



policy is less ambitious. In the low emissions scenario, global warming will be limited to rising well below 2°C. The effects of climate change remain manageable with proper prevention tactics, industries have evolved into a circular economy, and it is generally assumed that society acts rapidly to limit GHG emissions. We assessed a limited set of risks under these scenarios: the price of carbon (transition risk), water stress, temperature extremes, and average temperature (physical risks).

We continue to evaluate this climate scenario analysis, identify potential strategic changes for affected businesses and locations to address the plausible risks and opportunities identified in these scenarios, and plan to update the analysis periodically in the future. We keep health, safety, and environmental performance top of mind and look to optimize process efficiency while seeking opportunities to incorporate environmentally beneficial technology in our facility expansions and operational improvement projects.

In 2022, in alignment with stakeholder requests, Barnes completed the Climate Disclosure Project (CDP) Climate Change questionnaire for the first time. CDP is a climate research provider and environmental disclosure platform that scores companies across the key environmental categories of Climate Change, Forests, and Water Security, providing rankings from D- to A in each.



Products

Product Innovation, Delivering New Responsible Products Around the World

We have continued our transformation journey as a leading global provider of engineered products and diversified industrial technologies in 2022 and remain on our mission to find the next best way for our customers. With every solution, we draw on our Persistent Ingenuity™.

Our Industrial business creates highly engineered precision products, systems, and solutions that solve our customers' most complex challenges in end markets across the world, including healthcare, automation, mobility, packaging, and advanced manufacturing.

Our Aerospace business continually meets its customers in commercial and military aviation as needed partners who understand the subtleties and demands of their business. Barnes has built a formidable presence in the aerospace manufacturing industry by making and repairing critical precision components when the room for error is zero.



As Barnes, our Industrial and Aerospace businesses offer many products that produce finished products or offer processing technology as an enabler. As such, we are a significant enabler of sustainability around the world.

The following are some impressive technologies we advanced in 2022 to support Environmental, Social, and Governance.

Reducing Global Emissions

As the demand for the reduction in emissions continues to be a global focus, Barnes is proud that many of its products support the world's efforts. Given that the carbon footprint related to the life cycle of converting plastic resources to end products is a critical area of focus, Barnes continues to emphasize and deliver technologies that reduce related emissions. Most notable is the ongoing advancement of our MoldMind technology and its integrated smart technology. With the ability to capture and broadcast data using advanced Internet of Things (IoT) platform methodology, it is now possible to proactively monitor and ensure the efficiency of the plastic injection molding process. Employing Barnes MoldMind technology directly minimizes plastic waste, improves processing efficiency, saves energy, reduced emissions and provide benefits upstream and downstream throughout the plastic circular economy.



In 2022, we also further positioned Barnes injection molding technology to enable and optimize the processing of new environmentally friendly polymers, such as bio-based, bio-degradable, and post-consumer recycled materials.

Mitigating Waste

As numerous products from the Barnes portfolio go directly into OEM manufacturing processes, we continually seek methods to ensure our products meet the highest quality and reliability. Recognizing that our products often are the “heartbeat” of the manufacturing process for our customers, any innovations developed by Barnes help reduce waste creation.



For example, the manifold cylinders produced in our Motion Control Solutions business are instrumental in supporting the long-life production demands within the stamping industry. Our nitrogen gas cylinders are designed to optimize the speed, safety, and reliability of production equipment, often decisive factors for vehicle manufacturers. Being able to produce vehicle parts promptly without compromising safety while ensuring production equipment is not subjected to unnecessary wear and tear becomes essential for efficiency. A production stop due to damaged manufacturing equipment can be costly and, left undetected, can contribute to undesirable and preventable waste. Additionally, using nitrogen gas instead of other non-environmentally friendly solutions, such as hydraulics, eliminates associated hydraulic leakage and related waste contamination.



Finally, Barnes manifold cylinders and all our similar nitrogen gas spring products are beneficial in optimizing machinery speeds, reducing energy usage, and allowing our customers to produce end products made from thinner materials. The result is a lighter-weight product that minimizes material usage and delivers other benefits, such as lighter-weight vehicles with greater fuel efficiency.

