



Essex Furukawa Magnet Wire LLC

# Sustainability Report

AUGUST 2023



*Vision 2030: A Sustainable Future, Our Driving Force*

# Letter from the CEO



“ We want to be setting the standard and not only following it.”

At Essex Furukawa Magnet Wire, we are uniquely positioned as one of the global leaders in our industry. That status comes with numerous expectations and among them is to be a responsible corporate citizen in the worldwide marketplace.

Through the guiding principles of *Vision 2030*, we strive to make each decision, partnership, and investment with the goal of finding solutions that are both beneficial to the strength of our business as well as the health of the planet.

We are leading the industry by partnering with our customers to provide Disruptive Innovation solutions that evolve the traditional magnet wire market. Agile Digitization efforts are improving manufacturing technology as well as spreading best practices across locations on three continents. Our pioneering Green Production methods are being developed and deployed in our facilities to help reduce environmental impact.

In 2022, Essex Furukawa concentrated on numerous initiatives in the ever-changing sustainability landscape. We learned how nimble we need to be in our effort to be an unquestioned leader. We focused on our social responsibility, as well as how our people and products can impact the communities around us. We also introduced efforts to gain actionable insights regarding the role that our supply chain plays in this journey. Most importantly, we made significant progress in reducing our carbon footprint.

Our second annual Sustainability Report reflects a summarization of our cumulative efforts during 2022. It is an account that showcases our momentum as well as embraces transparency. The pages that follow explain our holistic sustainability efforts and how our core values are helping to create positive change as well as set a foundation for the future.

It is my belief that further successes will come to all Essex Furukawa Magnet Wire stakeholders as we continue to apply the long-term, forward-thinking approach of *Vision 2030*.

**Daniel Choi**  
Chief Executive Officer  
Superior Essex Inc.



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# Company Overview

As a globally diverse powerhouse in the magnet/winding wire industry, Essex Furukawa consistently pushes the boundaries of innovation and engineering. We lead these efforts across the globe to foster lasting success for the customers we serve. Built on more than 120 years of expertise, our teams form mutually beneficial relationships with members of the automotive, commercial, residential, industrial, and energy markets to provide the products and services they need to flourish, and in turn, inspire their customers to thrive. From the newest electric vehicles, power transformers, and commercial generators, we produce the magnet/winding wire that powers the future.

Across North America, Europe, and Asia Pacific, Essex Furukawa provides a broad range of copper and aluminum magnet wire—enameled, wrapped, and extruded in both gauge and metric sizes. We are the only magnet wire manufacturer that is vertically integrated, allowing seamless design, development, sourcing, production, delivery, and availability of products on three continents.

Essex Furukawa is a global leader in magnet/winding wire product innovation and manufacturing.



# Key Highlights



**23%**

CO<sub>2</sub> Reduction

More Volume Than 2.6M Trees Could Reduce in a Single Year.<sup>1</sup>



**10%**

Renewable Energy Utilized

Enough to Power over 51,000 Homes Simultaneously for the Year.<sup>2</sup>



**9**

Plants Achieved ZWTL to Date<sup>3</sup>



**25,374 MT**

Recycled



**11,297**

Light Bulbs Replaced with LEDs



**4,576**

Staff-Hours Reduced

by Implementing Supply Chain Tracking Technology



**17**

Communities Served

by Social Sustainability Initiatives



**80%**

of Total Supply Chain Surveyed

for ESG Impact Upstream

<sup>1</sup> Calculation ratio source 'Climate Neutral Group' / <sup>2</sup> Calculation ratio source 'California ISO' / <sup>3</sup> Internal audit, numbers not yet third-party verified

# A Sustainable Future, Our Driving Force

## VISION 2030



Lead efforts in sustainability by reducing our water, waste, and carbon footprints globally



Develop market changing products and services in partnership with, and in support of, our customers



Be a digitally savvy organization by being fully integrated, sustainably automated, and socially responsible

Essex Furukawa first announced, *Vision 2030: A Sustainable Future, Our Driving Force*, in April of 2021. It shaped the future of our business by declaring each decision, partnership, and investment we make to be driven by the common goal of creating a sustainable future. Ultimately, we look to support the needs of current generations without sacrificing the needs of future ones. Our Core Values of Green Production, Disruptive Innovation, and Agile Digitization are the pillars through which we strive to achieve this Vision.

For Essex Furukawa, Green Production is the common thread that is woven through all the Core Values. This focus positively impacts our own production and influences our supply chain. It also aligns us with our customers in support of carbon reduction targets.

The goal of Disruptive Innovation is to change the magnet/winding wire industry by introducing products, equipment, and production methods to support and drive technological advancements through the supply chain. We will develop new ways to disrupt a century-old technology to support our customers' demand for materials, products and equipment. We will also deploy our resources to aid them in enhancing their product performance and thereby support sustainability efforts up and down the supply chain.

Our Agile Digitization goal is to become a world class, digitally savvy, company with a technology environment that seamlessly enables business in collaboration with our employees, customers, suppliers, and partners. As we move forward with *Vision 2030*, our internal teams are focused on turning data into information and providing people in production with insights to make better decisions.





# Green Production

The *Vision 2030* mission for Green Production is to be the recognized leader in creating sustainable solutions within the magnet/winding wire manufacturing industry globally. We expect to meet the needs of today as well as for the future in order to support our customers and their ongoing sustainability efforts.

