Risk Factors Comparison 2024-02-29 to 2023-03-01 Form: 10-K

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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 ~~2022~~ **2023** Form 10- K and our other filings and submissions to the SEC. If any of the events described in the following risk factors ~~actually~~ 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 ~~the ongoing conflict between Russia and Ukraine or other~~ geopolitical conflicts **and related impacts** . **Geopolitical** ~~The military conflict~~ **conflicts** ~~between Russia~~ and **related effects may** ~~Ukraine, along with economic sanctions placed by Western countries on certain industry sectors and parties in Russia, have~~ negatively ~~impacted~~ -- **impact** the global economy **and our business** . While **historically** we have ~~no~~ **not had** direct operations in ~~Russia or Ukraine~~ **geographic areas under conflict** , we have significant operations **and customers** in Europe ~~, which~~ **and Asia and** have experienced shortages in key input materials and increased costs for transportation, energy and raw materials as a result of ~~this~~ **various** ~~conflict~~ **conflicts** . ~~Further escalation~~ **Escalation** of geopolitical tensions could result in, among other things, natural gas shortages **,** ~~in Europe and~~ disruptions of operations for us, our customers and our suppliers, an increase in ~~cyberattacks~~ **cyber intrusion attempts** , lower consumer demand and changes to foreign currency exchange rates and financial markets, any of which would adversely affect our business. ~~These impacts could also directly affect North America and adversely impact our operations in this region.~~ In addition, the effects of ~~the ongoing~~ **any geopolitical** conflict could heighten many of the other known risks described in this Item 1A — Risk Factors. We are subject to risks associated with epidemics and pandemics, ~~including the COVID- 19 pandemic,~~ which **could** ~~has had, and may continue to~~ 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, ~~such as~~ **which may generate significant volatility, uncertainty and economic disruption in many markets in which we or our customers do business. Over** the **past several years,** COVID- 19 ~~pandemic, which has generated, and may continue to generate, significant volatility, uncertainty and economic disruption in many markets in which we or our customers do business. Over the past three years, COVID- 19 has~~ adversely impacted our business and financial condition in various ways, including increased operating costs due to social distancing and other strict health and safety protocols implemented at our facilities to protect employees and contractors, reductions and unpredictable fluctuations in demand and reduced supply chain reliability due to international shipping congestion ~~associated with global demand fluctuations~~ and **the pandemic' s** ~~empty container imbalances. In particular, we remain at risk of~~ adverse ~~effects~~ **impact** on our suppliers, vendors and other global supply chain partners **,** which ~~have~~ impaired ~~, and could continue to impair,~~ our ability to timely and efficiently move our products through the various steps in the global supply chain process to our end customers ~~. The full extent of the COVID- 19 pandemic' s impact on our business cannot be predicted at this time, we continue to closely monitor the pandemic' s impacts on our liquidity, access to capital markets, reliability, customers and suppliers~~ . 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 cyclicality are the most significant drivers of sales volumes and pricing for our products. 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, ~~have~~ **can** collectively ~~contributed~~ - **contribute** to ~~substantially~~ lower cellulose specialties sales prices over **periods of time** ~~the past several years~~ . Likewise, certain cellulose specialty grade volumes have declined meaningfully in recent years due to these factors ~~. The COVID- 19 pandemic exacerbated these dynamics and may continue to do so~~ . Our high- purity commodity products for viscose and absorbent materials applications were also at extremely low pricing levels in 2019 and 2020 **and** ~~. While these levels began to slowly rebound during the latter~~ - **later rebounded.** ~~part of 2020 and increased throughout 2021 and 2022, there~~ **There** can be no assurance as to the ~~timing~~ **duration** and ~~extent~~ **magnitude** of ~~the~~ **a** rebound or ~~that~~ **whether** elevated levels ~~will~~ **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 which are beyond our control. These industries are highly competitive and may experience overcapacity and reductions in end- use demand, each of 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 a variety of 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 ~~de- stocking~~ **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 ~~, such as fluctuations experienced over the past three years during the COVID- 19 pandemic~~ . 