

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

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022 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: 000-20557



THE ANDERSONS, INC.

(Exact name of the registrant as specified in its charter)

Ohio
(State of incorporation or organization)

34-1562374

(I.R.S. Employer Identification No.)

1947 Briarfield Boulevard
Maumee Ohio
(Address of principal executive offices)

43537
(Zip Code)

(419) 893-5050
(Telephone Number)

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

Title of each class:	Trading Symbol	Name of each exchange on which registered:
Common stock, \$0.00 par value, \$0.01 stated value	ANDE	The NASDAQ Stock Market LLC

Securities 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 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 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 checked="" type="checkbox"/>	Accelerated filer	<input 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

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

The aggregate market value of the registrant's voting stock which may be voted by persons other than affiliates of the registrant was \$1,052.1 million as of June 30, 2022, computed by reference to the last sales price for such stock on that date as reported on the Nasdaq Global Select Market. The registrant had 33,540,037 common shares outstanding, no par value, at February 10, 2023.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Annual Meeting of Shareholders to be held on May 5, 2023, are incorporated by reference into Part III (Items 10, 11, 12, 13 and 14) of this Annual Report on Form 10-K. The Proxy Statement will be filed with the Commission within 120 days after the end of the fiscal year to which this report relates.

THE ANDERSONS, INC.

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Part I.

Item 1. Business

Company Overview

The Andersons, Inc. (the "Company") is a diversified company rooted in agriculture. Founded in Maumee, Ohio in 1947, the Company is a significant player in the North American agricultural supply chain and conducts its business in the trade, renewables, and plant nutrient sectors.

Segment Descriptions

The Company's operations are classified into three reportable business segments: Trade, Renewables, and Plant Nutrient. Each of these segments is organized based upon the nature of products and services offered and aligns with the management structure. See Note 12 to the Consolidated Financial Statements in Item 8 for information regarding business segments.

Trade

The Trade segment is a diversified business focusing on capturing profits through merchandising and managing logistics across a wide range of commodities. The segment specializes in the movement of physical commodities such as: whole grains, grain products, feed ingredients and domestic fuel products among other agricultural commodities. The Company has a broad geographic footprint with a diversified portfolio of physical commodities, although the principal commodities sold by the Company are corn, wheat and soybeans. Exported commodity sales are made both through intermediaries and direct shipments to foreign countries.

Trade also operates grain elevators across the United States and Canada where income is earned on commodities bought and sold through the elevator, commodities that are purchased and conditioned for resale, and commodities that are held in inventory until a future period, earning an elevation margin. Elevation margins consist of appreciation in the basis value of commodities held, which represents the difference between the cash price of a commodity in one of the Company's facilities and an exchange traded futures price ("basis"); appreciation or depreciation between the future exchange contract months ("spread"); and commodities stored for others upon which storage fees are earned. The segment's asset-based grain handling business is seasonal in nature in that the largest portion of the principal grains are harvested and delivered from the farm and commercial elevators typically in July for wheat and September through November for corn and soybeans; however, depending on market conditions a significant portion of the principal grains may also be bought, sold and handled throughout the year.

Fixed price purchase and sale commitments as well as commodities held in inventory, expose the Company to risks related to adverse changes in market prices. Grain prices are typically comprised of two components, futures prices on regulated commodity exchanges and local basis adjustments. The Company manages the futures price risk by entering into exchange-traded futures and option contracts with regulated commodity exchanges. These regulated commodity exchanges maintain futures markets for the grains merchandised by the Company. Futures prices are determined by worldwide supply and demand. The business also offers a number of unique grain marketing, risk management and origination services to its customers and affiliated ethanol facilities for which it collects fees.

The Company competes in the sale of commodities with other public and private grain brokers, elevator operators and farmer owned cooperative elevators. Some of the Company's competitors are also its customers. Competition is based primarily on price, service and reliability. Because the Company often buys in smaller lots, its competition for the purchase of commodities is generally local or regional in scope, although there are some large national and international companies that maintain regional grain purchase and storage facilities. Significant portions of grain bushels purchased and sold are made using forward contracts.

Renewables

The Renewables segment produces, purchases and sells ethanol and co-products, offers facility operations, and provides risk management and marketing services to the ethanol plants it invests and operates in. The Company co-owns five ethanol plants located in Indiana, Iowa, Kansas, Michigan and Ohio. The segment demonstrates an expertise in ethanol plant management, logistics and commercialization of ethanol and co-products with a focus on leading the industry in margins per bushel. The business leverages partnerships, which are discussed in further detail below, to expand market knowledge and shared technology across its five plants. The segment also operates a merchandising and trade portfolio of ethanol, ethanol co-products and other biofuels, such as renewable feedstocks.

The Company owns a 50.1% interest in The Andersons Marathon Holdings LLC ("TAMH") and Marathon Petroleum Corporation ("Marathon") owns the remaining 49.9% interest. TAMH is comprised of four ethanol plants located in Iowa, Indiana, Michigan, and Ohio. These plants have a combined nameplate capacity of 405 million gallons, but have a history of outperforming the nameplate capacity. The Company operates these facilities under a management contract, provides corn origination, ethanol marketing, and risk management services. The Company fully consolidates TAMH's results in the Company's Consolidated Financial Statements.

The Company also owns 51% of ELEMENT, LLC ("ELEMENT") and ICM, Inc. ("ICM") owns the remaining 49% interest. ELEMENT is comprised of a 70 million-gallon-per-year bio-refinery in Kansas. The Company operates the facility under a management contract, provides corn origination, ethanol marketing, and risk management services. The Company fully consolidates ELEMENT's results in the Company's Consolidated Financial Statements.

Plant Nutrient

The Plant Nutrient segment is a leading manufacturer, distributor and retailer of agricultural and related plant nutrients, liquid industrial products, corncob-based products, pelleted lime and gypsum products, and various turf fertilizer, pesticide and herbicide products.

In its Plant Nutrient business, the Company competes with regional and local cooperatives, wholesalers and retailers, predominantly publicly owned manufacturers and privately-owned retailers, wholesalers and importers. Some of these competitors are also suppliers. Competition in the nutrient business is based largely on depth of product offering, price, location and service. Sales of agricultural nutrients and turf related products are heaviest in the spring and fall.

The segment is organized into the three divisions listed below:

Ag Supply Chain - The Ag Supply Chain division provides wholesale nutrients and farm services focused primarily in the Eastern Grain belt. The wholesale nutrients business formulates, stores and distributes dry and liquid agricultural nutrients, and soil amendments. The major nutrient products are typically bought and sold as commodities. The farm centers offer a variety of essential crop nutrients, crop protection chemicals and seed products in addition to application and agronomic services to commercial and family farmers.

Engineered Granules - The Engineered Granules division manufactures and distributes proprietary professional lawn care products that are primarily sold into the golf course and professional turf care markets, serving both U.S. and international customers. The Company also performs contract manufacturing services to formulated and packaged fertilizer and weed and pest control products to various markets. It also manufactures pelleted lime, gypsum and value add soil amendments sold into agricultural and turf markets. Additionally, corncob-based products are manufactured for a variety of uses including laboratory animal bedding and private-label cat litter, as well as absorbents, blast cleaners, carriers and polishers. The principal sources for corncobs are seed corn producers. The products are distributed throughout the U.S. and international markets.

Specialty Liquids - The Specialty Liquids division manufactures and distributes a broad range of fertilizers, micronutrients, and soil amendments. The business has a diverse portfolio of specialty products which support more sustainable farming practices and command higher margins. The division is also a manufacturer and distributor of industrial products throughout the U.S. and Puerto Rico including nitrogen reagents, calcium nitrate, deicers, and dust abatement products.

Other

The Company's "Other" activities include corporate income, a small corporate venture fund and the cost for functions that provide support and services to the operating segments. The results include expenses and benefits not allocated to the operating segments.

Human Capital Resources and Management

As of December 31, 2022, the Company had a total of 2,283 employees across its Trade, Renewables and Plant Nutrient segments and Corporate Services function. This total was comprised of 940 salary, 1,264 hourly and 79 seasonal employees who conducted work at 117 locations across the United States, Canada, United Kingdom, Switzerland, Mexico and Singapore. Sixty-Three of the Company's locations included less than 10 employees.

- **Recruiting**: Talent acquisition efforts target both internal and external candidates. The Company advertises opportunities on large online job boards, state job boards and various targeted diversity job boards, as well as geographically specific media channels. The Company strives to find candidates within its geographic footprint to generate a diverse talent pool. It also engages in campus recruiting efforts for entry level professional talent, internships and professional development programs.
- **Focus on Safety**: Maintaining a high standard of employee safety is paramount to the Company's core values. Systems and technology have been implemented to support the Company's safety initiative, maintain a safe working environment and foster a culture of personal accountability. As a part of our employee onboarding process, employees are required to complete core safety courses. A yearly training calendar is followed to ensure timely completion of annual safety training. The Company advanced its safety program in recent years by identifying and focusing on high-risk work that has the potential of causing serious injury or fatality.
- **Employee Engagement**: The Company maintains an open-door policy that encourages candid conversations between employees and any level of leadership about job-related concerns without fear of reprisal. It regularly solicits employee feedback through informal pulse surveys and formal engagement surveys. It also communicates with employees on a weekly, monthly and quarterly basis through electronic newsletters, town halls, its intranet site and small group meetings with the Chief Executive Officer.
- **Talent Development**: The Company offers several resources to help employees expand their business knowledge and leadership skills, including merchandising and finance development programs. It hosts a Foundations of Leadership training course to newly appointed supervisors. It also offers a learning management system which houses numerous online courses, videos, audiobooks and podcasts that are available to all employees on demand. Additionally, several in-person trainings are led by internal staff.
- **Health and Wellness**: The Company partners with a wellness vendor to offer a comprehensive healthy lifestyles program to employees and their spouses. The program uses rewards and incentives to encourage participants to take the necessary steps to manage their health and wellness. The program offers a prediabetes program, personal e-coaching with a licensed health professional and financial wellness webinars.
- **Compensation and Benefits**: The Company offers market competitive employee compensation and benefits programs. Benefits include health care benefits, dental and vision benefits, disability and life insurance coverages and other a la carte voluntary benefit offerings. Company leave policies include domestic and sexual violence leave, family and medical leave, parental leave and military leave.
- **Community Involvement**: The Company believes strongly in sharing its time, talent and financial resources to help improve and sustain the quality of life in its communities. It has contributed a portion of its operating income to community organizations every year since its founding in 1947. The Company also encourages employees to share their time and gifts through volunteerism, participation in its annual workplace giving campaign and gift match program.

Government Regulation

Grain sold by the Company must conform to official grade standards imposed under a federal system of grain grading and inspection administered by the United States Department of Agriculture ("USDA").

The production levels, markets and prices of the grains that the Company merchandises are affected by United States government programs, which include acreage control and price support programs of the USDA. In regard to our investments in ethanol production facilities, much of the ethanol blending is done to meet the Renewable Fuel Standard by adding 10% ethanol.

The U.S. Food and Drug Administration ("FDA") has developed bioterrorism prevention regulations for food facilities, which require that the Company registers its grain operations with the FDA, provide prior notice of any imports of food or other agricultural commodities coming into the United States and maintain records to be made available upon request that identifies the immediate previous sources and immediate subsequent recipients of its grain commodities.

The Company, like other companies engaged in similar businesses, is subject to a multitude of federal, state and local environmental protection laws and regulations including, but not limited to, laws and regulations relating to air quality, water quality, pesticides and hazardous materials. The provisions of these various regulations could require modifications of certain of the Company's existing facilities and could restrict the expansion of future facilities or significantly increase the cost of operations. Compliance with environmental laws and regulations did not materially affect the Company's earnings or competitive position in 2022. In each of the countries in which we operate, we are subject to a variety of laws and regulations governing various aspects of our business, including general business regulations as well as those governing the manufacturing, handling, storage, transport, marketing and sale of our products. These include laws and regulations relating to facility licensing and permitting, food and feed safety, the handling and production of regulated substances, nutritional and labeling requirements, global trade compliance and other matters.

Available Information

The Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are filed with the Securities and Exchange Commission (the "SEC"). The Company is subject to the informational requirements of the Exchange Act and files or furnishes reports, proxy statements and other information with the SEC. Such reports and other information filed by the Company with the SEC are available free of charge at <https://theandersonsinc.gcs-web.com/financial-information/sec-filings> when such reports are available on the SEC's website. The SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov. The Company periodically provides other information for investors on its corporate website, www.andersonsinc.com, and its investor relations website, <https://theandersonsinc.gcs-web.com>. This includes press releases and other information about financial performance, information on corporate governance and details related to the Company's annual meeting of shareholders. The information contained on the websites referenced in this Form 10-K is not incorporated by reference into this filing. Further, the Company's website references above are intended to be inactive textual references only.

Item 1A. Risk Factors

The Company's operations are subject to risks and uncertainties that could cause actual results to differ materially from those discussed in this Form 10-K and could have a material adverse impact on the financial results of the Company. The risks described below are not the only risks facing the Company. Additional risks and uncertainties not currently known or currently viewed to be immaterial may also materially and adversely affect business, financial condition or results of operations. These risks can be impacted by factors beyond management's control. The following risk factors should be read carefully in connection with evaluating the Company and the forward-looking statements contained elsewhere in this Form 10-K.

Risks Related to our Business and Industry

Our business is affected by the supply and demand of commodities and is sensitive to factors outside of our control. Adverse price movements could negatively affect our profitability and results of operations.

Our Trade, Renewables and Plant Nutrient businesses buy, sell and hold inventories of agricultural input and output commodities, some of which are readily traded on commodity futures exchanges. Unfavorable weather conditions, both local and worldwide, as well as other factors beyond our control, can affect the supply and demand of these commodities and expose us to liquidity pressures to finance hedges in the commodity business in rapidly rising markets. In our Plant Nutrient business, changes in the supply and demand of these commodities can also affect the value of inventories that we hold, as well as the price of raw materials as we are unable to effectively hedge these commodities. Increased costs of inventory and prices of raw material would decrease our profit margins and adversely affect our results of operations.

Corn - The principal raw material used to produce ethanol and co-products is corn. As a result, an increase in the price of corn in the absence of a corresponding increase in petroleum-based fuel prices will typically decrease ethanol margins thus adversely affecting financial results in the Renewables segment. At certain levels, the relationship between corn and petroleum-based fuel prices may make ethanol uneconomical to produce for fuel markets. The price of corn is influenced by weather conditions and other factors affecting crop yields, shifts in acreage allocated to corn versus other major crops and general economic and regulatory factors. These factors include government policies and subsidies with respect to agriculture and international trade, and global and local demand and supply. The significance and relative effect of these factors on the price of corn is difficult to predict. Any event that tends to negatively affect the supply of corn, such as adverse weather or crop disease, could increase corn prices and adversely impact income. In addition, we may also have difficulty, from time to time, in physically sourcing corn on economical terms due to supply shortages. High costs or shortages could require us to suspend ethanol operations until corn is available on economical terms, which would have an adverse effect on operating results.

Commodities - While we manage the risk associated with agricultural commodity price changes for our commodity inventory positions with derivative instruments, including purchase and sale contracts, we are unable to offset 100% of the price risk of each transaction due to timing, availability of futures and options contracts and third-party non-performance risk. Furthermore, there is a risk that the derivatives we employ will not be effective in offsetting all of the risks that we are trying to manage. This can happen when the derivative and the underlying value of grain inventories and purchase and sale contracts are not perfectly correlated. Our commodity derivatives, for example, do not perfectly correlate with the basis component of our commodity inventory and contracts. Differences can reflect time periods, locations or product forms. Although the basis component is smaller and generally less volatile than the futures component of our grain market price, basis moves on a large commodity position can significantly impact the profitability of the Trade business.

Our futures, options and over-the-counter contracts are subject to margin calls. If there are large movements in the commodities market, we could be required to post significant levels of margin deposits, which would impact our liquidity. There is no assurance that the efforts we have taken to mitigate the impact of the volatility of the prices of commodities upon which we rely will be successful and any sudden change in the price of these commodities could have an adverse effect on our business and results of operations.

Natural gas - We rely on third parties for our supply of natural gas, which is consumed in the drying of wet grain, manufacturing of certain lawn products, pelleted lime and gypsum, and manufacturing of ethanol. The prices for and availability of natural gas are subject to market conditions. These market conditions often are affected by factors beyond our control such as higher prices resulting from colder than average weather and overall economic conditions. Significant disruptions in the supply of natural gas could impact the operations of the Company's facilities. Furthermore, increases in natural gas prices or changes in our natural gas costs relative to natural gas costs paid by competitors may adversely affect future results of operations and financial position.

Gasoline and oil - We market ethanol as a fuel additive to reduce vehicle emissions from gasoline, as an octane enhancer to improve the octane rating of gasoline with which it is blended and as a substitute for petroleum-based gasoline. As a result, ethanol prices will be influenced by the supply and demand for gasoline and oil and our future results of operations and financial position may be adversely affected if gasoline and oil demand or prices decline substantially.

Potash, phosphate and nitrogen - Raw materials used by the Plant Nutrient business include potash, phosphate and nitrogen, for which prices can be volatile and are driven by global and local supply and demand factors. Significant increases in the price of these commodities may result in lower customer demand and higher than optimal inventory levels. In contrast, reductions in the price of these commodities may create lower of cost or net realizable value adjustments to inventories.

Some of our business segments operate in highly regulated industries. Changes in government regulations or trade association policies could adversely affect our results of operations.

Many of our business segments are subject to government regulation and regulation by certain private sector associations, compliance with which can impose significant costs on our business. Other regulations are applicable generally to all our businesses and corporate functions, including, without limitation, those promulgated under the Internal Revenue Code, the Affordable Care Act, the Employee Retirement Income Security Act and other employment and health care related laws, federal and state securities laws, and the US Patriot Act. Failure to comply with such regulations can result in additional costs, fines or criminal action.

A significant part of our operations is regulated by environmental laws and regulations, including those governing the labeling, use, storage, discharge and disposal of hazardous materials. Because we use and handle hazardous substances in our businesses, changes in environmental requirements or an unanticipated significant adverse environmental event could have an adverse effect on our business. We cannot assure that we have been, or will at all times be, in compliance with all environmental requirements, or that we will not incur costs or liabilities in connection with these requirements. Private parties, including current and former employees, could bring personal injury or other claims against us due to the presence of, or exposure to, hazardous substances used, stored or disposed of by us, or contained in our products. We are also exposed to residual risk because some of the facilities and land which we have acquired may have environmental liabilities arising from their prior use. In addition, changes to environmental regulations may require us to modify our existing plant and processing facilities which could significantly increase the cost of those operations.

Trade and Renewables - In our Trade and Renewables businesses, agricultural production and trade flows can be affected by government programs and legislation. Production levels, markets and prices of the commodities we merchandise can be affected by U.S. government programs, which include acreage controls and price support programs administered by the USDA and required levels of ethanol in gasoline through the Renewable Fuel Standards as administered by the Environmental Protection Agency ("EPA"). Other examples of government policies that can have an impact on our business include tariffs, taxes, duties, subsidies, import and export restrictions, outright embargoes and price controls on agricultural commodities. Because a portion of our commodity sales are to exporters, the imposition of export restrictions and other foreign countries' regulations could limit our sales opportunities and create additional credit risk associated with export brokers if shipments are rejected at their destination.

International trade disputes can adversely affect agricultural commodity trade flows by limiting or disrupting trade between countries or regions. Trade disputes can lead to the implementing of tariffs on commodities in which we merchandise or otherwise use in our operations. This can lead to significant volatility in commodity prices, disruptions in historical trade flows and shifts in planting patterns in the Company's geographic footprint, which would present challenges and uncertainties for our business. The imposition of new tariffs or uncertainty around future tariff levels can cause significant fluctuations in the futures and basis levels of agricultural commodities, impacting our earnings. We cannot predict the effects that future trade policy or the terms of any negotiated trade agreements and their impact on our business.

Plant Nutrient - Our Plant Nutrient business manufactures certain agricultural nutrients and uses potentially hazardous materials. All products containing pesticides, fungicides and herbicides must be registered with the EPA and state regulatory bodies before they can be sold. The inability to obtain or the cancellation of such registrations could have an adverse impact on our business. In the past, regulations governing the use and registration of these materials have required us to adjust the raw material content of our products and make formulation changes. Future regulatory changes may have similar consequences. Regulatory agencies, such as the EPA, may at any time reassess the safety of our products based on new scientific knowledge or other factors. If it were determined that any of our products were no longer considered to be safe, it could result in the amendment or withdrawal of existing approvals, which, in turn, could result in a loss of revenue, cause our inventory to become obsolete or give rise to potential lawsuits against us. Consequently, changes in existing and future government or trade association policies may restrict our ability to do business and have an adverse impact on the Company's financial results.

We are required to carry significant amounts of inventory across all of our businesses. If a substantial portion of our inventory becomes damaged or obsolete, its value would decrease, and have an adverse impact on the Company's financial results.

We are exposed to the risk of a decrease in the value of our inventories due to a variety of circumstances in all of our businesses. For example, within our Trade and Renewables businesses, there is the risk that the quality of our inventory could deteriorate due to damage, moisture, insects, disease or foreign material. If the quality of our inventory were to deteriorate below an acceptable level, the value of our inventory could decrease significantly. In our Plant Nutrient business, planted acreage, and consequently the volume of fertilizer and crop protection products applied, is partially dependent upon government programs and the producer's perception of demand. Technological advances in agriculture, such as genetically engineered seeds that resist disease and insects, or that meet certain nutritional requirements, could also affect the demand for our crop nutrients and crop protection products. Either of these factors could render some of our inventory obsolete or reduce its value.

Our indebtedness could negatively affect our financial condition, decrease our liquidity and impair our ability to operate the business.

If cash on hand is insufficient to pay our obligations or margin calls as they come due at a time when we are unable to draw on our credit facility, it could have an adverse effect on our ability to conduct our business. Our ability to make payments on and to refinance our indebtedness will depend on our ability to generate cash in the future. Our ability to generate cash is dependent on various factors. These factors include general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. Certain of our long-term borrowings include provisions that require minimum levels of working capital and equity and impose limitations on additional debt. Our ability to satisfy these provisions can be affected by events beyond our control, such as the demand for and the fluctuating price of commodities. Noncompliance with these provisions could result in default and acceleration of long-term debt payments.

We face increasing competition and pricing pressure from other companies in our industries. If we are unable to compete effectively with these companies, our sales and profit margins would decrease, and our earnings and cash flows would be adversely affected.

The markets for our products in each of our business segments are highly competitive. While we have substantial operations in certain of the regions where we operate, some of our competitors are significantly larger, compete in wider markets, have greater purchasing power, and have considerably larger financial resources. We also may enter into new markets where our brand is not recognized and in which we do not have an established customer base. Competitive pressures in all of our businesses could affect the price of, and customer demand for, our products, thereby negatively impacting our profit margins and resulting in a loss of market share.

Our Trade and Renewables businesses use derivative contracts to reduce the impact of volatility in the commodity markets. Non-performance by the counterparties to those contracts could adversely affect our future results of operations and financial position.

A significant amount of purchases and sales within the Trade and Renewables segments are made through forward contracting, much of which includes a natural back-to-back hedging relationship. In addition, the Company uses exchange traded and, to a lesser degree, over-the-counter contracts to further reduce volatility in changing commodity prices. A significant adverse change in commodity prices could cause a counterparty of one or more of our derivative contracts to not perform on its obligation.

We face increasing exposure to country risk in countries that face financial, political, and economic unrest through unsecured credit, inventory, forward contract risk or payment origination that could adversely affect our future results of operations, financial position, and cash flows.

With our 2021 launch of the Company's Switzerland merchandising business, we have increased our international supply chain operations and exposure. With the increased international presence comes additional country risk through trade flows around the globe with direct exposure to the counterparty, via contract mark-to-market exposure, unsecured accounts receivable or inventory in the country. In certain areas in which we trade (both origination and destination) country risk is more prevalent given the country's political and/or economic situations like Russia's invasion of Ukraine. The addition of purchases and sales of grain in vessel sized quantities to support the Switzerland-based businesses increases the size and potential severity of our country risk. Additionally, there could be a rapid increase in interest rates creating difficulty for our counterparties to access U.S. dollars making it difficult to collect accounts receivable timely. We have engaged third parties to provide assessments of country risk and business ratings driven by economic indicators. We also have established counterparty credit limits and various monitoring agreements. Additionally, we have a diverse customer base, so we have the ability to divert cargo in transit to another counterparty, country, or region to limit the exposure to a material financial loss.

Our business involves considerable safety risks. Significant unexpected costs and liabilities would have an adverse effect on our profitability and overall financial position.

Due to the nature of some of the businesses in which we operate, we are exposed to significant operational hazards such as grain dust explosions, fires, malfunction of equipment, abnormal pressures, blowouts, pipeline and tank ruptures, chemical spills or run-off, transportation accidents and natural disasters. Some of these operational hazards may cause personal injury or loss of life, severe damage to or destruction of property and equipment or environmental damage and may result in suspension of operations and the imposition of civil or criminal penalties. If grain dust were to explode at one of our elevators, if an ethanol plant were to explode or catch fire, or if one of our pieces of equipment were to fail or malfunction due to an accident or improper maintenance, it could put our employees and others at serious risk.

We own several aging assets that require regular assessment and continual investments in maintenance capital. If we experience catastrophic damage to our facilities due to structural integrity, this could result in disruptions to operations, potential safety incidents and losses not covered by insurance.

