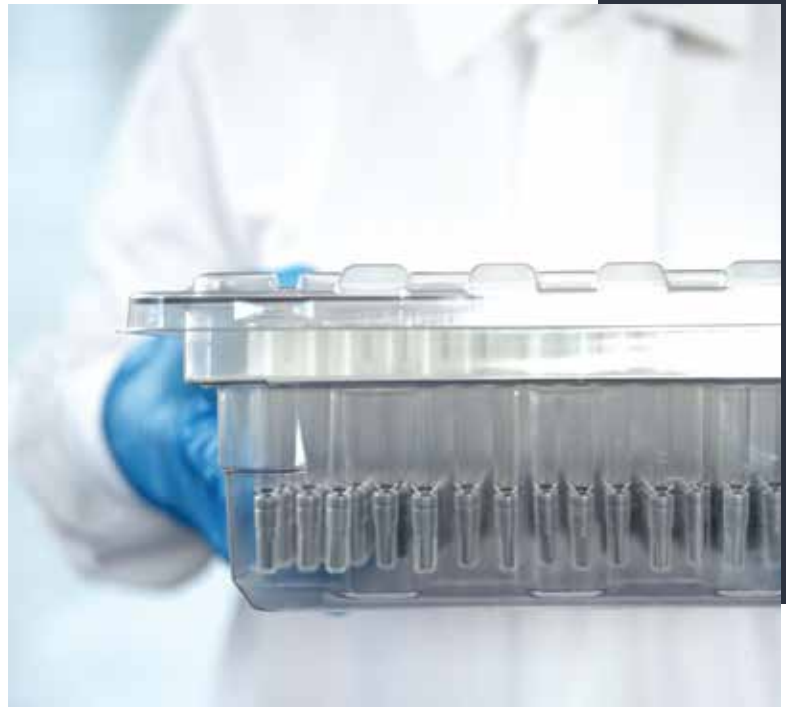
Recyclable Colorants

Colorants used in packaging can negatively impact a Material Recovery Facility's (MRF) ability to effectively sort items in their automated processes. We have developed thermoformed packaging with black colorants that are detectable by near-infrared (NIR) sorting technology. This solution is ideal for packaging professionals seeking to eliminate carbon black from their packaging portfolio.



Recyclable Barrier Packaging

Oxygen and moisture barriers added to packaging are critical in preserving food products. However, these barriers can negatively affect the recyclability of the package. We have developed barrier packaging that is compatible with existing recycling streams without sacrificing preservation performance.



Ready-to-Use (RTU) Pharma Tub

RTU packaging is commonly used in the pharma industry to protect vials, syringes, and cartridges. Conventional RTU tubs made using an injection molding process result in material inefficiencies. We have developed a thermoformed RTU tub that provides the protective properties needed and conforms to the ISO 11040 standard, using up to 40% less plastic.



Circular Materials for Healthcare Packaging

Due to regulatory requirements, the use of recycled content in healthcare packaging is constrained. Healthcare packaging engineers can enhance the circularity of their packaging by leveraging materials implemented via mass balance processes. We can provide Eastman's Renew and other circular materials by leveraging our ISCC PLUS certified mass balance system.

PETG Alternatives



PETG is extensively used in medical device packaging to protect healthcare products during sterilization and distribution. However, PETG recycling options are limited. Our solution is compatible with the PET recycling stream but does not compromise sterility and protective performance.

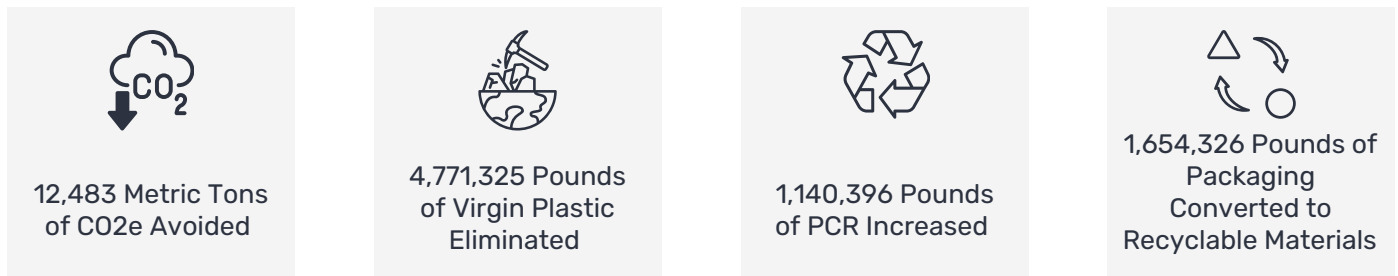
Sustainability Services

SUSTAINABLE PACKAGING ASSESSMENT

Plastic Ingenuity’s Sustainable Packaging Assessment (SPA) remains the cornerstone of our sustainability services and continues to serve as the most effective foundation for driving measurable progress. The process begins by identifying each customer’s unique sustainability objectives and evaluating their current packaging systems. From there, we deliver a comprehensive roadmap with actionable steps designed to help them meet and exceed their goals.

The SPA includes an in-depth analysis of sustainable design principles and material options, assessing the environmental impacts of each choice to inform data-driven decisions.

Our strength lies in seamlessly executing these strategies – managing every stage of the production process from design to delivery. In 2025, we completed over 20 Sustainable Packaging Assessments, resulting in measurable improvements in resource efficiency, recyclability, and carbon reduction across our customers’ portfolios.



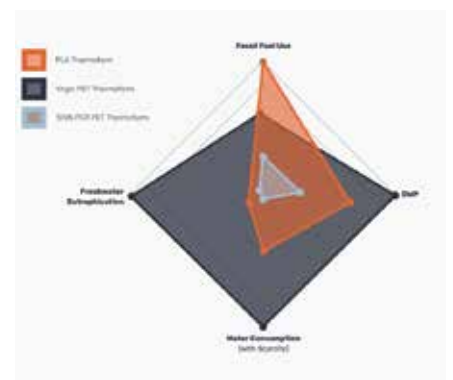
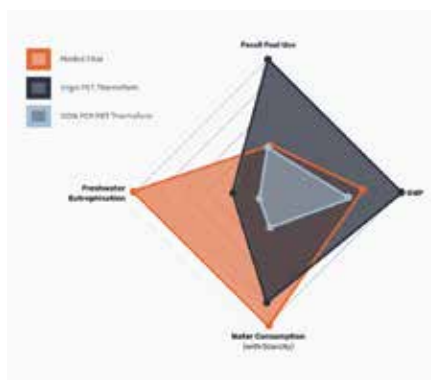
Source: Based on annual production volumes, CO2e data from Trayak EcolImpact and Plastic Ingenuity Custom Product Carbon Footprint Calculator

STEP 01 DEFINE YOUR SUSTAINABILITY GOALS

Whether you have established sustainability objectives or are just beginning your sustainability journey, we are here to help you define achievable targets.

Common goals may include:

- Material Reduction
- Maximize PCR Content
- Design for Recyclability
- Minimize GHG Impact
- Eliminate Materials of Concern





STEP 02 ASSESS YOUR CURRENT STATE

We evaluate design and material choices, analyzing their environmental impact to ensure optimal sustainability. With our deep expertise in design for recyclability, we have integrated these principles into every stage of our assessment process.

Life Cycle Assessment

With our LCA tools, we analyze the environmental impact of various design and material choices. By examining the entire life cycle of our customers' products, from raw material extraction to end-of-life, we help our customers make informed decisions that align with their sustainability goals.

We leverage the EcoImpact-COMPASS LCA Platform and our Plastic Ingenuity Custom Product Carbon Footprint Calculator to comprehensively analyze sustainability metrics such as our products' embodied carbon, water usage, fossil fuel usage, and energy consumption.

Design for Circularity Assessment

We thoroughly analyze the current package's design and material choices and compare them against the APR Design Guide, How2Recycle Framework, and other stakeholder-specific frameworks.



STEP 03 CREATE A ROADMAP

We conduct a comprehensive gap analysis to identify discrepancies between a package's current state and our customer's desired sustainability goals. Then, we design a practical, actionable roadmap to bridge the gap, including clearly defined next steps and recommended timelines, providing a clear pathway for implementation.

REDESIGN SERVICES

As a natural extension of our Sustainable Packaging Assessment, Plastic Ingenuity's ReDesign services empower customers to explore innovative packaging concepts, evaluate trade-offs, test new materials, and more. Offered at little to no cost, these services have led to multiple award-winning sustainable packaging solutions.



REDESIGN FOR RECYCLABILITY

Designing recyclable thermoforms is complex, yet promoting circularity remains a core tenet of our ReDesign Services. Through our specialized design-for-recyclability consulting, we help customers create packaging that is not only functional but also recyclable in practice, allowing materials to re-enter the supply chain efficiently.

- Plastic Ingenuity engineers utilize the Association of Plastic Recyclers (APR) Design Guide on every design to develop packaging solutions optimized for real-world recyclability.
- Our team has experience navigating the Association of Plastic Recycler's Critical Guidance program to certify recyclability for complex material structures.

REDESIGN FOR SUSTAINABILITY

We understand that sustainability means something different based on package and product needs, and we are dedicated to collaborating with our customers on their sustainability journeys. We work closely with our customers to identify innovative materials and design strategies that minimize virgin material usage through downgauging and incorporating recycled or bio-based materials. Our goal is to guide our customers through the complexities of sustainable packaging design and material choices, ensuring their products utilize materials efficiently and minimize environmental impacts.

ADVISORY SERVICES

As a natural extension of our Sustainable Packaging Assessment, Plastic Ingenuity's ReDesign services empower customers to explore innovative packaging concepts, evaluate trade-offs, test new materials, and more. Offered at little to no cost, these services have led to multiple award-winning sustainable packaging solutions.

ENVIRONMENTAL REGULATION

Plastic Ingenuity provides expert advisory services to help customers navigate environmental regulations, such as Extended Producer Responsibility (EPR) legislation. We guide compliance with recyclability mandates, source reduction goals, and LCA reporting while offering strategies to optimize packaging design. Our support ensures accurate data collection, reporting, and alignment with evolving regulations, empowering customers to meet standards and advance sustainability goals.

MASS BALANCE CERTIFICATION

Our ISCC PLUS certification allows us to incorporate circular plastics from advanced recycling technologies and bio-based feedstocks into our products through a mass balance approach, which ensures credible and verifiable solutions. This certification provides guidance on allowable marketing claims to help maintain transparency and integrity throughout the value chain, ensuring a complete and unbroken chain of custody. Our team is here to support our customers throughout the ISCC certification and licensing process for incorporating circular materials.