Barnes Aerospace is continually engineering new aerospace component repair solutions to recover the value and life of critical parts, reducing overall waste stream of retired parts. The processes used to produce aerospace components are also a

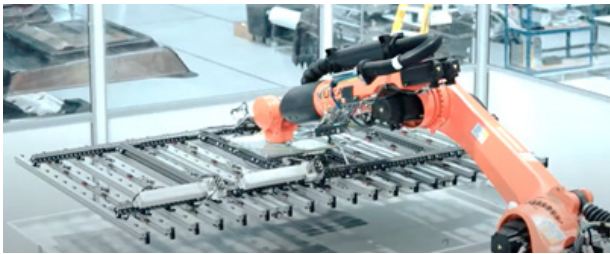


focus of continuous improvement to drive out waste.

Complimentary to minimizing processing waste, our team continues to advance technology that optimizes the recycling processes for end-of-life plastic waste. With new digital watermarking and laser engraved texturing embedded into our molds, we can now offer our customers the ability to produce plastic products containing transparent codes that enable sorting and reprocessing of plastic waste. This new digital watermarking technology allows end-of-life plastic waste to be sorted and converted back into what is known as “post-consumer recycled plastics” (PCR), offering an immediate impact on plastic waste.



In the automation and robotics market, our Motion Controls Solutions business is offsetting the need for energy-demanding electric drives by augmenting systems with its counterbalance nitrogen gas springs. Our counterbalance technology and related products allow for the use of smaller drives and less energy without compromising performance.



Improving Fuel Efficiency

Our Gimatic portfolio of grippers serves a broad base of markets worldwide, many of which support our customers in delivering new technology solutions that allow improved fuel efficiency in current ICE, hybrid, and additional electric vehicles in the global market. Most notable is the use of our advanced gripper technology in the manufacturing and assembly process of new lightweight carbon fiber sheeting used to manufacture panels for new electric vehicles. In addition to improving fuel efficiency, our gripper technology contributes to reducing emissions as we alleviate packaging waste using biodegradable materials. This is just one example of many that illustrate how our gripper technology is helping reduce pollution.



Relative to our leadership in the aerospace market, Barnes Aerospace continues to advance its proprietary manufacturing technology to deliver next-generation solutions that support the future of jet engine technology. Our concurrent engineering team is helping customers lead the way in sustainable aviation and even reducing CO₂ emissions. Our engineers and scientists continue to work closely with leading Aerospace OEMs to deliver new product solutions that help advance new engine technology through innovative designs embracing reduced weight and improved performance.





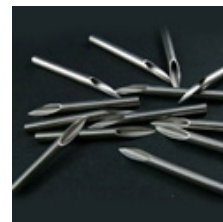
Vehicle Electrification

The advanced metal forming products produced in our Motion Control Solutions business deliver mission-critical components that enable state-of-the-art advancements in vehicle electrification. Our products are used to support multiple functional needs of new electric vehicles, including powertrain, suspension, cooling systems, and even advanced cooling of the main battery, ensuring safety and reliability. Such products from our proprietary manufacturing processes deliver lighter-weight solutions that reduce carbon emissions, reinforce vehicle safety and improve fuel efficiency, specific to hybrid technology.



Health and Safety

A prime example of Barnes products indirectly enabling health and safety worldwide is the manufacturing of cannula hollow needles using our high-precision fine blanking technology. These needles are a critical component associated with monitoring and allow for optimal diabetic management for those in need throughout the world.



Product Safety

At Barnes, providing the highest quality products and solutions for our customers is our business. We utilize the Barnes Enterprise System (BES) to ensure we deliver on this commitment. As our fully integrated operating system, BES drives every aspect of our culture and performance and provides a significant competitive advantage in the global marketplace. It ensures that the organization is aligned on our strategy through the flow down of the Goal Deployment Process (GDP), Leadership Standard Work (LSW), Key Process Indicators (KPIs), and continuous internal assessments. Our focus on product quality and safety is essential to continuous improvement. We investigate product safety issues, strive to identify the root cause, disseminate corrective actions or field instructions to affected stakeholders, and cooperate with regulatory authorities as appropriate. Most notable is our commitment to prevention – we establish quality and safety through our use of robust advanced quality planning methodologies by engaging and listening to our internal and external stakeholders' needs before introducing new products and processes.