The Company has several aging assets that require continual maintenance to remain reliable and safe to operate. Mitigating asset structural integrity risk is critical to avoid property damage claims, business interruptions, and injuries. Engineers undergo inspections of assets regularly and based on the nature of our business there are some heightened risks. For example, risk of bin failures and fires in bins are mitigated by exercising caution with moving grain and controlling temperatures, respectively. We also have an increased focus on safety and training employees to be able to identify potential safety and asset integrity issues. We also are undergoing capital spending allocations to ensure that proper maintenance can occur timely. To help mitigate losses in the event of a claim, we are insured under inventory, property, liability and business interruption policies. However, these policies are subject to deductibles and certain limits. Although we believe we have appropriate levels of insurance to cover material losses, if we continue to experience insurable claims, our annual insurance premiums could increase, and some insurance carriers may cease to cover us. Obtaining adequate insurance at that point could have additional costs and lesser coverage. Then, the occurrence of a claim, could have a material adverse effect on our reputation, financial condition and results of operations.

Adverse weather conditions, including as a result of climate change, may adversely affect the availability, quality and price of agricultural commodities and agricultural commodity products, as well as our operations and operating results.

Adverse weather conditions have historically caused volatility in the agricultural commodity industry and consequently in our operating results by causing crop failures or significantly reduced harvests, which may affect the supply and pricing of the agricultural commodities that we sell and use in our business, reduce demand for our fertilizer products and negatively affect the creditworthiness of agricultural producers who do business with us. A significant portion of the Company's assets are exposed to conditions in the Eastern Grain Belt. In this region, adverse weather during the fertilizer application, planting, and harvest seasons can have negative impacts on our Trade, Renewables and Plant Nutrient businesses. Higher basis levels or adverse crop conditions in the Eastern Grain Belt can increase the input costs or lower the market value of our products relative to other market participants that do not have the same geographic concentration.

Additionally, the potential physical impacts of climate change are uncertain and may vary by region. These potential effects could include changes in rainfall patterns, water shortages, changing sea levels, changing storm patterns and intensities, and changing temperature levels that could adversely impact our costs and business operations, the location, costs and competitiveness of agricultural commodity production and related storage and processing facilities and the supply and demand for agricultural commodities. These effects could be material to our results of operations, liquidity or capital resources.

The Company faces risks related to international conflicts, acts of terrorism and wars, such as the ongoing conflict between Russia and Ukraine, that may adversely impact the Company's financial condition or results of operations.

Geopolitical instability and conflicts including acts of terrorism, threats of war or actual war, could cause disruptions in our ability to sell and ship products, collect payments from, and do business with certain customers based on logistic challenges, safety concerns, and conforming with regulatory compliance. There could be trade restrictions including export restrictions and tariffs which would increase costs and have an adverse effect on results from operations.

In late February of 2022, Russia initiated a military operation in Ukraine. The Black Sea region is a key international grain and fertilizer export market and the conflict between Russia and Ukraine could continue to disrupt supply and logistics, cause volatility in prices, and impact global margins due to increased commodity, energy, and input costs. While the Company does not have any assets or employees located in the Black Sea region, it does engage in business with parties operating in the region, including some grain originations directly from Ukrainian producers. The conflict could negatively affect our ability to secure product in this region and the credit worthiness of agricultural producers with which we do business. The Company currently does not purchase fertilizer directly from this region, however, the impact to the global fertilizer supply could put the Company's ability to secure product at risk over time.

General Risk Factors

We rely on a limited number of suppliers for certain of our raw materials and other products and the loss of one or several of these suppliers could increase our costs and have a material adverse effect on any one of our business segments.

We rely on a limited number of suppliers for certain of our raw materials and other products. If we were unable to obtain these raw materials and products from our current vendors, or if there were significant increases in our supplier's prices, it could significantly increase our costs and reduce our profit margins.

We are subject to global and regional economic downturns and related risks including health epidemics, pandemics and similar outbreaks.

The level of demand for our products is affected by global and regional demographic and macroeconomic conditions, including population growth rates, changes in standards of living and the occurrence of any health-related risks. A significant downturn in global economic growth, or recessionary conditions in major geographic regions, may lead to reduced demand for agricultural commodities and food products, which could adversely affect our business and results of operations. The occurrence of health-related risks including epidemics or global pandemics such as COVID-19 may adversely affect the economy. The COVID-19 pandemic has had unpredictable impacts on global economies, financial markets, and society. The extent to which similar outbreaks or future pandemics impact our business going forward will depend on the duration or scope of the outbreak and how governmental, businesses, and society respond, along with the economic impact including financial market volatility. The pace of economic improvement is uncertain and there can be no assurance that economic and/or political conditions will not continue to affect market and consumer confidence or deteriorate further in the near term.

The Company may not be able to effectively integrate businesses it acquires.

We continuously look for opportunities to enhance our existing businesses through strategic acquisitions. The process of integrating an acquired business into our existing business and operations may result in unforeseen operating difficulties and expenditures as well as require a significant amount of management resources. There is also the risk that our due diligence efforts may not uncover significant business flaws or hidden liabilities. In addition, we may not realize the anticipated benefits of an acquisition and they may not generate the anticipated financial results. Additional risks may include the inability to effectively integrate the operations, products, technologies and personnel of the acquired companies. The inability to maintain uniform standards, controls, procedures and policies would also negatively impact operations.

If our goodwill, amortizable intangible assets and long-lived assets become impaired, then we could be required to record a significant charge to earnings.

GAAP requires us to test for goodwill impairment at least annually. In addition, we review our tangible and intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Factors that may be considered a change in circumstances indicating that the carrying value of our goodwill, amortizable intangible assets and long-lived assets may not be recoverable include prolonged declines in stock price, market capitalization or cash flows, and slower growth rates in our industry. Depending on the results of our review, we could be required to record a significant charge to earnings in our Consolidated Financial Statements during the period in which any impairment is determined, negatively impacting our results of operations.

Our business depends on our ability to attract and retain talented employees.

Our success as a Company is dependent on hiring and retaining highly skilled employees with diverse backgrounds and experiences. If we are unable to motivate and retain employees, we may not be able to maximize productivity and effectively operate our facilities. Further, our long-term success depends on effective succession planning across all levels of management and operations. Failure to effectively identify key employees and ensure appropriate training and smooth transitions could adversely impact our ability to execute our business strategies and operations.

Compliance with evolving environmental, social and corporate governance ("ESG") regulations including climate change may impact our reputation, increase our operating costs, and reduce the value of our assets and products.

There is an increased focus on environmental, social and corporate governance regulations for the industry. As a Company, we assess the potential impacts of our business on environmental risks including climate change, carbon emissions, physical and transition risks, along with other environmental issues. The Company, through our Enterprise Risk Management program and other efforts, is actively focused on strategic goals to expand responsible practices to reduce environmental risks while ensuring compliance with evolving laws and regulations. For example, through working with third parties such as Supplier Leadership on Climate Transition we have reported Scope 1 and 2 greenhouse gases emissions in our annual Sustainability Report, and we are working with third parties to develop Scope 3 data. We have been participating with customers in pilot sustainable sourcing projects as well as looking to participate in Field to Market which provides farming operation analytics to customers to create greater visibility into supply chain and sustainability efforts. If we are unable to properly assess these risks and meet our ESG reporting goals and metrics for Scope 1, 2 and 3 greenhouse gas emissions, or if our efforts are considered to be inadequate, then stakeholders, industry, and investors might perceive that we are not responding appropriately and responsibly to the growing concern, and we could be subject to fines and penalties. As a result, investors may reconsider their capital investments and our reputation could be diminished leading to customers and suppliers choosing to refrain from engaging in business with us.

The Company faces transition risks and physical risks related to climate change.

With the increased regulations and opportunity of electric vehicles comes the transitional risk that biofuels are in lower demand due to environmental concerns with climate change and changing consumer behavior. While biofuels also have less carbon emissions than regular gasoline, electric vehicles have the lowest emissions. A decrease in demand for biofuels as a result of regulatory or market changes would result in ethanol plants being underutilized along with a lower demand for corn to be used in ethanol production. The decrease in corn demand for ethanol production would mean a greater supply of corn for human and livestock consumption, driving down food costs and could lower overall grain prices. From a physical risk standpoint, there is increased land acreage that was historically used for growing corn that is being left unplanted as there is belief that the empty farmland is aiding in absorbing carbon dioxide. This would result in decreased agriculture productivity, reducing the amount of fertilizers needed and grains harvested. There are many assumptions both domestically and internationally driving the impact of supply and demand for corn, soybeans and other grains so it is too early to quantify the transition and physical risks involved with the gradual shift to electrification and the environmental regulatory changes. Although we believe that many regions both domestically and internationally will still rely on biofuels as they are slower to make changes and might not have immediate resources to do so, we cannot be certain about the pace and nature of changes in the industry and how it will impact demand for our products. These environmental changes could be costly and adversely affect our facilities, financial position and results of operations. While our Company believes that we are strategically positioned so that we can assess our role in actively reducing environmental risks while remaining focused on being a leader in the merchandising of grains and other co-products domestically and internationally, it is not possible to predict exactly how a changing climate will impact our business. If our strategies prove ineffective, our business could be adversely affected.

The Company's information technology systems may impose limitations or failures, or may face external threats, which may affect the Company's ability to conduct its business.

The Company's information technology systems, some of which are dependent on services provided by third parties, provide critical data connectivity, information and services for internal and external users. These interactions include, but are not limited to, ordering and managing materials from suppliers, converting raw materials to finished products, inventory management, shipping products to customers, processing transactions, summarizing and reporting results of operations, complying with regulatory, legal or tax requirements, human resources and other processes necessary to manage the business. The Company has put in place business continuity plans for its critical systems. However, if the Company's information technology systems are damaged, or cease to function properly due to any number of causes, such as catastrophic events or power outages, and the Company's business continuity plans do not allow it to effectively recover on a timely basis, the Company may suffer interruptions in the ability to manage its operations, which may adversely impact the Company's operating results. Our security measures may also be breached due to employee error, malfeasance, or otherwise. In addition, although the systems continue to be refreshed periodically, portions of the infrastructure are outdated and may not be adequate to support new business processes, accounting for new transactions, or implementation of new accounting standards if requirements are complex or materially different than what is currently in place.

Additionally, outside parties may attempt to destroy critical information, or fraudulently induce employees, third-party service providers, or users to disclose sensitive information to gain access to our data or our users' data. As a response, the Company requires usernames and passwords to access its information technology systems. The Company also uses encryption and authentication technologies designed to secure the transmission and storage of data and prevent access to Company and user data or accounts. The Company also conducts tests and assessments using independent third parties on a regular basis. As with all companies, these security measures are subject to third-party security breaches, employee error, malfeasance, faulty password management, or other irregularities. We cannot assure our ability to prevent, repel or mitigate the effects of such an attack by outside parties. The Company also relies on third parties to maintain and process certain information which could be subject to breach or unauthorized access to Company or employee information. Any such breach or unauthorized access could result in an inability to perform critical functions, significant legal and financial exposure, damage to our reputation, and a loss of confidence in the security of our services that could potentially have an adverse effect on our business.

Unauthorized disclosure of sensitive or confidential customer information could harm the Company's business and standing with our customers.

The protection of our customer, employee and Company data is critical to us. The Company relies on commercially available systems, software, tools and monitoring to provide security for processing, transmission and storage of confidential customer information. The Company also conducts annual tests and assessments using independent third parties. Despite the security measures the Company has in place, its facilities and systems, and those of its third-party service providers, may be vulnerable to security breaches, acts of vandalism, computer viruses, misplaced or lost data, programming or human errors, or other similar events. Any security breach involving the misappropriation, loss or other unauthorized disclosure of confidential information, whether by the Company or its vendors, could damage our reputation, expose us to risk of litigation and liability, disrupt our operations and harm our business.

A change in tax laws or regulations of any federal, state or international jurisdiction in which we operate could increase our tax burden and otherwise adversely affect our financial position, results of operations, cash flows and liquidity.

We continue to assess the impact of various U.S. federal, state, local and international legislative proposals that could result in a material increase to our U.S. federal, state, local and/or international taxes. We cannot predict what impact, if any, changes in federal policy, including tax policies, will have on our industry or whether any specific legislation will be enacted or the terms of any such legislation. However, if such proposals were to be enacted, or if modifications were to be made to certain existing regulations, the consequences could have a material adverse impact on us, including increasing our tax burden, increasing our cost of tax compliance or otherwise adversely affecting our financial position, results of operations, cash flows and liquidity. Changes in applicable U.S. or foreign tax laws and regulations, or their interpretation and application, including the possibility of retroactive effect, could affect our tax expense and profitability. Such impact may also be affected positively or negatively by subsequent potential judicial interpretation or related regulation or legislation which cannot be predicted with certainty.

We are subject to various legal and regulatory proceedings, including litigation in the ordinary course of business, and uninsured judgments or a rise in insurance premiums may adversely impact our business, financial condition and results of operations.

In the ordinary course of business, we are subject to various legal and regulatory proceedings, which may include but are not limited to those involving antitrust, tax, environmental, intellectual property, data privacy and other matters, including general commercial litigation. Any claims raised in legal and regulatory proceedings, whether with or without merit, could be time consuming and expensive to defend and could divert management's attention and resources. Additionally, the outcome of legal and regulatory proceedings may differ from our expectations because the outcomes of these proceedings are often difficult to predict reliably. Various factors and developments can lead to changes in our estimates of liabilities and related insurance receivables, where applicable, or may require us to make additional estimates, including new or modified estimates that may be appropriate due to a judicial ruling or judgment, a settlement, regulatory developments or changes in applicable law. A future adverse ruling, settlement or unfavorable development could result in charges that could have a material adverse effect on our results of operations in any particular period.

In accordance with customary practice, we maintain insurance against some, but not all, of these potential claims. In the future, we may not be able to maintain insurance at commercially acceptable premium levels. In addition, the levels of insurance we maintain may not be adequate to fully cover any and all losses or liabilities. If any significant judgment or claim is not fully insured or indemnified against, it could have a material adverse impact on our business, financial condition and results of operations.

Item 1B. Unresolved Staff Comments

The Company has no unresolved staff comments.

Item 2. Properties

The Company's principal agriculture and other properties are described below. The Company believes that its properties are adequate for its business, well maintained and utilized, suitable for their intended uses and adequately insured.

(in thousands) Location	Trade	Renewables	Plant Nutrient	
	Grain Storage (bushels)	Nameplate Capacity (gallons)	Dry Fertilizer Storage (tons)	Liquid Fertilizer Storage (tons)
Canada	23,509	—	—	—
Idaho	18,840	—	—	—
Indiana	16,640	110,000	134	136
Iowa	—	55,000	—	67
Kansas	—	70,000	—	—
Louisiana	24,184	—	—	—
Michigan	27,459	130,000	67	46
Nebraska	19,484	—	—	45
Ohio	42,151	110,000	165	76
Wisconsin	—	—	25	78
Other	11,381	—	57	67
	<u>183,648</u>	<u>475,000</u>	<u>448</u>	<u>515</u>

The Trade facilities are mostly concrete and steel tanks, with some flat storage buildings. The Company also owns grain inspection buildings and dryers, maintenance buildings and truck scales and dumps. Approximately 79% of the total storage capacity noted above, which includes temporary pile storage, is owned, while the remaining capacity is leased from third parties.

The Renewables properties are five ethanol plants owned under the TAMH and ELEMENT investments that are consolidated in the Company's Consolidated Financial Statements.

The Plant Nutrient properties consist mainly of fertilizer warehouse and formulation and packaging facilities for dry and liquid fertilizers. The Company owns substantially all of the facilities noted above.

Item 3. Legal Proceedings

The Company is currently subject to various claims and suits arising in the ordinary course of business, which include environmental issues, employment claims, contractual disputes, and defensive counterclaims. The Company accrues liabilities in which litigation losses are deemed probable and estimable. The Company believes it is unlikely that the results of its current legal proceedings, even if unfavorable, will result in material liabilities beyond what it currently has accrued. There can be no assurance, however, that any claims or suits arising in the future, whether taken individually or in the aggregate, will not have a material adverse effect on our financial condition or results of operations.

Item 4. Mine Safety

Not applicable.

Part II.

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

The Common Shares of The Andersons, Inc. trade on the Nasdaq Global Select Market under the symbol "ANDE".

Shareholders

At February 10, 2023, there were 457 shareholders of record and approximately 28,660 shareholders for whom security firms acted as nominees.

Dividends

The Company has declared and paid consecutive quarterly dividends since its first year of trading in 1996. Dividends paid from January 2021 to January 2023 are as follows:

Payment Date	Amount
1/20/2021	\$0.175
4/21/2021	\$0.175
7/22/2021	\$0.175
10/22/2021	\$0.175
1/21/2022	\$0.180
4/22/2022	\$0.180
7/22/2022	\$0.180
10/21/2022	\$0.180
1/20/2023	\$0.185

While the Company's objective is to pay a quarterly cash dividend, dividends are subject to approval from the Board of Directors.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Period	Total Number of Shares Purchased ⁽¹⁾	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs ⁽²⁾
October 2022	127,599	\$ 32.86	127,599	\$ 88,105,714
November 2022	893	36.23	—	88,105,714
December 2022	24,423	33.86	24,423	87,278,795
Total	152,915	\$ 34.32	152,022	\$ 87,278,795

(1) During the three months ended December 31, 2022, the Company acquired shares of common stock held by employees who tendered owned shares to satisfy tax withholding obligations along with common stock repurchased as a part of the Company's Repurchase Plan.

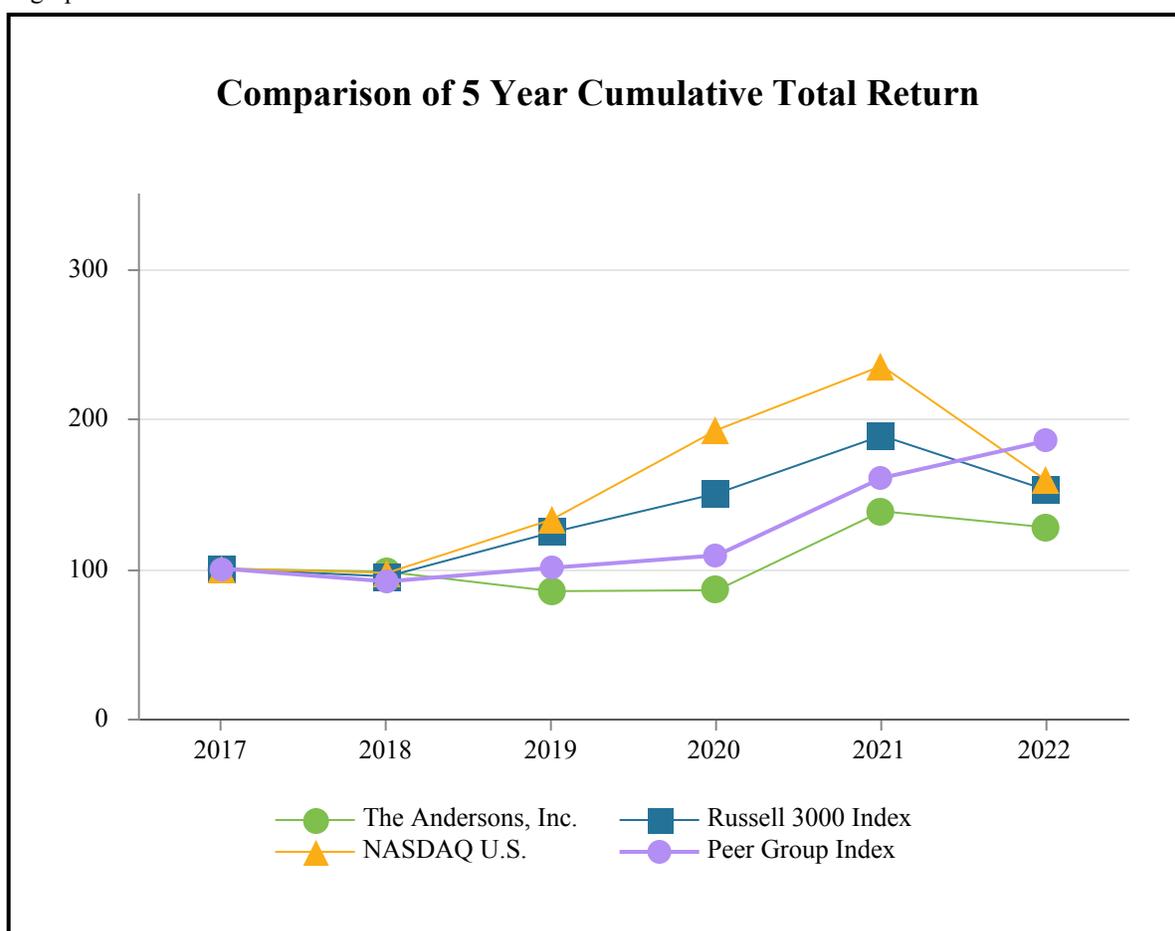
(2) As of August 20, 2021, the Company was authorized to purchase up to \$100 million of the Company's common stock (the "Repurchase Plan") on or before August 20, 2024. As of December 31, 2022, approximately \$12.7 million of the \$100 million available to repurchase shares had been utilized. The Repurchase Plan does not obligate the Company to acquire any specific number of shares. Under the Repurchase Plan, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act.

Performance Graph

The graph below compares the total shareholder return on the Company's Common Shares to the cumulative total return for the Russell 3000 Index and a Peer Group Index. The Company chose to switch from the Nasdaq U.S. Index used in the prior year to the Russell 3000 Index in the current year. The Company currently uses the Russell 3000 Index as a benchmark for stock compensation awards as it more accurately reflects the Company's market capitalization and broad array of industries. Both the Nasdaq U.S. Index and the Russell 3000 Index are included in the graph below for comparison purposes. The indices reflect the year-end market value of an investment in the stock of each company in the index, including additional shares assumed to have been acquired with cash dividends, if any. The Peer Group Index, weighted for market capitalization, includes the following companies:

Archer-Daniels-Midland Co.	Green Plains, Inc.
Alto Ingredients	Ingredion Incorporated
Bunge Ltd.	Nutrien Ltd.

The graph assumes a \$100 investment in The Andersons, Inc. Common Shares on December 31, 2017, and also assumes investments of \$100 in each of the Russell 3000 Index, Nasdaq U.S. Index and Peer Group indices, respectively, on December 31 of the first year of the graph. The value of these investments as of the following calendar year-ends is shown in the table below the graph.



	Base Period		Cumulative Returns				
	2017	2018	2019	2020	2021	2022	
The Andersons, Inc.	\$ 100.00	\$ 97.88	\$ 84.96	\$ 85.59	\$ 138.25	\$ 127.49	
Russell 3000 Index	\$ 100.00	\$ 94.76	\$ 124.15	\$ 150.08	\$ 188.60	\$ 152.37	
NASDAQ U.S.	\$ 100.00	\$ 97.16	\$ 132.81	\$ 192.47	\$ 235.15	\$ 158.65	
Peer Group Index	\$ 100.00	\$ 91.44	\$ 100.56	\$ 108.82	\$ 160.43	\$ 185.18	

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

Forward Looking Statements

The following "Management's Discussion and Analysis of Financial Condition and Results of Operations" contains forward-looking statements which relate to future events or future financial performance and involve known and unknown risks, uncertainties and other factors that may cause actual results, levels of activity, performance or achievements to be materially different from those expressed or implied by these forward-looking statements. Without limitation, these risks include economic, weather and regulatory conditions, competition, the ongoing economic impacts from the war in Ukraine, and those listed under Item 1.A, "Risk Factors." The reader is urged to carefully consider these risks and factors. In some cases, the reader can identify forward-looking statements by terminology such as "may", "anticipates", "believes", "estimates", "predicts", or the negative of these terms or other comparable terminology. These statements are only predictions. Actual events or results may differ materially. These forward-looking statements relate only to events as of the date on which the statements are made and the Company undertakes no obligation, other than any imposed by law, to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

Executive Overview

Our operations are organized, managed and classified into three reportable business segments: Trade, Renewables, and Plant Nutrient. Each of these segments is generally based on the nature of products and services offered and aligns with the management structure.

The agricultural commodity-based business is one in which changes in selling prices generally move in relationship to changes in purchase prices. Therefore, increases or decreases in prices of the commodities that the business deals in will have a relatively equal impact on sales and merchandising revenues and cost of sales and merchandising revenues and a much less significant impact on gross profit. As a result, changes in sales and merchandising revenues between periods may not necessarily be indicative of the overall performance of the business and more focus should be placed on changes in gross profit.

The Company has considered the potential impact of the book value of the Company's total shareholders' equity exceeded the Company's market capitalization during the quarter for impairment indicators. Management ultimately concluded that an impairment triggering event had not occurred. The Company believes that the share price is not an accurate reflection of its current value as conditions are currently strong in the agriculture space with a positive long-term outlook. Management believes that the market's impact on the Company's equity value does not actually reflect the impact of these external factors on the Company. As a result of prior period tests, reviews of current operating results and other relevant market factors, the Company concluded that no impairment trigger existed as of December 31, 2022.

Management reviews long-lived assets for impairment when events or changes in circumstances indicate that the carrying value of an asset group may no longer be recoverable. This was the case in 2022 for the Company's 51% owned ELEMENT plant located in Colwich, Kansas. The plant faced a combination of high corn basis, increased natural gas prices and a rapid decline in Low Carbon Fuel Standards credit values, that negatively impacted operations. The adverse operating conditions led to a failure of a debt covenant during the year, as well as, a forecasted failure of another covenant within the next 12 months. Accordingly, it was deemed that a triggering event occurred as of September 30, 2022, related to the ELEMENT ethanol plant. Management performed a recoverability test of the ELEMENT plant's long-lived assets as this is the lowest level of identifiable cash flows. The key assumptions used in the recoverability test included input costs (corn, natural gas, etc.), production days, and co-product premiums. Each of these inputs were given probability weightings based on management's assessment regarding the likelihood of the respective forecasts. Using future forecasted cash flows, the ELEMENT asset group passed its recoverability test on an undiscounted cash flow basis by 15% over the carrying value of its assets. Assumptions used in the model did not change materially during the fourth quarter. However, if there are changes to key assumptions in the analysis it is reasonably possible management's estimate that it will recover the carrying amount of these assets could change, even in the near term. See further discussion on ELEMENT developments subsequent to December 31, 2022, in Note 4 of the Consolidated Financial Statements.