Green Production will meet *Vision 2030* goals by aligning with four definitive connections:

- > Achieving and maintaining Zero Waste to Landfill status at all facilities globally
- > Establishing and committing to utilizing Renewable Energy
- > Establishing and committing to Energy Reduction targets
- > Establishing and committing to Carbon Reduction targets

INITIATIVE	3-YEAR GOAL (2023)	7-YEAR GOAL (2027)	10-YEAR GOAL (2030)
<b>Zero Waste to Landfill (ZWTL)<sup>1</sup></b>	Achieve ZWTL status at all of our plants globally	Monitor and maintain ZWTL operations globally	Monitor and maintain ZWTL operations globally
<b>Renewable Energy<sup>1</sup></b>	17% renewable energy utilized	27% renewable energy utilized	32% renewable energy utilized
<b>Energy Reduction<sup>1</sup></b>	3% energy reduction	6% energy reduction	10% energy reduction
<b>Carbon Reduction<sup>2</sup></b>	N/A	N/A	20% carbon reduction <sup>3</sup>

<sup>1</sup> Utilized a 2019 baseline / <sup>2</sup> Utilized a 2021 baseline / <sup>3</sup> Carbon goals are pending SBTi validation



## Zero Waste to Landfill

Continuing on a path to a sustainable future remains a focal point for Essex Furukawa. Our effort to refine green production includes achieving Zero Waste to Landfill (ZWTL) across our magnet wire plants, metals processing facilities as well as chemical processing locations. For a plant to achieve ZWTL status, at least 98% of all waste leaving the facility must be diverted from landfill as well as from the downstream material management organization accepting the waste stream.

### Progress

- > 9 plant locations have achieved ZWTL status<sup>1</sup>



## Energy Reduction

Energy reduction initiatives include all anticipated reductions from Essex Furukawa plants' Scope 1 and Scope 2 energy sources (i.e. fuels and electricity) over the next 2023, 2027, and 2030 milestone years. All energy reduction calculations were benchmarked to production to show the plants increase in energy efficiency to production.

### Progress

- > Achieved 0.3% reduction in energy in 2022<sup>2</sup>



## Renewable Energy

Essex Furukawa defines renewable energy as clean energy that comes from natural sources or processes that are easily replenishable. Examples of renewable energy under investigation include solar, hydro, and wind power. Unlike our energy reduction goal, our renewable energy progress is based on total energy consumed. We are continually researching possibilities to implement renewable energy projects at each site, globally, to reduce our Scope 2 carbon impact as well as enable green energy production where feasible.

### Progress

- > Utilized 10% renewable energy in 2022<sup>2</sup>



## Carbon Reduction

In establishing our Scope 1 and 2 carbon reduction goals, Essex Furukawa has clearly stated its intention to reduce Greenhouse Gas emissions across our global footprint. We now have a defined path to that reduction as an organization as well as in support of our customers' carbon reduction targets. Essex Furukawa is establishing Science Based Targets following the Greenhouse Gas Protocol and aims to meet a 20% reduction of Scope 1 and 2 emissions by 2030. In communicating these reduction targets and progress, Essex Furukawa will be able to catalyze additional action—up and down the value chain—to reduce our holistic carbon impact on the planet.

### Progress

- > Achieved 23% reduction in Scope 1 and 2 emissions in 2022<sup>3</sup>

<sup>1</sup> Internal audit, numbers not yet third-party verified / <sup>2</sup> Compared to 2019 baseline / <sup>3</sup> Compared to 2021 baseline





# Disruptive Innovation

We will measure success against our ability to create disruptive innovation in material and production methods. That means, by 2030 we want:

- > New products that do not use harmful solvents
- > Innovation of process and expansion of new production methods
- > Reduction of carbon dioxide emissions by 50% for new products and new production methods developed specifically in our global R&D Innovation Centers

In addition, we look at 2050 as an opportunity to be carbon neutral for all our new products and production methods developed in our global R&D Innovation Centers.

Essex Furukawa is committed to supporting a sustainable future for all through Disruptive Innovation. By collaborating with our customers to support the Energy, Commercial, Residential, Industrial, and Automotive markets in new technology, we can support a lower carbon economy to reduce overall impact across these industries.

We feel that our connection points internally can lead to improvements across the value chain, by being able to support:

- > The proliferation of Electric Vehicles (EVs) and support efficiencies across the transportation industry
- > The advancement of the energy & utility sectors by enabling renewable energy technology
- > The electrification of buildings through energy efficient technology
- > The efforts across multiple industries to reduce environmental impact throughout the life cycle





# Agile Digitization

We view the digitization of buildings, communication, and technologies now and into the future as an opportunity to enable the interconnectivity of all infrastructure. In order to support a more sustainable world, we are taking the following measures:



## FULL INTEGRATION

Full integration enables connected digital ecosystems, supports the data and supply chains that are securely connected to interoperable systems, and aligns to global industry standards



## GREEN TECHNOLOGY

Through Green IT (Information Technology) as well as Green OT (Operational Technology), we are developing platforms and technologies that enable 100% e-waste recycling and power efficient operations



## SUSTAINABLE AUTOMATION

Streamlining the process of data collection and generating sustainability-related metrics to leverage green recycling, enabling harmonious human-to-machine interaction



## SOCIAL IMPACT

Bringing social value to the communities we serve with commitments to United Nations Sustainable Development Goals (UN SDGs)

We are expanding transformational operational analytics in a global effort to make real time, data guided decisions, thus creating operational efficiencies. We are also implementing several technologies to leverage cloud-based technology and reduce our carbon footprint.

Essex Furukawa is focused on delivering multiple accomplishments to complete our Vision 2030 mission with advanced operational technologies over the next decade, including:

- > Implementing best of breed cyber security capabilities to keep our data, information and systems cybersafe
- > Implementing agile ways of working and empowering local teams with technology & knowledge to best serve our customer's needs
- > Converging IT and OT to leverage synergies and deliver world class IT/OT capabilities to our businesses
- > Leveraging data collection of sustainability metrics to inform strategic decision making
- > Utilizing artificial intelligence and machine learning to improve efficiencies of our production systems across all facilities globally
- > Utilizing blockchain to develop supply chain transparency and end-to-end product life cycle analysis



# Holistic Sustainability

To achieve our *Vision 2030* goals, Essex Furukawa has further defined a holistic sustainability approach for achieving a sustainable future. These seven petals create specific and measurable action items that will help quantify the successes as well as identify opportunities for improvement within the organization.