TAKEBACK PROGRAM DESIGN

With a stringent focus on circularity, we work with our partners to create customized solutions to divert waste from landfills. We tailor plans to take back materials by either integrating them back into the original product (closed-loop recycling) or using the material in other products (open-loop recycling). This program works by partnering with local recyclers to collect trays from end-user locations, clean and grind the material into flake, and send this material to Plastic Ingenuity for use in new trays. This streamlined approach diverts waste from landfill, reduces virgin plastic use, and strengthens the circularity of plastic products.



Sustainable Systems

We aspire to ingrain sustainability into every aspect of our business and are systemizing our efforts to achieve this goal.

ISO 14001

Our Cross Plains and Mazomanie, WI facilities operate under an ISO 14001-certified environmental management system—the foundation of our sustainability efforts. This system guides how we manage environmental risks, design products that minimize impacts throughout their life cycle, and engage team members in achieving shared environmental goals.

OPERATION CLEAN SWEEP

Our Mazomanie facility's pellet-loss prevention system meets the base requirements of Operation Clean Sweep, which works to keep plastic pellets, flakes, and powders from entering waterways and oceans during manufacturing, transport, or handling.

CDP

CDP is a global nonprofit that provides a platform for companies, cities, and governments to disclose and manage their environmental impacts—focusing on climate change, water security, and deforestation. Plastic Ingenuity participates in CDP to guide continuous improvement in our sustainability efforts.

ISCC PLUS

Our Cross Plains, Mazomanie, Oxford, and Tooele facilities maintain an ISCC PLUS-certified chain of custody system, enabling us to use circular materials through mass balance allocation. These materials include plastics made from advanced recycling technologies and bio-based feedstocks.

ECOVADIS

EcoVadis is a global platform that rates businesses on their environmental, social, and ethical performance across supply chains. Plastic Ingenuity uses EcoVadis to monitor and strengthen our corporate social responsibility practices, promoting transparency and sustainability throughout our operations. We achieved a Silver rating from EcoVadis in 2025.

ISO 45001

We're proud to have achieved ISO 45001 certification in our Cross Plains and Mazomanie facilities—an internationally recognized standard for Occupational Health and Safety Management Systems. This milestone reflects our commitment to providing a safe, healthy, and supportive workplace. By meeting this rigorous standard, we've strengthened our approach to reducing risks, preventing injuries, and promoting employee well-being.

ISO 50001

ISO 50001 is the international standard for energy management systems, providing a framework to improve energy performance through efficiency. Plastic Ingenuity's Cross Plains and Mazomanie facilities are implementing an energy management system conforming to this standard, demonstrating our commitment to energy management and continuous improvement.

Sustainability in Action

PHARMACEUTICAL COMPANY REDUCES WASTE WITH CLOSED-LOOP RECYCLING

REPURPOSING PLASTIC WASTE WHILE REDUCING GREENHOUSE GAS EMISSIONS

A global pharmaceutical company aspired to repurpose plastic waste for beneficial reuse or recycling, as well as engage with key suppliers in their value chain to drive greenhouse gas (GHG) emission reductions. The healthcare industry is an underutilized waste stream for recycled material, and increasing access to these sources will help reduce virgin plastic usage and improve the circularity of healthcare plastics.

CREATING A CUSTOM TAKE-BACK PROGRAM

Plastic Ingenuity partnered with the pharmaceutical company to begin incorporating 50% recycled high impact polystyrene (HIPS) resin into their thermoformed trays. Additionally, Plastic Ingenuity helped establish a closed-loop recycling system where the trays, now including 50% recycled material, were shipped directly to contract manufacturing organizations (CMOs) to be filled with devices, then shipped to the pharmaceutical company to finalize the product. The used thermoformed trays were then shipped to a recycling partner that ground the trays into flake and pelletized the material. The pellets were shipped back to Plastic Ingenuity to be incorporated into the extrusion process to make new thermoformed trays and continue the cycle.

CIRCULARITY WITH A LOWER ENVIRONMENTAL IMPACT

A carbon footprint analysis of the pharmaceutical company’s take-back program demonstrated significant improvement, with a 41% annual reduction of carbon dioxide equivalent (CO₂e), or 17,338 metric tons of CO₂e avoided. Additionally, they displaced 2,009 metric tons of virgin plastic by incorporating 50% recycled material in the thermoformed trays.

A RESOUNDING SUCCESS



2,000 MT of virgin plastic material saved



41% of CO₂e avoided



3,861 gas-powered cars per year removed





Plastic Ingenuity partnered with a global pharmaceutical company to create a closed-loop recycling program that incorporates 50% recycled material into thermoformed trays—reducing virgin plastic use, cutting emissions by 41%, and advancing circularity in healthcare packaging.

Sustainability in Action

PLA TRENTA BOBA LID AT STARBUCKS

INTRODUCTION

Starbucks, the largest coffee chain in the world, continues to innovate in sustainable packaging as part of their ongoing commitment to environmental stewardship. With ambitious goals set for 2030 and a changing regulatory landscape, Starbucks is reimagining their consumer-facing packaging to reduce environmental impact.

CHALLENGE

By 2030, Starbucks is committed to ensuring all consumer-facing packaging is 100% reusable, recyclable, or compostable; sourced from 50% recycled materials; and made using 50% less virgin fossil fuel-derived sources. As Starbucks expanded its boba drinks into compostable packaging markets, primarily along the U.S. coasts, they faced a unique challenge: finding a lid solution that aligned with regulations and their goals while maintaining performance and consumer experience. Starbucks challenged Plastic Ingenuity to create a compostable version of the polypropylene (PP) Trenta boba lid.

PROCESS

With a compostable paper cup and straw already in place, Starbucks sought a lid that would complete the package. Plastic Ingenuity prioritized industrial compostability and began evaluating material options that would meet performance standards for cold beverages while supporting Starbucks' sustainability targets. PI developed Starbucks' strawless lid in 2016 and has been a trusted collaborator of the coffee chain.

SOLUTION

The chosen material was polylactic acid (PLA), a plant-based biopolymer known for its compostability. PLA can maintain the structural integrity required for cold drink lids, meet industrial compostability requirements, and retain the familiar user experience of a plastic lid. Importantly, the PLA lid meets two of Starbucks' three 2030 packaging sustainability goals: it is industrially compostable and made without virgin fossil fuel-based material. Plastic Ingenuity's designers and engineers seamlessly transitioned the existing PP lid to PLA without affecting manufacturability, performance, or clarity.

IMPACT

Since the introduction of the PLA Trenta boba lid in 2024, the use of over 14,800 pounds of virgin fossil-fuel based plastic has been avoided. By reducing reliance on virgin fossil-fuel materials and offering a fully compostable solution, Starbucks is aligning its packaging with the infrastructure and consumer expectations in compostable markets. This innovation not only supports the company's environmental commitments but also reinforces its leadership in sustainable packaging design.

CONCLUSION

Starbucks' PLA Trenta boba lid exemplifies how thoughtful design and strategic partnerships can drive progress toward sustainability. By aligning packaging solutions with regional infrastructure and global goals, Starbucks continues to set a high standard for environmental responsibility in the food and beverage industry.



14,800 lbs. of virgin fossil fuel-based plastic material avoided

- ✓ Industrially compostable
- ✓ Made without virgin fossil fuel-based material



Sustainability in Action

ISCC PLUS CIRCULARITY IN FOOD SERVICE

Circularity in Every Sip and Spoonful: Turning Used Cooking Oil into Heat-Proof Lids

THE CHALLENGE:

From Fryer to Future

A multinational quick service restaurant (QSR) wanted to take a meaningful step toward circularity by replacing virgin plastic in its hot food and beverage lids with a renewable, bio-based material. The challenge was finding a solution that met strict performance standards while reducing dependence on fossil-based resources.

THE PROCESS:

Turning Waste Streams Into Resources

Plastic Ingenuity explored bioplastic options that could meet the QSR's functionality, safety and sustainability goals. Bioplastic is a polymer made from plant-based, renewable sources like starches or cellulose, yet it is chemically identical to plastic derived from fossil fuels. That means no compromise in durability or heat resistance. In this case, the origin material came from a second-generation biosource—used cooking oil (UCO). The UCO was filtered and refined through a chemical process that converts it into usable fractions for resin production. The result was a thermoformable, food-safe material that could be molded into lids for hot food and drinks. This open-loop approach demonstrated true circularity in action: waste from the food system was transformed into a valuable raw material, ready to be reintroduced into restaurant service.

THE SOLUTION:

Certified for Circularity

Plastic Ingenuity produced new hot lids using the bio-based resin, and the switch required no change to existing tooling or production lines. The bioplastic performed exactly like traditional virgin plastic, proving that sustainability does not have to come at the expense of efficiency or quality. The material was certified under PI's ISCC PLUS mass balance system, a globally recognized third-party certification that ensures supply chain transparency and verifies the authenticity of sustainability claims. This case demonstrates that circular solutions are possible even in high-volume, everyday items like coffee cup and oatmeal lids at one of the largest restaurant chains in the world.





THE RESULTS:
Serving Up Sustainability



220,001 lbs. of virgin fossil fuel-based plastic material avoided



Sustainability in Action

TRACFONE PCR PACKAGING

That Tracs: Sustainable Packaging Assessment Convinces a Long-Term Customer to Go in a Better Direction

THE CHALLENGE:

Leaning On a Sustainable Relationship

A long-time Plastic Ingenuity customer, Tracfone, came under new ownership with fresh sustainability goals. The new leadership wanted to replace Tracfone's legacy packaging of thermoformed plastic and paperboard with molded fiber packaging and even had a prototype ready. Molded fiber has strong sustainability potential from its renewable feedstock and "widely recyclable" classification by How2Recycle. However, thermoformed plastic is inherently lightweight and offers benefits like clarity, durability, and recyclability. Thanks to years of partnership and trust, Plastic Ingenuity was able to conduct a Sustainable Packaging Assessment (SPA) of the options and recommend the most sustainable path forward.

THE PROCESS:

Data-Driven Analysis and Proprietary Processes Lead to a Smarter Solution

SPA is the foundation of Plastic Ingenuity's sustainability services. This three-step process starts by identifying the customer's sustainability goals and assessing current packaging systems. For Tracfone, we reviewed the sustainability targets of both its parent company and the major retailer where the product is sold. The key priorities were clear: design for recyclability and maximize recycled content.

Next, we conducted a Life Cycle Assessment (LCA) comparing the environmental impact of various packaging formats. Tracfone's legacy packaging served as a baseline, assessed against the proposed molded fiber design and two new thermoformed concept designs. Plastic Ingenuity's design engineers developed packaging trays using 100% post-consumer recycled (PCR) PET at two different material weights. In addition to maximizing recycled content, our designers followed the Association of Plastic Recyclers (APR) Design® Guide guidance for PET packaging to ensure these concepts would be set up for success with end-of-life collection, sortation, and reprocessing.

