



Sustainability Progress Update: Reducing our Environmental Impact

Ian Farquhar, Head of Sustainability at Rosti Group, provides an update on the progress made so far in 2024 to reduce our impact on the environment.

I am proud to share the significant progress we've made in reducing our environmental impact across our plastic injection moulding facilities to date in 2024. In an industry that traditionally relies on resource-intensive processes, sustainability is both a challenge and an opportunity. Rosti's mission is clear: reduce our carbon footprint of the products we manufacture as well as our own operations, while delivering the high-quality products our customers expect. I'm excited to outline the strides we've made and highlight the initiatives that are positioning us as a leader in sustainable plastics manufacturing.

Top Achievements in 2024

Partnering with Global Brand on Emissions Reduction:

One of our most significant achievements this year has been our collaboration with a long-standing customer, which selected us to implement our Sustainability Proposition for emissions reduction. This includes initiatives around product lightweighting and

renewable energy usage. The project is a powerful example of how we can work collaboratively with our customers to integrate sustainability into their products, making meaningful reductions in emissions.

Increasing Renewable & Clean Energy Usage:

In 2023, we achieved 41% renewable and clean energy usage across our global sites, and we're set to increase this to 55% by the end of 2024. This significant shift not only reduces our reliance on fossil fuels but also contributes to broader global efforts to decarbonise industry. By prioritising renewable energy sources, we are making tangible progress toward our goal of lowering our carbon emissions.

Improving Energy Efficiency:

Energy efficiency is another area where we have seen considerable progress. Our "Site Energy Champions" have formed a Community of Practice that is driving best practices across our sites globally. Through their efforts, we are on track to achieve a 6% improvement in energy efficiency in 2024 compared to the previous year. With a range of projects underway, we are confident that these improvements will continue, reinforcing the

importance of grassroots efforts in reducing our environmental impact.

Collaborating with Position Green on Carbon Emissions

In 2024, we completed a standardised global Carbon Emissions Inventory in collaboration with Position Green, covering all 12 of our production sites and global offices. This baseline data has given us a clearer understanding of our carbon footprint and allowed us to identify where the greatest improvements can be made.

Our analysis shows that 68% of our overall emissions come from materials and bought-out parts. As such, we are focusing our efforts on working with customers to redesign products that incorporate renewable or recycled materials, reduce product weight, and simplify complexity. Meanwhile, 16% of our emissions come from fossil-based energy usage. By continuing to purchase cleaner and more renewable energy while improving energy efficiency, we are well-positioned to reduce this further.

Focus for the rest of 2024

The next few months will see us continue to build on the recent successes by launching Product Emissions Reduction initiatives with additional customers on a global scale. These projects will focus on product redesign and material selection to further reduce carbon emissions. Our Innovation Centres will play a crucial role in advancing and accelerating these initiatives, and we

are engaging with our customers throughout Q3 to identify the best opportunities for collaboration.

Changing Customer Conversations on Sustainability

One of the most exciting shifts we've noticed is the growing interest in sustainability across our customer base. The urgency to meet new legislation and climate change goals is driving customers to seek verifiable, credible sustainability information from their suppliers. Many customers now have dedicated teams focused on driving sustainability improvements, and this aligns perfectly with our ambition to be the benchmark provider of sustainable plastic solutions.

Bio-Resins and Material Innovation

We are seeing increased interest in bio-resins from our customers. These renewable materials offer a promising avenue for reducing the environmental

impact of plastic products, and several of our customers are already exploring their use. Our development teams are working closely with these customers to integrate bio-resins into their product lines, providing another example of how material innovation can contribute to a lower-carbon future.

In summary, 2024 has been a year of significant progress, and we are committed to maintaining this momentum. Whether through energy efficiency, renewable energy usage, or product and material innovation, we are making strides towards our sustainability goals. As customer interest in sustainability continues to grow, we are confident that our proactive approach will position us as a leader in delivering sustainable plastic solutions. The road ahead will require collaboration, innovation, and determination, but we are ready to meet the challenge head-on.

"Everyone in Rosti, at every point of the value chain, must understand what we should be doing to reduce ours and our customers global impacts."



Rosti are committed to sustainability and reducing our environmental impact

Rosti Group’s Collaboration with Position Green to Measure and Reduce Carbon Footprint

Earlier this year, Rosti Group took a significant step on our sustainability journey by partnering with Position Green, an ‘ESG experts, and carbon platform providers’. Our initial work has been to accurately measure our carbon footprint, collecting essential data, forming a comprehensive baseline that will guide our Site Champions in minimising our environmental impact.

This foundational data allows us to understand precisely how our business operations generate emissions and highlights the key areas requiring improvement. With results varying across different sites, local teams are now diligently working on identifying and tackling the most significant opportunities for reducing our environmental impact.