# Accountability, Reporting, & Governance

As a corporation, Essex Furukawa places a high value on sustainability and environmental conservation. Our compliance with multiple environmental directives and regulations is a testimony to our commitment. Through consistent communication efforts of our data, goals, and metrics, we are able to establish transparency both internally and externally with our stakeholders.<sup>1</sup> We created a Sustainability Leadership Council to track ongoing impact reductions, develop a Corporate Sustainability Report and further our commitments to social responsibility.

## Accountability & Reporting

- > **Carbon Disclosure Project (CDP)** | Essex Furukawa reports metrics to customers through the CDP—a global disclosure system for environmental transparency of companies.
- > **EcoVadis** | Essex Furukawa reports to many customers through EcoVadis, a sustainability assessment tool for evaluation of a company's integration of sustainability into business.
- > **Environmental Certifications** | Many of our plants around the world have received environmental certification. Details can be found in the Appendix.

<sup>1</sup> Essex Furukawa Magnet Wire considers a stakeholder to be an individual or group that can affect or be affected by our business; or has a vested interest in the decisions made and implemented by our leadership teams. As a privately held company with a global footprint, stakeholders can include governments or regulators, joining board members, employees, customers, suppliers, and the communities surrounding our locations.

## Accountability & Reporting—cont.

- > **The Copper Mark Partnership** | The Copper Mark is an assurance framework to promote responsible production practices within the copper industry. Superior Essex, parent company of Essex Furukawa, became the eighth corporate partner of The Copper Mark in May 2021.
- > **The Copper Mark Semis-Fabricator Pilot Certification** | Essex Furukawa joined the program in 2021; in 2022 completed the on-site assessments, and in 2023 developed and launched implementation of an improvement plan for achieving The Copper Mark certification in 2024.
- > **UN Sustainable Development Goals Alignment** | The UN SDG program was launched in 2015 as part of its 2030 Agenda for Sustainable Development, and includes 17 Sustainable Development Goals. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth—all while tackling climate change and working to preserve our oceans and forests.
- > **Vision 2030 Goals** | Essex Furukawa is working towards achieving waste, energy, and carbon reduction goals while increasing renewable energy usage for the 2023, 2027, and 2030 milestone years.
- > **Customer Surveys** | We have completed 53 customer surveys and questionnaires in 2022 from 39 different customers.<sup>2</sup>
- > **Annual Report** | Essex Furukawa published its first annual sustainability report in August of 2022.

## Governance

Essex Furukawa has earned the reputation of a company with the highest integrity—producing and delivering quality products with outstanding customer service. We are proud not only of what we are accomplishing, but of how we are achieving success. To protect this reputation, we continually strive to serve the best interests of our customers, employees and all stakeholders, while behaving as a responsible corporate citizen. This commitment requires, among other things, that we act with the highest ethical and legal standards.

Our commitment to the highest standards of integrity begins with ensuring that everyone across Essex Furukawa understands our core values—values that define how we conduct ourselves. These values are the foundation of our *Code of Ethics*. Additional information and guidance is available in our *Standards of Business Conduct*.



### Dollars for Doers

Essex Furukawa supports the generous spirit of volunteerism showcased by our employees. In support of those individual passions, we will give to eligible 501(c)(3) organizations a grant matching the time donated to further support causes that are important to our team.

<sup>2</sup> Either direct from customers or via NGO reports to: SupplyOn, CDP, EcoVadis, Supplier Assurance Self-Assessment Questionnaire (SAQ), Assent

## Governance—cont.



### Supplier Code of Conduct

Essex Furukawa is committed to its ESG goals and places those values at the forefront of our material and supplier decisions. Updates to our Supplier Code of Conduct and Sourcing Strategy will focus on reducing the overall impact of waste, increasing the recycling and reuse capabilities of our products, holding our suppliers socially responsible, and reducing our overall environmental and carbon footprint.



### Human Rights Policy

Essex Furukawa, including its subsidiaries, are committed to acting with integrity in everything we do. We are dedicated to conducting business in a manner that respects, protects, and supports the advancement of human rights around the globe. We strive to uphold the global standards outline in the United Nations' Universal Declaration of Human Rights for responsible, integrity-based business, including non-discrimination, equal opportunity, the freedom to associate and bargain collectively, the elimination of modern slavery, human-trafficking and harmful or exploitative forms of child labor.



### Conflict Minerals Policy

Essex Furukawa, including its subsidiaries, supports the humanitarian goal of ending violence in the Democratic Republic of Congo (DRC) and is committed to the responsible sourcing of conflict minerals throughout its supply chain. Accordingly, Essex Furukawa has adopted this conflict minerals policy (“Policy”) and expects all of its suppliers to adopt a similar policy and meet the expectations set forth herein. In support of this Policy, Essex Furukawa will only purchase products containing conflict minerals that are DRC conflict free. Essex Furukawa has conducted due diligence regarding all of the products it manufactures and distributes to determine the presence of any conflict minerals and where they are sourced.



### Environmental Policy

It is the established policy of Essex Furukawa to conduct its affairs in an environmentally responsible manner. We are committed to reduce the environmental impacts of our activities, products and services to preserve and protect the natural environment including the air, water, land and other natural resources.



