
People, Animals, and Nature Impact Report

*Sustainable Improvements from Plant
to Planet™*



MPSC, Inc.
2023



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This report covers MPSC's operations for the 2023 calendar year. All metrics and data reported are from the 2022 calendar year. Front cover photo by: Kiara Bloom.

A Message From Our CEO, Warner Ide

Welcome to MPSC, Inc.'s first annual sustainability report where we set the stage for our company's broader commitments and contributions to the United Nations' Sustainable Development Goals (SDGs) of zero hunger, climate action, responsible production and consumption, and life on land.

Our 2023 sustainability report is a capstone of efforts over the last 30 years that our company, our employees, our customers, retailers, and governments have made to embrace our Rinse & Chill® technology in meat processing plants across the United States and in international locations such as Canada and Australia.

As the global meat industry grapples with the pressures to reduce its environmental footprint in line with country-by-country emissions reductions and biodiversity goals, MPSC stands ready to commercially equip, support, and scale our technology for meat processing customers worldwide, reducing water and energy consumption, lowering harmful emissions, lessening the impact on the soil, and extending shelf-life of the final product.

It is an honor to be at the helm of MPSC as we increasingly recognize that our Rinse & Chill® technology is a force for good in society, addressing the grand challenge of meeting climate goals and feeding a growing population with more sustainably produced animal proteins at the same time. We strive to deliver *sustainable improvements from plant to planet*.

We know our impact begins at home, and while we work to support our customers in becoming more sustainable on a grander scale, we too are making our own strides. In this 2023 report, we are establishing our baseline of measurement and metrics for future goal-setting and continuous improvement. While our office, manufacturing, and supply chain footprint is not large, we can improve our practices and outcomes over time. Therefore in 2023 we conducted an ESG audit and are evaluating results to prioritize action in 2024.

Thank you for your interest in following our journey to positively impact people, animals, and nature through our business activities.

Warner Ide
**Warner Ide,
Chief
Executive
Officer**



MPSC's purpose is to deliver innovative technology to the global meat industry, yielding sustainable improvements that respect people, animals, and nature.

About Us

MPSC, Inc. is a privately held science and technology company based in Hudson, WI. Our company was founded over 30 years ago with a vision to enhance meat quality and safety through innovative technology that improves meat processing. Early in our history, the collaborative efforts of industry experts and scientists led to the creation of Rinse & Chill® - a patented nature-based, clean label processing aid that results in safer, cleaner, higher quality, better tasting, more tender meat. Our goal was to delight consumers while providing a technological solution that our meat processing customers could easily adopt and get rewarded for by retailers in the form of brand loyalty and higher margins. We have succeeded and Rinse & Chill® is now used in meat processing plants in the United States, Canada, and Australia.

Recently, we at MPSC recognized the significant sustainability attributes of Rinse & Chill® and the value we can provide to our customers, not only in delivering a higher quality product, but also in meeting industry emissions reduction targets and other sustainability goals. In 2022 we engaged DevryBV Sustainable Strategies to help us evaluate and document the notable sustainable improvements our technology can bring about for our customers. From that process, we've learned that the benefits of our technology extend beyond product safety and quality to also include improvements related to waste, energy and water use, emissions, and workplace health and safety in the plant. Rinse & Chill® helps our customers produce meat that is more sustainable by positively impacting environmental and social performance indicators at the plant level and ultimately for the planet. By raising meat yields at the processing "plant" level, we can trace the advantages all the way upstream to the soil and vegetative "plants" that feed livestock. Rinse & Chill® creates the potential for a smaller footprint of cattle per acre and fewer associated inputs and emissions, creating additional benefits not just at the processing plant level, but also the broader ecosystem. Said simply, MPSC's technology helps create sustainable improvements from plant to planet.

**MPSC, Inc's
Headquarters in
Hudson, WI**



Sustainable Improvements

MPSC's signature product, Rinse & Chill®, delivers sustainability benefits to our customers.

