



Dear Fellow Stockholders,

The year **2024** marked a transformative chapter in our journey at RYAM, with remarkable achievements and strategic milestones that position us for an even brighter future. Your trust and support have been instrumental in this success, and it is our pleasure to share with you the highlights of the past year and the exciting opportunities ahead.

A Year of Strong Performance

In 2024, RYAM delivered outstanding financial results, showcasing the strength and resilience of our business. Adjusted EBITDA grew by an impressive 60%, from \$139 million in 2023 to \$222 million in 2024. We translated these earnings into robust cash flow, achieving \$128 million in Adjusted Free Cash Flow and reducing net secured debt by \$73 million. By year-end, our net secured leverage ratio stood at 2.7 times covenant EBITDA, keeping us on track to meet our 2027 target of 2.5 times.

These financial gains were complemented by strategic investments of \$33 million in three key areas: biomaterials expansion, quick-return operational projects, and corporate systems. These investments underline our commitment to operational excellence, disciplined growth, and innovation, all of which are central to our long-term strategy.

Strengthening Our Core Business

In our High Purity Cellulose (HPC) business we continued to execute our “Value over Volume” strategy. The closure of a competitor’s facility in late 2023 and our decision to indefinitely suspend operations at the Temiscaming HPC plant in 2024 removed approximately 10% of total industry capacity. These actions improved the industry’s supply-demand dynamics and shifted our High Purity sales mix away from commodity products, expanding EBITDA margins by over 500 basis points to 13.6%, and reinforcing our confidence in achieving our 2027 enterprise EBITDA target of \$325 million.

Pioneering Biomaterials Innovation

Our vision for biomaterials took significant strides forward in 2024. Building on the comparative advantages of our global infrastructure and operational synergies, we intensified our focus on renewable, high-value solutions for environmentally-conscious customers. Our France bioethanol plant became operational in 2024, and the bioethanol plant at Fernandina Beach advanced toward its permitting and engineering milestones. Our renewable energy project development entity, Altamaha Green Energy, secured a 30-year Power Purchase Agreement with Georgia Power Company, setting the stage for renewable energy innovation.

To accelerate the funding of our biomaterials strategy, we established RYAM BioNova S.A.S., attracting a €30 million strategic investment for a 20% stake, valuing the venture at \$180 million. RYAM BioNova has also raised project debt at attractive pricing to largely fund the biomaterial projects to be implemented over the next couple of years.

The momentum in biomaterials underscores its potential as a cornerstone of our growth strategy-driving revenue, margin expansion, and sustainability.

Financial Discipline and Operational Excellence

Our commitment to strengthening the balance sheet and enhancing operational efficiency remained unwavering in 2024. We refinanced our senior secured debt, extending maturities to 2029 and introducing terms that provide flexibility to support future growth. Additionally, we unlocked \$39 million in value by selling softwood lumber duties, channeling proceeds toward debt reduction.

Parallel to these efforts, we invested in high-return operational projects and advanced our cost optimization initiatives. These measures bolster our financial resilience and ensure sustainable growth as we pursue our strategic goals.

Fostering a Culture of Safety and Sustainability

At RYAM, safety and sustainability are at the heart of our operations. In 2024, we reduced our injury incident rate by 30%, reflecting our unwavering commitment to a zero-injury workplace. When an isolated fire occurred at our Jesup, Georgia facility in October, our team’s heroic response ensured that no injuries were sustained, and normal operations resumed within two weeks.

We are also dedicated to environmental stewardship and believe we are positioned well to achieve our goal to cut greenhouse emissions by 40% by 2030. In 2023, we further reduced our greenhouse gas emissions by 7% on an absolute basis, bringing our cumulative decrease since 2020 to 21%. Our 2023 Sustainability Report highlights this and other achievements, reinforcing our commitment to responsible corporate citizenship.

Looking Ahead

As we step into 2025, RYAM is well-positioned to build on our achievements, drive innovation, and deliver sustainable growth. The remarkable rebound in our stock price during 2024 reflects the market’s confidence in our transformation and future potential.

On behalf of the Board of Directors and the executive team, we extend heartfelt thanks to our employees for their dedication and ingenuity, and to you, our stockholders, for your continued faith in our vision. Together, we will advance RYAM on its journey to create long-term value, guided by discipline, innovation, and sustainability.

Thank you for being part of this exciting journey.

Sincerely,



Lisa M. Palumbo

Independent Chair of the Board of Directors

A handwritten signature in dark ink, appearing to read "L. Palumbo".



De Lyle W. Bloomquist

President and Chief Executive Officer

A handwritten signature in dark ink, appearing to read "De Lyle W. Bloomquist".

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2024

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission File Number 001-36285



RAYONIER ADVANCED MATERIALS INC.

State of Incorporation: Delaware

I.R.S. Employer Identification No.: 46-4559529

Principal Executive Office:

1301 Riverplace Boulevard, Suite 2300

Jacksonville, FL 32207

Telephone Number: (904) 357-4600

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of exchange on which registered
Common stock, par value \$0.01 per share	RYAM	New York Stock Exchange

Securities to be registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Aggregate market value of the common stock of the registrant held by non-affiliates as of June 29, 2024: \$345,496,271.

Number of shares of the common stock of the registrant outstanding as of March 4, 2025: 65,966,881.

Portions of the registrant's definitive proxy statement for the 2025 annual meeting of the stockholders, which is expected to be filed with the Securities and Exchange Commission within 120 days after December 31, 2024, are incorporated by reference into Part III of this 2024 Form 10-K.

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Glossary

The following terms and abbreviations appearing in the text of this 2024 Form 10-K have the meanings indicated below.

2023 Plan	RYAM 2023 Incentive Stock Plan
2024 Form 10-K	RYAM Annual Report on Form 10-K for the year ended December 31, 2024
2024 Notes	\$550 million original aggregate principal amount of 5.50 percent senior unsecured notes issued May 2014, due June 2024
2026 Notes	\$500 million original aggregate principal amount of 7.625 percent senior secured notes issued December 2020, due January 2026
2027 Term Loan	\$250 million original aggregate principal amount of variable rate term loan entered into July 2023, maturing July 2027
2029 Term Loan	\$700 million original aggregate principal amount of variable rate term loan entered into October 2024, maturing October 2029
2G	Second generation
ABL Credit Facility	\$175 million 5-year senior secured asset-based revolving credit facility, as amended, maturing November 2029
AGE	Altamaha Green Energy LLC
AICPA	American Institute of Certified Public Accountants
Anomera	Anomera, Inc.
AOCI	Accumulated other comprehensive income (loss)
ASU	Accounting Standards Update
ATI	Adjusted taxable income
BioNova	RYAM BioNova S.A.S., a French simplified joint-stock company and a newly-formed subsidiary in which SWEN holds a redeemable noncontrolling interest
BioNova Term Loan	€37 million aggregate principal amount of variable rate term loans entered into November 2024, maturing November 2031 and November 2032
BNP	BNP-Paribas Factor
bp	Basis point
CAD	Canadian dollar
CEO	Chief Executive Officer
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CEWS	Canada Emergency Wage Subsidy
CNC	Carboxylated cellulose nanocrystals
CODM	Chief Operating Decision Maker
COVID-19	Coronavirus pandemic
DTA	Deferred tax asset
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciation and amortization
ECD	Early Career Development
ERP	Enterprise resource planning
Euribor	Euro Interbank Offered Rate
Exchange Act	Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
Financial Statements	Consolidated financial statements included in Part IV Item 15 of this 2024 Form 10-K
FTC	Foreign tax credit
GAAP	United States generally accepted accounting principles
Georgia EPD	Georgia Environmental Protection Division of the Natural Resources
GHG	Greenhouse gas
GILTI	Global intangible low-taxed income
GreenFirst	GreenFirst Forest Products, Inc.
ISCC EU	International Sustainability & Carbon Certification in the European Union

ISCC PLUS	International Sustainability & Carbon Certification covering the same certification requirements as ISCC EU but customizable by market or specific application
LTF	LignoTech Florida LLC
MT	Metric ton
NOL	Net operating loss
NOx	Nitrogen oxides
OPEB	Other post-employment benefits
Prior Incentive Stock Plans	Rayonier Advanced Materials Inc. Incentive Stock Plan, Rayonier Advanced Materials Inc. 2017 Incentive Stock Plan and Rayonier Advanced Materials Inc. 2021 Incentive Stock Plan
Proxy Statement	RYAM Proxy Statement to be filed with the SEC in connection with the solicitation of proxies for RYAM's 2025 Annual Meeting of Stockholders
R&D	Research and development
RCRA	Resource Conservation and Recovery Act
ROU	Right-of-use
RYAM, the Company, our, we, us	Rayonier Advanced Materials Inc. and its consolidated subsidiaries
S&P	Standard & Poor's
SEC	United States Securities and Exchange Commission
Securities Act	Securities Act of 1933, as amended
SG&A	Selling, general and administrative expense
SOFR	Secured Overnight Financing Rate
SOx	Sulfur oxides
SR&ED	Scientific research and experimentation deductions
SWEN	SWEN Impact Fund for Transition 3
TSA	Transition Services Agreement
TSR	Total shareholder return
U.S.	United States of America
USD	United States of America dollar
USDOC	United States Department of Commerce
Washington Ecology	Washington State Department of Ecology
Washington MTCA	Washington Model Toxics Control Act

Forward-Looking Statements

Certain statements in this 2024 Form 10-K regarding anticipated financial, business, legal or other outcomes, including business and market conditions, outlook and other similar statements relating to future events, developments or financial or operational performance or results, are “forward-looking statements” made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. These forward-looking statements are identified by the use of words such as “may,” “will,” “should,” “could,” “expect,” “estimate,” “target,” “believe,” “intend,” “plan,” “forecast,” “anticipate,” “project,” “guidance” and other similar language. However, the absence of these or similar words or expressions does not mean that a statement is not forward-looking.

Forward-looking statements are not guarantees of future performance or events and undue reliance should not be placed on these statements. Although we believe the expectations reflected in any forward-looking statements are based on reasonable assumptions, we can give no assurance that these expectations will be attained, and it is possible that actual results may differ materially from those indicated by these forward-looking statements due to various risks and uncertainties. The risk factors contained in Item 1A—Risk Factors of this 2024 Form 10-K, among others, could cause actual results or events to differ materially from our historical experience and those expressed in forward-looking statements made in this 2024 Form 10-K.

Forward-looking statements are only as of the date of the filing of this 2024 Form 10-K and we undertake no duty to update these forward-looking statements except as required by law. You are advised to review any disclosures that we make on or after the date of this 2024 Form 10-K in our filings and other submissions to the SEC, including those on Forms 10-K, 10-Q, 8-K and other reports.

Part I

Item 1. Business

We are a global leader in the production of cellulose specialties, a natural polymer used in the manufacturing of various specialty chemical products, including liquid crystal displays, filters, textiles and performance additives for pharmaceutical, food and other industrial applications. Building upon nearly 100 years of experience in cellulose chemistry, we provide some of the highest quality high-purity cellulose pulp products that make up the essential building blocks for our customers' products while providing exceptional service and value. RYAM's specialized assets also produce bioelectricity, biomaterials, including biofuels, lignin and tall oil soap, and commodity fluff, viscose and paper pulp.

Additionally, we produce a unique, lightweight multi-ply paperboard product and a bulky, high-yield pulp product. Our paperboard is used for production in the commercial printing, lottery ticket and high-end packaging sectors. Our high-yield pulp is used by paperboard producers as well as in traditional printing, writing and specialty paper manufacturing.

Our Sustainability Profile

Sustainability is at the core of our business model and guides every aspect of our strategy and operations.

Operations

We operate four production facilities strategically located in the U.S., Canada and France.

The manufacturing of all of our products begins with trees sourced from working forests. Working forests are instrumental to maintaining environmental health, including the crucial role they play in carbon sequestration. All of our production facilities adhere to the EPA's Best Management Practices and hold certification in both the Forest Stewardship Council and Programme for the Endorsement of Forest Certification Chain of Custody standards. We believe this dual certification reinforces our dedication to responsible forestry practices throughout our manufacturing processes.

Our Fernandina Beach and Tartas facilities are ISCC PLUS and ISCC EU certified, respectively, underscoring our commitment to independently audited sustainability standards and processes within our supply chain.

Our fluff pulp, produced at our Jesup facility, carries the distinction of being certified as an "Inspected Raw Material" by Nordic Swan Ecolabeling. This label signifies adherence to environmental requirements at every stage of manufacturing.

We frequently monitor and pursue additional opportunities for sustainability in our manufacturing processes. We have achieved several key advancements in our processes with the aim of reducing chemical usage, improving energy efficiency and minimizing our CO₂ emissions and environmental footprint. Examples include the optimization of acid usage, transitioning to rail delivery for H₂O₂ and refinements of product formulations. In addition, in our ongoing efforts to reduce chemical usage we have also introduced Maple 80, a new product manufactured without EDTA, a common chelating agent, which served to decrease our chemical reliance.

In 2021, we set an ambitious goal of achieving at least a 40 percent reduction in overall Scope 1 and Scope 2 GHG emissions, on both an absolute and intensity basis, by 2030, using 2020 as a baseline. We are on track to meet this objective, with external verification confirming total reductions of 21 percent and 14 percent in absolute and intensity emissions, respectively, through 2023. Our 2024 results are pending confirmation.

Energy

Our facilities are energy intensive; however, nearly 78 percent of the energy consumed by them is derived from renewable sources, primarily biomass. We do not harvest living trees directly for energy production, but rather use production process biomass residuals or waste to generate energy in our facilities. The remaining energy consumed is primarily sourced from natural gas.

Water

Water is utilized during various stages of our production cycle, including wood chip digestion, pulp washing and screening and fiber handling and transportation. Water is also necessary for steam and on-site power generation, air emissions control, process cooling and equipment cleaning. Each gallon of water consumed at our facilities is reused multiple times in our process. Over 90 percent of the total water withdrawn at our facilities is returned to natural water sources after undergoing rigorous treatment, in keeping with stringent government-issued permit limitations. The remaining amounts are either captured in the final product or evaporated during manufacturing.

Waste

Our facilities are designed to minimize waste. We recycle our pulping chemicals, produce environmentally friendly co-products from tree material, and generate energy from biomass residuals. We also take special care to limit our generation of hazardous or dangerous wastes through source reduction, reuse and recycling. We seek to meet or exceed all waste management standards and expectations of each country in which we operate. Each facility has ongoing relationships with local recyclers, and we strive to reuse or recycle as much as possible. Certified waste handlers dispose of any hazardous waste.

Product Safety

We prioritize safety and regulatory compliance in our product development. Our high purity cellulose is derived from the treatment of wood fiber with aqueous solutions of pulping and bleaching chemicals. This process yields materials such as cellulose, hemicellulose, lignin and other extractives. Pulp cellulose has been classified by the U.S. Environmental Protection Agency as a Green Circle chemical with a low safety concern based on experimental and modeled data, and it is considered non-hazardous according to the Occupational Safety and Health Administration Hazard Communication Standard. We proactively ensure compliance with stringent international safety regulations, including the U.S. Food and Drug Administration approval for food contact materials, European Registration, Evaluation, Authorisation and Restriction of Chemicals standards and the European Union's genetically modified organisms directive.

We maintain stringent safety measures to manage chemical usage responsibly throughout our manufacturing processes. Our ISO 9001-certified quality management system is used to analyze and improve our operations. We maintain a rigorous chemical approval process to ensure safety and regulatory compliance.

Strategic Growth Investments

We focus our strategic investments on projects that optimize and align our assets to meet the ever-growing demand for renewable products. Our portfolio is aligned with sustainability drivers, including the European Union Green Deal for the Renewable Energy Directive II. Our ongoing projects include:

- Production of 2G bioethanol fuel at our France facility, intended to help meet the demand for Europe's fast-growing biofuels market and further improve the sustainability of our operating model. With production commencing in the first quarter of 2024, we are among the first in France to produce wood-based 2G bioethanol, a renewable fuel made from non-food-based biomass that is not competitive to the human food supply and that reduces GHG emissions by up to 90 percent compared to traditional fossil fuels.
- Production of 2G bioethanol fuel at our Fernandina facility, a multi-year project expected to deliver carbon benefits comparable to our France bioethanol facility, with potential applications in additional market segments, including as a feedstock for sustainable aviation fuel.
- Involvement in AGE, a start-up entity that aims to utilize renewable forestry waste and other biomass generally discarded as waste to generate green electricity for the state of Georgia from a new facility to be constructed adjacent to our Jesup plant. While still in the development phase, the project achieved a significant milestone when AGE was recently awarded a Purchase Power Agreement to sell electricity to Georgia Power Company, which allows AGE to continue evaluating the construction and financing requirements. The multi-year project offers significant potential long-term benefits to RYAM.
- Development of a prebiotic for poultry and swine at our Jesup facility, which is expected to support sustainable poultry and swine farming and provide a healthy alternative nutrient to enhance gut health. We have submitted notice of our Generally Recognized as Safe self-certification for our prebiotics product to the U.S. Food and Drug Administration.

Our strategic investment approach unlocks the capabilities of our facilities and capitalizes on the sustainably harvested trees that we use as our primary feedstock.

Our Business

Before June 27, 2014, we consisted of Rayonier Inc.'s wholly-owned performance fibers business, which was primarily engaged in producing cellulose specialties. On that date, we separated from Rayonier Inc. and started our business as an independent, publicly traded company. In November 2017, we acquired Tembec Inc., a manufacturer of cellulose specialties, lumber, paperboard, newsprint and high-yield pulp.

In August 2021, we sold the lumber and newsprint assets acquired in the Tembec acquisition. As a result of this sale, the operating results of the lumber and newsprint operations are presented as discontinued operations in our Financial Statements. See Note 4—Discontinued Operations to our Financial Statements for further information.

For the years presented in this 2024 Form 10-K, we operated the following operating segments:

- High Purity Cellulose
- Paperboard
- High-Yield Pulp

See Note 21—Segment and Geographical Information to our Financial Statements for further information on this operating segment structure in place as of December 31, 2024.

Beginning in January 2025, we reorganized our High Purity Cellulose operating segment as a result of changes in our internal operating model, significant developments in our Biomaterials strategy (see Note 2—Significant Accounting Policies and Recent Accounting Developments—*Redeemable Noncontrolling Interest* and Note 10—Debt and Finance Leases to our Financial Statements for information regarding our newly-formed subsidiary, BioNova, and important financing milestones reached) and a successful enterprise reporting system launch that significantly enhances our financial reporting capabilities. Specifically, we determined, in light of these new developments and capabilities, that the performance and outlook of the High Purity Cellulose business will be better managed as three separate businesses: Cellulose Specialties, Cellulose Commodities and a new Biomaterials business. No changes were made to the composition of the Paperboard and High-Yield Pulp operating segments.

In July 2024, we indefinitely suspended operations at our Temiscaming High Purity Cellulose plant. This plan is expected to mitigate high capital needs and operating losses related to exposure to commodity viscose products and improve our consolidated free cash flow. Our Temiscaming paperboard and high-yield pulp plants that support our Paperboard and High-Yield Pulp operating segments will continue to operate at full capacity while we continue to explore a potential sale of the Paperboard and High-Yield Pulp assets. We remain committed to pursuing a sale of these assets at a fair price. See Note 3—Indefinite Suspension of Operations to our Financial Statements for further information.

High Purity Cellulose

Our High Purity Cellulose operating segment, particularly cellulose specialties products, is the primary driver of our profitability. Cellulose specialties are natural polymers that are used as raw materials to manufacture a broad range of consumer-oriented products such as liquid crystal displays, impact-resistant plastics, thickeners for food products, pharmaceuticals, cosmetics, cigarette filters, high-tenacity rayon tire cords and industrial hoses, food casings, paints and lacquers. We manufacture products tailored to our customers' precise and demanding chemical and physical specifications, achieving industry-leading purity and product functionality. Our ability to consistently manufacture high-quality cellulose specialties products results from our proprietary production processes, intellectual property and nearly 100 years of technical expertise and knowledge of cellulosic chemistry. We believe our end-use market diversity reduces our exposure to a potential global recession.

In addition to cellulose specialties, a significant portion of our production capacity is dedicated to manufacturing high-purity commodity products for absorbent materials and viscose applications. Absorbent materials, typically referred to as fluff, are used as an absorbent medium in products such as disposable baby diapers, feminine hygiene products, incontinence pads, convalescent bed pads, industrial towels and wipes and non-woven fabrics. Commodity viscose is a raw material required for the manufacture of viscose staple fibers which are used in woven applications, such as rayon textiles for clothing and other fabrics, and in non-woven applications, such as baby wipes, cosmetic and personal wipes, industrial wipes and mattress ticking. Cellulose specialties typically contain over 95 percent cellulose, while commodity products usually contain less than 95 percent cellulose.

Our specialized assets, capable of creating the world's leading high purity cellulose products, also produce bioelectricity and biomaterials, including biofuels, lignin and tall oil soap. Our 2G bioethanol facility in France, operational in the first quarter of 2024, for example, captures residual sugars from our existing pulp process, which we then use in the production of wood-based 2G bioethanol fuel.

Our three operating production facilities have a combined annual production capacity of 895,000 MTs of cellulose specialties and commodity products, excluding the 150,000 MTs capacity of the Temiscaming plant whose operations were indefinitely suspended in July 2024. Of our total annual capacity, we dedicate 270,000 MTs of annual production to commodity products, primarily fluff.

Key input costs — wood, chemicals and energy — represent approximately 50 percent of our per MT cost of sales. Transportation, depreciation, labor, maintenance and other manufacturing fixed costs represent our remaining cost of sales.

Products

Cellulose Specialties

Cellulose specialties are a natural polymer primarily derived from either wood or cotton and are used as a principal raw material to manufacture a broad range of products. Cellulose specialties generally command a price premium and earn higher margins relative to other commodity wood pulp products. Cellulose specialties are a dissolving wood pulp product which target a combination of high purity and high viscosity. Unlike other wood pulps used for their physical properties, cellulose specialties are sought after for the unique chemical properties and reactivity they impart to downstream products.

Our cellulose specialties, derived from wood, require high levels of purity, consistency and process knowledge. Our products play a significant role in our customers' manufacturing processes, which require cellulose specialties of high purity and uniformity for efficient production. As such, our customers demand products of the highest quality. To meet this demand, our products are custom-engineered and manufactured to each customer's unique specifications and undergo a stringent qualification process, resulting in quality and consistency that allow our customers to operate more efficiently and cost-effectively.

One of our key competitive advantages is our unique ability to leverage our global manufacturing asset base to provide our customers greater supply chain security for cellulose specialties fibers. With four facilities and five manufacturing lines capable of producing cellulose specialties, we are the only cellulose specialties producer in the world with the flexibility to use both hardwood and softwood fibers, kraft and sulfite cooking processes and various proprietary chemical treatments to provide customized product functionality. Additionally, we possess significant knowledge of wood fiber properties and their modification under a sequence of chemical processes, which we have accumulated and developed over nearly 100 years of practical application to satisfy various customer needs. This process knowledge, combined with our manufacturing scale and flexibility and knowledge of customer applications and specifications, makes us the industry's most adaptable modifier of cellulose fibers.

Commodity Products

We can shift our High Purity Cellulose operating segment manufacturing assets from cellulose specialties production to commodity fluff and viscose production. Our operating lines fluctuate the production of cellulose specialties and commodity products based on market conditions and to generate the most attractive margins.

Commodity fluff is typically used in consumer products such as baby diapers. These fibers provide a medium for fluid acquisition, distribution and retention in the products in which they are incorporated.

Commodity viscose is primarily sold to producers of viscose staple fibers, which in turn are used to manufacture rayon fibers, which are widely used in the clothing and textile industries. Shifts in fashion styles and textile fiber blending have increased demand for viscose staple fibers. Additionally, variability in cotton linter supply and growing environmental concerns about cotton production have resulted in viscose staple producers shifting volume away from cotton linter pulp to wood-based dissolving pulp, absent other pricing factors.

Biomaterials

We are uniquely positioned to meet the rapidly growing demand for renewable materials and sustainable products. Fully unlocking the capabilities of our plants and the sustainably harvested trees that we use as our primary feedstock is a core mission. Generally, a tree's mass is comprised of 50 percent water and 50 percent "dry solids." Dry solids are comprised of roughly 40 percent cellulose and 60 percent other chemical compounds, including hemicellulose, lignin, sugars and other extractives. These chemical compounds can be utilized to produce sustainable bioelectricity and biomaterials, including lignosulfonates, biofuels, prebiotics, tall oil soap and turpentine.

We currently generate and sell lignosulfonates and tall oil soap using these compounds. Lignosulfonates are used to produce various products, including construction materials, dispersants, plant nutrients, leather tanning and fungicides, and tall oil soap, which is used as feedstock for producing crude tall oil. We also produce bio-generated electricity utilizing renewable biomass. Our France bioethanol facility produces 2G bioethanol, a non-food-based ethanol utilized as an environmentally friendly fuel blend supporting transport decarbonization. Commercial sales of this 2G bioethanol began in April 2024 under a long-term offtake agreement with a large international petrochemicals company. We are currently moving forward with plans for a similar bioethanol facility at our Fernandina facility.

Competition

Cellulose Specialties

Significant intellectual property, capital investment and technical expertise are needed to design and manufacture customized cellulose specialties fibers to exacting customer specifications. The product must be formulated to achieve the desired characteristics, including parameters for purity, viscosity, brightness, reactivity and other physical properties. Product qualification time can be lengthy, extending from six to 24 months. Customer relationships are typically long-term and are based on an understanding of the customer's production processes and on our technical expertise, which we utilize to help solve our customers' production challenges and support new product development. Establishing a production line and obtaining the necessary production technologies requires substantial capital and ongoing maintenance expenditures.

Product performance and customization, technical service and price are principal methods of competition in cellulose specialties. Product performance is primarily determined by the chemical attributes of the pulp, including purity, viscosity and uniformity of the cellulose specialties. Our processes, which are a key element of our intellectual property, are capable of generating cellulose specialties purity levels in excess of 98 percent, as well as the highest levels of viscosity derived from wood pulp. Typically, product pricing is set annually in the fourth quarter for the following year based on discussions with customers and the terms of contractual arrangements.

We compete with both domestic and foreign producers in cellulose specialties. Our major competitors include Bracell and Borregaard. Our multiple manufacturing lines, processes and intellectual property allow us to compete in more segments of the cellulose specialties market than any of our competitors.

Commodity Products

The principal method of competition in commodity products is price, as purity and uniformity are less critical differentiators. Pricing for commodity products is typically referenced to published indices or based on publicly available spot market prices. We compete with both domestic and foreign producers of commodity products.

Many competitors derive commodity viscose from either wood or cotton. However, in recent years, commodity viscose from wood has supplanted cotton as the preferred raw material input for viscose staple fiber production. Although cellulose specialties can generally be sold to meet commodity viscose demand, the reverse is not typically true. Our major competitors for commodity viscose include Bracell, Sappi, Lenzing, Aditya Birla Group and Sun Paper.

Our major competitors in commodity fluff include International Paper, GP Cellulose, Domtar, Klabin and Stora Enso.

Biomaterials

Each biomaterial product has its own unique market drivers. For example, the primary global market driver for bioethanol is the regulatory agenda towards production of bioethanol with an active participation of GHG emission reduction and the positive impact on climate change. Key growth drivers for lignosulfonates include increasing usage of lignosulfonates in all the market segments where fossil petrochemicals can be replaced by sustainable bioproducts. Pricing for biomaterials that we currently produce is based on the market dynamics of supply and demand.

Similarly, each biomaterial product has its own competitive considerations, with potential barriers to entry including capital investment, technical expertise and the lack of sustainable feedstock needed to produce the given product. Our major biomaterials competitors in the lignosulfonates market include Borregaard and Domsjö Aditya Birla and in the bioethanol market include Borregaard and AustroCel Hallein.

Paperboard

We manufacture paperboard in the Temiscaming plant in Quebec, Canada. Our production facility has an annual production capacity of 180,000 MTs of paperboard.

Key input costs — wood, chemicals and energy — represent approximately 75 percent of our per MT cost of sales. Transportation, depreciation, labor, maintenance and other manufacturing fixed costs represent our remaining cost of sales.

Products

Products in the Paperboard business include packaging, printing documents, brochures, promotional materials, paperback book and catalog covers, file folders, tags and lottery tickets. We are the only multi-ply paperboard producer in North America, with our competition producing single ply solid bleached sulfite paperboard.

Competition

The principal method of competition in our Paperboard business is price and product performance. Pricing is typically based on published indices and marketed through our internal sales team and is impacted by the balance between supply and demand, as affected by global economic conditions, changes in consumption and capacity, the level of customer and producer inventories and fluctuations in currency exchange rates. Product performance is determined based on the physical attributes of the products in a customer's manufacturing processes. To a lesser extent, quality and service are also competitive determinants.

Our major paperboard competitors include Smurfit Westrock, Graphic Packaging, Clearwater Paper, Sappi, Metsa Group, Stora Enso, CMPC and Billerud.

High-Yield Pulp

We manufacture and market high-yield pulp produced in our Temiscaming plant in Quebec, Canada. Our Temiscaming plant has an annual production capacity of 290,000 MTs of high-yield pulp, approximately 60,000 MTs of which are used internally to produce paperboard.

Key input costs — wood, chemicals and energy — represent approximately 40 percent of our per MT cost of sales. Transportation, depreciation, labor, maintenance and other manufacturing fixed costs represent our remaining cost of sales.

Products

We produce our high-yield pulp primarily from hardwood aspen, maple and birch species. This unique fiber supply produces a highly sought-after bulky high-yield pulp product. With nearly double the yield of traditional market pulps, our high-yield pulp requires fewer trees to make the same amount of paper and its superior bulk allows paper and paperboard manufacturers to use less fiber for the same surface area. Typical applications of our high-yield pulp include paperboard, packaging, coated and uncoated printing and writing paper, specialty papers and various other paper products.

Competition

The principal method of competition in the High-Yield Pulp operating segment is price. However, better quality (i.e., higher bulk) can sometimes command a premium price. Pricing for high-yield pulp is typically referenced to published indices marketed through our internal sales team and is impacted by the balance between supply and demand, as affected by global economic conditions, changes in consumption and capacity, the level of customer and producer inventories and fluctuations in currency exchange rates.

Our major high-yield pulp competitors include Sappi, Millar Western, West Fraser, Domtar, SCA, Pan Pac Forest Products Ltd and Estonia Cell.

Raw Materials and Input Costs

All of our manufacturing operations require significant amounts of wood fiber, in the form of logs or wood chips, as a raw material and energy to produce our products. Additionally, our High Purity Cellulose and High-Yield Pulp operating segments' manufacturing processes require significant amounts of chemicals. These raw materials and input costs are subject to significant changes in price as a result of weather conditions, supply and demand. To control cost, we continually pursue reductions in usage and cost of key supplies, services and raw materials.

Wood

We procure wood chips for our high purity cellulose and high-yield pulp plants through the purchase of chips from lumber producers or the production of chips from roundwood at our own wood chipping facilities. The price for wood is impacted by various factors, including supply and demand, weather events, transportation costs for delivery and overall economic conditions.

Chemicals

Chemicals, which include caustic soda (sodium hydroxide), sulfuric acid, ammonia, sodium chlorate and various specialty chemicals, are purchased under negotiated supply agreements with third parties. The price for these chemicals is impacted by various factors, including supply and demand, environmental regulation, energy prices and overall economic conditions.

Energy

Our energy is primarily produced through the burning of lignin and other residual biomass in recovery and power boilers located at our plants. In addition, our manufacturing facilities utilize significant amounts of fuel oil, natural gas and purchased electricity to supplement their energy requirements. Our energy costs are also impacted by emission allowances purchased or sold at market prices during any given period. In addition, energy prices impact our transportation costs for delivery of raw materials to our manufacturing facilities and delivery of our finished products to customers.

Intellectual Property

Substantially all of our intellectual property relates to our High Purity Cellulose operating segment. We own patents, trademarks and trade secrets, and have developed significant expertise, particularly in the production of high purity cellulose, which we deem vital to our operations, and also in the production of paperboard. We intend to protect our intellectual property, including, when appropriate, through the filing of patent applications for inventions that we deem important to our business and operations. Our U.S. patents generally have a duration of 20 years from the date of filing. We also require key employees to enter into non-compete agreements and intellectual property assignment agreements as appropriate.

Seasonality

Our operating results may be materially affected by seasonal changes and the related impact on energy prices.

Customers

No single customer accounted for 10 percent or more of total sales during the years ended December 31, 2024 and 2022. One customer in the High Purity Cellulose operating segment represented 10 percent of total sales for the year ended December 31, 2023.

Research and Development

Our R&D capabilities and activities are primarily focused on our High Purity Cellulose operating segment. The quality and consistency of our cellulose specialties, together with our R&D capabilities, are important factors in achieving an optimal value for our cellulose specialties products and create a material competitive advantage. Our R&D efforts are directed at further developing products and technologies, improving the quality of cellulose fiber grades, improving manufacturing efficiency and environmental controls and reducing fossil fuel consumption. We also focus our R&D activities on the development and marketing of new products and applications. During the years ended December 31, 2024, 2023 and 2022, our R&D spend totaled \$5 million, \$6 million and \$7 million, respectively.

Environmental Matters

Our manufacturing operations are subject to stringent federal, state, provincial and local environmental laws and regulations concerning air emissions, wastewater discharges, waste handling and disposal and assessment and remediation of environmental contamination, which impact our current ongoing operations and approximately 20 former operating facilities and third party-owned sites classified as disposed operations. These laws and regulations include the Clean Air Act, the Clean Water Act, the RCRA, the CERCLA and similar state laws and regulations impacting U.S. facilities, as well as requirements relating to ancillary matters such as financial assurance of our legal obligations for facility closure and post-closure care. Similar laws and legal requirements also impact current and former operating sites in Canada and France, respectively. In addition to ongoing compliance with laws and regulations, our facilities operate in accordance with various permits, which are issued by state and federal environmental agencies. Many of these permits impose operating conditions which require significant expenditures to ensure compliance. Upon renewal and renegotiation of these permits, the issuing agencies often seek to impose new or additional conditions in response to new environmental laws and regulations or more stringent interpretations of existing laws and regulations. In addition, under many federal environmental laws, private citizens and organizations, such as environmental advocacy groups, have the right to legally challenge permitting and other decisions made by regulatory agencies.

Our operations are subject to constantly changing environmental requirements, and interpretations of existing requirements, which are often impacted by new policy initiatives, new and amended legislation and regulation, negotiations involving state and federal governmental agencies and various other stakeholders, as well as, at times, litigation. Our future spending requirements in the area of environmental compliance could change significantly based on the passage of new environmental laws and regulations. Management closely monitors our environmental responsibilities and believes we are in material compliance with current requirements.

See Item 1A—Risk Factors for a discussion of the potential impact of environmental risks on our business, as well as Note 11—Environmental Liabilities and Note 22—Commitments and Contingencies to our Financial Statements for further discussion of our estimated environmental liabilities and any environmental-related litigation.

Human Capital

We have production facilities in the U.S., Canada and France and sales offices in the U.S., Canada, France, United Kingdom, Japan and China. Of our approximately 2,350 employees, 69 percent belong to labor unions, as all of our manufacturing sites are represented by various local and national unions. We believe our relationships with the union employee representatives are strong.

Safety

The safety of our employees is our highest priority. We are committed to our vision of every employee returning home every day injury-free and we continue to make progress each year. While no injury is acceptable, our company-wide injury rate decreased 30 percent in 2024 and 49 percent since 2020. All work-related incidents are investigated and recorded in our incident management system. We conduct internal corporate safety audits throughout the year and external audit reviews every three years to verify compliance and the use of best practices. Our Safety Values Exchange process, one of our most important safety programs, requires that leaders talk to their employees about safety to encourage and reinforce desired safe behaviors.

We drive towards our vision of injury-free operations by focusing on five leading safety metrics: housekeeping, leadership engagement, corrective action closure, gas emissions and life safety programs. We continuously track and measure our progress against these metrics at the individual plant level, with each plant accountable for its respective metrics and reporting to the RYAM Leadership Team, headed by our CEO. Additionally, our performance against these metrics is a factor in our executive compensation, underlining our belief that ownership of improvements in safety performance starts at the top of our organization.