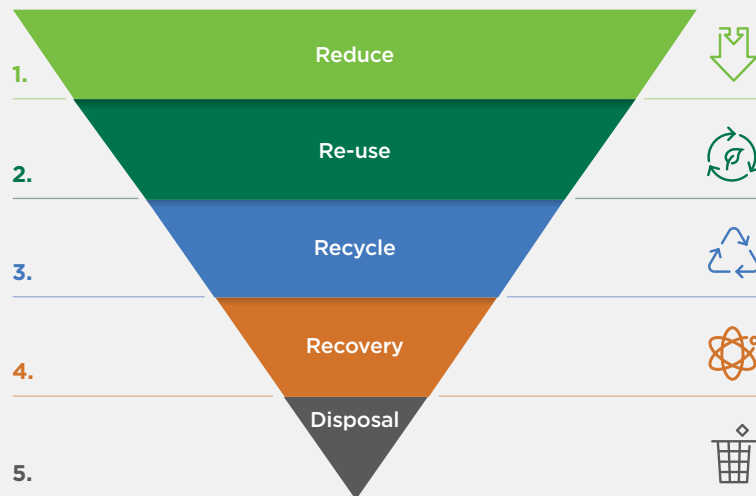
## Governance—cont.



### Waste Mitigation Hierarchy

Essex Furukawa is committed to holistic sustainability and understands the responsibility to consider the potential impact our manufacturing processes may have on the environment.

To ensure all waste streams are handled responsibly, an annual Zero Waste to Landfill audit is conducted at each plant. Furthermore we adhere to the following comprehensive steps for all waste reduction:



### Pollution Mitigation Hierarchy

Essex Furukawa established the following prioritized protocol in an effort to address potential impact of pollutants from our manufacturing processes and avoid biodiversity loss. It is a framework designed to reduce the negative impact of hazardous, non-hazardous and inert waste on the environment as well as positively contribute to community health through avoidance, minimization, restoration, and offsets.

- > **Avoid** | By designing out—or substituting for—harmful chemicals and raw materials we can *avoid* potential negative impacts.
- > **Minimize** | Our ability to *minimize* pollutants emitted during the production of our products will also reduce potential impact on the surrounding areas.
- > **Restore or Rehabilitate** | Together, we can *rehabilitate* or *restore* impacted environmental areas and communities affected by pollutants.
- > **Offset** | As a last option, we attempt to *offset* any impacts that could not be mitigated through the first three initiatives.



## Zero Waste to Landfill

Essex Furukawa recently completed a Zero Waste to Landfill (ZWTL) assessment for 2022 and is planning an independent, third-party, verification. The internal assessment found that four plants in North America, three in Europe, and two in the Asia Pacific region achieved a level required for ZWTL designation. Five of our plants were found to have 100% diversion rates.

In North America, two new plants achieved ZWTL diversion rates compared to last year.

- > Torreón (Mexico), Simcoe (Ontario, Canada), and Fort Wayne, Indiana (U.S.) achieved a 99% diversion rate, with the latter two achieving ZWTL status for the first time.
- > Franklin, Indiana (U.S.) maintained its 100% diversion rate.

The Metals Processing Center (MPC) located in Columbia City, Indiana (U.S.) as well as the Chemical Processing Center in Fort Wayne were determined to both have a diversion rate of 95%. The MPC was hindered by on-going supply chain issues involving its recycling efforts and has a course of action to achieve Zero Waste to Landfill in the future.

Additionally, the Franklin, Tennessee (U.S.) Magnet Wire plant was found to have a diversion rate of 85% on its ZWTL assessment. It was noted that 11% of its plant waste is water waste, and efforts to reduce or divert that waste stream is being negotiated.

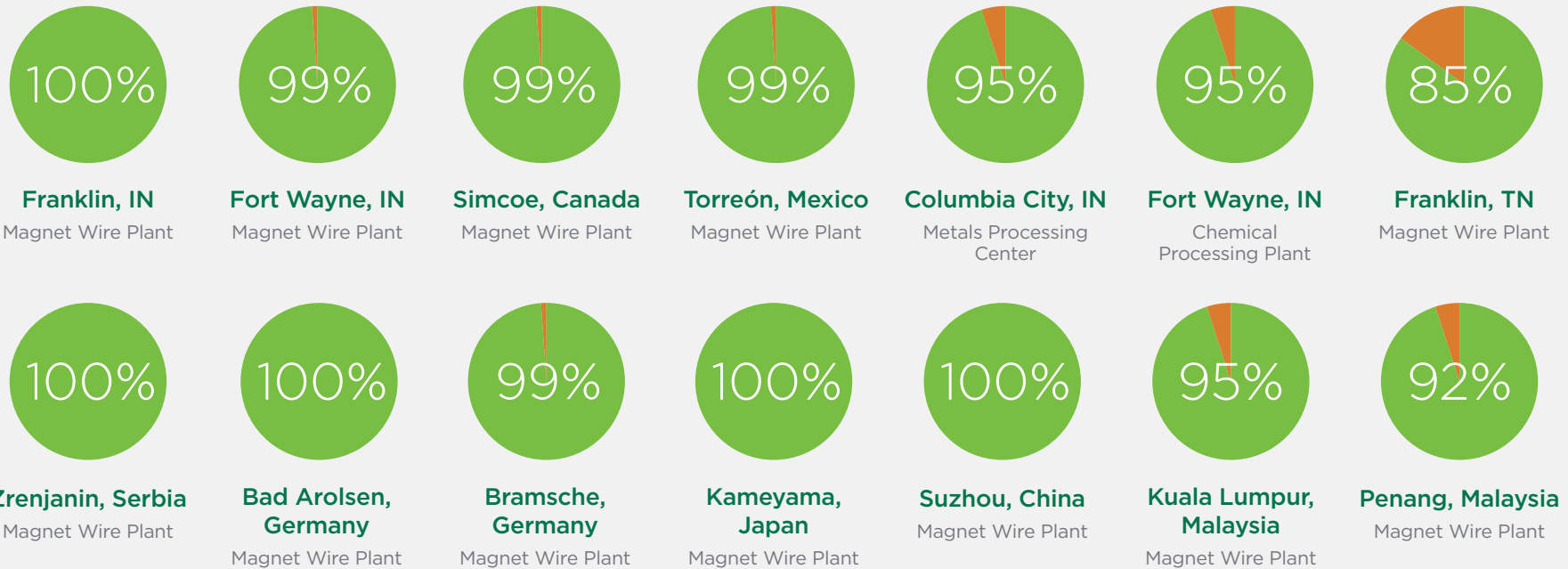


European plants in Serbia and Germany all achieved Zero Waste to Landfill status during the latest evaluation cycle.