MPSC's signature patented product is used by our meat processing customers early in the slaughtering process to internally clean the carcass. The Rinse & Chill® solution is an extremely dilute (1.5%) sugar-electrolyte chilled solution that is 98.5% water and does not leave any detectable residues in the meat. Years of extensive research and testing led to Rinse & Chill being called "the most thoroughly investigated technology" upon being granted USDA No Objection approval in 2004.

Rinse & Chill® delivers the following benefits to our meat-processing customers:

- Removal of 40% more blood
- Improved chilling by 8-10°F
- Optimization of pH levels
- Reduced bacterial growth
- More tender and flavorful meat
- Increased yields up to 5% based on hot carcass weight

The higher yields resulting from Rinse & Chill® create the potential for our customers to realize important sustainability benefits - many of which are valued and even expected by modern, conscientious consumers.

- Reduced food waste at the plant level resulting from up to 5% yield improvement on the hot carcass weight of each animal.
- Meat with a lower carbon footprint due to faster chill times and reduction in energy intensity to process each pound of meat.
- Lower water use for each pound of meat as a result of the yield improvement.
- Better workplace conditions for plant workers resulting from improved ergonomics in deboning.
- Longer product shelf life, reducing retailer and consumer food waste.



Sustainable Improvements (continued)

Delivering Sustainability Benefits to Our Customers

Using Rinse & Chill®, our customers are getting more meat off every animal, leading to improved plant efficiency. As an example, up to a 5% yield improvement on the hot carcass weight of a 1,200 pound cow can mean an additional 30-40 pounds of meat. For a 600 head per day plant, this delivers over 18,000 pounds of additional meat per day that would otherwise be lost to waste. Obtaining more food from each cow also reduces the energy and water intensity of each pound of meat produced. When combined with the energy savings from faster chilling time and reduced water consumption for plant clean up, Rinse & Chill® has the potential to create these environmental impacts:

Annual Plant-Level Efficiency Impacts Plants Processing 600 Cattle / Day Avg Weight 1,200 lbs

Food Waste Avoided	Energy and Emissions Reduced	Water Saved
Up to 4.7 million lbs	Up to 16% reduction	Up to 2% reduction

Our customers have expressed notable sustainable improvements that positively contribute to their productivity and profitability.

Rocky Mountain Natural Meats has rinsed all bison purchased using MPSC's technology since September of 2000. Rinse & Chill® has resulted in cleaner carcasses, lower bacterial counts, longer shelf life, a juicier lean ground product, improved flavor profile and more consistency overall. At Rocky Mountain Natural Meats, we aim to offer a high quality product built on the legacy of bison's role in the American landscape and the ranchers who are stewards of their land and herds. Rinse & Chill® helps us bring this conservation mindset a step further by reducing energy use in processing through faster chilling and eliminating food waste through extended shelf life. We are convinced that utilizing Rinse & Chill® is another positive and innovative step toward improving the value and quality of the bison we offer our customers.



Robert J. Dineen President, Rocky Mountain Natural Meats

Sustainable Improvements (continued)

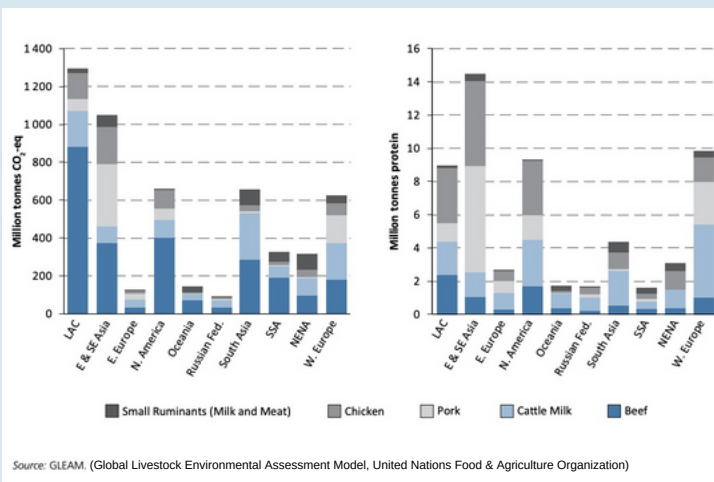
Delivering Sustainability Benefits for Global Industry