Employee Engagement

Attracting, retaining and developing employees is vital to our success. We partner with colleges and universities to develop a robust pipeline of prospective employees and provide scholarships and internships to students whose academic pursuits align with career opportunities in chemical, electrical, mechanical and process control engineering. We strive to ensure that all of our employees have the mentorship, training and support they need to develop lasting and rewarding careers, as we believe that engaged employees are happier, safer and more productive. Some of our key programs include:

- Our ECD five-year rotational program provides recent graduates and new hires with structured onboarding, on-the-job training and leadership experiences to support the ongoing development of the technical and leadership skills required to support and sustain our operations. The ECD program covers engineering, supply chain, accounting, information technology and human resources.
- Our Achievement in Motion mentoring program pairs new employees with peer mentors during their first three months to provide guidance throughout the orientation and onboarding process and help them integrate into the organization.
- Our Educational Assistance Program provides partial reimbursement for the successful completion of job-related degree programs and courses taken on personal time.
- Comprehensive technical training programs across all of our plants and roundtable workshops throughout the year for employees to share technical knowledge and insights.

In addition, we provide our employees with training and education opportunities such as leadership development, financial services and retirement planning workshops.

We are committed to fostering an environment where every employee feels a strong sense of belonging and has the opportunity to maximize their potential. Our success is driven by a workplace culture that values individual contributions, encourages innovation and rewards performance based on merit. We prioritize an inclusive environment where all employees—regardless of race, gender, background or any other characteristic—are empowered to contribute, grow and succeed.

Our approach is guided by the principle that diverse perspectives, skills and experiences drive better decision-making and stronger business outcomes. We strive to ensure that every employee has access to meaningful career development, training and leadership opportunities based on their talents, performance and dedication. Through open communication, mentorship and continuous learning, we reinforce a culture where all individuals can thrive and reach their full potential.

Commitment to Human Rights

To reinforce and strengthen our commitment to socially responsible business practices, we have a Corporate Human Rights Policy that specifically addresses the following fundamental human rights principles:

- Safe and healthy workplaces
- Environmentally responsible operations
- No forced or child labor
- Anti-corruption and bribery compliance
- Freedom of association and the right to collective bargaining if legally elected
- Fair compensation and working hours
- Harassment and discrimination-free workplace
- Community and stakeholder engagement

Our Corporate Human Rights Policy is overseen by the Sustainability Committee of the Board of Directors. We align our policies with various international human rights declarations and principles, such as the Universal Declaration of Human Rights, the United Nations' Guiding Principles on Business and Human Rights and the International Labour Organization's Declaration on Fundamental Principles and Rights at Work. These principles are reflected in our Code of Conduct, Supplier Code of Conduct, Safety Policy, Environmental Policy and other corporate practices. Through comprehensive training, stringent compliance and a robust ethical framework, we seek to ensure that human rights are respected and upheld across all aspects of our operations.

Code of Conduct

Within the framework of our core values of Integrity, Accountability, Quality and People, the Rayonier Advanced Materials Standard of Ethics and Code of Corporate Conduct guide the lawful and ethical performance of our duties. Adherence to the Code is intended to ensure that we fulfill our obligation to observe the law, both in letter and spirit, in all countries where we do business, and to deal fairly with our stockholders, employees, customers, suppliers, regulators and communities. We publish and communicate these expectations and values for all new hires and employees several times each year, including through various trainings.

Availability of Reports and Other Information

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and amendments to those reports filed or furnished pursuant to Sections 13(a) or 14 of the Exchange Act are made available to the public free of charge in the Investor Relations section of our website www.ryam.com as soon as reasonably practicable after we electronically file such material with, or furnish them to, the SEC.

All reports we file with or furnish to the SEC are also available free of charge on the SEC's website <http://www.sec.gov>. Our corporate governance guidelines, including the Standard of Ethics and Code of Corporate Conduct, and charters of all standing committees of our Board of Directors are also available on our website. Our website and the information posted thereon are not incorporated into this 2024 Form 10-K or any current or other periodic report that we file with or furnish to the SEC.

Item 1A. Risk Factors

Our business, financial condition, results of operations and cash flows are subject to a number of risks including, but not limited to, those listed below. When considering an investment in our securities, you should carefully read and consider these risks, together with all other information in this 2024 Form 10-K and our other filings and submissions to the SEC. If any of the events described in the following risk factors occur, our business, financial condition, operating results and cash flows, as well as the market price of our securities, could be materially adversely affected.

Macroeconomic and Industry Risks

Our business, financial condition and results of operations could be adversely affected by disruptions in the global economy caused by geopolitical conflicts and related impacts.

Geopolitical conflicts and related effects may negatively impact the global economy and our business. While historically we have not had direct operations in geographic areas under conflict, we have significant operations and customers in Europe and Asia and have experienced shortages in key input materials and increased costs for transportation, energy and raw materials as a result of various conflicts. Escalation of geopolitical tensions could result in, among other things, natural gas shortages, disruptions of operations for us, our customers and our suppliers, an increase in cyber intrusion attempts, lower consumer demand and changes to foreign currency exchange rates and financial markets, any of which would adversely affect our business. In addition, the effects of any geopolitical conflict could heighten many of the other known risks described in this Item 1A—Risk Factors.

The businesses we operate are highly competitive and many of them are cyclical, which may result in fluctuations in pricing and volume that can materially adversely affect our business, financial condition, results of operations and cash flows.

Competition, demand fluctuations and cyclicalities are our products' most significant drivers of sales volumes and pricing. We face significant competition from domestic and foreign producers in all of our businesses. For example, in the market for our cellulose specialties product line, increased cellulose specialties production capacity from our competitors, some of whom have lower raw material, wood and production costs than we do, combined with demand weakness, can collectively contribute to lower cellulose specialties sales prices over periods of time. Likewise, certain cellulose specialty grade volumes have declined meaningfully in recent years due to these factors. Our high-purity commodity products for viscose and fluff applications were also at extremely low pricing levels in 2019 and 2020 and later rebounded. There can be no assurance as to the duration and magnitude of a rebound or whether elevated levels during any one period can be sustained over a significant period of time.

With respect to demand for cellulose specialties, and in particular our acetate grades, the majority of these acetate grades are used to manufacture acetate tow, which is used to make the filter component of a cigarette. Significant increases in cigarette costs and potential actions taken by the U.S. and other countries to discourage smoking, such as tax increases on tobacco products, policy changes and future legislation, may have a material adverse effect on the demand for tobacco products. Additionally, increased use of e-cigarettes, electronically heated tobacco products and smokeless tobacco products may affect demand for traditional cigarettes.

In addition, some of the industries in which our end-use customers participate, such as publishing, packaging, automotive and textiles, are cyclical in nature, thus posing risks to us that are beyond our control. These industries are highly competitive and may experience overcapacity and reductions in end-use demand, which may affect demand for and pricing of our products. The consequences of this could include reduction, delay or cancellation of customer orders.

Our high-yield pulp business is cyclical and influenced by various factors, including periods of excess product supply due to industry capacity increases, periods of decreased demand due to reduced economic activity or market conditions, inventory destocking by customers, reduced market prices, scarcity of economically viable fiber in Canada and fluctuations in currency exchange rates. These factors may cause significant price changes over a short period. To address these factors, we have in the past, and may in the future, elect to schedule production curtailments and shutdowns. In particular, our high-yield pulp business has been the subject of temporary curtailments at various points in recent years in reaction to market conditions.

Our paperboard business has a mix of long- and short-term contracts and has generally been more stable than our high-yield pulp business due to its strong ties to and steady demand of the lottery and packaging sectors.

Changes in the availability and price of raw materials and energy and continued inflationary pressure could have a material adverse effect on our business, financial condition and results of operations.

Raw material and energy costs, such as wood, chemicals, oil, natural gas and electricity, are a significant operating expense for us. The cost of these inputs can be volatile and are susceptible to rapid and substantial increases due to factors beyond our control, such as lack of availability, changing economic and weather conditions, political, civil or other unrest or instability in energy-producing nations, and supply and demand considerations. For example, we experienced significant price volatility in various chemicals we use during 2021 and 2022, driven by weather events in the southeastern U.S. that substantially impacted supply. Caustic soda, a key manufacturing input in our high purity cellulose business, has historically had significant price volatility. Similarly, the price of oil and natural gas and their pipeline transportation has historically experienced significant fluctuations based on weather, market demand and other factors. Additionally, industrial and other policies of the governmental agencies having jurisdiction over the suppliers of raw materials to our facilities may change due to changes in political leadership or otherwise, which also could adversely impact the cost of energy and its transportation. Deforestation is an increasing concern where the irresponsible harvest of these raw materials can lead to loss of critical forests and habitats. Sourcing of these materials is under increasing scrutiny due to deforestation, and the availability of these raw materials may be limited in the future.

Given inflation in the broader economy, we monitor the risk that inflation presents to our active and future contracts. In contracts for certain of our products, pricing is set annually or is otherwise not subject to change for a contractually agreed-upon period of time. In these cases, we may have limited ability to pass along fluctuations in input costs. For example, in 2022, we saw broad-based increases in costs from inflation that are material to our business as a whole, including with respect to key product inputs such as wood, energy, chemicals and transportation. Mitigating inflationary impacts through cost surcharges may not be sufficient and continued inflationary pressure could materially adversely affect our profits and margins under our customer contracts. The impact of raw material and energy pricing increases could materially adversely affect our business, financial condition and results of operations.

We are subject to material risks associated with doing business outside of the U.S.

We have large manufacturing operations in Canada and France and a significant portion of our sales are to customers outside the U.S., including China, Europe, Japan, Canada, South Korea and other international markets. Sales to customers outside the U.S. made up 66 percent of our revenue in 2024. The manufacture and sale of our products in non-U.S. markets result in risks inherent to conducting business under international laws, regulations and customs. We expect international sales will continue to contribute significantly to our results of operations and future growth. The risks associated with our business operations outside the U.S. include:

- maintaining and governing international subsidiaries and managing international operations;
- complying with changes in and reinterpretations of the laws, regulations and enforcement priorities of the countries in which we manufacture and sell our products;
- complying with anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act and similar anti-bribery laws in other jurisdictions;
- trade protection laws, policies and measures and other regulatory requirements affecting trade and investment, including loss or modification of exemptions for taxes and tariffs, imposition of new tariffs and duties and import and export licensing requirements, as discussed below in further detail;
- complying with data privacy laws, such as the European Union's General Data Privacy Regulation and similar data privacy laws in other jurisdictions;
- repatriating cash from foreign countries to the U.S.;
- changes in tax laws and their interpretations in the countries in which we do business, including the potential impact on the value of recorded and future deferred tax assets and liabilities;
- product damage or loss incurred during shipping;
- political instability and actual or anticipated military or political conflicts;
- economic instability, inflation, recessions and interest rate and currency exchange rate fluctuations, as discussed below in further detail;
- uncertainties regarding non-U.S. judicial systems, rules and procedures; and
- minimal or limited protection of intellectual property in some countries.

These and other risks of doing business outside of the U.S. could materially adversely affect our business, financial condition and results of operations.

Foreign currency exchange fluctuations may have a material adverse impact on our business, financial condition and results of operations.

We have manufacturing operations in the U.S., Canada and France, and we sell our products worldwide, in either USD, CAD or Euros. As a result, we are exposed to movements in foreign currency exchange rates and our earnings are affected by changes in the value of the CAD and Euro relative to the USD. A strengthening of the USD or a weakening of the home currency of the countries where our international competitors manufacture products can adversely impact our competitive position. In addition to ordinary-course currency fluctuations, specific events have had, and could in the future have, an impact on currency valuation. Our risk management policy allows management, with oversight from the Finance and Strategic Planning Committee of our Board of Directors, to hedge a significant portion of our exposure to fluctuations in foreign currency exchange rates, though no hedges are currently in place. To accomplish this, we have used, and may in the future use, derivative instruments, such as currency options and foreign exchange forward contracts, to mitigate our exposure to fluctuations in foreign currency exchange rates. Such measures, however, may not fully protect against substantial foreign currency fluctuations and such fluctuations may have a material adverse impact on our business, financial condition and results of operations.

Restrictions on trade through tariffs, countervailing and anti-dumping duties, quotas and other trade barriers, in the U.S. and internationally, could materially adversely affect our ability to access certain markets.

We manufacture our products in the U.S., Canada and France, and sell them in over 40 countries. Our financial results highly depend on our ability to sell our products globally. Trade barriers such as tariffs, countervailing and anti-dumping duties, quotas and other similar restrictions on trade have historically resulted in, and may in the future result in, a material reduction in revenues and profitability. For example, the U.S. government imposed new tariffs on products imported from China in February 2025 and again in March 2025, and from Canada and Mexico in March 2025, which has and may result in additional retaliatory tariffs and other trade actions from these nations. We cannot predict what additional changes to trade policy may be enacted by the U.S. government with the previously mentioned countries or additional countries with which we do business, including whether existing tariff policies will be maintained or modified, what products may be subject to such policies or whether the entry into new bilateral or multilateral trade agreements will occur, nor can we predict at this time the effects that any such changes would have on our business. The extent to which these changes in the global marketplace affect our business, financial condition and results of operations will depend on the specific details of the changes in trade policies, their timing and duration, as well as our ability to effectively deploy tools to address these issues. The effects of previous trade restrictions on our business in China and Canada are discussed further below.

China

In 2024, we had product sales of \$352 million shipped to customers in China and, of this amount, \$251 million were products manufactured in the U.S. Trade tensions and trade-related actions, such as tariffs and duties, between China and the U.S. have previously impacted our business and our customers' businesses and could do so in the future. For example, in 2018, in retaliation against U.S. tariffs, China imposed a tariff on certain U.S. exports, including all wood pulp sold by us from the U.S. into China. This caused a significant decline in operating income for as long as the tariffs remained in place. Failure by the U.S. and Chinese governments to reach acceptable agreements regarding trade, as well as continued trade volatility and additional trade-related actions by the Chinese government, could have a material adverse impact on our business, financial condition and results of operations.

Canada

In 2024, product sales of \$233 million were generated from Canadian exports to the U.S. The U.S. and Canada have a history of trade disputes, dating to the early 1980s, in particular, related to the export of softwood lumber from Canada into the U.S. Each dispute was resolved via agreement or litigation, which generally involved some combination of duties and/or quotas, as well as a return of all or most of the duties previously paid by Canadian softwood lumber producers. In October 2015, a 10-year softwood lumber agreement expired and no agreement was reached to extend or renew it. As a result, the U.S. commenced an investigation of lumber exports from Canada into the U.S. that resulted in the assessment of duties on lumber exported into the U.S., which Canada continues to challenge on numerous legal fronts. With the third quarter 2024 sale of our softwood lumber duty refund rights, this dispute is no longer potentially adversely impactful to our business. However, failure by the U.S. and Canadian governments to reach acceptable agreements regarding future trade could have a materially adverse impact on our business, financial condition and results of operations.

We are subject to risks associated with epidemics and pandemics, which could have a material adverse impact on our business, financial condition, results of operations and cash flows.

Our global operations expose us to risks associated with public health crises, including epidemics and pandemics, which may generate significant volatility, uncertainty and economic disruption in many markets where we or our customers do business. Pandemics and epidemics, such as COVID-19, have adversely impacted, and may in the future adversely impact, our business and financial condition in various ways, including increased operating costs due to stricter health and safety protocols implemented at our facilities to protect employees and contractors, reductions and unpredictable fluctuations in demand and reduced supply chain reliability, impairing our ability to timely and efficiently move our products through the various steps in the global supply chain process to our end customers.

Business and Operational Risks

Our ten largest customers represented a significant portion of our 2024 revenue and the loss of all or a substantial portion of our revenue from these customers could have a material adverse effect on our business.

While we are not dependent on any single customer or group of customers and we continue to strive to broaden and diversify our customer base, our ten largest customers accounted for a significant portion, approximately 35 percent, of our 2024 revenue. Due to the highly competitive nature of our businesses, we regularly bid to both acquire new business and retain existing business. As such, we are subject to the potential for material changes in revenue and sales volumes. The loss of all or a substantial portion of sales of any of our largest customers, or significant, unfavorable changes to pricing or terms contained in contracts with them, could materially adversely affect our business, financial condition and results of operations.

We are also subject to credit risk associated with these customers. If one or more of our ten largest customers were to become bankrupt, insolvent or otherwise unable to pay for our products, we may incur significant write-offs that could have a material adverse effect on our business, financial condition and results of operations.

A material disruption at any of our manufacturing facilities could prevent us from meeting customer demand, reduce our sales and profitability, increase our cost of production and capital needs, or otherwise materially adversely affect our business, financial condition and results of operations.

Any of our manufacturing facilities, or a significant portion of any of our facilities, could cease operations unexpectedly or suffer a material disruption to all or a portion of its operations due to a number of material adverse events, including:

- unscheduled outages or downtime due to the need for unexpected maintenance or equipment failure, including boilers and turbines that produce steam and electricity, pollution control equipment and equipment directly used to manufacture our products. We experienced significant reliability issues during the first quarter of 2019 at our Temiscaming, Quebec plant and during the third quarter of 2021 at our Jesup, Georgia plant. In the third quarter of 2024, a fire at our Jesup plant impacted operations for two weeks;
- prolonged power interruptions or failures;
- explosion of boilers or other pressure vessels;
- interruptions in the supply of raw materials, including chemicals and wood fiber;
- disruptions to or failures in the transportation infrastructure, such as roads, bridges, railroad tracks and tunnels, as well as lack of availability of rail, trucking and ocean shipping equipment and service from third-party transportation providers;
- interruption or material reduction of water supply;
- a chemical spill or release or other event causing impacts to the environment or human health and safety;
- information technology system failures and cybersecurity incidents causing systems to be inaccessible or unusable;
- natural disasters (including those as a result of climate change), including fires, floods, windstorms, earthquakes, hurricanes or other similar catastrophes;
- labor interruptions, including strikes and short duration walk-outs, such as the walk-outs in 2019 and 2021 at our plant in Tartas, France;
- terrorism or threats of terrorism;
- new climate change or other environmental regulations, compliance with which may require significant capital expenditures to address modifications to our facilities, supply chain or other infrastructure; and
- other operational issues resulting from these and other risks.

Some of these matters are discussed in more detail in other risk factors within this Item 1A—Risk Factors. Depending on the nature, magnitude and duration of any operational interruption, the event could materially adversely affect our business, financial condition and results of operations.

Unfavorable changes in the availability of, and prices for, wood fiber may have a material adverse impact on our business, financial condition and results of operations.

Wood fiber is the largest volume raw material used in the manufacturing of virtually all of our products. Many factors can impact its availability and pricing. Fiber for our U.S. and France facilities is primarily harvested from privately-held lands, while fiber for our Canadian facilities is harvested mainly from lands owned or controlled by the governments of the provinces of Ontario and Quebec, referred to as “Crown Lands.” In connection with the sale of our lumber and newsprint assets in August 2021, we transferred agreements with provincial authorities, which granted timber “tenures” for terms varying from five to 20 years, to a third party. Concurrent with the transaction, we entered into a 20-year assignable wood chip and residual fiber supply agreement with the buyer of those assets, securing supply for our operations at the Temiscaming plant. There can be no assurance that, upon the termination of this wood chip and residual fiber supply agreement due to its natural expiration or otherwise, this agreement will be renewed, extended or replaced in the future on acceptable terms, or at all.

Regulatory developments and environmental litigation also have caused, and may cause in the future, significant reductions in the amount of timber available for commercial harvest from non-Crown Lands in Canada and privately-owned lands in the U.S. and France, thereby increasing prices for these sources of wood fiber. In Canada, for example, future legislation and policy changes, litigation advanced by environmental groups and Indigenous communities concerning rights and limitations on harvesting and use of timberlands, the protection of endangered species, the promotion of forest diversity, control over insect and disease infestations, and the response to and prevention of wildfires could also affect wood fiber supply, pricing and availability.

In addition, much of the wood fiber we use is sourced by or from third-party contractors who harvest, chip and/or transport the wood fiber to our manufacturing facilities, either as logs for lumber and chipping or as chips. A significant reduction in the availability of contractors experienced in harvesting and transporting logs could impact wood fiber supply, pricing and availability. The proximity between available experienced logging and fiber transportation contractors and our manufacturing facilities may also impact wood fiber supply and pricing. Sourcing wood fiber from greater distances could result in increased transportation costs.

Further, natural conditions, including prolonged wet or cold or other weather events, timber growth cycles and restrictions on access to timberlands for harvesting, may also limit the availability and increase the price of wood, as may other factors, including damage by fire, insect infestation, disease, prolonged drought and natural disasters (including those as a result of climate change) such as windstorms and hurricanes. During 2021 and 2022, we experienced significant price volatility in various chemicals we rely upon as a result of weather events in the southeastern U.S. that substantially impacted supply. The occurrence, magnitude and duration of natural conditions and events and their impact on the availability and price of wood fiber cannot be predicted.

In sum, any sustained decrease in harvestable lands or wood supply, increase in wood fiber prices, whether sourced from Crown Lands in Canada or from private parties in Canada, the U.S. or France, changes in the logging and transportation supply base or significant changes to historically customary natural conditions could materially increase our costs and thereby materially adversely impact our business, financial condition and results of operations.

Substantial capital is required to maintain our production facilities, and the cost to repair or replace equipment, as well as the associated downtime, could materially adversely affect our business.

We operate capital-intensive businesses and require substantial capital for ongoing maintenance, repair and replacement of existing facilities and equipment. Although we endeavor to maintain our production equipment with regularly scheduled maintenance, key pieces of equipment and systems, some of which are large in scale, may need to be repaired or replaced periodically. The costs of repairing or replacing such equipment and the associated downtime of the affected production line could adversely affect our financial condition and results of operations. In addition, new or existing environmental regulations sometimes require additional capital expenditures for compliance. We believe our capital resources are currently adequate to meet our projected operating needs, capital expenditures and other cash requirements. However, our inability to provide for our operating cash requirements on reasonable economic terms could materially adversely affect our business, financial condition and results of operations.

We face risks to our assets, including the potential for substantial impairment of our long-lived assets.

We have major manufacturing operations in the U.S., Canada and France, which are conducted through four production facilities. Our ability to generate sufficient cash flows to fully recover the carrying value of our assets depends on the successful execution of our strategies and may be materially adversely impacted by a significant change in business climate, disruptions in the global economy, unanticipated competition or other causes of a material decline in demand, an adverse action or assessment by a regulator, significant disposal activity, by sale or otherwise, or a material change in how we manage our assets, among other things. If any such events or circumstances arise and it is determined that sufficient future cash flows do not exist to support the current carrying value, we would be required to record an impairment charge for our long-lived assets.

In the third quarter of 2024, in conjunction with the indefinite suspension of Temiscaming High Purity Cellulose operations, we recorded a non-cash asset impairment of \$25 million. In the fourth quarter of 2023, in conjunction with the optimization and realignment of our High Purity Cellulose assets, we recorded a non-cash impairment of \$62 million related to certain assets at the Temiscaming and Jesup facilities. See Note 3—Indefinite Suspension of Operations and Note 8—Property, Plant and Equipment, Net for further details of these impairments.

We may be required to recognize a significant non-cash charge to earnings if our recorded deferred tax assets are deemed unrealizable.

Our financial statements reflect net DTAs, which assume that we will generate sufficient taxable income in the applicable tax jurisdictions to realize the benefit of those net DTAs. If we are unable to generate sufficient taxable income, we may be required to record a valuation allowance against these DTAs. U.S. GAAP requires that certain evidence be given heavy consideration, including whether we have incurred cumulative income or losses in recent years. If we incur adjusted losses in certain jurisdictions over this period, generally considered three years, we could be required to derecognize a material balance of DTAs, which would adversely affect our results of operations. The vast majority of our DTAs are in Canada, with \$334 million of net DTAs recognized on the consolidated balance sheets as of December 31, 2024.

We depend on third parties for transportation services and unfavorable changes in the cost and availability of transportation could materially adversely affect our business.

Our business depends on transportation services provided by third parties, both domestically and internationally. We rely on these providers for transportation of the products we manufacture as well as delivery of raw materials to our manufacturing facilities. A significant portion of the products we manufacture and raw materials we use are transported by railroad, truck and ship.

If any of our transportation providers fail to deliver the goods we manufacture in a timely manner, or damage them during transport, we may be unable to sell those products at full value, if at all. Similarly, if any of these providers fail to deliver raw materials to us in a timely manner, we may be unable to timely manufacture our products in response to customer demand. In addition, the cost of energy, and specifically fuel, may adversely impact the cost of transporting our products. Finally, if the port system that we rely on for international shipping suffers work stoppages, slowdowns or strikes, our business could be materially adversely impacted.

Failure to maintain satisfactory labor relations could have a material adverse effect on our business.

As of December 31, 2024, 69 percent of our global workforce was unionized. We are required to negotiate the wages, benefits and other terms of employment with these employees collectively. Our financial results could be materially adversely affected if labor negotiations result in substantially higher compensation costs or materially restrict how we are able to run our operations. In addition, our inability to negotiate acceptable contracts with any of these labor unions as existing agreements expire could result in strikes or work stoppages by the affected workers. While we do not expect any labor interruptions of significant duration, if our unionized employees were to engage in a strike or other work stoppage, such as the short-duration walk-outs in 2019 and 2021 at our plant in Tartas, France, at one or more of our major facilities, we could experience a significant disruption of our operations, which could materially adversely affect our business, financial condition and results of operations.

We depend on attracting and retaining key personnel, the loss of whom could materially adversely affect our business.

We believe our success depends significantly on our ability to attract and retain key senior management and operations management personnel. Changing demographics and labor workforce trends may result in the loss of knowledge and skills as experienced workers retire. Furthermore, some of our facilities are in relatively remote locations, which can challenge our ability to recruit and retain employees. To the extent that the demand for qualified personnel exceeds supply, as has been the case from time to time in recent years due to industry trends, we could experience higher labor, recruiting or training costs in order to attract and retain such employees or difficulties in performing under our customer contracts if our needs for such employees were unmet. Our failure to develop and retain key personnel and recruit and develop qualified replacements for retiring and other departing employees could materially adversely affect our business, financial condition and results of operations, as well as our ability to succeed in our human capital goals and priorities.

Failure to meet our customers' needs through the development of new products or the discovery of new applications for our existing products, or our inability to protect the intellectual property underlying new products or applications, could have a material adverse impact on our business.

The industries and end markets into which we sell our products experience technological change and product improvement. Manufacturers may introduce new products or require new technological capacity to develop customized products. Our future growth depends on our ability to gauge the direction of our customers' commercial and technological progress in the key end markets into which we sell our products and to then successfully develop, manufacture and sell products in these end markets.

We have an active R&D program to develop new products and new applications for our existing products. However, there can be no assurance this program will be successful, either from a product development or commercialization perspective, or that any particular invention, product or development, or the program as a whole, will address changes in our customers' needs and lead to significant revenue or profit generation. Moreover, some of our new products and applications may not contain intellectual property that can be protected under intellectual property laws. In addition, artificial intelligence technologies have developed rapidly and our future success may depend on our ability to integrate the technology into our internal business processes and new products, services and technologies. Failure to generate meaningful revenue and profit from our R&D efforts could materially adversely affect our business, financial condition and results of operations.

Loss of our intellectual property and sensitive data or disruption of our manufacturing operations due to a cybersecurity incident could materially adversely impact our business.

Like most companies, we have been, and expect to continue to be, subject to cybersecurity threats, including attempted cyber intrusions. One form of attempted cyber intrusion that has become increasingly prevalent is the practice of cyber extortion, particularly through the use of ransomware. The sophistication of cybersecurity threats continues to grow, and the use of emerging technologies, such as artificial intelligence and quantum computing, for nefarious purposes increases the risk of cybersecurity incidents. Cyber intrusions targeting our business systems, operational tools and external vendor software could compromise our intellectual property and confidential business data, cause a disruption to our operations or damage our reputation. To address these challenges, we use advanced detection systems and artificial intelligence-driven threat mitigation tools. Functions that serve an important role in the efficient operation of our business include purchasing and fulfillment, inventory and manufacturing process management, the reporting of financial results and various other business process support. We have established and maintain cybersecurity policies, programs, controls and systems. These measures are in place to safeguard against, detect and manage cybersecurity risks across our processes, including those associated with our third-party service providers, on whom we rely to maintain security programs that align with their respective risks. While we have not experienced any material information systems security breaches within the periods being reported (or, to the best of our knowledge, any material information systems security breach prior to that), there can be no assurance that our or our third-party service providers' security efforts and programs will be successful and/or that a material cybersecurity incident will not occur in the future. Such an event could have a material adverse impact on our financial condition and results of operations.

Challenges and uncertainties in executing our Biomaterials strategy may adversely impact our business and financial results.

The successful execution of our biomaterials strategy is subject to a number of potential challenges and uncertainties.

Certain regulatory approvals may be required in connection with the expansion of our biomaterials business and its underlying projects. Denial or delay of such approvals or changes in requirements could impact our ability to commercialize these products as planned. For example, we are in the process of formally appealing a denial of a permit to construct a proposed bioethanol plant within the boundary of our Fernandina Beach, Florida, facility.

Market viability of our biomaterials products depends on various factors including demand for renewable alternatives, customer acceptance, and the economic viability of our products relative to fossil-fuel-based options. If demand does not develop as expected, or if regulatory incentives or sustainability priorities change or decline, our ability to generate expected returns could be adversely affected. Additionally, competition from other bio-based technologies or synthetic alternatives could limit our ability to capture market share.

Our ability to fund the growth of our biomaterials business depends on meeting financial and operational targets that align with investor and lender expectations. For example, our ability to secure future funding under existing funding agreements is subject to key project milestones, conditions, and thresholds, and the failure to achieve these could delay access to capital, require us to seek alternative financing on less favorable terms, or limit our ability to proceed with planned investments in biomaterials production.

Failure to successfully navigate these and related challenges impacting our biomaterials strategy could adversely affect our ability to generate expected returns and fully realize the strategy's long-term growth potential.

Regulatory and Environmental Risks

Our business is subject to extensive environmental laws, regulations and permits that may materially restrict or adversely affect how we conduct business and our financial results.

Our plants are subject to environmental laws, regulations and permits that may require significant capital to enable our compliance or that could limit our operations and production. We are subject to environmental laws, regulations and permits that contain stringent conditions governing how we operate our facilities, including how much and, in some cases, what types of products we can produce. These laws, regulations and permits, now and in the future, may materially adversely restrict our current production, limit our ability to increase production and impose significant costs on our operations with respect to environmental compliance. We expect compliance-related capital expenditures and operating costs to likely increase over time as environmental laws, regulations and permit conditions become more strict and as the expectations of the communities in which we operate become more demanding.

Environmental laws, regulations and permits are constantly changing and may become more restrictive. Laws, regulations, permits and related judicial decisions and administrative interpretations affecting our business are subject to change, and new laws and regulations are frequently enacted. These laws and regulations may limit, prohibit or affect, among other things, air emissions, wastewater discharges, receiving water quality, water withdrawal, remedial standards for contaminated property and groundwater, and the type of chemicals we use in our manufacturing processes. Over time, the complexity and restrictions imposed by these laws and regulations have increased and regulatory enforcement efforts have intensified. Environmental regulatory authorities have pursued several initiatives that, if implemented, could impose additional obligations and constraints on our operations, especially in air emissions, wastewater and stormwater control. See Item 1—Business—Environmental Matters of this 2024 Form 10-K for further information. Environmental laws and regulations may continue to become more restrictive and over time could materially adversely affect our business, financial condition and results of operations.

Environmental groups, Indigenous communities and interested individuals may seek to delay or prevent a variety of our operations. We expect that environmental groups, Indigenous communities and interested individuals will intervene with increasing frequency in the regulatory processes in areas where we operate. Generally, environmental permitting programs in all areas where we operate include provisions for public and stakeholder engagement for both renewal of existing permits and approval for expansions or modifications of our manufacturing operations. In Canada, direct consultation with Indigenous communities may also be required. Delays, restrictions and increased costs caused by the intervention of these groups or interested individuals could adversely affect our operating results. In addition to intervening in permit proceedings, interested groups and individuals may file or threaten to file lawsuits that seek to prevent us from obtaining permits, implementing capital improvements or pursuing operating plans. For example, in March 2014, litigation was commenced in federal court by the Altamaha Riverkeeper alleging violations of federal and state environmental laws relating to permitted wastewater discharges from our plant in Jesup, Georgia (although it was dismissed by the court on summary judgment in 2015), and in January 2016, the same group brought an action against the Georgia EPD in opposition to the Georgia EPD's issuance of a renewed wastewater treatment permit for our Jesup plant. While these proceedings have, to date, been decided largely in our favor, we expect similar attempts at legal intervention to be made in the future.

We currently own and may acquire properties that require environmental remediation or otherwise are subject to environmental and other liabilities. We currently own, and may acquire in the future, properties that are subject to environmental liabilities, such as remediation of soil, sediment and groundwater contamination and other liabilities. In addition, we may have such liabilities at properties, such as formerly operated manufacturing facilities, that we no longer own. The cost of assessment and remediation of contaminated properties could be substantial and materially adversely affect our financial results. These costs could include costs of investigation and assessment, corrective measures, installation of pollution control equipment and other remediation and closure costs, as well as costs to resolve third-party claims for property damage and personal injury as a result of alleged violations of, or liabilities arising out of, environmental laws and regulations. Although we believe we have adequate liabilities recorded, legal requirements relating to assessment and remediation of contaminated properties continue to become more stringent and there can be no assurance that actual expenditures will not exceed current liabilities and forecasts or that other presently unknown liabilities will not be discovered in the future. See Item 1—Business—Environmental Matters and Note 11—Environmental Liabilities to our Financial Statements for additional information.

The potential long-term impact of climate-related risks remain uncertain at this time.

Climate change and its impact on people and our planet continue to be a topic of significant focus and attention of our customers, investors and various other stakeholders. We can give no assurance that climate-related issues or associated expenditures will not exceed current expectations and increase in future years.

Regulatory measures to address climate change may materially restrict how we conduct business or adversely affect our financial results.

Regulatory risks associated with climate change. There are numerous international, federal and state-level initiatives and proposals to address domestic and global climate issues. Within the U.S., Canada and France, where we have operations, most of these initiatives and proposals would, or currently do, regulate and/or tax the production of carbon dioxide and other GHGs to facilitate the reduction of carbon compound emissions into the atmosphere and provide incentives to produce and use more “clean energy.” Initiatives that materially impact purchased electricity prices could increase our manufacturing costs, especially in our Canadian operations, which use more purchased electricity (on a percentage basis) than our U.S. facilities. In addition, the federal government of Canada has indicated its intent to regulate priority air pollutants and GHGs under its Clean Air Act and Canadian Environmental Protection Act. Under the proposed regulatory targets, our Canadian operations may be required to reduce air pollutants, such as particulate matter, SO_x, NO_x and GHGs. While industry consultations are ongoing with the federal government of Canada, the cost of making any such reductions cannot currently be estimated. However, the requirements associated with particulate matter, SO_x and NO_x are not expected to be material to our business given our current operations and pollution control systems.

The federal government of Canada has adopted the Greenhouse Gas Pollution Pricing Act, which implements the federal carbon pollution pricing system. Under the provisions of the Greenhouse Gas Pollution Pricing Act, the provinces that have previously implemented their own carbon pollution price, or “cap-and-trade” system, will not be subject to the federal program provided their program meets the minimum federal pricing and emissions reduction targets. Quebec has a cap-and-trade program for GHGs that meets the minimum criteria, and our Temiscaming, Quebec plant was a net purchaser of credits under this program in 2024. To date, the cost of GHG credits under cap-and-trade programs purchased by our business and incorporated into the overall cost of our purchased wood fiber has not been material. However, no assurances can be given that they will not substantially increase in the future, as the future regulatory state and the cost of GHG credits in applicable jurisdictions is currently unknown.

As regulators increasingly focus on climate change and other sustainability issues, we have and may become subject to new disclosure frameworks and regulations. In January 2023, the European Commission issued the Corporate Sustainability Reporting Directive, which we believe will apply to RYAM’s business, that requires expansive disclosure on various sustainability topics, including climate change, biodiversity, workforce, supply chain and business ethics. The State of California has also issued new climate change disclosure requirements for certain entities conducting business in California and the SEC finalized a new rule on climate change disclosures in 2024. Although the SEC issued an order staying the new rule in April 2024 pending ongoing litigation challenging the rule, we are evaluating the impact this rule will have on our disclosures if it becomes effective. Our compliance with such rulemakings may require significant increased effort and costs. We are closely monitoring these rules and regulations and their potential impact on us.

Transition risks associated with climate change. The transition to a low carbon economy, as predicted by many investors and other stakeholders, poses both risk and opportunity for us that are, as yet, unable to be quantified. Similar to other manufacturers in our industry, we use biomass, natural gas, liquid fossil fuels and purchased electricity to power our plants. Changes in policy, regulation or technology related to fuels that we, or our electricity providers, use could materially increase our costs. Additionally, customers continue to express a desire for certified material and improvements in sustainable performance, which may cause us to incur additional costs, invest more in R&D, implement emerging technologies or make other changes to our operations to respond to such demands, which could require additional material expenditures.