- > Zrenjanin (Serbia) retained its 100% diversion rate for the second year.
- > Bad Arolsen (Germany) improved to 100% diversion rate as well. It discovered an issue with its downstream waste management, implemented change, and improved by nearly two full percentage points.
- > Bramsche (Germany) also retained its Zero Waste to Landfill designation at 99%.

The plants in the Asia Pacific region have had two locations retain the ZWTL status.

- > Kameyama (Japan) as well as Suzhou (China) both achieved the Zero Waste to Landfill distinction. Kameyama remained at its 100% level while Suzhou increased diversion through perishable waste initiatives and improved from 99% to 100% diversion.
- > Malaysian plants in Penang and Kuala Lumpur are both continuing to work toward achieving ZWTL. Penang was assessed at 92% diversion while Kuala Lumpur was at 95%.



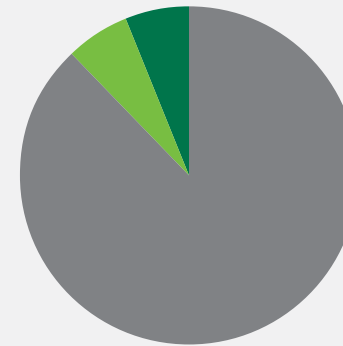




# Carbon Reduction Targets

Essex Furukawa has created actionable plans and began implementing processes to reduce greenhouse gas emissions at our global magnet wire facilities. Recent initiatives include the use of electric forklifts in Japan, replacing less efficient lighting with LEDs globally, and investing in Sustainable Aviation Fuel (SAF) by partnering with Delta Air Lines.

We have also made significant investments in renewable energy throughout 2022. We onboarded new solar panels at the Penang plant in Malaysia—which is in addition to our existing panels at the Suzhou, China plant—as well as purchased 100% green electricity from the utility provider to power the Bad Arolsen and Bramsche plants in Germany. Plants in China and Japan also purchased green electricity to supply a portion of their total energy needs.



## Carbon Emissions

- Scope 1 - 6%
- Scope 2 - 6%
- Scope 3 - 88%

### Scope 3 Emissions

In 2021, we began investigating our Scope 3 carbon emissions annually. In 2022 we found that 76% of our total carbon emissions came from our suppliers.

We have expanded our approach and are now gathering and analyzing ESG data from our suppliers to better understand how their component products and business practices contribute to our environmental impact and ultimately collaborate to improve any ESG related issues identified.

The reduction of greenhouse gases is important to not only the future of Essex Furukawa but the future of the planet. We are now considering a Scope 3 carbon reduction goal in addition to our Scope 1 + 2 goals. We have set carbon reduction targets using the recommended standards from the Greenhouse Gas Protocol (GHG) and have submitted these targets for validation to the Science Based Targets Initiative (SBTi). These targets will help shape our path to reduce greenhouse gas emissions as an organization. We believe communicating our carbon reduction targets to employees and customers will catalyze additional action up and down the value chain.





# UN SDG Partnership

Essex Furukawa has aligned sustainability efforts with those of the UN Sustainable Development Goals, committing to 12 out of the 17 UN SDGs.<sup>1</sup> This partnership enables our organization to identify common purposes and opportunities for action with other stakeholders, while collaborating to achieve a better and more sustainable future for all.

<sup>1</sup> Committed at the parent company level as Superior Essex.

<p><b>Goal 3</b></p>	<p><b>GOOD HEALTH AND WELLBEING</b></p> <ul style="list-style-type: none"> <li>• Environmental Policy</li> <li>• Food Pantry and Little Library</li> <li>• River Cleanup in Japan</li> <li>• Tree Planting in Suzhou</li> <li>• Employee Work-life Balance Programs</li> </ul>	<p><b>Goal 5</b></p>	<p><b>GENDER EQUALITY</b></p> <ul style="list-style-type: none"> <li>• Human Rights Policy</li> </ul>	<p><b>Goal 6</b></p>	<p><b>CLEAN WATER AND SANITATION</b></p> <ul style="list-style-type: none"> <li>• The Copper Mark</li> <li>• Environmental Policy</li> <li>• Torreón Grey Water Reuse</li> <li>• River Cleanup in Japan</li> </ul>
<p><b>AFFORDABLE AND CLEAN ENERGY</b></p> <ul style="list-style-type: none"> <li>• Renewable Energy Goals</li> </ul>	<p><b>Goal 7</b></p>	<p><b>DECENT WORK AND ECONOMIC GROWTH</b></p> <ul style="list-style-type: none"> <li>• The Copper Mark</li> <li>• Disruptive Innovation</li> <li>• Human Rights Policy</li> </ul>	<p><b>Goal 8</b></p>	<p><b>INDUSTRY, INNOVATION AND INFRASTRUCTURE</b></p> <ul style="list-style-type: none"> <li>• Energy Reduction Goals</li> <li>• Renewable Energy Goals</li> <li>• Disruptive Innovation</li> <li>• SAF Partnership with Delta Air Lines</li> </ul>	<p><b>Goal 9</b></p>
<p><b>Goal 10</b></p>	<p><b>REDUCED INEQUALITY</b></p> <ul style="list-style-type: none"> <li>• Human Rights Policy</li> <li>• The Copper Mark</li> <li>• Employee Career Growth Programs</li> </ul>	<p><b>Goal 11</b></p>	<p><b>SUSTAINABLE CITIES AND COMMUNITIES</b></p> <ul style="list-style-type: none"> <li>• Environmental Policy</li> <li>• Air Permitting</li> <li>• Disruptive Innovation</li> <li>• Torreón Grey Water Reuse</li> <li>• Tree Planting in Suzhou</li> </ul>	<p><b>Goal 12</b></p>	<p><b>RESPONSIBLE CONSUMPTION AND PRODUCTION</b></p> <ul style="list-style-type: none"> <li>• The Copper Mark</li> <li>• ZWTL</li> <li>• Accountability &amp; Reporting</li> <li>• Sustainable Sourcing Policy</li> <li>• Torreón Grey Water Reuse</li> </ul>
<p><b>CLIMATE ACTION</b></p> <ul style="list-style-type: none"> <li>• Energy Reduction Goals</li> <li>• Renewable Energy Goals</li> <li>• Carbon Reduction Goals</li> <li>• Tree Planting in Suzhou</li> </ul>	<p><b>Goal 13</b></p>	<p><b>PEACE, JUSTICE AND STRONG INSTITUTIONS</b></p> <ul style="list-style-type: none"> <li>• Human Rights Policy</li> <li>• The Copper Mark</li> <li>• Sustainable Sourcing Policy</li> </ul>	<p><b>Goal 16</b></p>	<p><b>PARTNERSHIPS FOR THE GOALS</b></p> <ul style="list-style-type: none"> <li>• Alignment with 12 of the 17 UN SDGs</li> </ul>	<p><b>Goal 17</b></p>