The global meat industry is identified as one of the largest emitters of harmful greenhouse gases (GHGs) in agriculture and overall. The primary GHGs at issue for the industry are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). In addition, the use of resources such as water and land are at the top of the agenda for industry to address. Finding more sustainable methods of production, processing, and distribution is key to supporting the livestock and meat industry as it collectively grapples with producing more safe, affordable, and sustainable animal protein for a growing population.

According to Frank Mitloehner, professor and air quality specialist in the [Department of Animal Science](#) at UC Davis, cattle are the primary agricultural source of greenhouse gases worldwide. His research finds that a single cow belches about 220 pounds of methane annually. [Methane from cattle is shorter-lived than carbon dioxide but 28 times more potent](#) in warming the atmosphere. On a UC Davis podcast, *Unfold*, in 2019 Mitloehner noted that the U.S. livestock industry has become more efficient with improved breeding, genetics, and nutrition. “We’re now feeding more people with fewer cattle,” Mitloehner said.

Doing more with less is where MPSC drives even greater efficiencies beyond breeding, genetics, and enhanced nutrition.

Global Livestock GHG by Commodity and Region



Our Rinse&Chill® technology yields more meat per animal, continuing the trend of feeding more people with fewer animals. We help reduce our customer’s impact on land, on the roads for transport, in processing plants, and at the retail level. Imagine the impact at the planet level if processors across the higher emitting geographies such as Latin America, Indo-Pacific, South Asia, North America, and Europe adopted Rinse&Chill® in their operations.

Agriculture’s contribution to reducing the impacts of climate change is front and center at the 28th Conference of the Parties (COP28) to the United Nations Framework Convention on Climate Change (UNFCCC). Over 80 organizations signed a [Joint Open Letter](#) on October 30, 2023, to the UNFCCC, reinforcing the urgency of integrating a food systems approach with the climate negotiations. On December 1, 2023, at COP28, a broad coalition of over 150 non-state actors endorsed a [Food Systems Call to Action](#) for government and industry to deliver “...significant, measurable progress for people, nature, and the climate by 2030.”

“While the industry is under pressure, MPSC aims to reduce that pressure by helping our customers deliver significant, measurable progress from plant to planet.” ~Warner Ide, CEO MPSC, Inc.

Respect for People

MPSC takes great pride in our people and has worked to create a talented team that values hard work, integrity, science, and the high level of service we provide to our customers. As a small business, our culture is one in which everyone's voices are heard and there is an open-door policy to raise any issues or concerns with leadership. We demonstrate respect for our people by offering competitive wages and generous benefits with 92% of employees being salaried.

Our company is the direct manufacturer of the Rinse & Chill® blend and all manufacturing is done on-site at our corporate headquarters in Hudson, WI. All employees receive safety training and we monitor and report any workplace incidents and accidents in accordance with OSHA requirements. Within the reporting period, there were zero accidents and work-related injuries.

MPSC operates with a team of 25 employees based in North America and Australia. Our company is led by a world class team of talented and dedicated colleagues with a breadth of industry experience and a board of directors composed of 5 qualified members. Of note is that 16% of MPSC's employees are Latino, 8% are of Asian heritage, and 4% Māori Native New Zealander.

**Our MPSC
team's cultural
diversity is our
strength.**



As we look ahead and identify areas for future improvement in our social performance, we'd like to focus on the following issues:

- Increasing gender diversity on our leadership team and employees.
- Development of a corporate giving strategy and budget.
- Planning of team volunteer events.
- Development of responsible sourcing guidelines and policy.