The primary input of all our products is wood — a renewable, natural raw material. Further, our cellulose specialties products are natural polymers that can be used as an effective, more climate-friendly substitute for certain applications that currently use fossil fuel-based products. We continue to explore additional climate-friendly applications for existing products and pursue projects to develop new sustainable products from renewable resources, including our operational 2G bioethanol facility in France, our planned bioethanol plant at Fernandina Beach and our involvement in AGE, a start-up entity seeking to generate green electricity using renewable forestry and other biomass waste. However, these opportunities, as well as their attendant risks, are not fully known or understood at this time.

Physical risks associated with climate change. The potential impacts of extreme weather, such as hurricanes, blizzards, wildfires and heavy rain, that could result from the impacts of climate change, are factored into our enterprise risk assessment process and the mitigation measures we currently take to protect our assets and business. It is not clear whether an increased frequency of these or similar events would materially change our risk profile, analyses or mitigation measures, but there can be no assurance that they would not require additional material expenditures.

In sum, additional business and regulatory initiatives may be implemented to address GHG emissions and other climate change-related concerns. If such initiatives are implemented, we may be required to incur additional capital expenditures, increased operating costs for wood fiber or raw materials and/or increased mitigating expenses, such as carbon taxes or other charges, to address and comply with any such initiatives. No assurance can be given that the increased costs associated with compliance of future GHG-related requirements will not have a material adverse effect on our business, financial condition and results of operations.

Financial Risks

We may need to make significant additional cash contributions to our retirement benefit plans if investment returns on pension assets are lower than expected or interest rates decline, and/or due to changes to regulatory, accounting and actuarial requirements.

We have a qualified non-contributory defined benefit pension plan, which covers many of our salaried and hourly employees in the U.S. The Federal Pension Protection Act of 2006 requires that certain capitalization levels be maintained in each benefit plan. Our non-U.S. pension plans, while currently adequately funded, will also require periodic contributions to ensure that applicable legal requirements are met. Because it is unknown what interest rates and the investment return on pension assets will be in future years, no assurances can be given that applicable law will not require us to make future material plan contributions. In addition, new accounting rules and/or changes to actuarial requirements may also result in the need for additional contributions to the plans. Any such contributions could materially adversely affect our financial condition. See Item 7—Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Estimates and Note 18—Employee Benefit Plans to our Financial Statements for additional information about these plans.

We have debt obligations that could materially adversely affect our business and our ability to meet our obligations.

As of December 31, 2024, our total indebtedness was \$730 million. This significant amount of debt could have material adverse consequences for us and our investors, including:

- requiring a substantial portion of our cash flows from operations to be used for interest payments on this debt;
- making it more difficult to satisfy debt service and other obligations;
- increasing the risk of a future credit ratings downgrade of our debt, which could increase future debt costs and limit the future availability of debt financing;
- increasing our vulnerability to general adverse economic and industry conditions;
- reducing the cash flows available to fund capital expenditures and other corporate purposes and grow our business;
- limiting our flexibility in planning for, or reacting to, market or other changes in our businesses and industry;
- placing us at a disadvantage to our competitors that may not be as highly leveraged with debt;
- limiting our ability to borrow additional funds as needed or take advantage of business opportunities as they arise, pay cash dividends or repurchase shares of our common stock; and
- limiting access to liquidity, including through our asset-based revolving credit facility.

The risks described above could increase to the extent we incur additional indebtedness. In addition, our actual cash requirements in the future may be greater than expected. Our cash flows from operations may not be sufficient to repay all of the outstanding debt as it becomes due and we may not be able to borrow money, sell assets or otherwise raise funds on acceptable terms, or at all, to refinance our debt. See Note 10—Debt and Finance Leases to our Financial Statements for further information regarding our debt obligations.

Covenants in our debt agreements may impair our ability to operate our business.

Our debt agreements contain various covenants that limit our ability to take certain specified actions, including incurring debt or liens, making investments, entering into mergers, consolidations and acquisitions, paying dividends and making other restricted payments. Our ABL Credit Facility and 2029 Term Loan are also subject to financial covenant requirements. If we anticipate non-compliance with these financial covenants, we may take action to maintain compliance with them, including reducing our general and administrative expenses and capital expenditures.

The breach of any of the covenants under any of our debt agreements could result in a default under the agreement, which could cause indebtedness under the agreement to become due and payable. If the repayment obligation under a debt agreement is accelerated, we may not be able to repay the debt or refinance the debt on acceptable terms and our financial position would be materially adversely affected.

Challenges in the commercial and credit environments may materially adversely affect our future access to capital.

Our ability to issue debt or equity or enter into other financing arrangements on acceptable terms could be materially adversely affected if there is a material decline in the pricing or sales volume of our products or if significantly unfavorable changes in economic conditions occur. Volatility in the world financial markets could increase borrowing or other costs of capital or affect our ability to gain access to the capital markets, which could have a material adverse effect on our competitive position, business, financial condition, results of operations and cash flows.

We may require additional financing in the future to meet our capital needs or to make acquisitions, and such financing may not be available on favorable terms, if at all, and may be dilutive to existing stockholders.

We may require additional financing in the future for general corporate purposes, such as increasing our investment in R&D activities, making strategic investments in our facilities, investing in joint ventures or making acquisitions. We may be unable to obtain desired additional financing on terms favorable to us, if at all. For example, during periods of volatile credit markets, there is a risk that lenders, even those with strong balance sheets and sound lending practices, could fail or refuse to honor their credit commitments and obligations, including, but not limited to, extending credit up to the maximum permitted by a credit facility and otherwise accessing capital and/or honoring loan commitments. If our lenders are unable to fund borrowings under their loan commitments or we are unable to borrow, it could be difficult to replace such loan commitments on similar terms or at all. If adequate funds are not available on acceptable terms, we may be unable to fund growth opportunities, successfully develop or enhance products or respond to competitive pressures, any of which could negatively affect our business. If we raise additional funds through the issuance of equity securities, our stockholders will experience dilution of their ownership interest. If we raise additional funds by issuing debt, the terms of such debt may subject us to further limitations on our operations and ability to pay dividends or repurchase stock than are currently in place pursuant to our existing indebtedness.

Common Stock and Certain Corporate Matters Risks

Our stockholders' ownership in RYAM may be diluted.

In the future, stockholder ownership in RYAM may be diluted due to equity issuances for acquisitions, capital market transactions and other corporate purposes, including equity awards for our directors, officers and employees. We anticipate that our compensation committee will continue to grant stock-based awards to our employees under our employee benefit plans. Such awards and other issuances would have a dilutive effect on our earnings per share, which could adversely affect the market price of our common stock.

Certain provisions in our amended and restated certificate of incorporation and bylaws, as well as Delaware law, could prevent or delay an acquisition of RYAM, which could decrease the price of our common stock.

Our amended and restated certificate of incorporation authorizes us to issue, without the approval of our stockholders, one or more classes or series of preferred stock having such designation, powers, preferences and relative, participating, optional and other special rights, including preferences over our common stock respecting dividends and distributions, as our Board of Directors generally may determine. The terms of one or more classes or series of preferred stock could dilute the voting power or reduce the value of our common stock. For example, we could issue preferred stock and grant the holders thereof the right to elect some number of our directors in all events or on the happening of specified events or the right to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences we could assign to holders of preferred stock could affect the residual value of the common stock.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Risk Management and Strategy

Our information technology systems serve an important role in the efficient operation of our business. Identifying, assessing and managing material risks from cybersecurity threats are activities integrated into our overall risk management system. Cybersecurity risks are identified and addressed through coordinated efforts of our internal information technology security audit teams, internal governance and compliance reviews. Our security program also involves the engagement of external consultants to assist us with the review of our assessment and risk mitigation strategies for cybersecurity threats and the development of new approaches as needed.

To safeguard our information technology systems against cyber threats, we conduct regular risk assessments to identify and address both new and recurring vulnerabilities. These efforts include tabletop exercises and penetration testing, which provide valuable insights to enhance our cybersecurity posture. We also utilize advanced tools that continuously monitor and evaluate our systems, enabling proactive prevention, detection, investigation, resolution and recovery from cybersecurity incidents. Cybersecurity events, including those reported to us by third-party service providers, are assessed for their severity and potential impact on our business using both quantitative and qualitative criteria, ensuring appropriate prioritization for response and remediation.

Our information technology systems have been, and we expect will continue to be, subject to cyber intrusion attempts. We describe whether and how risks from cybersecurity threats have materially affected or are reasonably likely to materially affect our business, results of operations or financial condition under the risk factor “Loss of our intellectual property and sensitive data or disruption of our manufacturing operations due to a cybersecurity incident could materially adversely impact our business” found in Item 1A—Risk Factors.

Governance

Our Audit Committee is responsible for the oversight of risk from cybersecurity threats and includes one committee member with significant cybersecurity consulting experience. On a quarterly basis, the Audit Committee receives reports from senior management on our cybersecurity program covering our strategies and processes for the identification, assessment and mitigation of material cybersecurity risks. These reports also include updates on existing and emerging cybersecurity trends and threat landscapes, along with the status of ongoing projects aimed at strengthening our information security systems and improving our cyber readiness. To ensure clarity and accountability, these reports are segmented into key areas of focus, including incident response updates, emerging threat analyses and project progress metrics.

Under the oversight of our Audit Committee, our CEO-chaired Enterprise Risk Management team and our chartered Cybersecurity Governance Committee convene at least quarterly to assess the identification and mitigation of cybersecurity risks, ensure the effective execution of our cybersecurity strategy and verify that our cybersecurity processes are adequately strengthened. The Cybersecurity Governance Committee is also responsible for evaluating findings and proposals presented by external consultants and developing the appropriate remediation actions. These teams are informed of cybersecurity threats and incidents through their management of the cybersecurity risk management and strategy processes described above, and report any such items to the Audit Committee as deemed appropriate.

The individuals responsible for the day-to-day management and assessment of cybersecurity risks include our Vice President of Information Technology and our Senior Director of IT Cybersecurity and Infrastructure, both of whom bring extensive expertise in cybersecurity risk management. The Vice President of IT has over 30 years of experience in enterprise IT strategy and governance, with a strong background in project management and ERP implementations. The Senior Director of IT Cybersecurity and Infrastructure has over 25 years of experience in manufacturing IT, specializing in enterprise infrastructure, process control and cybersecurity. Additionally, our internal security and risk management teams consist of professionals with specialized expertise in intrusion detection and prevention, network security and endpoint defense, thereby ensuring a comprehensive approach to cybersecurity risk assessment and mitigation.

Item 2. Properties

The following table details the material properties we owned or leased at December 31, 2024:

Location by Operating Segment	Annual Production Capacity ^(a)	Owned/Leased
High Purity Cellulose Facilities		
Jesup, Georgia, United States	330,000 MTs of cellulose specialties or commodity products 270,000 MTs of commodity products	Owned
Fernandina Beach, Florida, United States	155,000 MTs of cellulose specialties or commodity products	Owned
Temiscaming, Quebec, Canada ^(b)	150,000 MTs of cellulose specialties or commodity products	Owned
Tartas, France	140,000 MTs of cellulose specialties or commodity products	Owned
Paperboard Facilities		
Temiscaming, Quebec, Canada	180,000 MTs of paperboard	Owned
High-Yield Pulp Facilities		
Temiscaming, Quebec, Canada	290,000 MTs of high-yield pulp	Owned
Corporate and Other		
Jacksonville, Florida, United States	Corporate Headquarters	Leased

^(a) Based on the facility equipment operating under average production conditions. Actual production is impacted by overall equipment effectiveness and market circumstances.

^(b) In July 2024, we indefinitely suspended operations at our Temiscaming High Purity Cellulose plant. The Company's Paperboard and High-Yield Pulp operating segments continue to operate at full capacity. See Note 3—Indefinite Suspension of Operations for further information.

Our manufacturing facilities are maintained through ongoing capital investments, regular maintenance and equipment upgrades. As a result, production capacities may vary from the amounts listed above. These facilities, warehouses, machinery and equipment that we owned or leased as of December 31, 2024 are, with the exception of the Temiscaming High Purity Cellulose plant, in good operating condition and in regular use.

Item 3. Legal Proceedings

As disclosed in Note 22—Commitments and Contingencies to our Financial Statements, we are engaged in certain legal proceedings. The disclosures set forth in Note 22 relating to legal proceedings are incorporated herein by reference.

Part II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock is traded on the New York Stock Exchange under the trading symbol “RYAM.”

Holders

The number of record holders of our common stock at March 4, 2025 was 2,912.

Dividends

In September 2019, our Board of Directors suspended our quarterly common stock dividend and no dividends have since been declared. The declaration and payment of future common stock dividends, if any, will be at the discretion of our Board of Directors and will depend on our financial condition, results of operations, capital requirements and other relevant factors. In addition, our debt facilities place limitations on the declaration and payment of future dividends.

Issuer Purchases of Equity Securities

The following table provides information regarding our purchases of RYAM common stock during the quarter ended December 31, 2024:

	Total Number of Shares Purchased^(a)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs^(b)
September 29 to November 2	6,386	\$ 8.56	—	\$ 60,294,000
November 3 to November 30	1,489	\$ 8.60	—	\$ 60,294,000
December 1 to December 31	21,729	\$ 8.53	—	\$ 60,294,000
Total	29,604		—	

^(a) Represents shares repurchased to satisfy tax withholding requirements related to the issuance of stock under our stock incentive plans.

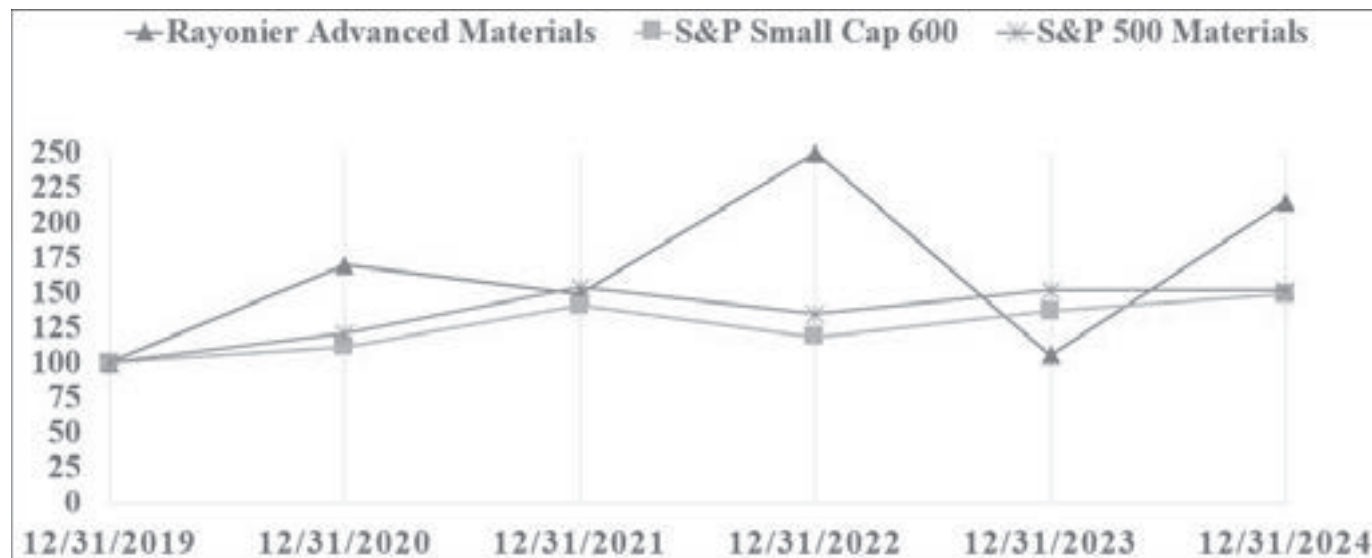
^(b) In January 2018, our Board of Directors authorized a share buyback program pursuant to which we may, from time to time, purchase shares of our common stock with an aggregate purchase price of up to \$100 million. As of December 31, 2024, the remaining unused authorization under the share buyback program was \$60 million. See Note 14—Stockholders’ Equity to our Financial Statements for further information.

Securities Authorized for Issuance under Equity Compensation Plans

See Item 12—Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters for information relating to our equity compensation plans.

Stock Performance Graph

The following graph compares the performance of a \$100 investment in our common stock, assuming reinvestment of dividends, with the same investment in a broad-based market index, the S&P Small Cap 600, and an industry-specific index, the S&P 500 Materials, over the five-year period beginning December 31, 2019. The graph shall not be deemed to be “soliciting material” or to be “filed” with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act or Exchange Act, except to the extent that we specifically incorporate it by reference into such filing.



Recent Sales of Unregistered Equity Securities

We did not issue or sell any unregistered equity securities in 2024.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following management's discussion and analysis of our financial condition and results of operations should be read in conjunction with our Financial Statements, the notes thereto, and the financial information appearing elsewhere in this 2024 Form 10-K. The following discussion includes forward-looking statements that involve certain risks and uncertainties. See Forward-Looking Statements and Item 1A—Risk Factors in this 2024 Form 10-K.

This section primarily discusses 2024 and 2023 items and comparisons between these years. For a discussion of year-over-year comparisons between 2023 and 2022 and other financial information related to 2022 that is not included in this 2024 Form 10-K, refer to Item 7—Management's Discussion and Analysis of Financial Condition and Results of Operations of our Annual Report on Form 10-K for the year ended December 31, 2023 filed with the SEC on February 29, 2024.

Overview of Operations

We are a diversified global leader of cellulose-based technologies that operated in the following operating segments during the years presented in this 2024 Form 10-K:

- High Purity Cellulose
- Paperboard
- High-Yield Pulp

All segment information disclosed in this 2024 Form 10-K is according to the above operating segment structure.

High Purity Cellulose

We manufacture and market high purity cellulose, sold as cellulose specialties or commodity products. We are the leading global producer of cellulose specialties, which are primarily used in dissolving chemical applications that require a highly purified form of cellulose. Pricing for our cellulose specialties products is typically set by contract for at least one year, based on negotiations with customers. Our commodity products primarily consist of commodity viscose and fluff. Commodity viscose is a raw material required for the manufacture of viscose staple fibers, which are used in woven and non-woven applications. Commodity fluff is used as an absorbent medium in consumer products. Pricing for commodity products is typically referenced to published indices or based on publicly available spot market prices. Our specialized assets also produce bioelectricity and biomaterials, including biofuels, lignin and tall oil soap. Sales of chemicals and energy, by-products of our manufacturing process, are also included in the High Purity Cellulose operating segment.

Our three operating production facilities, located in the U.S., Canada and France, have a combined annual production capacity of 895,000 MTs of cellulose specialties and commodity products, excluding the 150,000 MTs capacity of the Temiscaming plant whose operations were indefinitely suspended in July 2024. Of our total annual capacity, we dedicate 270,000 MTs of annual production to commodity products, primarily fluff.

Key input costs — wood, chemicals and energy — represent approximately 50 percent of our per MT cost of sales. Transportation, depreciation, labor, maintenance and other manufacturing fixed costs represent our remaining cost of sales.

Paperboard

We manufacture paperboard that is used for packaging, printing documents, brochures, promotional materials, paperback book and catalog covers, file folders, tags and lottery tickets. Pricing for paperboard is typically referenced to published indices and marketed through our internal sales team. Our production facility, located in Canada, has an annual production capacity of 180,000 MTs of paperboard.

Key input costs — wood, chemicals and energy — represent approximately 75 percent of our per MT cost of sales. Transportation, depreciation, labor, maintenance and other manufacturing fixed costs represent our remaining cost of sales.

High-Yield Pulp

We manufacture and market high-yield pulp, which paper manufacturers use to produce paperboard, packaging, printing and writing papers and a variety of other paper products. Pricing for high-yield pulp is typically referenced to published indices marketed through our internal sales team. Our production facility in Canada has an annual production capacity of 290,000 MTs of high-yield pulp.

Key input costs — wood, chemicals and energy — represent approximately 40 percent of our per MT cost of sales. Transportation, depreciation, labor, maintenance and other manufacturing fixed costs represent our remaining cost of sales.

Recent Business Developments

- In November 2024, we secured green capital of €67 million, including €37 million in secured term loans and €30 million in preferred equity. We expect the proceeds from this capital raise to be used by our newly-formed subsidiary, BioNova, to invest in qualifying biomaterials projects. See Note 2—Significant Accounting Policies and Recent Accounting Developments—*Redeemable Noncontrolling Interest* and Note 10—Debt and Finance Leases to our Financial Statements.
- In October 2024, we secured term loan financing of \$700 million in aggregate principal amount, which was used, together with cash on hand, to redeem the outstanding principal balances of the 2026 Notes and the 2027 Term Loan and pay fees and expenses related to the refinancing. In conjunction with this refinancing, we secured commitments for a five-year \$175 million ABL credit facility. See Note 10—Debt and Finance Leases to our Financial Statements.
- In October 2024, an isolated fire occurred at our Jesup plant during planned maintenance activity. See Note 21—Segment and Geographical Information to our Financial Statements.
- In September 2024, we announced price increases for our cellulose specialties products of up to 10 percent, depending on product grade, as contracts allow. This increase was driven by market dynamics, cost inflation and other economic drivers.
- In September 2024, we repurchased \$12 million principal of our 2026 Notes through open-market transactions. See Note 10—Debt and Finance Leases to our Financial Statements.
- In July 2024, we indefinitely suspended operations at our Temiscaming High Purity Cellulose plant and in September 2024, we recorded a \$25 million non-cash asset impairment, among other charges, related to the indefinite suspension. See Note 3—Indefinite Suspension of Operations to our Financial Statements.
- In June 2024, we recognized \$15 million in pre-tax income related to CEWS benefit claims deferred since 2021. See Note 4—Discontinued Operations and Note 9—Accrued and Other Current Liabilities to our Financial Statements.
- In June 2024, we sold our refund rights, including interest, related to softwood lumber duties paid from 2017 through 2021 for \$39 million. See Note 4—Discontinued Operations to our Financial Statements.

Business Outlook

See *Performance and Liquidity Indicators* below for discussion of non-GAAP measures.

In October 2023, we announced that we were exploring the potential sale of our Paperboard and High-Yield Pulp assets at our Temiscaming site. We remain committed to pursuing a sale of these assets at a fair price.

In July 2024, we indefinitely suspended operations at our Temiscaming High Purity Cellulose plant. The indefinite suspension of the Temiscaming High Purity Cellulose plant was \$17 million positive to Adjusted EBITDA for 2024 and increased free cash flow by \$40 million, as lower capital expenditures and benefits from the monetization of working capital more than offset the one-time and other cash costs associated with the indefinite suspension of operations.

Following the indefinite suspension of Temiscaming High Purity Cellulose operations, the Temiscaming site continues to incur custodial site costs in support of the ongoing energy needs of the Paperboard and High-Yield Pulp operations. These costs are mitigated by any sales of electricity generated during the process. We expect to incur net custodial site costs totaling \$20 million to \$22 million in 2025.

In October 2024, an isolated fire occurred at our Jesup plant during planned maintenance activity. There were no injuries to employees or contractors and no risk to the surrounding community. The plant's operations fully resumed within two weeks, incurring \$3 million of emergency maintenance capital expenditures and a total estimated unfavorable impact to 2024 EBITDA of \$9 million, including \$2 million in immediate repair costs. Our preliminary estimates indicate that additional capital expenditures of approximately \$15 million will be required over the next two years. We carry property and business interruption loss insurance with a \$15 million combined deductible. We have notified our insurance underwriters and are in the process of evaluating and documenting the damage caused by the fire. The amount expected to be recovered from property and business interruption loss insurance is not currently estimable.

Beginning in January 2025, we reorganized our High Purity Cellulose operating segment as a result of changes in our internal operating model, significant developments in our Biomaterials strategy (see Note 2—Significant Accounting Policies and Recent Accounting Developments—*Redeemable Noncontrolling Interest* and Note 10—Debt and Finance Leases to our Financial Statements for information regarding our newly-formed subsidiary, BioNova, and important financing milestones reached) and a successful enterprise reporting system launch that significantly enhances our financial reporting capabilities. Specifically, we determined, in light of these new developments and capabilities, that the performance and outlook of the High Purity Cellulose business will be better managed as three separate businesses: Cellulose Specialties, Cellulose Commodities and a new Biomaterials business. No changes were made to the composition of the Paperboard and High-Yield Pulp operating segments.

In February and March 2025, the U.S. government imposed new tariffs on products imported from China, Canada and Mexico, including a 25 percent tariff on U.S. sales of paperboard, effective March 4, 2025. These tariffs may result in retaliatory tariffs and other trade actions from these nations, as has already occurred with a 25 percent retaliatory tariff on U.S.-sourced paperboard and substitute products, effective March 25, 2025. Given the evolving nature of trade policies and the potential for further modifications, reductions or expansions of these tariffs, it remains uncertain how these actions will ultimately impact the Company.

The following market assessment represents our current outlook for our operating segments' future performance.

Cellulose Specialties

Average sales prices for cellulose specialties in 2025 are expected to increase a mid single-digit percentage as compared to 2024. Sales volumes for cellulose specialties are expected to decline a low single-digit percentage compared to 2024 as certain sales volumes accelerated in 2024 due to the indefinite suspension of operations in Temiscaming will not repeat in 2025. Demand for RYAM cellulose specialties is expected to be mixed. Acetate is expected to experience moderate destocking, specifically in China, while ethers volumes are anticipated to improve. Other cellulose specialties volumes are also expected to remain robust. Raw material input and logistics costs are expected to be moderately higher in 2025. We will take planned maintenance outages at all three of our High Purity Cellulose facilities in the first half of 2025, compared to only one outage, at our Jesup facility, in 2024.

Cellulose Commodities

Average sales prices for cellulose commodities in 2025 are expected to increase by a mid single-digit percentage as compared to 2024. Demand for RYAM fluff remains resilient. Other cellulose commodities sales volumes are expected to decline in 2025, as we mitigated our exposure to the commodity viscose markets with the indefinite suspension of operations at Temiscaming in 2024. Raw material input and logistics costs are expected to be moderately higher in 2025.

Biomaterials

We are investing in new green energy and renewable products to provide both increased end-market diversity and incremental profitability. We intend to proceed only with those projects that are expected to meet our investment hurdles: a minimum 30 percent return on equity and less than a two-year payback period for RYAM equity. In the fourth quarter, we secured green capital of €67 million, which allows us to advance the biomaterials strategy and further progress towards our future goal of generating over \$70 million from RYAM's Biomaterials business, inclusive of the projects below:

- Our bioethanol facility in France is currently operational. We expect to generate \$6 million of EBITDA in 2025 from this plant.
- We re-started our lignosulfonate powder plant in France, which is expected to generate \$4 million of EBITDA in 2025.
- We continue to pursue an investment in a bioethanol facility in Fernandina Beach, Florida, similar to our bioethanol facility in France. While the City of Fernandina Beach recently denied the site plan application for this project, we believe the City erred in making its determination and intend to pursue all available legal and administrative remedies. In expectation of a favorable outcome, we continue to advance engineering plans and explore potential commercial agreements, with a final investment decision still expected in 2025.
- We are evaluating investments in crude tall oil facilities in Jesup, Georgia and Tartas and a prebiotics facility at our Jesup plant, and are currently working on permitting, engineering and commercial agreements on these new facilities ahead of making final investment decisions later this year.

- We are actively involved in AGE, a start-up entity that aims to utilize renewable forestry waste and other biomass generally discarded as waste to generate green electricity for the state of Georgia from a new facility to be constructed adjacent to our Jesup plant. Although the project remains in the development phase, AGE is actively evaluating the construction and financing requirements for the new facility, with a final investment decision expected in the third quarter of 2025.

Paperboard

Paperboard prices in 2025 are expected to decline as compared to the fourth quarter of 2024, while sales volumes are expected to improve as production is ramped up after taking scheduled maintenance downtime in the fourth quarter. Raw material prices are expected to rise as purchased pulp prices are forecast to increase from fourth quarter 2024 levels. Operating costs are expected to increase as net custodial site costs are incurred to support ongoing operations at the Temiscaming site.

High-Yield Pulp

High-Yield Pulp prices are expected to decrease slightly in the first quarter of 2025 while sales volumes are expected to increase as production improves after taking downtime in the fourth quarter of 2024. Operating costs are expected to increase as net custodial site costs are incurred to support ongoing operations at the Temiscaming site.

Corporate

Corporate costs are expected to decrease slightly in 2025 due to the completion of our ERP implementation, though currency fluctuations could offset any potential savings.

Results of Operations: Year Ended December 31, 2024 versus December 31, 2023

(in millions, except percentages)	Year Ended December 31,	
	2024	2023
Net sales	\$ 1,630	\$ 1,643
Cost of sales	(1,464)	(1,555)
Gross margin	166	88
Selling, general and administrative expenses	(92)	(76)
Foreign exchange gain (loss)	7	(3)
Asset impairment	(25)	(62)
Indefinite suspension charges	(17)	—
Other operating income (expense), net	—	(12)
Operating income (loss)	39	(65)
Interest expense	(86)	(74)
Components of pension and OPEB, excluding service costs	3	—
Debt refinancing charges	(10)	—
Other income, net	5	7
Loss from continuing operations before income tax	(49)	(132)
Income tax benefit	9	32
Equity in loss of equity method investment	(2)	(2)
Loss from continuing operations	(42)	(102)
Income from discontinued operations, net of tax	3	—
Net loss	(39)	(102)
Net income attributable to redeemable noncontrolling interest	—	—
Net loss attributable to RYAM	<u>\$ (39)</u>	<u>\$ (102)</u>
Gross margin %	10.2 %	5.4 %
Operating margin %	2.4 %	(4.0)%
Effective tax rate	18.1 %	24.4 %

Net Sales

(in millions)	Year Ended December 31,	
	2024	2023
High Purity Cellulose	\$ 1,302	\$ 1,313
Paperboard	228	219
High-Yield Pulp	127	136
Eliminations	(27)	(25)
Net sales	<u>\$ 1,630</u>	<u>\$ 1,643</u>

Net sales decreased \$13 million in 2024 compared to 2023 driven by lower sales prices in High Purity Cellulose commodity products and our Paperboard and High-Yield Pulp operating segments and lower sales volumes in High Purity Cellulose commodity products, partially offset by higher sales prices and volumes in cellulose specialties and higher sales volumes in our Paperboard operating segment. See *Operating Results by Segment* below for further discussion.

Operating Income (Loss)

(in millions)	Year Ended December 31,	
	2024	2023
High Purity Cellulose	\$ 76	\$ (42)
Paperboard	31	37
High-Yield Pulp	(8)	(3)
Corporate	(60)	(57)
Operating income (loss)	<u>\$ 39</u>	<u>\$ (65)</u>

Operating results improved \$104 million in 2024 compared to 2023 driven in part by the prior year fourth quarter \$62 million non-cash impairment recorded because of the optimization and realignment of our High Purity Cellulose assets. Partially offsetting the impact of the 2023 impairment in the current year were one-time charges of \$17 million and a non-cash impairment of \$25 million related to the indefinite suspension of Temiscaming High Purity Cellulose operations and \$2 million in immediate repair costs related to the fire at our Jesup plant.

The improvement in operating results was further driven by lower costs due to the indefinite suspension of High Purity Cellulose operations at Temiscaming, cost benefit from strategic capital investment, the impact of favorable foreign exchange rates in the current year compared to unfavorable rates in the prior year and the recognition of \$10 million in CEWS benefit claims deferred since 2021. Partially offsetting these improvements were the decrease in net sales discussed above, higher Corporate variable and other compensation expense and the prior year recognition of a \$3 million benefit from payroll tax credit carryforwards. See *Operating Results by Segment* below for further discussion.

Non-Operating Income & Expense

Interest expense increased \$12 million in 2024 compared to 2023 driven by an increase in the average effective interest rate on debt, partially offset by a decrease in the average outstanding debt principal balance. Total debt decreased \$47 million from December 31, 2023 to December 31, 2024.

During 2024, we recorded charges of \$10 million related to the refinancing of our 2026 Notes and 2027 Term Loan.

Interest income decreased \$3 million in 2024 compared to 2023 driven by the prior year timing of the receipt of the 2027 Term Loan proceeds and their subsequent use in the repayment of the 2024 Notes. See Note 10—Debt and Finance Leases to our Financial Statements for further information on these debt items.

Favorable foreign exchange rates during 2024 compared to unfavorable rates in 2023 resulted in a net favorable impact of \$3 million.

Included in “other income, net” in 2023 were a \$2 million gain on a passive land sale and a \$2 million pension settlement loss.

Income Taxes

The effective tax rate on the loss from continuing operations for 2024 was a benefit of 18 percent. The 2024 effective tax rate differed from the federal statutory rate of 21 percent primarily due to changes in the valuation allowance on disallowed interest deductions, the release of certain tax reserves, different statutory tax rates in foreign jurisdictions, U.S. tax credits, excess deficit on vested stock compensation and nondeductible executive compensation.

The effective tax rate on the loss from continuing operations for 2023 was a benefit of 24 percent. The 2023 effective tax rate differed from the federal statutory rate of 21 percent primarily due to different statutory tax rates in foreign jurisdictions, U.S. tax credits, return-to-accrual adjustments related to previously filed tax returns and changes in the valuation allowance on disallowed interest deductions.

See Note 20—Income Taxes to our Financial Statements for further information.

Discontinued Operations

In 2024, we recorded pre-tax income from discontinued operations of \$5 million related to CEWS benefit claims deferred since 2021 and a pre-tax loss of \$1 million on the sale of our softwood lumber duty refund rights.

In 2023, we recorded a pre-tax gain of \$2 million related to a reduction in the rates applied to Canadian softwood lumber exports to the U.S during 2021. Offsetting this gain was a \$2 million pre-tax loss related to the settlement of a claim pursuant to the representations and warranties in the asset purchase agreement.

See Note 4—Discontinued Operations to our Financial Statements for further information.

Operating Results by Segment

Following the indefinite suspension of Temiscaming High Purity Cellulose operations in the third quarter of 2024, the Temiscaming site continues to incur custodial site costs in support of the ongoing energy needs of the Paperboard and High-Yield Pulp operations. Further, the electricity generated from the Temiscaming High Purity Cellulose plant assets is no longer deemed a by-product of the High Purity Cellulose manufacturing process. Due to these assets now running solely to support Paperboard and High-Yield Pulp, beginning in the fourth quarter, the net impact of these electricity sales and the custodial site costs being incurred in support of these operations is reflected within the operating results of the Paperboard and High-Yield Pulp businesses.

High Purity Cellulose

	Year Ended December 31,	
	2024	2023
(in millions, unless otherwise stated)		
Net sales	\$ 1,302	\$ 1,313
Operating income (loss)	\$ 76	\$ (42)
Average sales prices (\$ per MT)	\$ 1,335	\$ 1,273
Sales volumes (thousands of MTs)	909	955

Net Sales

	Year Ended December 31, 2023	Changes Attributable to:		Year Ended December 31, 2024
		Price	Volume/Mix/Other	
(in millions)				
Cellulose specialties	\$ 783	\$ 8	\$ 81	\$ 872
Commodity products	432	(22)	(69)	341
Other sales ^(a)	98	—	(9)	89
Net sales	\$ 1,313	\$ (14)	\$ 3	\$ 1,302

^(a) Includes sales of bioelectricity, lignosulfonates and other by-products to third parties.

Net sales of our High Purity Cellulose operating segment for 2024 decreased \$11 million compared to 2023. Included within net sales for 2024 and 2023 were \$89 million and \$98 million, respectively, in other sales primarily from bio-based energy and lignosulfonates, which decreased due to the indefinite suspension of Temiscaming High Purity Cellulose operations. Total sales prices increased 5 percent primarily driven by a higher mix of cellulose specialties and a 1 percent increase in cellulose specialties prices, partially offset by a 3 percent decrease in commodity prices. Despite a cellulose specialties sales volumes increase of 10 percent, total sales volumes decreased 5 percent due to a 19 percent decrease in commodity volumes. The increase in cellulose specialties sales volumes was driven by the closure of a competitor's plant in late 2023, accelerated volumes due to the indefinite suspension of Temiscaming High Purity Cellulose operations and an uptick in ethers sales volumes, partially offset by the one-time favorable impact in the prior year from a change in customer contract terms. The decrease in commodity sales volumes was primarily driven by the higher mix of cellulose specialties production and the indefinite suspension of Temiscaming High Purity Cellulose operations. Sales volumes were also negatively impacted by the fire at the Jesup plant that impacted operations on two of the plant's three lines for a two-week period in October 2024.