Carbon Footprint Analysis

Our analysis revealed that approximately two-thirds of our emissions stem from the materials and parts we purchase for our products. The remaining emissions primarily come from energy consumption. This understanding is crucial as it directs our focus toward areas where we can make the most substantial improvements.

Implementing Initiatives and Committing Resources

For some time we have been

introducing new measures and evolving our processes to support our customers in reducing their environmental impact. Working closely with Position Green, we are now able to confidently forge ahead to achieve our sustainability objectives, including -

Product Design & Innovation -

Designing lighter, simpler, and easily recyclable products, we can significantly cut emissions. These designs require less material, energy, and overall resources, leading to a reduced environmental footprint and contribute to the circular economy.

Material Validation & Selection -

The use of green materials such as recycled or renewable resins and plastics, in our products can lower emissions substantially. Our Sustainability & Innovation Centres are fully equipped to test and validate these materials for our customers, ensuring that sustainability and quality go hand in hand.

Renewable Energy -

Switching to renewable energy sources like wind, solar, and hydro, or opting for cleaner fuels such as nuclear power, has already made a notable difference. Nearly half of the energy we purchase today is fossil-free. However, we are committed to

doing more. Our Energy Champions at each site are continually working to enhance energy efficiency and identify ways to operate our factories with less energy.

Operational Improvement -

Reducing waste across all business activities not only cuts costs but also minimises emissions. Our projects focused on reducing and reusing resources are integral to this effort, contributing to a more sustainable operation.

Measuring and Targeting for Impact

With a clear understanding of our emissions profile, we can now target our actions for the greatest impact and measure the results accurately. This strategic approach will enable us to reduce our overall carbon footprint effectively and strengthen our role as a responsible partner for our customers.

Commitment to Sustainability

Rosti Group’s collaboration with Position Green marks a pivotal milestone in our sustainability journey. By utilising data-driven insights and existing initiatives, we are well-equipped to make significant strides in reducing our environmental impact across our global footprint.



What are the benefits of using PCR materials?

We have reduced the carbon footprint of the contract manufacturing process by using PCR materials. The manufacture of virgin materials generates considerable greenhouse gases which has now been avoided. Using recycled plastics has also resulted in waste reduction, and as a result, our processes and the customers product now contributes to the circular economy as materials will continuously be recovered, recycled and reused in future production.

Rosti China have successfully introduced Post-Consumer Recycled (PCR) materials into the production of parts for a leading global Electronic Goods brand who we have been collaborating with since 2017.

The transition to contract manufacturing using recycled materials has resulted in replacing over 1,400 tonnes of material to a sustainable alternative, supporting our customer to reduce their reliance on virgin plastic materials.

Embracing Recyclable Materials for a Greener Future

Our customer, a global electrical goods brand, who produces state-of-the-art air purifiers, wanted to transition to more sustainable materials, specifically Post-Consumer Recycled (PCR) plastics. This initiative aligns perfectly with Rosti's commitment to sustainability and reducing our impact on the environment through innovative injection moulding capabilities and processes.



“Since 2019, we have successfully replaced over 1,400 tons of virgin material with PCR material into the production of plastic frames for air purifier filters.”

Responding to this request, Rosti embarked on a journey to test and implement the use of PCR materials in the production processes. Recognising the potential challenges, given that PCR plastics are often susceptible to shrinkage compared to virgin materials, we conducted a thorough testing and analysis process to ensure we maintained high-quality parts that met our customer's requirements.

Realising the benefits of our Sustainability & Innovation Centre

Our Digital Innovation team conducted tests on the PCR materials to evaluate and understand the material's

properties. During the testing phase, processes were optimised to ensure that the injection moulding tooling was upgraded to maintain manufacturing quality of the finished product. Through the validation process we made several small modifications in tooling to match the dimensions, since the shrinkage is different compared to virgin material.

