LUMI

SUSTAINABILITY PERFORMANCE REPORT | 2024

ONE CHANCE AT A FIRST IMPRESSION

We're Lumi. We're new.

And we are so pleased to present our inaugural Sustainability Performance Report, highlighting the guiding principles behind our broader sustainability approach alongside the results of our 2024 eco-impact tracker.

Lumi's origin story entirely centers around our desire to eliminate single-use plastic (SUP) from foodservice packaging, one of the largest sources of plastic waste and one of its most avoidable uses – even in our 'convenience economy.'

Our mission: Produce exceptional aluminum alternatives to single-use plastic foodservice containers that delight consumers and protect our environment.

Importantly, we aren't adapting or evolving our products to become more eco-friendly; our ethos is to only introduce products that are functionally superior to their SUP equivalents while adhering to true circular lifecycle practices.

Our use of infinitely recyclable aluminum in place of virtually non-recyclable SUP prioritizes two crucial goals that our economy must achieve:

- Eliminate SUP waste and its inevitable micro- and nano-plastic pollution
- Accelerate progress toward the world's decarbonization goals

Plastic is utterly incapable of achieving carbon neutrality because virtually all of it is created from methane feedstock. Plastic is hydrocarbons. Plastic is climate change.

Aluminum's carbon footprint, on the other hand, is largely comprised of electricity used during its primary milling cycle. As the world's grid goes green with increasingly larger contributions from renewables, aluminum will follow.

Efforts to decarbonize the rest of aluminum's production process are well underway and it may soon prove to be the most virtuous consumer metal. From 2020-2023, aluminum manufacturers cut CO2 emissions by 11%, presaging continued improvements. Methane-based SUP, by definition, can never achieve this.

An important part of Lumi's culture is modeling how producers can swap harmful materials for helpful alternatives that are equally capable of driving financial success. Internally, we strive to foster an environment where employees feel empowered to bring forward new ideas, receive training and mentorship to broaden their skillsets, and use those skills to build a career at Lumi, benefit other mission-driven organizations or launch their own green innovation businesses.

OUR VALUES: SHAPING THE MOMENT

Our corporate responsibility doesn't end with a customer's completed purchase, or once our employees leave or log out in the evening.

We see our responsibility to our employees, customers and communities as falling into three areas of priority and accountability: Vitality, Society and Prosperity. Taken together, these core values combine to uphold Lumi's commitment to constantly driving positive social impact:

Vitality is an expression of overall healthfulness – for people, ecosystems and the planet more broadly, but with the intention of achieving outcomes beyond basic needs. Vitality conveys a sense of positive feedback – of systems where general health can improve and thrive within each measured cycle – and one in which we intend Lumi to play a supportive role through our consumer products. By progressively eliminating SUP products that harm our environment, we begin a process of repair and replenishment that will have increasingly positive effects.

Society refers to the social systems that reinforce the strength of our communities; education and mentorship, diversity and equality of opportunity for attainment, and the efforts we devote to uplifting key organizations in our field through philanthropy and volunteerism. This area will grow and take shape as our workforce expands and our capacity increases. Though still formative in the near-term, Lumi can help improve our collective outlook by demonstrating that, by prioritizing well-being over greed, organizations still thrive.

Prosperity, which literally means to proceed with hope, reflects our desire to leverage Lumi's future success by investing in promising environmental research – and the brilliant minds behind it, and support projects that build resilience into our ecosystems, marketplaces and social networks. We will support underfunded climate opportunities – research or ventures with the potential for the greatest breakthroughs that don't conform to traditional investment models. We will find like-minded alliances of philanthropic entrepreneurs who trial bold new methods of engagement. And we will remain open to the "new," whatever it may entail, to acknowledge and adapt to emergent viewpoints.

MORE IS MORE...OF AN IMPACT

Lumi is committed to full operational transparency.

We have taken note of the many methods corporations use to greenwash their products, their packaging and their production methods – and the hypocrisy makes our eyes cross. Besides the actual damage they conceal, the implication is they believe their customers are easily fooled. We disagree. We believe consumers strive to be well-informed but are misled by a cascade of ambiguous eco-jargon.

We strive to make environmentally optimal choices for our production needs – it is a fundamental commitment that will not change. In cases where the ideal solution is not available to us, we are prepared to disclose those challenges and report on our efforts to improve. In calculating our impact on the environment, we take full account of our Scopes 1, 2 & 3 CO_2e emissions, as well as our water usage associated with the aluminum milling process.

Although Lumi was only in-market for two months of 2024, our pre-production activity entailed the use and shipment of 22.4 tons of aluminum. Shipments utilized a mix of truck, rail, container ship and airborne transportation methods.

Additional team activities required car and air travel to trade shows and sales meetings, and our normal business operations included domestic and international package shipping, hotel stays, and the fabrication of freight and sample kit cardboard boxes. In the chart below, we outline each type of our emissions sources.