Operating Income (Loss)

		Gross Margin Changes Attributable to:				
(in millions, except percentages)		Sales Price	Sales Volume/ Mix/Other ^(a)	Cost	SG&A and other	December 31, 2024
Operating income (loss)	\$ (42)	\$ (14)	\$ (22)	\$ 128	\$ 26	\$ 76
Operating margin %	(3.2)%	(1.1)%	(1.7)%	9.8 %	2.0 %	5.8 %

^(a) Computed based on contribution margin.

Operating income (loss) of our High Purity Cellulose operating segment improved \$118 million in 2024 compared to 2023 driven by the prior year fourth quarter \$62 million non-cash impairment recorded as a result of the optimization and realignment of our High Purity Cellulose assets. Partially offsetting the impact of the 2023 impairment in the current year were one-time charges of \$17 million and a \$25 million non-cash asset impairment related to the indefinite suspension of Temiscaming High Purity Cellulose operations.

The improvement in operating results was further driven by the higher cellulose specialties sales prices and volumes, lower costs due to the indefinite suspension of High Purity Cellulose operations at Temiscaming, cost benefit from strategic capital investment and the recognition of \$5 million in CEWS benefit claims deferred since 2021. Partially offsetting these improvements were the lower commodity sales prices and volumes, \$2 million in immediate repair costs related to the fire at our Jesup plant and the prior year recognition of a one-time \$3 million benefit from payroll tax credit carryforwards.

Paperboard

(in millions, unless otherwise stated)	Year Ended December 31,	
	2024	2023
Net sales	\$ 228	\$ 219
Operating income	\$ 31	\$ 37
Average sales prices (\$ per MT)	\$ 1,390	\$ 1,491
Sales volumes (thousands of MTs)	164	147

Net Sales

(in millions)	Changes Attributable to:			December 31, 2024
	Price	Volume/Mix		
Net sales	\$ 219	\$ (16)	\$ 25	\$ 228

Net sales of our Paperboard operating segment increased \$9 million in 2024 compared to 2023. Sales volumes increased 12 percent driven by the easing of prior year customer destocking in the current year, partially offset by a 7 percent decrease in sales prices driven by mix and increased competitive activity from European imports.

Operating Income

		Gross Margin Changes Attributable to:				
(in millions, except percentages)		Sales Price	Sales Volume/ Mix ^(a)	Cost	SG&A and other	December 31, 2024
Operating income	\$ 37	\$ (16)	\$ 11	\$ (1)	\$ —	\$ 31
Operating margin %	16.9 %	(6.6)%	3.7 %	(0.4)%	— %	13.6 %

^(a) Computed based on contribution margin.

Operating income of our Paperboard operating segment decreased \$6 million in 2024 compared to 2023 driven by the lower sales prices, higher labor costs and \$3 million of net custodial site costs for Temiscaming site operations, partially offset by the higher sales volumes, higher productivity and the recognition of \$2 million in CEWS benefit claims deferred since 2021.

High-Yield Pulp

(in millions, unless otherwise stated)	Year Ended December 31,	
	2024	2023
Net sales	\$ 127	\$ 136
Operating loss	\$ (8)	\$ (3)
Average sales prices (\$ per MT) ^(a)	\$ 553	\$ 606
Sales volumes (thousands of MTs) ^(a)	182	182

^(a) Average sales prices and sales volumes for external sales only. During the years ended December 31, 2024 and 2023, the High-Yield Pulp operating segment sold 61,000 MTs and 60,000 MTs of high-yield pulp for \$27 million and \$25 million, respectively, to the Paperboard operating segment.

Net Sales

		Changes Attributable to:		
(in millions)		Price	Volume/Mix	December 31, 2024
Net sales	\$ 136	\$ (9)	\$ —	\$ 127

Net sales of our High-Yield Pulp operating segment decreased \$9 million in 2024 compared to 2023 driven by a 9 percent decrease in sales prices and flat sales volumes driven by over-supply in China, lower demand and timing of shipments.

Operating Loss

		Gross Margin Changes Attributable to:				
(in millions, except percentages)		Sales Price	Sales Volume/ Mix ^(a)	Cost	SG&A and other	December 31, 2024
Operating loss	\$	(3)	\$	—	\$	(8)
Operating margin %		(2.2)%	(7.2)%	— %	2.4 %	(6.3)%

^(a) Computed based on contribution margin.

Operating loss of our High-Yield Pulp operating segment increased \$5 million in 2024 compared to 2023 driven by the lower sales prices, flat sales volumes, higher labor costs and \$4 million of net custodial site costs for Temiscaming site operations, partially offset by lower logistics and key input costs, higher productivity and the recognition of \$2 million in CEWS benefit claims deferred since 2021.

Corporate

(in millions)	Year Ended December 31,	
	2024	2023
Operating loss	\$ (60)	\$ (57)

Our Corporate operating loss increased \$3 million in 2024 compared to 2023 driven by higher variable and other compensation expense, higher discounting and financing fees and higher costs related to our ERP transformation project, partially offset by favorable foreign exchange rates in 2024 compared to unfavorable rates in 2023.

Liquidity and Capital Resources

Overview

Cash flows from operations, primarily driven by operating results, have historically been our primary source of liquidity and capital resources. As operating cash flows can be negatively impacted by fluctuations in market prices for our commodity products and changes in demand for our products, we maintain a key focus on cash, managing working capital closely and optimizing the timing and level of our capital expenditures. We believe our future cash flows from operations, availability under our ABL Credit Facility and our ability to access the capital markets, if necessary or desirable, will be adequate to fund our operations and anticipated long-term funding requirements, including capital expenditures, defined benefit plan contributions and repayment of debt maturities.

Our Board of Directors suspended our quarterly common stock dividend in September 2019. No dividends have been declared since. The declaration and payment of future common stock dividends, if any, will be at the discretion of our Board of Directors and dependent upon our financial condition, results of operations, capital requirements and other factors that the Board of Directors deems relevant. In addition, our debt facilities place limitations on the declaration and payment of future dividends.

In January 2018, our Board of Directors authorized a \$100 million common stock share buyback program. We did not repurchase any shares under this program during the years ended December 31, 2024, 2023 and 2022, and do not expect to utilize any of the remaining \$60 million in unused authorization in the future.

Our liquidity and capital resources are summarized below:

(in millions, except ratios)	December 31,	
	2024	2023
Cash and cash equivalents	\$ 125	\$ 76
Availability under the ABL Credit Facility ^{(a)(b)}	141	118
Total debt ^(b)	730	777
Stockholders' equity	714	747
Total capitalization (total debt plus stockholders' equity)	1,444	1,524
Debt to capital ratio	51 %	51 %

^(a) Amounts available under the ABL Credit Facility fluctuate based on eligible accounts receivable and inventory levels. At December 31, 2024, we had \$168 million of gross availability and net available borrowings of \$141 million after taking into account outstanding letters of credit of \$27 million. In addition to the availability under the ABL Credit Facility, we have \$10 million available under our accounts receivable factoring line of credit in France.

^(b) See Note 10—Debt and Finance Leases to our Financial Statements for further information.

In conjunction with the 2029 Term Loan refinancing discussed below, we amended our ABL Credit Facility in November 2024, reducing aggregate commitments from \$200 million to \$175 million and extending its maturity to November 2029. Borrowings under the amended facility are initially priced at Term SOFR plus a margin of 2 percent.

Other Sources of Cash

SWEN Investment

In November 2024, we secured €30 million to be provided by SWEN in return for a 20 percent preferred equity interest in BioNova. As of December 31, 2024, we received €15 million from SWEN and we expect to receive the additional €15 million in late 2025. See Note 2—Significant Accounting Policies and Recent Accounting Developments—*Redeemable Noncontrolling Interest* to our Financial Statements for further information.

BioNova Term Loan

In November 2024, we entered into a credit agreement that authorizes up to €37 million in seven- and eight-year secured term loan tranches at an initial floating rate of approximately 5 percent. As of December 31, 2024, we had not yet drawn on these loans. See Note 10—Debt and Finance Leases to our Financial Statements for further information.

Cash Requirements

Contractual Commitments

Our principal contractual commitments include standby letters of credit, surety bonds, guarantees, purchase obligations and leases. We utilize arrangements such as standby letters of credit and surety bonds to provide credit support for certain suppliers and vendors in case of their default on critical obligations, collateral for certain of our self-insurance programs and guarantees for the completion of our remediation of environmental liabilities. As part of our ongoing operations, we also periodically issue guarantees to third parties. Our primary purchase obligation payments relate to natural gas, steam energy and wood chips purchase contracts. As of December 31, 2024, our noncancellable unconditional purchase obligations totaled \$542 million.

We remain subject to purchase obligations under the 20-year wood chip and residual fiber supply agreement with GreenFirst, under which total required purchase volumes of wood chips and residual fiber are dependent on sawmill production. In connection with the indefinite suspension of operations at the Temiscaming High Purity Cellulose plant, we have agreed with GreenFirst that we will purchase the required volumes at market value and sell them to third parties at the same amount for an expected neutral impact.

See Note 22—Commitments and Contingencies to our Financial Statements for further information.

Redeemable Noncontrolling Interest

As mentioned in **Other Sources of Cash** above, the SWEN investment is a redeemable noncontrolling interest, which may require the use of cash to pay dividends and/or in the event SWEN exercises its put option. The timing and amount of dividend payments or a put payment is dependent on certain terms and conditions and would not occur prior to 2027. See Note 2—Significant Accounting Policies and Recent Accounting Developments—*Redeemable Noncontrolling Interest* to our Financial Statements for further information on the circumstances under which the put may be exercised.

Debt

As of December 31, 2024, we were in compliance with all financial and other covenants under our debt agreements.

2029 Term Loan. In October 2024, we issued \$700 million in aggregate principal amount of secured term loan financing, which was used in the fourth quarter, together with cash on hand, to redeem the respective \$453 million and \$245 million outstanding principal balances of the 2026 Notes and 2027 Term Loan and pay fees and expenses related to the refinancing. The 2029 Term Loan matures in October 2029, bears interest at an annual rate equal to three-month Term SOFR plus an initial spread of 7 percent and requires quarterly principal payments of \$1.75 million. The initial spread may fluctuate by 0.5 percent based on our net secured leverage ratio. We may voluntarily make prepayments at any time, subject to customary breakage costs and, if within the first three anniversaries of closing, an additional premium. The agreement governing the 2029 Term Loan contains various customary covenants, including the requirement to maintain a specified consolidated net secured leverage ratio, based on covenant EBITDA. See Note 10—Debt and Finance Leases to our Financial Statements for further information of the following transactions.

Cash Flows

(in millions)	Year Ended December 31,	
	2024	2023
Cash flows provided by (used in):		
Operating activities	\$ 203	\$ 136
Investing activities-continuing operations	(108)	(128)
Investing activities-discontinued operations	—	1
Financing activities	(42)	(87)

Cash provided by operating activities increased \$67 million primarily due to stronger operating results, proceeds of \$39 million for the sale of our softwood lumber duty refund rights, net tax refunds of \$19 million in the current year compared to net tax payments in the prior year and higher payments in the prior year on deferred energy liabilities associated with our Tartas facility operations. These cash inflows were partially offset by decreased cash inflows from working capital and higher payments of interest on long-term debt.

Cash used in investing activities of continuing operations decreased \$20 million primarily due to the timing of payments of capital expenditures, lower strategic capital spend and lower custodial capital spend due to the indefinite suspension of Temiscaming High Purity Cellulose operations.

Cash used in financing activities decreased \$45 million primarily due to lower net repayment of long-term debt, SWEN's €15 million investment in BioNova and a decrease in repurchases of common stock to satisfy tax withholding requirements related to the issuance of stock under our incentive stock plans. The decrease in cash used was partially offset by an increase in debt issuance costs and net repayment of short-term financing.

Performance and Liquidity Indicators

The discussion below is presented to enhance the reader's understanding of our operating performance, liquidity and ability to generate cash and satisfy rating agency and creditor requirements. This information includes the non-GAAP financial measures of EBITDA, adjusted EBITDA and adjusted free cash flow. These measures are not defined by GAAP and our discussion of them is not intended to conflict with or change any of our GAAP disclosures provided in this Annual Report on Form 10-K.

We believe these non-GAAP financial measures provide useful information to our Board of Directors, management and investors regarding our financial condition and results of operations. Our management uses these non-GAAP financial measures to compare our performance to that of prior periods for trend analyses, to determine management incentive compensation and for budgeting, forecasting and planning purposes. Our management considers these non-GAAP financial measures, in addition to operating income, to be important in estimating our enterprise and stockholder values and for making strategic and operating decisions. In addition, analysts, investors and creditors use these non-GAAP financial measures when analyzing our operating performance, financial condition and cash-generating ability. We use EBITDA and adjusted EBITDA as performance measures and adjusted free cash flow as a liquidity measure.

We do not consider non-GAAP financial measures an alternative to financial measures determined in accordance with GAAP. The principal limitation of these non-GAAP financial measures is that they may exclude significant expense and income items that are required by GAAP to be recognized in our Financial Statements. In addition, they reflect the exercise of management's judgment about which expense and income items are excluded or included in determining these non-GAAP financial measures. To compensate for these limitations, reconciliations of our non-GAAP financial measures to their most directly comparable GAAP financial measures are provided below. Non-GAAP financial measures are not necessarily indicative of results that may be generated in future periods and should not be relied upon, in whole or part, in evaluating our financial condition, results of operations or future prospects.

EBITDA and Adjusted EBITDA

EBITDA is defined as earnings before interest, taxes, depreciation and amortization. Adjusted EBITDA is defined as EBITDA adjusted for items that management believes are not representative of our core operations.

Loss from continuing operations is reconciled to EBITDA and adjusted EBITDA as follows:

(in millions)	Year Ended December 31,	
	2024	2023
Loss from continuing operations	\$ (42)	\$ (102)
Loss from continuing operations attributable to redeemable noncontrolling interest	—	—
Loss from continuing operations attributable to RYAM	(42)	(102)
Depreciation and amortization	137	140
Interest expense, net	84	69
Income tax benefit	(9)	(32)
EBITDA-continuing operations attributable to RYAM	170	75
Asset impairment	25	62
Indefinite suspension charges	17	—
Debt refinancing charges	10	—
Pension settlement loss	—	2
Adjusted EBITDA-continuing operations attributable to RYAM	<u>\$ 222</u>	<u>\$ 139</u>

EBITDA from continuing operations increased \$95 million in 2024 compared to 2023 primarily driven by the prior year fourth quarter \$62 million non-cash impairment recorded as a result of the optimization and realignment of our High Purity Cellulose assets, lower costs due to the indefinite suspension of High Purity Cellulose operations at Temiscaming, cost benefit from strategic capital investment, the impact of favorable foreign exchange rates in the current year compared to unfavorable rates in the prior year and the recognition of \$10 million in CEWS benefit claims deferred since 2021. Partially offsetting these improvements were the decrease in net sales, one-time charges of \$17 million and a \$25 million non-cash asset impairment related to the indefinite suspension of Temiscaming High Purity Cellulose operations, higher Corporate variable and other compensation expense, \$2 million in immediate repair costs related to the fire at our Jesup plant and the prior year recognition of a \$3 million benefit from payroll tax credit carryforwards.

See *Results of Operations* above for additional discussion of the changes in our operating results.

Our non-guarantor subsidiaries had assets of \$451 million, liabilities of \$171 million, year-to-date revenue of \$227 million and a trailing twelve-month ABL Credit Facility and 2029 Term Loan covenant EBITDA for continuing operations of \$25 million as of December 31, 2024.

Adjusted Free Cash Flow

Adjusted free cash flow is defined as cash provided by operating activities adjusted for capital expenditures, net of proceeds from the sale of assets and excluding strategic capital expenditures deemed discretionary by management. Adjusted free cash flow is a non-GAAP financial measure of cash generated during a period that is available for debt reduction, strategic capital expenditures, acquisitions and repurchases of our common stock. Adjusted free cash flow is not necessarily indicative of the adjusted free cash flow that may be generated in future periods.

Cash provided by operating activities is reconciled to adjusted free cash flow as follows:

(in millions)	Year Ended December 31,	
	2024	2023
Cash provided by operating activities	\$ 203	\$ 136
Capital expenditures, net ^(a)	(75)	(83)
Adjusted free cash flow-continuing operations	<u>\$ 128</u>	<u>\$ 53</u>

^(a) Net of proceeds from the sale of assets and excluding strategic capital expenditures. Strategic capital expenditures were \$33 million and \$45 million for the years ended December 31, 2024 and 2023, respectively.

Adjusted free cash flow of continuing operations increased primarily due to stronger operating results, proceeds from the sale of our softwood lumber duty refund rights, net tax refunds and lower capital expenditures, partially offset by changes in working capital and higher interest payments. See section *Liquidity and Capital Resources—Cash Flows* for additional discussion of our operating cash flows and capital expenditures.

Critical Accounting Estimates

The preparation of financial statements requires us to make estimates, assumptions and judgments that affect our assets, liabilities, revenues and expenses, and to disclose contingent assets and liabilities in our Financial Statements. We base these estimates and assumptions on historical data and trends, current fact patterns, expectations and other sources of information we believe are reasonable. Actual results may differ from these estimates.

Revenue Recognition and Measurement

Revenue is recognized when performance obligations under the terms of a contract with a customer are satisfied. The majority of our contracts have a single performance obligation to transfer products. Accordingly, we recognize revenue when control has been transferred to the customer. Generally, control transfers upon delivery to a location in accordance with the terms and conditions of the sale. Changes in customer contract terms and conditions, as well as the timing of orders and shipments, may impact the timing of revenue recognition.

Revenue is measured as the amount of consideration we expect to receive in exchange for transferring our products and is generally based upon contractual arrangements with customers or published indices. We sell our products both directly to customers and through distributors and agents typically under agreements with payment terms less than 90 days.

The nature of our contracts may give rise to variable consideration, which may be constrained, including sales volume-based rebates to customers. We estimate the level of volumes based on anticipated purchases at the beginning of the period and record a rebate accrual for each purchase toward the requisite rebate volume. These estimated rebates are included in the transaction price as a reduction to net sales.

Property, Plant & Equipment

Depreciation

Depreciation expense is computed using the units-of-production method for our high purity cellulose, paperboard and high-yield pulp plant and equipment and the straight-line method for all other property, plant and equipment over the useful economic lives of the assets involved. The total units of production used to calculate depreciation expense is determined by factoring annual production days, based on normal production conditions, by the economic useful life of the asset involved. Our estimate of useful lives and salvage values are based on assumptions and judgments that reflect both historical experience and expectations regarding the future use of our assets, including wear and tear, obsolescence, technical standards, market demand and geographic location. The use of different assumptions and judgments in the calculation of depreciation, especially those involving useful lives, would likely result in significantly different net book values and results of operations.

Asset Impairment

Long-lived assets are reviewed annually for impairment or when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability of assets that are held and used is measured by net undiscounted cash flows expected to be generated by the asset. An impairment loss may exist when the estimated recovery value is less than the carrying amount. Should a review for impairment be required, determining whether the carrying amount of an asset is recoverable requires judgments regarding long-term forecasts of future revenue and costs related to the asset subject to review. These forecasts are uncertain, as they require significant assumptions about future market conditions. Significant and unanticipated changes to these assumptions could require a provision for impairment in a future period. Property, plant and equipment are primarily grouped for purposes of evaluating recoverability at the combined plant level, the lowest level for which independent cash flows are identifiable.

In 2024, we indefinitely suspended operations at our Temiscaming High Purity Cellulose plant. The indefinite suspension does not affect the Temiscaming paperboard and high-yield pulp plants that support our High-Yield Pulp and Paperboard operating segments, which will continue to operate at full capacity while remaining part of an ongoing sales process. The High Purity Cellulose plant was idled in a safe and environmentally sound manner. We will assess on at least an annual basis the possibility of restarting the Temiscaming High Purity Cellulose plant. In the third quarter of 2024, in conjunction with the indefinite suspension of operations, we recognized a non-cash asset impairment of \$25 million, as it was determined that the Temiscaming High Purity Cellulose plant's net carrying value exceeded its estimated fair value.

In the fourth quarter of 2023, we began efforts towards the optimization and realignment of our High Purity Cellulose assets that included the consolidation of commodity viscose production into our Temiscaming plant and fluff production into our Jesup plant's C Line. This realignment materially impacts the way we have managed and will manage the underlying assets and ultimately led to the recognition of a \$62 million impairment.

Our impairment analyses involved various assumptions and estimates in the determination of fair value, the most significant being our estimates of future cash flows, including key assumptions regarding production levels, price levels, profit margins, capital expenditures and discount rate. While the results of the impairment analyses are highly sensitive to these assumptions, we believe the assumptions are reasonable and appropriately supported; however, our operating results could be adversely affected if actual results are not consistent with our estimates and assumptions. See Note 3—Indefinite Suspension of Operations and Note 8—Property, Plant and Equipment, Net to our Financial Statements for further information regarding these impairments.

Environmental Liabilities

At December 31, 2024, we had \$170 million of accrued liabilities for environmental costs relating to disposed operations. Numerous price, quantity, cost and probability assumptions are used in estimating these obligations. Factors affecting these estimates include changes in the nature or extent of contamination, changes in the content or volume of the material discharged or treated in connection with one or more impacted sites, requirements to perform additional or different assessment or remediation, changes in technology that may lead to additional or different environmental remediation strategies, approaches and workplans, discovery of additional or unanticipated contaminated soil, groundwater or sediment on or off-site, changes in remedy selection, changes in law or interpretation of existing law and the outcome of negotiations with governmental agencies or non-governmental parties. We periodically review our environmental liabilities and also engage third-party consultants to assess our ongoing remediation of contaminated sites. We review our environmental liabilities related to assessment activities and remediation costs quarterly and adjust them as necessary. Liabilities for financial assurance, monitoring and maintenance activities and other activities are assessed annually. A significant change in any of these estimates could have a material effect on our results of operations and financial condition. See Note 11—Environmental Liabilities to our Financial Statements for further information.

Pension and Other Postretirement Benefit Assets and Liabilities

Our defined benefit pension and postretirement plans for employees in the U.S. and Canada require numerous estimates and assumptions to determine the proper amount of pension and postretirement liabilities and annual expense to record in our Financial Statements. The key assumptions include discount rate, return on assets, salary increases, health care cost trends, mortality rates, longevity and service lives of employees. Although authoritative guidance on how to select most of these assumptions exists, we exercise judgment when selecting these assumptions based on input from our actuary and other advisors. Different assumptions, as well as actual versus expected results, would change the periodic benefit cost and funded status of the benefit plans recognized in the financial statements.

Our assumed long-term return on plan assets was established based on historical long-term rates of return on broad equity and bond indices, discussions with our actuary and investment advisors and consideration of the actual historical annualized rate of returns. In determining future pension obligations, we select a discount rate based on information supplied by our actuary. The actuarial rates are developed by models which incorporate high-quality (AA rated), long-term corporate bond rates into their calculations. The weighted average discount rate increased from 4.71 percent at December 31, 2023 to 5.16 percent at December 31, 2024.

Our defined pension plans were underfunded by \$61 million at December 31, 2024. The underfunded status decreased by \$22 million in 2024, primarily due to actuarial gains because of increased discount rates, partially offset by decreased returns on plan assets. In 2025, pension expense is expected to increase slightly compared to 2024. Many factors will impact future pension expense, including actual investment performance, changes in discount rates, timing of contributions and other employee related matters. See Note 18—Employee Benefit Plans to our Financial Statements for further information.

In 2024, we made mandatory contributions and benefit payments to plan participants of \$9 million. During 2025, we expect to make mandatory contributions and benefit payments to plan participants of \$8 million. Future mandatory contribution requirements will vary depending on actual investment performance, changes in valuation assumptions, interest rates and legal requirements to maintain a certain funding status.

The sensitivity of pension expense and projected benefit obligation related to our pension plans to changes in economic assumptions is presented below:

(in millions)	Increase (Decrease) in 2025 Pension Expense	Increase (Decrease) in December 31, 2024 Projected Benefit Obligation
Change in Assumption		
50 bp decrease in discount rate	\$(1)	\$28
50 bp increase in discount rate	\$—	\$(25)
50 bp decrease in long-term return on assets	\$3	n/a
50 bp increase in long-term return on assets	\$(3)	n/a

Realizability of Recorded and Unrecorded Tax Assets and Liabilities

Our income tax expense, deferred tax assets and liabilities and reserves for unrecognized tax benefits reflect management's best assessment of estimated current and future taxes to be paid. Significant judgments and estimates are required to determine consolidated income tax expense.

Realizability of Deferred Tax Assets

We have recorded certain DTAs that we believe will be realized in future periods. The recognition of these DTAs is based on our analysis of both positive and negative evidence regarding the future realization of the tax benefit of each existing deductible temporary difference or carryforward. Future realization is based on the existence of sufficient taxable income, of the appropriate character, within the appropriate taxing jurisdiction (for example country, state or province) and within the carryback and carryforward periods available under applicable tax laws. In projecting future taxable income, we evaluate historical earnings (adjusted for certain items, including the results from discontinued operations), along with future earnings forecasts, the reversal of temporary differences, and the implementation of feasible and prudent tax-planning strategies.

The vast majority of our DTAs are in Canada, including \$627 million of NOLs subject to expiration after 20 years and other DTAs that can be carried forward indefinitely. We have \$334 million of net DTAs in Canada recognized on the consolidated balance sheet as of December 31, 2024. We evaluate the realizability of these Canadian DTAs in two steps.

The first step evaluates future projected Canadian earnings from continuing operations to confirm the Canadian operations are more-likely-than-not to be profitable in future years. If future years are not expected to be profitable, the Company would only be able to recognize DTAs to the extent there are other sources of taxable income, such as reversals of deductible timing differences. Although this step does not require earnings be realized before any set time period, the Canadian operations would eventually need cumulative profits (excluding permanent tax adjustments) sufficient to utilize its net DTAs. Heavy consideration in this analysis is given to Canadian operating results, adjusted for permanent tax adjustments and other non-recurring items, over the most recent three-year period.

The second step is to determine the realizability of the Canadian NOLs prior to expiration. This is done by forecasting Canadian taxable income in each year to confirm that each NOL pool is more-likely-than-not to be realized before its respective expiration, which ranges from 2027 to 2043. The forecasted taxable income excludes depreciation, which can be deferred indefinitely under Canadian tax law.

Evaluation of all available evidence supports the realizability of most recorded DTAs. If the review of evidence indicates the realizability may be less than likely, then a valuation allowance is recorded, except for recorded DTAs for suspended U.S. interest deductions, which do not have a full valuation allowance in accordance with specific AICPA guidance. See Note 20—Income Taxes to our Financial Statements for further information on this item.

Unrecognized Tax Benefits

Our income tax returns are subject to examination by U.S. federal and state taxing authorities as well as foreign jurisdictions, including Canada and France. In evaluating the tax benefits associated with various tax filing positions, we record a tax benefit for an uncertain tax position if it is more-likely-than-not to be realized upon ultimate settlement of the issue. We record a liability or an offset to the corresponding DTAs for any uncertain tax position that does not meet this criterion. The liabilities for unrecognized tax benefits are adjusted in the period in which it is determined the issue is settled with the taxing authorities, the statute of limitations expires for the relevant taxing authority to examine the tax position or when new facts or information become available. See Note 20—Income Taxes to our Financial Statements for further information.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market and Other Economic Risks

We are exposed to various market risks, primarily changes in interest rates, currency and commodity prices. Our objective is to minimize the economic impact of these market risks. We may use derivatives in accordance with policies and procedures approved by the Finance and Strategic Planning Committee of our Board of Directors.

Foreign Currency

We manage our foreign currency exposures by balancing certain assets and liabilities denominated in foreign currencies. We may also use foreign currency forward contracts to manage these exposures. The principal objective of such contracts is to minimize the potential volatility and financial impact of changes in foreign currency exchange rates. We do not utilize financial instruments for trading or other speculative purposes.

Prices

The prices, sales volumes and margins of our High Purity Cellulose operating segment's commodity products and all the High-Yield Pulp operating segment's products have historically been cyclically affected by economic and market shifts, fluctuations in capacity and changes in foreign currency exchange rates. These products have fewer distinguishing qualities from producer to producer and competition is based primarily on price, which is determined by market supply relative to demand. The overall levels of demand for the products we manufacture, and consequently our sales and profitability, reflect fluctuations in end user demand. Our cellulose specialties product prices are impacted by market supply and demand, raw material and processing costs, changes in global currencies and other factors.

Certain key input costs, such as wood fiber, chemicals and energy, may experience significant price fluctuations, also impacted by market shifts, fluctuations in capacity and other demand and supply dynamics. We may periodically enter into commodity forward contracts to fix some of our energy costs that are subject to price volatility caused by weather, supply conditions, political and economic variables and other unpredictable factors. Such forward contracts partially mitigate the risk of changes to our gross margins resulting from an increase or decrease in these costs. Forward contracts that are derivative instruments are reported in our consolidated balance sheets at their fair values, unless they qualify for the normal purchase normal sale exception and such exception has been elected, in which case, the fair values of such contracts are not recognized in the balance sheet.

Variable Interest Rates

At December 31, 2024, we had \$702 million of variable rate debt subject to interest rate risk. In the fourth quarter of 2024, we secured variable-rate term loan financing of \$700 million, which was used, together with cash on hand, to redeem the respective \$453 million and \$245 million outstanding principal balances of the fixed-rate 2026 Notes and the variable-rate 2027 Term Loan. The 2029 Term Loan bears interest at an annual rate equal to three-month Term SOFR plus an initial applicable margin of 7 percent. At this new borrowing level, a hypothetical one percent change in interest rates would result in a \$7 million annual change in interest expense.

At December 31, 2023, we had \$255 million of variable rate debt subject to interest rate risk, for which a hypothetical one percent change in interest rates would have resulted in a \$2 million annual change in interest expense.

The fair market value of our long-term fixed interest rate debt may also be subject to interest rate risk when the debt becomes due or if we do not hold the debt until maturity. The estimated fair value of our fixed-rate debt at December 31, 2024 and 2023 was \$75 million and \$498 million, respectively, compared to their respective \$75 million and \$540 million principal amounts. We use quoted market prices to estimate the fair value of our fixed-rate debt. Generally, the fair market value of fixed-rate debt will increase as interest rates fall and decrease as interest rates rise.

Item 8. Financial Statements and Supplementary Data

The information required by this Item 8, including our Financial Statements and related financial statement schedule, together with the reports of independent registered accounting firm, is presented in Part IV Item 15 of this 2024 Form 10-K and is incorporated by reference into this Item 8.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

Item 9A. Controls and Procedures

Management's Evaluation of Disclosure Controls and Procedures

Our management is responsible for establishing and maintaining adequate disclosure controls and procedures. Disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) are designed with the objective of ensuring that information required to be disclosed in reports filed under the Exchange Act, such as this 2024 Form 10-K, is (1) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Because of the inherent limitations in all control systems, no control evaluation can provide absolute assurance that all control exceptions and instances of fraud have been prevented or detected on a timely basis. Even systems determined to be effective can provide only reasonable assurance their objectives are achieved.

Based on an evaluation of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K, our management, including the Chief Executive Officer and Chief Financial Officer, concluded that the design and operation of our disclosure controls and procedures were effective as of December 31, 2024.

Internal Control over Financial Reporting

With regard to our internal control over financial reporting as defined in Rule 13a-15(f), our Management's Report on Internal Control over Financial Reporting on page F-2, and the Reports of Independent Registered Public Accounting Firm beginning on page F-3, included in Item 8—Financial Statements and Supplementary Data of this 2024 Form 10-K, are incorporated by reference into this Item 9A.

For the quarter ended December 31, 2024, based upon the evaluation required by Rule 13a-15(d), there were no changes in our internal control over financial reporting that would materially affect or are reasonably likely to materially affect our internal control over financial reporting.

Item 9B. Other Information

During the quarter ended December 31, 2024, no director or officer of the Company adopted, modified or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement" as defined under Item 408(a) of Regulation S-K.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

Part III

Certain information required by Part III is incorporated by reference from our definitive Proxy Statement to be filed with the SEC in connection with the solicitation of proxies for our 2025 Annual Meeting of Stockholders, no later than 120 days after the end of our fiscal year ended December 31, 2024. We will make the Proxy Statement available on our website at www.ryam.com as soon as it is filed with the SEC.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item 10 is incorporated by reference to sections “Commitment to Best Practices in Corporate Governance,” “Proposal 1 — Election of Directors,” “Compensation Discussion and Analysis,” “Executive Compensation Tables and Related Information-Executive Officers,” “Delinquent Section 16(a) Reports,” “Proposal 6 — Ratification of the Appointment of Independent Registered Public Accounting Firm” and “Audit Committee Financial Experts” of our Proxy Statement.

Our Standard of Ethics and Code of Corporate Conduct, which applies to our principal executive officer and financial and accounting officers, is available on our website www.ryam.com at the “Investors” tab under “Corporate Governance.” Any amendments to or waivers of the Standard of Ethics and Code of Corporate Conduct will also be disclosed on our website.

We have implemented an insider trading policy governing the purchase, sale and other dispositions of our securities. This policy applies to all members of the Board of Directors, all officers and all employees, including those of our direct and indirectly controlled subsidiaries. We may also extend the policy to other individuals, such as contractors or consultants, who have access to material nonpublic information. We believe that our insider trading policy and procedures are reasonably designed to promote compliance with applicable insider trading laws, rules, regulations and listing standards. A copy of the insider trading policy is filed as Exhibit 19 to this 2024 Form 10-K.

Item 11. Executive Compensation

The information required by this Item 11 is incorporated by reference to sections “Compensation Discussion and Analysis,” “Report of the Compensation and Management Development Committee,” “Executive Compensation Tables and Related Information” and “Commitment to Best Practices in Corporate Governance-Director Compensation” of our Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item 12 is incorporated by reference to sections “Executive Compensation Tables and Related Information-Stock Ownership of Directors and Executive Officers,” “Security Ownership of Certain Beneficial Owners” and “Equity Compensation Plan Information” of our Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item 13 is incorporated by reference to sections “Proposal 1 — Election of Directors,” “Commitment to Best Practices in Corporate Governance-Corporate Governance Principles,” “Director Independence” and “Related Person Transactions” of our Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required by this Item 14 is incorporated by reference to section “Proposal 6 — Ratification of the Appointment of Independent Registered Public Accounting Firm-Information Regarding Independent Registered Public Accounting Firm” of our Proxy Statement.

Part IV

Item 15. Exhibits and Financial Statement Schedules

(a) Documents filed as a part of this 2024 Form 10-K

1. Financial Statements

See page F-1 of this 2024 Form 10-K.

2. Financial Statement Schedules

See page F-1 of this 2024 Form 10-K.