Trade

The Trade segment's operating results improved from the prior year as the segment had a second consecutive record year. Both asset and merchandising businesses exceeded prior year results as they were able to successfully navigate global disruptions and a volatile market. Assets in the segment's core geography benefited from strong elevation margins, even seeing storage income return on wheat. Our merchandising business executed well, optimizing income across a broad portfolio. Our food and specialty ingredients business also delivered strong results in the year as they realized significant premiums on organic products.

Agricultural inventories on hand were 129.7 million and 187.0 million bushels at December 31, 2022, and December 31, 2021, respectively. These bushels consist of inventory held at company-owned or leased facilities, transload inventory, in-transit inventory, and third-party held inventory. Total Trade storage space capacity at company owned or leased facilities, including temporary pile storage, was approximately 183.6 million bushels at December 31, 2022, and 185.5 million bushels at December 31, 2021.

Looking forward, ag supply chain opportunities are expected to remain strong into 2023. Continued worldwide demand coupled with supply uncertainty due to the ongoing war in Ukraine and potential weather impacts in global grain production regions continues to keep commodity prices relatively high and provide ongoing merchandising opportunities.

Renewables

The Renewables segment results were significantly improved compared to the prior year due to the continued growth of the vegetable oil merchandising business and continued strength in co-product values with production margins in our ethanol plants decreasing slightly from the outsized prior year, particularly in the fourth quarter. Sales volumes for ethanol, corn oil, and feed ingredients were up, driven by higher production and additional third-party sales from the merchandising business. Also contributing to the improved results from the prior year was \$17.6 million of USDA Biofuels Producer Program funds received during the year, of which, \$8.9 million is included in Income before income taxes attributable to the Company.

Spot ethanol crush margins have declined into 2023 and are expected to seasonally move upward with driving demand. Corn oil demand is expected to remain high and merchandising of low-carbon-intensive renewable feedstocks should remain strong as additional renewable diesel facilities begin operations driving growth.

Volumes shipped for the years ended December 31, 2022 and December 31, 2021, were as follows:

(in thousands)	<u>Twelve months ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Ethanol (gallons shipped)	771,142	726,512
E-85 (gallons shipped)	38,980	41,572
Corn Oil (pounds shipped)	507,143	286,082
Dried Distillers Grain (tons shipped)	1,836	2,040

Plant Nutrient

The Plant Nutrient segment's 2022 operating results decreased slightly from the segment's record year in 2021. Ag Supply Chain and Specialty Liquids product lines experienced strong margins on well-positioned inventory in a market of rising fertilizer prices, which more than offset the reduction in volumes from the prior period. The Engineered Granules product lines recorded some inventory write-offs on lawn products, which negatively impacted the current year performance. Fourth quarter fertilizer price declines have likely shifted some demand from the fourth quarter of 2022 into 2023 as buyers anticipate prices to continue to decline. Strong farmer income and lower fertilizer prices are expected to drive higher volumes of agricultural fertilizers in the 2023 spring season, albeit at more normalized margins.

Total storage capacity at our Ag Supply Chain and Engineered Granules locations was approximately 448 thousand tons for dry nutrients and approximately 515 thousand tons for liquid nutrients at December 31, 2022, which is similar to the prior year.

Tons of product sold for the years ended December 31, 2022 and December 31, 2021 were as follows:

(in thousands)	Twelve months ended December 31,	
	2022	2021
Ag Supply Chain	1,143	1,621
Specialty Liquids	338	410
Engineered Granules	360	453
Total tons	1,841	2,484

In the table above, Ag Supply Chain represents facilities principally engaged in the wholesale distribution and retail sale and application of primary agricultural nutrients such as bulk nitrogen, phosphorus, and potassium. Specialty Liquid locations produce and sell a variety of low-salt liquid starter fertilizers, micronutrients for agricultural use, and specialty products for use in various industrial processes. Engineered Granules facilities primarily manufacture granulated dry products for use in specialty turf and agricultural applications.

Other

The Company's "Other" activities include corporate income and expense and cost for functions that provide support and services to the operating segments. The results include expenses and benefits not allocated to the operating segments and other elimination and consolidation adjustments.

Results for Fiscal 2021 compared to Fiscal 2020

For comparisons of the Company's consolidated and segment results of operations and consolidated cash flows for the fiscal years ended December 31, 2021 to December 31, 2020, refer to Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations of the Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on February 24, 2022.

Operating Results

The following discussion focuses on the operating results as shown in the Consolidated Statements of Operations with a separate discussion by segment. Additional segment information is included in Note 12 to the Company's Consolidated Financial Statements in Item 8.

(in thousands)	Year ended December 31, 2022				
	Trade	Renewables	Plant Nutrient	Other	Total
Sales and merchandising revenues	\$13,047,537	\$ 3,178,539	\$1,099,308	\$ —	\$17,325,384
Cost of sales and merchandising revenues	12,639,830	3,051,544	949,846	—	16,641,220
Gross profit	407,707	126,995	149,462	—	684,164
Operating, administrative and general expenses	282,592	30,730	106,003	47,231	466,556
Interest expense (income)	42,551	8,775	7,298	(1,775)	56,849
Other income (expense), net	12,661	20,731	3,001	(2,570)	33,823
Income (loss) before income taxes from continuing operations	95,225	108,221	39,162	(48,026)	194,582
Income before income taxes attributable to the noncontrolling interests	—	35,899	—	—	35,899
Non-GAAP Income (loss) before income taxes attributable to the Company from continuing operations	\$ 95,225	\$ 72,322	\$ 39,162	\$ (48,026)	\$ 158,683

	Year ended December 31, 2021				
(in thousands)	Trade	Renewables	Plant Nutrient	Other	Total
Sales and merchandising revenues	\$ 9,304,357	\$ 2,440,798	\$ 866,895	\$ —	\$ 12,612,050
Cost of sales and merchandising revenues	8,968,675	2,324,172	726,506	—	12,019,353
Gross profit	335,682	116,626	140,389	—	592,697
Operating, administrative and general expenses	259,926	31,019	95,547	45,581	432,073
Interest expense	23,688	7,602	4,355	1,647	37,292
Other income (expense), net	35,878	3,200	2,128	(3,768)	37,438
Income (loss) before income taxes from continuing operations	87,946	81,205	42,615	(50,996)	160,770
Income before income taxes attributable to the noncontrolling interests	—	31,880	—	—	31,880
Non-GAAP Income (loss) before income taxes attributable to the Company from continuing operations	<u>\$ 87,946</u>	<u>\$ 49,325</u>	<u>\$ 42,615</u>	<u>\$ (50,996)</u>	<u>\$ 128,890</u>

The Company uses Non-GAAP Income (loss) before income taxes attributable to the Company from continuing operations, a non-GAAP financial measure as defined by the Securities and Exchange Commission, to evaluate the Company's financial performance. This performance measure is not defined by accounting principles generally accepted in the United States and should be considered in addition to, and not in lieu of, GAAP financial measures.

Management believes that Non-GAAP Income (loss) before income taxes attributable to the Company from continuing operations is a useful measure of the Company's performance as it provides investors additional information about the Company's operations allowing better evaluation of underlying business performance and better period-to-period comparability. This measure is not intended to replace or be an alternative to Income (loss) before income taxes from continuing operations, the most directly comparable amount reported under GAAP, which is also presented in the table above.

Comparison of 2022 with 2021

Trade

Operating results for the Trade segment increased \$7.3 million compared to prior year results. Sales and merchandising revenues increased \$3,743.2 million and cost of sales and merchandising revenues increased by \$3,671.2 million resulting in an increase in gross profit of \$72.0 million. The increase to sales and merchandising revenues and cost of sales and merchandising revenues is mainly a result of new merchandising locations opened in the second half of 2021 as these new locations account for approximately 56% of the increase from the prior year, with the remainder of the increase a result of increased commodity prices and volumes in the existing business. The \$72.0 million increase in gross profit was an even split between increases in both margins and volumes. The improved margins were driven by strong elevation margins and well-positioned animal feed ingredients and organic food and specialty inventories with the volume increases mainly attributable to new merchandising locations opened and acquired in the second half of 2021.

Operating, administrative and general expenses increased \$22.7 million compared to prior year results. The increase from the prior year is primarily related to an additional \$18.1 million of higher labor and benefits costs, with about half of the increase from business growth and half from wage inflation and increased incentive compensation from the strong operating results.

Interest expense increased \$18.9 million from prior year primarily due to rising interest rates on the Company's short-term line of credit combined with higher borrowings with the addition of our new merchandising locations and increased commodity prices.

Other income decreased by \$23.2 million in the current year and was primarily attributable to the prior year sale of a grain asset in Champaign, Illinois in which the Company recorded a \$14.6 million gain. Also contributing to the decrease was one of the Company's equity method investments being \$10.7 million more favorable in the prior year. Included in this decrease from the prior year was an impairment on this investment of \$4.5 million in 2022.

Renewables

The Renewables segment had a strong year operationally as Income before income taxes attributable to the Company increased \$23.0 million from the prior year. Sales and merchandising revenues increased \$737.7 million and cost of sales and merchandising revenues increased \$727.4 million compared to the prior year. As a result, gross profit increased by \$10.4 million. The vast majority of the increase to sales and merchandising revenues and cost of sales and merchandising revenues is the result of increased ethanol and corn commodity prices as ethanol volumes sold only slightly increased from the prior year. The main driver of the increased gross profit was an improvement from the Company's growing renewable diesel feedstocks merchandising business as gross profit from that business increased \$10.0 million from the prior year. The Company also had unrealized mark-to-market adjustments adding approximately \$6.5 million to gross profit that were partially offset by a reduction of gross profit from the ethanol plants of \$2.6 million as the plants did not experience the outsized crush margins that occurred in the prior year.

Other income increased by \$17.5 million from prior year as a result of \$17.6 million in proceeds received as a part of the USDA Biofuel Producer Program that was enacted as a part of the CARES Act, of which approximately \$8.7 million of these proceeds were attributable to the noncontrolling interest.

Plant Nutrient

The Plant Nutrient segment had a decrease of \$3.5 million in operating results when compared to the record results of the prior year. Sales and merchandising revenues increased \$232.4 million and cost of sales and merchandising revenues increased \$223.3 million resulting in increased gross profit of \$9.1 million from the prior year. The increase in sales and merchandising revenues and cost of sales and merchandising revenues was due a significant appreciation of fertilizer prices from the prior year. This increase in fertilizer prices from the prior year was partially offset by a decrease in demand as volumes sold decreased by approximately 25%. Gross profit improved year-over-year due to increased margins on well-positioned inventory from the prior year representing a \$43.4 million margin difference that was partially offset by a \$34.3 million decrease in margins directly correlated with the reduced sales volumes. Ag Supply Chain led the way in 2022 with a \$9.2 million increase in gross profit as a result of strong margins from well-positioned inventory in a tight supply market.

Operating, administrative and general expenses increased \$10.5 million from the prior year. The vast majority of this increase is due to inflationary pressures on the business, with labor costs being the single biggest driver.

Interest expense increased \$2.9 million from higher interest rates in the current year.

Other

Results improved by \$3.0 million from the prior year. This improvement from the prior year was mainly due to \$3.4 million of stranded costs from the sale of our Rail Leasing business being held in Corporate in the prior year.

Income Taxes

In 2022, the Company recorded Income tax expense from continuing operations of \$39.6 million. The Company's effective rate for 2022 was 20.4% on Income before income taxes from continuing operations of \$194.6 million. The difference between the 20.4% effective tax rate and the U.S. federal statutory tax rate of 21% is primarily attributable to the tax benefit generated from Federal Research and Development Credits ("R&D Credits"), foreign tax credits, derivative instruments and hedging activities and the effect of non-controlling interest offset by state and local income taxes, nondeductible compensation, and changes in unrecognized tax benefits.

In 2021, the Company recorded Income tax expense from continuing operations of \$29.2 million. The Company's effective rate for 2021 was 18.2% on Income before income taxes from continuing operations of \$160.8 million. The difference between the 18.2% effective tax rate and the U.S. federal statutory tax rate of 21% is primarily attributable to the tax benefit generated from Federal R&D Credits, foreign tax credits and the effect of non-controlling interest offset by state and local income taxes, nondeductible compensation, and changes in unrecognized tax benefits.

The Company's subsidiary partnership returns are under federal tax examination by the Internal Revenue Service ("IRS") for the tax years 2015 through 2018, respectively. The Company's subsidiary is under federal tax examination by the Mexican tax authorities for tax year 2015. The IRS and Mexican tax authorities' examinations could potentially be resolved within the next 12 months. The resolution of these examinations could change our unrecognized tax benefits and favorably impact income tax expense by a range of \$6.4 million to \$20.3 million.

Liquidity and Capital Resources

Working Capital

At December 31, 2022, the Company had working capital from continuing operations of \$941.8 million, an increase of \$40.9 million from the prior year. This increase was attributable to changes in the following components of current assets from continuing operations and current liabilities from continuing operations:

(in thousands)	December 31, 2022	December 31, 2021	Variance
Current Assets from Continuing Operations:			
Cash and cash equivalents	\$ 115,269	\$ 216,444	\$ (101,175)
Accounts receivable, net	1,248,878	835,180	413,698
Inventories	1,731,725	1,814,538	(82,813)
Commodity derivative assets – current	295,588	410,813	(115,225)
Other current assets	71,622	74,468	(2,846)
Total current assets from continuing operations	<u>3,463,082</u>	<u>3,351,443</u>	<u>111,639</u>
Current Liabilities from Continuing Operations:			
Short-term debt	272,575	501,792	(229,217)
Trade and other payables	1,423,633	1,199,324	224,309
Customer prepayments and deferred revenue	370,524	358,119	12,405
Commodity derivative liabilities – current	98,519	128,911	(30,392)
Current maturities of long-term debt	110,155	32,256	77,899
Accrued expenses and other current liabilities	245,916	230,148	15,768
Total current liabilities from continuing operations	<u>2,521,322</u>	<u>2,450,550</u>	<u>70,772</u>
Working Capital from Continuing Operations	<u>\$ 941,760</u>	<u>\$ 900,893</u>	<u>\$ 40,867</u>

Current assets from continuing operations increased \$111.6 million in comparison to prior year. This increase was attributable to the increase in accounts receivable as all other current asset accounts decreased from the prior year. The main driver behind the substantial increase in receivables is the addition of the growing international merchandising business along with the timing of some large vessel shipments from our U.S. port facilities. See also the discussion below on additional sources and uses of cash for an understanding of the decrease in cash from prior year.

Current liabilities from continuing operations increased \$70.8 million compared to the prior year primarily due to increases in current maturities of long-term debt. This was driven by a reclassification of the long-term non-recourse debt associated to the ELEMENT ethanol plant to current maturities of long-term debt in the current year. There was a large increase in trade payables from the addition of the growing international merchandising business that was offset by a similar decrease in short-term debt as commodity prices stabilized toward the end of the current year.

Sources and Uses of Cash in 2022 Compared to 2021

(in thousands)	Twelve Months Ended	
	December 31, 2022	December 31, 2021
Net cash provided by (used in) operating activities	\$ 287,117	\$ (51,050)
Net cash (used in) provided by investing activities	(52,902)	487,248
Net cash used in financing activities	(334,730)	(248,769)

Operating Activities and Liquidity

Our operating activities provided cash of \$287.1 million in 2022 compared to cash used in operations of \$51.1 million in 2021. The increase in cash provided by operating activities was primarily due to increased operating results and a decrease in the cash used through working capital changes. However, when removing the impact from changes in operating assets and liabilities, taxes paid on the Rail Leasing sale in the prior year and the timing of CARES Act tax refunds cash provided by operating activities exceeded the prior year.

Net income taxes of \$88.7 million and \$51.7 million were paid in the years ended December 31, 2022 and 2021, respectively. The increase in the current year is driven by the increased Income before income taxes from continuing operations combined with the taxable gain associated with the sale of the remaining pieces of the Company's Rail segment in 2022.

Investing Activities

Investing activities used cash of \$52.9 million in the current year compared to \$487.2 million provided in the prior year. The significant change from the prior year was mainly driven by approximately \$500 million more net proceeds from the sale of discontinued operations received in the prior year. Additional contributing factors to the change from the prior year were higher amounts of purchases of property, plant and equipment combined with additional spending on business acquisitions.

Capital expenditures of \$108.3 million for 2022 on property, plant and equipment includes: Trade - \$29.4 million; Renewables - \$42.7 million; Plant Nutrient - \$34.7 million; and \$1.4 million in Other.

We expect to invest approximately \$125 to \$150 million in property, plant and equipment in 2023; approximately 60% of which will be to maintain current facilities.

Financing Arrangements

Net cash used in financing activities was \$334.7 million in 2022, compared to \$248.8 million used in 2021. The increase in cash used in financing activities from the prior year was due to several factors. First, the Company made distributions of approximately \$44.9 million to the non-controlling interest shareholder of TAMH due to the strength of the financial results in both 2021 and 2022. The Company also continued to pay down both long and short-term debt in the current year which resulted in additional cash of \$17.7 million used. Lastly, the Company also began to repurchase common shares under its Repurchase Plan where \$100 million of repurchases were authorized to be repurchased on or before August 20, 2024. As of December 31, 2022, approximately \$12.7 million of the Repurchase Plan had been utilized, with all of these repurchases being made in the year ended December 31, 2022.

As of December 31, 2022, the Company was party to borrowing arrangements with a syndicate of banks that provide a total borrowing capacity of \$1,990.8 million. There was \$1,659.6 million available for borrowing at December 31, 2022. Typically, the Company's highest borrowing occurs in the late winter and early spring due to seasonal inventory requirements in the fertilizer and grain businesses. At December 31, 2022, the Company had standby letters of credit outstanding of \$38.6 million.

The Company paid \$24.6 million in dividends in 2022 compared to \$23.7 million in 2021. The Company paid \$0.180 per common share for the dividends paid in January, April, July and October 2022, and \$0.175 per common share for the dividends paid in January, April, July and October 2021. On December 16, 2022, the Company declared a cash dividend of \$0.185 per common share, payable on January 20, 2023, to shareholders of record on January 3, 2023.

Certain of our long-term borrowings include covenants that, among other things, impose minimum levels of working capital and a minimum ratio of owner's equity. The Company has concluded as of December 31, 2022, that within the next twelve months ELEMENT is virtually certain to be out of compliance for an owner's equity ratio covenant in relation to the \$63.3 million non-recourse credit agreement associated with the ELEMENT operations. As such, the Company classified the total \$63.3 million of non-recourse debt under the ELEMENT credit agreement as a current maturity of long-term debt as of December 31, 2022. Additionally, ELEMENT did not make a required debt payment in February 2023 and subsequently received a default notice from the lender on February 17, 2023. Subsequent to year end, the Company began to consider various strategies related to the investment. The Company is in compliance with all covenants as of December 31, 2022. In addition, certain of our recourse long-term borrowings are collateralized by first mortgages on various facilities. Our non-recourse long-term debt that is currently classified in current maturities of long-term debt as described above, is collateralized by ELEMENT plant assets.

Because we are a significant consumer of short-term debt in peak seasons and the majority of this is variable rate debt, increases in interest rates could have a significant impact on our profitability. In addition, periods of high commodity prices and/or unfavorable market conditions could require additional margin deposits on the Company's exchange traded futures contracts. Conversely, in periods of declining prices, the Company would receive a return of cash.

Management believes the sources of liquidity will be adequate to fund operations, capital expenditures and payments of dividends in the foreseeable future.

Contractual Obligations

Long-term Debt

As of December 31, 2022, the Company had outstanding recourse and non-recourse long-term debt with both floating and fixed rates of varying maturities for an aggregate principal amount outstanding of \$541.4 million and \$64.2 million, respectively. \$46.3 million and \$63.8 million of the outstanding principal of the recourse and non-recourse long-term debt is payable within 12 months. See Note 4 to the Consolidated Financial Statements for additional information.

Future interest payments associated with the recourse long-term debt total \$165.6 million, with \$28.1 million payable within 12 months. Substantially all of the future interest payments associated with the non-recourse long-term debt is related to the \$63.3 million non-recourse credit agreement associated with the ELEMENT operations that has been classified as a current maturity of long-term debt as of December 31, 2022, for the reasons described above. See Note 4 to the Consolidated Financial Statements for additional information.

Operating Leases

The Company has lease arrangements for certain equipment and facilities, including grain facilities, fertilizer facilities and equipment. As of December 31, 2022, the Company had fixed operating lease payment obligations of \$67.5 million, with \$28.1 million payable within 12 months. See Note 13 to the Consolidated Financial Statements for additional information.

Commodity Purchase Obligations

The Company enters into forward purchase contracts of commodities with producers through the normal course of business. These forward purchase contracts are largely offset by forward sales contracts of commodities and the net of these forward contracts are offset by exchange-traded futures and options contracts or over-the-counter contracts. As of December 31, 2022, the Company had forward purchase contracts of \$4,866.5 million, with \$4,757.3 million payable within 12 months. See Note 5 to the Consolidated Financial Statements for additional information.

Postretirement Healthcare Program

The Company has a postretirement health care benefit plan that covers substantially all of its full-time employees hired prior to January 1, 2003. Obligations under the retiree healthcare programs are not fixed commitments and will vary depending on multiple factors, including the level of participant utilization and inflation. Our estimates of postretirement payments have considered recent payment trends and actuarial assumptions. As of December 31, 2022, the Company had outstanding benefit obligations of \$17.4 million, with \$1.3 million payable within 12 months. See Note 6 to the Consolidated Financial Statements for additional information.

Off-Balance Sheet Transactions

Industrial Revenue Bonds

On December 3, 2019, the Company closed an industrial revenue bond transaction with the City of Colwich, Kansas (the "City") in order to receive a 20-year real property tax abatement on the ELEMENT ethanol facility. Pursuant to this transaction, the City issued a principal amount of \$166.1 million of its industrial revenue bonds to the Company and then used the proceeds to purchase the land and facility from the Company. The City then leased the facilities back to the Company under a finance lease, the terms of which provide for the payment of basic rent in an amount sufficient to pay principal and interest on the bonds. Subsequent to the issuance of the bonds, the Company redeemed \$165.1 million of the bonds, leaving \$1.0 million issued and outstanding. Our obligation to pay rent under the lease is in the same amount and due on the same date as the City's obligation to pay debt service on the bonds which we hold. The lease permits the Company to present the bonds at any time for cancellation, upon which our obligation to pay basic rent would be canceled. The bonds' maturity date is 2029, at which time the facilities will revert to us without costs. If we were to present the bonds for cancellation prior to maturity, a nominal fee would be incurred. Land and buildings are recorded as assets in Property, plant, and equipment, net, on the Consolidated Balance Sheets. Because we own all outstanding bonds, have a legal right to set-off, and intend to set-off the corresponding lease and interest payment, we have netted the finance lease obligation with the bond asset. No amount for our obligation under the finance lease is reflected on the Consolidated Balance Sheets, nor do we reflect an amount for the corresponding industrial revenue bond asset. See Note 14 to the Consolidated Financial Statements for additional information.

Critical Accounting Estimates

The process of preparing financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosure of contingent assets and liabilities. Management evaluates these estimates and assumptions on an ongoing basis. Estimates and assumptions are based on historical experience and management's knowledge and understanding of current facts and circumstances. Actual results, under conditions and circumstances different from those assumed, may change from these estimates.

Certain of our accounting estimates are considered critical, as they are important to the depiction of the Company's Consolidated Financial Statements and/or require significant or complex judgment by management. There are other items within the Company's Consolidated Financial Statements that require estimation, however, they are not deemed critical as defined above. Note 1 to the Consolidated Financial Statements in Item 8 describes the Company's significant accounting policies which should be read in conjunction with our critical accounting estimates.

Management believes that the accounting for readily marketable inventories and commodity derivative contracts, including adjustments for counterparty risk, impairment of long-lived assets, goodwill and equity method investments, and uncertain tax positions involve significant estimates and assumptions in the preparation of the Consolidated Financial Statements.

Readily Marketable Inventories and Derivative Contracts

Readily Marketable Inventories ("RMI") are stated at their net realizable value, which approximates fair value based on their commodity characteristics, widely available markets, and pricing mechanisms. The Company marks to market all forward purchase and sale contracts for commodities and ethanol, over-the-counter commodity and ethanol contracts, and exchange-traded futures and options contracts. The overall market for commodity inventories is very liquid and active; market value is determined by reference to prices for identical commodities on regulated commodity exchange (adjusted primarily for transportation costs); and the Company's RMI may be sold without significant additional processing. The Company uses forward purchase and sale contracts and both exchange traded and over-the-counter contracts (such as derivatives generally used by the International Swap Dealers Association). Management estimates fair value based on exchange-quoted prices, adjusted for differences in local markets, as well as counterparty non-performance risk in the case of forward and over-the-counter contracts. The amount of risk, and therefore the impact to the fair value of the contracts, varies by type of contract and type of counterparty. With the exception of specific customers thought to be at higher risk, the Company looks at the contracts in total, segregated by contract type, in its quarterly assessment of non-performance risk. For those customers that are thought to be at higher risk, the Company makes assumptions as to performance based on past history and facts about the current situation. Changes in fair value are recorded as a component of Cost of sales and merchandising revenues in the Consolidated Statements of Operations.