# Supply Chain Transparency

*Vision 2030* holds Essex Furukawa accountable to understanding the environmental and societal impacts of the supply chain, both downstream and upstream, and to communicate this knowledge internally and externally. By doing so, we can reduce our impact while also supporting the impact reduction goals of our customers.

Our partnership with Waybridge, a supply chain operating system for raw materials, gives us better access to critical predictive information that allows us to be agile when dealing with supply chain issues before they affect us, and ultimately our customers downstream.

In an evolving Environmental, Social, and Governance (ESG) environment, Essex Furukawa finds it necessary to collect, aggregate, and report certain data related to sourcing activities. We have contracted with a third party to engage our most critical suppliers to collect and validate this information related to our supply chain.





# Responsible Sourcing

Essex Furukawa is focused on the responsible sourcing of materials used in our manufacturing processes, including that of copper—the primary material found in magnet/winding wire. Through continued investigations into our supply chain, we are now able to make more thoughtful decisions about who we choose to work with while collaborating with upstream and downstream stakeholders in their ESG goals. While we consider the ethical, sustainable, and social impacts of our production materials we will maintain our recognized quality standards for our finished products.

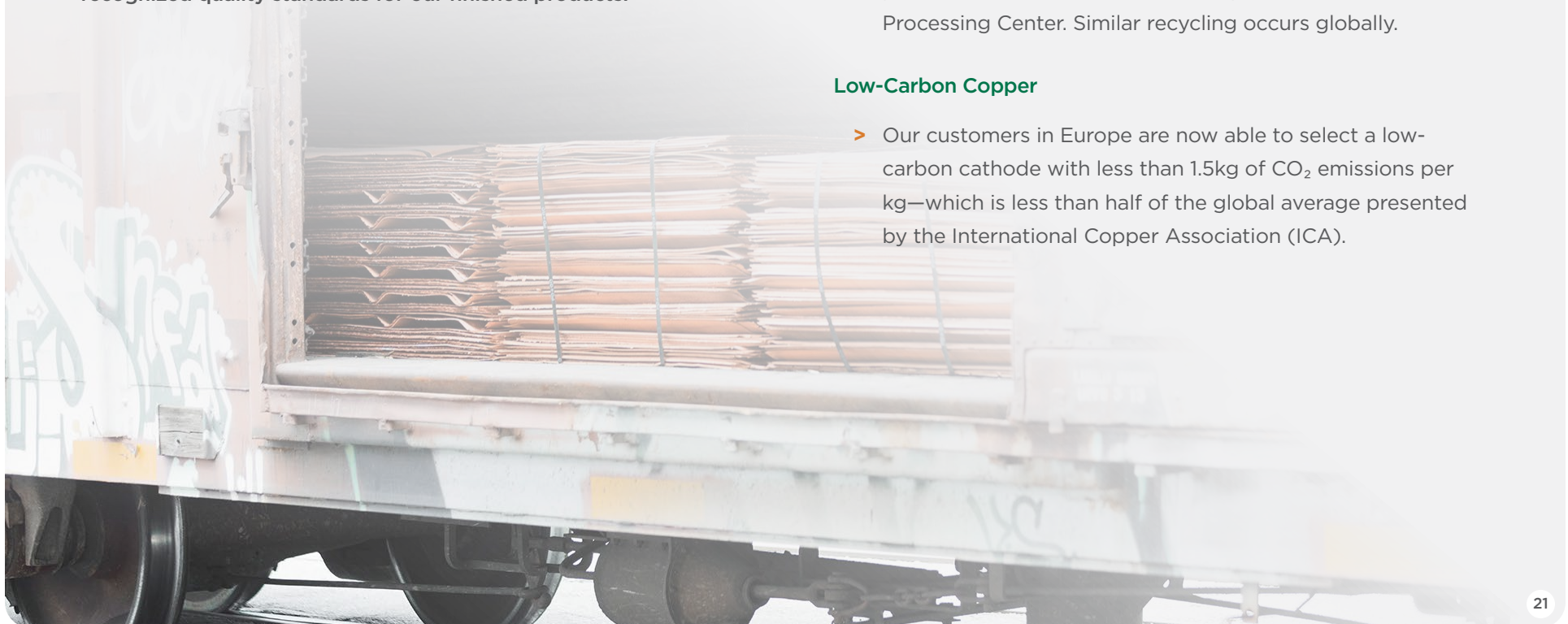
## Strategic Partnerships

### Recycled Copper

- > We are currently sourcing 25% of our external copper supply in North America from certified recycled sources thanks to partnerships with key suppliers.
- > We internally recycle all excess copper from magnet wire production at our North American plants at our Metals Processing Center. Similar recycling occurs globally.