3. Exhibits

Exhibit No.	Description	Location
2.1	Separation and Distribution Agreement between Rayonier Advanced Materials Inc. and Rayonier Inc., dated as of May 28, 2014	Incorporated herein by reference to Exhibit 2.1 to the Registrant's Amendment No. 4 to the Registration Statement on Form 10 filed on May 29, 2014
2.2	Arrangement Agreement by and between Tembec Inc. and Rayonier Advanced Materials Inc. dated as of May 24, 2017	Incorporated herein by reference to Exhibit 2.1 to the Registrant's Form 8-K filed on May 25, 2017
2.3	Amending Agreement, dated as of July 23, 2017, to the Arrangement Agreement by and between Tembec Inc. and Rayonier Advanced Materials Inc. dated as of May 24, 2017	Incorporated herein by reference to Exhibit 2.1 to the Registrant's Form 8-K filed on July 24, 2017
3.1	Amended and Restated Certificate of Incorporation of Rayonier Advanced Materials Inc., as amended	Filed herewith
3.2	Certificate of Designations of 8.00% Series A Mandatory Convertible Preferred Stock of Rayonier Advanced Materials Inc., filed with the Secretary of State of the State of Delaware and effective August 10, 2016	Incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed on August 10, 2016
3.3	Certificate of Designations of Series A Junior Participating Preferred Stock	Incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed on March 21, 2022
3.4	Amended and Restated Bylaws of Rayonier Advanced Materials Inc., effective October 19, 2022	Incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed on October 19, 2022
4.1	Description of Common Stock	Filed herewith
10.1	Transition Services Agreement, dated as of June 27, 2014, by and between Rayonier Inc. and Rayonier Advanced Materials Inc.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 8-K filed on June 30, 2014
10.2	Tax Matters Agreement, dated as of June 27, 2014, by and among Rayonier Inc., Rayonier Advanced Materials Inc., Rayonier TRS Holdings Inc. and Rayonier A.M. Products Inc.	Incorporated herein by reference to Exhibit 10.2 to the Registrant's Form 8-K filed on June 30, 2014
10.3	Employee Matters Agreement, dated as of June 27, 2014, by and between Rayonier Inc. and Rayonier Advanced Materials Inc.	Incorporated herein by reference to Exhibit 10.3 to the Registrant's Form 8-K filed on June 30, 2014
10.4	Intellectual Property Agreement, dated as of June 27, 2014, by and between Rayonier Inc. and Rayonier Advanced Materials Inc.	Incorporated herein by reference to Exhibit 10.4 to the Registrant's Form 8-K filed on June 30, 2014
10.5†	Rayonier Advanced Materials Inc. 2021 Incentive Stock Plan effective May 17, 2021	Incorporated herein by reference to Appendix B to the Registrant's Proxy Statement filed on April 2, 2021
10.6†	Rayonier Advanced Materials Inc. 2023 Incentive Stock Plan, effective May 17, 2023	Incorporated herein by reference to Appendix D to the Registrant's Definitive Proxy Statement on Schedule 14A filed on March 31, 2023
10.7†	Form of Rayonier Advanced Materials Inc. 2024 Restricted Stock Unit Award Agreement	Incorporated herein by reference to Exhibit 10.13 to the Registrant's Form 10-K filed on February 29, 2024

Exhibit No.	Description	Location
10.8†	Form of Rayonier Advanced Materials Inc. 2024 Restricted Stock Unit Award Agreement for De Lyle Bloomquist and James L. Posze, Jr	Incorporated herein by reference to Exhibit 10.14 to the Registrant's Form 10-K filed on February 29, 2024
10.9†	Form of Rayonier Advanced Materials Inc. 2025 Restricted Stock Unit Award Agreement	Filed herewith
10.10†	Form of Rayonier Advanced Materials Inc. 2025 Restricted Stock Unit Award Agreement for De Lyle Bloomquist and James L. Posze, Jr	Filed herewith
10.11†	Form of Rayonier Advanced Materials Inc. 2023 Performance Share Unit Award Agreement	Incorporated herein by reference to Exhibit 10.14 to the Registrant's Form 10-K filed on March 1, 2023
10.12†	Form of Rayonier Advanced Materials Inc. 2024 Performance Share Unit Award Agreement	Incorporated herein by reference to Exhibit 10.18 to the Registrant's Form 10-K filed on February 29, 2024
10.13†	Form of Rayonier Advanced Materials Inc. 2024 Performance Share Unit Award Agreement for De Lyle Bloomquist and James L. Posze, Jr	Incorporated herein by reference to Exhibit 10.19 to the Registrant's Form 10-K filed on February 29, 2024
10.14†	Form of Rayonier Advanced Materials Inc. 2025 Performance Share Unit Award Agreement	Filed herewith
10.15†	Form of Rayonier Advanced Materials Inc. 2025 Performance Share Unit Award Agreement for De Lyle Bloomquist and James L. Posze, Jr	Filed herewith
10.16†	Form of Rayonier Advanced Materials Inc. 2023 Performance Cash Unit Award Agreement	Incorporated herein by reference to Exhibit 10.17 to the Registrant's Form 10-K filed on March 1, 2023
10.17†	Form of Rayonier Advanced Materials Inc. 2024 Performance Cash Unit Award Agreement	Incorporated herein by reference to Exhibit 10.23 to the Registrant's Form 10-K filed on February 29, 2024
10.18†	Form of Rayonier Advanced Materials Inc. 2024 Performance Cash Unit Award Agreement for De Lyle Bloomquist and James L. Posze, Jr	Incorporated herein by reference to Exhibit 10.24 to the Registrant's Form 10-K filed on February 29, 2024
10.19†	Form of Rayonier Advanced Materials Inc. 2025 Performance Cash Unit Award Agreement	Filed herewith
10.20†	Form of Rayonier Advanced Materials Inc. 2025 Performance Cash Unit Award Agreement for De Lyle Bloomquist and James L. Posze, Jr	Filed herewith
10.21†	Form of Rayonier Advanced Materials Inc. Incentive Stock Plan Supplemental Terms Applicable to the 2023 Equity Award Grant	Incorporated herein by reference to Exhibit 10.21 to the Registrant's Form 10-K filed on March 1, 2023
10.22†	Form of Rayonier Advanced Materials Inc. Incentive Stock Plan Supplemental Terms Applicable to the 2024 Equity Award Grant	Incorporated herein by reference to Exhibit 10.29 to the Registrant's Form 10-K filed on February 29, 2024
10.23†	Form of Rayonier Advanced Materials Inc. Incentive Stock Plan Supplemental Terms Applicable to the 2025 Equity Award Grant	Filed herewith
10.24† #	Description of Rayonier Advanced Materials Inc. 2023 Equity Incentive Program Design	Incorporated herein by reference to Exhibit 10.24 to the Registrant's Form 10-K filed on March 1, 2023
10.25† #	Description of Rayonier Advanced Materials Inc. 2024 Equity Incentive Program Design	Incorporated herein by reference to Exhibit 10.33 to the Registrant's Form 10-K filed on February 29, 2024
10.26† #	Description of Rayonier Advanced Materials Inc. 2025 Equity Incentive Program Design	Filed herewith
10.27†	Rayonier Advanced Materials Inc. Non-Equity Incentive Plan, as amended effective May 23, 2016	Incorporated herein by reference to Appendix B to the Registrant's Proxy Statement filed on April 8, 2016
10.28†	Rayonier Advanced Materials Inc. Executive Severance Pay Plan, Amended and Restated effective October 21, 2019	Incorporated herein by reference to Exhibit 10.3 to the Registrant's Form 10-Q filed on November 7, 2019
10.29†	Rayonier Advanced Materials Inc. Non Change In Control Executive Severance Plan	Incorporated herein by reference to Exhibit 10.20 to the Registrant's Form 10-K filed on February 26, 2016
10.30†	First Amendment to the Rayonier Advanced Materials Inc. Non Change In Control Executive Severance Plan	Incorporated herein by reference to Exhibit 10.4 to the Registrant's Form 10-Q filed on November 7, 2019

Exhibit No.	Description	Location
10.31†	Trust Agreement for Rayonier Advanced Materials Inc. Legal Resources Trust, dated June 28, 2014, by and between Rayonier Advanced Materials Inc. and Wells Fargo Bank, National Association	Incorporated herein by reference to Exhibit 10.23 to the Registrant's Form 10-Q/A filed on September 4, 2014
10.32†	Rayonier Advanced Materials Inc. Excess Benefit Plan, effective June 27, 2014	Incorporated herein by reference to Exhibit 10.24 to the Registrant's Form 10-Q/A filed on September 4, 2014
10.33†	First Amendment to Rayonier Advanced Materials Inc. Excess Benefit Plan, effective December 31, 2022	Incorporated herein by reference to Exhibit 10.2 to the Registrant's Form 10-Q filed on November 2, 2022
10.34†	Rayonier Advanced Materials Inc. Excess Savings and Deferred Compensation Plan, effective June 28, 2014	Incorporated herein by reference to Exhibit 10.25 to the Registrant's Form 10-Q/A filed on September 4, 2014
10.35†	Form of Rayonier Advanced Materials Inc. Excess Savings and Deferred Compensation Plan Agreements, effective June 28, 2014	Incorporated herein by reference to Exhibit 10.18 to the Registrant's Form 10-K filed on February 27, 2015
10.36†	Retirement Plan for Salaried Employees of Rayonier Advanced Materials Inc., effective June 27, 2014 and Amended and Restated as of October 21, 2019	Incorporated herein by reference to Exhibit 10.5 to the Registrant's Form 10-Q filed on November 7, 2019
10.37†	Seventh Amendment to Retirement Plan for Salaried Employees of Rayonier Advanced Materials Inc., effective December 31, 2022	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 10-Q filed on November 2, 2022
10.38†	Rayonier Advanced Materials Inc. Investment and Savings Plan for Salaried Employees, effective January 1, 2015	Incorporated herein by reference to Exhibit 10.24 to the Registrant's Form 10-K filed on February 24, 2017
10.39†	Amendment to Rayonier Advanced Materials Inc. Investment and Savings Plan for Salaried Employees, effective January 1, 2015	Incorporated herein by reference to Exhibit 10.25 to the Registrant's Form 10-K filed on February 24, 2017
10.40†	Amendment to Rayonier Advanced Materials Inc. Investment and Savings Plan for Salaried Employees, effective January 1, 2016	Incorporated herein by reference to Exhibit 10.26 to the Registrant's Form 10-K filed on February 24, 2017
10.41†	Amendment to Rayonier Advanced Materials Inc. Investment and Savings Plan for Salaried Employees, effective January 1, 2016	Incorporated herein by reference to Exhibit 10.27 to the Registrant's Form 10-K filed on February 24, 2017
10.42†	Amendment to Rayonier Advanced Materials Inc. Investment and Savings Plan for Salaried Employees, effective October 1, 2016	Incorporated herein by reference to Exhibit 10.28 to the Registrant's Form 10-K filed on February 24, 2017
10.43†	Amendment to Rayonier Advanced Materials Inc. Investment and Savings Plan for Salaried Employees, effective February 13, 2017	Incorporated herein by reference to Exhibit 10.29 to the Registrant's Form 10-K filed on February 24, 2017
10.44†	Form of Indemnification Agreement between Rayonier Advanced Materials Inc. and individual directors or officers	Incorporated herein by reference to Exhibit 10.5 to the Registrant's Amendment No. 4 to the Registration Statement on Form 10 filed on May 29, 2014
10.45†	Form of Rayonier Advanced Materials Inc. Outside Directors Compensation Program/Cash Deferral Option Agreement, effective January 1, 2020	Incorporated herein by reference to Exhibit 10.35 to the Registrant's Form 10-K filed on March 1, 2021
10.46	Revolving Credit Agreement, dated as of December 10, 2020, among Rayonier Advanced Materials Inc., Rayonier A.M. Products Inc., the other subsidiaries of Rayonier Advanced Materials Inc. party thereto, the lenders party thereto and Bank of America, N.A., as administrative agent and collateral agent	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 8-K filed on December 23, 2020

Exhibit No.	Description	Location
10.47	Amendment No. 1 to Revolving Credit Agreement, dated as of January 17, 2023, by and among Rayonier Advanced Materials Inc., Rayonier A.M. Products, Inc., the other subsidiaries of Rayonier Advanced Materials Inc. party thereto, the lenders party thereto and Bank of America, N.A., as administrative agent and collateral agent	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 8-K filed on January 17, 2023
10.48	Amendment No. 2 to Revolving Credit Agreement, dated as of July 20, 2023, among Rayonier Advanced Materials Inc., Rayonier A.M. Products Inc., the lenders and issuing banks party thereto and Bank of America, N.A. as administrative agent and collateral agent	Incorporated herein by reference to Exhibit 10.3 to the Registrant's Form 8-K filed on July 20, 2023
10.49	Amendment No. 3 to Revolving Credit Agreement, Amendment No. 1 to U.S. Security Agreement and Amendment No. 1 to Canadian Security Agreement, dated as of November 7, 2024, among Rayonier A.M. Products Inc., Rayonier Advanced Materials Inc., the guarantors party thereto, the lenders, the swing line lender and issuing banks party thereto and Bank of America, N.A. as administrative agent and collateral agent	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 8-K filed on November 8, 2024
10.5	Term Loan Credit Agreement, dated as of October 28, 2024, by and among Rayonier A.M. Products Inc., Rayonier Advanced Materials Inc., the other subsidiaries of Rayonier Advanced Materials Inc. party thereto, the lenders party thereto, and Alter Domus (US) LLC, as administrative agent and collateral agent.	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 8-K filed on October 29, 2024
10.51**	English translation of Loan Contract, dated as of November 12, 2024, by and among Rayonier A.M. France, RYAM BioNova, the lenders party thereto, and Credit Lyonnais, as agent, ESG coordinator and ESG agent (originally executed in French)	Filed herewith
10.52**	English translation of Shareholder Pact Relative to RYAM BioNova, dated November 12, 2024, between Rayonier A.M. France, Rayonier Advanced Materials Inc. and Swen Impact Fund for Transition 3 (originally executed in French)	Filed herewith
10.53#	Asset Purchase Agreement by and between 9437-6001 Quebec Inc., as purchaser and GreenFirst Forest Products Inc., as Purchaser guarantor, and Rayonier A.M. Canada G.P. and Rayonier A.M. Canada Industries Inc., collectively the Seller, dated as of April 10, 2021	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Form 10-Q filed on May 6, 2021
10.54†	Letter Agreement, dated May 28, 2022 between Rayonier Advanced Materials Inc. and De Lyle W. Bloomquist	Incorporated herein by reference to Exhibit 3.1 to the Registrant's Form 8-K filed on May 31, 2022
19	Rayonier Advanced Materials Inc. Insider Trading Policy	Filed herewith
21	Subsidiaries of the registrant	Filed herewith
23.1	Consent of Grant Thornton LLP	Filed herewith
24	Power of Attorney	Incorporated herein by reference to the signature page of this Annual Report on Form 10-K
31.1	Chief Executive Officer's Certification Pursuant to Rule 13a-14(a)/15d-14(a) and pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
31.2	Chief Financial Officer's Certification Pursuant to Rule 13a-14(a)/15d-14(a) and pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
32	Certification of Periodic Financial Reports Under Section 906 of the Sarbanes-Oxley Act of 2002	Furnished herewith

Exhibit No.	Description	Location
97	Rayonier Advanced Materials Inc. Incentive Compensation Recovery Policy	Incorporated herein by reference to Exhibit 97 to the Registrant's Form 10-K filed on February 29, 2024
101	Interactive data files (formatted in Inline XBRL) pursuant to Rule 405 of Regulation S-T	Filed herewith
104	Cover page interactive data file (formatted in Inline XBRL and contained in Exhibit 101) pursuant to Rule 406 of Regulation S-T	Filed herewith

† Management contract or compensatory plan.

Certain confidential portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv). The Company agrees to furnish supplementally an unredacted copy of the exhibit to the SEC upon request.

* This document is an English translation of a legally binding French document. While efforts have been made to provide an accurate translation, in the event of any discrepancies or conflicts between this translation and the original French version, the original French document shall prevail.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Rayonier Advanced Materials Inc.

By: /s/ MARCUS J. MOELTNER

Marcus J. Moeltner
*Chief Financial Officer and
Senior Vice President, Finance*

Date: March 6, 2025

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ DE LYLE W. BLOOMQUIST De Lyle W. Bloomquist (Principal Executive Officer)	Chief Executive Officer, President and Director	March 6, 2025
/s/ MARCUS J. MOELTNER Marcus J. Moeltner (Principal Financial Officer)	Chief Financial Officer and Senior Vice President, Finance	March 6, 2025
/s/ GABRIELA GARCIA Gabriela Garcia (Principal Accounting Officer)	Chief Accounting Officer and Vice President, Corporate Controller	March 6, 2025

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that the persons whose signatures appear below constitute and appoint Marcus J. Moeltner and R. Colby Slaughter, his/her true and lawful attorneys-in-fact, with full power in each to act without the other and with full power of substitution and resubstitution, to sign in the name of such person and in each of his/her offices and capacities with Rayonier Advanced Materials Inc., the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2024, together with any amendments thereto, and to file same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated.

Signature	Title	Date
<hr/> <div>/s/ LISA M. PALUMBO</div> <div>Lisa M. Palumbo</div>	Chair	January 24, 2025
<hr/> <div>/s/ ERIC M. BOWEN</div> <div>Eric M. Bowen</div>	Director	January 27, 2025
<hr/> <div>/s/ JULIE A. DILL</div> <div>Julie A. Dill</div>	Director	January 24, 2025
<hr/> <div>/s/ CHARLES R. EGGERT</div> <div>Charles R. Eggert</div>	Director	January 26, 2025
<hr/> <div>/s/ JAMES F. KIRSCH</div> <div>James F. Kirsch</div>	Director	January 24, 2025
<hr/> <div>/s/ DAVID C. MARIANO</div> <div>David C. Mariano</div>	Director	January 24, 2025
<hr/> <div>/s/ IVONA SMITH</div> <div>Ivona Smith</div>	Director	January 24, 2025
<hr/> <div>/s/ BRYAN D. YOKLEY</div> <div>Bryan D. Yokley</div>	Director	January 29, 2025

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All other financial statement schedules are omitted because they are not applicable or the required information is otherwise supplied in the Financial Statements or the notes thereto.

Management's Report on Internal Control over Financial Reporting

The management of Rayonier Advanced Materials Inc. and its subsidiaries is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended). Our system of internal controls over financial reporting is designed to provide reasonable assurance to the Company's management and Board of Directors regarding the reliability of financial reporting and the preparation of the financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

Because of the inherent limitations of internal control over financial reporting, misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Rayonier Advanced Materials Inc.'s management, under the supervision and with the participation of the Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting as of December 31, 2024. In making this assessment, we used the framework included in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our management's assessment and the criteria set forth in Internal Control—Integrated Framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2024.

Grant Thornton LLP, the independent registered public accounting firm that audited the Company's Financial Statements, has audited and issued a report on the Company's internal control over financial reporting as of December 31, 2024. The report appears on page F-6 of this 2024 Form 10-K.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Rayonier Advanced Materials Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Rayonier Advanced Materials Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 31, 2024 and 2023, the related consolidated statements of operations, comprehensive income (loss), stockholders’ equity, and cash flows for each of the three years in the period ended December 31, 2024, and the related notes and financial statement schedules included under Item 15(a) (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2024, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”), and our report dated March 6, 2025 expressed an unqualified opinion.

Basis for opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical audit matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Accruals for environmental liabilities

As described further in Note 11 to the consolidated financial statements, the Company records accruals for environmental liabilities based on its current interpretation of environmental laws and regulations when it is probable a liability has been incurred and the amount of such liability is estimable. Accruals for environmental liabilities totaled approximately \$170 million on December 31, 2024. These liabilities are established based on projected spending over many years and require significant estimates and specialized knowledge to determine the proper amount at any point in time. In addition to the estimated liabilities recorded, the Company is subject to the risk of reasonably possible additional liabilities in excess of the established liabilities due to potential changes in circumstances and future events. The Company estimates this exposure could range up to approximately \$87 million in addition to the liabilities recorded and has disclosed this exposure in Note 11. We identified the accruals for environmental liabilities as a critical audit matter.

The principal considerations for our determination that the accruals for environmental liabilities are a critical audit matter is that the length of time over which the obligation will be resolved is significant and the estimate requires specialized knowledge of environmental engineering. The estimate, which involves assumptions such as the nature and extent of contamination at each

site, the nature and extent of required cleanup efforts, the duration and effectiveness of the chosen remedial strategy and changes in environmental regulations, is subjective in nature and involved our complex and subjective judgment.

Our audit procedures related to the accruals for environmental liabilities included the following, among others. We evaluated the design and tested the operating effectiveness of relevant controls over the Company's estimation process and accounting for the accruals, and the completeness and accuracy of the underlying data used in the reserve estimates as well as the related consolidated financial statement disclosures. We performed a public domain search to determine whether the sites being accounted for by the Company are complete and whether all information from regulators is being considered in the estimation process. We engaged an environmental specialist to assist us in evaluating the appropriateness of the Company's remediation plans and the reasonableness of management's estimates in relation to the regulatory requirements and to review the estimated costs used by the Company, including consideration of information available from external data from other sources. With the support of our environmental specialist, we evaluated the competency of the specialist used by the Company in addition to whether the method, models, and assumptions utilized in estimating the reserve balances were appropriate based on testing of engineering studies and historical experience and evaluated the sufficiency of the Company's disclosures.

Impairment of long-lived assets

As described further in Note 3, Note 8 and Note 13 to the consolidated financial statements, the Company reviews long-lived assets for impairment whenever events or changes in circumstances, known as triggering events, indicate that the carrying amount of a long-lived asset or asset group, may not be recoverable. Management considers various factors when determining if long-lived assets should be evaluated for impairment, including a significant adverse change in the business climate or industry conditions (such as sustained decreases in commodity prices, volatility in energy costs, and the global economy), a current period operating or cash flow loss combined with a history of losses, a significant adverse change in the extent or manner in which an asset is used, or a current expectation that the asset will be sold or otherwise disposed of before the end of its useful life. As a result of the indefinite shutdown of the Temiscaming, Canada high purity cellulose plant during the year, the Company completed an impairment analysis of this asset group in the third quarter of 2024 and recorded a charge of \$25 million in the accompanying consolidated statement of operations. We identified the impairment of high purity cellulose assets located in Temiscaming, Canada as a critical audit matter.

The principal considerations for our determination that impairment of high purity cellulose assets located in Temiscaming, Canada is a critical audit matter is the significant judgments made by management to estimate the impairment charge. This required a high degree of auditor judgment and an increased extent of effort when performing audit procedures to evaluate the reasonableness of management's estimates and assumptions related to the future production, pricing estimates, capital and operating costs, market-based weighted average cost of capital and risk adjustment factors.

Our audit procedures related to the impairment analysis included the following, among others. We evaluated the design and tested the operating effectiveness of the key controls over the Company's determination of triggering events and the key assumptions underlying the fair value determination and the completeness and accuracy of the data used in the determination of the fair value. We evaluated the reasonableness of the key assumptions used in management's cash flow forecast by comparing them to historical amounts and current industry and economic trends. We evaluated the reasonableness of management's assessment of future market prices of the revenue-generating commodity and cellulose specialties products and future input costs necessary for operations by comparing these amounts against available forward market pricing data and historical amounts. Additionally, we performed sensitivity analyses around certain cost of sales assumptions underlying management's fair value assessment. We assessed the qualifications and competence of management and its valuation professional primarily responsible with the determination of the fair value of the long-lived assets. We involved valuation professionals, with specialized skills and knowledge, to assist in our evaluation of the valuation methodologies applied and the significant assumptions used to determine the fair value of the asset group, including the weighted average cost of capital and risk adjustment factors.

Realizability of deferred tax assets

As described further in Note 20 to the consolidated financial statements, on December 31, 2024, the Company had gross deferred tax assets of approximately \$555 million, primarily related to its Canadian operations, reduced by a valuation allowance of approximately \$86 million. Deferred tax assets must be reduced by a valuation allowance if, based upon the weight of all available evidence, it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the deferred tax assets will become realized. The Company assesses the need for a valuation allowance by evaluating both the positive and negative evidence that may exist. We identified the realizability of deferred tax assets in Canada as a critical audit matter.

The principal considerations for our determination that the realizability of deferred tax assets in Canada is a critical audit matter are that the length of time of the forecast period is significant and the estimate of future taxable income of the Company's Canadian operations is an accounting estimate subject to a high level of estimation uncertainty.

Our audit procedures related to the realizability of deferred tax assets included the following, among others. We evaluated the design and tested the operating effectiveness of the key controls over the Company's forecasting process, evaluation of the realizability of deferred tax assets and establishment of valuation allowances. We assessed the historical accuracy of management's forecasted Canadian taxable income and compared the forecasts to historical trends and current industry and economic trends. Additionally, we performed sensitivity analyses around the assessment. We involved tax professionals to evaluate the application of jurisdictional tax laws and regulations used in the Company's assumptions and calculations.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2016.

Jacksonville, Florida
March 6, 2025

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Rayonier Advanced Materials Inc.

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting of Rayonier Advanced Materials Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 31, 2024, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated financial statements of the Company as of and for the year ended December 31, 2024, and our report dated March 6, 2025 expressed an unqualified opinion on those financial statements.

Basis for opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ GRANT THORNTON LLP

Jacksonville, Florida
March 6, 2025

Rayonier Advanced Materials Inc.
Consolidated Statements of Operations
(in thousands, except per share amounts)

	Year Ended December 31,		
	2024	2023	2022
Net sales	\$ 1,630,308	\$ 1,643,330	\$ 1,717,267
Cost of sales	(1,464,726)	(1,555,176)	(1,594,184)
Gross margin	165,582	88,154	123,083
Selling, general and administrative expense	(92,258)	(75,712)	(91,475)
Foreign exchange gain (loss)	7,429	(2,999)	4,726
Asset impairment (Notes 3 and 8)	(25,169)	(62,300)	—
Indefinite suspension charges (Note 2)	(16,630)	—	—
Other operating income (expense), net (Note 19)	527	(12,407)	(10,199)
Operating income (loss)	39,481	(65,264)	26,135
Interest expense	(85,715)	(73,810)	(66,183)
Components of pension and OPEB, excluding service costs (Note 18)	2,924	98	4,960
Gain on GreenFirst equity securities (Note 4)	—	—	5,197
Debt refinancing charges	(10,195)	361	651
Other income, net	4,305	6,141	5,418
Loss from continuing operations before income tax	(49,200)	(132,474)	(23,822)
Income tax (expense) benefit (Note 20)	8,928	32,311	(902)
Equity in loss of equity method investment	(1,652)	(1,984)	(2,653)
Loss from continuing operations	(41,924)	(102,147)	(27,377)
Income from discontinued operations, net of tax (Note 4)	3,217	312	12,458
Net loss	(38,707)	(101,835)	(14,919)
Net income attributable to redeemable noncontrolling interest (Note 2)	37	—	—
Net loss attributable to RYAM	<u>\$ (38,744)</u>	<u>\$ (101,835)</u>	<u>\$ (14,919)</u>
Basic and Diluted earnings per common share (Note 16)			
Loss from continuing operations	\$ (0.64)	\$ (1.57)	\$ (0.42)
Income from discontinued operations	0.05	—	0.19
Net loss per common share	<u>\$ (0.59)</u>	<u>\$ (1.57)</u>	<u>\$ (0.23)</u>

See Notes to Consolidated Financial Statements.

Rayonier Advanced Materials Inc.
Consolidated Statements of Comprehensive Income (Loss)
(in thousands)

	Year Ended December 31,		
	2024	2023	2022
Net loss	\$ (38,707)	\$ (101,835)	\$ (14,919)
Other comprehensive income, net of tax (Note 15)			
Foreign currency translation adjustment	(12,380)	7,530	(12,763)
Unrealized gain on derivative instruments	151	194	280
Net gain on employee benefit plans	12,477	10,157	33,155
Total other comprehensive income	248	17,881	20,672
Comprehensive income (loss)	(38,459)	(83,954)	5,753
Comprehensive income attributable to redeemable noncontrolling interest	37	—	—
Comprehensive income (loss) attributable to RYAM	<u>\$ (38,496)</u>	<u>\$ (83,954)</u>	<u>\$ 5,753</u>

See Notes to Consolidated Financial Statements.

Rayonier Advanced Materials Inc.
Consolidated Balance Sheets
(in thousands, except share amounts)

	December 31,	
	2024	2023
Assets		
Current assets		
Cash and cash equivalents	\$ 125,222	\$ 75,768
Accounts receivable, net (Note 6)	213,972	197,457
Inventory (Note 7)	208,003	207,474
Income tax receivable (Note 20)	2,637	19,455
Prepaid and other current assets	51,127	74,904
Total current assets	600,961	575,058
Property, plant and equipment, net (Note 8)	1,018,583	1,075,105
Deferred tax assets (Note 20)	349,500	345,181
Intangible assets, net (Note 2)	10,404	17,414
Other assets	150,209	169,942
Total assets	<u>\$ 2,129,657</u>	<u>\$ 2,182,700</u>
Liabilities, Redeemable Noncontrolling Interest and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 196,249	\$ 186,226
Accrued and other current liabilities (Note 9)	170,785	154,488
Debt due within one year (Note 10)	23,379	25,283
Current environmental liabilities (Note 11)	9,749	9,833
Total current liabilities	400,162	375,830
Long-term debt (Note 10)	706,444	752,174
Non-current environmental liabilities (Note 11)	160,466	160,458
Pension and other postretirement benefits (Note 18)	77,239	101,493
Deferred tax liabilities (Note 20)	13,685	15,190
Other liabilities	47,273	31,108
Commitments and contingencies (Note 22)		
Redeemable noncontrolling interest (Note 2)	10,503	—
Stockholders' equity (Note 14)		
Common stock: 140,000,000 shares authorized at \$0.01 par value, 65,966,881 and 65,393,014 issued and outstanding, respectively	660	654
Additional paid-in capital	425,303	419,122
Retained earnings	333,591	372,588
Accumulated other comprehensive loss (Note 15)	(45,669)	(45,917)
Total stockholders' equity	713,885	746,447
Total liabilities, redeemable noncontrolling interest and stockholders' equity	<u>\$ 2,129,657</u>	<u>\$ 2,182,700</u>

See Notes to Consolidated Financial Statements.

Rayonier Advanced Materials Inc.
Consolidated Statements of Stockholders' Equity
(in thousands, except share data)

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Par Value				
Balance at December 31, 2021	63,738,409	\$ 637	\$ 408,834	\$ 489,342	\$ (84,470)	\$ 814,343
Net loss attributable to RYAM	—	—	—	(14,919)	—	(14,919)
Other comprehensive income, net of tax	—	—	—	—	20,672	20,672
Issuance of common stock under incentive stock plans	360,495	4	(4)	—	—	—
Stock-based compensation	—	—	9,650	—	—	9,650
Repurchase of common stock ^(a)	(78,143)	(1)	(432)	—	—	(433)
Balance at December 31, 2022	64,020,761	640	418,048	474,423	(63,798)	829,313
Net loss attributable to RYAM	—	—	—	(101,835)	—	(101,835)
Other comprehensive income, net of tax	—	—	—	—	17,881	17,881
Issuance of common stock under incentive stock plans	2,032,375	20	(20)	—	—	—
Stock-based compensation	—	—	6,507	—	—	6,507
Repurchase of common stock ^(a)	(660,122)	(6)	(5,413)	—	—	(5,419)
Balance at December 31, 2023	65,393,014	654	419,122	372,588	(45,917)	746,447
Net loss attributable to RYAM	—	—	—	(38,744)	—	(38,744)
Other comprehensive income, net of tax	—	—	—	—	248	248
Issuance of common stock under incentive stock plans	730,937	7	(7)	—	—	—
Stock-based compensation	—	—	7,101	—	—	7,101
Repurchase of common stock ^(a)	(157,070)	(1)	(913)	—	—	(914)
Redeemable noncontrolling interest adjustment to redemption value	—	—	—	(253)	—	(253)
Balance at December 31, 2024	65,966,881	\$ 660	\$ 425,303	\$ 333,591	\$ (45,669)	\$ 713,885

^(a) Repurchased to satisfy tax withholding requirements related to the issuance of stock under the Company's incentive stock plans.

See Notes to Consolidated Financial Statements.

Rayonier Advanced Materials Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,		
	2024	2023	2022
Operating activities			
Net loss	\$ (38,707)	\$ (101,835)	\$ (14,919)
Adjustments to reconcile net loss to cash provided by operating activities:			
Income from discontinued operations	(3,217)	(312)	(12,458)
Depreciation and amortization	137,173	139,983	134,576
Asset impairment	25,169	62,300	—
Stock-based compensation expense	7,101	6,507	9,650
Amortization of debt discount and issuance costs	8,559	6,050	4,033
Deferred income tax benefit	(9,606)	(27,713)	(3,948)
Increase in environmental liabilities	6,417	4,764	4,595
Gain on GreenFirst equity securities	—	—	(5,197)
(Gain) loss on debt extinguishment	4,363	(361)	(651)
Net periodic benefit cost of pension and other postretirement plans	2,268	3,578	5,290
Unrealized (gain) loss on foreign currency	(5,613)	1,900	(5,666)
Loss on disposal of property, plant and equipment	1,790	731	3,742
Changes in operating assets and liabilities:			
Accounts receivable	(24,392)	19,979	(33,824)
Inventories	(2,134)	58,949	(35,113)
Income tax receivable	19,859	(7,137)	19,795
Accounts payable	8,068	13,757	(8,266)
Accrued and other current liabilities	20,505	(12,219)	27,909
Duty refund rights	40,111	(1,946)	(17,760)
Other	20,315	(13,783)	9,401
Contributions to pension and other postretirement plans	(8,514)	(11,533)	(7,915)
Expenditures for environmental liabilities	(5,905)	(5,385)	(4,461)
Cash provided by operating activities	203,610	136,274	68,813
Investing activities			
Capital expenditures, net of proceeds	(107,944)	(127,670)	(138,223)
Investment in equity method investment	—	(780)	(379)
Cash used in investing activities-continuing operations	(107,944)	(128,450)	(138,602)
Cash provided by investing activities-discontinued operations	—	1,169	44,428
Cash used in investing activities	(107,944)	(127,281)	(94,174)
Financing activities			
Borrowings of long-term debt	672,200	465,030	5,721
Repayments of long-term debt	(701,885)	(537,845)	(75,250)
Short-term financing, net	(2,740)	1,369	(3,153)
Debt issuance costs	(23,790)	(10,082)	—
Repurchase of common stock	(914)	(5,419)	(433)
Contribution from redeemable noncontrolling interest	15,843	—	—
Preferred equity issuance costs	(1,192)	—	—
Cash used in financing activities	(42,478)	(86,947)	(73,115)
Net increase (decrease) in cash and cash equivalents	53,188	(77,954)	(98,476)
Net effect of foreign exchange on cash and cash equivalents	(3,734)	1,919	(3,028)
Balance, beginning of period	75,768	151,803	253,307
Balance, end of period	\$ 125,222	\$ 75,768	\$ 151,803

	Year Ended December 31,		
	2024	2023	2022
Supplemental cash flow information:			
Interest paid	\$ (95,050)	\$ (51,017)	\$ (58,053)
Income taxes refunded (paid), net	19,003	(7,239)	15,200
Capital assets purchased on account	39,163	37,363	29,726

See Notes to Consolidated Financial Statements.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

1. Nature of Operations and Basis of Presentation

Nature of Operations

The Company is a leading manufacturer of high purity cellulose, paperboard and high-yield pulp products and operated the following segments during the periods presented in this 2024 Form 10-K: High Purity Cellulose, Paperboard and High-Yield Pulp.

High Purity Cellulose

The Company, through its four production facilities located in the U.S., Canada and France, manufactures and markets high purity cellulose, which is sold as either cellulose specialties or commodity products. Cellulose specialties are primarily used in dissolving chemical applications that require a highly purified form of cellulose. Commodity products are used for absorbent materials and viscose applications. Absorbent materials, typically referred to as fluff, are used as an absorbent medium in consumer products. Commodity viscose is a raw material required for the manufacture of viscose staple fibers which are used in woven and non-woven applications. The Company's specialized assets also produce bioelectricity and biomaterials, including biofuels, lignin and tall oil soap. Sales of chemicals and energy, by-products of the manufacturing process, are also included in the High Purity Cellulose operating segment.

Paperboard

The Company manufactures and markets lightweight multi-ply paperboard products through its production facility in Canada. Paperboard is used for packaging, printing documents, brochures, promotional materials, paperback book and catalog covers, file folders, tags and lottery tickets.

High-Yield Pulp

The Company manufactures and markets bulky high-yield pulp through its production facility in Canada. Paper manufacturers use high-yield pulp to produce paperboard, packaging, printing and writing papers and various other paper products.

Basis of Presentation

The Financial Statements include the accounts and operations of the Company and its wholly owned, majority owned and controlled subsidiaries. Redeemable noncontrolling interests held in certain of the Company's consolidated entities are reported as temporary equity in the consolidated balance sheets. The Company applies the equity method of accounting for investments in which it has an ownership interest of 20 percent to 50 percent or exercises significant influence over the related investee operations. All intercompany accounts and transactions are eliminated in consolidation. Certain amounts in prior periods have been reclassified to conform with the current period presentation.

The Financial Statements are prepared in accordance with GAAP and the rules and regulations of the SEC. The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and disclosures of contingent assets and liabilities. Because of the inherent uncertainties in using estimates, actual results could differ from those expected as of the reporting date. Management believes that the estimates and assumptions used are reasonable.

The Company's fiscal year end is the last day of the calendar year. For interim reporting periods, the Company uses the last Saturday of the fiscal quarter.

Discontinued Operations

As a result of the sale of its lumber and newsprint assets in August 2021, the Company presents the results for those operations and any associated impacts as discontinued operations. Unless otherwise stated, information in these notes to consolidated financial statements relates to continuing operations. See Note 4—Discontinued Operations for further information.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

Altamaha Green Energy LLC

The Company is involved with AGE, under a preliminary joint venture agreement with Beasley Green Power, LLC. AGE aims to construct a biomass boiler and turbine to produce and sell green electricity to Georgia Power Company. AGE is not engaged in any other operating activities and since formation it has only been focused on developing feasibility studies for this project and handling related administrative matters. AGE expenses to date have been shared evenly by RYAM and Beasley and have not been material for the Company for any of the periods presented. The amounts expensed by the Company have been recorded as general and administrative expenses. Once the project evolves from the development stage and the current joint venture agreement between the Company and Beasley is amended to reflect the appropriate terms, the Company will evaluate the accounting and disclosure implications.