Impairment of Long-Lived Assets, Goodwill, and Equity Method Investments

The Company's business segments are each highly capital intensive and require significant investment. Long-lived assets are tested for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. This is done by evaluating the recoverability based on undiscounted projected cash flows, excluding interest. If an asset group is considered impaired, the impairment loss to be recognized is measured as the amount by which the asset group's carrying amount exceeds its fair value.

Goodwill is tested for impairment at the reporting unit level, which is the operating segment or one level below the operating segment. The quantitative review for impairment takes into account our estimates of future cash flows, as well as a market-based approach. Our estimates of future cash flows are based upon a number of assumptions including operating costs, life of the assets, potential disposition proceeds, budgets and long-range plans. The Market based approach compares results of public companies that reflect economic conditions and risks that are similar to the Company to calculate an estimated enterprise value. These factors are discussed in more detail in Note 17, Goodwill and Intangible Assets, to the Consolidated Financial Statements.

Our annual goodwill impairment test is performed as of October 1 each year which is discussed in further detail in Note 17 to the Consolidated Financial Statements.

In addition, the Company holds investments in several companies that are accounted for using the equity method of accounting. The Company reviews its investments to determine whether there has been a decline in the estimated fair value of the investment that is below the Company's carrying value which is other than temporary. Other than consideration of past and current performance, these reviews take into account forecasted earnings which are based on management's estimates of future performance as well as the market or other income approach to estimate fair value.

Management considers several factors to be significant when estimating fair value including expected financial outlook of the business, changes in the Company's stock price, the impact of changing market conditions on financial performance and expected future cash flows, the geopolitical environment and other factors. Deterioration in any of these factors may result in a lower fair value assessment, which could lead to impairment charges in the future. Specifically, actual results may vary from the Company's forecasts and such variations may be material and unfavorable, thereby triggering the need for future impairment tests where the conclusions could result in non-cash impairment charges.

Uncertain Tax Positions

Conclusions on recognizing and measuring uncertain tax positions involve significant estimates and management judgment and include complex considerations of the Internal Revenue Code, related regulations, tax case laws, and prior year audit settlements. To account for uncertainty in income taxes, the Company evaluates the likelihood of a tax position based on the technical merits of the position, performs a subsequent measurement related to the maximum benefit and degree of likelihood, and determines the benefits to be recognized in the Consolidated Financial Statements, if any.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

The market risk inherent in the Company's market risk-sensitive instruments and positions is the potential loss arising from adverse changes in commodity prices foreign currency exchange rates and interest rates as discussed below.

Commodity Prices

The Company's daily net commodity position consists of inventories, related purchase and sale contracts, exchange-traded futures, and over-the-counter contracts. The fair value of the position is a summation of the fair values calculated for each commodity by valuing each net position at quoted futures market prices. The Company has established controls to manage and limit risk exposure, which consists of a daily review of position limits and effects of potential market price moves on those positions.

A sensitivity analysis has been prepared to estimate the Company's exposure to market risk of its net commodity futures position. Market risk is estimated as the potential loss in fair value resulting from a hypothetical 10% adverse change in quoted market prices. The result of this analysis, which may differ from actual results, is as follows:

(in thousands)	December 31,	
	2022	2021
Net long (short) commodity position	\$ (8,810)	\$ 10,987
Market risk	(881)	1,099

Foreign Currency

The Company has subsidiaries located outside the United States where the local currency is the functional currency. To reduce the risks associated with foreign currency exchange rate fluctuations, the Company enters into currency exchange contracts to minimize its foreign currency position related to transactions denominated primarily in the euro, British pound, Mexican peso, Swiss franc, Egyptian pound, and Canadian dollar. These currencies represent the major functional or local currencies in which recurring business transactions occur. The Company does not use currency exchange contracts as hedges against amounts indefinitely invested in foreign subsidiaries and affiliates. The currency exchange contracts used are forward contracts, swaps with banks, exchange-traded futures contracts, and over-the-counter options. The changes in market value of such contracts have a high correlation to the price changes in the currency of the related transactions. The potential loss in fair value for such net currency position resulting from a hypothetical 10% adverse change in foreign currency exchange rates is not material.

Interest Rates

The fair value of the Company's long-term debt is estimated using quoted market prices or discounted future cash flows based on the Company's current incremental borrowing rates and credit ratings for similar types of borrowing arrangements. Market risk, which is estimated as the potential increase in fair value resulting from a hypothetical one-half percent decrease in interest rates, is summarized below:

(in thousands)	December 31,	
	2022	2021
Fair value of long-term debt, including current maturities	\$ 595,705	\$ 650,765
Fair value in excess of carrying value	(10,087)	13,795
Market risk	4,707	6,648

Actual results may differ. The estimated fair value and market risk will vary from year to year depending on the total amount of long-term debt and the mix of variable and fixed rate debt. The Company is also party to short-term debt borrowing arrangements with a capacity of approximately \$2.0 billion. As the Company is a significant consumer of short-term debt in peak seasons and the majority of the borrowings are variable rate debt, increases in interest rates could have a significant impact on our profitability.

Additionally, the Company may enter into interest rate swaps from time to time to manage our mix of fixed and variable interest rate debt effectively which may decrease market risk noted above. As of December 31, 2022, the majority of the Company's long-term debt is hedged with interest rate swaps limiting interest rate volatility. See Note 5 to the Consolidated Financial Statements for further discussion on the impact of these hedging instruments.

Item 8. Financial Statements and Supplementary Data

The Andersons, Inc. Index to Financial Statements

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Report of Independent Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm

To the shareholders and the Board of Directors of The Andersons, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of The Andersons, Inc. and subsidiaries (the “Company”) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, equity, and cash flows, for each of the three years in the period ended December 31, 2022, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

We have also 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, 2022, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 23, 2023, expressed an unqualified opinion on the Company’s internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s 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 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 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the 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 financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill—GSM and FSI Reporting Units—Refer to Notes 1 and 17 to the Consolidated Financial Statements

Critical Audit Matter Description

Goodwill is tested for impairment annually as of October 1, or more frequently if impairment indicators arise. The Company uses a one-step quantitative approach that compares the business enterprise value (BEV) of each reporting unit with its carrying value. The BEV was computed based on both an income approach (discounted cash flows) and a market approach. The income approach uses a reporting unit’s estimated future cash flows, discounted at the weighted-average cost of capital of a hypothetical third-party buyer. The market approach estimates fair value by applying cash flow multiples to the reporting unit’s operating performance. The multiples are derived from comparable publicly traded companies with similar operating and investment characteristics to the reporting unit.

The consolidated goodwill balance was \$129.3 million as of December 31, 2022, of which \$78.5 million and \$41.3 million was allocated to the Grain Storage and Merchandising (GSM) and Food and Specialty Ingredients (FSI) reporting units, respectively. The BEV of the GSM and FSI reporting units exceeded its carrying values by 12% and 33%, respectively, as of October 1, 2022, and, therefore, no impairment was recognized. The BEV for the GSM and FSI reporting units are sensitive to changes in the weighted-average cost of capital. Given the significant judgments made by management to estimate the BEV of the GSM and FSI reporting units, performing audit procedures to evaluate the reasonableness of management's assumptions related to selection of the weighted-average cost of capital as of October 1, 2022, required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the selection of the weighted-average cost of capital used by management to estimate the BEV of the GSM and FSI reporting units included the following, among others:

- We tested the effectiveness of internal control over management's selection of the valuation assumptions used to determine the BEV, including the weighted-average cost of capital.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the (1) valuation methodology and (2) weighted-average cost of capital by:
 - Testing the source information underlying the determination of the weighted-average cost of capital and the mathematical accuracy of the calculation
 - Evaluating the underlying factors that led to management's determination of the company specific risk premium
 - Developing a range of independent estimates and comparing those to the weighted-average cost of capital selected by management

/s/ Deloitte & Touche LLP

Cleveland, Ohio
February 23, 2023

We have served as the Company's auditor since 2015.

The Andersons, Inc.
Consolidated Statements of Operations
(In thousands, except per share data)

	Year ended December 31,		
	2022	2021	2020
Sales and merchandising revenues	\$ 17,325,384	\$ 12,612,050	\$ 8,064,620
Cost of sales and merchandising revenues	16,641,220	12,019,353	7,698,423
Gross profit	684,164	592,697	366,197
Operating, administrative and general expenses	466,556	432,073	377,695
Interest expense, net	56,849	37,292	33,784
Other income, net	33,823	37,438	18,201
Income (loss) before income taxes from continuing operations	194,582	160,770	(27,081)
Income tax provision (benefit) from continuing operations	39,628	29,228	(10,910)
Net income (loss) from continuing operations	154,954	131,542	(16,171)
Income from discontinued operations, net of income taxes	12,025	4,324	1,956
Net income (loss)	166,979	135,866	(14,215)
Net income (loss) attributable to the noncontrolling interest	35,899	31,880	(21,925)
Net income attributable to The Andersons, Inc.	\$ 131,080	\$ 103,986	\$ 7,710
Average number of shares outstanding – basic	33,731	33,279	32,924
Average number of shares outstanding – diluted	34,422	33,855	33,189
Earnings per share attributable to The Andersons, Inc. common shareholders:			
Basic earnings:			
Continuing operations	\$ 3.53	\$ 2.99	\$ 0.17
Discontinued operations	0.36	0.13	0.06
	\$ 3.89	\$ 3.12	\$ 0.23
Diluted earnings:			
Continuing operations	\$ 3.46	\$ 2.94	\$ 0.17
Discontinued operations	0.35	0.13	0.06
	\$ 3.81	\$ 3.07	\$ 0.23

The Notes to Consolidated Financial Statements are an integral part of these statements.

The Andersons, Inc.
Consolidated Statements of Comprehensive Income
(In thousands)

	Year ended December 31,		
	2022	2021	2020
Net income (loss)	\$ 166,979	\$ 135,866	\$ (14,215)
Other comprehensive income (loss), net of tax:			
Change in unrecognized actuarial gain and prior service cost	4,243	607	(856)
Foreign currency translation adjustments	(13,834)	(108)	4,674
Cash flow hedge activity	28,881	12,771	(8,663)
Other comprehensive income (loss)	19,290	13,270	(4,845)
Comprehensive income (loss)	186,269	149,136	(19,060)
Comprehensive income (loss) attributable to the noncontrolling interests	35,899	31,880	(21,925)
Comprehensive income attributable to The Andersons, Inc.	<u>\$ 150,370</u>	<u>\$ 117,256</u>	<u>\$ 2,865</u>

The Notes to Consolidated Financial Statements are an integral part of these statements.

The Andersons, Inc.
Consolidated Balance Sheets
(In thousands)

	December 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 115,269	\$ 216,444
Accounts receivable, less allowance for doubtful accounts of \$26,392 in 2022; \$6,911 in 2021	1,248,878	835,180
Inventories (Note 2)	1,731,725	1,814,538
Commodity derivative assets – current (Note 5)	295,588	410,813
Current assets held-for-sale (Note 16)	2,871	20,885
Other current assets	71,622	74,468
Total current assets	3,465,953	3,372,328
Other assets:		
Goodwill	129,342	129,342
Other intangible assets, net	100,907	117,137
Right of use assets, net	61,890	52,146
Other assets held-for-sale (Note 16)	—	43,169
Other assets	87,175	69,068
Total other assets	379,314	410,862
Property, plant and equipment, net (Note 3)	762,729	786,029
Total assets	\$ 4,607,996	\$ 4,569,219
Liabilities and equity		
Current liabilities:		
Short-term debt (Note 4)	\$ 272,575	\$ 501,792
Trade and other payables	1,423,633	1,199,324
Customer prepayments and deferred revenue	370,524	358,119
Commodity derivative liabilities – current (Note 5)	98,519	128,911
Current maturities of long-term debt (Note 4)	110,155	32,256
Current liabilities held-for-sale (Note 16)	—	13,379
Accrued expenses and other current liabilities	245,916	230,148
Total current liabilities	2,521,322	2,463,929
Long-term lease liabilities	37,147	31,322
Long-term debt, less current maturities (Note 4)	492,518	600,487
Deferred income taxes (Note 8)	64,080	71,127
Other long-term liabilities held-for-sale (Note 16)	—	16,119
Other long-term liabilities	63,160	78,531
Total liabilities	3,178,227	3,261,515
Commitments and contingencies (Note 14)		
Shareholders' equity:		
Common shares, without par value (63,000 shares authorized; 34,064 shares issued in 2022; 33,870 shares issued in 2021)	142	140
Preferred shares, without par value (1,000 shares authorized; none issued)	—	—
Additional paid-in-capital	385,248	368,595
Treasury shares, at cost (446 in 2022; 11 in 2021)	(15,043)	(263)
Accumulated other comprehensive income	20,484	1,194
Retained earnings	807,770	702,759
Total shareholders' equity of The Andersons, Inc.	1,198,601	1,072,425
Noncontrolling interests	231,168	235,279
Total equity	1,429,769	1,307,704
Total liabilities and equity	\$ 4,607,996	\$ 4,569,219

The Notes to Consolidated Financial Statements are an integral part of these statements.

The Andersons, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year ended December 31,		
	2022	2021	2020
Operating Activities			
Net income (loss) from continuing operations	\$ 154,954	\$ 131,542	\$ (16,171)
Income from discontinued operations, net of income taxes	12,025	4,324	1,956
Net income (loss)	166,979	135,866	(14,215)
Adjustments to reconcile net income (loss) to cash provided by (used in) operating activities:			
Depreciation and amortization	134,742	178,934	188,638
Bad debt expense, net	6,001	237	7,042
Equity in losses (earnings) of affiliates, net of dividends	5,671	(4,842)	(638)
Gain on sales of assets, net	(7,148)	(6,184)	(686)
Stock-based compensation expense	11,192	11,038	10,183
Deferred federal income tax	(20,009)	(104,618)	26,386
Gain on sale of business from continuing operations	—	(14,619)	—
(Gain) loss on sale of business from discontinued operations	(27,091)	1,491	—
Asset impairment	11,818	8,947	—
Damaged inventory	17,328	—	—
Other	15,550	10,545	21,748
Changes in operating assets and liabilities:			
Accounts and notes receivable	(391,403)	(184,002)	(128,502)
Inventories	56,859	(528,073)	(139,499)
Commodity derivatives	65,399	(107,188)	(115,170)
Other current and non-current assets	10,936	(116,403)	(53,208)
Payables and other current and non-current liabilities	230,293	667,821	123,489
Net cash provided by (used in) operating activities	287,117	(51,050)	(74,432)
Investing Activities			
Acquisition of businesses, net of cash acquired	(20,245)	(11,425)	—
Purchases of property, plant and equipment and capitalized software	(108,284)	(75,766)	(77,147)
Proceeds from sale of assets	5,307	4,508	11,112
Purchase of investments	(2,105)	(6,243)	(3,059)
Proceeds from sale of business from continuing operations	5,171	18,130	—
Proceeds from sale of business from discontinued operations	56,302	543,102	—
Purchases of Rail assets	(31,458)	(6,039)	(27,739)
Proceeds from sale of Rail assets	36,706	19,150	10,077
Other	5,704	1,831	—
Net cash (used in) provided by investing activities	(52,902)	487,248	(86,756)
Financing Activities			
Net (payments) receipts under short-term lines of credit	(21,273)	(105,895)	254,971
Proceeds from issuance of short-term debt	350,000	608,250	—
Payments of short-term debt	(550,000)	(408,250)	—
Proceeds from issuance of long-term debt	—	203,000	471,906
Payments of long-term debt	(30,045)	(530,733)	(559,711)
Contributions from noncontrolling interest owner	4,900	4,655	8,576
Distributions to noncontrolling interest owner	(44,910)	(25)	(10,322)
Payments of debt issuance costs	(8,108)	(2,692)	(898)
Dividends paid	(24,609)	(23,746)	(23,004)
Proceeds from exercises of stock options	5,024	6,667	—
Common stock repurchased	(12,721)	—	—
Other	(2,988)	—	(5,222)
Net cash (used in) provided by financing activities	(334,730)	(248,769)	136,296
Effect of exchange rates on cash and cash equivalents	(660)	(108)	(880)
(Decrease) increase in Cash and cash equivalents	(101,175)	187,321	(25,772)
Cash and cash equivalents at beginning of year	216,444	29,123	54,895
Cash and cash equivalents at end of year	\$ 115,269	\$ 216,444	\$ 29,123

The Notes to Consolidated Financial Statements are an integral part of these statements.

The Andersons, Inc.
Consolidated Statements of Equity
(In thousands, except per share data)

	The Andersons, Inc. Shareholders' Equity						
	Common Shares	Additional Paid-in Capital	Treasury Shares	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Noncontrolling Interests	Total
Balance at January 1, 2020	\$ 137	\$345,359	\$ (7,342)	\$ (7,231)	\$642,687	\$ 222,045	\$1,195,655
Net income (loss)					7,710	(21,925)	(14,215)
Other comprehensive loss				(10,213)			(10,213)
Amounts reclassified from Accumulated other comprehensive income (loss)				5,368			5,368
Contributions from noncontrolling interests						8,576	8,576
Distributions to noncontrolling interests						(10,322)	(10,322)
Noncontrolling interests recognized in connection with business combination		(459)				395	(64)
Stock awards, stock option exercises and other shares issued to employees and directors, net of income tax of \$0 (150 shares)	1	3,814	5,968		(844)		8,939
Dividends declared (\$0.70 per common share)					(23,064)		(23,064)
Restricted share award dividend equivalents			408		(408)		—
Balance at December 31, 2020	\$ 138	\$348,714	\$ (966)	\$ (12,076)	\$626,081	\$ 198,769	\$1,160,660
Net income					103,986	31,880	135,866
Other comprehensive income				7,312			7,312
Amounts reclassified from Accumulated other comprehensive income (loss)				5,958			5,958
Contributions from noncontrolling interests						4,655	4,655
Distributions to noncontrolling interests						(25)	(25)
Stock awards, stock option exercises and other shares issued to employees and directors, net of income tax of \$0 (22 shares)	2	19,881	368		(3,478)		16,773
Dividends declared (\$0.705 per common share)					(23,495)		(23,495)
Restricted share award dividend equivalents			335		(335)		—
Balance at December 31, 2021	\$ 140	\$368,595	\$ (263)	\$ 1,194	\$702,759	\$ 235,279	\$1,307,704
Net income					131,080	35,899	166,979
Other comprehensive income				19,212			19,212
Amounts reclassified from Accumulated other comprehensive income				78			78
Contributions from noncontrolling interests						4,900	4,900
Distributions to noncontrolling interests						(44,910)	(44,910)
Stock awards, stock option exercises and other shares issued to employees and directors, net of income tax of \$0 (51 shares)	2	16,598	(2,396)				14,204
Purchase of treasury shares (384 shares)			(12,721)				(12,721)
Dividends declared (\$0.725 per common share)					(24,441)		(24,441)
Restricted share award dividend equivalents		55	337		(1,628)		(1,236)
Balance at December 31, 2022	\$ 142	\$385,248	\$ (15,043)	\$ 20,484	\$807,770	\$ 231,168	\$1,429,769

The Notes to Consolidated Financial Statements are an integral part of these statements.

The Andersons, Inc.
Notes to Consolidated Financial Statements

1. Summary of Significant Accounting Policies

Basis of Consolidation

These Consolidated Financial Statements include the accounts of The Andersons, Inc. and its wholly owned and controlled subsidiaries (the “Company”). All intercompany accounts and transactions are eliminated in consolidation. Investments in unconsolidated entities in which the Company has significant influence, but not control, are accounted for using the equity method of accounting.

During the third quarter of 2021, substantially all of the assets and liabilities of the Rail business were classified as held-for-sale in the accompanying Condensed Consolidated Balance Sheets. As discussed further in Note 16, the Company executed a definitive agreement to sell the Rail Leasing business. In conjunction with the sale of the Rail Leasing business, the Company announced its intent to divest the remainder of the Rail business which it successfully sold in the third quarter of 2022.

These transactions effectively constitute the entirety of what has historically been included in the Rail reportable segment. Therefore, the associated operating results, net of income tax, have been classified as discontinued operations in the accompanying Consolidated Statements of Operations for all periods presented. Throughout this Annual Report on Form 10-K, with the exception of the Consolidated Statements of Cash Flows and unless otherwise indicated, amounts and activity are presented on a continuing operations basis.

Certain reclassifications have been made to the prior year financial statements to conform to current year classifications. The reclassification relates to the Consolidated Statement of Operations presentation of Asset impairment expense and Equity earnings (losses) in affiliates, net. Asset impairment expense has been reclassified to Operating, administrative and general expenses and Equity in earnings (losses) of affiliates, net has been reclassified to Other income, net.

At the inception of joint venture transactions, we identify entities for which control is achieved through means other than voting rights (“variable interest entities” or “VIEs”) and determine which business enterprise is the primary beneficiary of its operations. A VIE is broadly defined as an entity where either (i) the equity investors as a group, if any, do not have a controlling financial interest, or (ii) the equity investment at risk is insufficient to finance that entity’s activities without additional subordinated financial support. The Company consolidates investments in VIEs when the Company is determined to be the primary beneficiary. This evaluation is based on an enterprise’s ability to direct and influence the activities of a VIE that most significantly impact that entity’s economic performance.

The Company evaluates its interests in VIEs on an ongoing basis and consolidates any VIE in which it has a controlling financial interest and is deemed to be the primary beneficiary. A controlling financial interest has both of the following characteristics: (i) the power to direct the activities of the VIE that most significantly impact its economic performance; and (ii) the obligation to absorb losses of the VIE that could potentially be significant to it or the right to receive benefits from the VIE that could be significant to the VIE.

The Company has two VIE's in The Andersons Marathon Holdings LLC (“TAMH”) and ELEMENT, LLC. (“ELEMENT”). The Company evaluated its interests in both TAMH and ELEMENT and determined that these entities are a VIE and that the Company is the primary beneficiary of TAMH and ELEMENT. This is due to the fact that the Company has both the power to direct the activities that most significantly impact these entities and the obligation to absorb losses or the right to receive benefits from TAMH and ELEMENT. Therefore, the Company consolidated both TAMH and ELEMENT in its Consolidated Financial Statements.

Use of Estimates and Assumptions

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents include cash and short-term investments with an initial maturity of three months or less. The carrying values of these assets approximate their fair values.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at the invoiced amount and may bear interest if past due. The allowance for doubtful accounts is the best estimate of the current expected credit losses in existing accounts receivable and is reviewed quarterly. The allowance is based both on specific identification of potentially uncollectible accounts and the application of a consistent policy, based on historical experience, to estimate the allowance necessary for the remaining accounts receivable. For those customers that are thought to be at higher risk, the Company makes assumptions as to collectability based on past history and facts about the current situation. Account balances are charged off against the allowance when it becomes more certain that the receivable will not be recovered. The Company manages its exposure to counterparty credit risk through credit analysis and approvals, credit limits and monitoring procedures.

Commodity Derivatives and Inventories

The Company's operating results can be affected by changes to commodity prices. The Trade and Renewables businesses have established "unhedged" position limits (the amount of a commodity, either owned or contracted for, that does not have an offsetting derivative contract to mitigate the price risk associated with those contracts and inventory). To reduce the exposure to market price risk on commodities owned and forward commodity and ethanol purchase and sale contracts, the Company enters into exchange traded commodity futures and options contracts and over-the-counter forward and option contracts with various counterparties. The forward purchase and sale contracts are for physical delivery of the commodity in a future period. Contracts to purchase commodities from producers generally relate to the current or future crop years for delivery periods quoted by regulated commodity exchanges. Contracts for the sale of commodities to processors or other commercial consumers generally do not extend beyond one year.

The Company accounts for its commodity derivatives at fair value. The estimated fair value of the commodity derivative contracts that require the receipt or posting of cash collateral is recorded on a net basis (offset against cash collateral posted or received, also known as margin deposits) within commodity derivative assets or liabilities. Management determines fair value based on exchange-quoted prices and in the case of its forward purchase and sale contracts, fair value is adjusted for differences in local markets and non-performance risk. While the Company considers certain of its commodity contracts to be effective economic hedges, the Company does not designate or account for its commodity contracts as hedges.

Realized and unrealized gains and losses in the value of commodity contracts (whether due to changes in commodity prices, changes in performance or credit risk, or due to sale, maturity or extinguishment of the commodity contract) and commodity inventories are included in Cost of sales and merchandising revenues in the Consolidated Statements of Operations. Additional information about the fair value of the Company's commodity derivatives is presented in Notes 5 and 10 to the Consolidated Financial Statements.

Readily Marketable Inventories ("RMI"), which are grain and other agricultural commodities, may be acquired under provisionally priced contracts, are stated at their net realizable value, which approximates estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. At times the Company holds a portion of RMI within its facilities for others. Our storage facilities are licensed warehouses and must be bonded and insured for its capacity under license and is obligated to return to the title holder of the RMI an equal quantity and quality. The Company does not have title to the inventory and is only liable for any deficiencies in grade or shortage of quantity that may arise during the storage period. Management has not experienced historical losses with regard to any deficiencies and does not anticipate material losses in the future.

All other inventories are stated at the lower of cost or net realizable value. Cost is determined by the average cost method. Additional information about inventories is presented in Note 2 to the Consolidated Financial Statements.