Analyzing factors such as global warming potential (GWP) and water consumption, the LCA revealed that while the molded fiber prototype had a much lower carbon footprint than Tracfone's legacy paper-plastic hybrid, it was nearly identical to Plastic Ingenuity's PCR PET (0.024") option. However, PI's downgauged, lighter-weight PCR (0.020") design delivered the lowest overall impact. Water usage proved to be a critical factor. While the molded fiber manufacturing process is water-intensive, PCR thermoform packaging requires minimal water to produce. The environmental benefits were undeniable.

THE SOLUTION:

Designing Lower Impact Packaging with PCR Content

The final step of our SPA process is providing a clear pathway for implementation to achieve the customer's sustainability goals. The LCA data pointed decisively to PI's optimized packaging redesign using a recyclable, lighter-gauge PET made with 100% PCR material, and the parent company agreed to move forward with it. We created a prototype, refined the design for manufacturability, and scaled up production efficiently, helping Tracfone meet (and even exceed) its sustainability targets.



THE RESULTS:

Minimizing Water Intensity, Maximizing Performance



2,311.47 MT of CO₂ equivalents avoided



657,858 tons of water saved

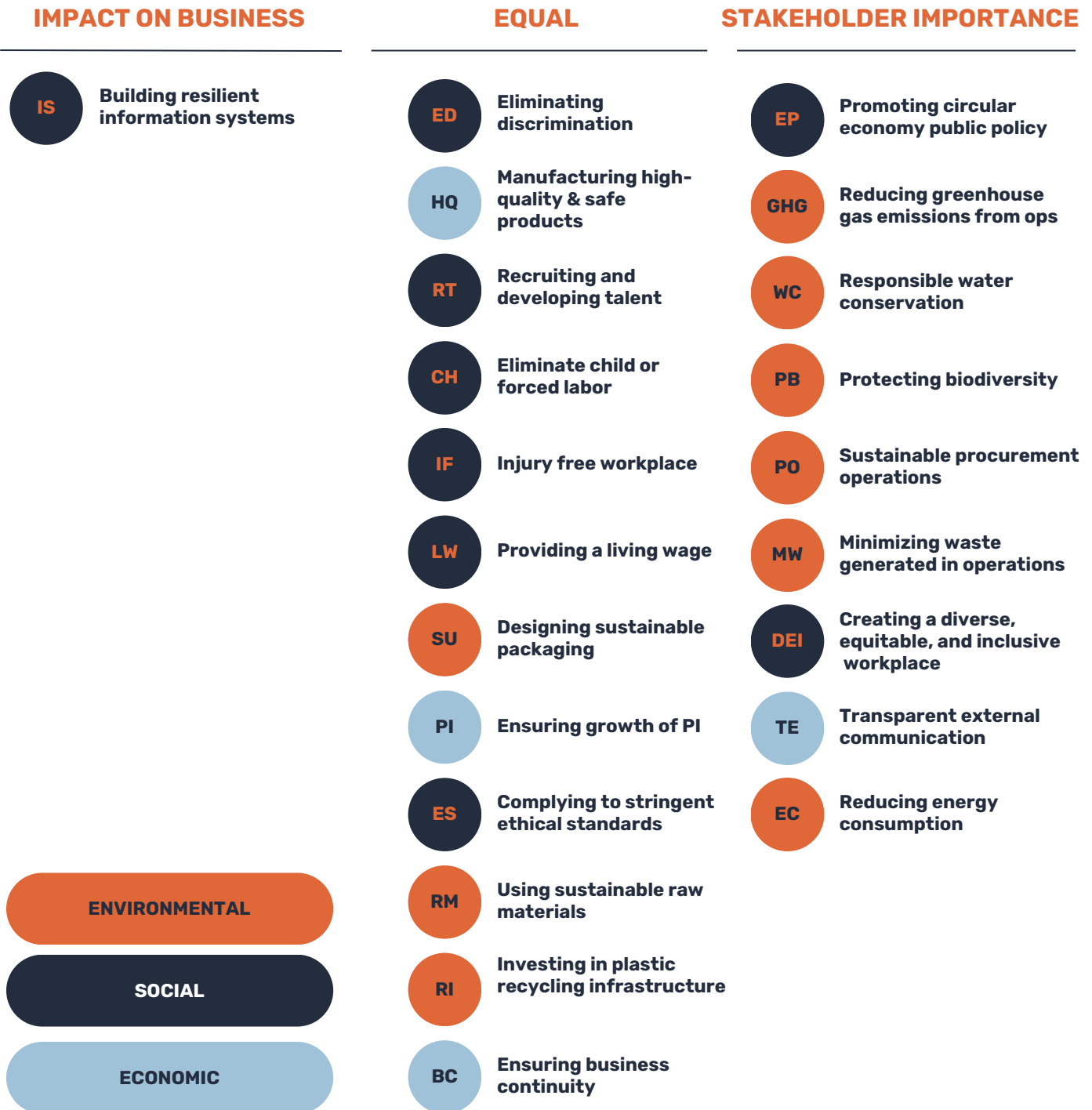


Equivalent impact of removing 555 gas-powered cars from the road each year

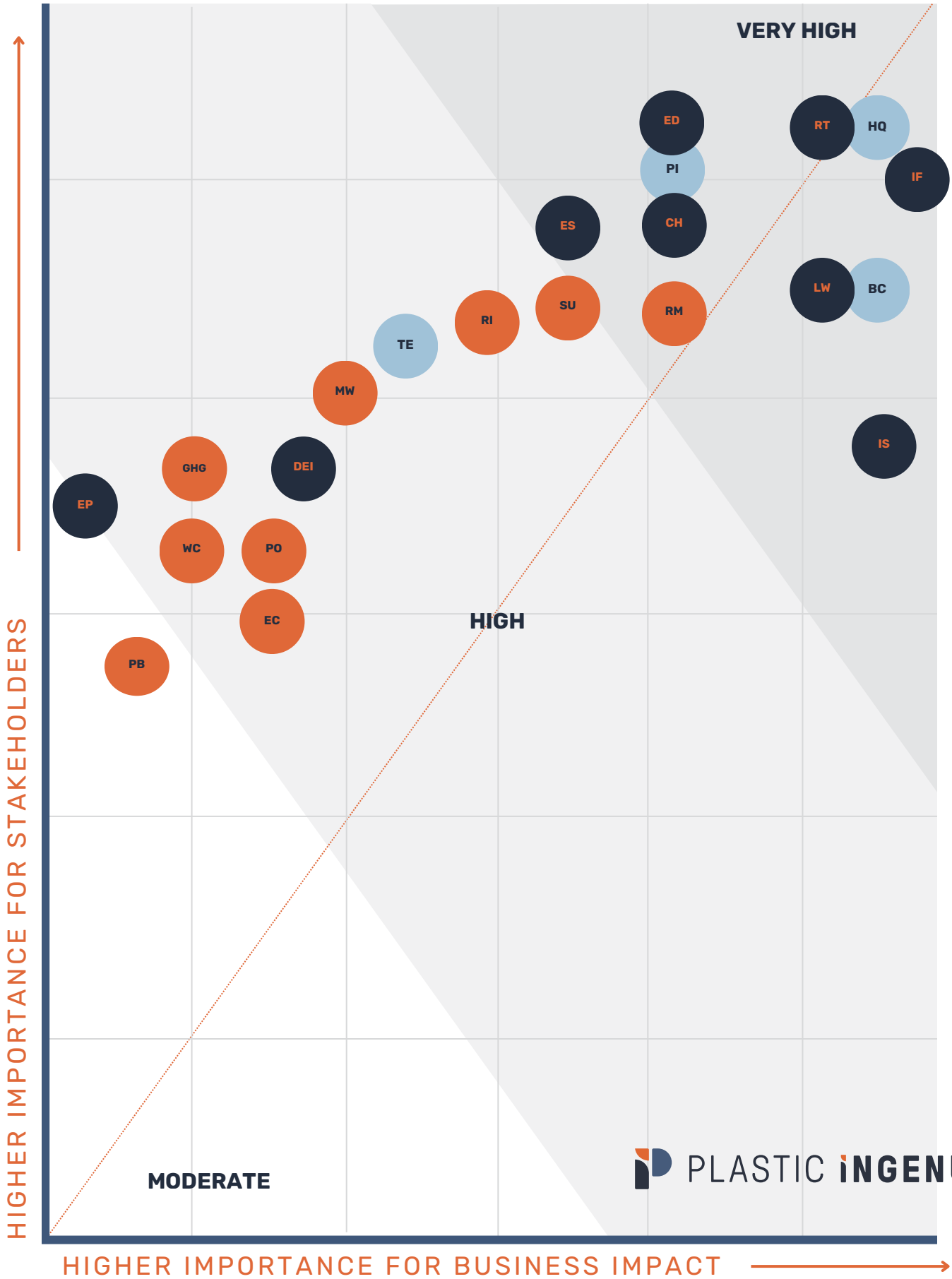


MATERIALITY ASSESSMENT

A materiality assessment is a systemic approach used by organizations to identify and prioritize the environmental, social, and governance issues that are most relevant to their business and stakeholders. It helps companies focus on areas that have the greatest impact on their operations and external perceptions, guiding sustainability strategies and reporting. The results of PI's most recent materiality assessment are shown below.



MATERIALITY MATRIX: IMPACT ON BUSINESS VS. STAKEHOLDER IMPORTANCE



Breaking the Barrier: The Polypropylene Advantage

CPG brands continue to launch new products in the refrigerated aisle to meet the growing demand for healthy, convenient, and affordable snack offerings. In doing so, they must carefully balance their package performance requirements against an evolving regulatory landscape where traditional solutions (such as polystyrene-based barrier packaging) may incur penalties. In such cases, polypropylene-based barrier packaging is an attractive alternative.

Creating barrier polypropylene (PP) packaging can be complicated, requiring a high degree of process control and rigorous quality control. At Plastic Ingenuity, we have mastered the process of delivering high-performance, sustainable, PP packaging that can drop into existing food processing lines without the need for costly overhauls.

Why PP?

PP with a barrier film offers exceptional oxygen and moisture barrier properties, making it ideal for extended shelf-life applications. This is critical for products like ready-to-eat meals, snacks, and protein-based items where freshness and food safety are non-negotiable. These applications demand durability, lightweight construction, and the ability to withstand rigorous distribution environments, all while meeting sustainability goals. By incorporating barrier layers into PP, brands can maintain product integrity without sacrificing recyclability.