Subsequent Events

In February and March 2025, the U.S. government imposed new tariffs on products imported from China, Canada and Mexico, which have and may result in additional retaliatory tariffs and other trade actions from these nations. Given the evolving nature of trade policies and the potential for further modifications, reductions or expansions of these tariffs, it remains uncertain how these actions will ultimately impact the Company.

Beginning in January 2025, the Company reorganized its High Purity Cellulose operating segment as a result of changes in its internal operating model, significant developments in its Biomaterials strategy (see Note 2—Significant Accounting Policies and Recent Accounting Developments—*Redeemable Noncontrolling Interest* and Note 10—Debt and Finance Leases for information regarding the newly-formed subsidiary, BioNova, and important financing milestones reached) and a successful enterprise reporting system launch that significantly enhances the Company’s financial reporting capabilities. Specifically, the Company determined, in light of these new developments and capabilities, that the performance and outlook of the High Purity Cellulose business will be better managed as three separate businesses: Cellulose Specialties, Cellulose Commodities and a new Biomaterials business. No changes were made to the composition of the Paperboard and High-Yield Pulp operating segments. The Company will begin reporting based on this new segment structure in the Company’s Quarterly Report on Form 10-Q for the first quarter of fiscal 2025.

2. Significant Accounting Policies and Recent Accounting Developments

Significant Accounting Policies

Translation of Foreign Currency

Assets and liabilities of consolidated subsidiaries whose functional currency is other than the USD are translated into USD using currency exchange rates at the balance sheet date. Revenues and expenses are translated using the average currency exchange rates during the period. Foreign currency translation gains and losses are reported as a component of AOCI.

Realized and unrealized gains and losses resulting from foreign currency transactions are included in operating results as incurred.

Cash and Cash Equivalents

Cash and cash equivalents include time deposits and other highly liquid investments with original maturities of three months or less.

Accounts Receivable and Allowance for Credit Loss

Trade accounts receivable are stated at the net amount expected to be collected. All customers are granted credit on a short-term basis and related credit risks are considered minimal. The Company maintains an allowance for expected credit losses resulting from the inability of its customers to make required payments. The Company’s allowance is based on historical patterns of accounts receivable collections and expected losses, including the consideration of general economic conditions. Outstanding accounts receivable balances are reviewed quarterly or more frequently when circumstances indicate a review is warranted, such as a significant change in the aging of the Company’s receivables or a customer’s financial condition. Write-offs are recorded when a customer receivable is deemed uncollectible and collection efforts have been exhausted.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

Inventory

On January 1, 2024, the Company changed the method of valuation of its finished goods, work-in-process and raw materials inventories from first-in first-out to average cost. The Company believes the average cost method is preferable because it provides better matching of revenue and expense trends and better reflects periodic income from operations. This change was not retrospectively applied to prior periods presented, as the overall effect of the change is not deemed material to the Company's consolidated financial statements. Manufacturing and maintenance supplies are valued at average cost. Inventory costs include material, labor and manufacturing overhead. The need for a provision for estimated losses from obsolete, excess or slow-moving inventories is reviewed periodically.

Property, Plant and Equipment

Depreciation

Property, plant and equipment are recorded at cost, including applicable freight, interest, construction and installation costs. High purity cellulose, paperboard and high-yield pulp production-related plant and equipment are depreciated using the units-of-production method. The total units of production used to calculate depreciation expense is determined by factoring annual production days, based on normal production conditions, by the economic useful life of the asset involved. Production-related assets under finance leases are depreciated using the straight-line method over the related lease term. The Company depreciates its non-production assets, including office, lab and transportation equipment, using the straight-line depreciation method over 3 to 25 years. Buildings and land improvements are depreciated using the straight-line method over 15 to 35 years and 5 to 30 years, respectively.

Impairment

Long-lived assets are reviewed for impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Property, plant and equipment are primarily grouped at the combined plant level, the lowest level for which independent cash flows are identifiable. Recoverability of assets that are held and used is measured by net undiscounted cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying value exceeds the fair value of the assets, which is based on a discounted cash flow model. Assets to be disposed of are reported at the lower of the carrying amount or fair value, less cost to sell.

In the third quarter of 2024, in conjunction with the indefinite suspension of Temiscaming High Purity Cellulose operations, the Company recorded a non-cash asset impairment of \$25 million. See Note 3—Indefinite Suspension of Operations for further information.

In the fourth quarter of 2023, in conjunction with the optimization and realignment of High Purity Cellulose assets, the Company recorded a non-cash impairment of \$62 million related to certain assets at the Temiscaming and Jesup facilities. See Note 8—Property, Plant and Equipment, Net for further information.

Asset Retirement Obligations

The Company is obligated to close out its operating sites' landfills in accordance with certain legal requirements and records a liability for these obligations when the fair value can be reasonably estimated. In connection with these obligations, asset retirement liabilities are initially estimated and recorded based on discounted expected cash flows with a corresponding asset, capitalized as part of the related long-lived asset. Initial cost estimates are updated whenever events and circumstances indicate a new estimate is more appropriate. The asset is depreciated on a straight-line basis over the remaining useful life of the related asset. Accretion expense in connection with the discounted liability is also recognized over the same period. As of December 31, 2024 and 2023, the Company had accrued \$13 million and \$12 million, respectively, for asset retirement obligations in "other liabilities." Related depreciation and accretion expenses are included in "other operating income (expense), net" in the consolidated statements of operations. During 2024, new obligations incurred were immaterial and no obligations were settled. Accretion expense was immaterial during the years ended December 31, 2024 and 2022 and was \$1 million during 2023.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

Capitalized Software

The Company capitalizes certain costs in connection with obtaining software for internal use. These costs are generally amortized over 5 years, once the assets are ready for their intended use. As of December 31, 2024 and 2023, the Company had \$50 million and \$40 million, respectively, of capitalized software included in “other assets” in the consolidated balance sheets. Accumulated amortization was \$22 million and \$23 million at December 31, 2024 and 2023, respectively. Amortization expense for capitalized software is recorded in “cost of sales” and “selling, general and administrative expense” in the consolidated statements of operations and totaled \$5 million, \$4 million and \$4 million for the years ended December 31, 2024, 2023 and 2022, respectively.

Maintenance Costs

The Company performs scheduled inspections and major repairs and maintenance of plant machinery and equipment at the Company’s manufacturing facilities during a full plant shutdown. Costs associated with these planned outage periods are referred to as shutdown costs and are incurred to ensure the long-term reliability and safety of the manufacturing operations. Major maintenance shutdown costs are accounted for by the deferral method, under which expenditures related to shutdown are capitalized when incurred and amortized to production cost on a straight-line basis over the period benefited or the period of time until the next scheduled major maintenance shutdown, which generally ranges from one year to 18 months. Shutdown costs are classified as operating activities in the consolidated statements of cash flows. As of December 31, 2024 and 2023, the Company had \$14 million and \$34 million, respectively, in deferred major maintenance shutdown costs recorded in “prepaid and other current assets” in the consolidated balance sheets.

Emissions Allowances

The Company is subject to numerous international, federal and state-level rules, initiatives and proposals that address domestic and global climate issues, including those governing emissions. To comply with certain of these regulations and ordinances, the Company is allotted certain allowances or credits by governing authorities to offset the obligations created by the Company’s operations. There is no value assigned to the government-allotted emissions allowances in the consolidated balance sheets. Income or expense from the sale or purchase of emission allowances are recognized within “cost of sales” in the consolidated statements of operations. During the years ended December 31, 2024, 2023 and 2022, the Company recorded \$10 million, \$11 million and \$12 million, respectively, of sales of excess emission allowances associated with its Tartas, France operations.

Research and Development Expense

R&D capabilities and activities are primarily focused on the High Purity Cellulose operating segment. These efforts are directed at further developing products and technologies, including improving the quality of cellulose fiber grades, improving manufacturing efficiency and environmental controls and reducing fossil fuel consumption. R&D expense was \$5 million, \$6 million and \$7 million for the years ended December 31, 2024, 2023 and 2022, respectively.

Intangible Assets

The Company has definite-life intangible assets that it acquired through a business combination. The definite-life intangible assets consist of customer lists and trade names and are amortized over their estimated useful lives for periods generally ranging from 8 to 15 years. The Company evaluates the recoverability of its definite-life intangible assets by comparing the net carrying value of the asset group to the undiscounted net cash flows expected to be generated from the use and eventual disposition of that asset group when events or changes in circumstances indicate that its carrying amount may not be recoverable. If the carrying amount of the asset group is not recoverable, the fair value of the asset group is measured, and, if the carrying amount exceeds the fair value, an impairment loss is recognized.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

The Company's definite-lived intangible assets were as follows:

December 31, 2024				
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Life
Customer lists	\$ 51,680	\$ (45,783)	\$ 5,897	0.9 years
Trade names	8,604	(4,097)	4,507	7.9 years
Total definite-lived intangibles	<u>\$ 60,284</u>	<u>\$ (49,880)</u>	<u>\$ 10,404</u>	3.9 years

December 31, 2023				
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Life
Customer lists	\$ 51,680	\$ (39,348)	\$ 12,332	1.9 years
Trade names	8,604	(3,522)	5,082	8.9 years
Total definite-lived intangibles	<u>\$ 60,284</u>	<u>\$ (42,870)</u>	<u>\$ 17,414</u>	4.0 years

Total amortization expense related to definite-lived intangible assets was \$7 million for each of the years ended December 31, 2024, 2023 and 2022.

Estimated future amortization expense related to intangible assets held as of December 31, 2024 was as follows:

2025	\$ 6,473
2026	575
2027	575
2028	575
2029	575
Thereafter	1,631
Total	<u>\$ 10,404</u>

Equity Method Investments

Anomera, Inc.

The Company is an investor in Anomera, a Canadian start-up corporation headquartered in Montreal, Quebec. Anomera manufactures CNC, a patented, biodegradable product, with uses in the cosmetics industry and various other industrial applications, including concrete, inks and pigments, polymer composites, coatings and adhesives industries. Anomera has a product development lab in Mississauga, Ontario and a production facility on the Company's Temiscaming site that was constructed during 2021. In exchange for voting and non-voting interests, the Company has invested \$12 million in Anomera through December 31, 2024. The Company and Anomera have entered into various service, leasing and supply agreements to support Anomera's operations at the production facility. There are no financing agreements at Anomera for which the Company is liable.

The Company has a 44 percent voting interest in Anomera and is able to exercise significant influence, but not control, as it does not have the ability to direct the decisions that most significantly impact its economic performance. The Company has evaluated this investment and has concluded it is not a variable interest entity. The Company accounts for this investment under the equity method of accounting and records its share of net earnings and losses on the investment in "equity in loss of equity method investment" in the consolidated statements of operations. During the years ended December 31, 2024, 2023 and 2022, the Company recorded losses of \$2 million, \$2 million and \$3 million, respectively, on its equity investment in Anomera.

LignoTech Florida LLC

The Company holds a 45 percent interest in LTF, a joint venture accounted for under the equity method of accounting. Borregaard ASA, a public company in Norway traded on the Oslo Exchange, owns the remaining 55 percent interest. LTF purchases sulfite liquor from the Company's Fernandina Beach, Florida plant and converts it to purified lignins and lignosulfonates, which are used in concrete, textile dyes, pesticides, batteries and other products.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

The Company recorded \$11 million, \$14 million and \$20 million of lignin sales to the LTF joint venture during the years ended December 31, 2024, 2023 and 2022, respectively. The Company records its share of net earnings and losses on the investment in “other operating income (expense), net” in the consolidated statements of operations. During the years ended December 31, 2024 and 2022, the Company recorded income of \$2 million and a loss of \$3 million, respectively. During the year ended December 31, 2023, the Company recorded immaterial income on its investment in LTF. See Note 19—Other Operating Income (Expense), Net for further information.

The Company is liable for certain financing agreements related to LTF. See Note 22—Commitments and Contingencies for further information.

Redeemable Noncontrolling Interest

In November 2024, the Company and one of its subsidiaries entered into a shareholder agreement with SWEN, pursuant to which SWEN will fund up to €30 million in exchange for up to 222,222 preferred shares, representing an expected 20 percent total noncontrolling equity interest in BioNova. Of this commitment, €15 million was funded at the closing of the shareholder agreement in exchange for 111,111 preferred shares, which currently represents an equity interest in BioNova of approximately 14 percent. Subsequent funding is contingent on the achievement of project milestones expected during 2025.

The preferred shares rank senior to holders of BioNova common stock with respect to dividend rights and rights on the distribution of assets on any voluntary or involuntary liquidation, dissolution or winding up of the affairs of BioNova. Dividend distributions are subject to certain conditions set forth in the shareholder agreement. The preferred shares also contain embedded redemption features, which would require the Company to transfer cash to SWEN upon an exercise of the call and the put options. The preferred shares are not deemed mandatorily redeemable and therefore have been classified as temporary equity.

The call option may be exercised at the Company’s discretion as follows:

- Between January 1, 2028 (inclusive) and December 31, 2031 (inclusive).
- If not exercised during the above period, it becomes exercisable again between January 1, 2033 (inclusive) and December 31, 2034 (inclusive).

The put option may be exercised at SWEN’s discretion as follows:

- At any time in the presence of an event of default enabling BioNova’s lenders or their agent to request the acceleration of maturity of the related debt.
- At any time in the event of a change of control.
- Between January 1, 2032 (inclusive) and December 31, 2032 (inclusive), if the call option was not exercised.
- Between January 1, 2035 (inclusive) and December 31, 2035 (inclusive), if the call option was still not exercised.

Both options have an exercise price that ensures achievement of both an internal rate of return of 16 percent and a 2x multiple. The Company evaluated the call and put options embedded in the preferred shares and determined that the put option should be bifurcated and recognized separately at fair value, with subsequent changes in fair value recorded in earnings. See Note 13—Fair Value Measurements for further information on the fair value measurements of the put option.

The value of SWEN’s redeemable noncontrolling interest is accreted to its estimated redemption value at each period end using the interest method. It is reflected in temporary equity at the current redemption value less the current carrying fair value amount of the bifurcated put option.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

The following table presents a reconciliation of the changes in the redeemable noncontrolling interest balance:

	Redeemable Noncontrolling Interest
Balance at December 31, 2023	\$ —
Cash contribution from redeemable noncontrolling interest	15,843
Bifurcation of put option	(4,196)
Equity issuance costs	(1,192)
Foreign exchange adjustment	(242)
Adjustment to redemption value	253
Net income attributable to redeemable noncontrolling interest	37
Balance at December 31, 2024	<u>\$ 10,503</u>

Results attributable to RYAM, after attribution to the redeemable noncontrolling interest, were as follows:

	Year Ended December 31, 2024
Loss from continuing operations attributable to RYAM	\$ (41,961)
Income from discontinued operations attributable to RYAM	3,217
Net loss attributable to RYAM	<u>\$ (38,744)</u>

Revenue Recognition and Measurement

Revenue is recognized when the performance obligations under a customer contract are satisfied. The Company's customer contracts have a single performance obligation to transfer products. Accordingly, revenue is recognized when control has been transferred to the customer. Generally, control passes upon delivery to a location in accordance with the terms and conditions of the sale. Changes in customer contract terms and conditions, as well as the timing of orders and shipments, may impact the timing of revenue recognition.

Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring its products and is generally based on contractual arrangements with customers or published indices. The Company sells its products both directly to customers and through distributors and agents, typically under agreements with payment terms less than 90 days.

The Company elected to account for shipping and handling as activities to fulfill the promise to transfer the goods. As such, shipping and handling costs incurred are recorded in "cost of sales." In addition, the Company has excluded from net sales any value-add, sales and other taxes collected concurrent with its revenue-producing activities.

The nature of the Company's contracts may give rise to variable consideration, which may be constrained, including sales volume-based rebates to customers. The Company estimates sales volumes based on anticipated purchases at the beginning of the period and records a rebate accrual for each purchase toward the requisite rebate volume. These estimated rebates are included in the transaction price as a reduction to net sales.

The Company has certain contracts that contain performance obligations that are not significant in the context of the customer contract and has elected not to assess whether these promised goods or services are performance obligations.

The Company did not have any material contract assets or contract liabilities as of December 31, 2024 or 2023.

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Environmental Costs

The Company has established liabilities to assess, remediate, maintain and monitor sites related to disposed operations from which no current or future benefit is discernible. These obligations are established based on projected spending over the next 20 years and require significant estimates to determine the proper amount at any point in time. The projected period, from 2025 through 2045, reflects the time during which potential future costs are both estimable and probable. As new information becomes available, these cost estimates are updated and the recorded liabilities are adjusted appropriately. Environmental liabilities are accounted for on an undiscounted basis and are reflected in “current environmental liabilities” and “non-current environmental liabilities” in the consolidated balance sheets.

Employee Benefit Plans

The determination of expense and funding requirements for the Company’s defined benefit pension and postretirement health care and life insurance plans are primarily based on several actuarial assumptions. The key assumptions include discount rate, return on assets, salary increases, health care cost trends, mortality rates and employee service lives.

The components of periodic pension and postretirement costs, other than service costs, are presented separately, outside of operating income, in “components of pension and OPEB, excluding service costs” in the consolidated statements of operations. The service cost component of net periodic benefit cost is presented in “cost of sales” and “selling, general and administrative expense,” which correlates with the related employee compensation costs arising from services rendered during the period. Only the service cost component of the net periodic benefit cost is eligible for capitalization.

Changes in the funded status of the Company’s plans are recorded through comprehensive income in the year in which the changes occur. Actuarial gains and losses, which occur when actual experience differs from actuarial assumptions, are reflected net of taxes in stockholders’ equity. If actuarial gains and losses exceed ten percent of the greater of plan assets or plan liabilities, the Company amortizes them over the average future service period.

Income Taxes

The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement asset and liability carrying amounts and their respective tax bases, operating loss carryforwards and tax credit carryforwards. Deferred tax assets and liabilities are measured pursuant to tax laws using rates expected to apply to taxable income in the years in which the temporary differences are expected to be recovered or settled. The Company records a valuation allowance to reduce the carrying amounts of its DTAs if it is more likely than not that such DTAs will not be realized, with the exception of DTAs for suspended U.S. interest deductions, which do not have a full valuation allowance in accordance with specific AICPA guidance. See Note 20—Income Taxes for further information.

The Company’s income tax returns are subject to audit by U.S. federal and state taxing authorities as well as foreign jurisdictions, including Canada and France. In evaluating the tax benefits associated with various tax filing positions, the Company records a tax benefit for an uncertain tax position if it is more likely than not to be realized upon ultimate settlement of the issue. The Company records a liability or an offset to the corresponding DTA for any uncertain tax position that does not meet this criterion. The Company adjusts its liabilities for unrecognized tax benefits in the period in which it is determined the issue is settled with the taxing authorities, the statute of limitations expires for the relevant taxing authority to examine the tax position or when new information becomes available. Interest expense and penalties, if applicable, related to unrecognized tax benefits are recorded in “income tax (expense) benefit” in the consolidated statements of operations.

Recent Accounting Developments

Accounting Standards Updates Implemented

The Company adopted, for this 2024 Form 10-K, ASU 2023-07 “Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures,” which requires disclosures about significant segment expenses and other segment items on an interim and annual basis, as well as certain disclosures regarding the Company’s CODM. The Company applied the ASU retrospectively to all prior periods presented. See Note 21—Segment and Geographical Information for the new disclosures required by this ASU. The adoption of this ASU had no impact to the Company’s consolidated financial statements.

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Accounting Standards Updates Not Yet Implemented

In November 2024, the FASB issued ASU 2024-03 “Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses,” which requires additional information about specific expense categories in the notes to financial statements for both interim and annual reporting periods. This ASU is effective for public companies with annual reporting periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027, with early adoption permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements and related disclosures.

In December 2023, the FASB issued ASU 2023-09 “Income Taxes (Topic 740): Improvements to Income Tax Disclosures,” which requires enhanced income tax disclosures, primarily through changes to the rate reconciliation and income taxes paid information. ASU 2023-09 should be applied on a prospective basis and is effective for annual periods beginning after December 15, 2024. Early adoption and retrospective application are permitted. The Company is currently evaluating the impact of this standard on its disclosures, with no impact expected to its consolidated financial statements.

In August 2023, the FASB issued ASU 2023-05 “Business Combinations—Joint Venture Formations (Subtopic 805-60): Recognition and Initial Measurement,” which provides specific guidance on how a joint venture, upon formation, should recognize and initially measure assets contributed and liabilities assumed. This ASU should be applied on a prospective basis to all joint ventures with a formation date on or after January 1, 2025. Early adoption is permitted and joint ventures formed prior to the adoption date may elect to apply the new guidance retrospectively back to their original formation date. The Company is currently evaluating the impact of this standard on its consolidated financial statements and related disclosures.

3. Indefinite Suspension of Operations

In July 2024, the Company indefinitely suspended operations at its Temiscaming High Purity Cellulose plant. The Temiscaming paperboard and high-yield pulp plants that support the Company’s Paperboard and High-Yield Pulp operating segments will continue to operate at full capacity while remaining part of an ongoing sales process. The High Purity Cellulose plant was idled in a safe and environmentally sound manner and the Company will assess, on at least an annual basis, the possibility of restarting the Temiscaming High Purity Cellulose plant.

Suspension of operations activities began in July 2024 and were mostly completed by the end of the fourth quarter. In connection with the indefinite suspension of operations, the Company has incurred one-time operating charges of \$17 million. Remaining one-time charges to be incurred in 2025 are not expected to be material. While most cash costs associated with the indefinite suspension of operations were paid in the third and fourth quarters, severance and other indefinite suspension costs are expected to be paid over a period of time.

In the third quarter of 2024, in conjunction with the indefinite suspension of operations, the Company recognized a non-cash asset impairment of \$25 million, as it was determined that the Temiscaming High Purity Cellulose plant’s net carrying value exceeded its estimated fair value. Determining the fair value of an asset group is judgmental in nature and involves the use of significant estimates and assumptions. The Company determined the fair value of the Temiscaming High Purity Cellulose plant asset group using discounted cash flows under the income approach, which required the use of key assumptions and significant estimates. See Note 13—Fair Value Measurements for further information on the fair value measurement of the Temiscaming plant asset group.

The following table presents the accrued liability balance activity related to the indefinite suspension during the year ended December 31, 2024:

	Mothballing Costs	Severance and Other Employee Costs	Total
Balance at December 31, 2023	\$ —	\$ —	\$ —
Charges incurred ^(a)	5,710	5,403	11,113
Payments	(4,733)	(393)	(5,126)
Balance at December 31, 2024	<u>\$ 977</u>	<u>\$ 5,010</u>	<u>\$ 5,987</u>

^(a) Excludes non-cash items. See below.

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The following table presents total indefinite suspension charges incurred by cost type:

	Year Ended December 31, 2024
Mothballing costs	\$ 5,710
Severance and other employee costs	6,133
Loss on asset disposal	975
Other suspension costs	3,812
Indefinite suspension charges^(a)	\$ 16,630

^(a) Includes non-cash charges of (i) a \$2 million write-off of deferred shutdown costs, (ii) \$2 million for potential contract penalties, (iii) a loss on asset disposal of \$1 million and (iv) a \$1 million loss on pension curtailment charges associated with early retirements driven by the indefinite suspension of operations. See Note 18—Employee Benefit Plans for further information regarding the loss on pension curtailment charges.

The above costs were charged to the High Purity Cellulose operating segment in “indefinite suspension charges” in the consolidated statements of operations.

4. Discontinued Operations

In August 2021, the Company completed the sale of its lumber and newsprint facilities and certain related assets located in Canada to GreenFirst for \$232 million, including cash of \$193 million, 28.7 million shares of GreenFirst common stock with a deemed fair value of \$42 million and a credit note issued to the Company by GreenFirst for CAD \$8 million (USD \$5 million after present value discount), which may be offset equally over the next 5 years against future amounts owed by the Company to GreenFirst for wood chip purchases.

In connection with the sale, the parties entered into a TSA whereby the Company provided certain transitional services to GreenFirst following the sale closing and through its termination in the second quarter of 2022. GreenFirst reimbursed costs incurred by the Company in connection with the TSA.

Additionally, GreenFirst and the Company entered into a 20-year assignable wood chip and residual fiber supply agreement, securing supply for the Company’s operations at the Temiscaming plant. The Company remains subject to purchase obligations under this agreement, under which total required purchase volumes of wood chips and residual fiber are dependent on sawmill production. In connection with the indefinite suspension of operations at the Temiscaming High Purity Cellulose plant, GreenFirst and the Company have agreed that the Company will purchase the required volumes at market value and sell them to third parties at the same amount for an expected neutral impact.

As part of the sale of its lumber assets, the Company retained all refund rights and obligations, including interest, to softwood lumber duties generated or incurred through the closing date of the sale. In total, the Company paid \$112 million in softwood lumber duties from 2017 through 2021, and at December 31, 2023, the Company had a \$40 million long-term receivable related to USDOC administrative reviews completed to date. The Company recorded pre-tax gains of \$2 million and \$16 million related to these reviews during 2023 and 2022, respectively. In June 2024, the Company sold its refund rights (inclusive of the receivable), including all accrued interest, for \$39 million, with the opportunity for additional sale proceeds in the future contingent upon the timing and terms of the ultimate outcome of the trade dispute between the USDOC and Canada. The Company recorded a pre-tax loss of \$1 million on the sale.

During the second quarter of 2024, the Company recognized pre-tax income of \$5 million related to CEWS benefit claims deferred since 2021. See Note 9—Accrued and Other Current Liabilities for further information.

In 2023, the Company incurred a \$2 million loss related to the settlement of a claim pursuant to the representations and warranties in the asset purchase agreement.

In 2022, the Company sold its GreenFirst common shares for \$43 million and recorded a net gain of \$5 million on the securities for the year. While held, the shares were accounted for at fair value, with changes in fair value recorded in the consolidated statements of operations.

The lumber and newsprint assets sold were previously reported within the Forest Products and Pulp and Newsprint segments, respectively.

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Income from discontinued operations was comprised of the following:

	Year Ended December 31,		
	2024	2023	2022
Net sales	\$ —	\$ —	\$ —
Cost of sales	—	—	155
Gross margin	—	—	155
Loss on sale of duty refund rights	(890)	—	—
Selling, general and administrative expense and other operating income, net	5,267	424	16,808
Operating income	4,377	424	16,963
Interest expense ^(a)	—	—	(13)
Income from discontinued operations before income tax	4,377	424	16,950
Income tax expense ^(b)	(1,160)	(112)	(4,492)
Income from discontinued operations, net of tax	\$ 3,217	\$ 312	\$ 12,458

^(a) Allocated based on the total portion of debt not attributable to other operations repaid as a result of the transaction.

^(b) The tax rate used differed from the U.S. statutory rate, as discontinued operations were taxed exclusively at the Canadian blended rate of 26.5 percent for all periods presented.

5. Leases

The Company's operating and finance leases are primarily for corporate offices, warehouse space, rail cars and equipment. As of December 31, 2024, the Company's leases have remaining lease terms of less than one year to 11.8 years with standard renewal and termination options available at the Company's discretion. Certain equipment leases have purchase options at the end of the lease term, which are not included in the ROU assets, as it is not reasonably certain that the Company will exercise such options. Short-term leases, those with an initial term of 12 months or less, are not recorded on the consolidated balance sheets. The Company's lease agreements do not contain any material residual value guarantees or restrictive covenants. The Company uses its incremental borrowing rate in determining the present value of lease payments unless the lease provides an implicit or explicit interest rate.

Financial and other information related to the Company's operating and finance leases follow:

	Year Ended December 31,		
	2024	2023	2022
Operating lease cost	\$ 8,584	\$ 7,441	\$ 7,751
Finance lease cost			
Amortization of ROU assets	434	405	377
Interest	81	110	138
Total lease cost	\$ 9,099	\$ 7,956	\$ 8,266

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		December 31,	
		2024	2023
Operating leases^(a)			
ROU assets	Other assets	\$ 31,112	\$ 17,475
Lease liabilities, current	Accrued and other current liabilities	7,604	4,499
Lease liabilities, non-current	Other liabilities	24,035	14,666
Finance leases			
ROU assets	Property, plant and equipment, net	709	1,078
Lease liabilities	Long-term debt	921	1,355

^(a) During the second quarter of 2024, the Company recorded an ROU asset and corresponding lease liability of \$14 million related to a new warehouse lease agreement in Canada.

	Year Ended December 31,		
	2024	2023	2022
Operating cash flows - cash paid for amounts included in the measurement of operating lease liabilities	\$ 8,590	\$ 6,996	\$ 7,694
Operating lease ROU assets obtained in exchange for lease liabilities	20,134	7,676	2,975

Finance lease cash flows were immaterial during the years ended December 31, 2024, 2023 and 2022.

	December 31,	
	2024	2023
Operating leases		
Weighted average remaining lease term (in years)	4.6	5.5
Weighted average discount rate	8.2 %	8.3 %
Finance leases		
Weighted average remaining lease term (in years)	1.8	2.8
Weighted average discount rate	7.0 %	7.0 %

Operating lease maturities as of December 31, 2024 were as follows:

2025	\$ 9,824
2026	9,121
2029	7,780
2028	6,266
2029	2,274
Thereafter	3,250
Total minimum lease payments	38,515
Less: imputed interest	(6,876)
Present value of future minimum lease payments	\$ 31,639

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6. Accounts Receivable, Net

Accounts receivable, net included the following:

	December 31,	
	2024	2023
Accounts receivable, trade	\$ 191,091	\$ 166,137
Accounts receivable, other ^(a)	23,938	31,973
Allowance for credit loss	(1,057)	(653)
Accounts receivable, net	<u>\$ 213,972</u>	<u>\$ 197,457</u>

^(a) Consists primarily of value-added/consumption taxes, grants receivable and accrued billings due from government agencies.

7. Inventory

Inventory included the following:

	December 31,	
	2024	2023
Finished goods	\$ 156,407	\$ 147,930
Work-in-progress	5,034	6,987
Raw materials	40,234	46,120
Manufacturing and maintenance supplies	6,328	6,437
Inventory	<u>\$ 208,003</u>	<u>\$ 207,474</u>

8. Property, Plant and Equipment, Net

Property, plant and equipment, net included the following:

	December 31,	
	2024	2023
Land and land improvements	\$ 41,430	\$ 35,837
Buildings	254,127	251,196
Machinery and equipment	2,539,114	2,501,882
Other	4,985	4,929
Construction in progress	70,526	78,790
Property, plant and equipment	2,910,182	2,872,634
Accumulated depreciation	(1,891,599)	(1,797,529)
Property, plant and equipment, net	<u>\$ 1,018,583</u>	<u>\$ 1,075,105</u>

Depreciation expense recorded in the consolidated statements of operations was \$125 million, \$129 million and \$124 million for the years ended December 31, 2024, 2023 and 2022, respectively.

The Company received immaterial proceeds from the sale of assets during the years ended December 31, 2024 and 2022 and \$3 million during the year ended December 31, 2023.

Asset Impairments

Indefinite Suspension of Operations

In the third quarter of 2024, in conjunction with the indefinite suspension of operations, the Company recognized a non-cash asset impairment of \$25 million, as it was determined that the Temiscaming High Purity Cellulose plant's net carrying value exceeded its estimated fair value. See Note 3—Indefinite Suspension of Operations for further information.

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Asset Realignment

In the fourth quarter of 2023, the Company began efforts towards the optimization and realignment of its High Purity Cellulose assets that included the consolidation of commodity viscose production into the Temiscaming plant and fluff production into the Jesup plant's C Line. This realignment reflects a strategic decision expected to reduce commodity exposure and earnings volatility and allow the Company to better manage excess capacity of cellulose specialties by operating assets based on current demand for each end market.

The realignment materially impacted the way the assets were to be managed, which resulted in the need for an impairment analysis and, ultimately, the recognition of a non-cash impairment of \$62 million. The impairment was recorded to "asset impairment" in the consolidated statements of operations and was comprised of the amount by which the Temiscaming plant's net carrying value exceeded its estimated fair value and the write-off of certain assets at the Jesup plant that are no longer expected to be used.

Determining the fair value of an asset group is judgmental in nature and involves the use of significant estimates and assumptions. The Company determined the fair values of the Temiscaming plant asset groups for the impairments above using discounted cash flows under the income approach, which required the use of key assumptions and significant estimates. See Note 13—Fair Value Measurements for further information on the fair value measurement of the Temiscaming plant asset groups.

9. Accrued and Other Current Liabilities

Accrued and other current liabilities included the following:

	December 31,	
	2024	2023
Accrued customer incentives	\$ 52,153	\$ 30,036
Accrued payroll and benefits	19,465	13,552
Accrued interest	12,674	32,256
Accrued income taxes	4,445	4,605
Accrued property and other taxes	6,265	2,547
Deferred revenue ^(a)	11,128	24,061
Other current liabilities ^(b)	64,655	47,431
Accrued and other current liabilities	<u>\$ 170,785</u>	<u>\$ 154,488</u>

^(a) Included at December 31, 2024 and 2023 was \$3 million and \$19 million (CAD \$5 million and \$25 million), respectively, associated with funds received in 2021 for CEWS. In the second quarter of 2024, the Company recognized in pre-tax income \$15 million of the \$19 million accrued at December 31, 2023, including \$10 million in "other operating income (expense), net" and \$5 million in "income from discontinued operations, net of tax." The remaining amount will be recognized at the earlier of the conclusion of the final outstanding audit and the expiration of the statute of limitations in July 2025.

^(b) Included at December 31, 2024 and 2023 was \$17 million and \$13 million, respectively, of energy-related payables associated with Tartas facility operations.

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10. Debt and Finance Leases

Debt and finance leases included the following:

	December 31,	
	2024	2023
ABL Credit Facility due November 2029: \$141 million net availability, bearing interest of 6.43% (4.43% adjusted SOFR plus 2.00% margin) at December 31, 2024	\$ —	\$ —
Term Loan due October 2029: bearing interest of 11.52% (4.52% three-month Term SOFR plus 7.00% margin) at December 31, 2024	700,000	—
Term Loan due July 2027	—	250,000
7.625% Senior Secured Notes due January 2026	—	464,640
5.50% CAD-based term loan due April 2028	21,184	30,479
BioNova debt ^(a)	21,120	11,058
Other loans ^(b)	32,536	33,696
Short-term factoring facility	2,304	5,292
Finance lease obligations	921	1,355
Total principal payments due	778,065	796,520
Less: unamortized premium, discount and issuance costs	(48,242)	(19,063)
Total debt	729,823	777,457
Less: debt due within one year	(23,379)	(25,283)
Long-term debt	<u>\$ 706,444</u>	<u>\$ 752,174</u>

^(a) Consists of green loans associated with the France bioethanol plant, part of the net assets contributed by the Company to its new subsidiary, BioNova.

^(b) Consist of loans for energy projects in France.

Future debt and finance lease payments as of December 31, 2024 included:

	Finance Lease			
	Minimum Lease Payments	Interest	Net Present Value	Debt Principal Payments
2025	\$ 515	\$ 50	\$ 465	\$ 22,913
2026	472	16	456	20,771
2027	—	—	—	19,419
2028	—	—	—	17,647
2029	—	—	—	680,058
Thereafter	—	—	—	16,336
Total debt and finance lease payments due	<u>\$ 987</u>	<u>\$ 66</u>	<u>\$ 921</u>	<u>\$ 777,144</u>

ABL Credit Facility

In November 2024, the Company amended its ABL Credit Facility, reducing aggregate commitments from \$200 million to \$175 million and extending the maturity from December 2025 to November 2029. The Company incurred costs of \$2 million related to the amendment, which were recorded to “other assets” in the consolidated balance sheets and will be amortized to “interest expense” in the consolidated statements of operations over the remaining term of the facility.

As of December 31, 2024, the Company had \$168 million of gross availability under the ABL Credit Facility and net available borrowings of \$141 million after taking into account \$27 million of outstanding letters of credit.

The ABL Credit Facility is secured by certain U.S. and Canadian assets, including a first priority lien on inventory, accounts receivable and bank accounts, and a second priority lien on certain of the assets securing the 2029 Term Loan. Availability under the ABL Credit Facility fluctuates based on eligible accounts receivable and inventory levels. The Company is subject to cash dominion if net availability falls below a certain threshold, currently \$26 million.