Derivatives - Master Netting Arrangements

Generally accepted accounting principles permit a party to a master netting arrangement to offset fair value amounts recognized for derivative instruments against the right to reclaim cash collateral or obligation to return cash collateral under the same master netting arrangement. The Company has master netting arrangements for its exchange traded futures and options contracts and certain over-the-counter contracts. When the Company enters into a futures, options or an over-the-counter contract, an initial margin deposit may be required by the counterparty. The amount of the margin deposit varies by commodity. If the market price of a futures, option or an over-the-counter contract moves in a direction that is adverse to the Company's position, an additional margin deposit, called a maintenance margin, is required. The Company nets, by counterparty, its futures and over-the-counter positions against the cash collateral provided or received. The margin deposit assets and liabilities are included in short-term commodity derivative assets or liabilities, as appropriate, in the Consolidated Balance Sheets. Additional information about the Company's master netting arrangements is presented in Note 5 to the Consolidated Financial Statements.

Derivatives - Interest Rate and Foreign Currency Contracts

The Company periodically enters into interest rate contracts to manage interest rate risk on borrowing or financing activities. The Company has long-term interest rate swaps recorded in other assets or other long-term liabilities that expire from 2025 to 2030 and have been designated as cash flow hedges; accordingly, changes in the fair value of the instruments are recognized in Other comprehensive income (loss) in the Consolidated Balance Sheets. While the Company considers all of its derivative positions to be effective economic hedges of specified risks, these interest rate contracts for which hedge accounting is not applied are recorded on the Consolidated Balance Sheets in either other current assets or liabilities (if short-term in nature) or in other assets or other long-term liabilities (if non-current in nature), and changes in fair value are recognized in current earnings as interest expense. Upon termination of a derivative instrument or a change in the hedged item, any remaining fair value recorded in the Consolidated Balance Sheets is recorded in Interest expense, net consistent with the cash flows associated with the underlying hedged item. Information regarding the nature and terms of the Company's interest rate derivatives is presented in Note 5 to the Consolidated Financial Statements.

Property, Plant and Equipment

Property, plant and equipment is recorded at cost. Repairs and maintenance costs are charged to expense as incurred, while betterments that extend useful lives are capitalized. Depreciation is provided over the estimated useful lives of the individual assets, by the straight-line method. Estimated useful lives are generally as follows: land improvements - 16 years; leasehold improvements - the shorter of the lease term or the estimated useful life of the improvement, ranging from 3 to 20 years; buildings and storage facilities - 10 to 40 years; and machinery and equipment - 3 to 20 years. The cost of assets retired or otherwise disposed of, and the accumulated depreciation thereon are removed from the accounts, with any gain or loss realized upon sale recorded in Other income, net within the Consolidated Statements of Operations.

Additional information regarding the Company's property, plant and equipment is presented in Note 3 to the Consolidated Financial Statements.

Deferred Debt Issue Costs

Costs associated with the issuance of term debt are deferred and recorded net with debt. Costs associated with revolving credit agreements are recorded as a deferred asset. These costs are amortized, as a component of interest expense, over the earlier of the stated term of the debt or the period from the issue date through the first early payoff date without penalty, or the expected payoff date if the loan does not contain a prepayment penalty. Deferred costs associated with the borrowing arrangement with a syndication of banks are amortized over the term of the agreement.

Goodwill and Intangible Assets

Goodwill is subject to an annual impairment test or more often when events or circumstances indicate that the carrying amount of goodwill may be impaired. A goodwill impairment loss is recognized to the extent the carrying amount of goodwill exceeds the business enterprise value. Additional information about the Company's goodwill and other intangible assets is presented in Note 17 to the Consolidated Financial Statements.

Acquired intangible assets are recorded at cost, less accumulated amortization, if not indefinite lived. In addition, we capitalize the salaries and payroll-related costs of employees and consultants who devote time to the development of internal-use software projects. If a project constitutes an enhancement to previously developed software, we assess whether the enhancement is significant and creates additional functionality to the software, thus qualifying the work incurred for capitalization. Once a project is complete, we estimate the useful life of the internal-use software. Changes in our estimates related to internal-use software would increase or decrease operating expenses or amortization recorded during the period.

Amortization of intangible assets is provided over their estimated useful lives (generally 1 to 10 years) using the straight-line method.

Impairment of Long-lived Assets and Equity Method Investments

Long-lived assets, including intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. Recoverability of assets to be held and used is measured by comparing the carrying amount of the assets to the undiscounted future net cash flows the Company expects to generate with the assets. If such assets are considered to be impaired, the Company recognizes an impairment loss for the amount by which the carrying amount of the assets exceeds the fair value of the assets.

In 2022, the Company's 51% owned ELEMENT plant faced a combination of high corn basis, increased natural gas prices and a rapid decline in Low Carbon Fuel Standards credit values, that negatively impacted operations. The adverse operating conditions led to a failure of a debt covenant during the year, as well as, a forecasted failure of another covenant within the next 12 months. Accordingly, it was deemed that a triggering event occurred as of September 30, 2022 related to the ELEMENT ethanol plant. Management performed a recoverability test of the ELEMENT plant's long-lived assets as this is the lowest level of identifiable cash flows. The key assumptions used in the recoverability test included input costs (corn, natural gas, etc.), production days, and co-product premiums. Each of these inputs were given probability weightings based on management's assessment regarding the likelihood of the respective forecasts. Using future forecasted cash flows, the ELEMENT asset group passed its recoverability test on an undiscounted cash flow basis by 15% over the carrying value of its assets. Assumptions used in the model did not change materially during the fourth quarter. However, if there are changes to key assumptions in the analysis it is reasonably possible management's estimate that it will recover the carrying amount of these assets could change, even in the near term. See further discussion on ELEMENT developments subsequent to December 31, 2022, in Note 4 of the Consolidated Financial Statements.

The Company reviews its equity method investments to determine whether there has been a decline in the estimated fair value of the investment that is below the Company's carrying value which is other-than-temporary. Other than consideration of past and current performance, these reviews take into account forecasted earnings which are based on management's estimates of future performance.

Provisionally Priced Commodity Contracts

Accounts payable includes certain amounts related to commodity purchases for which, even though the Company has taken ownership and possession of the commodity the final purchase price has not been fully established. If the futures and basis components are unpriced, it is referred to as a delayed price payable. If the futures component has not been established, but the basis has been set, it is referred to as a basis payable. The unpriced portion of these payables will be exposed to changes in the fair value of the underlying commodity based on quoted prices on commodity exchanges (or basis levels). Those payables that are fully priced are not considered derivative instruments.

The Company also enters into contracts with customers for risk management purposes that allow the customers to effectively unprice the futures component of their inventory for a period of time, subjecting the commodities to market fluctuations. The Company records an asset or liability for the market value changes of the commodities over the life of the contracts based on quoted exchange prices. See Note 10 for additional discussion on these instruments.

Stock-Based Compensation

Stock-based compensation expense for all stock-based compensation awards is based on the estimated grant-date fair value. The Company recognizes these compensation costs on a straight-line basis over the requisite service period of the award, adjusted for revisions to performance expectations. Additional information about the Company's stock compensation plans is presented in Note 15 to the Consolidated Financial Statements.

Per Share Data

We present both basic and diluted earnings per share amounts from continuing operations and discontinued operations attributable to the Company's shareholders. Basic earnings per common share are determined by dividing net earnings attributable to controlling interests by the weighted-average number of common shares outstanding. In computing diluted earnings per share, average number of common shares outstanding is increased by unvested stock awards and common stock options outstanding with exercise prices lower than the average market price of common shares using the treasury share method.

Revenue Recognition

The Company's revenue consists of sales from commodity contracts that are accounted for under ASC 815, *Derivatives and Hedging* (ASC 815), and sales of other products and services that are accounted for under ASC 606, *Revenue from Contracts with Customers* (ASC 606).

Revenue from commodity contracts (ASC 815)

Revenue from commodity contracts primarily relates to forward sales of commodities in the Company's Trade and Renewables segments, such as corn, soybeans, wheat, oats, ethanol, and corn oil, which are accounted for as derivatives at fair value under ASC 815. These forward sales meet the definition of a derivative under ASC 815 as they have an underlying (e.g. the price of corn), a notional amount (e.g. metric tons), no initial net investment and can be net settled since the commodity is readily convertible to cash. The Company does not apply the normal purchase and normal sale exception available under ASC 815 to these contracts.

Revenue from commodity contracts is recognized in Sales and merchandising revenues for the contractually stated amount when the contracts are settled. Settlement of the commodity contracts generally occurs upon shipment or delivery of the product, when title and risks and rewards of ownership transfers to the customer. Prior to settlement, these forward sales contracts are recognized at fair value with the unrealized gains or losses recorded within Cost of sales and merchandising revenues. Additional information about the fair value of the Company's commodity derivatives is presented in Notes 5 and 10 to the Consolidated Financial Statements.

There are certain transactions that allow for pricing to occur after title of the goods has passed to the customer. In these cases, the Company continues to report the goods in inventory until it recognizes the sales revenue once the price has been determined. Direct ship commodity sales (where the Company never takes physical possession of the commodity) are recognized based on the terms of the contract.

Certain of the Company's operations provide for customer billings, deposits or prepayments for product that is stored at the Company's facilities. The sales and gross profit related to these transactions are not recognized until the product is shipped in accordance with the previously stated revenue recognition policy and these amounts are classified in the Consolidated Balance Sheets as a current liability titled "Customer prepayments and deferred revenue".

Revenue from contracts with customers (ASC 606)

Information regarding our revenue from contracts with customers accounted for under ASC 606 is presented in Note 7 to the Consolidated Financial Statements. The Company recognizes revenue from these contracts at a point in time when it satisfies a performance obligation by transferring control of a product to a customer, generally when legal title and risks and rewards of ownership transfer to the customer.

Income Taxes

Income tax expense for each period includes current tax expense plus deferred expense, which is related to the change in deferred income tax assets and liabilities. Deferred income taxes are provided for temporary differences between the financial reporting basis and the tax basis of assets and liabilities and are measured using enacted tax rates and laws governing periods in which the differences are expected to reverse. The Company evaluates the realizability of deferred tax assets and provides a valuation allowance for amounts that management does not believe are more likely than not to be recoverable, as applicable.

The annual effective tax rate is determined by Income tax provision (benefit) from continuing operations as a percentage of Income (loss) before income taxes from continuing operations within the Consolidated Statements of Operations. Differences in the effective tax rate and the statutory tax rate may be due to permanent items, tax credits, foreign tax rates and state tax rates in jurisdictions in which the Company operates, or changes in valuation allowances.

The Company records reserves for uncertain tax positions when, despite the belief that tax return positions are fully supportable, it is anticipated that certain tax return positions are likely to be challenged and that the Company may not prevail. These reserves are adjusted for changing facts and circumstances, such as the progress of a tax audit or the lapse of statutes of limitations.

Additional information about the Company's income taxes is presented in Note 8 to the Consolidated Financial Statements.

Employee Benefit Plans

The Company provides full-time employees hired before January 1, 2003, with postretirement health care benefits. In order to measure the expense and funded status of these employee benefit plans, management makes several estimates and assumptions, including employee turnover rates, anticipated mortality rates and anticipated future healthcare cost trends. These estimates and assumptions are based on the Company's historical experience combined with management's knowledge and understanding of current facts and circumstances. The selection of the discount rate is based on an index given projected plan payouts. Additional information about the Company's employee benefit plans is presented in Note 6 to the Consolidated Financial Statements.

Recently Adopted Accounting Pronouncements

Reference Rate Reform (Topic 848)

In March 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides temporary optional expedients and exceptions to U.S. GAAP on contract modifications, hedging relationships, and other transactions affected by reference rate reform to ease entities' financial reporting burdens as the market transitions from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. The guidance was effective upon issuance and may be applied prospectively to contract modifications made, hedging relationships entered into, and other transactions affected by reference rate reform, evaluated on or before December 31, 2022, beginning during the reporting period in which the guidance has been elected. In December 2022, the FASB issued ASU 2022-06, *Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848*, which extended the date to December 31, 2024.

As of December 31, 2022, the Company does not have any receivables, hedging relationships, lease agreements, or debt agreements that reference LIBOR or another reference rate expected to be discontinued. Therefore, we will not be electing the optional practical expedients associated with this ASU.

2. Inventories

Major classes of inventories are presented below. Readily Marketable Inventories are agricultural commodity inventories such as corn, soybeans, wheat, and ethanol co-products, among others, carried at net realizable value which approximates fair value based on their commodity characteristics, widely available markets, and pricing mechanisms. The net realizable value of RMI is calculated as the fair value (spot price of the commodity in an exchange), less cost of disposal and transportation based on the local market. All other inventories are held at lower of cost or net realizable value. The components of inventories are as follows:

(in thousands)	December 31,	
	2022	2021
Grain and other agricultural products ^(a)	\$ 1,326,531	\$ 1,427,708
Propane and frac sand ^(a)	21,084	23,780
Ethanol and co-products ^(a)	156,341	184,354
Plant nutrients and cob products	227,769	178,696
Total	\$ 1,731,725	\$ 1,814,538

(a) Includes RMI of \$1,308.8 million and \$1,410.9 million at December 31, 2022 and December 31, 2021, respectively.

The Company incurred inventory damage charges of \$17.3 million in the year ended December 31, 2022. In December 2022, approximately \$16.2 million of that charge was related to a fire at a Michigan grain asset where substantially all of the insured inventory held at that location was severely damaged or destroyed.

3. Property, Plant and Equipment

The components of property, plant and equipment are as follows:

(in thousands)	December 31,	
	2022	2021
Land	\$ 38,689	\$ 39,162
Land improvements and leasehold improvements	92,084	91,122
Buildings and storage facilities	364,721	368,577
Machinery and equipment	980,159	936,476
Construction in progress	41,429	20,676
	1,517,082	1,456,013
Less: accumulated depreciation	(754,353)	(669,984)
Property, plant and equipment, net	\$ 762,729	\$ 786,029

Depreciation expense on property, plant and equipment amounted to \$110.6 million, \$126.9 million and \$122.4 million for the years ended December 31, 2022, 2021 and 2020, respectively.

In December 2022, the Company recorded charges of \$9.0 million for impairments of property, plant and equipment in the Trade segment related to a Nebraska grain asset.

In December 2021, the Company recorded charges of \$7.7 million for impairments of property, plant and equipment in the Trade segment related to its frac sand assets in Oklahoma. The Company also recorded a \$0.6 million impairment of property, plant and equipment in the Trade segment related to the shutdown of a facility in Texas.

4. Debt

The Company's short-term and long-term debt at December 31, 2022 and 2021 consisted of the following:

(in thousands)	December 31,	
	2022	2021
Short-term debt – non-recourse	\$ 81,475	\$ 65,485
Short-term debt – recourse	191,100	436,307
Total short-term debt	<u>272,575</u>	<u>501,792</u>
Current maturities of long-term debt – non-recourse	63,815	7,601
Current maturities of long-term debt – recourse	46,340	24,655
Total current maturities of long-term debt	<u>110,155</u>	<u>32,256</u>
Long-term debt, less: current maturities – non-recourse	414	64,972
Long-term debt, less: current maturities – recourse	492,104	535,515
Total long-term debt, less: current maturities	<u>\$ 492,518</u>	<u>\$ 600,487</u>

On March 2, 2022, the Company completed an incremental term loan amendment to its credit agreement dated January 11, 2019. The amendment provided for a short-term note of \$250.0 million in which the entire stated principal was due on May 31, 2022 (subsequently extended to August 31, 2022). On March 9, 2022, the Company completed an additional term loan amendment that expanded the short-term note capacity from \$250.0 million to \$450.0 million. On May 27, 2022, the Company completed an additional amendment to convert the \$350.0 million then outstanding balance from the \$450.0 million incremental term loan amendment to a revolving credit agreement with a capacity of up to \$450.0 million. The entire amount outstanding was due on August 31, 2022, and was fully repaid during the third quarter of 2022.

On March 28, 2022, the Company continued to amend its credit agreement dated January 11, 2019. The amendment increased borrowing capacity on the revolver from \$900.0 million to \$1,550.0 million and extended the maturity dates of the \$140.6 million and \$209.4 million long-term notes originally due in 2026 to March 26, 2027, and March 28, 2029, respectively. The amendment also transitions the reference rate in the credit agreement from LIBOR to "SOFR" (Standard Overnight Financing Rate). The revolver and term notes will bear interest at variable rates, which are based on SOFR plus an applicable spread.

During the first quarter of 2022, the Company repaid the remaining \$200.0 million balance that was outstanding as of December 31, 2021, on a short-term note that was classified as recourse debt to the Company.

The capacity of the Company's short-term lines of credit at December 31, 2022 was \$1,990.8 million of which the Company had a total of \$1,659.6 million available for borrowing. The Company's borrowing capacity is reduced by a combination of outstanding borrowings and letters of credit. The weighted-average interest rate on short-term borrowings outstanding at December 31, 2022 and 2021, were 5.67% and 1.49%, respectively.

As part of the Company's ongoing covenant monitoring process, the Company determined that as of December 31, 2022, ELEMENT is virtually certain to be out of compliance with an owner's equity ratio covenant within the next 12 months. As such, the \$63.3 million of non-recourse debt associated with ELEMENT has been classified in Current maturities of long-term debt as of December 31, 2022. Additionally, ELEMENT did not make a required debt payment in February 2023 and subsequently received a default notice from the lender on February 17, 2023. This event of default could result in the lender accelerating the maturity of ELEMENT's indebtedness or preventing access to additional funds under the line of credit agreement, or requiring prepayment of outstanding indebtedness under the loan agreement or the line of credit agreement. Subsequent to year end, the Company began to consider various strategies related to the investment.

The Company was in compliance with all financial covenants at and during the years ended December 31, 2022 and 2021, other than with respect to the ELEMENT non-recourse debt as discussed above.

Total interest paid was \$56.7 million, \$38.2 million and \$33.9 million for the years ended December 31, 2022, 2021 and 2020, respectively.

As of December 31, 2022 and 2021, the estimated fair value of long-term debt, including the current portion, was \$595.7 million and \$650.7 million, respectively. The Company estimates the fair value of its long-term debt based upon the Company's credit standing and current interest rates offered by the Company on similar bonds and rates currently available to the Company for long-term borrowings with similar terms and remaining maturities.

Long-Term Debt

Recourse Long-Term Debt

(in thousands, except percentages)	December 31,	
	2022	2021
Note payable, variable rate (6.08% at December 31, 2022), payable in increasing amounts plus interest, due 2029	\$ 201,524	\$ 212,500
Note payable, variable rate (5.96% at December 31, 2022), payable in increasing amounts plus interest, due 2027	135,352	142,500
Note payable, 4.50%, payable at maturity, due 2034 (a)	95,500	99,090
Note payable, 4.85%, payable at maturity, due 2026	25,000	25,000
Note payable, 4.55%, payable at maturity, due 2023	24,000	24,000
Industrial revenue bond, variable rate (4.81% at December 31, 2022), payable at maturity, due 2036	21,000	21,000
Note payable, 4.50%, payable at maturity, due 2030	16,000	16,000
Note payable, 5.00%, payable at maturity, due 2040	14,000	14,000
Finance lease obligations, due serially to 2030 ^(a)	9,071	10,135
	541,447	564,225
Less: current maturities	46,340	24,655
Less: unamortized prepaid debt issuance costs	3,003	4,055
	\$ 492,104	\$ 535,515

(a) Debt is collateralized by first mortgages on certain facilities and related equipment or other assets with a book value of \$56.6 million.

The aggregate annual maturities of recourse, long-term debt are as follows: 2023 -- \$46.3 million; 2024 -- \$22.6 million; 2025 -- \$22.8 million; 2026 -- \$48.0 million; 2027 -- \$123.4 million; and \$278.3 million thereafter.

Non-Recourse Long-Term Debt

The Company's non-recourse long-term debt consists of the following:

(in thousands)	December 31,	
	2022	2021
Note payable, variable rate (7.59% at December 31, 2022), payable at maturity, due 2023 ^(a)	\$ 63,335	\$ 70,000
Finance lease obligations, due serially to 2024	894	2,745
	64,229	72,745
Less: current maturities	63,815	7,601
Less: unamortized prepaid debt issuance costs	—	172
	\$ 414	\$ 64,972

(a) Debt is collateralized by a first mortgages on the ELEMENT facility and related equipment or other assets with a book value of \$128.9 million.

The aggregate annual maturities of non-recourse long-term debt are \$63.8 million and \$0.4 million for the years ended December 31, 2023 and 2024, respectively.

5. Derivatives

Commodity Contracts

The Company's operating results are affected by changes to commodity prices. The Trade and Renewables businesses have established "unhedged" futures position limits (the amount of a commodity, either owned or contracted for, that does not have an offsetting derivative contract to lock in the price). To reduce the exposure to market price risk on commodities owned and forward purchase and sale contracts, the Company enters into exchange traded commodity futures and options contracts and over-the-counter forward and option contracts with various counterparties. These contracts are primarily traded via regulated commodity exchanges. The Company's forward purchase and sales contracts are for physical delivery of the commodity in a future period. Contracts to purchase commodities from producers generally relate to the current or future crop years for delivery periods quoted by regulated commodity exchanges. Most contracts for the sale of commodities to processors or other commercial consumers generally do not extend beyond one year.

Most of these contracts meet the definition of derivatives. While the Company considers its commodity contracts to be effective economic hedges, the Company does not designate or account for its commodity contracts as hedges as defined under current accounting standards. The Company primarily accounts for its commodity derivatives at estimated fair value. The estimated fair value of the commodity derivative contracts that require the receipt or posting of cash collateral is recorded on a net basis (offset against cash collateral posted or received, also known as margin deposits) within commodity derivative assets or liabilities. Management determines fair value based on exchange-quoted prices and in the case of its forward purchase and sale contracts, estimated fair value is adjusted for differences in local markets and non-performance risk. For contracts for which physical delivery occurs, balance sheet classification is based on estimated delivery date. For futures, options and over-the-counter contracts in which physical delivery is not expected to occur but, rather, the contract is expected to be net settled, the Company classifies these contracts as current or noncurrent assets or liabilities, as appropriate, based on the Company's expectations as to when such contracts will be settled.

Realized and unrealized gains and losses in the value of commodity contracts (whether due to changes in commodity prices, changes in performance or credit risk, or due to sale, maturity or extinguishment of the commodity contract) and commodity inventories are included in Cost of sales and merchandising revenues.

Generally accepted accounting principles permit a party to a master netting arrangement to offset fair value amounts recognized for derivative instruments against the right to reclaim cash collateral or obligation to return cash collateral under the same master netting arrangement. The Company has master netting arrangements for its exchange traded futures and options contracts and certain over-the-counter contracts. When the Company enters into a future, option or an over-the-counter contract, an initial margin deposit may be required by the counterparty. The amount of the margin deposit varies by commodity. If the market price of a future, option or an over-the-counter contract moves in a direction that is adverse to the Company's position, an additional margin deposit, called a maintenance margin, is required. The margin deposit assets and liabilities are included in current commodity derivative assets (or liabilities), as appropriate, in the Consolidated Balance Sheets.

The net asset or liability positions of these derivatives (net of their cash collateral) are determined on a counterparty-by-counterparty basis. If current, the net position is included within Commodity derivative assets (or liabilities) - current, and if noncurrent, the net position is included in Other assets or Other long-term liabilities in the Consolidated Balance Sheets. The following table presents a summary of the estimated fair value of the Company's commodity derivative instruments that require cash collateral and the associated cash posted or received as collateral as of December 31, 2022 and 2021:

(in thousands)	December 31, 2022	December 31, 2021
Cash collateral paid	\$ 64,530	\$ 165,250
Fair value of derivatives	(10,014)	(36,843)
Net derivative asset position	\$ 54,516	\$ 128,407

The following table presents, on a gross basis, current and non-current commodity derivative assets and liabilities:

(in thousands)	December 31, 2022				
	Commodity Derivative Assets - Current	Commodity Derivative Assets - Noncurrent	Commodity Derivative Liabilities - Current	Commodity Derivative Liabilities - Noncurrent	Total
Commodity derivative assets	\$ 325,762	\$ 1,796	\$ 18,426	\$ 686	\$ 346,670
Commodity derivative liabilities	(94,704)	(149)	(116,945)	(1,484)	(213,282)
Cash collateral paid	64,530	—	—	—	64,530
Balance sheet line item totals	<u>\$ 295,588</u>	<u>\$ 1,647</u>	<u>\$ (98,519)</u>	<u>\$ (798)</u>	<u>\$ 197,918</u>

(in thousands)	December 31, 2021				
	Commodity Derivative Assets - Current	Commodity Derivative Assets - Noncurrent	Commodity Derivative Liabilities - Current	Commodity Derivative Liabilities - Noncurrent	Total
Commodity derivative assets	\$ 339,321	\$ 4,677	\$ 23,762	\$ 1,209	\$ 368,969
Commodity derivative liabilities	(93,758)	(105)	(152,673)	(2,578)	(249,114)
Cash collateral paid	165,250	—	—	—	165,250
Balance sheet line item totals	<u>\$ 410,813</u>	<u>\$ 4,572</u>	<u>\$ (128,911)</u>	<u>\$ (1,369)</u>	<u>\$ 285,105</u>

The net gains and losses on commodity derivatives not designated as hedging instruments included in the Company's Consolidated Statements of Operations and the line items in which they are located for the years ended December 31, 2022, 2021 and 2020, are as follows:

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Gains (losses) on commodity derivatives included in Cost of sales and merchandising revenues	\$ 13,533	\$ 151,058	\$ (36,563)

The Company had the following volume of commodity derivative contracts outstanding (on a gross basis) as of December 31, 2022 and 2021:

(in thousands)	December 31, 2022		
	Number of Bushels	Number of Gallons	Number of Tons
Non-exchange traded:			
Corn	567,405	—	—
Soybeans	56,608	—	—
Wheat	102,716	—	—
Oats	24,710	—	—
Ethanol	—	178,935	—
Soybean meal	—	—	570
Dried distillers grain	—	—	449
Other	10,054	44,547	2,029
Subtotal	761,493	223,482	3,048
Exchange traded:			
Corn	170,280	—	—
Soybeans	46,380	—	—
Wheat	111,567	—	—
Oats	365	—	—
Ethanol	—	94,206	—
Propane	—	47,208	—
Other	—	588	581
Subtotal	328,592	142,002	581
Total	1,090,085	365,484	3,629

(in thousands)	December 31, 2021		
	Number of Bushels	Number of Gallons	Number of Tons
Non-exchange traded:			
Corn	685,681	—	—
Soybeans	77,592	—	—
Wheat	109,547	—	—
Oats	31,627	—	—
Ethanol	—	192,447	—
Soybean meal	—	—	544
Dried distillers grain	—	—	507
Other	57,268	16,092	1,854
Subtotal	961,715	208,539	2,905
Exchange traded:			
Corn	226,215	—	—
Soybeans	64,730	—	—
Wheat	65,020	—	—
Oats	1,300	—	—
Ethanol	—	100,884	—
Propane	—	31,542	—
Other	75	798	353
Subtotal	357,340	133,224	353
Total	1,319,055	341,763	3,258

Interest Rate and Other Derivatives

The Company's objectives in using interest rate derivatives are to add stability to interest expense on long-term debt and to manage its exposure to interest rate movements. To accomplish these objectives, the Company primarily uses interest rate swaps as part of its interest rate risk management strategy. Interest rate swaps designated as cash flow hedges involve the receipt of variable amounts from a counterparty in exchange for the Company making fixed-rate payments over the life of the agreements without exchange of the underlying notional amount.