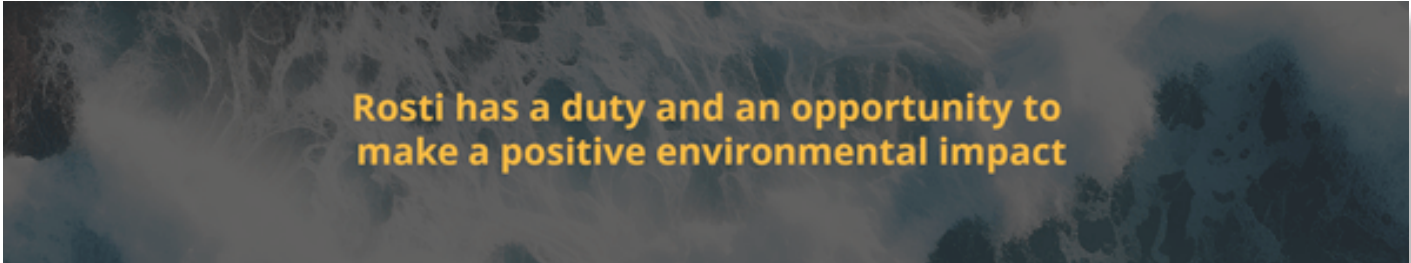
Achieving Milestones in PCR Utilisation

Since 2019, we have successfully replaced over 1,400 tons of virgin material with PCR material into the production of plastic frames for air purifier filters. This milestone is a testament to Rosti's ability to

innovate and adapt, ensuring that its sustainability goals align seamlessly with our customer's needs.

Collaboration to achieve Customers Sustainability Goals

We have been working with the global electrical goods brand since 2017 and started the process of introducing PCR material in 2019. The client instigated the project for their spare parts, liaising directly with the PCR material supplier and recommending this to all contract manufacturing partners. This collaborative effort underscores the client's commitment to sustainability and sets a precedent for industry-wide adoption of eco-friendly practices



Rosti has a duty and an opportunity to make a positive environmental impact

Our Sustainability Champions

Bryan Kurzendoerfer - **Director of Engineering**



Did you volunteer to be a champion and if so why? Yes, as I have always been interested in the environment.

Tell us what this role involves? This role leads the sustainability efforts at our site and includes a range of tasks. From metrics gathering and reporting, monthly communication at our townhall meetings to advancing the culture of sustainability at our site.

What are your current projects? CA leak detection and correction, process chiller temperature increase to improve energy consumption, and light weighting of parts in design in order to reduce resin consumption. We are also beginning to take a look at green materials with one of our key customers.

What improvements or successes have you made? Yes, we have a metal to plastic conversion that we have prototyped and customer evaluation is underway. Also, we have efforts to reduce the amount of waste going to landfills. We are replacing older presses with all electric in order to improve power efficiency. Currently we have replaced 5 old hydraulic presses with 3 electric presses. This has been successful to this point.

Any future plans? Yes, we are currently evaluating renewable energy sources. We may be able to offer these to our customers and get some energy partnerships established. Currently also developing the plan to advance the sustainability culture as a result of the steering committee meetings we had a couple of months back.

How does being a champion tie in with your normal role? As the director of engineering, the opportunity for introducing green resins into the value stream is practically unlimited. We can integrate new designs with renewable or bio-based resins and dramatically improve the efficiency of the validation process for the new resins.

How long have you worked for Rosti US? I started with Rosti in August of 2023, but I have been in injection moulding for many years.

Ismir Adrovic - **Lean Engineer**



Did you volunteer to be a champion and if so why? I was offered the opportunity to take it on and did not hesitate. It is a great development for me and I get to work with other smart people where we can help each other develop sustainability within the Group.

Tell us what this role involves? For me, the role has mainly been about what sustainability is. What I have realised is that sustainability is everywhere and that it should be considered in every project, first of all to save the environment but also to make the equipment last longer.

What are your current projects? We are working on reviewing the consumption and performance of all older machines and we have recently been advised to upgrade the hydraulic oil we use in our machines, which will reduce energy consumption. Leak reduction is also a regular task for us.