Respect for Animals

Animal welfare is a top priority for the meat industry and conscientious consumers. While significant improvements have been made over the years, MPSC is helping the meat industry go even further to respect the animals that lose their lives to produce food. Our Rinse & Chill® product results in a yield improvement of up to 5% based on the hot carcass weight of each animal, meaning fewer animals need to be raised and slaughtered to get the same amount of meat out of the plant. Higher yields resulting from Rinse & Chill® contribute to a reduction in food waste and a greater respect for animals by using them to their full potential. In short, MPSC is helping our customers do more with less and offering a way for processors to honor the animal that had its life ended and the one that doesn't need to. With Rinse & Chill®, our customers are enhancing the ethics and responsibility of their production practices and demonstrating greater stewardship and respect for the animals upon which the industry is dependent.



“Animals make us human.”

Temple Grandin, American Animal Behaviorist

Respect for Nature

The natural environment provides the land and resources that the agricultural industry is dependent on to feed our communities, and we at MPSC view it as a moral and business imperative to act as good stewards of our ecosystems. We take pride in the fact that our Rinse & Chill® technology creates efficiencies in meat processing resulting in sustainable improvements for our customers that can help reduce pressures on our natural world. Because of the significant improvements made at the plant level, to the impact on land use (i.e., less cows per acre), to the reduced number of trucks used annually to transport the same amount of animals (e.g., lower fossil fuel use), to the reduction in energy use and water use, to the elimination of food waste at the plant and retail level, all of these outcomes are nature-positive, which plays into MPSC respecting the natural environment as an important stakeholder. Through Rinse & Chill®, we believe MPSC has a necessary role to play in helping to scale these improvements, one processing plant at a time.

“The care of the earth is our most ancient and most worthy, and after all our most pleasing responsibility. To cherish what remains of it and to foster its renewal is our only hope.”

Wendell Berry, American Farmer and Poet



Additionally, we are working to map our environmental footprint and set 2025 goals that help address issues related to waste, water, energy, and emissions within our own operations. Through the support of our Sustainability Advisor, we have identified priority areas for changes and new programs that will result in measurable improvements to key environmental performance metrics. At MPSC, we commit to the following actions on sustainability:

1. Transparency.
2. Goal Setting on Waste, Energy, Emissions, Social Impact.
3. Sustainability Reporting.
4. Leadership.
5. Continuous Improvement.

Respect for Nature (continued)

This inaugural report is laying the foundation for our ongoing transparency and reporting by establishing our baseline of sustainability-related data and articulating our priority areas. We look forward to routinely updating our stakeholders on progress toward sustainability goals and playing an active role in helping our customers measure the impact of their sustainability improvements through Rinse & Chill®.

MPSC Corporate Office Sustainable Design

A beautiful new global headquarters for MPSC was constructed in 2019 in Hudson, Wisconsin. We were thrilled to open this office to provide comfortable workspaces for our growing team and add ample space for R&D, engineering, and manufacturing. Our well-equipped test kitchen allows us to serve our customers and engage employees in impromptu team-building events.

The building was designed by Studio EA, a local architecture firm dedicated to sustainability and committed to incorporating sustainable elements within its designs. This sustainable design philosophy is reflected throughout our new space from the site to the building materials to the indoor environmental quality. While we did not pursue LEED (Leadership in Energy and Environmental Design) certification for our building, many of the design features listed below would have qualified for LEED credits if we had chosen the certification.

- On site stormwater pond to pre-treat rainwater runoff.
- Open space on our grounds was seeded with native fescue grasses to minimize the need for irrigation and conserve water.
- Use of local materials, including wood columns and locally quarried limestone cladding.
- Use of durable, highly-insulated materials such as precast concrete wall panels.
- Abundant use of natural materials like wood and stone throughout the interior to enhance the connection to nature and improve the quality of the workspaces.
- Many large windows which enhance the views to our surrounding landscape and offer ample daylighting to help conserve energy.
- Overhangs and pergolas positioned to shade windows from harsh direct sunlight while still allowing views and daylighting.
- High efficiency HVAC system.
- Primarily energy efficient LED bulbs used throughout the building.