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Borrowings under the facility bear interest at a rate equal to the highest of (a) the Federal Funds Rate for such day, plus 0.50 percent, (b) the Prime Rate, (c) Term SOFR for a one month interest period plus 1.00 percent and (d) 1.25 percent. The applicable margin for Term SOFR and base rate loans ranges from 2.25 percent to 2.75 percent and 1.25 percent to 1.75 percent, respectively, depending on the Company's average excess availability under the credit agreement. In addition, an annual commitment fee of 0.375 percent applies to the unused portion of the facility.

The credit agreement governing the ABL Credit Facility does not contain an ongoing financial maintenance covenant. However, the agreement requires the Company to meet a fixed charge coverage ratio of not less than 1.0 if net availability falls below a certain threshold, currently \$26 million. The agreement also contains various customary covenants that limit the ability of the Company and its restricted subsidiaries, as defined by the ABL Credit Facility, to take certain specified actions, subject to certain exceptions, including creating liens, incurring indebtedness, making investments and acquisitions, engaging in mergers and other fundamental changes, making dispositions, making restricted payments, including dividends and distributions, and consummating transactions with affiliates. Additionally, the ABL Credit Facility contains customary affirmative covenants and customary events of default (subject, in certain cases, to customary grace or cure periods), including, without limitation, late payment, breach of covenant, bankruptcy, judgment and defaults under certain other indebtedness and changes in control.

At December 31, 2024, the Company was in compliance with all covenants under the ABL Credit Facility.

BioNova Term Loan

In November 2024, the Company entered into a credit agreement for €37 million in secured term loans, structured in two tranches of €28 million (Tranche A) and €9 million (Tranche B), maturing in November 2031 and November 2032, respectively. The Company incurred issuance costs of \$1 million related to the agreement, which were recorded to "other assets" in the consolidated balance sheets. The issuance costs will be deferred as an asset until the debt is drawn, at which point it will be included as a component of the debt's amortized cost basis.

Drawdowns may be made until the second anniversary of the credit agreement, at which time any unused amounts will be canceled. At December 31, 2024, there were no borrowings outstanding under the BioNova Term Loan.

Borrowings under the term loans bear interest at a rate equal to Euribor plus an initial applicable margin of 2.0 percent for Tranche A and 2.5 percent per annum for Tranche B, subject to an annual adjustment based on certain financial performance metrics. Tranche A requires quarterly principal repayments equal to 5.0 percent of the total amount drawn, commencing in February 2027 through to its maturity in November 2031. Tranche B requires a single balloon repayment at its maturity in November 2032. The term loans incur a commitment fee equal to 30 percent of the applicable margin on the unused portion of the term loans during the first two years of the credit agreement. The Company may voluntarily make prepayments at any time, subject to certain fees if the early repayment occurs within the first two years using an external source of financing.

The agreement governing the BioNova Term Loan requires BioNova to maintain a debt to EBITDA ratio of 3.0 to 1.0 in 2026, 2.5 to 1.0 in 2027, 2.0 to 1.0 in 2028, and 1.50 to 1 in 2029 and thereafter. The BioNova Term Loan is secured by 100 percent of the shares in BioNova's subsidiaries and is guaranteed by its subsidiary Rayonier A.M. France SAS.

The agreement governing the BioNova Term Loan also contains various other customary covenants that limit the ability of the Company and its restricted subsidiaries, as defined by the credit agreement, to take certain specified actions, subject to certain exceptions, including incurring debt or liens, making investments, entering into mergers and acquisitions, paying dividends and making other restricted payments. At December 31, 2024, the Company was in compliance with all covenants under the BioNova Term Loan.

2029 Term Loan

In October 2024, the Company issued \$700 million in aggregate principal amount of secured term loan financing and received net proceeds of \$437 million after an original issue discount of \$18 million and the redemption of the \$245 million outstanding principal balance of the 2027 Term Loan. The net proceeds, together with cash on hand, were used to redeem the 2026 Notes and related accrued interest, and pay transaction fees and accrued interest on the 2027 Term Loan.

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The \$700 million in aggregate principal consists of \$450 million from the existing lender under the 2027 Term Loan and \$250 million from new lenders, which was determined to be a modification of debt. As such, unamortized discount and issuance costs of \$13 million related to the 2027 Term Loan were transferred to the 2029 Term Loan within “long-term debt” on the consolidated balance sheets and will be amortized to “interest expense” in the consolidated statements of operations over the term of the 2029 Term Loan. Also recorded to “long-term debt” to be amortized over the term of the 2029 Term Loan were lender fees of \$19 million and the \$18 million original issue discount mentioned above. Other transaction fees of \$6 million were recorded to “debt refinancing charges” in the consolidated statements of operations.

The 2029 Term Loan matures in October 2029, requires quarterly principal payments of \$1.75 million, bears interest at an annual rate equal to three-month Term SOFR plus an initial applicable margin of 7.0 percent, or 11.5 percent at December 31, 2024, with an effective interest rate of 13.5 percent, which includes the effect of amortization of issuance costs and original issue discount. The initial applicable margin may fluctuate by 0.5 percent based on the Company’s net secured leverage ratio. If net secured leverage is below 2.5 times covenant EBITDA, the applicable margin decreases to 6.5 percent. If net secured leverage exceeds 3.5 times covenant EBITDA, the applicable margin increases to 7.5 percent.

The Company may voluntarily make prepayments at any time, subject to customary breakage costs and, if within the first three anniversaries of closing, an additional premium. For the first 18 months, prepayment of the loan is subject to a make-whole premium. For the following six months, prepayment is subject to a 2.0 percent premium. In the third year, prepayment is subject to a 1.0 percent premium. After 3 years, the loan is prepayable at par. The Company will also have the ability to make prepayment using the proceeds from the sale of its Paperboard and High-Yield Pulp businesses at a 2.0 percent premium during the first year, a 1.0 percent premium in year two, and par in year three.

The Company will be required to maintain a consolidated net secured leverage ratio, based on covenant EBITDA, as follows:

- 5.00 to 1.00 for the fourth quarter of 2024 through fiscal year 2025;
- 4.75 to 1.00 for fiscal year 2026; and
- 4.50 to 1.00 for each fiscal year thereafter.

The agreement governing the 2029 Term Loan contains various other customary covenants that limit the ability of the Company and its restricted subsidiaries, as defined by the term loan agreement, to take certain specified actions, subject to certain exceptions, including incurring debt or liens, making investments, entering into mergers, consolidations, and acquisitions, paying dividends and making other restricted payments. Additionally, the 2029 Term Loan contains customary affirmative covenants and customary events of default (subject, in certain cases, to customary grace or cure periods), including, without limitation, late payment, breach of covenant, bankruptcy, judgment and defaults under certain other indebtedness and changes in control. The 2029 Term Loan is secured with a lien against substantially all of the assets of the Company and its domestic and Canadian subsidiaries.

At December 31, 2024, the Company was in compliance with all covenants under the 2029 Term Loan.

2027 Term Loan

In July 2023, the Company secured term loan financing of \$250 million in aggregate principal amount and received net proceeds of \$243 million after a non-cash original issue discount of \$7 million. In addition, the Company incurred issuance costs of \$10 million, which, together with the original issue discount, were recorded in “long-term debt” in the consolidated balance sheets and were being amortized to “interest expense” in the consolidated statements of operations over the term of the loan. The net proceeds, together with cash on hand, were used to redeem the 2024 Notes and pay related transaction costs.

In January 2024, the Company amended the 2027 Term Loan to increase the maximum consolidated secured net leverage ratio that it must maintain in the fourth quarter of 2023 and through its 2024 fiscal year. The Company incurred fees of \$3 million related to this amendment, including \$1 million in legal and advisory fees recorded to “selling, general and administrative expense” in the consolidated statements of operations in the fourth quarter of 2023, and \$2 million in lender fees recorded as deferred financing costs in the first quarter of 2024 that were being amortized to “interest expense” over the remaining term of the loan.

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In November 2024, as discussed above, the Company redeemed the \$245 million outstanding principal balance and accrued interest of \$3 million of the 2027 Term Loan with the 2029 Term Loan refinancing. The redemption of the 2027 Term Loan was treated as a debt modification, and as such, its unamortized discount and issuance costs were transferred to “long-term debt” under the 2029 Term Loan and transaction fees of \$6 million were recorded to “debt refinancing charges” in the consolidated statements of operations. At the time of the redemption, the Company was in compliance with all covenants under the 2027 Term Loan.

Senior Notes

2026 Notes

In December 2020, the Company issued \$500 million aggregate principal amount of 7.625 percent senior secured notes due January 2026.

In November 2024, the Company redeemed the \$453 million outstanding principal balance and accrued interest of \$11 million of the 2026 Notes using proceeds from the issuance of the 2029 Term Loan and cash on hand. A loss on extinguishment of \$4 million related to the redemption was recorded to “debt refinancing charges” in the consolidated statements of operations. At the time of the redemption, the Company was in compliance with all covenants under the 2026 Notes.

Prior to the full redemption of the 2026 Notes, the Company repurchased \$12 million and \$10 million principal of the notes in September 2024 and April 2023, respectively, for which it recorded respective immaterial and \$1 million gains on extinguishment to “debt refinancing charges” in the consolidated statements of operations.

2024 Notes

In May 2014, the Company issued \$550 million aggregate principal amount of 5.50 percent senior unsecured notes due June 2024.

In August 2023, the Company redeemed the outstanding principal balance and accrued interest of the 2024 Notes. A loss on extinguishment of \$1 million related to the redemption was recorded to “debt refinancing charges” in the consolidated statements of operations. Prior to the full redemption of the 2024 Notes, the Company repurchased \$5 million and \$47 million principal of the notes during 2023 and 2022, respectively, for which it recorded respective immaterial and \$1 million gains on extinguishment to “debt refinancing charges.”

Short-term Factoring Facility

The Company’s subsidiary in France entered into a factoring agreement with BNP pursuant to which it submits the value of eligible receivables up to USD \$3 million and euro €24 million for immediate payment. Eligibility of receivables is based on invoices issued to the Company’s subsidiary from customers previously approved by BNP. Upon collection of these receivables, on average no longer than 60 days, amounts outstanding under this agreement are paid off. The Company pays interest on a monthly basis for these borrowings based on the value of factored invoices at the Euribor 3-month rate, with floor at zero percent, plus 0.55 percent. The weighted average interest rate on total short-term borrowings associated with this agreement at December 31, 2024 and 2023 was 4.1 percent and 4.2 percent, respectively.

BioNova Debt and Other Loans

The Company has fixed-rate loans with various financial institutions primarily related to the France bioethanol plant and other energy projects in France. The weighted average interest rate on the loans outstanding at December 31, 2024 and 2023 was 2.9 percent and 2.6 percent, respectively.

11. Environmental Liabilities

The Company’s environmental liabilities relate to sawmills, pulp, paper and wood treating plants which have ceased operations other than environmental investigation and remediation activities. The Company owns or has liability for approximately 20 sites that are subject to various federal, state or provincial statutes, including but not limited to RCRA, CERCLA and the Environmental Protection Act in the U.S., and similar laws in Canada and France, related to the investigation and remediation of environmentally-impacted sites.

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The Company estimates its environmental liabilities based on its current interpretation of environmental laws and regulations when it is probable a liability has been incurred and the amount of such liability is estimable. The Company estimates its environmental liabilities based on several factors, including the application and interpretation of current environmental laws, regulations and other requirements; reports and advice of internal and third-party environmental specialists; and management's knowledge and experience with these and similar types of environmental matters. These estimates include potential costs for investigation, assessment, remediation, ongoing operation and maintenance (where applicable) and post-remediation monitoring of the sites, as well as the cost of legally required financial assurance related to the Company's obligations on an undiscounted basis, generally for a period of 20 years. These environmental liabilities do not include potential third-party recoveries to which the Company may be entitled unless they are probable and estimable.

The following table presents the activity of the Company's environmental liabilities, including those of specific sites where current estimates exceed 10 percent of the total liabilities for disposed operations at December 31, 2024, 2023 or 2022:

	December 31, 2022 Liability	Payments	Increase (Decrease) to Liability ^(a)	December 31, 2023 Liability	Payments	Increase (Decrease) to Liability ^(a)	December 31, 2024 Liability
Port Angeles, Washington	\$ 52,654	\$ (484)	\$ 498	\$ 52,668	\$ (1,004)	\$ 1,594	\$ 53,258
Augusta, Georgia	21,102	(777)	2,330	22,655	(1,227)	1,089	22,517
Baldwin, Florida	16,187	(733)	437	15,891	(383)	447	15,955
East Point, Georgia	18,069	(1,168)	2,811	19,712	(1,111)	1,154	19,755
All other sites	62,669	(2,223)	(1,081)	59,365	(2,180)	1,545	58,730
Total environmental liabilities	170,681	\$ (5,385)	\$ 4,995	170,291	\$ (5,905)	\$ 5,829	170,215
Current environmental liabilities	(10,732)			(9,833)			(9,749)
Non-current environmental liabilities	<u>\$ 159,949</u>			<u>\$ 160,458</u>			<u>\$ 160,466</u>

^(a) Included in the increase (decrease) to liability during the year ended December 31, 2024 was a decrease of \$1 million due to foreign currency fluctuations. The liability as of December 31, 2023 was not materially impacted by foreign currency fluctuations.

Port Angeles, Washington

The Company operated a pulp mill at this site from 1930 until 1997. The site and the adjacent marine areas (a portion of Port Angeles harbor) have been in various stages of the assessment process under the Washington MTCA since 2000, and several voluntary interim soil clean-up actions have been performed during this time. In addition, the Company may be liable under CERCLA for "natural resource damages" caused by releases from the site. As a result of an agreed order with Washington Ecology, the remainder of the Washington MTCA regulatory process will be completed on a set timetable, subject to the approval of all reports and studies by Washington Ecology. Upon completion of all work required under the agreed order and negotiation of an approved remedy, additional remedial measures for the site and off-site areas may be necessary and, as a result, current cost estimates and the corresponding liability could change. During 2024, the estimated liability increased primarily due to changes in estimates related to remediation activities. During 2023, the estimated liability was relatively unchanged.

Augusta, Georgia

The Company operated a wood treatment plant at this site from 1928 to 1988. This site operates under a 10-year hazardous waste permit that was renewed and issued pursuant to RCRA in 2015. Ongoing remediation activities currently consist primarily of groundwater recovery and treatment. Current cost estimates and the corresponding liability could vary if recovery or discharge volumes change or if changes to current remediation activities are required in the future. During 2024, the estimated liability was relatively unchanged. During 2023, the estimated liability increased primarily due to changes in estimates related to site operations and maintenance.

Baldwin, Florida

The Company operated a wood treatment plant at this site from 1954 to 1987. This site operates under a 10-year hazardous waste permit renewed and issued pursuant to RCRA in 2017. Ongoing remediation activities currently consist primarily of groundwater recovery and treatment. Additional remedial activities may be necessary in the future that may result in changes to current cost estimates and the corresponding liability. During 2024 and 2023, the estimated liability was relatively unchanged.

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East Point, Georgia

The Company operated a wood treatment plant at this site from 1920 to 1984. Current site activities are governed by a 2009 Consent Order that will conclude with a new 10-year RCRA permit, which will replace the current 1996 permit. Onsite remediation activities consist primarily of groundwater recovery and treatment. Current cost estimates and the corresponding liability could vary if changes to current remediation activities are required in the future. During 2024, the estimated liability was relatively unchanged. During 2023, the reserve increased primarily due to increases in financial assurance rates and estimates related to site operations and maintenance.

In addition to these estimated liabilities, the Company is subject to the risk of reasonably possible additional liabilities in excess of the established liabilities due to potential changes in circumstances and future events, including, without limitation, changes to current laws and regulations; changes in governmental agency personnel, direction, philosophy or enforcement policies; developments in remediation technologies; increases in the cost of remediation, operation, maintenance and monitoring of its environmental liability sites; changes in the volume, nature or extent of contamination to be remediated or monitoring to be undertaken; the outcome of negotiations with governmental agencies or non-governmental parties; and changes in accounting rules or interpretations. Based on information available as of December 31, 2024, the Company estimates this exposure could range up to approximately \$87 million. However, no assurances can be given that this amount will not be exceeded given the factors described above. These potential additional costs are attributable to several of the above sites and other applicable liabilities. This estimate excludes liabilities that would otherwise be considered reasonably possible but for the fact that they are not currently estimable primarily due to the factors discussed above.

Subject to the previous paragraph, the Company believes its estimates of liabilities are sufficient for probable costs expected to be incurred over the next 20 years with respect to its disposed operations. However, no assurance is given that these estimates will be sufficient for the reasons described above and additional liabilities could have a material adverse effect on the Company's financial position, results of operations and cash flows.

12. Derivative Instruments

The Company's earnings and cash flows are subject to fluctuations due to changes in interest rates and foreign currency exchange rates. The Company has used derivative financial instruments to manage interest rate and foreign currency exchange rate exposure. The Company does not use derivatives for trading or speculative purposes.

Derivative instruments are recognized on the consolidated balance sheets at their fair value and are designated either as a hedge of a forecasted transaction or are undesignated. Changes in the fair value of a derivative designated as a hedge are recorded in "other comprehensive income (loss)" until earnings are affected by the hedged transaction and are then reported in current earnings. Changes in the fair value of undesignated derivative instruments and the ineffective portion of designated derivative instruments are reported in current earnings.

In December 2020, the Company terminated all its outstanding derivative instruments, which had previously been designated as hedging instruments and had various maturity dates through 2028. Accumulated gains and losses associated with these instruments were deferred as a component of AOCI to be recognized in earnings as the underlying hedged transactions occur and affect earnings.

Losses reclassified from AOCI into income were immaterial during the years ended December 31, 2024, 2023 and 2022. The unrealized loss in AOCI related to hedge derivatives is presented below:

	December 31,	
	2024	2023
Foreign exchange cash flow hedges, net of tax	\$ 222	\$ 373

Other

The BioNova preferred shares issued to SWEN for its equity interest in BioNova contain an embedded put option, which the Company determined to be a derivative and should be bifurcated and recognized separately at fair value. See Note 2—Significant Accounting Policies and Recent Accounting Developments—*Redeemable Noncontrolling Interest* and Note 13—Fair Value Measurements for further information.

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13. Fair Value Measurements

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. A three-level hierarchy prioritizes the inputs used to measure fair value as follows:

Level 1 — Quoted prices in active markets for identical assets or liabilities.

Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flows methodologies and similar techniques that use significant unobservable inputs.

Liabilities Measured at Fair Value on a Recurring Basis

Redeemable Noncontrolling Interest — Put Option

In November 2024, BioNova issued 111,111 preferred shares to SWEN in return for a redeemable noncontrolling interest of approximately 14 percent. The preferred shares contain an embedded put option that was determined should be bifurcated and recognized separately at fair value, with subsequent changes in fair value recorded in earnings. See Note 2—Significant Accounting Policies and Recent Accounting Developments for further information.

SWEN's put option was initially measured at a fair value of \$4 million and will be remeasured at the end of each reporting period. There was no meaningful change in the fair value of the put option as of December 31, 2024. The fair value of the put option was estimated using a Monte Carlo simulation model, which is a Level 3 measurement. The Monte Carlo simulation model included the following material assumptions based on observable and unobservable inputs:

	December 31, 2024
Free cash flow to equity volatility ^(a)	52.0 %
Risk-free interest rate	Term structure of U.S. Treasury and Euro Government Bond securities
Weighted average cost of capital	12.1 %

^(a) The free cash flow to equity volatility is based on a peer group of companies in a similar or the same industry.

Assets Measured at Fair Value on a Nonrecurring Basis

Asset Impairment

In the third quarter of 2024, the Company recorded a \$25 million non-cash impairment related to the Temiscaming High Purity Cellulose plant asset group. The fair value of the Temiscaming High Purity Cellulose plant assets was determined using discounted cash flows under the income approach from the perspective of a market participant assuming the highest and best use of the asset group. Discounted cash flows were estimated using key assumptions regarding production levels, price levels, profit margins, capital expenditures and discount rate, which are Level 3 measurements. See Note 3—Indefinite Suspension of Operations for further information on this impairment.

In the fourth quarter of 2023, the Company recorded a \$62 million non-cash impairment related to the Temiscaming plant asset group. The fair value of the Temiscaming plant assets was determined using discounted cash flows under the income approach from the perspective of a market participant assuming the highest and best use of the asset group. Discounted cash flows were estimated using key assumptions regarding production levels, price levels, profit margins, capital expenditures and discount rate, which are Level 3 measurements. See Note 8—Property, Plant and Equipment, Net for further information on this impairment.

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Financial Instruments

The carrying amounts of the Company's cash, receivables and payables approximate fair value due to the short-term nature of those instruments. The carrying amount of borrowings outstanding under the ABL Credit Facility, 2029 Term Loan and short-term factoring facility approximate fair value due to their variable interest rates.

The fair value of the Company's fixed rate debt is estimated using quoted market prices for debt with similar terms and maturities, which are Level 2 inputs, and was as follows:

	December 31,	
	2024	2023
Carrying amount of fixed rate debt ^(a)	\$ 75,142	\$ 536,393
Fair value of fixed rate debt	75,272	497,563

^(a) Excludes finance lease obligations.

14. Stockholders' Equity

Common Stock Buyback

On January 29, 2018, the Board of Directors authorized a share buyback program pursuant to which the Company may, from time to time, purchase shares of its common stock with an aggregate purchase price of up to \$100 million. No shares were repurchased in connection with the program during the years ended December 31, 2024, 2023 and 2022. The Company does not expect to utilize any further authorization in the near future.

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15. Accumulated Other Comprehensive Loss

	Year Ended December 31,		
	2024	2023	2022
Unrecognized components of employee benefit plans, net of tax			
Balance, beginning of year	\$ (33,537)	\$ (43,694)	\$ (76,849)
Other comprehensive gain before reclassifications	15,981	12,859	38,105
Income tax on other comprehensive gain	(3,488)	(2,283)	(9,229)
Reclassifications to earnings ^(a)			
Amortization of (gain) loss	(358)	(705)	5,534
Amortization of prior service cost	337	196	25
Income tax on reclassifications ^(d)	5	90	(1,280)
Net comprehensive gain on employee benefit plans, net of tax	12,477	10,157	33,155
Balance, end of year	(21,060)	(33,537)	(43,694)
Unrealized loss on derivative instruments, net of tax			
Balance, beginning of year	(373)	(567)	(847)
Reclassifications to earnings - foreign currency exchange contracts ^(b)	174	224	323
Income tax on reclassifications ^(d)	(23)	(30)	(43)
Net comprehensive gain on derivative instruments, net of tax	151	194	280
Balance, end of year ^(b)	(222)	(373)	(567)
Foreign currency translation			
Balance, beginning of year	(12,007)	(19,537)	(6,774)
Foreign currency translation adjustment, net of tax ^(c)	(12,380)	7,530	(12,763)
Balance, end of year	(24,387)	(12,007)	(19,537)
Accumulated other comprehensive loss, end of year	<u>\$ (45,669)</u>	<u>\$ (45,917)</u>	<u>\$ (63,798)</u>

^(a) The AOCI components for defined benefit pension and post-retirement plans are included in the computation of net periodic benefit cost. See Note 18—Employee Benefit Plans for further information.

^(b) Reclassifications of foreign currency exchange contracts are recorded in “cost of sales,” “other operating income (expense), net” or “other income, net,” as appropriate. See Note 12—Derivative Instruments for further information.

^(c) Foreign currency translation is net of tax effects of \$0 for all periods presented, as the French operations are taxed on the foreign functional currency, not the translated reporting currency.

^(d) Income tax effects are released from AOCI in the period in which the underlying item is realized in earnings.

16. Earnings per Common Share

Basic earnings per share is calculated by dividing net income available for common stockholders by the weighted average number of shares of common stock outstanding during the year. Diluted earnings per share is calculated by dividing net income by the weighted average number of shares of common stock outstanding, adjusted for the potentially dilutive effect of outstanding stock options, performance-based stock and restricted stock.

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The following table provides the inputs to the calculations of basic and diluted earnings per common share (share amounts not in thousands):

	Year Ended December 31,		
	2024	2023	2022
Loss from continuing operations	\$ (41,924)	\$ (102,147)	\$ (27,377)
Income from continuing operations attributable to redeemable noncontrolling interest	37	—	—
Loss from continuing operations attributable to RYAM	(41,961)	(102,147)	(27,377)
Less: Redeemable noncontrolling interest adjustment to redemption value	(253)	—	—
Loss from continuing operations attributable to RYAM common stockholders	(42,214)	(102,147)	(27,377)
Income from discontinued operations, net of tax attributable to RYAM	3,217	312	12,458
Net loss attributable to RYAM common stockholders	<u>\$ (38,997)</u>	<u>\$ (101,835)</u>	<u>\$ (14,919)</u>
Shares used in determining basic earnings per common share	65,748,775	65,108,397	63,910,010
Dilutive effect of:			
Stock options	—	—	—
Performance and restricted stock	—	—	—
Shares used in determining diluted earnings per common share	<u>65,748,775</u>	<u>65,108,397</u>	<u>63,910,010</u>

Anti-dilutive instruments excluded from the computation of diluted earnings per share included (not in thousands):

	Year Ended December 31,		
	2024	2023	2022
Stock options	—	46,798	77,767
Performance and restricted stock	3,341,516	3,257,295	3,654,506
Total anti-dilutive instruments	<u>3,341,516</u>	<u>3,304,093</u>	<u>3,732,273</u>

17. Incentive Stock Plans

As of December 31, 2024, the Company has had four stock-based incentive plans. The Prior Incentive Stock Plans provided for the grant of incentive stock options, non-qualified stock options, stock appreciation rights, performance stock, restricted stock and restricted stock units, subject to certain limitations. The Company no longer issues shares under the Prior Incentive Stock Plans. The 2023 Plan provides for up to 3.9 million shares to be granted for stock options, non-qualified stock options, stock appreciation rights, performance shares, restricted stock and restricted stock units. Under the 2023 Plan, shares available for issuance may be increased by any shares of common stock subject to awards under the Prior Incentive Stock Plans that, in whole or in part, are forfeited, terminated or expire unexercised, settled in cash in lieu of stock, or released from a reserve for failure to meet the maximum payout under a program. At December 31, 2024, approximately 2 million shares were available for future grants under the 2023 Plan.

The Company recognizes stock-based compensation expense on a straight-line basis, net of forfeitures, over the service period of the award. The Company does not estimate a forfeiture rate for non-vested shares. Forfeitures are recognized and reduce stock-based compensation expense during the period in which they occur. Stock-based compensation expense was as follows:

	Year Ended December 31,		
	2024	2023	2022
Stock-based compensation expense ^(a)	\$ 10,915	\$ 5,754	\$ 10,822

^(a) Included equity award expense of \$7 million, \$7 million and \$10 million during the years ended December 31, 2024, 2023 and 2022, respectively.

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Non-Qualified Employee Stock Option Awards

Stock option awards include RYAM awards held by employees of its former parent Rayonier Inc. Stock options are granted with an exercise price equal to the market value of the underlying stock on the grant date. They generally vest ratably over three years and have a maximum term of 10 years and two days from the grant date. Stock-based compensation expense for stock option awards is recognized over the shorter of: (1) the service period (i.e., the stated period of time required to earn the award) or (2) the period beginning at the start of the service period and ending when an employee first becomes eligible for retirement. The fair value of each option grant is estimated on the grant date using the Black-Scholes option-pricing model. The Company elected to value each grant in total and recognize the expense for stock options on a straight-line basis over three years.

The Company had 46,798 options outstanding at December 31, 2023, all of which expired in January 2024. The fair value of options vested at December 31, 2024, 2023 and 2022 was zero. No options were granted or exercised during the years ended December 31, 2024, 2023 and 2022.

Restricted Stock and Stock Unit Awards

Restricted stock and stock units granted in connection with the Company's performance share plan generally vest upon completion of periods ranging from one year to three years. The 2024 restricted stock unit awards cliff vest after three years. The fair value of each share granted is equal to the share price of the underlying stock on the date of grant.

The following table summarizes the details of the restricted stock and stock units granted to employees:

	Year Ended December 31,		
	2024	2023	2022
Restricted stock and stock units granted (not in thousands)	633,603	992,830	1,328,931
Weighted average price of restricted stock or stock units granted (not in thousands)	\$ 4.11	\$ 5.27	\$ 5.50
Intrinsic value of restricted stock and stock units outstanding	\$ 14,571	\$ 7,641	\$ 16,297
Fair value of restricted stock and stock units vested	\$ 4,435	\$ 4,264	\$ 3,772

The following table summarizes the 2024 restricted stock and stock units activity:

(not in thousands)	Restricted Stock and Stock Unit Awards	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2023	1,886,694	\$ 6.01
Granted	633,603	4.11
Forfeited	(97,060)	4.96
Vested	(657,018)	6.75
Outstanding at December 31, 2024	1,766,219	\$ 5.11

As of December 31, 2024, there was \$3 million of unrecognized compensation cost related to the Company's outstanding restricted stock that is expected to be recognized over a weighted average period of 1.4 years.

Performance-Based Stock Unit and Cash Awards

The Company's performance-based awards generally vest upon completion of a three-year period. The performance-based stock unit award payout is calculated using a combination of Company-specific performance metrics and TSR, which is measured on an absolute basis as well as relative to a peer group of companies. Performance-based cash awards are measured using the same objectives as the performance-based stock unit awards but are classified as a liability and remeasured to fair value at the end of each reporting period until settlement.

The 2022, 2023 and 2024 performance-based awards cliff vest after three years and are based equally on TSR relative to peers and adjusted EBITDA. Participants of the 2023 and 2024 awards can earn between 0 and 200 percent of the target award. Participants of the 2022 award can earn between 0 and 250 percent of the target award. Performance below the threshold for either metric would result in zero payout for that metric.

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The performance-based awards that are measured against a market condition or incorporate market conditions are valued using a Monte Carlo simulation model. The model generates the fair value of the market-based award or market-based portion of the award at the grant date. The related expense is then amortized over the award's vesting period.

Expected volatility is based on representative price returns using the stock price of several peer companies. The risk-free rate was based on the 3-year U.S. treasury rate on the date of the award. The following table presents weighted average assumptions used in calculating the fair value of the awards granted:

	Year Ended December 31,		
	2024	2023	2022
Expected volatility	75.7 %	77.6 %	75.0 %
Risk-free rate	4.2 %	4.1 %	4.3 %

The following table summarizes the details of the performance-based stock units awarded to employees:

	Year Ended December 31,		
	2024	2023	2022
Common shares of stock reserved for performance-based stock units (not in thousands)	1,164,884	611,528	2,861,963
Weighted average fair value of performance-based stock units granted (not in thousands)	\$ 4.80	\$ 9.09	\$ 6.21
Intrinsic value of outstanding performance-based stock units	\$ 12,996	\$ 5,551	\$ 18,786

The following table summarizes the 2024 performance-based stock unit award activity:

(not in thousands)	Performance-Based Stock Unit Awards	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2023	1,370,601	\$ 7.83
Granted	608,422	4.80
Forfeited	(330,156)	10.86
Vested	(73,570)	10.45
Outstanding at December 31, 2024	1,575,297	\$ 5.93

In March 2024, the performance-based awards granted in 2021 vested without meeting the performance thresholds, resulting in no stock units or cash being awarded.

In March 2023, the performance-based stock units granted in 2020 were settled with the issuance of 1,257,015 shares of common stock, including incremental shares of 370,366, based on performance results.

In March 2022, the performance-based stock units granted in 2019 vested without meeting the performance thresholds, resulting in no stock units being awarded.

As of December 31, 2024, there was \$3 million of unrecognized compensation cost related to the Company's performance-based stock unit awards that is expected to be recognized over a weighted average period of 1.8 years.

18. Employee Benefit Plans

Defined Benefit Plans

The Company has defined benefit pension and other postretirement plans covering certain union and non-union employees, primarily in the U.S. and Canada. The defined benefit pension plans are closed to new participants. Certain Canadian plans were included with the sale of the Company's lumber and newsprint assets.

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During 2024, the Company recorded a \$1 million loss on pension curtailment charges associated with early retirements driven by the indefinite suspension of operations at the Temiscaming High Purity Cellulose plant. The loss on curtailment was recognized in “indefinite suspension charges” in the Company’s consolidated statements of operations. Additionally, the Company decreased its pension liability by \$3 million. See Note 3—Indefinite Suspension of Operations for further information. Also during the year, the Company offered lump sum payouts to eligible terminated vested participants, of whom 103 accepted, resulting in \$6 million in payments.

During 2022, the Company continued the process of winding up certain Canadian pension plans and as a result recorded a \$1 million loss related to the final asset surplus distribution to the plan participants. In addition, in the fourth quarter of 2022, the Company adopted a full freeze on future benefits for salaried participants in the U.S. defined benefit plans. The impact of the curtailment reduced the benefit obligation and the accumulated net loss within other comprehensive income by \$8 million.

During 2023, the Company recorded a \$2 million loss related to the final asset surplus distribution to the plan participants of certain other wound-up Canadian pension plans.

These settlements were recognized in “components of pension and OPEB, excluding service costs” in the consolidated statements of operations for the years ended December 31, 2024, 2023 and 2022.

Defined benefit pension and other postretirement plan liabilities are calculated using actuarial estimates and management assumptions. These estimates are based on historical information and certain assumptions about future events.

The following tables present the changes in the projected benefit obligation and plan assets and reconciles funded status and the defined benefit pension and postretirement plan amounts recognized in the consolidated balance sheets:

	Pension		Postretirement	
	2024	2023	2024	2023
Projected benefit obligation at beginning of year	\$ 616,118	\$ 594,455	\$ 23,864	\$ 29,944
Service cost	4,641	4,877	551	1,116
Interest cost	27,715	28,724	989	1,351
Actuarial (gain) loss	(24,738)	21,015	(2,717)	(7,198)
Participant contributions	652	700	167	115
Benefits paid	(44,961)	(41,059)	(1,287)	(1,559)
Settlement	—	2,982	—	—
Curtailment	645	—	(22)	—
Effects of foreign currency exchange rates	(16,722)	4,424	55	95
Projected benefit obligation at end of year	<u>\$ 563,350</u>	<u>\$ 616,118</u>	<u>\$ 21,600</u>	<u>\$ 23,864</u>
Fair value of plan assets at beginning of year	\$ 532,643	\$ 507,270	\$ —	\$ —
Actual return on plan assets	20,540	63,682	—	—
Employer contributions ^(a)	7,685	1,923	1,012	1,430
Participant contributions	652	700	167	115
Benefits paid	(44,961)	(41,059)	(1,179)	(1,545)
Settlement	—	(2,317)	—	—
Effects of foreign currency exchange rates	(14,619)	2,444	—	—
Fair value of plan assets at end of year	<u>\$ 501,940</u>	<u>\$ 532,643</u>	<u>\$ —</u>	<u>\$ —</u>
Funded Status at end of year	<u>\$ (61,410)</u>	<u>\$ (83,475)</u>	<u>\$ (21,600)</u>	<u>\$ (23,864)</u>

^(a) The Company received cash of \$6 million in 2023 related to surplus assets of unwound pension plans.

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	Pension		Postretirement	
	2024	2023	2024	2023
Non-current assets	\$ —	\$ —	\$ —	\$ —
Current liabilities	(4,390)	(4,474)	(1,381)	(1,372)
Non-current liabilities	(57,020)	(79,001)	(20,219)	(22,492)
Net amount recognized	<u>\$ (61,410)</u>	<u>\$ (83,475)</u>	<u>\$ (21,600)</u>	<u>\$ (23,864)</u>

The projected benefit obligation decreased during the year ended December 31, 2024 primarily due to the settlements of certain Canadian pension plans, lump sum payouts to U.S. pension plan participants, actuarial gains resulting from an increase in the discount rate assumed and foreign currency exchange rates.