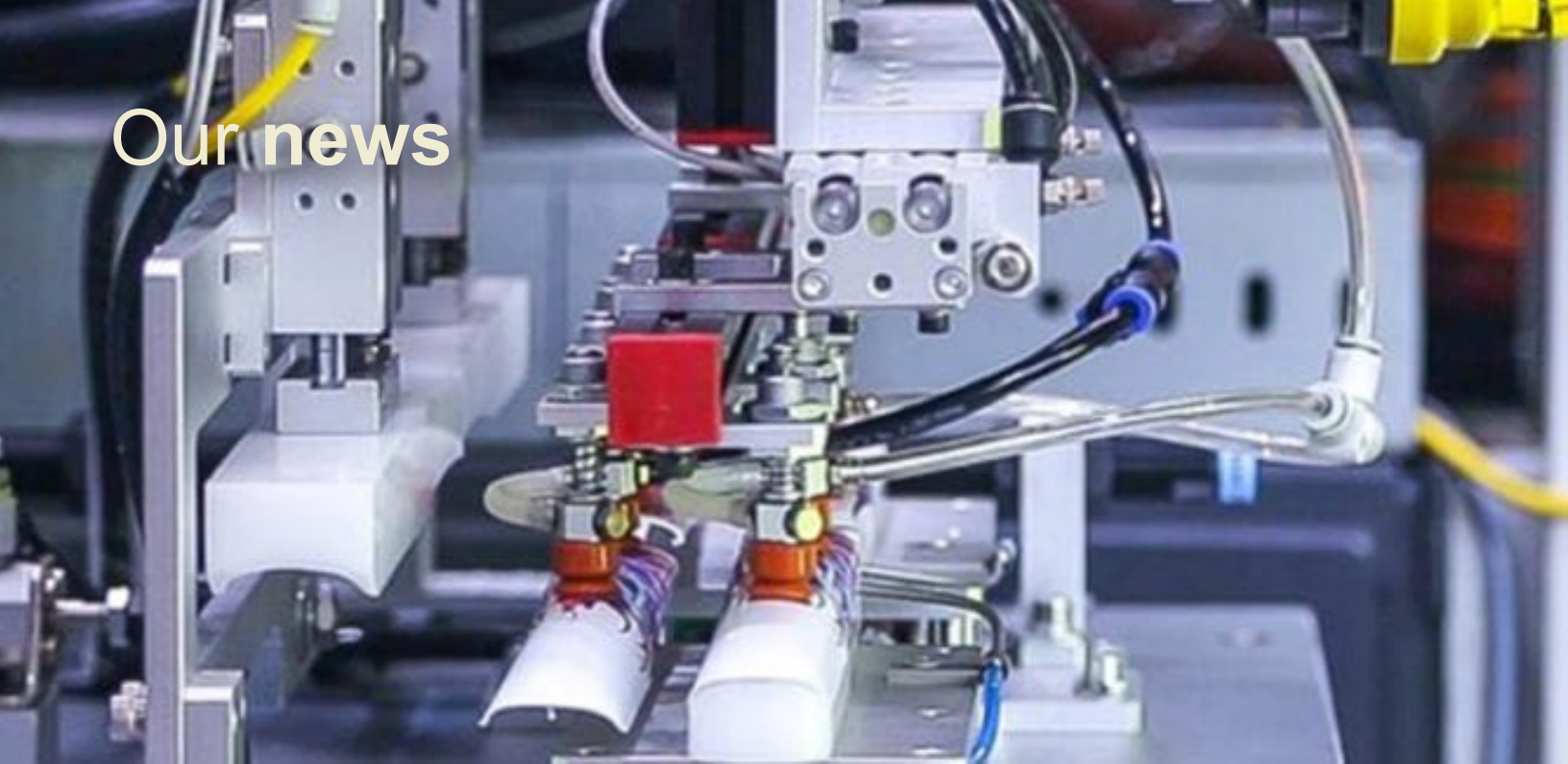
What improvements or successes have you made? Start-up and shutdown procedures, air leakage reduction.

Any future plans? Sustainability is always included in the planning of new projects. You look at all the possibilities to make it as sustainable as possible. One of the things is that every time we buy a new machine it should be fully electric because it is more energy efficient than other alternatives. We will also be looking into solar panels in the near future.

How does being a champion tie in with your normal role? The area is completely new to me as I have never worked with it before, but at the same time I am quite used to this type of work as I coordinate and improve in my role as Lean Coordinator. Then working in networks, as we do at Rosti, is really educational and learning from the knowledge we have within the group is extremely good.

How long have you worked for Rosti? I have been working at Rosti since spring 2020. Started as an operator and now my current role is Lean and sustainability coordinator.

Rosti are committed to supporting the need to improve the environment for future generations



Rosti Turkey reduce **Cosmetic Packaging** weight by 36% using recyclable materials

Rosti Turkey successfully supported a **global cosmetic brand** to achieve their sustainability objectives by converting the packaging material to **Polypropylene**, as well as realising the benefits of **Injection Mould Labelling (IML)**.

Sustainable Injection Moulding

Rosti Turkey converted to Polypropylene from a crystal jar which has enabled our customer to save operational time and money whilst producing a more environmentally friendly product.

Previously, our customer used a crystal version of a jar which required a secondary heat treatment post-production to apply labelling. Converting to Polypropylene and In-Mould Labelling, there is now no need for secondary processing. As a result, the energy and time required have been removed from the production process.

Through developing our collaborative working relationship with our client, we have been able to reduce the carbon footprint of the product and manufacturing process by 12%.

Our 2030 commitments

50%  Reduction in *emissions*

100%  *Clean* energy

100%  *Renewable* or recycled material designs available on request

100%  *Recyclable* fully recyclable designs available on request

Zero  *Waste* to landfill for all sites

25%  *Energy efficiency* improvement by 2030 with 50% by 2040



Rosti

Rosti Group. Big enough to **cope**. Small enough to **care**.

We would **love** to hear from **you**:  www.rosti.com  Rosti Group