The gains or losses on the derivatives designated as hedging instruments are recorded in Other comprehensive income (loss) and subsequently reclassified into Interest expense, net in the same periods during which the hedged transaction affects earnings. Amounts reported in Accumulated other comprehensive income (loss) related to derivatives will be reclassified to Interest expense, net as interest payments are made on the Company's variable-rate long-term debt. The Company also has foreign currency derivatives which are considered effective economic hedges of specified economic risks.

At December 31, 2022 and 2021, the Company had recorded the following amounts for the fair value of the Company's interest rate and other derivatives:

(in thousands)	December 31,	
	2022	2021
Derivatives not designated as hedging instruments		
Interest rate contracts included in Accrued expenses and other current liabilities	\$ —	\$ (174)
Foreign currency contracts included in Other current (liabilities) assets	(3,124)	(1,069)
Derivatives designated as hedging instruments		
Interest rate contracts included in Other current assets	8,759	—
Interest rate contracts included in Other assets	22,641	4,574
Interest rate contracts included in Accrued expenses and other current liabilities	—	(5,206)
Interest rate contracts included in Other long-term liabilities	—	(6,555)

The recording of derivatives gains and losses and the financial statement line item in which they are located are as follows:

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Derivatives not designated as hedging instruments			
Interest rate derivative gains (losses) included in Interest expense, net	\$ 123	\$ (844)	\$ (11)
Derivatives designated as hedging instruments			
Interest rate derivative gains (losses) included in Other comprehensive income (loss)	38,564	16,960	(11,497)
Interest rate derivative gains (losses) included in Interest expense, net	(989)	(6,733)	(7,982)

The following table presents the open interest rate contracts at December 31, 2022:

Interest Rate Hedging Instrument	Year Entered	Year of Maturity	Initial Notional Amount (in millions)	Hedged Item	Interest Rate
Long-term					
Swap	2019	2025	\$ 100.0	Interest rate component of debt - not accounted for as a hedge	2.3%
Swap	2019	2025	50.0	Interest rate component of debt - accounted for as a hedge	2.4%
Swap	2019	2025	50.0	Interest rate component of debt - accounted for as a hedge	2.4%
Swap	2020	2030	50.0	Interest rate component of debt - accounted for as a hedge	0.0% to 0.8%
Swap	2020	2030	50.0	Interest rate component of debt - accounted for as a hedge	0.0% to 0.8%
Swap	2022	2025	20.0	Interest rate component of debt - accounted for as a hedge	2.6%
Swap	2022	2029	100.0	Interest rate component of debt - accounted for as a hedge	2.0%
Swap	2022	2029	50.0	Interest rate component of debt - accounted for as a hedge	2.4%

6. Employee Benefit Plans

The Company provides certain full-time employees with pension benefits under defined contribution plans. The Company's expense for its defined contribution plans amounted to \$17.2 million, \$14.6 million and \$8.1 million for the years ended December 31, 2022, 2021 and 2020, respectively. The expense for the Company's defined contribution plans increased in both 2021 and 2022 as the employer discretionary contribution increased consistent with the improved operating results.

The Company also has a postretirement health care benefit plan covering substantially all of its full-time employees hired prior to January 1, 2003. These plans are generally contributory and include a cap on the Company's share of the related costs. The measurement date for this plan is December 31.

Obligation and Funded Status

Following are the details of the obligation and funded status of the postretirement health care benefit plan:

(in thousands)

Change in benefit obligation	2022	2021
Benefit obligation at beginning of year	\$ 23,942	\$ 25,324
Service cost	248	302
Interest cost	586	546
Actuarial (gains) losses	(6,180)	(1,252)
Participant contributions	314	271
Benefits paid	(1,477)	(1,249)
Benefit obligation at end of year	<u>\$ 17,433</u>	<u>\$ 23,942</u>

(in thousands)

Change in plan assets	2022	2021
Fair value of plan assets at beginning of year	\$ —	\$ —
Company contributions	1,163	978
Participant contributions	314	271
Benefits paid	(1,477)	(1,249)
Fair value of plan assets at end of year	<u>\$ —</u>	<u>\$ —</u>
Under funded status of plans at end of year	<u>\$ (17,433)</u>	<u>\$ (23,942)</u>

Amounts recognized in the Consolidated Balance Sheets at December 31, 2022 and 2021 consist of:

(in thousands)

	2022	2021
Accrued expenses and other current liabilities	\$ 1,276	\$ 1,359
Other long-term liabilities	16,157	22,583
Net amount recognized	<u>\$ 17,433</u>	<u>\$ 23,942</u>

Following are the details of the amounts recognized in Accumulated other comprehensive income before taxes at December 31, 2022:

(in thousands)

	Unamortized Actuarial Net Gains	Unamortized Prior Service Costs
Balance at beginning of year	\$ (5,498)	\$ 4,098
Amounts arising during the period	(6,180)	—
Amounts recognized as a component of net periodic benefit cost	—	911
Balance at end of year	<u>\$ (11,678)</u>	<u>\$ 5,009</u>

The benefits expected to be paid for the postretirement health care benefit plan over the next ten years are as follows:

(in thousands)	Postretirement Benefits	
2023	\$	1,276
2024		1,285
2025		1,299
2026		1,308
2027		1,300
2028-2032		6,371

Following are components of the net periodic benefit cost for each year:

(in thousands)	December 31,		
	2022	2021	2020
Service cost	\$ 248	\$ 302	\$ 221
Interest cost	586	546	719
Expected return on plan assets	(911)	(911)	(911)
Recognized net actuarial loss	—	169	79
Net periodic benefit (gain) cost	\$ (77)	\$ 106	\$ 108

Following are weighted-average assumptions of the postretirement health care benefit plan for each year:

	2022	2021	2020
Used to Determine Benefit Obligations at Measurement Date			
Discount rate	4.9 %	2.6 %	2.2 %
Used to Determine Net Periodic Benefit Cost for Years ended December 31			
Discount rate	2.6 %	2.2 %	3.0 %
Expected long-term return on plan assets	—	—	—
Rate of compensation increases	—	—	—

Assumed Health Care Cost Trend Rates at Beginning of Year

	2022	2021
Health care cost trend rate assumed for next year	3.0 %	3.0 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate) ^(a)	N/A	N/A
Year that the rate reaches the ultimate trend rate ^(a)	N/A	N/A

(a) In 2017, the Company's remaining uncapped participants were converted to a Medicare Exchange Health Reimbursement Arrangement, which put a 2% cap on the Company's share of the related costs.

7. Revenue

Many of the Company's sales and merchandising revenues are generated from contracts that are outside the scope of ASC 606. Specifically, many of the Company's Trade and Renewables sales contracts are derivatives under ASC 815, *Derivatives and Hedging*. The breakdown of revenues between ASC 606 and ASC 815 is as follows:

(in thousands)	Year ended December 31,		
	2022	2021	2020
Revenues under ASC 606	\$ 3,036,852	\$ 2,211,537	\$ 1,479,686
Revenues under ASC 815	14,288,532	10,400,513	6,584,934
Total revenues	\$ 17,325,384	\$ 12,612,050	\$ 8,064,620

Disaggregation of revenue

The following tables disaggregate revenues under ASC 606 by major product line:

(in thousands)	Year ended December 31, 2022			
	Trade	Renewables	Plant Nutrient	Total
Specialty nutrients	\$ —	\$ —	\$ 355,636	\$ 355,636
Primary nutrients	—	—	625,134	625,134
Products and co-products	396,613	1,219,972	—	1,616,585
Propane	264,072	—	—	264,072
Other	50,966	5,921	118,538	175,425
Total	<u>\$ 711,651</u>	<u>\$ 1,225,893</u>	<u>\$ 1,099,308</u>	<u>\$ 3,036,852</u>

(in thousands)	Year ended December 31, 2021			
	Trade	Renewables	Plant Nutrient	Total
Specialty nutrients	\$ —	\$ —	\$ 270,842	\$ 270,842
Primary nutrients	—	—	500,891	500,891
Products and co-products	313,195	714,120	—	1,027,315
Propane	246,002	—	—	246,002
Other	64,557	6,768	95,162	166,487
Total	<u>\$ 623,754</u>	<u>\$ 720,888</u>	<u>\$ 866,895</u>	<u>\$ 2,211,537</u>

(in thousands)	Year ended December 31, 2020			
	Trade	Renewables	Plant Nutrient	Total
Specialty nutrients	\$ —	\$ —	\$ 234,806	\$ 234,806
Primary nutrients	—	—	396,515	396,515
Products and co-products	234,219	408,677	—	642,896
Propane	122,580	—	—	122,580
Other	49,193	2,057	31,638	82,888
Total	<u>\$ 405,992</u>	<u>\$ 410,734</u>	<u>\$ 662,959</u>	<u>\$ 1,479,685</u>

Substantially all of the Company's revenues accounted for under ASC 606 are recorded at a point in time instead of over time for the years ended December 31, 2022, 2021 and 2020, respectively.

Specialty and primary nutrients

The Company sells several different types of specialty nutrient products, including: low-salt liquid starter fertilizers, micro-nutrients and other specialty lawn products. These products can be sold through the wholesale distribution channels as well as directly to end users at the farm center locations. Similarly, the Company sells several different types of primary nutrient products, including: nitrogen, phosphorus and potassium. These products may be purchased and re-sold as is or sold as finished goods resulting from a blending and manufacturing process. The contracts associated with specialty and primary nutrients generally have a single performance obligation, as the Company has elected the accounting policy to consider shipping and handling costs as fulfillment costs. Revenue is recognized when control of the product has passed to the customer. Payment terms generally range from 0 - 30 days.

Products and co-products

The Renewables segment sells several co-products through the production of ethanol that remain subject to ASC 606, including E-85, dried distillers grains, syrups and renewable identification numbers (“RINs”). RINs are credits for compliance with the Environmental Protection Agency's Renewable Fuel Standard program and are created by renewable fuel producers. The Trade segment also sells several products that are subject to ASC 606, such as pulses, organics and pet food ingredients. Contracts for these products and co-products generally have a single performance obligation, as the Company has elected the accounting policy to consider shipping and handling costs as fulfillment costs. Revenue is recognized when control of the product has passed to the customer which follows shipping terms on the contract. Payment terms for Renewables generally range from 10 - 15 days. Payment terms for Trade generally range from 30 - 120 days.

Propane

Propane products are primarily sold to United States customers in the energy industry. Revenue is recognized at a point in time when obligations under the terms of a contract with the customer are satisfied. This occurs with the transfer of control of our products to customers when products are shipped for direct sales to customers or when the product is picked up by a customer at a transload location. Contracts contain one performance obligation which is the delivery to the customer at a point in time. Revenue is measured as the amount of consideration received in exchange for transferring products. The Company recognizes the cost for shipping as an expense in Cost of sales and merchandising revenues when control over the product has transferred to the customer. Payment terms generally range from 0 - 30 days.

Contract balances

The opening and closing balances of the Company’s contract liabilities are as follows:

(in thousands)	<u>2022</u>	<u>2021</u>
Balance at January 1	\$ 100,847	\$ 45,634
Balance at December 31	55,408	100,847

The difference between the opening and closing balances of the Company’s contract liabilities primarily results from the timing difference between the Company’s performance and the customer’s payment. Contract liabilities relate to the Plant Nutrient business for payments received in advance of fulfilling our performance obligations under our customer contracts. Contract liabilities are built up at year-end and through the first quarter as a result of payments in advance of fulfilling our performance obligations under our customer contracts in preparation for the spring application season. The contract liabilities are then relieved as obligations are met through the year and begin to build in preparation for a new season as year-end approaches. The variance in contract liabilities at December 31, 2022, compared to the prior years was due to tight supplies and a sharp increase of fertilizer prices towards the end of 2021 and customers were more willing to prepay for fertilizer to ensure supply and fix their input costs for the following spring application season. At the end of 2022 and 2020, there was much less volatility in the fertilizer market leading customers to not prepay as significantly as they were willing to do in 2021.

8. Income Taxes

Income tax provision (benefit) from continuing operations consists of the following:

(in thousands)	Year ended December 31,		
	2022	2021	2020
Current:			
Federal	\$ 38,801	\$ 23,333	\$ (42,718)
State and local	13,541	4,934	(748)
Foreign	4,741	760	6,731
	<u>57,083</u>	<u>29,027</u>	<u>(36,735)</u>
Deferred:			
Federal	(13,425)	(3,687)	28,665
State and local	(6,775)	819	1,180
Foreign	2,745	3,069	(4,020)
	<u>(17,455)</u>	<u>201</u>	<u>25,825</u>
Total:			
Federal	25,376	19,646	(14,053)
State and local	6,766	5,753	432
Foreign	7,486	3,829	2,711
	<u>\$ 39,628</u>	<u>\$ 29,228</u>	<u>\$ (10,910)</u>

Income (loss) before income taxes from continuing operations consists of the following:

(in thousands)	Year ended December 31,		
	2022	2021	2020
U.S.	\$ 173,810	\$ 143,712	\$ (38,319)
Foreign	20,772	17,058	11,238
	<u>\$ 194,582</u>	<u>\$ 160,770</u>	<u>\$ (27,081)</u>

A reconciliation from the statutory U.S. federal tax rate to the effective tax rate follows:

	Year ended December 31,		
	2022	2021	2020
Statutory U.S. federal tax rate	21.0 %	21.0 %	21.0 %
Increase (decrease) in rate resulting from:			
State and local income taxes, net of related federal taxes	2.4	2.5	0.5
Federal tax rate differential	(0.3)	0.4	(2.1)
U.S. tax rate change and other tax law impacts ^(a)	0.4	0.5	56.2
Effect of noncontrolling interest	(3.9)	(4.2)	(17.0)
Derivative instruments and hedging activities	(1.3)	0.4	(11.8)
U.S. income taxes on foreign earnings	(0.1)	0.7	(1.8)
Nondeductible compensation	1.2	1.9	(5.5)
Unrecognized tax benefits	8.0	2.1	(72.2)
Valuation allowance	0.7	0.1	(1.9)
Foreign tax credits	(2.1)	(1.3)	(0.5)
Research and development and other tax credits	(7.0)	(5.0)	75.6
Equity method investments	0.8	(0.6)	(0.1)
Other, net	0.6	(0.3)	(0.1)
Effective tax rate	<u>20.4 %</u>	<u>18.2 %</u>	<u>40.3 %</u>

(a) Reflects the impact of the CARES Act which provided a financial statement benefit of \$14.8 million in 2020.

Net income taxes of \$88.7 million, \$51.7 million and \$2.4 million were paid in the years ended December 31, 2022, 2021 and 2020, respectively.

TAMH and ELEMENT are treated as partnerships for U.S. tax purposes. Partnerships are not taxable entities so the tax consequences of the partnership's transactions flow through to the partners (i.e., investors) at their proportionate share. As a result, the Consolidated Financial Statements do not reflect such income taxes on income (loss) before taxes attributable to the noncontrolling interest in the partnerships.

The Company has elected to treat Global Intangible Low Tax Income ("GILTI") as a period cost and, therefore, has not recognized deferred taxes for basis differences that may reverse as GILTI tax in future years.

For the years ended December 31, 2022 and 2021, the Company has not recognized deferred tax liabilities for temporary differences related to investments in foreign subsidiaries that were deemed permanently reinvested. Determination of the amount of unrecognized deferred income tax liabilities on these earnings is not practicable because such liability, if any, depends on certain circumstances existing and if/when remittance occurs. A deferred tax liability will be recognized if and when the Company no longer plans to permanently reinvest these undistributed earnings.

Significant components of the Company's deferred tax liabilities and assets are as follows:

(in thousands)	December 31,	
	2022	2021
Deferred tax liabilities:		
Property, plant and equipment	\$ (58,273)	\$ (66,913)
Operating lease right-of-use assets	(9,370)	—
Identifiable intangibles	(6,802)	(7,022)
Investments	(34,604)	(35,842)
Derivative Instruments	(7,911)	—
Other	(5,160)	(3,859)
	<u>(122,120)</u>	<u>(113,636)</u>
Deferred tax assets:		
Employee benefits	28,859	27,695
Accounts and notes receivable	6,726	2,189
Inventory	10,272	4,533
Federal income tax credits	1,914	2,292
Net operating loss carryforwards	1,740	2,906
Derivative instruments	—	1,774
Operating lease liability	9,526	—
Other	7,118	5,490
Total deferred tax assets	<u>66,155</u>	<u>46,879</u>
less: Valuation allowance	<u>3,834</u>	<u>2,834</u>
	<u>62,321</u>	<u>44,045</u>
Net deferred tax liabilities^(a)	<u>\$ (59,799)</u>	<u>\$ (69,591)</u>

(a) The Company had deferred tax assets of \$4.3 million and \$1.5 million included in Other assets in the Consolidated Balance Sheets as of December 31, 2022 and 2021, respectively.

On December 31, 2022, the Company had \$47.3 million and \$3.7 million of state and non-U.S. net operating loss carryforwards that begin to expire in 2023 and 2035, respectively. The Company also has \$1.9 million of U.S. foreign tax credits ("FTCs") carryforwards that begin to expire after 2031. The valuation allowance of \$3.8 million is related to deferred tax assets of \$1.9 million, \$1.5 million, and \$0.4 million for U.S. federal FTCs, branch income tax accounting that will impact future U.S. federal FTCs, and outside basis differences in U.S. equity investees, respectively.

Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. A valuation allowance will be recorded to reduce deferred tax assets if, based on all available evidence, it is considered more likely than not that some portion or all of the recorded deferred tax assets will not be realized in future periods. In assessing the realizability of our deferred tax assets, we consider positive and negative evidence, including historical operating results, future reversals of existing taxable temporary differences, projected future earnings, and tax planning strategies.

The Company and its subsidiaries, file income tax returns in the U.S., foreign, state and local jurisdictions. The Company is no longer subject to examination by taxing authorities in the U.S., foreign, or state and local jurisdictions for years before 2014. The Company's subsidiary partnership returns are under federal tax examination by the IRS for the tax years 2015 through 2018. The Company's subsidiary is under federal tax examination by the Mexican tax authorities for tax year 2015. Due to the potential for resolution of U.S. federal, foreign, state and local examinations, it is reasonably possible that the gross unrecognized tax benefits may change within the next twelve months by a range of \$18.6 million to \$40.7 million.

A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows:

(in thousands)	2022	2021	2020
Balance at beginning of period	\$ 51,754	\$ 44,401	\$ 22,415
Tax positions related to the current year			
Gross additions	8,074	13,179	11,598
Tax positions related to prior years			
Gross additions	19,434	1,364	12,013
Gross reductions	—	(7,190)	(1,566)
Lapse in statute of limitations	—	—	(59)
Balance at end of period	<u>\$ 79,262</u>	<u>\$ 51,754</u>	<u>\$ 44,401</u>

As of December 31, 2022, 2021 and 2020, if our unrecognized tax benefits were recognized in future periods, they would favorably impact our effective tax rate. As of December 31, 2022, unrecognized tax benefits of \$79.2 million include \$60.3 million associated with the federal and state R&D Credits.

The Company's practice is to recognize interest and penalties on uncertain tax positions in the provision for income taxes in the Consolidated Statement of Operations. At December 31, 2022, 2021, and 2020, the Company recorded reserves of \$8.6 million, \$2.7 million and \$1.8 million, respectively, of interest and penalties on uncertain tax positions in the Consolidated Balance Sheets.

9. Accumulated Other Comprehensive Income (Loss)

The following table summarizes the changes in Accumulated other comprehensive income (loss) attributable to the Company ("AOCI") for the years ended December 31, 2022 and 2021:

(in thousands)	Year ended December 31,	
	2022	2021
Currency Translation Adjustment		
Beginning balance	\$ 5,631	\$ 5,739
Other comprehensive income (loss) before reclassifications	(13,834)	(108)
Tax effect	—	—
Other comprehensive income (loss), net of tax	(13,834)	(108)
Ending Balance	\$ (8,203)	\$ 5,631
Cash Flow Hedges		
Beginning balance	\$ (5,335)	\$ (18,106)
Other comprehensive income (loss) before reclassifications	37,575	8,105
Amounts reclassified from AOCI ^(a)	989	8,855
Tax effect	(9,683)	(4,189)
Other comprehensive income (loss), net of tax	28,881	12,771
Ending Balance	\$ 23,546	\$ (5,335)
Pension and Other Postretirement Plans		
Beginning balance	\$ 640	\$ 33
Other comprehensive income (loss) before reclassifications	6,492	1,699
Amounts reclassified from AOCI ^(b)	(911)	(911)
Tax effect	(1,338)	(181)
Other comprehensive income (loss), net of tax	4,243	607
Ending Balance	\$ 4,883	\$ 640
Investments in Convertible Preferred Securities		
Beginning balance	\$ 258	\$ 258
Other comprehensive income (loss), net of tax	—	—
Ending Balance	\$ 258	\$ 258
Total AOCI Ending Balance	\$ 20,484	\$ 1,194

(a) Amounts reclassified from gain (loss) on cash flow hedges are reclassified from AOCI to the Consolidated Statements of Operations when the hedged item affects earnings and is recognized in Interest expense, net. See Note 5 for additional information.

(b) This AOCI component is included in the computation of net periodic benefit cost recorded in Operating, administrative and general expenses.

10. Fair Value Measurements

The following table presents the Company's assets and liabilities measured at fair value on a recurring basis at December 31, 2022 and 2021:

(in thousands) Assets (liabilities)	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Commodity derivatives, net ^(a)	\$ 54,516	\$ 143,402	\$ —	\$ 197,918
Provisionally priced contracts ^(b)	(20,960)	(115,377)	—	(136,337)
Convertible preferred securities ^(c)	—	—	16,278	16,278
Other assets and liabilities ^(d)	(209)	31,400	—	31,191
Total	\$ 33,347	\$ 59,425	\$ 16,278	\$ 109,050

(in thousands) Assets (liabilities)	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Commodity derivatives, net ^(a)	\$ 128,407	\$ 156,698	\$ —	\$ 285,105
Provisionally priced contracts ^(b)	43,944	(89,797)	—	(45,853)
Convertible preferred securities ^(c)	—	—	11,618	11,618
Other assets and liabilities ^(d)	2,784	(7,361)	—	(4,577)
Total	\$ 175,135	\$ 59,540	\$ 11,618	\$ 246,293

(a) Includes associated cash posted/received as collateral.

(b) Included in "Provisionally priced contracts" are those instruments based only on underlying futures values (Level 1) and delayed price contracts (Level 2).

(c) Recorded in Other assets on the Company's Consolidated Balance Sheets related to certain available for sale securities.

(d) Included in "Other assets and liabilities" are assets held by the Company to fund deferred compensation plans and foreign exchange derivative contracts (Level 1), as well as interest rate derivatives (Level 2).

Level 1 commodity derivatives reflect the fair value of the exchange-traded futures and options contracts that the Company holds, net of the cash collateral that the Company has in its margin account.

The majority of the Company's assets and liabilities measured at fair value are based on the market approach valuation technique. With the market approach, fair value is derived using prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.

The Company's net commodity derivatives primarily consist of futures or options contracts via regulated exchanges and contracts with producers or customers under which the future settlement date and bushels (or gallons in the case of ethanol contracts) of commodities to be delivered (primarily wheat, corn, soybeans and ethanol) are fixed and under which the price may or may not be fixed. Depending on the specifics of the individual contracts, the fair value is derived from the futures or options prices quoted on various exchanges for similar commodities and delivery dates as well as observable quotes for local basis adjustments (the difference, which is attributable to local market conditions, between the quoted futures price and the local cash price). Because "basis" for a particular commodity and location typically has multiple quoted prices from other agribusinesses in the same geographical vicinity and is used as a common pricing mechanism in the agribusiness industry, the Company has concluded that "basis" is typically a Level 2 fair value input for purposes of the fair value disclosure requirements related to our commodity derivatives, depending on the specific commodity. Although nonperformance risk, both of the Company and the counterparty, is present in each of these commodity contracts and is a component of the estimated fair values, based on the Company's historical experience with its producers and customers and the Company's knowledge of their businesses, the Company does not view nonperformance risk to be a significant input to fair value for these commodity contracts.