Net gain (loss) recognized in other comprehensive income for the three years ended December 31 was as follows:

	Pension			Postretirement		
	2024	2023	2022	2024	2023	2022
Net gain	\$ 13,053	\$ 9,202	\$ 30,531	\$ 2,928	\$ 6,639	\$ 7,574
Prior service costs	\$ —	\$ (2,982)	\$ —	\$ —	\$ —	\$ —

Net gain (loss) and prior service cost (credit) reclassified from other comprehensive income and recognized as a component of pension and postretirement expense for the three years ended December 31 were as follows:

	Pension			Postretirement		
	2024	2023	2022	2024	2023	2022
Amortization of (gain) loss	\$ 379	\$ (490)	\$ 5,462	\$ (737)	\$ (215)	\$ 72
Amortization of prior service cost (credit)	435	294	147	(98)	(98)	(122)

Net gain (loss), prior service cost (credit) and plan amendments that have not yet been included in pension and postretirement expense and have been recognized as a component of AOCI for the three years ended December 31 were as follows:

	Pension			Postretirement		
	2024	2023	2022	2024	2023	2022
Prior service cost (credit)	\$ (3,600)	\$ (3,852)	\$ (1,204)	\$ 561	\$ 659	\$ 757
Net gain (loss)	(37,097)	(50,796)	(67,770)	12,341	10,343	3,920
Curtailment	—	—	8,000	—	—	—
Deferred income tax (expense) benefit	9,664	12,630	13,750	(2,929)	(2,521)	(1,147)
Accumulated other comprehensive income (loss)	<u>\$ (31,033)</u>	<u>\$ (42,018)</u>	<u>\$ (47,224)</u>	<u>\$ 9,973</u>	<u>\$ 8,481</u>	<u>\$ 3,530</u>

For defined benefit pension plans, the projected and accumulated benefit obligations and the fair value of plan assets were as follows:

	December 31,	
	2024	2023
Projected benefit obligation	\$ 563,350	\$ 616,118
Accumulated benefit obligation	553,973	606,072
Fair value of plan assets	501,940	532,643

For pension plans with a projected benefit obligation exceeding plan assets, the projected benefit obligation and fair value of plan assets were \$537 million and \$490 million, respectively, at December 31, 2024, and \$587 million and \$502 million, respectively, at December 31, 2023.

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For pension plans with an accumulated benefit obligation exceeding plan assets, the accumulated benefit obligation and fair value of plan assets were \$537 million and \$490 million, respectively, at December 31, 2024 and \$577 million and \$502 million, respectively, at December 31, 2023.

The following table presents the components of net periodic benefit cost of the plans:

	Pension			Postretirement		
	2024	2023	2022	2024	2023	2022
Service cost	\$ 4,641	\$ 4,877	\$ 7,906	\$ 551	\$ 1,116	\$ 1,516
Interest cost	27,715	28,724	21,028	989	1,351	818
Expected return on plan assets	(32,361)	(31,425)	(32,419)	—	—	—
Amortization of prior service cost (credit)	435	294	147	(98)	(98)	(122)
Amortization of (gain) loss	379	(490)	5,553	(737)	(215)	72
Pension settlement loss	—	2,317	964	—	—	—
Curtailment	736	—	—	—	—	—
Other	—	—	—	18	(556)	(173)
Net periodic benefit cost ^(a)	<u>\$ 1,545</u>	<u>\$ 4,297</u>	<u>\$ 3,179</u>	<u>\$ 723</u>	<u>\$ 1,598</u>	<u>\$ 2,111</u>

^(a) Service cost is included in “cost of sales” or “selling, general and administrative expense” in the consolidated statements of operations, as appropriate. Interest cost, expected return on plan assets, amortization of prior service cost (credit) and amortization of (gain) loss are included in “components of pension and OPEB, excluding service costs” on the consolidated statements of operations.

The Company uses the spot rate approach method to determine the service and interest cost components of net periodic benefit cost. Under this method, individual spot rates along the yield curve that correspond with the timing of each benefit payment will be used. The Company believes this provides a more precise measurement of service and interest costs by improving the correlation between projected cash outflows and corresponding spot rates on the yield curve.

The following table presents the weighted average principal assumptions inherent in the determination of benefit obligations and net periodic benefit cost of the pension and postretirement plans:

	Pension			Postretirement		
	2024	2023	2022	2024	2023	2022
Assumptions used to determine benefit obligations at December 31:						
Discount rate	5.16 %	4.71 %	4.95 %	5.23 %	4.72 %	4.93 %
Rate of compensation increase	2.50 %	2.50 %	2.66 %	4.19 %	3.11 %	3.53 %
Assumptions used to determine net periodic benefit cost for years ended December 31:						
Discount rate	4.78 %	4.97 %	4.21 %	4.67 %	4.94 %	4.94 %
Expected long-term return on plan assets	5.92 %	5.92 %	5.88 %	N/A	N/A	N/A
Rate of compensation increase	2.50 %	2.50 %	2.66 %	4.19 %	3.11 %	3.53 %

The estimated return on plan assets is based on historical and expected long-term rates of return on broad equity and bond indices and consideration of the actual annualized rate of return. The Company, with the assistance of external consultants, utilizes this information to develop assumptions for returns, risks and correlation of asset classes, which are then used to establish the asset allocation ranges.

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Assumed healthcare cost trends significantly affect the amounts reported for the postretirement benefit plans. The following table sets forth the assumed health care cost trend rates as of period end:

	Postretirement			
	2024		2023	
	U.S.	Canada	U.S.	Canada
Health care cost trend rate assumed for next year	7.50 %	5.87 %	6.80 %	5.93 %
Rate to which cost trend is assumed to decline (ultimate trend rate)	4.00 %	5.00 %	4.00 %	5.00 %
Year that ultimate trend rate is reached	2031	2037	2031	2037

Investment of Plan Assets

The Company's Pension and Savings Plan Committee and the Audit Committee of the Board of Directors oversee the defined benefit pension plans' investment program. The investment approach of each defined benefit pension plan is designed to maximize returns and provide sufficient liquidity to meet each plan's obligations while maintaining acceptable risk levels. For certain defined benefit plans, investment target allocation percentages for equity securities can range up to 65 percent. In other more well-funded plans, 100 percent is allocated to fixed-income securities. All plans were within their respective targeted ranges at December 31, 2024. The Company's weighted average defined benefit pension plan asset allocations at December 31, by asset category, were as follows:

	Percentage of Plan Assets	
	2024	2023
U.S. fixed income securities	33 %	32 %
International fixed income securities	24 %	18 %
U.S. equity securities	21 %	23 %
International equity securities	16 %	22 %
Other ^(a)	6 %	5 %
Total	100 %	100 %

^(a) Includes cash balances related to the timing of portfolio management activities.

Investments within the equity categories may include large capitalization, small capitalization and emerging market securities, while the international fixed income portfolio may include emerging markets debt. Pension assets did not include a direct investment in RYAM common stock at December 31, 2024 or 2023.

Fair Value Measurements

The following tables present, by level within the fair value hierarchy (see Note 13—Fair Value Measurements), the assets of the plans:

	December 31, 2024			
	Level 1	Level 2	Level 3	Total
Mutual funds and collective trusts	\$ 129,584	\$ —	\$ —	\$ 129,584
Corporate bonds	—	150,823	—	150,823
U.S. government securities	—	33,308	—	33,308
Non-U.S. government securities	—	4,803	—	4,803
Derivative instruments	—	1,242	—	1,242
Investments at net asset value:				
Common collective trust funds				182,180
Total assets at fair value				\$ 501,940

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	December 31, 2023			
	Level 1	Level 2	Level 3	Total
Mutual funds and collective trusts	\$ 141,043	\$ —	\$ —	\$ 141,043
Corporate bonds	—	96,069	—	96,069
U.S. government securities	—	78,652	—	78,652
Derivative instruments	—	421	—	421
Investments at net asset value:				
Common collective trust funds				216,458
Total assets at fair value				<u>\$ 532,643</u>

The valuation methodologies used for measuring the fair value of these asset categories were as follows:

Mutual funds and collective trusts — Net asset value in an observable market.

Corporate bonds — Valued using pricing models that maximize the use of observable inputs for similar securities, including basing value on yields currently available on comparable securities of issuers with similar credit ratings.

U.S. government securities — Valued using pricing models that maximize the use of observable inputs for similar securities.

Common collective trust funds — Measured at net asset value per share, as a practical expedient for fair value, as provided by the plan trustee. The net asset value is calculated by determining the fair value of the fund's underlying assets, deducting its liabilities, and dividing by the units outstanding as of the valuation date. These funds are not publicly traded; however, in most cases, the unit price calculation is based on observable market inputs of the funds' underlying assets.

There were no changes in the methodology used during the years ended December 31, 2024 and 2023.

Cash Flows

Expected benefit payments for the next ten years were as follows:

	Pension	Postretirement
2025	\$ 39,387	\$ 1,522
2026	39,922	1,630
2027	40,262	1,632
2028	40,460	1,685
2029	40,301	1,731
2030 - 2034	199,227	8,013

The Company has mandatory pension contribution requirements of \$2 million in 2025 and may make additional discretionary contributions.

Defined Contribution Plans

The Company provides defined contribution plans to all of its hourly and salaried employees. The contributions charged to expense for these plans were \$10 million, \$6 million and \$7 million for the years ended December 31, 2024, 2023 and 2022, respectively.

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19. Other Operating Income (Expense), Net

Other operating income (expense), net was comprised of the following:

	Year Ended December 31,		
	2024	2023	2022
Environmental liability expense ^(a)	\$ (6,607)	\$ (5,784)	\$ (4,903)
Loss on disposal of property, plant and equipment	(1,790)	(2,872)	(3,742)
Equity in income (loss) of joint venture	1,882	204	(2,737)
Miscellaneous income (expense)	7,042	(3,955)	1,183
Other operating income (expense), net	<u>\$ 527</u>	<u>\$ (12,407)</u>	<u>\$ (10,199)</u>

^(a) Reflects adjustments to the Company's estimates of the environmental liability for the assessment, remediation and long-term monitoring and maintenance of the disposed operations sites over the next 20 years and other related costs. See Note 11—Environmental Liabilities for further information.

20. Income Taxes

Loss from continuing operations before income tax consisted of the following:

	Year Ended December 31,		
	2024	2023	2022
United States	\$ (8,590)	\$ (65,413)	\$ (53,012)
Foreign	(40,610)	(67,061)	29,190
Loss from continuing operations before income tax	<u>\$ (49,200)</u>	<u>\$ (132,474)</u>	<u>\$ (23,822)</u>

Income Tax (Expense) Benefit from Continuing Operations

Income tax (expense) benefit from continuing operations consisted of the following:

	Year Ended December 31,		
	2024	2023	2022
Current tax (expense) benefit:			
Federal	\$ 981	\$ 1,623	\$ 2,815
Foreign	(1,468)	3,119	(7,511)
State and other	(191)	(144)	(154)
Total current	<u>(678)</u>	<u>4,598</u>	<u>(4,850)</u>
Deferred tax (expense) benefit:			
Federal	6,011	15,542	6,635
Foreign	3,086	12,028	(2,842)
State and other	509	143	155
Total deferred	<u>9,606</u>	<u>27,713</u>	<u>3,948</u>
Income tax (expense) benefit	<u>\$ 8,928</u>	<u>\$ 32,311</u>	<u>\$ (902)</u>

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The following table reconciles the effective income tax rate on continuing operations to the U.S. federal statutory rate:

	Year Ended December 31,		
	2024	2023	2022
U.S. federal statutory income tax rate	21.0 %	21.0 %	21.0 %
Change in valuation allowance	(11.5)	(7.7)	(38.2)
Adjustment to previously filed tax returns	(0.4)	2.0	11.3
Tax credits (excluding foreign tax credit)	4.1	5.4	17.8
Nondeductible compensation for executives and share-based awards	(3.4)	0.5	(10.5)
Net changes in uncertain tax positions	6.3	(0.1)	(5.6)
Difference in foreign statutory rates	1.2	2.1	(8.2)
U.S. tax on foreign earnings (GILTI and Subpart F, net of FTC)	(0.4)	(0.1)	(0.9)
Interest on tax payments/receipts	1.1	0.6	10.1
Other	0.1	0.7	(0.6)
Effective income tax rate on continuing operations	18.1 %	24.4 %	(3.8)%

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Deferred Taxes

Deferred income taxes result from recording revenue and expense in different periods for financial reporting versus tax reporting. The nature of these temporary differences and the resulting net deferred tax balances follow:

	December 31,	
	2024	2023
Deferred tax assets:		
Net operating losses ^(a)	\$ 157,942	\$ 116,353
Canadian pool of SR&ED ^(a)	96,458	96,113
Property, plant and equipment basis differences	74,408	123,521
Tax credit carryforwards ^(a)	71,013	71,741
Environmental liabilities	39,316	39,258
Deferred U.S. interest deductions ^(a)	36,286	33,188
Pension, postretirement and other employee benefits	19,534	25,114
Capitalized costs	18,275	19,868
Deferred foreign interest deductions ^(a)	7,601	3,290
Other compensation	7,050	5,412
State net operating losses ^(a)	3,454	3,536
Other deferred tax assets	23,636	21,003
Total gross deferred tax assets	554,973	558,397
Valuation allowance ^(a)	(86,082)	(78,858)
Total deferred tax assets, net of valuation allowance	468,891	479,539
Deferred tax liabilities:		
Property, plant and equipment basis differences	(110,577)	(115,315)
Prepaid expenses	(4,487)	(19,253)
Intangible assets	(2,326)	(4,377)
Other deferred tax liabilities	(15,686)	(10,603)
Total deferred tax liabilities	(133,076)	(149,548)
Net deferred tax asset	\$ 335,815	\$ 329,991
Net deferred tax asset as reflected in consolidated balance sheets:		
Deferred tax assets	\$ 349,500	\$ 345,181
Deferred tax liabilities	(13,685)	(15,190)
	\$ 335,815	\$ 329,991

^(a) Further detail of these items as of December 31, 2024 follows:

	Gross Amount	Tax Effected	Valuation Allowance	Expiration
Foreign R&D credit carryforwards	\$ 31,212	\$ 31,212	\$ (31,212)	2025-2042
U.S. tax credit carryforwards	44,924	39,801	(19,270)	2025-2033
State net operating losses	74,124	3,454	(1,792)	2025-2044
Canada non-capital losses	626,536	141,987	(1,739)	2027-2043
Other foreign net operating losses	14,828	3,827	(1,998)	2040-None
Canada pool of SR&ED	417,988	96,458	—	None
U.S. interest limitation carryforward	164,938	36,286	(22,470)	None
U.S. federal net operating losses	57,750	12,128	—	None
Foreign interest limitation carryforward	30,479	7,601	(7,601)	None

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At both December 31, 2024 and 2023, the Company's net DTA included \$15 million of disallowed U.S. interest deductions that the Company does not believe will be realized. In strict compliance with the AICPA's Technical Questions and Answers 3300.01-02, which asserts that certain material evidence regarding the realizability of disallowed U.S. interest deductions should be ignored when assessing the need for a valuation allowance, the Company has not recognized a valuation allowance on this portion of the DTA generated from disallowed interest.

The Company's financial statements reflect the above net DTA under the assumption that it will generate sufficient taxable income in the applicable tax jurisdictions to realize the benefit of the net DTA. If the Company is unable to generate sufficient taxable income, it may be required to record a valuation allowance against its DTAs. Guidance requires certain evidence be given heavy consideration, including whether the Company has incurred cumulative income or losses in recent years. If the Company incurs adjusted losses in certain jurisdictions over a period, generally three years, it could be required to derecognize a material balance of its DTAs. The vast majority of the Company's DTAs are in Canada, with \$334 million and \$333 million of net DTAs recognized on the consolidated balance sheets as of December 31, 2024 and 2023, respectively.

Unrecognized Tax Benefits

The Company recognizes the impact of a tax position if it is more likely than not to prevail, based on technical merit, in the case of an audit. As of December 31, 2024, several positions resulted in unrecognized tax benefits that, if recognized, would affect income tax expense. A reconciliation of beginning and ending unrecognized tax benefits balances follows:

	Year Ended December 31,		
	2024	2023	2022
Balance at beginning of period	\$ 13,580	\$ 11,015	\$ 12,073
Decreases related to prior year tax positions	(3,035)	(1,612)	(255)
Increases related to prior year tax positions	905	2,804	440
Decreases related to current year tax positions	—	—	(2,386)
Increases related to current year tax positions	957	1,373	1,143
Decreases due to statutory expirations	(1,963)	—	—
Balance at end of period	<u>\$ 10,444</u>	<u>\$ 13,580</u>	<u>\$ 11,015</u>

For the years ended December 31, 2024 and 2023, all unrecognized tax benefits would impact the effective tax rate if recognized. For the year ended December 31, 2022, \$13 million of the Company's unrecognized tax benefits would impact the effective tax rate if recognized as a result of a \$2 million reduction in unrecognized tax benefits that would impact only the timing of tax deductions and would not impact the tax rate. Total interest and penalties recorded in unrecognized tax benefits were \$1 million for each of the years presented.

As of December 31, 2024, it is reasonably possible that the Company's unrecognized tax position will change within a range of a decrease of \$3 million and an increase of \$3 million due to conclusions of tax audits or the expiration of statute of limitations.

Tax Statutes

In the normal course of business, the Company is regularly audited by tax authorities and is currently under audit in the U.S. and Canada. The following table provides the tax years that remain open to examination by significant taxing jurisdictions:

	Open Tax Years
U.S.	2020-2024
France	2021-2024
Canada	2020-2024

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Other Tax Items

Several provisions passed in 2017 as part of the Tax Cuts and Jobs Act went into effect in 2022. Certain of these provisions negatively impact the Company's U.S. cash taxes in present and future years. The most impactful of these provisions is the further limitation of U.S. interest deductibility under Internal Revenue Code §163(j). Under this section, companies may only deduct U.S. interest expenses up to a portion of ATI. Beginning in 2022, ATI was reduced from a tax EBITDA measurement to tax EBIT, which resulted in a significant decrease in U.S. interest deductibility. Additional provisions that impact the Company's U.S. taxes include the requirement to capitalize and amortize research expenditures and the phase-out of immediate expensing of U.S. capital asset additions.

21. Segment and Geographical Information

During the periods presented, the Company operated in the following operating segments: High Purity Cellulose, Paperboard and High-Yield Pulp. See Note 1—Nature of Operations and Basis of Presentation for a description of the operating businesses. Corporate consists primarily of senior management, accounting, information systems, human resources, treasury, tax and legal administrative functions that provide support services to the operating business units.

The Company's segment structure was determined based primarily on how its CODM, the CEO, reviews and evaluates Company operations. Each operating segment is separately managed and has discrete financial information that is utilized by the CODM in determining how to allocate resources and evaluate performance.

The Company uses operating income (loss) as a measure of profitability to evaluate segment performance. Intersegment sales consist primarily of High-Yield Pulp sales to Paperboard, which are eliminated in consolidation. Intersegment sales prices are at rates that approximate market for the respective operating area.

No single customer accounted for 10 percent or more of total sales during the years ended December 31, 2024 and 2022. One customer in the High Purity Cellulose operating segment represented 10 percent of total sales for the year ended December 31, 2023.

In October 2024, an isolated fire occurred at the Company's High Purity Cellulose plant in Jesup, Georgia, during planned maintenance activity. There were no injuries to employees or contractors and no risk to the surrounding community. The plant's operations fully resumed within two weeks, incurring \$2 million in immediate repair costs and \$3 million of emergency maintenance capital expenditures. The Company's preliminary estimates indicate that additional capital expenditures of approximately \$15 million will be required over the next two years. The Company carries property and business interruption loss insurance with a \$15 million combined deductible. The Company has notified its insurance underwriters and is in the process of evaluating and documenting the damage caused by the fire. The amount expected to be recovered from property and business interruption loss insurance is not currently estimable.

Following the indefinite suspension of Temiscaming High Purity Cellulose operations in the third quarter of 2024, the Temiscaming site continues to incur custodial site costs in support of the ongoing energy needs of the Paperboard and High-Yield Pulp operations. Further, the electricity generated from the Temiscaming High Purity Cellulose plant assets is no longer deemed a by-product of the High Purity Cellulose manufacturing process. Due to these assets now running solely to support Paperboard and High-Yield Pulp, beginning in the fourth quarter, the net impact of these electricity sales and the custodial site costs being incurred in support of these operations is reflected within the operating results of the Paperboard and High-Yield Pulp businesses.

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Net sales, disaggregated by product line, was comprised of the following:

	Year Ended December 31,		
	2024	2023	2022
High Purity Cellulose			
Cellulose Specialties	\$ 871,752	\$ 783,424	\$ 866,225
Commodity Products	341,128	431,902	354,612
Other sales ^(a)	88,742	97,438	115,009
Total High Purity Cellulose	1,301,622	1,312,764	1,335,846
Paperboard	227,628	219,408	250,167
High-Yield Pulp	126,897	135,954	159,704
Eliminations	(25,839)	(24,796)	(28,450)
Net sales	<u>\$ 1,630,308</u>	<u>\$ 1,643,330</u>	<u>\$ 1,717,267</u>

^(a) Include sales of bioelectricity, lignosulfonates and other by-products to third parties.

Operating income (loss) by segment was comprised of the following:

	Year Ended December 31,		
	2024	2023	2022
High Purity Cellulose ^(a)	\$ 75,593	\$ (41,567)	\$ 31,498
Paperboard	31,431	37,160	37,158
High-Yield Pulp	(7,594)	(3,155)	16,199
Corporate	(59,949)	(57,702)	(58,720)
Operating income (loss)	<u>\$ 39,481</u>	<u>\$ (65,264)</u>	<u>\$ 26,135</u>

^(a) In 2024, included a \$25 million non-cash impairment recorded during the third quarter related to the indefinite suspension of operations at the Temiscaming High Purity Cellulose plant. In 2023, included a \$62 million non-cash impairment recorded during the fourth quarter related to an asset realignment. See Note 8—Property, Plant and Equipment, Net for further information regarding these impairments.

Significant segment operating expenses and other segment financial information included:

	Year Ended December 31, 2024				
	High Purity Cellulose	Paperboard	High-Yield Pulp	Corporate ^(a) and Eliminations	Total
Cost of sales					
Key input costs (wood, chemicals, energy)	\$ 535,055	\$ 117,393	\$ 71,890	\$ (26,220)	\$ 698,118
Freight	75,382	20,512	20,380	—	116,274
Depreciation and amortization	115,963	7,832	2,329	—	126,124
Fixed and other general costs ^(b)	443,086	41,802	38,589	733	524,210
Total cost of sales	1,169,486	187,539	133,188	(25,487)	1,464,726
Selling, general and administrative expense	20,515	11,021	2,912	57,810	92,258
Asset impairment	25,169	—	—	—	25,169
Indefinite suspension charges	16,630	—	—	—	16,630
Other operating (income) expense ^(c)	(5,771)	(2,363)	(1,609)	1,787	(7,956)
Identifiable assets ^(d)	\$ 1,503,268	\$ 93,600	\$ 49,798	\$ 482,991	\$ 2,129,657
Depreciation and amortization	117,749	14,701	2,451	2,272	137,173
Capital expenditures ^(e)	100,797	5,644	2,156	8,553	117,150

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Year Ended December 31, 2023						
	High Purity Cellulose	Paperboard	High-Yield Pulp	Corporate ^(a) and Eliminations	Total	
Cost of sales						
Key input costs (wood, chemicals, energy)	\$ 607,773	\$ 113,678	\$ 75,144	\$ (25,486)	\$	771,109
Freight	83,390	18,131	29,312	—		130,833
Depreciation and amortization	125,522	5,848	2,103	—		133,473
Fixed and other general costs ^(b)	454,306	35,021	29,402	1,032		519,761
Total cost of sales	1,270,991	172,678	135,961	(24,454)		1,555,176
Selling, general and administrative expense	18,243	9,570	2,893	45,006		75,712
Asset impairment	62,300	—	—	—		62,300
Other operating expense ^(c)	2,797	—	255	12,354		15,406
Identifiable assets ^(d)	\$ 1,510,076	\$ 105,804	\$ 43,811	\$ 523,009	\$	2,182,700
Depreciation and amortization	122,925	12,933	2,025	2,100		139,983
Capital expenditures ^(e)	118,665	776	1,421	12,281		133,143

Year Ended December 31, 2022						
	High Purity Cellulose	Paperboard	High-Yield Pulp	Corporate ^(a) and Eliminations	Total	
Cost of sales						
Key input costs (wood, chemicals, energy)	\$ 659,855	\$ 135,128	\$ 75,609	\$ (28,916)	\$	841,676
Freight	93,952	22,434	29,636	—		146,022
Depreciation and amortization	115,117	5,998	2,322	—		123,437
Fixed and other general costs ^(b)	409,587	39,967	32,814	681		483,049
Total cost of sales	1,278,511	203,527	140,381	(28,235)		1,594,184
Selling, general and administrative expense	19,683	9,471	3,084	59,237		91,475
Other operating (income) expense ^(c)	6,154	11	40	(732)		5,473
Depreciation and amortization	\$ 117,017	\$ 13,130	\$ 2,364	\$ 2,065	\$	134,576
Capital expenditures ^(e)	136,866	3,413	2,210	3,790		146,279

^(a) Includes ERP and certain lease expense and assets shared across operating segments.

^(b) Includes salaries, wages and benefits, maintenance costs and other costs of sales.

^(c) Primarily includes foreign exchange gain (loss), environmental expense, gain (loss) on disposal of property, plant and equipment and income (loss) from equity method investments.

^(d) In 2024, included a \$25 million non-cash impairment recorded during the third quarter related to the indefinite suspension of operations at the Temiscaming High Purity Cellulose plant. In 2023, included a \$62 million non-cash impairment recorded during the fourth quarter related to an asset realignment. See Note 8—Property, Plant and Equipment, Net for further details.

^(e) Amounts exclude the impact of changes in capital assets purchased on account and government grants. In 2024 and 2023, Corporate reflects expenditures associated with the Company's ERP transformation project.

Long-life assets by country were as follows:

	December 31,	
	2024	2023
United States	\$ 719,386	\$ 710,896
Canada	611,647	683,468
France	197,290	213,180
Other	373	98
Total long-life assets	\$ 1,528,696	\$ 1,607,642

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

Net sales geographical distribution was as follows:

	Year Ended December 31,					
	2024	%	2023	%	2022	%
United States	\$ 560,119	34	\$ 544,864	33	\$ 569,265	33
China	352,290	22	473,778	29	346,026	20
Europe	280,261	17	222,778	13	343,058	20
Other Asia	174,208	11	126,072	8	181,952	11
Japan	121,879	7	158,106	10	149,373	9
Canada	90,572	6	62,657	4	72,510	4
Latin America	17,659	1	11,073	—	23,886	1
All other	33,320	2	44,002	3	31,197	2
Net sales	<u>\$ 1,630,308</u>	<u>100</u>	<u>\$ 1,643,330</u>	<u>100</u>	<u>\$ 1,717,267</u>	<u>100</u>

22. Commitments and Contingencies

Commitments

The Company leases certain buildings, machinery and equipment under various operating and finance leases. Total rental expense for operating and finance leases amounted to \$9 million, \$8 million and \$8 million in 2024, 2023 and 2022, respectively. See Note 5—Leases and Note 10—Debt and Finance Leases for further information.

At December 31, 2024, future minimum payments under purchase obligations were as follows:

2025	\$ 113,341
2026	71,126
2027	62,708
2028	58,698
2029	17,925
Thereafter	218,683
Total ^(a)	<u>\$ 542,481</u>

^(a) Primarily consists of commitments for the purchase of natural gas, steam energy and wood chips. These obligations are estimates and may vary based on changes in actual price and volume terms. Remaining purchase obligations under the 20-year wood chip and residual fiber supply agreement with GreenFirst total approximately \$206 million, or annual payments of approximately \$12 million, through the duration of the agreement to 2041. The Company remains subject to purchase obligations under this agreement, under which total required purchase volumes of wood chips and residual fiber depend on sawmill production. In connection with the indefinite suspension of operations at the Temiscaming High Purity Cellulose plant, GreenFirst and the Company have agreed that the Company will purchase the required volumes at market value and sell them to third parties at the same amount for an expected neutral impact.

Litigation and Contingencies

Duties on Canadian Softwood Lumber Sold to the U.S.

The Company previously operated six softwood lumber mills in Ontario and Quebec, Canada, and exported softwood lumber into the U.S. from Canada. In connection with these exports, the Company paid approximately \$112 million of softwood lumber duties between 2017 and August 2021, including \$1 million of ancillary fees, which were recorded as expense in the periods incurred. As part of the sale of its lumber assets in 2021, the Company retained all refund rights and obligations to softwood duties generated or incurred through the closing date of the sale. As of December 31, 2023, the Company had a \$40 million long-term receivable associated with USDOC determinations of the revised duty rates for 2017 through 2021. In June 2024, the Company executed on the sale of these refund rights (inclusive of the receivable), including all accrued interest, for \$39 million, with the opportunity for additional sale proceeds in the future contingent upon the timing and terms of the ultimate outcome of the trade dispute between the USDOC and Canada.

Rayonier Advanced Materials Inc.
Notes to Consolidated Financial Statements
(in thousands unless otherwise stated)

Other

In addition to the above, the Company is engaged in various legal and regulatory actions and proceedings and has been named as a defendant in various lawsuits and claims arising in the ordinary course of business. While the Company has procured reasonable and customary insurance covering risks normally occurring in connection with its business, the Company has, in certain cases, retained some risk through the operation of self-insurance, primarily in the areas of workers' compensation, property insurance, business interruption and general liability. These other lawsuits and claims, either individually or in the aggregate, are not expected to have a material adverse effect on the Company's financial position, results of operations or cash flows.

Guarantees and Other

The Company provides financial guarantees as required by creditors, insurance programs and various governmental agencies. As of December 31, 2024, the Company had net exposure of \$28 million from various standby letters of credit, primarily for financial assurance relating to environmental remediation, credit support for natural gas and electricity purchases and guarantees related to foreign retirement plan obligations. These standby letters of credit represent a contingent liability; the Company would only be liable upon its default on the related payment obligations. The standby letters of credit have various expiration dates and are expected to be renewed as required.

The Company had surety bonds of \$93 million as of December 31, 2024, primarily to comply with financial assurance requirements relating to environmental remediation and post-closure care, to provide collateral for the Company's workers' compensation program and to guarantee taxes and duties for products shipped internationally. These surety bonds expire at various dates and are expected to be renewed annually as required.

LTF is a venture in which the Company owns 45 percent and its partner, Borregaard ASA, owns 55 percent. The Company is a guarantor of LTF's financing agreements and, in the event of default, expects it would only be liable for its proportional share of any repayment under the agreements. The Company's proportion of the LTF financing agreement guarantee was \$26 million at December 31, 2024.

The Company has not recorded any liabilities for these financial guarantees in its consolidated balance sheets, either because the Company has recorded the underlying liability associated with the guarantee or the guarantee is dependent on the Company's own performance and, therefore, is not subject to the measurement requirements or because the Company has calculated the estimated fair value of the guarantee and determined it to be immaterial based upon the current facts and circumstances that would trigger a payment obligation.

It is not possible to determine the maximum potential liability under these potential obligations due to the unique facts and circumstances likely to be involved with each provision.

As of December 31, 2024, the Company employed approximately 2,350 people in the U.S., Canada and France, of which 69 percent were unionized. Approximately 27 percent of the Company's workforce are employed under agreements which are set to expire on June 30, 2025. The Company is required to negotiate wages, benefits and other terms with unionized employees collectively. As of December 31, 2024, all of the Company's collective bargaining agreements covering its unionized employees were current.

Rayonier Advanced Materials Inc.
Schedule II—Valuation and Qualifying Accounts
(in thousands)

	Balance at Beginning of Period	Additions		Deductions	Balance at End of Period
		Charged to Costs and Expenses	Charged to Other Accounts		
Allowance for credit loss					
December 31, 2024	\$ 653	\$ 822	\$ (28)	\$ (390)	\$ 1,057
December 31, 2023	\$ 1,064	\$ 105	\$ —	\$ (516)	\$ 653
December 31, 2022	\$ 774	\$ 747	\$ 27	\$ (484)	\$ 1,064
Allowance for sales returns					
December 31, 2024	\$ 591	\$ —	\$ 356	\$ —	\$ 947
December 31, 2023	\$ 782	\$ —	\$ (191)	\$ —	\$ 591
December 31, 2022	\$ 737	\$ —	\$ 45	\$ —	\$ 782
Deferred tax asset valuation allowance					
December 31, 2024	\$ 78,858	\$ 7,224	\$ —	\$ —	\$ 86,082
December 31, 2023	\$ 71,353	\$ 7,505	\$ —	\$ —	\$ 78,858
December 31, 2022	\$ 67,644	\$ 3,709	\$ —	\$ —	\$ 71,353
Self-insurance liabilities					
December 31, 2024	\$ 549	\$ 99	\$ —	\$ (323)	\$ 325
December 31, 2023	\$ 478	\$ 448	\$ —	\$ (377)	\$ 549
December 31, 2022	\$ 982	\$ (168)	\$ —	\$ (336)	\$ 478

**Subsidiaries of Rayonier Advanced Materials Inc.
As of December 31, 2024**

<u>Name of Subsidiary</u>	<u>Place of Incorporation</u>
Rayonier A.M. Canada Energy LP	Canada
Rayonier A.M. Canada G.P.	Canada
Rayonier A.M. Canada Industries Inc.	Canada
Rayonier A.M. France SAS	France
Rayonier A.M. Tartas SAS	France
Rayonier A.M. Products Inc.	Delaware
Southern Wood Piedmont Company	Delaware
Rayonier A.M. Sales and Technology, LLC	Delaware
Rayonier A.M. Paperboard Sales Inc.	Delaware
Rayonier A.M. Finance, LLC	Delaware
Rayonier Performance Fibers, LLC	Delaware
RYAM Lux SARL	Luxembourg

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated March 6, 2025, with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report of Rayonier Advanced Materials Inc. on Form 10-K for the year ended December 31, 2024. We consent to the incorporation by reference of said reports in the Registration Statements of Rayonier Advanced Materials Inc. on Forms S-8 (File No. 333-272061, File No. 333-265015, File No. 333-218975 and File No. 333-197093).

/s/ Grant Thornton LLP

Jacksonville, Florida

March 6, 2025

Certification

I, De Lyle W. Bloomquist, certify that:

1. I have reviewed this annual report on Form 10-K of Rayonier Advanced Materials Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 6, 2025

/s/ DE LYLE W. BLOOMQUIST

De Lyle W. Bloomquist

President and Chief Executive Officer

Rayonier Advanced Materials Inc.

Certification

I, Marcus J. Moeltner, certify that:

1. I have reviewed this annual report on Form 10-K of Rayonier Advanced Materials Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 6, 2025

/s/ MARCUS J. MOELTNER

Marcus J. Moeltner

Chief Financial Officer and Senior Vice President, Finance
Rayonier Advanced Materials Inc.

Certification

The undersigned hereby certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that to our knowledge:

1. The annual report on Form 10-K of Rayonier Advanced Materials Inc. (the “Company”) for the period ended December 31, 2024 (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 6, 2025

/s/ DE LYLE W. BLOOMQUIST

De Lyle W. Bloomquist
President and Chief Executive Officer
Rayonier Advanced Materials Inc.

/s/ MARCUS J. MOELTNER

Marcus J. Moeltner
Chief Financial Officer and Senior Vice President, Finance
Rayonier Advanced Materials Inc.



BOARD OF DIRECTORS

Lisa M. Palumbo

Chair of the Board

De Lyle W. Bloomquist

Director

Eric M. Bowen

Director

Julie A. Dill

Director

Charles R. Eggert

Director

James F. Kirsch

Director

David C. Mariano

Director

Ivona Smith

Director

Bryan D. Yokley

Director

SENIOR LEADERSHIP

De Lyle W. Bloomquist

President and Chief Executive Officer

Kenneth J. Duffy

Senior Vice President Paperboard/High-Yield Pulp

Gabriela Garcia

Chief Accounting Officer and Vice President Contoller

Joshua C. Hicks

Senior Vice President High Purity Cellulose

Whitney K. McGuire

Vice President and Assistant General Counsel

Marcus J. Moeltner

Chief Financial Officer
and Senior Vice President Finance

Michael D. Osborne

Vice President Manufacturing

James L. Posze, Jr.

Chief Administrative Officer
and Senior Vice President Human Resources

Christian Ribeyrolle

President, RYAM BioNova S.A.S.,
President, France Business
and Senior Vice President Biomaterials

Christopher W. Sittard

Vice President Sourcing

R. Colby Slaughter

Senior Vice President, General Counsel
and Corporate Secretary

ANNUAL MEETING OF STOCKHOLDERS

May 14, 2025

5:30 p.m.

DoubleTree Hotel

1201 Riverplace Boulevard Jacksonville, Florida 32207

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Canton, MA 02021

Online Inquiries:

<https://www-us.computershare.com/investor/contact>

Stockholder website:

<https://www.computershare.com/investor>

INVESTOR RELATIONS

Michael H. Walsh

Treasurer and Vice President, Investor Relations

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