Advantages Over PET and HIPS with Barrier

Switching to PP with barrier delivers multiple benefits:

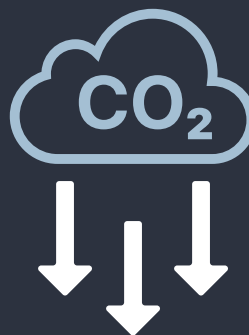


Recyclability:

Barrier PP generally meets the Association of Plastic Recyclers (APR)'s design for recyclability guidelines for barrier layers.

EPR Fee Benefits:

Due to PP with barrier being recyclable in Extended Producer Responsibility (EPR) states and lighter weight, lower EPR fees help reduce costs for brands.



Lower Carbon Footprint:

PP's lower density results in a lighter weight package, reducing emissions.

PCR Compatibility:

Post-consumer recycled (PCR) content can be incorporated into PP with barrier, supporting New Jersey's PCR requirements and broader circularity goals.



Proven Success with Tyson Foods

Plastic Ingenuity partnered with Tyson Foods Hillshire Snacking to develop a barrier PP snack tray that not only met stringent performance standards but also earned Critical Guidance recognition from APR.

This achievement underscores our commitment to innovation and sustainability.



The Bottom Line

While barrier PP trays are challenging to manufacture, Plastic Ingenuity has the expertise and technology to make it happen. By choosing PP, brands gain a packaging solution that balances shelf life, recyclability, and environmental impact without compromising on performance.

2025 Stakeholder Study

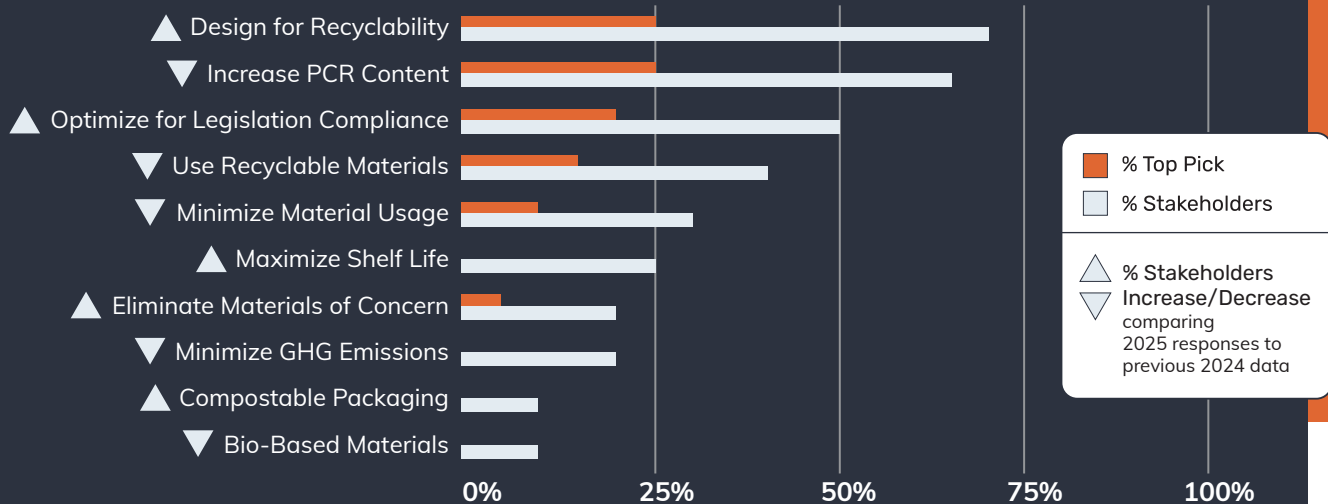
Plastic Ingenuity’s 2025 Stakeholder Study builds on years of collaboration with sustainability leaders across the packaging industry. This year’s research included 20 interviews with packaging engineers, procurement specialists, and sustainability professionals from the food, retail, and healthcare sectors. Their insights highlight shifting priorities, ongoing challenges, and new opportunities in sustainable packaging. This report summarizes the key goals, drivers, and barriers identified through these conversations.

Sustainability Goal Analysis

We asked stakeholders to share their organization’s packaging sustainability goals. Their responses were broken down into individual goal statements, and those identified as the highest priority were marked as “Top Picks.” The table and graph below summarize the results.

GOAL	% Stakeholders	% Top Pick
Design for Recyclability	70	25
Increase PCR Content	65	25
Optimize for Legislation Compliance	50	20
Use Recyclable Materials	40	15
Minimize Material Usage	30	10
Maximize Shelf Life	25	0
Eliminate Materials of Concern	20	5
Minimize GHG Emissions	20	0
Compostable Packaging	10	0
Bio-Based Materials	5	0

2025 STUDY RESULTS



When viewed collectively, the goals align around five themes: **circularity and recycling, resource efficiency, regulatory compliance, climate impact, and bio-based solutions.**

Circularity and Recycling

GOAL	% Stakeholders	% Top Pick
Design for Recyclability	70	25
Increase PCR Content	65	25
Use Recyclable Materials	40	15



Design for recyclability emerged as the most common sustainability goal among packaging organizations in the 2025 study. Regulatory requirements, consumer expectations, and internal commitments to circularity drive this focus. The Association of Plastic Recyclers (APR) Design® Guide¹ is widely recognized as the industry’s gold standard, offering clear criteria for material selection, packaging format, and labeling to ensure packaging can be efficiently processed in recycling systems.



Stakeholders identified several key drivers for prioritizing design for recyclability, including compliance with emerging legislation, reducing environmental impact, and meeting retailer expectations. One interviewee noted, “Recyclability is our highest ambition. This means selecting materials and designing packaging structures to be recycled in practice.”



Material selection is a critical aspect of design for recyclability, as the choice of polymer can determine whether a package is compatible with existing recycling infrastructure. Brands often favor mono-materials and formats that align with industry standards, such as the APR guidelines, to maximize the likelihood that their packaging will be accepted and processed by recyclers.



“Recyclability is our highest ambition.”

Circularity and Recycling

Not all packaging formats are widely recyclable today.² Many organizations use recyclable materials in anticipation of improvements in recycling infrastructure, which will allow more formats to be collected and processed. As one stakeholder explained, “We are trying to achieve widely recyclable packaging by 2030 by prioritizing the use of recyclable materials in anticipation of infrastructure improvements.” By taking this approach, brands position themselves to adapt quickly as regulations and infrastructure evolve, ensuring their packaging remains compliant over the long term.



Increasing post-consumer recycled (PCR) content is a key sustainability goal for packaging organizations. Efforts are driven by regulatory requirements, including state mandates such as New Jersey’s Recycled Content Law³, retailer expectations, and the broader goal of reducing environmental impact by minimizing the use of virgin plastics. Beyond compliance, using PCR plays a critical role in advancing circularity as it helps close the loop by creating demand for recycled materials, strengthening markets for collected plastics, and encouraging further investment in recycling infrastructure.



Thermoforms are seen as a desirable format for incorporating PCR.⁴ As one interviewee noted, “Changing to PCR in thermoforms has been impactful in helping us reach our corporate targets.” A major challenge is sourcing food-grade recycled materials that meet strict safety and quality standards. Stakeholders highlighted the complexity of qualifying suppliers and the importance of robust testing. Organizations are leveraging design expertise to manage cost premiums and collaborating with recycling partners to ensure a consistent supply of high-quality PCR. Successful implementation relies on value chain collaboration and ongoing innovation in material sourcing and processing.



“Changing to PCR in thermoforms has been impactful...”

Resource Efficiency

GOAL	% Stakeholders	% Top Pick
Minimize Material Usage	30	10
Maximize Shelf Life	25	0



Minimizing material usage is a dual-purpose sustainability goal, offering both cost savings and reduced environmental impact. Companies can lower raw material expenses and decrease waste by implementing lightweighting, downgauging, and design optimization. This strategy not only supports sustainability targets but also helps brands stay competitive in a market with ongoing cost pressures.



California’s Extended Producer Responsibility (EPR) requirement for 25% source reduction by 2032⁵ is a major driver of action, prompting organizations to rethink packaging formats and materials. However, some stakeholders noted that “achieving the source reduction requirement may be more difficult than hitting the recycling rate targets.” Companies use simulation software and collaborate with suppliers to identify opportunities for downgauging and material savings, yet the challenge remains substantial. As regulations like California’s continue to push for aggressive source reduction, organizations must balance compliance with product protection, performance, and consumer expectations.



Maximizing shelf life is a critical element of resource efficiency in packaging design. By extending product freshness through innovations such as improved barriers, modified atmospheres, and optimized sealing, companies can better use the resources invested in food production and packaging. Longer shelf life reduces spoilage, minimizes food waste⁶, and ensures that the energy, water, and materials used to bring products to market are not lost. Stakeholders emphasized that shelf-life extension must be balanced with consumer trust and ingredient transparency, noting that “extending shelf life too long makes consumers question what is in the product.” Brands increasingly view shelf-life optimization as a sustainability and business strategy. Each additional day of freshness helps reduce waste and improve efficiency.

Regulatory Compliance

GOAL	% Stakeholders	% Top Pick
Optimize for Legislation Compliance	50	20
Eliminate Materials of Concern	20	5

Optimizing packaging for legislative compliance has become a central focus for organizations, particularly as EPR laws reshape the U.S. packaging landscape. The rapid expansion of EPR⁷ is prompting teams to rethink material choices, packaging design, and reporting systems to avoid penalties and maintain market access.

Organizations are responding by analyzing EPR fees, tracking state-specific mandates, and collaborating with value chain partners to navigate complex regulations. One stakeholder described the challenge: “EPR compliance is a major focus of our packaging development team. We created an analysis of EPR fees based on material type for our portfolio to determine where to focus efforts.” Many companies are investing in automation and data management to streamline reporting, while others are proactively educating category managers and procurement teams about regulatory changes. Our stakeholder interviews reveal that compliance is no longer just a box to check. The laws drive innovation, influence design decisions, and shape long-term sustainability strategies across the packaging value chain.

Eliminating materials of concern in packaging is an increasingly important aspect of regulatory compliance. PFAS, or per and polyfluoroalkyl substances, were specifically highlighted, as new regulations, particularly in states like California, are prompting brands to audit supply chains and invest in safer alternatives.⁸ One stakeholder noted, “PFAS is a big issue, especially in fiber-based packaging.” By proactively removing substances such as PFAS, companies can ensure regulatory compliance, protect consumer safety, and strengthen brand reputation.



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“EPR compliance is a major focus of our packaging development team.”