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 blend of long- and short- term contracts and **has** generally ~~is~~ **been** more stable than our high- yield pulp business due to strong ties to and steady demand of the lottery and packaging sectors. Changes in **the availability and price of** raw ~~material~~ **materials** and energy ~~availability and prices,~~ 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 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. ~~which~~ **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 and** 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. Given **inflation in the** broader ~~inflation in the~~ economy, we ~~are monitoring~~ --- **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. ~~Over the past year~~ **For example, in 2022** , we **saw** ~~have seen~~ 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. Mitigation of inflationary impacts to some extent 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 located outside of the U. S., including China, the European Union, Japan, **Canada,** South Korea ~~, Canada~~ and other international markets. Sales to customers outside of the U. S. made up 67 percent of our revenue in ~~2022~~ **2023** . The manufacture and sale of our products in non- U. S. markets results in risks that are 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 all over the world, 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 in which 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 Audit 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 more than 40 countries. Our financial results are highly dependent 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 in the past resulted in, and may in the future result in, a material reduction in revenues and profitability. The effects of such restrictions on trade ~~and tariffs~~ on our business in China and Canada are set forth below. In ~~2022~~ **2023** , we had ~~total~~ **product** sales of $ ~~346~~ **474** million ~~of products~~ shipped to customers in China and, of this amount, $

~~274~~ **352** 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. product exports, including all wood pulp sold by us from the U. S. into China, a result of which was a significant decline in operating income for as long as the tariffs remained in place** . Failure of 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. We previously operated six softwood lumber mills in Ontario and Quebec, Canada, and exported softwood lumber into the U. S. from Canada. As part of the sale of our lumber assets in August 2021, we retained all rights and obligations to softwood lumber duties generated or incurred through the closing date of the transaction. The U. S. and Canada have a history of trade disputes, dating to the early 1980s, related to the export of softwood lumber from Canada into the U. S. Each dispute has been 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 between the U. S. and Canada, which resolved a 2001- 2006 lumber dispute between the countries, expired. No agreement was reached to extend or renew it, and as a result, after a one- year cooling- off period, the U. S. commenced a dumping investigation of lumber exports from Canada into the U. S. Beginning in 2017, anti- dumping and countervailing duties were assessed by the USDOC on lumber exported into the U. S. and we were assigned an anti- dumping duty rate of six percent and a countervailing duty rate of 14 percent. These duties are being legally challenged by Canada under both the North American Free Trade Agreement and World Trade Organization dispute resolution processes. Canada has filed an appeal under Chapter 10 of the United States- Mexico- Canada Agreement on Trade to contest these revised duties. The USDOC has completed administrative reviews ~~in~~ **of the 2017, 2018, 2019,** 2020 ~~,~~ **and** 2021 ~~and 2022 for the 2017, 2018, 2019 and 2020~~ periods and reduced rates applicable to us to a combined anti- dumping and countervailing duty rate of **approximately 8** ~~less than 9~~ percent. Canada has filed an appeal under Chapter 10 of the United States- Mexico- Canada Agreement on Trade to contest these revised duties. We paid approximately $ 112 million ~~in~~ **of softwood** lumber duties ~~through~~ **between 2017 and** the **August 2021** ~~date of the~~ sale of our lumber assets, **including $ 1 million of ancillary fees, which were** recorded as ~~an~~ expense in the periods incurred. As of December 31, ~~2022~~ **2023** , we had a $ ~~38~~ **40** million long- term receivable associated with the USDOC' s administrative reviews. **This amount does not include interest, which will be due on any amounts refunded. We estimate that interest earned on the total amount of softwood lumber duties paid will exceed $ 10 million.** Cash is not expected to return to us until final resolution of the softwood lumber dispute, which remains subject to legal challenges ~~and to USDOC administrative review processes covering the remaining 2021 period~~ . No assurances can be given that the duties will be overturned or repaid through the legal process or a negotiated settlement, or that lumber pricing will be sufficient to substantially offset their impact. Business and Operational Risks Our ten largest customers represented approximately 40 percent of our ~~2022~~ **2023** 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 40 percent, of our ~~2022~~ **2023** 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 ~~to~~ **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 were unable to pay for our products, we may incur significant write- offs that may have a material adverse effect on our business, financial condition and results of operations. A material disruption at any of our ~~major~~ 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 ~~major~~ manufacturing facilities, or a significant portion of any of ~~these~~ **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 ~~such~~ **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; • 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 ~~of~~ **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 ~~sections of~~ **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 of** raw material used in the manufacturing process for virtually all of our products. Many factors can impact its availability and pricing. Fiber for