### Low-Carbon Copper

- > Our customers in Europe are now able to select a low-carbon cathode with less than 1.5kg of CO<sub>2</sub> emissions per kg—which is less than half of the global average presented by the International Copper Association (ICA).



## Strategic Partnerships—cont.

### The Copper Mark

- > The greatest influence on our carbon footprint is that of our supply chain and copper extraction. Guided by this data, we partnered with The Copper Mark in 2021 to better define what sustainable, responsible sourcing and production of copper products does to impact the value chain.
- > We expanded our partnership with The Copper Mark by participating in the ongoing Semis-Fabricator Pilot at four facilities in North America. We are currently working toward achieving this third-party, international certification standard, which validates that our magnet wire products are produced in an ethical and responsible way.
- > Currently, 83% of the copper we source in North America is certified by The Copper Mark and we are actively seeking additional sources globally. We are participating in the Chain of Custody Pilot—which includes some of these certified stakeholders upstream, as well as stakeholders downstream.

### Waybridge

- > In an effort to improve efficiencies and reliability in our supply chain, we have invested in technology that improves logistics, provides increased predictive data, and aids in the reduction of—with the goal of eliminating—stockouts.
- > Our operating system tracks the progress of raw material shipments to our plants, which allows us to be proactive in addressing any potential supply chain issues before they affect us, and ultimately our customers downstream.

### Extractive Industries Transparency Initiative

**Essex Furukawa supports the Extractive Industries Transparency Initiative (EITI) principles and criteria as a global standard. It is through increased and improved disclosures that Essex Furukawa supports the EITI in its mission to strengthen public and corporate governance, promote understanding of natural resource management, and provide data for greater transparency and accountability within the extractives sector.**





# Circular Economy

Essex Furukawa looks at a circular economy as a system that tackles global challenges like climate change, waste, pollution, and biodiversity loss. In aligning that definition with *Vision 2030* pillars we believe it will naturally create a system that improves the life cycle of our products, contributes to our carbon reduction goals, and pairs with our customers' values.

## Recycled Copper

We are currently sourcing 25% of our external copper supply in North America from recycled sources and are forming new partnerships globally to meet the recycling demands of our customers. To help eliminate waste and reduce energy consumption from the mining of raw materials, we recycle excess copper from magnet wire production in our North American plants at our Metals Processing Center—and have similar processes in place for our locations globally.

## Zero Waste to Landfill

Meeting the global Zero Waste to Landfill goals of *Vision 2030* includes upcycling. There are byproducts in our production process that are diverted from landfills through partnerships with outside markets and industries that can re-use those materials.

## Packaging

We regularly evaluate our packaging designs to meet the needs of our customers. That process can include reuse, refurbishment, or altogether rethinking our shipping methods—without sacrificing the security and strength required to keep products safe. It also allows us to inject additional sustainability efforts into that process.





# Sustainability Leadership Council

The Essex Furukawa Sustainability Leadership Council (SLC) was created in 2021 to further advance the initiatives of *Vision 2030*. The SLC includes key stakeholders from across the organization, selected to offer well-rounded but differing perspectives on the business. The group meets regularly to provide insights from internal and external communications as well as make suggestions regarding the future of our holistic sustainability efforts. The goal of the SLC is to ensure that *Vision 2030* is ever-present in our decision making.

In addition to the SLC, three subcommittees were developed to focus on other key areas—Disruptive Innovation, Agile Digitization, and Responsible Sourcing.

## Disruptive Innovation Subcommittee

Led by R&D leaders from around the globe, this subcommittee reports on key initiatives being developed by our MagForceX® Innovation Center teams in support of the Disruptive Innovation goals to innovate both material and production methods that are less impactful on our environment.

The group is led by our SVP of Global Operations and Global R&D. It also includes the VP of Global R&D, the VP of the North America Innovation Center, as well as the Director of the Japan Innovation Center.

## Agile Digitization Subcommittee

Essex Furukawa is a digitally savvy organization that recognizes the capability of technology. We are currently implementing efficiencies and best practices across our global footprint.

Led by our VP of Information Systems, and Manager of Business Systems, this subcommittee reports on the progress made by the IT and OT teams—both of which are working towards ensuring our systems are fully integrated, sustainably automated, and socially responsible.

## Responsible Sourcing Subcommittee

As part of reducing our environmental impact, this subcommittee seeks to better understand the role that our supply chain plays in accomplishing *Vision 2030* goals. It aims to reduce that impact by ensuring purchasing decisions are made in a responsible manner that considers the impact on the environment, and the community as well as ensuring quality and cost controls.

Led by the Global VP of Strategic Sourcing, this subcommittee also includes the Corporate Commodity Manager among its members. The committee reports on the mapping of our supply chain, offers information on practices and performance, as well as investigates potential risks, opportunities for improvement, and information gaps in data.

# More for the Future

Essex Furukawa is proud of the steps taken since the launch of *Vision 2030* and we are excited for that progress to continue long into the future. This annual sustainability report is a fundamental marker on our holistic sustainability journey. The commitment to environmental, social, and corporate governance requires transparency, benchmarking, and remaining nimble in an ever-changing landscape.