Climate Impact

GOAL	% Stakeholders	% Top Pick
Minimize GHG Emissions	20	0



Minimizing greenhouse gas (GHG) emissions is a key sustainability goal for packaging organizations. Packaging is generally considered a Scope 3 emission for brands, meaning its environmental impact is part of the broader value chain rather than direct operations. Stakeholders described how they track and report emissions, often through initiatives such as Project Gigaton⁹ and CDP¹⁰ reporting, and how they work with suppliers to improve transparency and reduce carbon footprints. One interviewee noted, “We want our suppliers to know that transparency with data builds trust.” By focusing on packaging-related GHG reductions, organizations are aligning with corporate climate commitments and responding to increasing regulatory and consumer pressure for lower-impact products.

Joni - stock.adobe.com



“Transparency with data builds trust.”

Bio-based Solutions

GOAL	% Stakeholders	% Top Pick
Compostable Packaging	10	0
Bio-Based Materials	5	0

Compostable packaging is considered a niche solution among packaging organizations. While compostable formats can offer environmental benefits in specific applications, cost remains a significant barrier. Stakeholders frequently noted that “material cost for compostables is two to three times higher than traditional polymers.” Many brands are exploring compostable options for single-use items and food service but recognize that infrastructure limitations and higher costs make it difficult to scale beyond select product lines. As a result, compostable packaging is typically reserved for targeted use cases where it meets consumer expectations and regulatory requirements. Certifications from the Biodegradable Products Institute¹¹, or BPI, are widely regarded as the gold standard for verifying compostable packaging.

Bio-based materials are an emerging sustainability focus for packaging organizations. In addition to compostable plastics such as PLA and PHA, conventional plastics like PET and PP can now be produced from bio-sources such as corn, sugarcane, or used cooking oil¹², providing a renewable alternative to fossil fuel-based resins. Stakeholders noted that integrating bio-based materials can complement PCR efforts by further reducing fossil fuel dependence and supporting circularity. One interviewee explained, “We are looking at bio-based polymers made from second generation sources like used cooking oil. This helps reduce fossil fuel dependence while complementing PCR goals.”



“Material cost for compostables is [much] higher than traditional polymers.”

Challenges



"We are trying to balance everything."

Across interviews, stakeholders consistently cited cost impacts, performance on automated filling equipment, and product protection as major hurdles in implementing sustainable packaging solutions. These challenges often require trade-offs between sustainability and operational efficiency. One stakeholder noted, "Cost is the biggest hurdle to overcome with molded fiber." Another added, "We are constantly being asked to help with automation at facilities."

Product protection also influences material choices. "We are trying to balance everything – cost, patient safety, regulatory compliance," explained a healthcare stakeholder. Brands are also facing challenges in supply chain and material availability.

These operational considerations are critical in the decision-making process and must be addressed alongside sustainability goals to ensure successful implementation.



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- 1 – The Association of Plastic Recyclers, Design® Guide for Plastics Recyclability
- 2 – The Recycling Partnership, State of Recycling Report
- 3 – New Jersey Department of Environmental Protection, Recycled Content Law
- 4 – National Association of PET Container Resources (NAPCOR), Increasing PET Thermoform Recycling
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Healthcare Sustainability Goal Analysis

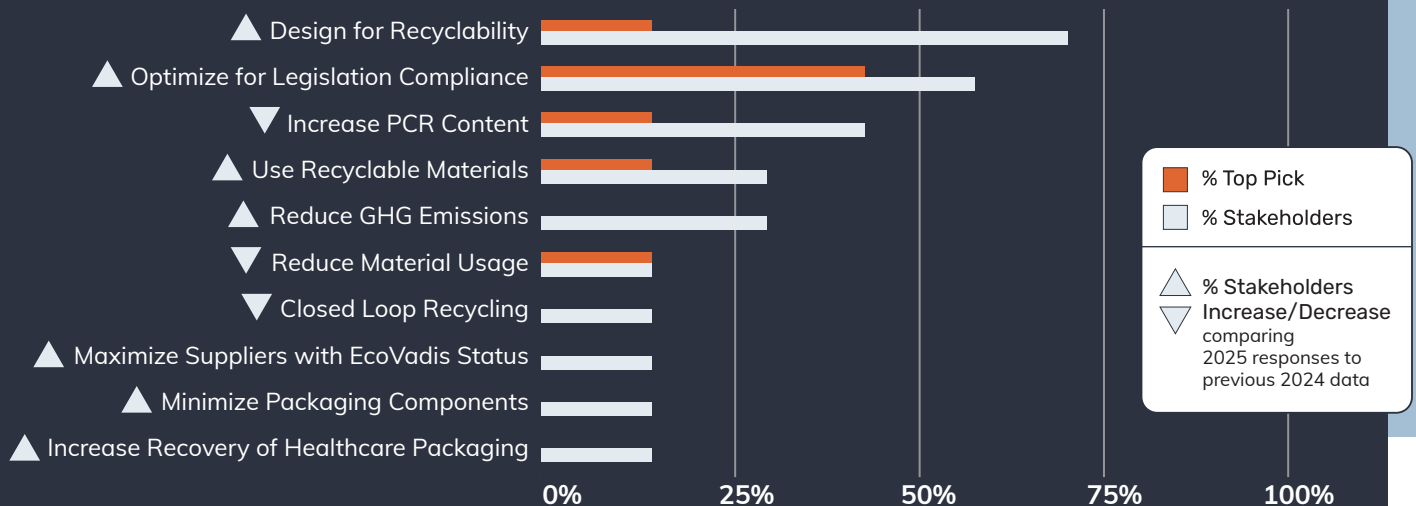
Among the stakeholders interviewed in 2025, seven represent the healthcare packaging sector, including medical device manufacturers (MDMs), pharmaceutical firms, biotech companies, and other organizations involved in life science applications.

Sustainability Goal Analysis

Identifying the sustainability goals shared by healthcare organizations yields meaningful insights, as illustrated in the accompanying table and graph.

GOAL	% Stakeholders	% Top Pick
Design for Recyclability	71	14
Optimize for Legislation Compliance	57	43
Increase PCR Content	43	14
Use Recyclable Materials	29	14
Reduce GHG Emissions	29	0
Reduce Material Usage	14	14
Closed Loop Recycling	14	0
Maximize Suppliers with EcoVadis Status	14	0
Minimize Packaging Components	14	0
Increase Recovery of Healthcare Packaging	14	0

2025 STUDY RESULTS – Healthcare



When viewed collectively, the goals align around four central themes: **regulatory and compliance, recycling, material efficiency and emissions, and sustainable sourcing.**

Regulatory and Compliance

GOAL	% Stakeholders	% Top Pick
Optimize for Legislation Compliance	57	43

Optimizing packaging for legislative compliance was healthcare stakeholders' most cited top pick. While healthcare packaging is currently exempt from U.S. Extended Producer Responsibility (EPR) laws, European regulations such as the Packaging and Packaging Waste Regulation¹ (PPWR) are shaping global strategies. PPWR includes exemptions for sterile barrier systems, recognizing their critical role in patient safety, though these exemptions may not be permanent. Secondary packaging is already covered under PPWR, requiring healthcare companies to adapt labeling, material choices, and reporting practices to remain compliant. This forward-looking approach reflects the industry's awareness that regulatory pressure will continue to grow, and exemptions could narrow over time.

Stakeholders also highlighted the challenge of balancing compliance with operational realities. One interviewee explained, "Managing packaging from the Medical Device Regulation (MDR) perspective is our focus right now, but in the interim, we are providing PPWR guidance to our teams." This underscores the fragmented nature of compliance efforts within healthcare organizations and the importance of proactive planning. Many companies are closely monitoring PPWR developments, anticipating that future revisions could extend requirements to primary packaging. By aligning with European standards now, healthcare brands aim to mitigate risk, streamline global operations, and position themselves for success in an increasingly regulated environment.



Timon - stock.adobe.com

Regulatory

no



"We are providing PPWR guidance to our teams."

Recycling

GOAL	% Stakeholders	% Top Pick
Design for Recyclability	71	14
Use Recyclable Materials	29	14
Increase Recovery of Healthcare Packaging	14	0
Closed Loop Recycling	14	0

Design for recyclability has emerged as the leading sustainability goal among healthcare stakeholders. This strong focus reflects growing pressure to align packaging with circular economy principles, even in a sector where recycling infrastructure remains limited. The Healthcare Plastics Recycling Council (HPRC) Design Guidance for Healthcare Plastics Recycling² was frequently cited as a valuable resource for advancing these efforts.

Material selection is central to design for recyclability. Choosing polymers that are compatible with existing recycling systems determines whether packaging can realistically reenter a circular loop. Many healthcare brands are transitioning to recyclable materials in anticipation of future improvements in recycling infrastructure, which will enable these formats to be collected and processed at scale. A common shift is moving from PETG to APET for sterile barrier systems, which not only improves recyclability but also provides cost advantages, a key motivator alongside sustainability. As one stakeholder explained, “We have a push to move away from standard PETG material for sterile barrier trays.”



Stakeholders emphasized the need to go beyond design for recyclability by increasing the recovery of healthcare packaging in practice. Hospitals face unique barriers to recycling, including limited space for collection bins, sorting challenges, and strict regulations governing medical waste.³ Although 85% of healthcare plastics are not hazardous⁴, perceived contamination risks often deter traditional recyclers from accepting these materials. As one stakeholder noted, “Successful recycling programs in hospitals are typically grassroots movements. They are hard to scale because space, resources, and end markets are the biggest hurdles.”

Recycling

Collaboration is essential to overcoming barriers in hospitals and clinical settings, where logistical constraints and competing priorities often limit recycling. To address these challenges, the HPRC and other organizations are developing pilot programs to demonstrate economic and operational feasibility.⁵ One stakeholder shared, “HPRC’s project work includes visiting hospitals to help identify what materials can be recovered.”

In response to limited recycling infrastructure, takeback programs, where trays are collected after use and remanufactured into new trays, are gaining momentum.⁶ These closed-loop recycling initiatives are increasingly being adopted as a sustainability goal among healthcare packaging stakeholders. One stakeholder explained, “We have fully implemented a takeback program with a tray supplier. Trays go from their clean room to our clean room, to a recycler, and then back to the tray supplier to make new trays.”



“Space, resources, and end markets are the biggest hurdles.”

Material Efficiency and Emissions

GOAL	% Stakeholders	% Top Pick
Reduce GHG Emissions	29	0
Reduce Material Usage	14	14
Minimize Packaging Components	14	0

Reducing material usage reflects the industry’s push to balance sustainability with performance, leveraging design expertise to achieve reductions without compromising functionality. Using less material can significantly lower raw material costs while reducing environmental impact, but these efforts must maintain product protection to ensure patient safety and regulatory compliance. As one stakeholder explained, “We are planning to test lighter trays soon. Reducing weight should clearly show both cost savings and environmental benefits.”