our U. S. and ~~French~~ **France** facilities is primarily harvested from privately- held lands, while fiber for our Canadian facilities is primarily harvested from lands owned or controlled by the governments of the provinces of Ontario and Quebec, referred to as " Crown ~~lands~~ **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 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~~ **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. Wood fiber supply and pricing may also be impacted by the proximity between available experienced logging and fiber transportation contractors and our manufacturing facilities. Sourcing wood fiber from greater distances could result in increased transportation costs. Finally, 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~~ **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 regular 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 at times 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 substantial asset risk, including the potential for impairment related to our long- lived assets and the potential impact to the value of recorded deferred tax assets. We have major manufacturing operations in the U. S., Canada and France that 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 will be required to record an impairment charge for our long- lived assets or write- off of recognized DTAs. 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 7 — Property, Plant and Equipment, Net for further details of this impairment. 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 ~~or~~ **,** ~~trucks~~ **truck** ~~,~~ and ~~by~~ 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, ~~2022~~ **2023** , ~~71~~ **61** percent of our global work force ~~is~~ **was** unionized. **We** ~~As a result, 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 are dependent upon attracting and retaining key personnel, the loss of whom could materially adversely affect our business. We believe our success depends, to a significant extent, upon our ability to attract and retain key senior management and operations management personnel. Changing demographics and labor work force 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 develop new products or discover 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. 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 lead to significant revenue or profit generation. Moreover, some of our new products and ~~new~~ 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** ~~cyberattacks or~~ cybersecurity ~~breaches~~ **incident** could materially adversely impact our business. Like most companies, we have been, and expect to continue to be, subject to attempted ~~cyberattacks~~ **cyber intrusions** . **One** ~~Such attacks could include, for~~ **form** ~~example, the~~ **of intrusion that has become** increasingly prevalent **is the** practice of cyber extortion **, particularly** through the ~~deployment~~ **use** of ransomware. ~~Cyberattacks~~ **The sophistication of cyber intrusions continues to grow, and the use of emerging technologies, such as artificial intelligence and quantum computing,** ~~or~~ **for nefarious purposes increases the risk of cyber** ~~cybersecurity~~ ----- **security** ~~breaches~~ **incidents. Cyber intrusions targeting our business systems, operational tools and external vendor software** could compromise our intellectual property and confidential business ~~information~~ **data** , cause a disruption to our operations or ~~harm~~ **damage** our reputation. **Functions that** ~~Moreover, the recent increase in remote work and virtual interaction has only served to expand our " attack surface. " Our information technology systems, some of which are dependent on services provided by third parties,~~ serve an important role in the efficient operation of our business ~~. This role includes~~ - **include** ~~equipment, parts and raw material~~ purchasing and fulfillment, inventory **and manufacturing process** management ~~, management of the processes we use to produce finished products~~ , the reporting of financial results ~~, facilitation of internal~~ and **various** ~~external communications, administration of human capital functions and~~ other **business** process support ~~necessary to manage our business~~ . We have ~~implemented~~ **established** and maintain cybersecurity policies, programs, controls and systems. ~~On a quarterly basis~~ **These measures are in place to safeguard against** , **detect** ~~our Board of Director' s Audit Committee receives~~ and ~~reviews reports from management~~ ---- **manage** ~~regarding our cybersecurity program covering, among other things, strategies and processes for the identification, assessment and mitigation of material cybersecurity- related risks facing the Company; existing and emerging cybersecurity trends and threat landscapes; and the status of projects to strengthen the Company' s information security systems and improve cyber readiness. Under the oversight of our Board of Directors, our CEO- chaired Enterprise Risk Management team and our Cyber- Security Steering Committee, each comprised of a cross- functional team of executives and key functional leads and subject matter experts, meet at least quarterly to ensure~~ cybersecurity risks **across our** ~~are being appropriately identified and mitigated, cybersecurity strategies are being efficiently carried out and cybersecurity~~ processes ~~are being adequately strengthened. These teams also help oversee implementation of bi- annual information~~ **, including those associated with our third party service providers, on whom we rely to maintain** security **programs that align with** ~~compliance training in addition to bi- annual testing exercises (e. g., " phishing simulations ") to reinforce training and assess and shore up vulnerabilities. Notwithstanding the~~ **their** ~~foregoing,~~ **respective risks.