Over the next year *Vision 2030* will evolve to include additional projects designed to meet our own expectations as well as the priorities of our customers. Several such plans include:

- > Achieve Zero Waste to Landfill status at all plants in 2023 verified by a third-party audit
- > Finalize Life Cycle Assessment (LCA) of select products
- > Achieve The Copper Mark certification in 2024
- > Continued investment in renewable energy
- > Develop water reduction goals and action plan
- > Develop a Scope 3 carbon reduction goal

# Appendix

## Resources

Several initiatives in support of *Vision 2030*, and our holistic sustainability program are underway since May 2022 including:

- > [Superior Essex - Essex Furukawa Partner with Waybridge on Agile Digitization Technology](#)
- > [Essex Furukawa Affirms Commitment to The Copper Mark Assurance Process](#)
- > [Chemical Processing Plant is Crushing on-going Supply Chain Issue](#)
- > [Essex Furukawa Fire Brigade Brings the Heat at Torreon Challenge](#)
- > [Superior Essex Announces Sustainable Aviation Fuel Partnership with Delta](#)
- > [Essex Furukawa Receives TISAX Certification at German Plants](#)
- > [Superior Essex Employees Expand Neighborhood Outreach](#)
- > [Essex Furukawa Recognizes Perfect Attendance at Torreon Plant](#)
- > [Essex Furukawa Takes Next Step In The Copper Mark Assurance Process](#)
- > [Essex Furukawa 'Lighting' a Sustainable Future for Earth Day](#)
- > [Electric Forklifts Ready to Roll in Essex Furukawa Kameyama Japan Plant](#)

Visit our [website](#) for the latest sustainability news and to track all our progress to date.

Sign up for our quarterly [newsletter](#).

### > Assurance Process

- Keramida, Inc.
- ARCHE Advisors

### > Environmental Certifications

- *ISO 14001-2015*
  - Bramsche (Germany) Magnet Wire Plant
  - Bad Arolsen (Germany) Magnet Wire Plant
  - Zrenjanin (Serbia) Magnet Wire Plant
  - Kuala Lumpur (Malaysia) Magnet Wire Plant
  - Penang (Malaysia) Magnet Wire Plant
  - Suzhou (China) Magnet Wire Plant
  - Torreón (Mexico) Magnet Wire Plant
  - Columbia City, IN (U.S.) Metal Processing Center
  - Franklin, IN (U.S.) Magnet Wire Plant pending, expected 2023
- *ISO 50001-2018/2011*
  - Bramsche (Germany) Magnet Wire Plant
  - Bad Arolsen (Germany) Magnet Wire Plant
- *ISO 45001-2018*
  - Suzhou (China) Magnet Wire Plant
  - Penang (Malaysia) Magnet Wire Plant

Click to Navigate to External Resources





# Appendix—cont.

## Performance Data Tables<sup>1</sup>

### > Greenhouse Gas Emissions (GHG)<sup>2</sup> | MT CO<sub>2</sub>e

	2021	2022
Scope 1	94,965	86,769
Scope 2	136,742	92,320
Scope 3 <sup>3</sup>	3,874,458	1,300,682
Total (Scope 1 & 2)	231,707	179,089

### > Energy Consumption | MWh/MT

	2019	2020	2021	2022
Non-renewable Fuels Purchased and Consumed	1.383	1.490	1.332	1.330
Non-renewable Electricity Purchased	0.777	0.883	0.814	0.612
Total Non-renewable Energy Consumed	2.160	2.373	2.146	1.942
Total Renewable Energy Purchased or Generated	0.004	0.004	0.003	0.216
Total Energy Consumption	2.163	2.377	2.149	2.158

<sup>1</sup> Values include air emissions, water usage, and energy consumption at our magnet wire manufacturing locations only

<sup>2</sup> Following Greenhouse Gas Protocol Market-Based Approach

<sup>3</sup> Estimated screening value

### > Waste Diversion

	2022
Global Waste Diversion Rate	96.5%

### > Air Emissions | MT

	2019	2020	2021	2022
Organic Compounds	134	160	189	204

### > Water Usage and Utilization | m<sup>3</sup>

	2019	2020	2021	2022
Total Water Withdrawn	588,055	551,677	539,155	600,052
Total Water Discharged	420,110	402,936	369,808	414,125

### > Environmental Events

	2019	2020	2021	2022
Reportable Spills or Releases of Hazardous or Toxic Chemicals	0	0	0	0
Number of Significant Environmental Events	0	0	0	0

# Appendix—cont.

## > Health and Safety Performance

	2019	2020	2021	2022
Total Workplace Fatalities	0	0	0	0
Total Workforce Recordable Incident Rate <sup>4</sup>	12.1	10.8	11.0	17.9

## > Workforce Demographics<sup>5</sup>

	2019	2020	2021	2022
Number of Employees	1,711	2,062	2,112	2,119
Aged <30	-	-	18%	15%
Aged 30 - 50	-	-	52%	49%
Aged >50	-	-	31%	36%
Total Women Employed	-	-	13%	18%
Total Women in Leadership Positions <sup>6</sup>	-	-	25%	21%

4 International Incident Rate

5 Age and Women Employed information not tracked in 2019 and 2020

6 Managers and above

7 Environmental compliance costs and fees

8 Score out of 100 possible points

## > Human Rights

	2019	2020	2021	2022
Gross Human Rights Violations	0	0	0	0

## > Financial | USD

	2022
Disclosure of Payments to Government <sup>7</sup>	\$340,286

## > Supplier ESG Metrics

	2022
Total Number of Suppliers Requested	40
Percent of Total Spend	80%
Response Rate	29%

## > Supplier Performance Score<sup>8</sup>

	2022
Environmental	42
Social	74
Governance	66
Overall	60



08-2023  
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