These fair value disclosures exclude RMI which consists of agricultural commodity inventories measured at net realizable value. The net realizable value used to measure the Company's agricultural commodity inventories is the fair value (spot price of the commodity in an exchange), less cost of disposal and transportation based on the local market. This valuation would generally be considered Level 2. The amount of RMI is disclosed in Note 2. Changes in the net realizable value of commodity inventories are recognized as a component of Cost of sales and merchandising revenues.

Provisionally priced contract liabilities are those for which the Company has taken ownership and possession of grain, but the final purchase price has not been established. In the case of payables where the unpriced portion of the contract is limited to the futures price of the underlying commodity or the Company has delivered a provisionally priced grain and a subsequent payable or receivable is set up for any future changes in the grain price, quoted exchange prices are used and the liability is deemed to be Level 1 in the fair value hierarchy. For all other unpriced contracts which include variable futures and basis components, the amounts recorded for delayed price contracts are determined on the basis of local grain market prices at the balance sheet date and, as such, are deemed to be Level 2 in the fair value hierarchy.

The convertible preferred securities are interests in several early-stage enterprises that may be in various forms, such as convertible debt or preferred equity securities.

A reconciliation of beginning and ending balances for the Company's recurring fair value measurements using Level 3 inputs is as follows:

(in thousands)	Convertible Preferred Securities	
	2022	2021
Assets at January 1,	\$ 11,618	\$ 8,849
Additional investments	4,655	5,401
Gains (losses) included in Other income, net	5	(2,632)
Assets at December 31,	<u>\$ 16,278</u>	<u>\$ 11,618</u>

The following tables summarize quantitative information about the Company's Level 3 fair value measurements as of December 31, 2022 and 2021:

Quantitative Information about Recurring Level 3 Fair Value Measurements

(in thousands)	Fair Value as of 12/31/2022	Valuation Method	Unobservable Input	Weighted Average
Convertible preferred securities ^(a)	\$ 16,278	Implied based on market prices	N/A	N/A

(in thousands)	Fair Value as of 12/31/2021	Valuation Method	Unobservable Input	Weighted Average
Convertible preferred securities ^(a)	\$ 11,618	Implied based on market prices	N/A	N/A

(a) The Company considers observable price changes and other additional market data available to estimate fair value, including additional capital raising, internal valuation models, progress towards key business milestones, and other relevant market data points.

Quantitative Information about Non-Recurring Level 3 Fair Value Measurements

(in thousands)	Fair Value as of 12/31/2022	Valuation Method	Unobservable Input	Weighted Average
Grain assets ^(a)	\$ 9,000	Third party appraisal	Various	N/A

(in thousands)	Fair Value as of 12/31/2021	Valuation Method	Unobservable Input	Weighted Average
Frac sand assets ^(b)	\$ 2,946	Third party appraisal	Various	N/A
Real property ^(c)	700	Market approach	Various	N/A

(a) The Company recognized impairment charges on a Nebraska grain asset. The fair value of the asset was determined using third-party appraisals. These measures are considered Level 3 inputs on a nonrecurring basis.

(b) The Company recognized impairment charges on long lived assets related to its frac sand business. The fair value of the assets were determined using prior transactions and third-party appraisals. These measures are considered Level 3 inputs on a nonrecurring basis.

(c) The Company recognized impairment charges on certain Trade assets and measured the fair value using Level 3 inputs on a nonrecurring basis. The fair value of the assets were determined using prior transactions in the local market and a recent sale of comparable Trade segment assets.

The fair value of the Company's cash equivalents, accounts receivable and accounts payable approximate their carrying value as they are close to maturity.

11. Related Party Transactions

In the ordinary course of business and on an arms-length basis, the Company will enter into related party transactions with the minority shareholders of the Company's Renewables operations and several equity method investments that the Company holds, along with other related parties.

The following table sets forth the related party transactions entered into for the time periods presented:

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Sales of products	\$ 398,390	\$ 342,816	\$ 176,768
Purchases of products	76,479	44,182	52,665

(in thousands)	December 31,	
	2022	2021
Accounts receivable	\$ 12,272	\$ 9,984
Accounts payable	7,070	6,034

12. Segment Information

The Company's operations include three reportable business segments that are distinguished primarily on the basis of products and services offered as well as the management structure. The Trade business includes commodity merchandising and the operation of terminal grain elevator facilities. The Renewables business produces, purchases and sells ethanol and co-products. The segment also operates a merchandising portfolio of ethanol, ethanol co-products and other biofuels such as renewable diesel feedstocks. The Plant Nutrient business manufactures and distributes agricultural inputs, primary nutrients and specialty fertilizers, to dealers and farmers, along with turf care and corncob-based products. Included in Other are the corporate level costs not attributed to an operating segment.

In the third quarter of 2021, the Company sold its Rail Leasing assets and sold substantially all of the remaining assets that comprised the legacy Rail segment. Prior year results have been recast to reflect this change and Rail items have been classified as discontinued operations throughout the financial statements. See Note 16 for further details of the divestiture of the Rail segment.

The segment information below includes the allocation of expenses shared by one or more operating segments. Although management believes such allocations are reasonable, the operating information does not necessarily reflect how such data might appear if the segments were operated as separate businesses. The Company does not have any customers who represent 10 percent, or more, of total revenues.

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Revenues from external customers			
Trade	\$ 13,047,537	\$ 9,304,357	\$ 6,141,402
Renewables	3,178,539	2,440,798	1,260,259
Plant Nutrient	1,099,308	866,895	662,959
Total	\$ 17,325,384	\$ 12,612,050	\$ 8,064,620

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Interest expense (income)			
Trade	\$ 42,551	\$ 23,688	\$ 21,974
Renewables	8,775	7,602	7,461
Plant Nutrient	7,298	4,355	5,805
Other	(1,775)	1,647	(1,456)
Total	\$ 56,849	\$ 37,292	\$ 33,784

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Other income, net			
Trade	\$ 12,661	\$ 35,878	\$ 12,592
Renewables	20,731	3,200	2,795
Plant Nutrient	3,001	2,128	1,274
Other	(2,570)	(3,768)	1,540
Total	\$ 33,823	\$ 37,438	\$ 18,201

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Income (loss) before income taxes from continuing operations			
Trade	\$ 95,225	\$ 87,946	\$ 24,687
Renewables ^(a)	108,221	81,205	(47,338)
Plant Nutrient	39,162	42,615	16,015
Other	(48,026)	(50,996)	(20,445)
Income (loss) before income taxes from continuing operations	\$ 194,582	\$ 160,770	\$ (27,081)

(a) Includes income (loss) attributable to noncontrolling interests of \$35.9 million, \$31.9 million and \$(21.9) million for the years ended December 31, 2022, 2021 and 2020, respectively.

(in thousands)	December 31,	
	2022	2021
Identifiable assets		
Trade	\$ 3,166,813	\$ 3,115,045
Renewables	835,860	784,031
Plant Nutrient	527,725	453,137
Other	74,727	152,952
Total assets of continuing operations	4,605,125	4,505,165
Assets of discontinued operations	2,871	64,054
Total	\$ 4,607,996	\$ 4,569,219

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Capital expenditures			
Trade	\$ 29,433	\$ 17,828	\$ 14,911
Renewables	42,734	28,502	39,791
Plant Nutrient	34,678	21,616	16,565
Other	1,439	3,828	1,458
Total	\$ 108,284	\$ 71,774	\$ 72,725

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Depreciation and amortization			
Trade	\$ 35,953	\$ 44,335	\$ 44,627
Renewables	63,458	77,542	73,224
Plant Nutrient	26,634	25,957	25,407
Other	8,697	9,340	9,807
Total from continuing operations	134,742	157,174	153,065
Discontinued operations	—	21,760	35,573
Total	\$ 134,742	\$ 178,934	\$ 188,638

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Revenues from external customers by geographic region			
United States	\$ 12,503,330	\$ 9,771,502	\$ 6,180,376
Canada	1,199,487	806,481	517,006
Egypt	573,371	73,654	8,136
Mexico	493,111	490,672	246,523
Switzerland	373,737	487,363	348,867
Other	2,182,348	982,378	763,712
Total	\$ 17,325,384	\$ 12,612,050	\$ 8,064,620

The net book value of Trade property, plant and equipment in Canada as of December 31, 2022 and 2021 was \$36.6 million and \$38.6 million, respectively.

13. Leases

The Company leases certain grain handling and storage facilities, ethanol storage terminals, warehouse space, railcars, office space, machinery and equipment, vehicles and information technology equipment under operating leases. Lease expense for these leases is recognized within the Consolidated Statements of Operations on a straight-line basis over the lease term, with variable lease payments recognized in the period those payments are incurred. Leases with a term of 12 months or less are not recorded on the Consolidated Balance Sheets and lease expense for these leases is recognized in the Consolidated Statements of Operations on a straight-line basis over the lease term. The Company's lease agreements include lease payments that are largely fixed and do not contain material residual value guarantees.

The following table summarizes the amounts recognized in the Company's Consolidated Balance Sheets related to leases:

(in thousands)	Consolidated Balance Sheet Classification	December 31,	
		2022	2021
Assets			
Operating lease assets	Right of use assets, net	\$ 61,890	\$ 52,146
Finance lease assets	Property, plant and equipment, net	21,359	23,895
Total leased assets		<u>83,249</u>	<u>76,041</u>
Liabilities			
Current operating leases	Accrued expenses and other current liabilities	25,364	19,580
Non-current operating leases	Long-term lease liabilities	37,147	31,322
Total operating lease liabilities		<u>62,511</u>	<u>50,902</u>
Current finance leases	Current maturities of long-term debt	1,565	2,118
Non-current finance leases	Long-term debt, less current maturities	8,400	10,762
Total finance lease liabilities		<u>9,965</u>	<u>12,880</u>
Total lease liabilities		<u>\$ 72,476</u>	<u>\$ 63,782</u>

The components of lease cost recognized within the Company's Consolidated Statement of Operations were as follows:

(in thousands)	Consolidated Statement of Operations Classification	Year Ended December 31,		
		2022	2021	2020
Lease cost:				
Operating lease cost	Cost of sales and merchandising revenues	\$ 19,891	\$ 13,016	\$ 10,968
Operating lease cost	Operating, administrative and general expenses	10,132	10,324	10,678
Finance lease cost				
Amortization of right-of-use assets	Cost of sales and merchandising revenues	614	978	932
Amortization of right-of-use assets	Operating, administrative and general expenses	1,009	1,008	1,008
Interest expense on lease liabilities	Interest expense, net	413	679	859
Short-term lease cost	Cost of sales and merchandising revenues	2,465	1,349	66
Variable lease cost	Cost of sales and merchandising revenues	338	458	80
Variable lease cost	Operating, administrative and general expenses	394	231	260
Total lease cost		<u>\$ 35,256</u>	<u>\$ 28,043</u>	<u>\$ 24,851</u>

The Company often has the option to renew lease terms for buildings and other assets. The exercise of a lease renewal option is generally at the sole discretion of the Company. In addition, certain lease agreements may be terminated prior to their original expiration date at the discretion of the Company. Each renewal and termination option is evaluated at the lease commencement date to determine if the Company is reasonably certain to exercise the option on the basis of economic factors. The following table summarizes the weighted-average remaining lease terms:

Weighted-Average Remaining Lease Term	As of December 31,	
	2022	2021
Operating leases	3.9 years	3.9 years
Finance leases	6.9 years	7.2 years

The discount rate implicit within the Company's leases is generally not determinable and therefore the Company determines the discount rate based on its incremental borrowing rate. The incremental borrowing rate for each lease is determined based on its term and the currency in which lease payments are made, adjusted for the impacts of collateral. The following table summarizes the weighted-average discount rate used to measure the Company's lease liabilities:

Weighted-Average Discount Rate	As of December 31,	
	2022	2021
Operating leases	3.44 %	2.63 %
Finance leases	3.35 %	3.30 %

Supplemental Cash Flow Information Related to Leases

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	\$ 30,294	\$ 29,304	\$ 28,444
Operating cash flows from finance leases	—	—	1,289
Financing cash flows from finance leases	1,782	12,538	4,115
Right-of-use assets obtained in exchange for lease obligations:			
Operating leases	36,056	35,024	15,160
Finance leases	—	364	4,972

Maturity Analysis of Leases Liabilities

(in thousands)	December 31, 2022		
	Operating Leases	Finance Leases	Total
2023	\$ 28,108	\$ 1,889	\$ 29,997
2024	17,326	1,768	19,094
2025	9,801	1,406	11,207
2026	5,142	1,384	6,526
2027	1,629	1,391	3,020
Thereafter	5,507	3,382	8,889
Total lease payments	67,513	11,220	78,733
Less: interest	5,002	1,255	6,257
Total	\$ 62,511	\$ 9,965	\$ 72,476

(in thousands)	December 31, 2021		
	Operating Leases	Finance Leases	Total
2022	\$ 20,639	\$ 2,521	\$ 23,160
2023	13,797	2,305	16,102
2024	8,121	2,175	10,296
2025	4,974	1,406	6,380
2026	2,434	1,384	3,818
Thereafter	3,881	4,773	8,654
Total lease payments	53,846	14,564	68,410
Less: interest	2,944	1,684	4,628
Total	\$ 50,902	\$ 12,880	\$ 63,782

14. Commitments and Contingencies

Litigation activities

The Company is party to litigation, or threats thereof, both as defendant and plaintiff with some regularity, although individual cases that are material in size occur infrequently. As a defendant, the Company establishes reserves for claimed amounts that are considered probable and capable of estimation. If those cases are resolved for lesser amounts, the excess reserves are taken into income and, conversely, if those cases are resolved for larger than the amount the Company has accrued, the Company will record additional expense in the Consolidated Statements of Operations. The Company believes it is unlikely that the results of its current legal proceedings for which it is the defendant, even if unfavorable, will be material. As a plaintiff, amounts that are collected can also result in sudden, non-recurring income.

Litigation results depend upon a variety of factors, including the availability of evidence, the credibility of witnesses, the performance of counsel, the state of the law, and the impressions of judges and jurors, any of which can be critical in importance, yet difficult, if not impossible, to predict. Consequently, cases currently pending, or future matters, may result in unexpected, and non-recurring losses, or income, from time to time. Finally, litigation results are often subject to judicial reconsideration, appeal and further negotiation by the parties, and as a result, the final impact of a particular judicial decision may be unknown for some time or may result in continued reserves to account for the potential of such post-verdict actions.

Specifically, the Company is party to a non-regulatory litigation claim, which is in response to penalties and fines paid to regulatory entities by a previously unconsolidated subsidiary in 2018 for the settlement of matters which focused on certain trading activity. While the Company believes it has meritorious defenses against the suit, the ultimate resolution of the matter could result in a loss in excess of the amount accrued. Given the status of the claim, the Company does not believe the excess, net of the acquisition-related indemnity, will be material.

The estimated losses for all other outstanding claims that are considered reasonably possible are not material.

Commitments

As of December 31, 2022, the Company carries \$1.0 million in industrial revenue bonds with the City of Colwich, Kansas (the "City") that mature in 2029, and leases back facilities owned by the City that the Company recorded as property, plant, and equipment, net, on its Consolidated Balance Sheets under a finance lease. The lease payment on the facilities is sufficient to pay principal and interest on the bonds. Because the Company owns all of the outstanding bonds, has a legal right to set-off, and intends to set-off the corresponding lease and interest payment, the Company netted the finance lease obligation with the bond asset and, in turn, reflected no amount for the obligation or the corresponding asset on its Consolidated Balance Sheets at December 31, 2022.

15. Stock Compensation Plans

The Company's 2019 Long-Term Incentive Compensation Plan, dated February 22, 2019, and subsequently approved by shareholders on May 10, 2019, and amended and restated on May 6, 2022, is authorized to issue up to 7.0 million shares of common stock as options, share appreciation rights, restricted shares and units, performance shares and units and other stock or cash-based awards. Approximately 4.5 million shares remain available for issuance at December 31, 2022.

Stock-based compensation expense for all stock-based compensation awards is based on the grant-date fair value. The Company recognizes these compensation costs on a straight-line basis over the requisite service period of the award and recognizes forfeitures as they occur. Total compensation expense recognized in the Consolidated Statements of Operations for all stock compensation programs was \$11.2 million, \$11.0 million, and \$9.8 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Non-Qualified Stock Options ("Options")

In 2015, the Company granted 325 thousand non-qualified stock options upon hiring a senior executive. The fair value of the options was estimated at the date of grant under the Black-Scholes option pricing model. The options had a term of seven years with a weighted-average exercise price of \$35.40 and were fully vested. All 142 thousand options outstanding as of December 31, 2021, were exercised in 2022.

Restricted Stock Awards & Units ("RSUs")

These awards are contingent to requisite service periods established within the grant documents and range from 1 to 3 years. RSU's graded vest in conjunction with the requisite service period. Total restricted stock expense is equal to the market value of the Company's common shares on the date of the award and is recognized over the requisite service period on a straight-line basis.

A summary of the status of the Company's non-vested RSUs as of December 31, 2022, and changes during the period then ended, is presented below:

	Shares (in thousands)	Weighted-Average Grant-Date Fair Value		
Non-vested at January 1, 2022	388	\$	27.75	
Granted	130		43.38	
Vested	(260)		29.99	
Forfeited	(6)		33.22	
Non-vested at December 31, 2022	252	\$	32.79	
		Year ended December 31,		
		2022	2021	2020
Total fair value of shares vested (in thousands)	\$ 7,465	\$ 9,453	\$ 13,510	
Weighted-average fair value of RSUs granted	\$ 43.38	\$ 26.86	\$ 18.35	

As of December 31, 2022, there was \$2.8 million of total unrecognized compensation cost related to non-vested RSUs that is expected to be recognized over a weighted-average period of 1.3 years.

Earnings Per Share-Based Performance Share Units ("EPS PSUs")

Each EPS PSU gives the participant the right to receive common shares dependent on the achievement of specified performance results over a 3-year performance period. At the end of the performance period, the number of shares of stock issued will be determined by adjusting the award upward or downward from a target award. Fair value of EPS PSUs issued is based on the market value of the Company's common shares on the date of the award. The related compensation expense is recognized over the performance period when achievement of the award is probable and is adjusted for changes in the number of shares expected to be issued if changes in performance are expected. Currently, the Company is accounting for the awards granted in 2022, 2021 and 2020 at the maximum amount available for issuance, respectively.

A summary of the status of the Company's EPS PSUs as of December 31, 2022, and changes during the period then ended, is presented below:

	Shares (in thousands)	Weighted-Average Grant-Date Fair Value
Non-vested at January 1, 2022	386	\$ 23.69
Granted	107	43.98
Vested	(25)	25.73
Forfeited	(71)	27.51
Non-vested at December 31, 2022	397	\$ 28.35
	Year ended December 31,	
	2022	2021
	2020	
Weighted-average fair value of EPS PSUs granted	\$ 43.98	\$ 26.80
		\$ 19.06

As of December 31, 2022, there was \$4.5 million unrecognized compensation cost related to non-vested EPS PSUs that is expected to be recognized over a weighted-average period of 1.0 years.

Total Shareholder Return-Based Performance Share Units ("TSR PSUs")

Each TSR PSU gives the participant the right to receive common shares dependent on total shareholder return on the Company's Common Shares over a 3-year period. At the end of the period, the number of shares of stock issued will be determined by adjusting the award upward or downward from a target award. The fair value of TSR PSUs is estimated at the date of grant using a Monte Carlo Simulation with the following assumptions: Expected volatility was estimated based on the historical volatility of the Company's common shares over the 2.83 years period prior to the grant date. The average expected life was based on the contractual term of the plan. The risk-free rate is based on the U.S. Treasury Strips available with maturity period consistent with the expected life.

	2022
Risk free interest rate	1.44%
Dividend yield	—%
Volatility factor of the expected market price of the common shares	53%
Expected term (in years)	2.83
Correlation coefficient	0.45

A summary of the status of the Company's TSR PSUs as of December 31, 2022, and changes during the period then ended, is presented below:

	Shares (in thousands)	Weighted-Average Grant-Date Fair Value
Non-vested at January 1, 2022	386	\$ 30.89
Granted	106	66.90
Vested	—	—
Forfeited	(95)	48.27
Non-vested at December 31, 2022	397	\$ 36.31
	Year ended December 31,	
	2022	2021
	2020	
Weighted-average fair value of TSR PSUs granted	\$ 66.90	\$ 35.66
		\$ 16.80

As of December 31, 2022, there was approximately \$3.3 million unrecognized compensation cost related to non-vested TSR PSUs that is expected to be recognized over a weighted-average period of 1.0 years.

Employee Share Purchase Plan (the “ESP Plan”)

The Company's 2004 ESP Plan amended in 2019 is authorized to issue up to 230 thousand common shares. The ESP Plan allows employees to purchase common shares through payroll withholdings. The Company has approximately 79 thousand common shares remaining available for issuance to and purchase by employees under this plan. The ESP Plan also contains an option component. The purchase price per share under the ESP Plan is the lower of the market price at the beginning or end of the year. The Company records a liability for withholdings not yet applied towards the purchase of common stock. This liability is included in Accrued expenses and other current liabilities on the Consolidated Balance Sheets.

The fair value of the option component of the ESP Plan is estimated at the date of grant under the Black-Scholes option pricing model with the following assumptions at the grant date. Expected volatility was estimated based on the historical volatility of the Company's common shares over the past year. The average expected life was based on the contractual term of the plan. The risk-free rate is based on the U.S. Treasury yield curve rate with a one year term. Forfeitures are estimated at the date of grant based on historical experience.

	Year ended December 31,		
	2022	2021	2020
Risk free interest rate	0.39 %	0.10 %	1.59 %
Dividend yield	1.82 %	2.86 %	2.71 %
Volatility factor of the expected market price of the common shares	38 %	72 %	36 %
Expected life for the options (in years)	1.0	1.0	1.0

16. Discontinued Operations

On August 16, 2021, the Company entered into a definitive agreement under which the Company sold the assets of the Company's Rail Leasing business for a cash purchase price of approximately \$543.1 million which resulted in a loss of \$1.5 million. In conjunction with the sale of the Rail Leasing business, the Company announced its intent to divest the remaining pieces of the Rail Leasing business and the Rail Repair business.

In 2022, the Company finalized the definitive agreement to sell the Rail Repair business and divested substantially all of the remaining leases from the Rail Leasing business. The sale of the Rail Repair business for a purchase price of approximately \$56.3 million, resulted in a pre-tax gain of approximately \$27.1 million that was recorded in Other income, net in the table below.

As a result of the sale of the Rail Leasing business and the intent to divest the Rail Repair business in the third quarter of 2021, substantially all of the assets and liabilities of the former Rail segment was classified as held for sale in the accompanying Consolidated Balance Sheets. As a part of the definitive agreement to sell the Rail Repair business, the Company retained the working capital from the Rail Repair business along with a small group of right of use assets and lease liabilities from the Rail Leasing business that were not sold. These balances are included in continuing operations within the Consolidated Balance Sheet as of December 31, 2022.

The table below summarizes the results of the Rail Leasing business and the Rail Repair business for the years ended December 31, 2022, 2021 and 2020, which are reflected in the Consolidated Statements of Operations as Income from discontinued operations, net of income taxes:

(in thousands)	Year ended December 31,		
	2022	2021	2020
Sales and merchandising revenues	\$ 25,121	\$ 116,787	\$ 143,816
Cost of sales and merchandising revenues	26,244	88,393	105,091
Gross profit (loss)	(1,123)	28,394	38,725
Operating, administrative and general expenses	3,968	12,350	21,512
Asset impairment	2,818	626	—
Interest expense, net	—	8,783	17,491
Other income, net	33,046	1,020	2,885
Income from discontinued operations before income taxes	25,137	7,655	2,607
Income tax provision from discontinued operations	13,112	3,331	651
Income from discontinued operations, net of income taxes	\$ 12,025	\$ 4,324	\$ 1,956

The following table summarizes the assets and liabilities which are classified as held-for-sale in the Consolidated Balance Sheets as of December 31, 2022 and 2021.

(in thousands)	December 31, 2022	December 31, 2021
Assets		
Current assets:		
Accounts receivable, net	\$ —	\$ 12,643
Inventories	—	6,739
Other current assets	2,871	1,503
Current assets held-for-sale	2,871	20,885
Other assets:		
Rail assets leased to others, net	—	458
Property, plant and equipment, net	—	17,280
Goodwill	—	4,167
Other intangible assets, net	—	24
Right of use assets, net	—	20,999
Other assets, net	—	241
Non-current assets held-for-sale	—	43,169
Total assets held-for-sale	\$ 2,871	\$ 64,054
Liabilities		
Current liabilities:		
Trade and other payables	\$ —	\$ 2,546
Short-term lease liabilities	—	4,672
Accrued expenses and other current liabilities	—	6,161
Current liabilities held-for-sale	—	13,379
Long-term lease liabilities	—	16,119
Non-current liabilities held-for-sale	—	16,119
Total liabilities held-for-sale	\$ —	\$ 29,498

The following table summarizes cash flow information relating to discontinued operations for the years ended December 31, 2022, 2021 and 2020, respectively:

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Depreciation and amortization	\$ —	\$ 21,760	\$ 35,573
Rail capital expenditures	(31,458)	(8,669)	(32,161)
Proceeds from sale of Rail assets	36,706	19,150	10,077
Loss (gain) on sale of discontinued operations	(27,091)	1,491	—
Non-cash operating activities - gain on sale of railcars	(5,463)	(5,603)	(649)
Non-cash operating activities - asset impairment	2,818	626	—
Non-cash investing activities - capital expenditures, consisting of unpaid capital expenditure liabilities at period end	—	—	491

17. Goodwill and Other Intangible Assets

The changes in the carrying amount of goodwill by reportable segment for the years ended December 31, 2022, 2021 and 2020 are as follows:

(in thousands)	Trade	Renewables	Plant Nutrient	Total
Balance at January 1, 2020	\$ 127,781	\$ 2,726	\$ 686	\$ 131,193
Acquisitions	—	349	—	349
Reorganization	(5,714)	5,714	—	—
Balance at December 31, 2020	122,067	8,789	686	131,542
Disposals ^(a)	(2,200)	—	—	(2,200)
Acquisitions	—	—	—	—
Balance at December 31, 2021	119,867	8,789	686	129,342
Acquisitions	—	—	—	—
Balance at December 31, 2022	<u>\$ 119,867</u>	<u>\$ 8,789</u>	<u>\$ 686</u>	<u>\$ 129,342</u>

(a) Removal of allocated goodwill due to the sale of a grain asset location in Champaign, Illinois.