Sustainable Development Goals

The Sustainable Development Goals (SDGs) are a set of 17 integrated goals designed to ensure peace and prosperity for people and the planet, now and into the future. Adopted by the United Nations in 2015, the goals have become a blueprint not only for governments around the world, but also companies to take measurable action that will balance social, economic, and environmental sustainability.

2 ZERO HUNGER



Food Safety

One of the most important factors in ensuring food security is food safety. At MPSC, our priority is to deliver a technology and process that results in a safer, cleaner food product. We have spent extensive resources on research and development in the food safety arena.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Continuous Improvements

Our technology links our meat processing customers with responsible, conscientious consumers that endeavor to purchase more sustainable food items. By adopting our technology in meat plants, our customers are making sustainable improvements and taking responsibility for their impact on people, animals, and nature.

13 CLIMATE ACTION



Emissions Reductions

The global meat industry is in need of solutions that address climate change. At MPSC, we realize that our technology, if scaled across the meat processing industry, can deliver significant and necessary reductions in CO2 and methane.

15 LIFE ON LAND



Healthier Soils and Biodiversity

Because our technology increases meat yields in the plant and enhances shelf life of the product, live animal land use intensity on land is reduced, leading to less animal waste hitting the ground. Positive outcomes result such as reductions in nitrous oxide in the soils. Soil health and biodiversity are major issues the industry must address, and MPSC is here to support the change.

Sustainability Metrics Summary

TOPIC	GRI STANDARD		2022 RESULT
ENERGY	302-1 Energy consumption within the organization	Total fuel consumption (MJ)	1,354,692
		Percent renewable fuel consumption (%)	0
		Total electricity consumption (MJ)	825,120
		Percent renewable electricity consumption (%)	0
		Total energy consumption (MJ)	2,179,812
	302-3 Energy intensity	Energy intensity (MJ/lb product sold)	1.91
EMISSIONS	305-1 Direct (scope 1) GHG emissions	Gross scope 1 emissions (mtCO ₂ e)	67.9
	305-2 Energy indirect (scope 2) GHG emissions	Gross scope 2 emissions (mtCO ₂ e)	99.2
	305-4 GHG emissions intensity	Total GHG emissions intensity (mtCO ₂ e/lb product)	0.00015

Sustainability-related data is reported in reference to the Global Reporting Initiative (GRI) universal standards and covers calendar year 2022. All data reflects our North American operations and global headquarters in Hudson, WI. Our plan is to include our Australia location in a future report. Greenhouse gas equivalencies were calculated using emissions factors from the United States Environmental Protection Agency (www.epa.gov).

Sustainability Metrics Summary (continued)

TOPIC	GRI STANDARD		2022 RESULT
WASTE	306-1 Waste generation and significant waste-related impacts	Total waste generated (lbs)	26,000
	306-4 Waste diverted from disposal	Total recycling rate (%)	0
WATER	303-3 Water withdrawal	Total water withdrawn (gallons)	47,112
		Water intensity (gallons/lb product)	0.04
EMPLOYEE HEALTH & SAFETY	403-9 Work-related injuries	Total injuries	0
COMMUNITY INVOLVEMENT	413-1 Operations with local community engagement, impact assessments, and development programs	Contributions to local nonprofits (\$)	144,205

*Charitable contributions include donations to nonprofit organizations in our community and unrestricted gifts to the University of Wisconsin for funding academic research related to the application of Rinse & Chill® technology.

Thank you for your interest in our journey to positively impact people, animals, and nature.



MPSC, Inc.

Sustainable Improvements from Plant to Planet™

Contact

MPSC, Inc.

2701 Harvey Street, Hudson, WI 54016 | 715-386-3333

www.mpscinc.com | info@MPSCinc.com