Reducing the number of packaging components is an effective way to lower material usage. Sterile barrier packaging in healthcare often relies on multiple components such as double trays and retainers to ensure devices remain protected and uncontaminated. However, design innovations are now enabling manufacturers to eliminate some of these extra layers without compromising safety or performance. As a stakeholder shared, “I would love to replace all of the double tray packaging we have. Most of our packaging is hugely over-engineered.” This insight highlights the push to streamline packaging through smarter engineering while maintaining the necessary protection for medical devices.⁷



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Insider
Insight

“Reducing weight should clearly show both cost savings and environmental benefits.”

Material Efficiency and Emissions

Reducing material often leads to a reduction in the Product Carbon Footprint of a package. Reducing greenhouse gas (GHG) emissions is a sustainability goal commonly cited by stakeholders. Packaging is typically classified as a Scope 3 emission for healthcare brands, meaning its impact occurs within the broader value chain rather than direct operations. Regulatory requirements and voluntary initiatives such as the Science Based Targets initiative⁸ (SBTi) are increasing pressure on companies to account for and reduce these emissions. One stakeholder explained, “Packaging is usually a small sliver of the carbon footprint,” highlighting why it often receives lower prioritization than other purchased goods with higher inherent emissions.

Despite its smaller share of emissions, packaging remains an important area for improvement because it offers visible sustainability wins and aligns with corporate climate commitments.⁹ Brands are using life cycle assessments to quantify reductions and identify opportunities for improvement. While healthcare companies may assign lower priority to packaging than energy-intensive processes or raw material sourcing, they recognize that incremental changes can contribute meaningfully to overall emissions targets.



Timon - stock.adobe.com

Material Efficiency & Emissions



“Most of our packaging is hugely over-engineered.”

Sustainable Sourcing

GOAL	% Stakeholders	% Top Pick
Increase PCR Content	43	14
Maximize Suppliers with EcoVadis Status	14	0

Increasing post-consumer recycled (PCR) content was identified as a key sustainable sourcing goal named by healthcare stakeholders. While the desire to incorporate recycled content is strong, the healthcare sector faces unique challenges due to strict safety and regulatory requirements. Mechanically recycled PCR cannot be used in contact-sensitive applications, such as sterile barrier systems, because of contamination risks and the need for FDA compliance. As one stakeholder explained, “Our ambition is to add PCR to our packaging, but patient safety is the most important, so we have to be selective.”

To work around these limitations, healthcare companies are focusing on integrating PCR into secondary and tertiary packaging, where direct contact with the product is not an issue. At the same time, advanced recycling technologies and mass balance certification systems, such as ISCC PLUS¹⁰, are gaining traction as ways to allocate recycled content to contact-sensitive packaging without compromising safety. These strategies allow brands to meet sustainability targets while maintaining strict regulatory compliance.



Maximizing suppliers with EcoVadis status is becoming a popular sustainable sourcing objective. EcoVadis is a widely used platform for evaluating suppliers’ sustainability performance, providing brands with a scorecard covering environmental, social, and ethical criteria.¹¹ Brands use EcoVadis ratings to select and monitor suppliers, ensuring alignment with their own sustainability standards. As one stakeholder explained, “We are aiming to have all suppliers in our scope evaluated by EcoVadis. The platform provides a holistic view, and the company sees real value in this approach.” This quote highlights the growing importance of third-party validation in sustainable procurement.



“Our ambition is to add PCR to our packaging [...] we have to be selective.”



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Alliances

The move toward a circular economy for packaging requires deep collaboration. No company can address the complex challenges of transforming the system alone. This is why Plastic Ingenuity takes an active role and pursues leadership positions in every organization we join. By combining this collaborative spirit with our broad thermoforming expertise, we create meaningful value for our stakeholders.

WE ARE PROUD TO CONTRIBUTE TO THE FOLLOWING ORGANIZATIONS:



APR promotes the development of the plastics recycling industry by providing leadership for long-term industry growth and vitality.

PET Thermoform Working Group Leader advancing design for recyclability guidance and test protocols for PET thermoforms.



HPRC is an industry consortium comprised of medical device manufacturers, material manufacturers, converters, waste collectors, recyclers, and hospitals. They focus on identifying barriers to plastics recycling and developing solutions along the entire value chain.

Executive Committee Member providing strategic oversight ensuring long-term impact.



NAPCOR provides a forum for its members to collaborate with peers on key projects and address significant issues affecting PET packaging throughout its lifecycle.

Board Member providing strategic leadership and governance.

Chair of the Thermoforming Committee leading leading cross-stakeholder collaboration for PET sheet and thermoforms.



The Recycling Partnership is a nonprofit organization that leverages corporate partner funding to transform recycling for good in states, cities, and communities nationwide.

***Funding Member of the PET Recycling Coalition**

*The PET Recycling Coalition is a robust group of stakeholders driving improvements that transform the PET plastic recycling landscape.

How2Recycle



How2Recycle is a standardized labeling system that provides clear recycling instructions for packaging to help consumers properly recycle materials. It aims to reduce confusion, increase recycling rates, and improve the quality of recycled materials.



PLASTICS brings equipment makers, brand owners, processors, and material suppliers together to align their efforts to put recycling at the forefront of their businesses.

Recycling Committee Vice-Chair working with industry stakeholders to advance plastic recycling.



SPC brings packaging sustainability stakeholders together to catalyze actionable improvements to packaging systems and lend an authoritative voice on issues related to packaging sustainability.



NEW in 2025: PFPC's mission is to conduct industry-relevant research and develop solutions focusing on design, safety, and function of materials for packaging and industrial applications.



Moving Forward Together: **Progress with Our Partners in Plastics Recycling**

Spotlight: PP Recycling

Polypropylene (PP) is one of the most widely used packaging resins, with lightweight, durable and adaptable properties. However, recycling rates for rigid, non-bottle PP packaging are significantly lower than other commonly used plastics, like PET or HDPE bottles. According to The Recycling Partnership, the residential recycling rate for rigid PP is just 10%.¹ This is due to inconsistent community recycling acceptance and infrastructure limitations.

Changemakers in PP Recycling

Cross-industry collaboration is essential to address these barriers. The Recycling Partnership helps foster cooperative efforts to establish a circular economy, like its PP Recycling Coalition. This group focuses on increasing curbside recycling access, upgrading infrastructure, and stimulating a robust end-market for high-quality post-consumer recycled (PCR) PP for reuse in packaging.

At the state level, Extended Producer Responsibility (EPR) policies and other laws that mandate PCR content in packaging are driving demand for recycled PP. These legislative measures are creating a larger market for recycled materials and incentivizing companies to prioritize sustainability.

Resources like the Association of Plastic Recyclers (APR) Design® Guide and GreenBlue's How2Recycle® labeling system help ensure packaging successfully enters recycling streams. APR is refining its PP design guidance due to the emerging market. And now that more communities accept PP for recycling, the clear, on-pack guidance of How2Recycle labels provides critical consumer education to boost participation rates and enhance overall effectiveness of local recycling programs.

Championing Food-Grade PCR

An emerging growth area for the use of PCR PP in products is food packaging. Although the availability of food-grade PCR PP was once extremely limited, recent years have seen a fresh supply of materials with Letters of No Objection (LNO) from the FDA.

Plastic Ingenuity has taken a proactive approach by evaluating these new resins as they enter the market, and more brands are exploring the use of PCR PP in their packaging as the market continues to rise. Working with packaging suppliers that understand critical factors for quality, safety and traceability will help food brands navigate this shifting PCR landscape.

Overcoming Infrastructure Complexities

Material recovery facilities (MRFs) and plastic reclaimers have capacity for expansion, provided they receive a consistent input stream of high-quality materials that will meet food-contact standards. Technological innovations like optical sorters and artificial intelligence (AI)-based technologies can more efficiently and effectively identify and separate PP from other resins in mixed recycling streams. Sophisticated cleaning and extrusion systems help reclaimers remove contaminants to produce food-grade PCR PP.

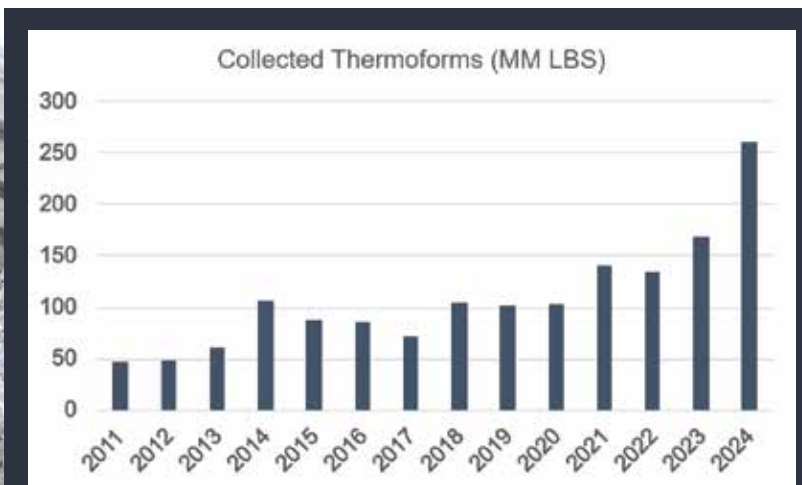
Advanced (chemical) recycling methods are another way to purify material contaminants that would otherwise prevent the use of PCR PP in specialized applications like food packaging. Advanced recycling converts plastic back into its original molecules, producing virgin-quality polymers from formats that are difficult to recycle mechanically.

Between the evolving regulatory environment and growing demand for food-grade PCR PP, as well as an increasing supply of high-quality recycled materials, we are getting closer to unlocking the full potential of polypropylene.

Spotlight: PET Recycling

Polyethylene terephthalate (PET) is a clear, durable and versatile material, and it's the most recycled plastic in the world. However, PET thermoforms currently fall just below the 60% acceptance threshold required to be classified as a “widely recycled” format by the How2Recycle program,¹ with 56% of U.S. community recycling programs accepting them.

According to NAPCOR’s 2024 PET Recycling Report², the amount of thermoforms collected for recycling in the U.S. and Canada increased significantly compared to previous years. While this suggests progress, the report noted that improvements in data accuracy may largely account for the increase.



THERMOFORMS ARE IN HERE!

WE CAN WORK TO INCREASE THE PERCENTAGE FOR A “WIDELY RECYCLED” FORMAT RECOGNITION

Challenging Market Conditions

Yet even as PET thermoform recycling increases and demand for PCR content in packaging is spurred by legislation, North American plastics recyclers are confronting a volatile market.