Goodwill for the Trade segment is \$119.9 million as of December 31, 2022, which is net of prior years' accumulated impairment losses of \$46.4 million. Goodwill for the Plant Nutrient segment is \$0.7 million, net of accumulated impairment losses of \$68.9 million as of December 31, 2022.

The Company had goodwill of approximately \$129.3 million at December 31, 2022, which includes approximately \$78.5 million related to the Company's Grain Storage and Merchandising ("GSM") reporting unit, approximately \$41.3 million related to the Company's Food and Specialty Ingredients ("FSI") reporting unit, approximately \$8.8 million related to the Company's Renewables reporting unit and approximately \$0.7 million is related to the Lawn reporting unit.

Goodwill is tested for impairment annually as of October 1, or more frequently if impairment indicators arise. The Company uses a one-step quantitative approach that compares the business enterprise value ("BEV") of each reporting unit with its carrying value. The BEV was computed based on both an income approach (discounted cash flows) and a market approach. The income approach uses a reporting unit's estimated future cash flows, discounted at the weighted-average cost of capital ("WACC") of a hypothetical third-party buyer. The WACC is the rate used to discount each reporting unit's estimated future cash flows. The WACC is calculated based on the proportionate weighting of the cost of debt and equity. The cost of equity is based on a risk-free interest rate and an equity risk factor, which is derived from public companies similar to the reporting units and which captures the perceived risks and uncertainties associated with the reporting unit's cash flows. The cost of debt is the rate that a prudent investor would require to lend money to the reporting units on an after-tax basis and is estimated based on a market-derived analysis of corporate bond yields. The cost of debt and equity is weighted based on the debt to market capitalization ratio of publicly traded companies with similarities to the reporting units being tested. The WACC applied in each reporting unit's last quantitative test ranged from 10.25% to 12.00%, which includes a company specific risk premium range from 1.0% to 3.0%. Differences in the WACC used between reporting units is primarily due to distinct risks and uncertainties regarding the cash flows of the different reporting units.

The market approach estimates fair value by applying cash flow multiples to the reporting unit's operating performance. The multiples are derived from comparable publicly traded companies with similar operating and investment characteristics to the reporting unit. Any excess of the carrying value of the goodwill over the BEV will be recorded as an impairment loss. The calculation of the BEV is based on significant unobservable inputs, such as price trends, customer demand, material costs and discount rates, and are classified as Level 3 in the fair value hierarchy.

There can be no assurance that anticipated financial results will be achieved and the goodwill balances remain susceptible to future impairment charges. The goodwill related to the GSM and FSI reporting units are determined to have the greatest risk of future impairment charges given the difference (approximately 12% and 33%, respectively) between the BEV and carrying value of these reporting units as of the Company's annual impairment test date. The BEVs of the Company's other reporting units more substantially exceed their carrying values. If the Company's projected future cash flows were lower, or if the assumed weighted-average cost of capital were higher, the testing performed at year-end may have indicated an impairment of the goodwill related to one or more of the Company's reporting units. Any impairment charges that the Company may take in the future could be material to its Consolidated Statements of Operations and financial condition.

No goodwill impairment charges were incurred in the years ended December 31, 2022, 2021 or 2020 as a result of our annual impairment testing.

The Company's other intangible assets are as follows:

(in thousands)	Useful Life (in years)	December 31,					
		2022			2021		
		Original Cost	Accumulated Amortization	Net Book Value	Original Cost	Accumulated Amortization	Net Book Value
Intangible asset class							
Customer lists	3 to 10	\$ 143,081	\$ 70,539	\$ 72,542	\$ 136,311	\$ 58,047	\$ 78,264
Non-compete agreements	1 to 7	22,242	21,311	931	21,796	21,124	672
Supply agreement	10 to 10	8,720	7,912	808	8,721	7,450	1,271
Technology	10 to 10	13,400	10,218	3,182	13,400	8,878	4,522
Trademarks and patents	7 to 10	15,810	13,165	2,645	15,810	12,020	3,790
Software	2 to 10	88,631	68,392	20,239	89,956	61,920	28,036
Other	3 to 5	998	438	560	1,011	429	582
		\$ 292,882	\$ 191,975	\$ 100,907	\$ 287,005	\$ 169,868	\$ 117,137

Amortization expense for intangible assets was \$24.1 million, \$30.3 million and \$30.7 million for the years ended December 31, 2022, 2021 and 2020, respectively. Expected future annual amortization expense for the assets above is as follows: 2023 -- \$23.1 million; 2024 -- \$20.0 million; 2025 -- \$13.6 million; 2026 -- \$11.5 million; 2027 -- \$11.3 million; and thereafter -- \$21.4 million.

18. Other Income, Net

The following table sets forth the items in Other income, net for the periods presented below:

(in thousands)	Year ended December 31,		
	2022	2021	2020
Biofuel Producer Program funds	\$ 17,642	\$ —	\$ —
Insurance proceeds	10,632	3,850	2,917
Gain on sales of assets and businesses	3,979	14,661	1,307
Equity earnings (losses) in affiliates	(5,671)	4,842	638
Other	7,241	14,085	13,339
Total	\$ 33,823	\$ 37,438	\$ 18,201

Individually significant items included in the table above are:

Biofuel Producer Program funds - In 2022, the USDA as a part of the Biofuel Producer Program, created under the CARES Act, provided funding to help lower costs and support biofuel producers who faced unexpected market losses due to the COVID-19 pandemic. Under this program TAMH and ELEMENT received \$13.3 million and \$4.3 million, respectively.

Insurance proceeds - Insurance proceeds for the year ended December 31, 2022, consisted of business interruption and property damage proceeds of \$3.0 million relating to an prior period incident at the Company's Galena Park, TX facility, business interruption and property damage proceeds of \$2.6 million relating to a conveyer collapse in Delhi, LA in the current year, business interruption and property damage proceeds of \$5.0 million relating to a grain bin collapse in Delphi, IN in the current year, and other individually insignificant proceeds through the ordinary course of business. Insurance proceeds for the year ended December 31, 2021, consisted of business interruption and property damage proceeds amounting to \$3.8 million relating to a prior period incident at the Company's Galena Park, TX facility, and other individually insignificant proceeds through the ordinary course of business. Insurance proceeds for the year ended December 31, 2020, consisted of business interruption and property damage proceeds amounting to \$2.9 million relating to an incident at the Company's Galena Park, TX facility, and other individually insignificant proceeds through the ordinary course of business.

Gain on sales of assets and businesses - Gains on sales of assets for the year ended December 31, 2022, consisted of gains on the sale of the Company's remaining frac sand facilities and assets in Oklahoma City, Oklahoma and North Branch, Minnesota of \$3.9 million, the sale of certain other assets, and disposals of individually insignificant assets in the ordinary course of business. The year ended December 31, 2021, consisted of gains on the sale of a grain asset in Champaign, Illinois of \$14.6 million, the sale of certain other assets, and disposals of individually insignificant assets in the ordinary course of business.

Equity earnings (losses) in affiliates - During the year ended December 31, 2022, the Company recorded an impairment charge on a Canadian equity method investment for \$4.5 million.

19. Earnings Per Share

(in thousands except per common share data)	Year Ended December 31,		
	2022	2021	2020
Numerator:			
Net income (loss) from continuing operations	\$ 154,954	\$ 131,542	\$ (16,171)
Net income (loss) attributable to noncontrolling interests ^(a)	35,899	31,880	(21,925)
Net income attributable to The Andersons Inc. common shareholders from continuing operations	\$ 119,055	\$ 99,662	\$ 5,754
Income from discontinued operations, net of income taxes	\$ 12,025	\$ 4,324	\$ 1,956
Denominator:			
Weighted-average shares outstanding – basic	33,731	33,279	32,924
Effect of dilutive awards	691	576	265
Weighted-average shares outstanding – diluted	34,422	33,855	33,189
Earnings per share attributable to The Andersons, Inc. common shareholders:			
Basic earnings:			
Continuing operations	\$ 3.53	\$ 2.99	\$ 0.17
Discontinued operations	0.36	0.13	0.06
	\$ 3.89	\$ 3.12	\$ 0.23
Diluted earnings:			
Continuing operations	\$ 3.46	\$ 2.94	\$ 0.17
Discontinued operations	0.35	0.13	0.06
	\$ 3.81	\$ 3.07	\$ 0.23

(a) All Net income (loss) attributable to noncontrolling interests is within the continuing operations of the Company.

There were 294 thousand antidilutive share-based awards outstanding for the year ended December 31, 2020. Antidilutive shares were de minimis for the years ended December 31, 2022 and 2021.

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including the Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of our disclosure controls and procedures as required by Exchange Act Rule 13a-15(b) as of the end of the period covered by this report. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that these disclosure controls and procedures are effective.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Internal control over financial reporting is designed 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 and includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of 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 (iii) 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.

Under the supervision and with the participation of management, including the certifying officers, the Company conducted an evaluation of the effectiveness of its internal control over financial reporting based on the criteria established in the *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based upon the evaluation under this framework, management concluded that our internal control over financial reporting was effective as of December 31, 2022.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2022, has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is included below.

Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal controls over financial reporting during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal controls over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of The Andersons, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of The Andersons, Inc. and subsidiaries (the “Company”) as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* 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, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2022, of the Company and our report dated February 23, 2023, 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 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 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 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/ Deloitte & Touche LLP

Cleveland, Ohio
February 23, 2023

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

Part III.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is set forth under the headings "Election of Directors," "Corporate Governance," and "Executive Officers" in the Company's 2023 Proxy Statement to be filed with the SEC within 120 days after December 31, 2022, in connection with the solicitation of proxies for the Company's 2023 annual meeting of shareholders, and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this Item set forth under the caption "Executive Compensation" and "Compensation and Leadership Development Committee Interlocks and Insider Participation" in the Proxy Statement is incorporated herein by reference.

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

The information required by this Item set forth under the caption "Share Ownership" and "Equity Plans" in the Proxy Statement is incorporated herein by reference.

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

The information required by this Item set forth under the captions "Corporate Governance" and "Certain Relationships and Related Party Transactions" in the Proxy Statement is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this Item set forth under "Appointment of Independent Registered Public Accounting Firm" in the Proxy Statement is incorporated herein by reference.

Part IV.

Item 15. Exhibits and Financial Statement Schedules

(a) Documents filed as a part of this report

1. Financial Statements

The Consolidated Financial Statements of the Company are set forth under Item 8 of this report on Form 10-K.

2. Financial Statement Schedules

Financial Statement Schedule II - Valuation and Qualifying Accounts included in this Form 10-K. All other schedules are not required under the related instructions or are not applicable.

(b) Exhibit Listing

Exhibit Number	Exhibit Description	Form	Exhibit	Filing Date/ Period End Date
3.1	Articles of Incorporation.	10-K	3.1	December 31, 2019
3.2	Code of Regulations of The Andersons, Inc.	S-4/A	Annex B	May 19, 1995
4.1	Specimen Common Share Certificate. (Incorporated by reference to Exhibit 4.1 to Registration Statement No. 033-58963).	S-4/A	4.1	May 19, 1995
4.2	Description of Securities of the Registrant	10-K	4.2	December 31, 2021
10.01*	2004 Employee Share Purchase Plan Restated and Amended January 2019	DEF 14A	Appendix B	March 19, 2019
10.02*	Amended and Restated 2019 Long-term Incentive Compensation Plan	DEF 14A	Appendix A	March 10, 2022
10.03*	Employment Agreement between The Andersons, Inc. and Patrick E. Bowe	10-Q	10	September 30, 2015
10.04**	Employment Agreement between The Andersons, Inc. and William Krueger			
10.05*	Change in Control & Severance Policy	10-K	10.35	December 31, 2018
10.06*	The Andersons, Inc. Lansing Acquisition 2018 Inducement and Retention Plan dated December 21, 2018	S-8	4	December 21, 2018
10.07*	Inducement and Retention Restricted Stock Award Agreement	S-8	10.1	December 21, 2018
10.08*	Form of Performance Share Unit Agreement - Total Shareholder Return	10-Q	10.3	March 31, 2019
10.09*	Form of Performance Share Unit Agreement - Earnings Per Share	10-Q	10.1	June 30, 2019
10.10*	Form of Restricted Share Award	10-Q	10.4	March 31, 2019
10.11*	Form of Restricted Share Unit Agreement	10-Q	10.1	March 31, 2022
10.12*	Form of Restricted Share Award - Non-Employee Directors Agreement	10-Q	10.2	June 30, 2019

Exhibit Number	Exhibit Description	Form	Exhibit	Filing Date/ Period End Date
10.13	Credit Agreement, dated January 11, 2019, between The Andersons, Inc., as borrower, and several banks with U.S. Bank National Association acting as Lead Agent.	8-K	10.1	January 14, 2019
10.14	Amendment No. 1 to Credit Agreement	10-Q	10.1	September 30, 2020
10.15	Amendment No. 2 to Credit Agreement	8-K	10.1	February 5, 2021
10.16	Amendment No. 3 to Credit Agreement	8-K	10.1	May 6, 2021
10.17	Amendment No. 4 to Credit Agreement	10-K	10.19	December 31, 2021
10.18	INCREMENTAL TERM LOAN AMENDMENT TO CREDIT AGREEMENT	8-K	10.1	March 8, 2022
10.19	INCREMENTAL TERM LOAN AMENDMENT TO CREDIT AGREEMENT	8-K	10.1	March 10, 2022
10.20	CREDIT AGREEMENT DATED AS OF JANUARY 11, 2019 AMONG THE ANDERSONS, INC., THE LENDERS, U.S. BANK NATIONAL ASSOCIATION, AS ADMINISTRATIVE AGENT (AMENDED AS OF MARCH 28, 2022)	8-K	10.1	April 1, 2022
10.21	Incremental Revolving Loan Amendment to Credit Agreement	8-K	10.1	June 2, 2022
10.22	CREDIT AGREEMENT by and among THE ANDERSONS MARATHON HOLDINGS LLC, as Borrower, THE GUARANTORS PARTY HERETO, THE LENDERS PARTY HERETO and COBANK, ACB, as Administrative Agent COBANK, ACB and FARM CREDIT MID-AMERICA, PCA, as Joint Lead Arrangers and Bookrunners dated October 1, 2019.	8-K	10.2	October 3, 2019
10.23	First Amendment to Credit Agreement	8-K	10.1	December 17, 2019
10.24	Second Amendment to Credit Agreement	10-Q	10.2	June 30, 2020
10.25	Third Amendment to Credit Agreement	10-Q	10.1	June 30, 2021
10.26**	Fourth Amendment to Credit Agreement			
10.27	LOAN AGREEMENT between METLIFE REAL ESTATE LENDING LLC, a Delaware limited liability company, as Lender and THE ANDERSONS, INC., an Ohio corporation, as Borrower, FIRST MORTGAGE LOAN in the amount of \$105,000,000.00 dated as of November 14, 2019. (Schedules within the Loan Agreement have been omitted and can be furnished to the SEC upon request.)	8-K	10.1	November 18, 2019
10.28	First Amendment to Loan Agreement	10-Q	10.1	June 30, 2020
10.29	Second Amended and Restated Loan Agreement by and between SCOTIABANK ASSET FINANCE, a division of The Bank of Nova Scotia as Administrative Agent and THE LENDERS THAT ARE SIGNATORIES HERETO as Lenders and THE ANDERSONS CANADA LIMITED as Borrower	8-K	10.1	December 28, 2021
10.30**	First Amendment to Second Amended and Restated Loan Agreement			

Exhibit Number	Exhibit Description	Form	Exhibit	Filing Date/ Period End Date
10.31**	Second Amendment to Second Amended and Restated Loan Agreement			
10.32**	Third Amendment to Second Amended and Restated Loan Agreement			
21.1**	Consolidated Subsidiaries of The Andersons, Inc.			
23.1**	Consent of Independent Registered Public Accounting Firm - Deloitte & Touche LLP.			
31.1**	Certification of the Chief Executive Officer under Rule 13(a)-14(a)/15d-14(a).			
31.2**	Certification of the Chief Financial Officer under Rule 13(a)-14(a)/15d-14(a).			
32.1***	Certifications Pursuant to 18 U.S.C. Section 1350.			
101**	Inline XBRL Document Set for the consolidated financial statements and accompanying notes in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K.			
104**	Inline XBRL for the cover page of this Annual Report on Form 10-K, included in the Exhibit 101 Inline XBRL Document Set.			

* Indicates management contract or compensatory plan or arrangement.

** Filed herewith.

*** Furnished herewith.

Item 16. Form 10-K Summary

Not applicable

THE ANDERSONS, INC.
SCHEDULE II - CONSOLIDATED VALUATION AND QUALIFYING ACCOUNTS

Description (in thousands)	Balance at Beginning of Period	Additions		Deductions ⁽²⁾	Balance at End of Period
		Charged to Costs and Expenses	Charged to Other Accounts ⁽¹⁾		
Allowance for doubtful accounts receivable					
2022	\$ 6,911	\$ 4,249	\$ 17,168	\$ (1,936)	\$ 26,392
2021	9,255	(190)	—	(2,154)	6,911
2020	6,338	4,163	—	(1,246)	9,255

⁽¹⁾ In 2022, the Company reclassified reserves within Commodity derivative assets to reserves within accounts receivable of approximately \$14.5 million from reserves on open contract equity positions now transferred into the form of a receivable. The Company also reclassified Accounts receivable and the associated allowance for doubtful accounts of \$2.7 million related to the legacy Rail business from discontinued operations to continuing operations as a result of residual accounts receivable not being included with the sale of the remainder of the Rail business.

⁽²⁾ Uncollectible accounts written off, net of recoveries and adjustments to estimates for the allowance for doubtful accounts receivable accounts.

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.

THE ANDERSONS, INC.

Date: February 23, 2023

/s/ Patrick E. Bowe

Patrick E. Bowe
Chief Executive Officer

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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>	<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Patrick E. Bowe</u> Patrick E. Bowe	Chief Executive Officer (Principal Executive Officer)	2/23/2023	<u>/s/ Stephen F. Dowdle</u> Stephen F. Dowdle	Director	2/23/2023
<u>/s/ Brian A. Valentine</u> Brian A. Valentine	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	2/23/2023	<u>/s/ Pamela S. Hershberger</u> Pamela S. Hershberger	Director	2/23/2023
<u>/s/ Michael T. Hoelter</u> Michael T. Hoelter	Vice President, Corporate Controller & Investor Relations (Principal Accounting Officer)	2/23/2023	<u>/s/ Catherine M. Kilbane</u> Catherine M. Kilbane	Director	2/23/2023
<u>/s/ Michael J. Anderson, Sr.</u> Michael J. Anderson, Sr.	Chairman	2/23/2023	<u>/s/ Robert J. King, Jr.</u> Robert J. King, Jr.	Director	2/23/2023
<u>/s/ Gerard M. Anderson</u> Gerard M. Anderson	Director	2/23/2023	<u>/s/ Ross W. Manire</u> Ross W. Manire	Director	2/23/2023
<u>/s/ Gary A. Douglas</u> Gary A. Douglas	Director	2/23/2023	<u>/s/ John T. Stout, Jr.</u> John T. Stout, Jr.	Director	2/23/2023
<u>/s/ Steven K. Campbell</u> Steven K. Campbell	Director	2/23/2023			

CONSOLIDATED SUBSIDIARIES OF THE ANDERSONS, INC.

Subsidiary	Place of Organization
1070283 B.C. LTD	Canada
Bridge Agri Partners, Inc.	Canada
Bridge Agri Partners Montana, Inc.	Montana
Cap Acquire Mexico S.de R.L. de C.V.	Mexico
Cap Acquire, LLC	Delaware
Capstone Commodities, LLC	Texas
David T. Boyd & Co. Limited	United Kingdom
ELEMENT, LLC	Kansas
Feed Factors Ireland Limited	Ireland
Feed Factors Limited	United Kingdom
Kay Flo Industries, Inc.	Iowa
Lansing Brasil Comercial & Exportadora de Produtos Agricolas Ltda.	Brazil
Lansing Brasil Holdings, LLC	Delaware
Lansing Canada ULC	Canada
Lansing de Mexico S.de R.L. de C.V.	Mexico
Lansing de Mexico Servicios S. de R.L. de C.V.	Mexico
Lansing Ethanol Services, LLC	Delaware
Lansing Louisiana, LLC	Delaware
Lansing Proprietary, LLC	Delaware
Lansing Trade Group - Asia PTE LTD	Singapore
Lansing Trade Group – Germany GmbH	Germany
Lansing Trade Group Canada ULC	Canada
Lansing Trade Group, LLC	Delaware
Lansing Trading Company, Ltd.	China
Lansing Vermont, Inc.	Vermont
Lawnbox LLC	Ohio
Liqui Fert Corporation	Puerto Rico
Maumee Ventures LLC	Ohio
Metamora Commodity Company, Inc.	Ohio
Mineral Processing Company	Ohio
NARCAT Mexico S.de R.L. de C.V.	Mexico
New Eezy-Gro Inc.	Ohio
NuRail Canada ULC	Canada
Nutra-Flo Company	Iowa
Plant Nutrient Operations LLC	Ohio
Purity Foods, Inc.	Michigan
TAI Hold Co, LLC	Michigan
The Andersons AgVantage Agency LLC	Ohio
The Andersons Canada Limited	Canada
The Andersons Ethanol LLC	Ohio
The Andersons Executive Services LLC	Ohio
The Andersons Farm Development Co., LLC	Ohio

Subsidiary	Place of Organization
The Andersons Grain Romania S.R.L	Romania
The Andersons LTD.	Canada
The Andersons Marathon Holdings LLC	Ohio
The Andersons Plant Nutrient LLC	Ohio
The Andersons Railcar Company LLC	Ohio
The Andersons Railcar Leasing Company LLC	Ohio
The Andersons Switzerland Inc.	Delaware
The Andersons Switzerland SARL	Switzerland
The Andersons Winona Terminal, LLC	Minnesota
Thompsons USA Limited	Delaware
Titan Lansing, LLC	Delaware
Top Cat Holding Co	Delaware

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in:

- Registration Statement No. 333-265046 on Form S-8 dated May 18, 2022 pertaining to the registration of 4,715,000 additional shares under The Andersons, Inc. Amended and Restated 2019 Long-term Incentive Compensation Plan;
- Registration Statement No. 333-233862 on Form S-8 dated September 20, 2019 pertaining to the registration of 2,530,000 shares under The Andersons, Inc. 2019 Long-Term Incentive Compensation Plan and the 2004 Employee Share Purchase Plan Restated and Amended January 2019;
- Registration Statement No. 333-228957 on Form S-8 dated December 21, 2018 pertaining to the registration of 650,000 shares under The Andersons, Inc. Lansing Acquisition 2018 Inducement and Retention Plan; and
- Registration Statement No. 333-202442 on Form S-8 dated March 2, 2015 pertaining to the registration of 1,750,000 shares under The Andersons, Inc. 2014 Long-Term Incentive Compensation Plan

of our reports dated February 23, 2023, relating to the financial statements of The Andersons, Inc. and the effectiveness of The Andersons, Inc.'s internal control over financial reporting appearing in this Annual Report on Form 10-K of The Andersons, Inc. for the year ended December 31, 2022.

/s/ Deloitte & Touche LLP

Cleveland, Ohio
February 23, 2023

**Certification of President and Chief Executive Officer
Under Rule 13(a)-14(a)/15d-14(a)**

I, Patrick E. Bowe, certify that:

- 1 I have reviewed this report on Form 10-K of The Andersons, 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 officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 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 annual 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 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 officers 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 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.

February 23, 2023

/s/ Patrick E. Bowe

Patrick E. Bowe

Chief Executive Officer
(Principal Executive Officer)

**Certification of Chief Financial Officer
under Rule 13(a)-14(a)/15d-14(a)**

I, Brian A. Valentine, certify that:

- 1 I have reviewed this report on Form 10-K of The Andersons, 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 officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 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 annual 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 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 officers 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 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.

February 23, 2023

/s/ Brian A. Valentine

Brian A. Valentine

Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

The Andersons, Inc.**Certifications Pursuant to 18 U.S.C. Section 1350**

In connection with the Annual Report of The Andersons, Inc. (the "Company") on Form 10-K for the year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to such officer's knowledge:

- (1) The Report fully complies with the requirements of 13(a) or 15(d) of the Securities Exchange Act of 1934, and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company as of the dates and for the periods expressed in the Report.

February 23, 2023

/s/ Patrick E. Bowe

Patrick E. Bowe

Chief Executive Officer
(Principal Executive Officer)

/s/ Brian A. Valentine

Brian A. Valentine

Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

A signed original of this written statement required by Section 906 has been provided to The Andersons, Inc. and will be retained by The Andersons, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.