Lumi uses 90% post-consumer recycled aluminum in our cups – making its carbon footprint among the lowest available for consumer product materials. At that blend, an average 16 oz. plastic cup has a 19% larger carbon footprint than a LumiCup – 22.81g vs. 19.26g.

Part of SUP's structurally high footprint stems from data confirming that leakage from gas wellheads is a stunning 9%, versus the industry's already dismal 3% self-reported rate. This means that, for all the methane the industry extracts from its wells, almost 10% more than that escapes to the atmosphere where it's 72x more potent than CO2.

Try to imagine another business where 10% of production was simply lost at its source; make 10 cars, destroy the 11th, make 10 pairs of shoes, throw away the 11th. That's the gas industry's standard procedure. When you apportion the leaked gas to the products drawing from the captured volume, it more accurately reflects their total burden on the planet.

We intend to move to 100% post-consumer recycled content once our purchasing volume increases. It will reduce our 16 oz. footprint by a banging 10.37g to just 8.89 g for our 16 oz. cup; less for our upcoming smaller sizes. Such improvements are impossible for SUP foodservice materials that are made from hydrocarbons.

Our ethos applies to our shipping methods as well. Our freight boxes are made of post-consumer recycled cardboard or cardboard products that can be entirely recycled. We wrap our cups in unprinted glassine sleeves derived from wood pulp instead of SUP. Glassine is pH balanced and acid-free, curbside recyclable and biodegradable; filmy plastic is typically used to wrap disposable cup sleeves but is rarely ever recovered.

Our freight boxes are sealed with a paper tape that won't impede recycling of the box. We are regrettably forced in some circumstances to affix a plastic pouch for shipping and lading information, which seems unavoidable for the foreseeable future. Our cargo pallets are subject to a plastic wrap for safety and stability – also not our choice.

HOW'D WE DO?

CO2e emissions:	47.54 tons
Water use:	26,810 gallons
SUP cups averted:	6,000

We take a conservative approach to our calculations to ensure we don't inadvertently undercount our impact. Our water use is entirely associated with the aluminum milling process. At this time, we have no large-scale, in-house water usage.

To be prudent, we apply a widely accepted carbon measurement of 15.1 grams of CO2 per gram of primary milled aluminum, and 0.755 grams of CO2 per recycled gram of aluminum to ascertain the impact of our material. However, we believe this may overestimate the carbon intensity of our aluminum.

It assumes the electric power used in processing it is largely fossil fuel-based. The region in which our primary supplier operates draws from a grid that is nearly 50% renewable energy and likely headed higher in the near-term. Our factory is in a region of the E.U. that has at least 30% renewables-based electricity at the low end.

We apply measurement standards developed by reputable, scientific organizations like the U.S. Environmental Protection Agency, the International Energy Agency, and respected private and university laboratories to calculate our impacts. We utilize actual route maps to calculate the distance our products travel by sea, rail, truck and air.

And we rely on measurements from the Switzerland-based non-profit Myclimate Foundation to measure impacts of such things as hotel stays, printing and paper waste, and car trips – even though 80% of our founders drive electric vehicles (we still need to Uber when we travel).

So, for the present, we prefer to err on the side of caution (or cautious optimism).

ACTIVITY	CO^2 EMISSIONS
Aluminum: 22.4 tons	6.35 tons
Via Truck: .055 Rail: .405 Ship: 3.60 Air: 2.29	
Machinery Transport:	5.47 tons
Manufacturing (475g/kW)	0.59 tons
Industrial Total	12.41 tons

ACTIVITY	CO^2 EMISSIONS
Employee/Partner Travel:	34.13 tons
Operations & Sales:	1 tons
Operating Total	35.13 tons

Total	**47.54 tons**

PROGRESS WITH BALANCE

To mitigate our emissions, Lumi is purchasing an equal number of carbon offset credits from Indigo Ag, one of the most innovative and distinguished carbon credit initiatives in the U.S. Indigo's soil health program is not only enabling our agricultural topsoil to regain its natural role as a carbon sink with confirmed additionality, it is paying domestic farmers to implement practices that simultaneously improve their crop yields and the longevity of their land.

To mitigate our water use, Lumi will purchase Water Restoration Certificates (WRCs) through the not-for-profit Bonneville Environmental Foundation. The certificates enable the foundation to fund projects that reduce water use among other consumers in equivalent amounts to what the buyer has used. Although it is challenging to align those projects with the regions that supplied the water, the hope over time is that improved conservation projects will spread more widely.

ONWARD

Lumi has grand ambitions, and tremendous respect for everyone who contributes to a genuine focus on sustainability and circularity. As we grow and are better able to marshal our resources, we look forward to reporting on our experiences, our discoveries and our complex challenges that may help others find their footing.

Cheers.

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