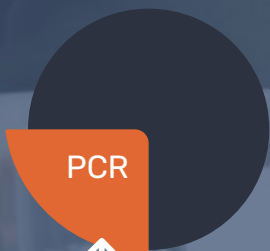
A flood of lower-cost, imported recycled flake has made it difficult for domestic reclaimers to compete, and at the same time, prices for virgin plastic are at record lows. Recycled content mandates can help drive demand, but there are no requirements that PCR PET must be domestically sourced. All too often, the more cost-effective option wins. These market conditions are challenging domestic reclaimers to remain economically sustainable—as evidenced by several plant closures in 2025.

Committing to Domestic PCR

The irony is that the nation urgently needs more, not less, domestic recycling capacity. As noted in a statement from APR, “[...] until recycling plastics is equal to or more profitable than making new plastic, the U.S. will not make any significant progress in reducing plastic pollution.”³

The packaging industry must begin to prioritize domestically sourced recycled content to help provide stability to the market and support the U.S. recycling industry. The Recycling Partnership’s PET Recycling Coalition works diligently to advance PET recycling practices, and as a funding member of the coalition, Plastic Ingenuity is doing our part to increase PCR PET content in thermoforms we design and develop. In 2025, it accounted for approximately 25% of our inputs. This approach not only supports the economic viability of PET thermoform recycling but also demonstrates our dedication to building a circular economy.

PET used at PI



PI utilized ~25% PCR PET in our manufacturing in 2025 as part of our ongoing commitment and drive to better support a domestic circular economy.



**MARKET CONDITIONS
ARE CHALLENGING
DOMESTIC RECLAIMERS**

Spotlight: Healthcare Plastics Recycling

The Healthcare Plastics Recycling Council (HPRC) is a technical consortium of peers spanning the manufacturing, healthcare, and recycling industries that seeks to improve the recyclability of plastic products and packaging within healthcare settings across the United States and Europe. In Texas, HPRC has partnered with the Alliance to End Plastic Waste (AEPW) and hospitals in the Houston Methodist network to launch a regional healthcare plastics recycling program.

The Houston Regional Recycling Program aims to create an economically viable and self-sustaining model that other regions can adopt to help divert single-use plastics from landfill or incineration.⁴ With a multi-year process that started in summer 2024, the program has set out to establish hospital collection systems, refine logistics and coordinate specialized sortation to optimize collection and processing, and develop end-market pathways for material recovery.

Cooperation across the plastics value chain is essential to tackling challenges posed by healthcare packaging circularity. The Houston Regional Recycling Program takes HPRC's expertise in establishing plastic collection programs at hospitals and combines it with AEPW's experience in reverse logistics and working with end processors. In addition, Plastic Ingenuity is an HPRC member and actively contributes resources to support the program's scalability.

How to Recycle Healthcare Plastics

HPRC research has shown healthcare plastics are viable feedstocks for advanced recycling techniques, which break down materials incompatible with or challenging for mechanical recycling.⁵ Purification, depolymerization and conversion processes reduce a polymer to their monomer level and/or remove colorants and additives. Notably, the performance and integrity of these materials are equivalent to virgin fossil fuel-derived feedstocks.

New packaging may feature a mix of advanced recycled feedstock and virgin feedstock. ISCC PLUS certifies the mass balance approach, or a chain-of-custody protocol that verifies the amount of recycled material used at each step of the manufacturing process, and ensures the recycled content is appropriately accounted for in the final product. ISCC PLUS certification maintains transparency and traceability throughout the supply chain. This is especially necessary for compliance with ISO 11607, which requires full traceability of sterile barrier system (SBS) packaging materials.

Thanks to advanced recycling, cross value chain collaborations, and the vision and leadership of HPRC, the healthcare industry is continually making progress toward circularity.



Conclusion

As demonstrated by the achievements to date, remaining challenges, and opportunities ahead for widespread recycling of everyday and healthcare plastics packaging, navigating this complex system requires persistence and cross-industry cooperation. Only through a commitment to collaboration will we establish a truly circular economy where plastic recycling is not only effective, but also financially feasible and critical to supporting sustainability goals.



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- ³ – APR Statement on rPlanet Earth Closure, September 15, 2025
- ⁴ – HPRC, Regional Healthcare Plastics Recycling Pilot Planned for Greater Houston Area, April 29, 2024
- ⁵ – HPRC, Advanced Recycling Research, 2020–2025





Navigate **EPR** for Thermoforms with Confidence

Extended Producer Responsibility (EPR) legislation is reshaping packaging regulations across the U.S.—and thermoforms are no exception. As of 2025, seven states, including recent additions Maryland and Washington, have passed EPR laws, with more expected to follow soon. These policies shift the financial responsibility for managing packaging waste from municipalities to producers, driving higher recycling rates and reduced environmental impact.

To help you navigate these evolving regulations, we've created the **EPR Thermoform Toolkit**—a digital resource with up-to-date insights, tools, and guidance. Because this information is actively changing, we've made it available exclusively online to ensure you always have access to the most current version.

Scan the QR code or visit plasticingenuity.com/epr-toolkit to explore the toolkit.



Core Tenets for **EPR Compliance** with Thermoforms

Extended Producer Responsibility (EPR) for packaging is gaining significant traction across the United States, with seven states - Maine, Oregon, California, Colorado, Minnesota, Maryland, and Washington – enacting laws. Approximately 20% of the U.S. population now resides in states with active packaging EPR legislation. These laws shift the financial responsibility for packaging waste management from municipalities to producers, aiming to improve recycling rates and reduce environmental impacts.

Non-compliant producers may face significant monetary fines and potential bans on product sales within a state. While not legal advice, this information provides strategies to meet regulatory requirements while advancing sustainability goals.

Navigating the patchwork of state EPR laws presents significant complexity, as varying definitions, reporting requirements, and timelines create challenges for brand owners. Addressing these differences through proactive engagement and shared learning will be critical to streamlining compliance efforts. Producers can accelerate and simplify compliance by concentrating on three core tenets across their packaging portfolio.

DESIGN FOR RECYCLABILITY

Key Tenet #1

Designing packaging that is recyclable in practice is central to EPR laws.

1. Analyze your packaging against each state's Covered Materials List and recyclability guidance.
2. Conduct a Design for Recycling Assessment to identify compliance gaps. Leverage leading industry tools like the Association of Plastic Recyclers Design Guide and the How2Recycle labeling program.
3. Act by transitioning away from hard-to-recycle materials like PVC and polystyrene (PS) in favor of easier-to-recycle materials such as PET.
4. Integrate design for recycling principles into the development process. Plastic Ingenuity evaluates every thermoformed design for recyclability, ensuring packaging is not only functional and visually appealing, but also built for recyclability from the start.

Designing for recyclability requires thoughtful material choices, adherence to proven design guidelines, and a commitment to continuous improvement.



Analyze



Assess



Act



Measure Impact

Incorporating Post-Consumer Recycled (PCR) Content

Key Tenet #2

PCR requirements often exist alongside EPR statutes, aiming to reduce reliance on virgin materials and enhance circularity.

1. Analyze your product portfolio and end markets, then align with the strictest state requirements to simplify compliance.
2. Assess current PCR content levels, identify the amount needed to meet targets, and plan for future increases outlined in the laws.

Note: States like New Jersey allow averaging across container categories. Others, like California, require PCR in each container. Mass balance PCR from advanced recycling processes may not be accepted under certain statutes, so material sourcing matters.

3. Act by maximizing PCR opportunities. Plastic Ingenuity offers a comprehensive selection of PCR materials in PET, HDPE, and PP, the most common resins used in thermoforming.

Note: For food-grade packaging, PCR materials with FDA No Objection Letter status must be used, ensuring safety for direct food contact without compromising regulatory compliance or performance.

4. Measure impact using supplier data and quantify reductions in virgin plastic, emissions, and material use. Plastic Ingenuity's Sustainable Packaging Assessment supports this by providing clear, data-driven metrics on PCR usage and environmental impact.

PCR content is becoming a cornerstone of packaging compliance and sustainability strategy.

SOURCE REDUCTION

Key Tenet #3

Several EPR laws mandate source reduction either through measurable targets or incentives like eco-modulated fees.

1. Analyze your portfolio and align with the most stringent requirements to simplify compliance.
2. Conduct a Source Reduction Analysis to establish baseline weights, then assess the reduction needed to meet requirements. Create a roadmap of incremental milestones to achieve compliance.
3. Act through lightweighting, reusable/refillable formats, unnecessary parts elimination, and material innovations. Thermoforms offer a natural advantage of being inherently lightweight compared to many other rigid formats.

Note: Incorporating PCR content into your packaging can count toward source reduction goals (California currently limits PCR contribution to source reduction at 8%).

4. Document source reduction efforts with clear, verifiable data. Plastic Ingenuity supports brands through its Sustainable Packaging Assessment, which provides impact data on PCR usage and material reduction strategies.

Strategies like downgauging and maximizing PCR content help meet reduction goals and improve sustainability.

By focusing on design for recyclability, recycled content, and source reduction, producers can not only meet EPR requirements but also drive meaningful progress toward a more sustainable packaging future. Proactive action today ensures compliance and positions your brand as a leader in responsible innovation.



Shifting the Mindset: Systemizing Sustainability

The packaging industry stands at a pivotal moment, facing escalating demands for sustainability from consumers, regulators, and brand owners alike. While commitments to sustainable packaging are widespread, achieving these ambitious goals remains challenging. The key to unlocking progress lies not in merely setting goals, but in fundamentally shifting our approach from outcome-oriented thinking to building robust, sustainable systems within our organizations.

The Power of Systems

Sustainability should be viewed as a fundamental aspect of how businesses operate, rather than a series of goals. The transformation of the British Cycling Team under the leadership of Coach Dave Brailsford serves as a powerful testament to this philosophy. Brailsford implemented a system built on "the aggregation of marginal gains," focusing on incremental improvements across all facets of performance. For example, the team learned proper hand washing techniques to avoid illness, brought pillows from home on trips to improve sleep, and painted floors white to identify gear-damaging debris. The commitment to the system of marginal gains transformed the team's trajectory from historical underperformance to an era of dominance, securing numerous Olympic gold medals and Tour de France titles. This example demonstrates the profound impact that consistent, small-scale improvements embedded within a well-structured system can yield over time. Applying this principle to packaging, the emphasis shifts from ambitious distant goals to persistent actions that propel us towards a sustainable future.



Sustainable Packaging Systems

Organizations must adopt process-oriented systems to translate sustainability goals into tangible outcomes. Instead of simply aiming for 100% recyclable packaging by 2030, establish a design for recyclability process where every new package undergoes rigorous recyclability assessments before approval. Similarly, rather than targeting a reduction in virgin plastic usage, implement a material selection framework that prioritizes recycled content or bio-based materials for all new packaging development projects.