** ~~while~~ **While** we have not experienced ~~an~~ **any material** information security ~~breach~~ **breaches** within the ~~past three years~~ **periods being reported** (or to the best of our knowledge, any material information security breach prior to that), there can be no assurance that **our third party service providers' security efforts and programs will be successful and / or that** a ~~cyberattack~~ **successful cybersecurity incident** will not **otherwise** ~~be successful or that such a cybersecurity breach will not~~ occur in the future. Such an event could have a material adverse impact on our financial condition and results of operations. 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 that compliance- related capital **expenditures** and operating costs will 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 are generally becoming 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 a number of initiatives which, if implemented, could impose additional obligations and constraints on our operations, especially in the area of air emissions, wastewater and storm water control. See Item 1 — Business — Environmental Matters of this ~~2022~~ **2023** Form 10- K for further information. Environmental laws and regulations will likely 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 approvals 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 intervention 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 of 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 ~~would~~ 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 properties that require environmental remediation or otherwise are subject to environmental and other liabilities. We currently own, and may acquire in the future, properties which 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 ~~currently~~ 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 10 — Environmental Liabilities to our Financial Statements for additional information. The potential longer- term impacts of climate- related risks remain uncertain at this time. Climate change and its impacts 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 ~~such expenditures may~~ 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, SOx, NOx 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, SOx and NOx 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, who 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 ~~2022~~ **2023** . 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, although 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 recently issued new climate change disclosure requirements for certain entities conducting business in California and the SEC is expected to finalize its proposed rule on climate change disclosures in 2024. 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, not able 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 specialty 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 2G bioethanol project in Tartas, France ~~,~~ **;** 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, and heavy rain, which 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 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 of these benefit plans. 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, it is possible that 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 ~~Policies and Use of~~ Estimates and Note 17 ~~—~~ **—** 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, ~~2022~~ **2023** , our total ~~combined~~ indebtedness was ~~approximately~~ $ ~~1~~ **777** ~~billion~~ **million** . This significant amount of debt could have material adverse consequences to 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 to 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. To the extent we incur additional indebtedness, the risks described above could increase. 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 9 — 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 Credit Facility and 2027 Term Loan are also subject to financial covenant requirements. If we**

anticipate non- compliance with these financial covenants, we may take actions to maintain compliance with them, including reductions in 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. In January 2024, we amended our 2027 Term Loan agreement to increase the maximum consolidated secured net leverage ratio that we must maintain through our 2024 fiscal year to address the risk of potential noncompliance with the covenant as of the end of the fourth quarter of 2023. Though we are in compliance with all covenants and other terms of the 2027 Term Loan, as amended, as of December 31, 2023, there can be no assurance given of future compliance or that additional amendments to the credit facilities will not be necessary . 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 to increase our investment in R & D activities, make strategic investments in our facilities, invest in joint ventures or make 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 as the result of equity issuances for acquisitions, capital market transactions and other corporate purposes, including equity awards for our directors, officers and employees. Additionally, our employees have options to purchase shares of our common stock. We anticipate that our compensation committee will continue to grant stock options or other stock- based awards to our employees under our employee benefit plans. Such awards ~~will~~ **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, and of 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.