Reducing Scope 3 emissions can be achieved by developing a comprehensive carbon reduction roadmap that encompasses energy efficiency upgrades, renewable energy adoption, and active supplier engagement on Scope 3 emissions. Ensuring all packaging meets Extended Producer Responsibility (EPR) compliance requires creating an EPR compliance checklist integrated seamlessly into procurement and packaging design workflows. These examples illustrate the shift from aspirational goals to action-oriented systems.



Implementing Sustainable Systems

For these sustainable systems to truly thrive within an organization, their implementation must be guided by four pillars:



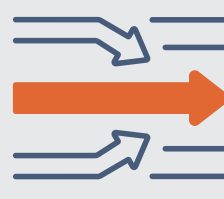
Enhance Visibility:

Sustainability initiatives must be elevated to a position of strategic importance and integrated into core business decisions. This involves setting measurable goals and defining success metrics. **By making sustainability a key component of strategic planning, it transcends departmental silos and becomes a collective organizational priority.** This ensures consistent focus and resource allocation.



Boost Appeal:

Sustainability presents a powerful opportunity for differentiation. Organizations must position sustainability as a distinct competitive advantage, actively aligning their efforts with the demands of environmentally conscious consumers and the landscape of regulatory mandates. Communicating these advantages to all stakeholders, including consumers, reinforces brand value and cultivates unwavering loyalty.



Streamline Implementation:

Adopting sustainable practices should be as straightforward and seamless as possible. This involves strategically embedding sustainable materials, processes, and design principles directly into existing workflows and established operational procedures. **Organizations can accelerate adoption and minimize friction by making sustainable choices the default.**



Reinforce Impact:

Sustained progress in sustainability requires continuous measurement and transparent communication. Organizations must track and proactively communicate their advancements on all sustainability initiatives, reinforcing their commitment and inspiring broader adoption. Aligning internal incentives with desired outcomes is essential to fostering a deeply ingrained culture of continuous improvement and environmental stewardship.

The Path Forward

By embracing a system-oriented mindset, packaging converters and brand owners can move beyond goal setting to actively build the habits and processes that will ensure progress that is sustainable. This fundamental shift, inspired by the power of marginal gains, creates a robust framework for long-term environmental impact, fostering resilience and competitiveness in an increasingly conscientious marketplace. The journey toward a truly sustainable packaging future is not about reaching a singular destination, but about continuously refining and strengthening the systems that guide our daily actions.

Good Information Courses

Learn. Innovate. Design for Sustainability.

Take your packaging expertise to the next level with Good Information Courses—a free educational series by Plastic Ingenuity. Designed for packaging engineers, sustainability managers, and curious professionals, these on-demand YouTube courses unpack the science, design, and strategy behind circular and sustainable packaging.

Course 1: Thermoform Circularity

From raw materials to recycling systems—understand the full life cycle of thermoformed packaging. Explore the fundamentals of thermoforming, dive into polymer properties, and learn how recycling technologies—both mechanical and advanced—shape the path to circularity. This five-part course reveals how design, recovery, and reuse come together to close the loop.



Lessons include: Thermoforming • Packaging Polymers • Recycling • Advanced Recycling • Circularity

Course 2: Sustainable Packaging

Design smarter, more responsible packaging that aligns with global sustainability goals. Learn what sustainability really means in packaging—covering life cycle assessments, material choices, and design strategies that minimize waste. Discover how circularity fits into a broader sustainability strategy rooted in measurable impact.



Lessons include: Defining Sustainability • Life Cycle Assessment • Sustainable Materials • Design for Sustainability

Course 3: Healthcare Packaging Sustainability

Advance sustainability in one of the world's most demanding packaging environments. This course tackles the challenges of balancing patient safety with environmental responsibility. From navigating ISO 11607 and the EU PPWR to designing recyclable healthcare plastics, you'll gain the insights needed to lead innovation in regulated industries.



Lessons include: Healthcare Packaging Landscape • Navigating Regulation • Healthcare Plastics Recycling • Design for Sustainability

Bonus Course: Extended Producer Responsibility (EPR) Video Series

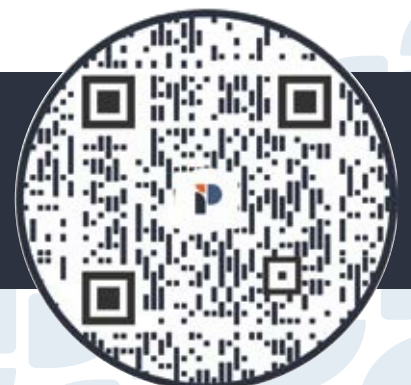
Stay ahead of evolving packaging legislation. Our EPR miniseries breaks down the essentials of compliance—from designing for recyclability to meeting post-consumer recycled (PCR) content mandates. In short, focused videos, discover how brands can lead responsibly while meeting state-level requirements.



Lessons include: Understanding EPR • Design for Recyclability • Source Reduction Strategies • Meeting PCR Mandates • Top EPR Questions Answered

Start Learning Today

Watch all courses now on plasticingenuity.com/courses or @PlasticIngenuity on YouTube – and explore how informed design drives sustainable progress in packaging.



Closing Reflections

Letter from Zach Muscato Director of Sustainability & Innovation



Embracing Change and Leading Forward

As we close out this year's Sustainability Report, I find myself reflecting on the pivotal moment we face as an industry. The packaging sector is undergoing a profound transformation, driven by evolving consumer expectations and a wave of legislation that demands action. This is not a challenge to fear; it is an opportunity to embrace.

Growing up in a small town in central Illinois, once proudly known as the glass capital of the world, I witnessed firsthand what happens when industries fail to evolve. The decline of that legacy left a lasting impact on our community, with jobs lost, pride diminished, and potential unrealized. That experience shaped my commitment to ensuring our industry does not repeat history.

At Plastic Ingenuity, we believe evolution is essential, not just for survival but for shared prosperity. Our team's dedication to sustainability led to meaningful progress in 2025:

- Surpassed an average of 25% PCR content across our PET products
- Implemented take-back programs with customers
- Increased use of bio-based polymers
- Recognized as a Zero Net Waste facilities
- Expanded number of ISCC Plus certified facilities
- Earned an EcoVadis Silver Medal

Looking ahead, I am especially excited about the role innovation will play in 2026. It will be a key driver of our sustainability performance, unlocking new possibilities for circular design, material recovery, and environmental stewardship. Achieving this progress will depend on close collaboration across the value chain, as shared insights and coordinated action are essential to scale innovation and deliver meaningful impact.

Thank you to our team members, partners, and community for your continued support. Together, we are building a future where packaging is not just functional but responsible and resilient.

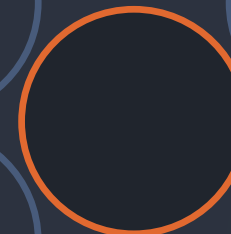
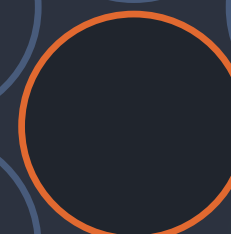
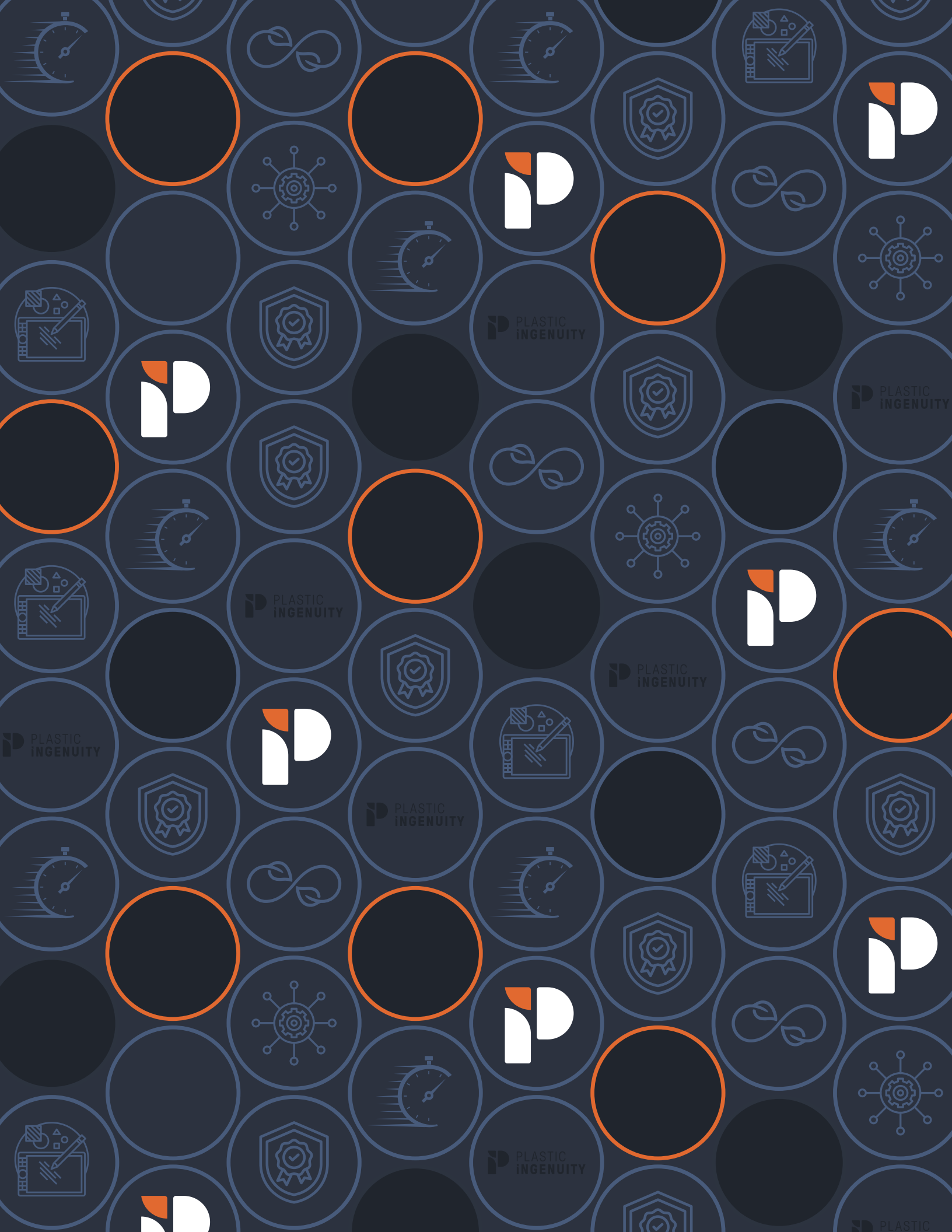
Best Regards,



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